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THE COTTAGE GARDENER,

AND

COUNTRY GENTLEMAN'S COMPANION.

CONDUCTED BY GEORGE W. JOHNSON, ESQ.

EDITOR OF THE "GARDENER'S ALMANACK," ETC.

THE FRUIT AND FORCING-GARDEN, by Mr. R. Errington, Gardener to Sir P. Egerton, Bart., Oulton Park.

THE KITCHEN-GARDEN, by Mr. J. Robson, Gardener to the late Earl Cornwallis; and Mr. T. Weaver, Gardener to the Warden of Winchester College.

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ALLOTMENT GARDENING, by Mr. Errington and others.

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TO OUR READERS.

THE completion of our twelfth volume requires accompanying thanks to you, our Readers, as well as to those who have aided us by their valuable contributions. It is no cause of satisfaction that, during the six years our volumes mark, many opponents, some founded on fair competing principles, but others on a less worthy motive, have been born and are dead or dying. But it is indeed a source of satisfaction and gratitude that we hold on an existence which increases in strength and vigour with its age. It is a proud distinction to win success, but we have no satisfaction in mounting upon the ruins of others.

There was a time when our pages only were intended for the cottager and the amateur cultivator of a few square yards ; but, by degrees, those who have acres under the spade, and who live in such cottages as have coach-houses and conservatories attached, claimed from us similar aid. We assented to make the effort, and like the pebble-moved water, one circle gave birth to one still wider, until now we are gratified to know that we include among our subscribers most of the first-class gardeners, and a large portion of the country clergy and amateur gardeners of the British dominions. We use the term "dominions" advisedly, for *THE COTTAGE GARDENER* is found on many tables in our colonies, from Newfoundland to New Zealand, from the foot of the Himalayah to California. "Let us not be high-minded, but fear," in our prosperity—fear lest we should think that our own devices and our own right hand achieved all this. Let us ever remember, that it is not so—let us never forget that it is the encouragement and subscriptions from you, our Readers, which has enabled us to obtain those able assistants who furnish the knowledge for which you seek, and that even this would avail nothing without the blessing of Him, who "put man into the garden to dress it and to keep it."

It is our wish to evince our conviction of all this by every effort we make to render our pages useful, and let the most humble of our readers, as well as those who refer to our columns rather to be reminded of things forgotten, than to be informed of things unknown,—let these, and every reader, feel assured that no one can confer a greater favour upon us than by showing us how we may be still more serviceable.



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WEEKLY CALENDAR.

M D	D W	APRIL 6-12, 1854.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
6	TH	Uropoda vegetans.	29.948-29.828	59-41	S.W.	02	27 a 5	39 a 6	3 4	9	2 31	96
7	F	PRINCE LEOPOLD BORN 1853.	29.806-29.726	57-32	W.	—	24	40	3 38	10	2 13	97
8	S	Oxford Term ends.	30.119-29.809	53-23	N.	06	22	42	4 7	11	1 56	98
9	SUN	PALM SUNDAY.	30.304-30.175	50-31	N.	04	20	44	4 23	12	1 39	99
10	M	Carabus clathratus.	30.128-30.039	55-29	W.W.	—	18	45	4 47	13	1 22	100
11	TU	Nebria Gyllenhalli.	30.161-30.082	60-37	W.	—	15	47	5 3	14	1 6	101
12	W	Leistus brunneus.	30.015-29.887	56-32	N.W.	—	13	49	5 18	15	0 50	102

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 56° and 34.4° respectively. The greatest heat, 72°, occurred on the 6th in 1848; and the lowest cold, 22°, on the 6th in 1845. During the period 96 days were fine, and on 88 rain fell.

The two Peas which come next in order in our series of papers, though good in themselves, and well worth cultivating, are, nevertheless, of such a character as not to admit of their being entitled to any important consideration when put in comparison with others of the same season as themselves. It is to be borne in mind, that while we are fully analysing each variety, and furnishing all the information that we can furnish respecting it, one of the most important objects we have in view is to shew wherein, and to what extent, it is inferior or superior to others which are in use at the same time; and, even although it may possess good qualifications, still, if these are either not so good as or no better than, those of other varieties already in cultivation, we think we are doing a service in recommending its discontinuance.

CHAMPION OF PARIS.

This variety has now been before the public for the last four years. It was introduced by Messrs. Beek, Henderson, and Co., of the Adelphi, London, and is an excellent Pea of its season; but, as it comes in at a time when *Champion of England* and *Ringwood Marrow* are in full production; and, as it is not so richly-flavoured as the former, nor so early as the latter, neither does it possess any qualities which are superior to those of the varieties just mentioned, we think its cultivation may be dispensed with. Still, it is a much superior variety to *Shilling's Grotto*, as it fills much better, and is a day or two earlier.

The plant is of vigorous growth, with a simple stem five to six feet high, very rarely branched, and produces from eight to ten pods on each. The pods are generally single, but sometimes in pairs, from three-inches-and-a-quarter to three-inches-and-three-quarters long, and five-eighths-of-an-inch wide; they are curved almost as much as those of the *Cimeter*, and when coming to maturity they become very fleshy, wrinkled,



and thick-backed, in the same way as the *Frames* do. They contain from six to seven large Peas, which are close together without being compressed. The ripe seed is white.

The seed was sown on the 5th of April, and the plants came into bloom on the 19th of June; on the 11th of July the crop was fit to be gathered.

SHILLING'S GROTTTO.

When this variety was first introduced, some ten years ago, it was a great improvement on all the second early sorts which had been previously in cultivation; and consequently it rapidly acquired an extensive popularity. Even to the present time it is one of those which are generally regarded as standard varieties. But we very much suspect it has attained, if not passed, the zenith. *Champion of England*, *Ringwood Marrow*, and *Paradise*, are all in use at the same time as it is, and there can be no doubt they are all superior to it. Why, then, should it remain in cultivation, and swell the list of unnecessary varieties?

The plant is of a strong habit of growth, always with a simple stem, four-and-a-half to five feet high. The pods are generally single, but frequently in pairs, three-inches-and-a-half long, and about half-an-inch wide, slightly curved, and, when fully matured, they assume a thick-backed and somewhat quadrangular shape; each pod contains, on an average, seven large Peas. A great objection to this variety is the tardiness with which it fills, the pods being fully grown and apparently filled when the Peas are quite small and only half grown. The ripe seed is white.

The seed was sown on the 5th of April, and the plants came into bloom on the 15th of June; but the pods were not fit to gather till the 12th of July. R. H.

(To be continued.)

In the twenty-third verse of the twenty-third chapter of St. Mathew's Gospel, our Lord taunts the Scribes and Pharisees with neglecting "weightier matters," whilst they were scrupulous even to "pay tithe of Mint, and *Anethon*, and Cummin."

The force of the reproof is not felt unless we understand that the law only required the tythe to be paid from the grain and fruits which were cultivated by the Israelites. The scrupulous observers of minor points of the law, paid tithe upon all the herbs of their gardens, whether cultivated like Mint for its leaves, for its seeds

like the Cummin, or for both its leaves and seed like the Anethon. By instancing these three plants, our Saviour clearly referred to the minuteness with which they included all plants cultivated for use in their catalogue of things titheable, and then, without condemning their carefulness, contrasts such carefulness with their neglect of the far more important duties—"justice, mercy, and faith."

The question then arises, what plant is meant by the Greek word *Anethon*? There is scarcely a doubt that it is that which we know as DILL (*Anethum graveolens*). Misled, perhaps, by the somewhat similar sound of the words *Anethon* and *Anise*, the translators of our version of the New Testament adopted the latter name as the interpretation of the other. This appears to be clearly an error, for if we refer to Leontinus, or others of the Geoponic writers, or to Dioscorides, we invariably find *Anison* and *Anethon* are different plants. We may remark that no other version but our own has adopted this slight mistranslation.

The Talmudists call the plant in Hebrew, *Shavath*, adding, that "in the Roman language it is named *Anethum*," and that it was tithed, whether gathered green or ripe. Now, Anise is not so called in Latin, nor is it used in a green state. *Dill*, on the contrary, is called *Anethum*, and is gathered for use whilst green, as well as when its seeds are ripe. We are expressly told by the Talmudists that the *Shavath* or *Anethum* was eaten uncooked after meat by the Jews.

If we refer to the earliest English writers on Plants, we shall find them all agreeing that the *Anethon* of the Greeks, and our *Dill*, are one and the same plant. They are equally unanimous in ascribing to it certain medicinal qualities, such as assuaging pain arising from flatulency, and giving immediate relief to those attacked by hiccough.*

Dill, and Dill Water, are not banished even from modern medicine. They are retained yet in the London Pharmacopeia, and Dr. DuRoi, in his "Dispensatory," says—"The seeds are recommended as carminative in flatulent colics."

THE general encouragement that has been so freely accorded to the efforts of those who, some few years since, recognized the importance of improving the different breeds of our domestic Poultry, has been amply justified by the position now occupied by the objects of their solicitude. The substantial benefits thus accessible to all classes anyways concerned in the economy of the poultry-yard, have turned the current of public opinion from the smile that ridiculed the mania, to expressions of astonishment at the prejudices which so commonly forbid all hope of profit from these sources.

* It is curious to note the progress of variation in spelling the latter affection. Turner, our earliest herbalist, spells it, in 1551, *hichkoke*; Lyte, in 1578, calls it *hiquet*; Gerarde, in 1597, writes it *hicket*; and Parkinson, in 1640, names it *hickock*; and in the next century we find it spelt variously, *hicket*, *hickouch*, and *hickup*. All these diversities are from the word *hicken*, signifying a convulsion. It is quite usual to find hiccough, called *yer*, in the old herbalists; nearly the whole of whose medical directions are merely translations from Dioscorides, Pliny, and other earlier writers.

If the public, therefore, has been benefited; and, not to dwell on individual opinions, we may here cite the interest now manifested by the Royal Agricultural and other important societies of the like character, in proof that that has really been the case; the public thanks are assuredly due to those whose personal exertions have mainly contributed to this end. Had not the cause been thus warmly taken up by gentlemen whose time, consideration, and capital, were freely given to carrying into effect the objects of our Poultry Associations, the latter would, at least, have occupied a far larger period in emerging from the obscurity to which popular ideas of their visionary character were inclined to consign them.

Among those who were most anxious in the cause, and whose efforts, as tested by the results of past Exhibitions, have been most successful, CAPTAIN HORNBY has always occupied a most prominent position; and his triumphs, moreover, are the greater from the fact, that they have not been attained merely in one or two varieties, but have extended throughout a large majority of the denizens of our poultry-yards. Each succeeding year of the period to which we allude has added to the laurels previously gained by the Knowsley stock, and this despite the influence of rapidly-increasing competition, and the dangerous antagonism of the many specimens that had passed from his own possession into that of his opponents.

In the midst of success, such as without any disparagement to others embarked in the same career may certainly be termed unrivalled, Captain Hornby has now requested us to announce his retirement from the poultry arena, and the disposal of his whole prize stock of Dorkings, Spanish, and Toulouse Geese to H. D. Davies, Esq., of Spring Grove, near Hounslow. From February, 1852, at Halifax, to January, 1854, included, no less than 198 prizes, comprizing the most honourable at Birmingham, the Metropolitan, Cheltenham, Plymouth, and the Royal Agricultural Society's Exhibition, at Gloucester, not to mention many minor triumphs, have fallen to Captain Hornby's birds, and, by reference to the various catalogues, it appears that he has never shown Spanish and Dorkings without receiving a first prize either in the adult birds or the chickens. At Birmingham, indeed, both first and second prizes for the adult birds in these classes were won by him in both 1852 and 1853.

To maintain the elevated position of his birds under their late owner, Mr. Davies will, doubtless, have to exert all his energy, and, heartily wishing him success, we shall always be glad to hear that his poultry-yard, thus reinforced, has done as much credit to Middlesex as the birds he has now obtained have hitherto reflected on Lancashire.

Great as has been Captain Hornby's success in "Dorkings," it is as a "Spanish" breeder that his name has been more particularly distinguished. Here, in the earlier part of his career, he may fairly be said to have had no rivals. He both bred and purchased largely, and the constant infusion of fresh blood thus attained,

and his judgment in the choice of breeding-stock, with an admirable system of management, have, doubtless, been the main ingredients of success. During the past year, though still victorious on every great occasion, his opponents have not been so entirely distanced. In this allusion to this extraordinary repetition of victories, we are not ignorant that there have been shows where Knowsley birds have appeared, but failed to occupy the first point of honour; to our own knowledge, however, such failures have been solely attributable to a desire not to disappoint the managers of the exhibition, so that third, and even fourth-rate pens have been necessarily sent; Nos. 1 and 2 being *en route* to Birmingham or some other more important meeting, hence the position of the others on the list of awards.

But "Dorkings" also owe many thanks to this skilful patron of their family. To mere bulk he has succeeded in adding the points of "form" and "feather," the former essential, even in a mere economical point of view, as giving the greatest quantity of meat on the best parts; the latter, a recommendation that will avail with most persons so long as the intrinsic value of the bird for the table suffers no deterioration.

In the "Toulouse Goose" we have received a most valuable addition to our poultry catalogues, and to the late Earl of Derby, their original importer, in conjunction with Captain Hornby, who has so successfully introduced them to the public, we are indebted for these most useful birds. The Embden Goose will, probably, attain heavier weights, but the Toulouso is unusually prolific; and, when crossed with our common varieties, produces a bird that proves a formidable rival to the former, even as regards weight.

Shanghaes, Game, Hamburgs, Bantams, Aylesbury and Rouen Ducks, and Turkeys have all contributed to swell the list of Captain Hornby's honours, the well-deserved credit of which may, we trust, induce him, at some future period, to renew the contest that has so often led to victory.

We cannot close this announcement without avowing our regret at the determination that Captain Hornby has arrived at; we can but ill spare from our lists at Exhibitions gentlemen who, like himself, have ever mainly regarded the ultimate object at our Poultry Societies rather than individual benefit. Such support, indeed, is not less needed now to carry on the operations of those Associations with success, than required in the first instance for their original formation. But, whatever may be our progress, whether our goal is neared by slower or more rapid steps, Captain Hornby's name will ever call for honorable mention in the records of the poultry-keeping community.

WE have been requested by the Secretary of the Manchester Poultry Exhibition to warn our readers against some party who, adopting the signature of *Cox*, obtains Poultry under various pretexts, but never pays for them. The name is probably an assumed one; therefore, our warning is directed much more widely than against

applicants under that signature. Somebody assuming that name has succeeded in obtaining from two breeders, Shanghaes to the amount of twelve guineas, and Black Spanish to the amount of fifteen guineas. Now, there is one never-failing remedy—*On no account send the birds before you have received the money.* If this be made an unvarying rule, no honest man will feel offended, and the dishonest man may be offended if it so pleases him.

ADVICE TO SMALL HOLDERS.

I AM not assured that the title I have selected will aptly express what I wish to place before our readers in a few papers, but I may observe, in consequence of pressing applications from that class of men who hold from two or three to eight or ten acres of land (and whose course of practice must necessarily assume a sort of intermediate position between farming and gardening), I am induced to try my hand at a little advice of the kind, and, in so doing, I must confine myself, in the main, to the chief features of the case. Those of our readers who are not precisely in this position will, doubtless, excuse me for a few weeks, the more especially as our fruit-trees being all planted, cleaned, trained, retarded, protected, &c., up to this period, we may, therefore, safely leave Nature to herself for a month to come.

In facing the subject in hand, however, a few difficulties present themselves. Many prefer "cut and dry" rotation schemes to an examination of those principles and general polity, or economy, which should be, in my opinion, the grand consideration, or basis, on which alone a due share of success depends.

Now, in order to keep tolerably close to the case in hand, it is but fair to assume that those who hold from three to eight or ten acres of land keep some sort of live stock on it. This I take for granted; for although there be those who, living near thriving towns, are enabled to carry out high cultural processes without live stock, yet such are a minority. The manure question is the great secret here; high culture can only be carried out by high stimuli, in the shape of natural or artificial manures, or both, and such must either be created by a system which includes as much "stock" as the land will carry, or must be purchased. I need scarcely add, that suburban gents have a great advantage over those situated in mere rural districts, in this respect. In order to convey an idea of what persons of this class really want, I must beg leave to give an extract from one of the applicants, who, I conceive, tolerably well represents the class alluded to. This gentleman uses the initials *W. B.* He says, ". . . I do wish that Mr. Errington, or one of your correspondents, would give a few articles in *THE COTTAGE GARDENER* suitable for the holders of five to ten acres. There was, some time back, a very interesting article on what kind of *Fowls* ought to be kept, and this, as far as it went, addressed itself to my case. I was in hopes that the writer would have gone on, and told us what sort of Cows and Pigs we should keep, and how we should keep them. I am a holder of five acres, and I want to know how to make the most of it."

Now, as the little allotment men and mere cottagers have had due attention paid to their requirements monthly, through the medium of allotment papers in *THE COTTAGE GARDENER*, I think it is but fair that we occasionally advance a step, and deal with a few acres instead of poles.

As to the live-stock; I have lived in a rural neighbourhood for nearly thirty years, where every man keeps

his pig, and many a cow or two. I, for my part, also have formed no exception. In talking about cows, pigs, &c., I shall, therefore, principally confine my remarks to the prevailing practice in this part of Cheshire, believing that, in the main, it is good. And, indeed, in order to show the bearing of the live-stock question on the modes of culture necessary to be pursued, I will offer a few remarks on cows and pigs, as bearing on the character and proportion of green-stuff, roots, &c., with a glance at the grain and meal question.

With regard to the kind of Cow most suitable to such cases, it is not easy to say anything very definite. Localities differ; certain districts have peculiar breeds for which they have long been famous, and from which they see no reason entirely to depart. Thus, if we go to the north, we meet with more or less of the Holderness or Durham breed, signalised by their immense size, their great feeding capabilities, and the immense flow of milk; the latter, of course, more noted for quantity than quality. Go down to the south, and there we hear more or less of Devons, with their crosses; and then cross the water, and we get amongst the Alderneys and their varieties, in the Channel Islands.

It is to me extremely probable that, in this respect, the cow question much resembles the apple question—an odd comparison, certainly. Persons not unfrequently apply to me to know which are the best apples; of course, I cannot forbear naming some of our old friends, such as Ribstons, Nonpareils, &c., but at the same time I always deem it expedient to qualify such recommendations, especially in the case of kitchen apples, by observing that apples of notoriously high qualities do not thrive equally in all districts.

But the great fact is this, the character of the live stock must ever be ruled, in some degree, by the character of the soil. Thus, who would think of speculating in our big carcased Leicester sheep, or Durham cows, on the Downs, or shallow upland chalky soils of the Derbyshire hills? The dairy stock in Cheshire is, in general, of a mixed character; formerly they had the old long-horned Cheshire cow on most cheese farms, but these, although excellent butter and cheese cows, gradually gave way before the Durham or Holderness breeds, which began to be introduced extensively some thirty years since. These were crossed in various ways with the old Cheshire cow, and much improved the produce; for the old stock was supposed to be "breeding out," to use a business term. But, at the same time, the Alderney breed, called pure "French," were called in request, and produced capital crosses, especially as butter cows; and, during later years, a cross between the Welsh and these improved breeds has risen high in the esteem of many farmers. It so happens, that a cow may be excellent for the cheese tub, but still not a capital butter cow. When I first came into Cheshire, I thought that this must be prejudice, or mistake, but it was I who was mistaken.

As we are near to Liverpool, that great recipient of both Irishmen and Irish produce, it may naturally be expected that we have occasionally received a sprinkling of Irish dairy stock, and such is the case. Formerly, the Irish stock was in ill repute, for they were as long-legged and gawky as their pigs; but they have so improved of late years, that the old prejudice is wearing fast away, and many of our old farmers no longer look with contempt on an Irish cow on sale at a fair.

And now, after this little examination into a question which, it appears, concerns the case in hand, it may be expected that I may venture on a little advice as to selection. Here I may point to one reason why the very large breeds of Durham and its crosses are sought after by the Cheshire farmer. These beasts give an enormous quantity of milk, which, although not unfrequently of a very moderate quality as to butter-making,

is good for cheese-making, and, moreover, produces plenty of swill for the pigs, which are a part of the dairying system. Moreover, if anything happens to a Cow of this class, which has, perhaps, cost eighteen or twenty pounds, there is, at last, a good bouncing carcase for the butcher; and as our farmers frequently make them half fat, or more, before they "weed them out," such, in a barren state, frequently realise from twelve to fifteen pounds, thus in great part covering their original cost.

It becomes our readers, therefore, who farm their six to ten acres, and who wish to keep a couple of cows, to consider these things; of course, they want chiefly butter cows, and, near thriving towns, both butter and milk may bring more profit than cheese-making, and, by consequence, the selection of breed may somewhat differ. It is, however, at times, difficult to meet with the desired breed or cross; and as little holders have, in my opinion, no business with rearing, they must not be over fastidious as to peculiar crosses. For a person keeping about a couple of cows only to indulge in a hobby of rearing stock is, as I think, unwise; for a person may have the best fancy cow in the neighbourhood, and may obtain a cross from a "crack" bull, and yet be quite deceived in the produce.

I may again repeat, that if the pasturage is not good, it is vain to think of keeping stock of enormous size, unless most of the work is to be done at the manger or crib. The pure Alderney is much esteemed as a butter cow, as everybody knows, by small holders, but they are bad, indeed, to sell if barren. They look poor outside when they are quite fat within; and a butcher, who is trying to purchase, will expatiate freely on the lean appearance of the beast, knowing full well all the time that, to use a butcher's phrase, "she will die well." A cross, of which nearly half is Alderney, will, in general, as I think, be found the best; but when we get towards the Welsh borders, the Welsh blood may fairly take the place of the Alderneys; and towards the borders of Scotland, there are the Ayrshires and other very good breeds: as for the south, who has not heard of the fame of the Dorset butter cows?

In my next paper I will offer a few remarks on the feed of cows, stating Cheshire practice, &c. A few considerations of this character will bring me, step by step, to cultural matters having reference to the keep of both man and beast.

R. ERRINGTON.

MEETING OF THE HORTICULTURAL SOCIETY.—MARCH 21st.

WE had an unusually large meeting to-day, and the tables were well supplied with ornamental plants, being particularly rich in Orchids; very little fruit; and nothing for the kitchen, or still room, except salad plants from the garden of the Society, and foreign produce of the same kinds from Mr. Solomons, of Covent Garden. There were many specimens of woods, and a share of the usual lecture referred more particularly to that part of the exhibition; and, last of all, we elected several new members by ballot.

Before the meeting, I spent an hour between Covent Garden and Mr. Stevens' sale-room, close by. He had his large room full of poultry ready arranged for the hammer, more than two-thirds of which were of Buff Cochin-Chinas. In front of Mr. Stevens' rostrum stood the largest cock of that breed that ever was seen, and, taking him altogether, he was the finest feathered bird that has ever been offered for sale; but he had the common fault of the breed—the want of a prominent chest. There does not seem to be any difficulty in getting motherly-looking hens; but ninety-nine out of every hundred cocks of the Shanghai breed look like half-pay officers, buttoned

up to the chin without any breast at all. From a discussion on the points of this noble bird, I learned, from an amateur, that it was bred by Mr. Fletcher; that he was bred from some Pasha, whose name I forget; that he was once sold for six guineas; that some one thought there was something the matter with him, and sold him again for four guineas; but I could not stop to see what he fetched to-day. If I were looking out for a bird to improve bone and feather, I would not grudge fifteen guineas for him.

Of all our game birds, for shooting, I place the Ptarmigan at the top of the list, as being the highest minded bird in this kingdom; and seeing that some Ptarmigan poultry were advertised for this day's sale, I wanted particularly to see them. Mr. Stevens told me the numbers of their lots, but I could neither find out the lots, nor a single bird in the whole room which had the slightest resemblance to a real live Ptarmigan, which is just now beginning to change colour. In winter, the Ptarmigan is as white as the driven snow; you could not see a covey of them fifty yards a-head of you squatting on their native carpet, this carpet of snow is now wearing into large holes and patches by the heat of the sun, and the covering of the birds changes also into dark blue patches to deceive the sportsman, and by the end of May, their breeding season, the feathers are all of that dark bluish-grey peculiar to the Guinea fowl, the legs and underside of the wings being the only parts which do not change colour; towards the winter the Ptarmigan gets speckled, and so on to the pure white again.

From the top of Ben Nevis let me fly over to Penzance, to say that thirty tons of splendid *Brocoli* arrived from thence, that morning, at Covent Garden, and that every one of them were sold in less than the dinner hour, to be sold and resold, no doubt, all over this huge city; from 4d. to 6d., was the price of the best of them in the stalls at midday.

Cut-flowers must be getting more and more fashionable every year in London. Who can tell how many thousands of Camellia flowers are used up in London every day in the week, at this season? A good nosegay, with six or seven Camellia flowers in it, and Geraniums, Pinks, Picotees, Violets, and Azaleas, with Mignonette, and sweet-scented leaves, all made up in circles, and wrapped in paper, the size not less than ten inches in diameter, and all for one shilling that very day! *Gauntlets*, and a few *Alba multifloras*, were the chief Geranium flowers, except the *Tom Thumb*, and other scarlets. *Dielytra spectabilis*, *Euphorbia jacquiniiflora*, and *Deudrobium nobile*, are the next best market cut-flowers at this season; then *Azaleas*, *Cinerarias*, fairy *Roses*, *Anne Bolyn Pinks*; and third or fourth best, and the most abundant, are common *Daffodils*, *Primroses*, *Cowslips*, and *Wallflowers*. I saw one nosegay quite new in design, and a most beautiful and telling combination, which one might imitate in a circular bed of four or five feet in diameter. First, get nine white *Camellias*, one is in the centre of a circle, then two on the right, and two on the left of the centre, in a line, or five flowers across the diameter, then two in front, and two at the back, make a cross diameter, the centre flowers counts in both rows; but if you want to learn how to make one, or to plant a bed after it, take a pencil and a piece of paper, make a circle of any size with the pencil, and draw a line across it, then draw another line across the first line, in the centre of the cross make an O, for the first Camellia, and make two more O's on each line, then you have the nine places for the pure white Camellias. Now get four azure-blue flowers, or four little bunches of the same blue, in *Cinerarias*, and place them up against the four angles formed by the white Camellias. The way to get the mathematical proportion of the blue is to draw a circle on the plan, which will just

include each of the Camellias next the centre one; the four spaces inside this circle, and between the white flowers, are filled up with the blue, then the open space in front of the blues, to the edge of the nosegay, is filled up with the best *Scarlet Geranium*, and the thing is done, or you may fringo it with *Mignonette*. I do not know any blue flower, except those of the China Larkspur (*Delphinium sinense*), and some blue *Cinerarias*, that would answer for such a combination. The blue tint must be nearly that in *Salvia patens*, so that blue Violets are too dark for it, and the Neapolitan Violet is too light. The whole beauty is lost if the real tint of blue is not hit upon. In a circular-bed, two bands of the white *Candytuft* formed into a cross, and the bands to be not less than ten inches wide, would do for the white, the *China Larkspur* in the angles, and young plants of *Tom Thumb*, with a ring of *Mignonette* all round the bed, would give this nosegay-bed, as long as the *Candytuft* lasted. I mention it as being of the same height, and style of growth and flowering as the *Larkspur* and *Tom Thumb* ought to be of a size to suit. Now, although I have seen as many experiments in filling fancy beds as any man living, I shall not vouch for it that this one of my own choosing would be quite perfect till I saw it, as I cannot realize in my mind's eye the effect of the three shades of green in the leaves of the plants, in conjunction with the tints of the flowers; and that is the rock upon which the best painter that ever lived is just as likely to wreck reputation as the man who goes about looking after flowers and poultry.

It is now 3 o'clock, p.m., the chair is taken, and the meeting of the Horticultural is all eyes and ears, but not all seated. The *Duchess of Edinburgh* takes her chance of a seat with *Madame Laffay* or *Mrs. Elliott*, according to their times of entering the room respectively; or if the *Lord of the Isles* offers to give up his seat for her grace, how are they to get her over so many heads and shoulders? The fact is, the thing must be roughed-out on an occasion like this, when so many people come to see the flowers; certainly the room is not quite so large as the hall in Darnaway Castle, near Inverness, where a thousand men could stand under arms; still, Lord Raglan could manoeuvre some hundreds in it. The large plank of Deodar, from India, comes in very useful for the heavy pots and tubs with specimen plants, and it was full from end to end. Then, at the end of this great plank stood a splendid tree *Rhododendron*, ten feet high, in beautiful leaf, and carrying twenty-eight large trusses of flowers, and twelve to fifteen flowers in each truss; the flowers are a delicate French-white when they first open, and pass into pure white after a while; the bottom or throat of the flower is minutely spotted with black or brown dots, and the name is *Princess Alice*, a very fit name for such a fine plant, which was much admired. It was sent by Mr. Gaines, the great Florist at Battersea, and he also sent a fine new seedling of *Rhododendron javanicum*, with a larger flower and higher colour than the species; this was highly praised. With these he sent a large bush of white-flowering *Azalea*, of the China breed, and called *Mont Blanc*.

Mr. Henderson, of Pine-Apple Place, sent a flat basket containing fifteen plants in flower of the little Sikkim *Rhododendron ciliatum*, which we were told has proved quite hardy this winter in the Society's Garden. This is a charming little plant, with large blush flowers. I saw abundance of it coming into flower with Mr. Jackson, here, in cold pits; and a gardener, who sat next to me, said he had crosses from it at home which looked bushy and very promising. I have not the slightest doubt but it will also cross with the China *Azaleas*, and give us a new breed of early flowers. We were told that another fine species of *Rhododendron*, called *Edge-*

worthii, from Sikkim, could not stand out such a winter as the last.

We had, also, from Pine-Apple Place, *Eriostemon scabrum*, a model of good management, covered with stary, white flowers, for the greenhouse; also, *Dillwynia pungens*, a prickly, small-leaved plant, with yellowish pea flowers; a *Boronia triphylla*, with bright pink flowers; *Eschymanthus speciosus*, with large orange flowers; and a small plant of a new, to me, *Borovia molina*, with light blush flowers, and rather softer in the wood and leaves than the rest of this family.

There was a tall, slender *Dendrobium*, with flowers very like those of *nobile*, from Mr. Whitbread, Stratford Green. And the Messrs. Rollinson, of Tooting, sent a full collection of Orchids, in which was the droll *Lycaste* I mentioned at the last meeting. It is called *Lycaste brevispatha*; a yellow *Lycaste*, like *Maxillaria aromatica*, but a better yellow, and little or no scent; two varieties out of the twenty forms which *Lycaste Skinnerii* assumes; a large *Dendrobium Farmerii*, with long racemes of white flowers, having a soft, velvety, yellowish eye—a fine thing; two fine varieties of *Cattleya*, from Java, in the way of *intermedia*; a larger variety of *Barkeria elegans* than Mr. Jackson's plant. Three large *Vandas*, from Java, allied to *suavis*; a large specimen of *Dendrobium macraurum*, which scented the whole room. The shoots of this plant were trained upright, and there were fifteen of them loaded with large, light purple flowers. Mrs. Lawrence exhibited one of these, in 1852, with all the shoots hanging down from the pot. A new species of *Sobralia*, with flowers as large as those of *macrantha*, with light blush sepals, and a large violet-coloured front or lip; also *Dendrobium fimbriatum oculatum*, the most delicate yellow, the lip fringed all round, and a large, horse-shoe, dark mark at the bottom, legalising the additional name *oculatum*.

The Messrs. Lee, of Hammersmith, sent a collection of fine *Camellias*, and plenty of cut flowers of the same. *De la Reine*, a soft white flower, with a few carnation stripes, was much praised. *Alevene*, a shaded Rose, and quite imbricated, is a fine flower; *Wilderi*, just like *imbricata*, but of a lighter tint; *Saccoi nora*, an Italian seedling, is a fine light Rose; *Duchess of Buccleugh*, a large, red, imbricated flower, rising high in the centre.

Amongst the cut flowers, *Bealii* is my favourite; a dark-crimson *Florida* the next best tint; *Landrethii* the next shade; *Monarch*, a good dark flower; *Lord Nelson*, a fine white, with stripes; but the old favourites, *fimbriata*, the fringed white, *tricolor*, *Donkelearia*, and *elegans*, the Cabbage-rose *Camellia*, are matches for anything in the *Camellia* way. There was a new seedling *Camellia* from Mr. Chandler, of Vauxhall, called *formosa*, in shape like *imbricata*, but a different tint.

There was a curious, large, Arum-like plant in the collection from Tooting, called *Philodeudron Simsii*, with a cluster of the most singular-looking flowers, being the hoods, or spathes, which cover the real flowers of the Arum tribe; they looked like living cones of polished ivory, deep crimson at the bottom or broad end, and the top a light cream colour. They are said never to open much, and that is all the better, for there cannot be much inside these ivory hoods worth looking at.

There was a cut branch of a blue *Thunbergia*-like flower, from Mr. Veitch, with leaves like those of *Thunbergia coccinea*, and the colour is like the blue *Gloxinia*, or, perhaps, lighter, like the flowers of *Paulownia imperialis*. It is a stove climber from Moulmein. Also, a cut truss of a *Rhododendron*, a light ground, intensely spotted, and called *picturatum superbum*.

To these, many more plants in the room might be added by name, but I have no remarks to make, only on the following from the Society's garden. A beautiful

specimen of *Deutzia gracilis*, in a twenty-four pot, with the tips of the branches brought over and tied down to others on the opposite side of the pot near the rim; thus done all round, throws the plant into a globe shape, and nothing is seen but flowers, a large snow-ball, in fact. The elegant double white *Prunus sinensis*, like a double flowering cherry, a pretty plant; an *Erica audronedafolia*, a literal beauty, and as bold, in its large flowers, as beautiful; also *E. macuabiana*, a hard and difficult one to do so well. *Cattleya pallida*, with immense pale blush flowers; *Blandianum*, the best variety of *Dendrobium nobile*; *Chorizema Laurenciana*, with prickly holly-like leaves, with purple and dark copper-coloured flowers, a neat thing, and several others.

I must pass those over in haste to tell of the good news, that this Society have just begun to give up their nonsensical way of giving outlandish names to our best kinds of *sallad plants*. We had *Lettuce*, to-day, instead of lattice-work; and *Sorrel* for *Gazelles*; and now, after tasting three kinds of *Sorrel*, I can tell the cooks that the *Sorrel of Belleville* is better for them than our old broad-leaved or small-leaved French *Sorrel*; that *Lamb's Lettuce* is *Lamb's Lettuce* after all; that *Coru Sallad* is an excellent thing for those who like it; and that the *Mysteries of Paris* are only the shaking of hands with the Emperor. There was no mystery about the *French Lettuces* from Mr. Solomons; I never saw finer in England in June. The curled *Endive*, the red and white *Radishes*, the blanched *Chicory*, the *Chervil*, the *Cress*, and the *Salsafy*, were enough to make one's teeth water.

Woods and Forests.—The roof of Westminster Abbey was never of Spanish Chesnut after all. In the good old times they cut down all our best kind of Oak for roofing the best buildings, and there was hardly enough left us to prove the fact that such roofs were of real English Oak; that our two kinds of Oak are as different as can be; that carpenters, who spent their years on knotty Oak (*Quercus pedunculata*), will not believe their own eyes, saws, or planes, when they get on a plant of the stalkless-flowered (*Quercus sessiliflora*), and they must have it that this beautiful working Oak must be no Oak, but a Chesnut, like the roof of Westminster Abbey. But here we had the whole subject in all its bearings, planks of our two species of Oak, of Spanish Chesnut, and several specimens of the wood from the roof of the Abbey; of how the late Mr. Atkinson, a great architect and authority on woods, dissented from the general belief of Spanish Chesnut roofs; and how Mr. Tredgold, with his great engineering skill, tested the strength of this and that Oak and Chesnut, and the impression was very general at last, that in the new order of things no Oak but the sessile, or stalkless-flowered Oak, should be planted in the new and royal forests and that the more common Oak is better to flavour bacon; first, by feeding the pigs with acorns, and next, by smoking their flesh by its burning wood, than for building purposes of any kind.

We also had woods of the *American Larch*, to show it is of little use on our soil, and the *European Larch*, from Scotland, to show it is our best native timber, there being little more than an inch of sap-wood in a block nearly two feet in diameter. D. BEATON.

NEW FLORISTS' FLOWERS.

It has been suggested, that occasional lists of new and improved Florists' Flowers would be useful to many readers of THE COTTAGE GARDENER. In accordance with that idea, I purpose giving such lists, from time to time, as they fall under my notice, and I should be glad if any florist in the country, or in the neighbourhood of London, if they think their new flowers really superior

to older varieties, would send me specimens and descriptions, with the names of the kinds the seed was saved from, I could then make my lists more full, perfect, and useful. As I have been very lately writing on the culture of the Antirrhinum, I will commence with that flower.

NEW ANTIRRHINUMS.

ANNIE SALTER. This is a fine spotted variety of medium size, with a rose-coloured tube, and white sepals, spotted with rose.

BELLONA; a large flower, of good form, with red tube and yellow sepals.

CONSTANCE; flower medium size, with white tube and crimson sepals, blotched with white; very fine and distinct.

CRAMOISIE ROYAL; a large flower, self-coloured, dark crimson-violet; very fine.

EMPRESS; Medium size, with rosy-blush tube, and white sepals; fine and distinct.

GAIETY; curiously striped with red on a yellow ground; fine.

HORACE; yellow, distinctly striped with scarlet.

JOHN EDWARDS; a large flower, with white tube and rose petals blotched with white.

LADY HASTINGS; medium size, sulphur-colour, curiously netted with purple.

LORD PALMERSTON; large flower, with white tube, and dark red sepals, spotted with white.

LUTEA; a dwarf grower, of a clear self sulphur-colour; suitable for bedding.

MADAME RIEBEL; a large flower, blush, striped with red; a distinct variety.

SIR CHARLES NAPIER; medium size, with clear white tube, and bright rose sepals.

SULTAN; a large flower, with white tube and red crimson sepals.

SULPHURESCENS; a large flowered self, of a very light sulphur-colour, almost approaching to white.

NEW CHRYSANTHEMUMS.—POMPONES OR DWARF.

ANNA BOLEYN; fine form; orange-buff colour.

AUREE BOREALE; full-petalled, salmon centre, and each petal tipped with gold.

BOB; a large flower, of a velvety scarlet; new and desirable.

BRILLIANT; large and fine, and of a rich crimson-scarlet.

BOUQUET DE LA REINE; a good flower, white centre tipped with carmine.

DIDON; a full flower, of a clear lilac colour; very distinct and fine.

EGLANTINE; blush edges, yellow centre.

FADETTE; rose, mottled with yellow; very much like a Ranunculus.

JOHN SALTER; a full flower, of a carmine and orange colour; very desirable.

LA RADIEUSE; full; colour violet, silvered over with white; a singularly beautiful flower.

LE TROPIQUE; full, and of a dark orange colour.

NEMENSIS; orange-brown; rich and full.

MONT BLANC; full; pure white; superior to *Argentine*.

PLUIE D'OR; very double; golden-canary colour.

SOCAZES GASTON; a fine purple flower.

VICTOREUSE; full, and of a beautiful blush colour.

The original Pomponé Chrysanthemums were sent over to England by that successful collector, Mr. Fortune, from Chusan, in China. We called them the Chusan Daisies, to which flower, indeed, they bear a considerable resemblance. They were freely distributed by the London Horticultural Society, and have been greatly improved, both in form, size, and colour, so much so, that they are advancing much in public estimation. The continental florists have increased the variety so much that they are almost innumerable.

They are great ornaments to the greenhouse in the autumnal months, serving admirably as a foreground or front rank to the large varieties.

NEW LARGE-FLOWERED CHRYSANTHEMUMS.

AUGUSTE MIE; a large, noble flower, of fine form; colour a lively red, tipped with gold.

DUK DE ROHAN; full, and of a clear rosy-violet colour.

HERMINE; a desirable variety, of a fine blush colour.

IRENE; full; blush and purple shade.

IXIO; large and full, and of a dark yellow and carmine colour.

LE PROPHETE; medium size; very double; and a pleasing fawn or orange-buff colour.

MADAME LE BOIS; full and large; colour blush, centre edged or tipped with clear rose; a very pleasing flower.

PALLAS; red centro, yellow tips; a fine variety.

PRINCE JEROME; full and perfect in form; straw centre, tipped with crimson; very beautiful.

PHANE DE MEMINE; a noble flower, of a novel colour, namely, red-claret.

We are indebted to our continental brother florists for the greater number of our improved large-flowered Chrysanthemums. I suspect the hot summer of a continental sun ripens the seed better or more freely than we can possibly do in our damp, cold autumns. Hence, English florists have not the power to produce so many seedlings as our brethren on the other side of the water.

T. APPELBY.

(To be continued.)

STOVE FERNS.

(Continued from Vol. xi., page 443.)

HEMIONITES.

A curious dwarf tribe of Ferns of considerable beauty. On account of their dwarf habit they are suitable for small collections, and their singular beauty recommends them even to the largest. The name is a very ancient one. It was given to the genus by that ancient writer, Dioscorides, and is derived from *hemionos*, a mule, because the plant was supposed to be barren, an erroneous idea, for the plants not only produce seed, but are actually viviparous, that is, producing plants on the leaves. The principal generic character consists in the superficial netted seed-vessels.

H. PALMATA (Hand-shaped).—A West Indian Fern of great beauty. The fronds are of two kinds, barren and seed-bearing; the fertile grow erect, about a foot high, with the seed-vessels standing out above the surface, and covered with net-work. The sterile fronds grow horizontally, or nearly so. Both are hand-shaped, or palmate, with five deeply-cut divisions, hairy, and producing at the bottom of each finger-like division a knob or bud, which in time will form a plant, if taken off when roots are beginning to appear, potted, and placed under a bell-glass, in a close, moist heat. I have grown this species exceedingly large and fine in the Orchid-house. It requires a high, moist temperature to grow it to perfection. Cultivators that have no Orchid-house should place this plant among moss kept moist, and a large bell-glass or hand-light over it.

HEMITELIA.

Under this name are arranged some of the tallest and noblest Ferns in the world. Name derived from *hemi*, half, and *teleia*, perfect; the seed-vessels forming the appearance of half a cup of regular form. These seed-vessels are most beautiful objects when viewed through a microscope. The cup is then plainly seen with the spores piled up in it.

H. SPECIOSA (Showy).—A South American Fern of large dimensions. The veins of this species are pinnafid, the lowest pair running up from the mid-rib to the edge of the leaf, the next pair are placed above them, running parallel, and also to the margin, and at the end of each vein may be seen the beautiful cup-shaped seed-vessel, with its tiny pyramid of seeds. The fronds are pinnate, four to six feet high, and each pinna is more than a foot long, and nearly two inches broad, these fronds are placed upon a tree-like stem, which in their native home is often twenty feet high. The one at Kew is as yet only about three feet.

The other species known in Britain are *H. GRANIFOLIA*, Trinidad; *H. HOSEMANU*, Guiana; and *H. HORRIDA*. This last is covered with aculeate or prickly scales, very formidable things to encounter in passing through the forests of Jamaica. The whole genus must be increased by seed, though sometimes a young plant is produced at the base of an old leaf amongst the scales; when that happens, tie a little moss just under the sprouting young plant, and as soon as roots are produced cut it off and plant it in a small pot placed under a bell-glass till fairly established.

HYPOLEPIS.

A collection of Ferns, formed into a genus of this name, from *Chilianthus* and *Polypodium*. The name is derived from *hypo* (under) and *lepis* (a scale), the seeds being under or concealed by a sealy covering.

H. REPENS (Creeping).—A strong-growing Fern, from the West Indies. In large stoves, where plants of dense foliage are wanted to hide any object in shady places, no Fern is so useful as this. Although it may be regarded as a coarse-growing Fern, yet the soft-coloured light green foliage is very pleasing. I have cultivated it under the stages of the stove to hide the hot-water pipes, and against naked walls with the best effect. There is a variety with curled leaves, more curious than beautiful; I named it *Crispum*, but some authors call it *H. repens difforme*.

The fronds of the species grow three or four feet high, and one of the form is called decomposed, that is, ramified into many compounds or branchlets. The whole plant is covered with soft, gland-bearing hairs, which give the plant a silky appearance. Increases freely by dividing the freely ereeping rhizoma.

LEPTOGRAMMA.

A lovely genus of Ferns, formed by Mr. Smith, of Kew, from *Gymnogramma*. Name derived from *leptos* (slender) and *gramma* (writing); the seed-vessels being long and slender, like fine writing.

L. VILLOSUM (Hairy).—A Brazilian Fern, of the neatest habit and most regular form, in respect to leaves, veins, and seed-cases, of any Fern known. It is nearly allied to *Gymnogramma*, but differs from it by having the veins and seed-vessels in simple straight lines. Fronds hairy, twice divided or bipinnate, growing two feet long; the pinnae are regularly and oppositely disposed on each side of the stem, and the veins are arranged on each side of the midrib, like the bones from the main back-bone in a herring. Then the sori or seed-cases are as regularly disposed on the veins towards the lower part of each pinna. Such an elegant Fern ought to be in every collection. It is the only species grown in this country, and is exceedingly rare, though it may be increased by dividing the creeping rhizoma or root-stock.

LITOBROCKIA.

A genus formerly arranged under *Pteris*, and allied to *Doryopteris*, from both genera, distinguished principally by its netted veins. The species are rather numerous, and are chiefly from the hotter regions of the world,

hence they require a considerably high temperature. I shall only particularly mention one, namely,

L. LEPTOPHYLLA (Slender-leaved).—I have grown this Brazilian Fern many years, but always found that to do it well it was necessary to keep it constantly in the Orchid-house. Sterile fronds, almost triangular bipinnate and tripinnate at the base; pinnae light greyish-green, linear, and cut at the margin into thorny, teeth-like forms. Fertile fronds erect, with the seed-vessels running in a continuous line on the margin of the leaves. A beautiful Fern, increased only, but freely, by seeds.

T. APPLEBY.

(To be continued.)

THE PEACH.

In the present age of progress and improvement, it is often one of the first questions a tyro asks, when any meritorious production is presented to him, "What was the condition of this article a few years back?" This question, fortunately, gives room for a favourable answer in many things, yet there are others in which it would be difficult to say if any advance had taken place at all; and, which is worse, it is to be feared there has been a retrograde movement even in some of every-day use, and in others the united skill of the most affluent of the community has failed to advance a single step for a whole generation.

Ask the epicure whether the skill of the breeder, and the improvements of mechanical science, have been able to turn out a better *cheese* than was made in the time of our grandfathers, or, it might be, some generations before that? It may be true that we have mechanical tests of the qualities of such things, whereby the various degrees of merit would be handed down with accuracy to another period; and the human taste is hardly a sufficient guarantee between the merits of rival productions that presented themselves some half century or more apart; but, on the other hand, we have some tests which display, in unmistakeable language, that a decided and startling advance has taken place; and, in some few instances, as positive a proof to the contrary. Amongst the latter, I will only instance one to which the public, I mean the wealthy portion of it, has always paid great attention, although it is one only entitled, by way of illustration, to be noticed here. Can any one affirm that the speed of race-horses has increased any the last hundred years? And when it is considered the great amount of patronage they have received, the improvements, or expected improvements, in the breeding, training, food, saddlery, and the other minutiae connected therewith, and the great interests always at stake, it certainly becomes a matter no way complimentary to be told that horses ran quite as fast a hundred years ago as at the present time; yet such has been the case; and here we have a proof of the fact in the figures of time which it took to perform a certain distance then as well as now.

Now, though many garden productions have wonderfully improved since the beginning of the present century, there are others of the greatest possible importance which have not made any advance at all. Of this latter class is one of the most useful fruits we have, and one second, perhaps, to none in the estimation in which it is held. I mean the *Peach*, which certainly has in no way improved during the life-time of the most aged amongst us; and I think every one will affirm, that as fine fruit was produced in the time of their boyhood as at the present day, notwithstanding the various auxiliary helps which science has stepped in to secure. Now, where such a popular fruit has been in cultivation amongst us for such a lengthened period without improvement, it naturally gives rise to the little, but

serious, question, Why?—which is the more difficult to answer satisfactorily, when it becomes too apparent that we may be in a worse position than “standing still;” we may be, and probably are, going backward. This, perhaps, may be thought a strong assertion; but I fear it is founded on truth. The *Royal George*, *Noblesse*, and *Red Magdalen* Peaches, of the early part of the present century, were, doubtless, better fruit than the same kinds are now; because a *variety*, after being in cultivation a certain time, becomes impaired, diseased, or in some way or other degenerates from its original vigour and qualifications; and, I ask, what has been done to replace these valuable fruits by others equally good? But little, I fear, must be the reply. That principle of honourable consistency which John Bull often exhibits by clinging to tried and time-honoured friends, has induced him to hang on to these kinds in the same way as he does to the *Ribston Pippin* Apple, *Jargonelle* Pear, and some other fruits which are fast dying-out of incurable consumption. Is this not the same with Peaches?—Do they not require something more than an altered or amended way of training; or soils different from that they have been growing in, as well as several kinds of stocks, and other modes of culture, all calculated to improve the culture of the plant under certain circumstances, yet still not destined to prevent its ultimate decay? I imagine that these favourite kinds have all gone through these gradations, and that the various impulses which each has supplied is so far expended that the trees remain a much shorter time healthy than formerly. In other words, the trees are shorter lived than they used to be, and, consequently, are predisposed to those diseases which good cultivation and management is not always able to keep off; hence the many sickly, deformed, and unfruitful trees are so often met with, which are not in every case the results of bad gardening, although I do not, by any means, say that all are equally excusable; for, though we will suppose the *Royal George* Peach may refuse to grow in one place (even in spite of careful and attentive cultivation) in anything like a satisfactory way, it may, perhaps, succeed in another for a limited time, and even apparently flourish; yet that only proves that the soil and situation, coupled with other circumstances, are more favourable to it there than in the former place; the same as one member of the human family may outlive all the rest, but the decline of existence will, sooner or later, appear; and the *Royal George* Peaches will, by and by, be numbered with the things that were.

Though much more might be said on this subject, I think I have adduced enough to explain my views of this question, and now proceed to another cause, to which, I think, much of the want of success in Peach culture may be traced, which is one that bears no analogy whatever to the above, and can scarcely be explained without digressing to other matters, which, however, all bear on cultivation in some way or other. This I must leave for another week.

J. ROBSON.

(To be continued.)

NOTES ON DORKINGS, SHANGHAES, AND CRAMMING.

“ANY one who will favour us with facts confers a boon upon us and our readers.” When I saw the above foot-note to Mr. Jones’s interesting communication on the Poland fowl, I determined to throw in my mite of information; but then the difficulty arose, upon what point in poultry management should I address you, when so many first-rate authorities have contributed to your pages the result of their experiences, and almost, one would think, exhausted the subject. I might, certainly, have gone over the old beaten

track, but I hate a repetition of anything, therefore, the observations I am now about to send you will partake much of a miscellaneous character, or, more properly speaking, practical hints, noted down during the last twelve months.

Comparing the Dorking and Cochin as table fowls has been a fruitful theme for discussion; but surely, many of the Cochin amateurs have but a very imperfect notion of what constitutes a good table fowl. Mind, I mean a fowl suitable for market; one that shall, when plucked of its feathers, present a body, short, white, thick, plump, and large, carrying flesh well upon the breast, thighs, and wings, fine bone, with small offal. Birds that answer this description will always find ready purchasers at market at good, and, sometimes, high prices. Your own experience would at once point out the thorough-bred Game fowl as a bird approaching nearest to this standard of excellence; but then the Game fowl is only medium-sized, and so pugnacious that it is almost impossible to rear chickens to any great extent. The well-known Dorking is the fowl generally bred to supply the Loudon markets, but, unfortunately, this breed of birds is small or narrow-breasted, and even when fat, takes it on in the wrong place, namely, beneath and around the vent. I know, however, that some of the first-class Dorkings of the present day are much fuller on the breast, and, altogether, much superior birds to those commonly seen at the farm-yards around this neighbourhood; but at the same time, such birds are far too valuable, at present, to supply the markets with. And now, a few words concerning the far-famed and petted *Cochin-China*.

By-the-by, I may here mention, that I was one of the first persons in this country who possessed this valuable variety of fowl. I soon became conscious of their good laying qualities, and have, therefore, since that time continued to keep them, so that I have no prejudice against them, but rather the other way. From experience obtained during this time, and repeated trials made during the last twelve months, I can confidently affirm that the Cochin fowl will never answer as a market fowl, but as a producer of eggs, more especially during the winter months, they stand A. 1. But even with Cochins, like most other fowls, the hens vary much in the number of eggs they lay; some lay every day for two or three months following; others, and even birds from the same brood, do not lay above four or five eggs per week, and then only for a month or so, and then become broody.

I have found, by repeated observations, that a *hen to be a first-rate layer* must be deep from the back to the breast-bone; in other words, flat; and a hen to make a fleshy bird must be wide across the loins, and broad-breasted; in fact, comparing small things with great, the cow and the fowl will be found to answer to the well-known principle of breeding animals, that a flat-framed cow is most prolific in milk, and a round-framed cow best for flesh-forming. Doubtless; I shall be taken to task by many amateurs who possess strains of magnificent Cochin fowls, for entertaining such an idea, and giving it publicity; to such, I say, examine for yourselves, hens of the following breeds, and all will be found *flat-framed* if remarkable for good laying qualities: Cochins, Spanish, Hamburgs, and Minorcas; on the other hand, or round-framed birds, examine Malays, Game, Dorking, and Sussex.

Leaving that part of the subject, let us see *how the Cochins will bear fattening by cramming*; and here I will digress for a short time to inform you *how they fat Dorkings*.—Suppose, for instance, a farmer’s wife was about to fat, say, a dozen fowls, that number of likely birds would be selected and placed in the fattening pen, a kind of box, the bottom of which is formed of one-and-a-half inch strips of wood, nailed, say, one inch apart, or sufficiently to allow the dung to drop through; into this pen the birds are consigned, and for the first few days (generally a week) allowed to peck corn, barley-meal, or oatmeal mixed with pot-lignor; the pen is covered over during the process with a sack, or something of the kind, keeping the birds in the dark, and exceedingly hot. A small pan, containing small stones, &c., to assist digestion, is placed so that the birds can reach it. The pen being so small, and with the confinement and good feeding, the birds begin rapidly to form flesh; they are now fit for cramming; to do this, the poultry woman takes one bird out of the pen, places it in her lap, and from a pan of moistened

oatmeal at her side, rolls out peices about the thickness of a man's little finger, and one-and-a-half-inches long, dips them one by one into a bason of milk, and then opening the beak of the bird with one hand, with the other forces the oatmeal pellets down its throat; each bird in its turn undergoes the same treatment, and when the crops are all filled, the birds are returned to the pen, and generally, in a few minutes after being fed, all are fast asleep; it generally takes from two to three weeks for fattening a bird, after which it must be killed, or will quickly die; during all this time the dung is *not* removed from under the pen where it drops, and what with the closeness of the atmosphere, and the richness of the food, gives out an odour not very inviting. Should any of your readers feel desirous of fattening their own birds by cramming, they will find the following hints useful. The best thing to fat fowls with are oatmeal moistened up with broth, made by boiling, or rather stewing, a sheep's head and pluck, in a sufficient quantity of water until the meat parts freely from the bones; the oatmeal must not be sloppy, but about the consistency of dough. It is advisable in all novices to make the pellets rather smaller than recommended above, for fear of choking the birds; every pellet to be dipped into milk, and gently forced down the bird's throat; if the milk is made lukewarm, and a little sugar added, the fattening will be hastened. The fowls must, by all means, be kept *dark and hot*, or the fattening will be delayed, and double the quantity of food required. The dung will be found very valuable, but so strong, unless mixed with three times its bulk of earth, that it would kill everything it came near. This caution may be necessary, because I happened to know a lady who had some of this manure (neat) applied to her flower-borders, the consequence being that everything was destroyed.

After this long digression, let us return to the subject of *fattening Cochins*. I am acquainted with a farmer's wife who annually fats between five and six hundred Dorkings for the London market. A gentleman sent to her several Cochin fowls to fat, and requesting her to make them as fat as possible—of course, paying her well for her trouble. After several weeks' trial, she returned the birds, being unable to make anything of them; in fact, they were as fat when placed in the pen as when they came out. I have myself killed several Cochins, but could never get them fat; their flesh was rich and juicy, but the yellow skin, large bones, and quantity of offal, particularly gizzard, fully bears me out in my assertion—that the Cochin will never make a good market fowl.*—W. LESNAM.

SUGGESTIONS FROM THE GARDEN AND THE FIELD.

By *Cuthbert W. Johnson, Esq., F.R.S.*

(Concluded from *Vol. xi., page 408.*)

ANIMALS AND PLANTS.

THE evidence which organic chemistry affords of the wisdom and beneficence of the Deity, is, indeed, every way worthy of the primary attention of the searcher after truth. Amidst the multitude of organised substances and operations continually presented to our observation, in our gardens and fields, the first remark which forces itself, as it were, upon the mind of the chemical observer, is the simplicity of the design, and the small number of the elementary bodies employed. These, indeed, are facts which press upon the attention of the most careless student in chemistry. He discerns neither confusion in the constitution of living bodies, nor irregularity, nor variation in the composition of any of those with which he seeks to become acquainted. Chemical substances, in fact, are found to combine in definite proportions with mathematical regularity, and the elementary substances with which the chemist converses are much fewer in number than is commonly believed. The chemist is only able to detect, at most, sixty-two simple or chemically

* To this excellent communication we must append one note. If we were to confine our attention to the long-legged and extinguisher-bodied cock Shanghai so usually exhibited, Mr. Lesnam's verdict against them must be confirmed; but we know of breeds in which both cockerels and pullets are as meaty-breasted as Dorkings.—ED. C. G.

undecomposed substances or elements in the great circle through which he ranges.

The very simplicity, indeed, of the materials employed, is evidence of the Wisdom of the Artificer. There is a total absence in the works of the Creator of all unnecessary multiplication of ingredients. No chemical philosopher ever succeeded in simplifying these. If, for instance, water is composed of two simple bodies (oxygen and hydrogen), and sugar of three (carbon, oxygen, and hydrogen), no one has ever produced either substance with less.

This, too, is not a remark applicable only to particular organic substances, but it extends to animal and vegetable substances in general. It is a fact as universal as remarkable, yet contrary to every reasonable expectation. That a metal or an earth should be composed of a single substance, is, perhaps, a conclusion to which any intelligent person might be expected to arrive; and, in fact, they are composed of either one two, or at most, three substances; but that this remark should also correctly apply to organic matters, would appear to be very improbable; little would such an enquirer imagine that the whole mass of animal and vegetable substances were equally limited in the number of their constituents; still less would the magic transformations of these constituents be deemed probable. It requires, indeed, some stretch of the imagination to believe that when the two gases, hydrogen and oxygen, are combined together, that the liquid substance, water, is produced; but still more strange does it appear that when these two gases are combined with charcoal (the carbon of chemists), that these three substances should produce almost all the substances found in vegetables; that by merely varying their proportions all kinds of substances should be the result; in one proportion a solid, as gum, in another a liquid, as alcohol (spirit of wine); that by uniting these in one proportion, sugar should be the resulting compound; in another vinegar; that in the flour of wheat, they should form our food; but in oxalic acid one of the most virulent of poisons.

By this simplicity of constitution this great end is accomplished—the facility of support to animal and vegetable life, the two great classes, the constituents of which are naturally and continually transformed from one to the other. For it is evident, that if the grass on which the cow feeds had not been composed of the same elements as herself, that then the grass she consumes could not have been assimilated in her composition.

The limits I have prescribed to myself are nearly exceeded; it is needless to continue to multiply instances of the goodness of God, derivable from the chemistry of animated and inanimate nature. Every page of a complete system of chemistry might be adduced, as all tending to the same end. I leave, therefore, these facts to be answered by those whose powers of belief in the achievements of chance, of formations without an object, and of creation without any regard to the happiness of the created, are far greater than mine. I rather intend these remarks for the perusal of those who can see in the well-regulated phenomena of chemistry, not the fruits of accident, but the works of a Divine Artificer, whose every work betrays his omnipotence—an omnipotence, too, exercised only for the good of his creatures, for their welfare, and for their happiness.

DISEASES OF POULTRY.

CROUP *versus* ROUP.

I HAVE lately received many letters from different persons, relative to these diseases, arising from the coincidence that the similarity of their names has caused them to be confounded together.

CROUP is inflammation of the windpipe, its symptoms being a rattling or peculiar noise in the throat, a difficulty of breathing, in bad cases the mouth being kept partially open, sometimes the coughing up of some thick tenacious mucus; in croup there is not any discharge from the nostrils, nor swelling of the face; frequently the partial closure of the windpipe gives rise to a peculiarly loud trumpet-like noise as the bird breathes, which, in some cases, is even almost musical. The disease yields most readily to a little

antimonial medicine, as one-twelfth of a grain of tartar emetic, given at night, with warm dry lodging.

ROUP, on the contrary, is an affection of the cavity of the nose, the symptoms being a discharge from the nostrils, first of a clear, afterwards of a thickened opaque character, when it has a very peculiar and offensive odour which once perceived is not readily mistaken; this is followed by a swelling of the face, partially closing the eye; and there is great febrile disturbance, the bird drinking immoderately. This disease (unfortunately too well known), I have never seen relieved by tartar emetic, but, as I have before stated, I have found more benefit from dropping a solution of five or ten grains of sulphate of copper (blue vitriol) in an ounce of water, into the nostril, either from the front or through the roof of the mouth, and giving at the same time some stimulating food, as peppered potato, or a little cayenne, than from any other means; in the earlier stages, in fact, these remedies are very efficacious.

Having so recently treated at length on these two diseases, this note may appear uncalled for. I should not have written it, had I not received several communications in which the two complaints and their treatment were confounded together. In order to avoid unnecessary repetition, I may refer for fuller information on these subjects, to pages 127, 284, and 329, of the last volume.

Whilst I have the pen in hand, I may as well allude to a slight error in a recent communication of Mr. Lort's, arising from a looseness of expression in previous communications of mine. In speaking of the contagious character of roup, I stated that I believed it might be communicated by fowls pecking each others feathers, and from the discharge from the nostrils contaminating the soft food or water; by this I did not mean to signify that I imagined the discharge when swallowed communicated the disease, but that the putrid secretion applied to the nostrils, produced a diseased state in them, precisely as glanders is communicated in horses. My long residence in a dissecting room, where the practice of sucking poisoned cuts and punctures is frequent, forbids my being ignorant of the fact that animal poisons taken internally are harmless.—W. B. TEGETMEIER, *Willesden, Middlesex.*

QUERIES AND ANSWERS.

The applications to us for special information have become voluminous, and the replies are of such general interest, that we are induced to comprise the most important under a separate department, and have classified them to facilitate reference.

GARDENING.

CINERARIAS WITH BLIND FLOWER-BUDS.

"I HAVE some Cinerarias which have just all turned out blind, except one. By blind, I mean that the flower-bud is empty. I have kept them through the winter in a greenhouse, well watered. There has been no green fly on them. The leaves are large, and the plants very healthy. What is the cause of their not having proper flowers? Can I do anything to them, or must I throw them away? They have had, occasionally, weak manure-water since they showed buds. They were offsets, not from seed.—GRANADA."

[Your Cinerarias are blind, that is, the buds have no petals or floral leaves in them. The only reason we can suggest for their blindness is that you have grown them too well, kept them in too rich soil, which, with the manure-water, has caused them to make foliage instead of flowers. Put them for a week or two on a starving diet, only just watering enough to keep them alive, and no doubt they will flower yet. You do not say what is the size of the pot they are in; probably they are over potted.]

CINERARIA SEEDLINGS.

"I have ten or twelve Cinerarias grown from seed last autumn, they are still small but healthy, and in small pots. I am anxious to know, ought they now to be potted in a larger pot, and how should they be treated, for they will not

bear any heat, apparently? Should seeds of *Calceolaria* and *Cineraria* be sown now?—CYMRU."

[Pot your Cinerarias that are in small pots immediately. Sow *Calceolaria* and *Cineraria* seed about May, or the beginning of June. That will be soon enough to obtain strong plants by the autumn, and they will flower well in the spring of next year.]

ORCHIDS FOR A COOL STOVE.

"Will you oblige me by giving the names of a few Orchids which would thrive in a cool stove. Those which bloom during the dull months of the year, are free-flowering, distinct, showy, and not very expensive, would be preferred. I have succeeded with *Dendrobium nobile*, *Oncidium flexuosum*, *Cypripedium insigne*, *Oncidium papilio*, *Stanhopea insignis*, and *Zygopetalon Mackayii*.—A BEGINNER."

[The following will suit your cool stove—*Barkeria spectabilis*, grown on a block; *Calanthe veratrifolia*, *Cattleya crispa*, *C. granulosa*, *C. Harrisonii*, *C. mossiae*, *Cypripedium venustum*, *Cyrtorchilum maculatum*, *Dendrobium densiflorum*, *Epidendrum macrochilum*, *Laelia anceps*, *L. autumnalis*, *Lycaste Skinnerii*, and *Odontoglossum grande*. All these would average about a guinea each, but the set may be had for much less, if all are ordered at once. We cannot recommend dealers.]

CESTRUM AURANTIACUM MANAGEMENT.

"M. C. E. has a fine plant of *Cestrum aurantiacum* in her greenhouse, it flowered very well last autumn, and during the winter shed its leaves, but not having been properly pruned, she supposes it has put forth leaves at the tops of the long shoots, and the plant being three or four feet high, it looks very bad."

[You may safely cut this back to a bud or two of where the shoots came from last season, and keep it in a warm part of the greenhouse. If you have a warmer place, and that height is too much for you, you may cut back as far as you like, provided the wood is not above two years old; though we have had the wood break freely in a moist heat when four or five years old. Each piece, four or six inches in length, of the young parts cut away, will strike readily in a Cucumber-frame, or any where commanding a nice moist heat, ranging from 55° to 65° at top, and 10° more for plunging, but they will do well without the latter, though they will not root so quickly. These repotted will bloom freely in winter and spring. The treatment of this plant was lately given.]

RHODODENDRON ARBOREUM AND SALVIA GESNERÆFOLIA NOT FLOWERING.

"I have two plants, one is *Rhododendron arboreum*, and the other is *Salvia gesneræfolia*. The former is a large plant, about eleven feet high (standard), with a good head in proportion. Now, this plant has been in the greenhouse nearly fourteen years, yet has only flowered once in that time. It makes a moderate growth yearly, and when it has made its growth the points of the foliage turn brown. It is in a tub two feet square. Some few years ago they took it out of the tub and cut the roots off, so as to make the same tub serve as a good shift for it. The *Salvia gesneræfolia* I had, as cuttings, in March, about this time last year. They grew on till they began to shed their leaves. I then pinched all the strong branches, and from every pinching I had two strong branches strong enough to flower, but no signs of it at present. These plants are seven or eight feet high, or more, and nicely branched from the pot upwards.—W. W. L."

[We have had splendid blooms from hybrid *Rhododendrons* the whole of this winter. It is now nearly two years ago since a description was given of how they bloomed in fine condition. But it was also stated, that under the best devised treatment failure would sometimes ensue. We have heard this morning from a gardener, to whose kindness we have been previously indebted in these pages, and he tells us that his large plant of Scarlet *Rhododendron* has been amazingly fine this season, and that he thinks he has found out the certain mode of getting it to bloom every season. We will put his kindness to the test. Meanwhile, as our own success has been very fair, we shall notice some of the essentials to success.

1st. Rather small pots or tubs. Until last season our pots were so small that it was difficult to keep them watered. 2nd. Using loam and peat for soil. 3rd. Using top-dressing of cow-dung or manure waterings, when the plants are making their growth, and again when swelling their buds for bloom. 4th. When the terminal bud is formed, taking care that it is not started again, so as to make two growths instead of one. When, therefore, these buds are formed early, the plants must be kept in a shady place, and fed with a minimum of water, during the hot days in July and early autumn; but they should be fully exposed to the sun towards the end of autumn, to ripen the buds, and extension of growth prevented, by a still less supply from the water-pail. Thus managed, we have frequently pleased others, and if we have not pleased ourselves, it is because we have not been able to calculate on the success being uniform. Perhaps our friend may supply the missing desideratum for our large houses. Good plants, in winter and spring, are considered, by many, to equal, if not excel, the *Camellia*. I would advise our correspondent neither to root-prune nor repot. Two-feet square ought to grow a large specimen. Many readers will recollect the fine specimens at the nursery of Mr. Knight, and many were disappointed because they did not bloom often. We believe, standing almost constantly in the house, and at such a distance from the glass, was the chief reason. From your *Salvia gesnerifolia*, probably you will not get any bloom until next spring now, and you may, therefore, either raise fresh plants from cuttings now, or cut-in the old plant, so that it may make fresh shoots, and have time to mature them before winter. Your error consisted in topping your shoots, so far as we understand, so late; you just nipped off all the places that would have given you nice flower-spikes. We should not care about stopping such plants after the beginning of August, and then we should expect the plants to be a mass of scarlet in the greenhouse after March.]

PRUNING ORCHIDS, AND ITS CONSEQUENCES.

"For the information of those of your readers, who, like myself, are fond of cultivating Orchids, I beg to give my experience of the advantage of cutting the stems in order to produce back shoots. In January, 1853, I bought a plant of *Cattleya crispata*, with nine old bulbs, and two new ones, which latter had flower-scapes, and both flowered well in July last. After which, two shoots appeared, one from each of the bulbs which had flowered, these progressed favourably, and have each a flower-scape looking well. On December 1, the back bulbs appearing shrivelled, and no sign of shoots in them, I severed the rhizome in two places, and moved the plant from the block on which it was to a pot, carefully potting it well above the rim. For about a month matters looked very alarming, the eleven back bulbs getting more shrivelled than ever, and at last I almost gave them up for lost. However, a crisis arrived; they gradually swelled, and are now all eleven as round and plump as possible. Seven strong shoots from them, plenty of roots, and the flower-scapes on the other two bulbs have not suffered in any way, but their bulbs are putting out strong healthy roots.

"I have a large sweet Orange, a white *Camellia*, and an *Oleander* (in tubs), which I am anxious to transfer to large pots; would you kindly give me some information as to the time and mode of moving them. Am I too late now? The Orange is about eight feet, *Camellia* five feet, and the *Oleander* ten feet, in height. The tubs are about eighteen inches in diameter, the pots a little larger. Would root-pruning at moving time be beneficial? I may as well state, that I cannot give the plants more heat when potted, they must remain in a cool greenhouse.—E. P. B., Dublin."

[We do not grow Orchids largely, but Mr. Appleby knows all about the practice alluded to, and an intimate friend of ours has been very successful. He often thus gets half-dozens of "rises," when otherwise he would only have had one or two. The size named as those of the tubs of the Orange, *Camellia*, and *Oleander*, will grow large plants. We would pot the Orange now, or during the next month, hurting the roots as little as possible, but draining well, and removing any old, soured soil. The *Camellia* we would repot when the flowers were all gone, and the young shoots one or one-and-a-half inches in length, keeping the plants shaded a little afterwards. The *Oleander* we would pot some time

about or after Midsummer, when done flowering, and the blooming-shoots cut out. In neither of these cases would we root-prune much if the roots were healthy; we would prefer giving the roots fresh food to feed upon, and fresh earth, by shaking out as much of the old as possible.]

ORANGE TREES FALLING.

"Two very fine Orange trees (for which, twelve or fourteen years ago, I gave twelve guineas) have become thin in the foliage, and scraggy in the heads. Some few years since, I slipped them from the small boxes in which I bought them into large circular tubs, placing the old balls bodily in the centre of the new mould. They have never done so well since. How are they to be restored? They stand in a conservatory.—Mc. C."

[The state of the trees is partly owing to over potting, and placing the ball in the centre of the large tub, without disengaging and training out the roots. Very probably, too, the mode of watering adopted was such as to enase the new earth in this large tub to become a sour mass. Two remedies present themselves, as the plants stand in a conservatory. 1st. Examine the roots, see that the drainage is all right, remove any sour cloggy soil, repot with fresh fibry earth, and, if necessary, use a smaller tub, or pot. 2nd. Prune-in the scraggiest part of the head, and either shut in a part of the conservatory so that you may give plenty of heat and moisture, to make fresh shoots, or, what would be better, surround such plants with a layer of sweet decomposing matter, such as dung, and leaves, &c., and if persevered in, the heat, moisture, and nourishing gases, will cause a fresh growth soon to appear. The modes of making a rudo hospital for such plants was alluded to in an early number.]

MODES OF HEATING, &c.

"What conflicting statements are to be seen on the subject of 'Heating.' No. 271 contains a letter from Mr. Golightly, complaining dreadfully of the Polnaise system of heating. He allows no part of the plan good, even the smell on entering the house bad. He certainly does not say how he formed his stove. Perhaps it was his first attempt; and being deficient in perseverance, did not try to mend an error. Many in the North of England find the plan answer, besides its champion, Mr. ——— the nurseryman at Stoke Newington, who supported Polmaise after Mr. Meek's death. In your last part for February, an advocate for Polmaise starts up, and manfully states, he not only has the old flue system at work, but hot-water; and even this, in his opinion, must give way to Polnaise. I have had two stoves at work for several years; one, a brick-arch furnace, with nine inches of air under the ash pit, and six inches, at least, all round the furnace. After it had been built a few days the heat was most agreeable and sweet, and the plants looking most healthy; moisture, produced by placing iron pans on the flue which runs under the bed and foot-path. When the stove was built, the house was thirty feet long and ten feet wide; divided off ten feet at the stove-end as a warm greenhouse; and twenty feet as a mixed greenhouse. The stove, being built of common brick, is now worn out, and must be replaced soon; and, again, I have widened the house three feet at each side the full length; consequently, I found, this winter, the stove not large enough to dry up damp at the furthest end of the greenhouse. I also wish to make the warm end a regular hot-house for Melons on the south half bed, which is hollow, and covered with flat pan-tiles; the flue assisting in heating. I bring the cold air from the greenhouse, and at the top of the hot-chamber have an opening into the greenhouse, to regulate and reduce the heat if too great. My present furnace is only about two feet six long by twelve inches wide, sloping off to form a larger arch. Would you recommend a larger furnace? or should I set up a copper boiler, which I have by me, and conduct an inch lead-pipe into a wood or brick-and-cement gutter? The bed to be heated is ten feet by seven. I am only afraid the fire-beat required to warm the hot-house and give off heat to keep out frost in winter, would, at the same time, almost make the water boil, or, at least, give off too much steam when none was required. I have built a brick Arnott stove, which warms my hall well, after Mr. Rivers' plan, as mentioned in his orchard-house. Would

not such a stove be best, as the water-trough above could be filled, or not, as required, without injuring the stove? My only fear is the difficulty of getting rid of the clinkers, as I should use small coal and cinders; coke I find best, but would be expensive. A small copper boiler to work separately, with pipes or tank, would, I fear, be a bungling way. Have you any experience as to how it would answer to cement together strong three or four-inch draining pipes, with well-made collars, and place a flow and return down the 30 ft. house, and let the pipes run under the bed, with zinc troughs above, to give off moisture, and lattice to support pots in greenhouse? Should you advise a brick Arnott stove, with trough above? Would a 2 ft. 4 in. square trough be sufficient, and 3 ft. 6 in. high, to fill from inside the house, and a pipe at the side, will allow water to run to waste outside the house when filled sufficiently full, instead of running over on the stove? I hope to see Mr. Rivers's house in June, but before then should like to rebuild my stove ready for late Melons. I wish your correspondent, Mr. Craddock, could have favoured the advocates for Polmaise with some calculation as to the quantity of fuel required (Polmaise *versus* Hot-Water) per week. Certainly, in building a Polmaise stove complete would be far less than boiler and pipes, or a tank. I wish Mr. Golightly could see a drawing of Mr. Craddock's stove, with cold air drains, &c., he might then draw in his strong objections; and also your friend, Mr. Robson, who are both for hot-water, and nothing but hot-water. Have you any knowledge of a cylinder of iron, or fire clay, ever being put up as a heating apparatus; what size should it be, say, for a 30 ft. house by 13; and how constructed to allow cold air to pass through the cylinder, and then enter the house?

"I have had, at least, a dozen Cucumber plants, three different sorts, in flower the last fortnight, and growing strong, and looking well, but all male blossoms. I have taken them off daily. Is that correct? and should the tendrils be removed also? My bottom-heat of mould, nine inches from tiles, is 80°; house 60° at night, and near 70° day; will that do? The Cucumbers have a much drier appearance than in a dung bed, and yet the rafters and the plants on a high shelf show much moisture early in a morning.

"Will the Aloe and Cacti tribe do plunged in sand at 70°, and atmosphere 50° to 55°? They were kept dry in greenhouse all the winter."—G. B. C."

[A correspondent fully replied to by Mr. Fish will, in many respects, meet your case. We will glance at a few other particulars:—1. We have learned sufficiently to distrust our own wisdom—aye, and our own practice, too—to dogmatise as to the utility of any heating system. We would give Polmaise, and every other system, a fair hearing. We have tried it as an auxiliary; have never worked it by itself; have seen failures; but make no doubt our worthy correspondent of the other week succeeds as he says, and we for one would be glad to learn the very minutiae of his system, the cost involved, &c., because, in this latter matter, when all things were considered, drains, &c., we never could see the wonderful saving. However, we are always willing to be convinced by undoubted facts, though these tell against any belief or theory of our own. 2. We have only a faint idea how your furnace works in heating the two divisions of a hothouse and greenhouse; we cannot, therefore, decide whether it is large enough or not. 3. As you have the copper boiler, we recommend you to use it, and you would see that by stop-cocks, whether using tank or pipes, you could easily heat the whole, having one part warm and another cool, as you liked. With a tank of moderate size, or pipes in proportion, you will have plenty of heat without boiling the water. 4. We have no experience of a brick Arnott's stove for such purposes as growing Melons, &c. The pan above is a good idea; but our idea is, that all the pans you could raise above such a stove would not prevent your having a fruitful colony of red spiders. 5. *Draining-tiles* connected at the joints will do well, so long as no one stumbles against them, or the temperature of the water used in them is so moderate as not to expose them to great expansion and contraction. We have seen them rather largely used, but true economy caused them at length to be given up. 6. We have no knowledge of any cylinder for heating such places that did not entail more disadvantages than advantages in its practical working. 7. You may

remove the whole, or merely a part, of the male *Cucumber blossoms* as they appear. If the plants are extra strong, we leave many, if weak, remove all the tendrils, their free production is a sign of vigour. 8. If there is, as you say, such a deposition of moisture on the foliage in a morning, it shews that the house is not excessively dry. The generality of *Aloes* and *Cacti* will do very well *now*, in a temperature of from 50° to 55°, without the privilege of being plunged in sand at 70°. They will grow all the better with this advantage; but if not well *sunned* in autumn they may grow too well. 9. We wish to make all such answers *generally* interesting, or, at least, readable. A little consideration on the part of correspondents would enable us to perform this, if not with more *efficiency*, at least with more *ease*. So many queries should not be jumbled together.]

BARKERIA SPECTABILIS AND SKINNERI.

"I have a plant of *Barkeria spectabilis*, which has hitherto been kept in the stove, but has not flowered; and from what I have seen in your periodical, recommending a cool house for it, I have this day moved it into a low pit not heated; but the *minimum* temperature is 40°. I can keep the pit pretty damp. 1st. Am I right in this course? 2nd. Will the plant require as much moisture as when in the stove? Will the same treatment suit *Barkeria Skinneri*? My plant is on a bare block, with no moss. Would the latter be an acquisition?—A CONSTANT READER AND SUBSCRIBER."

[No one in our pages ever advised placing the *Barkerias* in a cold pit. Yours will be too cold by many degrees. A greenhouse would be better, but an intermediate stove better still. The moist hot-air of the Orchid house, where Indian Orchids thrive, is too hot for the *Barkerias* and other Guatemalan Orchids. The *Barkerias* do not require moss to their blocks; but must be syringed frequently when growing. The pit would do in summer, but air must be given daily. In the culture of any plant, in any house, the principal point is constant attention. If the plants do not thrive, remove them into a warm house and give a more generous treatment. The *Barkeria Skinneri* requires the same treatment as the other.]

AGRICULTURAL.

SHROPSHIRE EWES.

"I WANT advice with respect to a flock of expensive Shropshire Ewes, some of which I purchased, at a high price, of the Earl of Aylesford, with a view to Tup breeding. My Ewes were never fed and housed so well as they have been this winter, and they were never in so bad a state. They are lame, much troubled with ticks, and very thin. The Lambs are all small and weakly from the first, and they appear to get worse as they approach two or three weeks old. Many of them have sore mouths and noses, a sort of malignant eruption covers both.

"I must tell you the Ewes are all one, two, and three shear sheep; that they have had corn, hay, and an abundance of turnips and cabbages; and that they have been regularly placed in a comfortable shed at night. As they have lambed they have been removed, during the day, to a piece of yellow turnips, the tops of which are two feet high; at night they are removed to another fold, and have as much hay as they like. I must remark, that mine is a high-lying, wet, clay farm, the herbage on which is of a mossy, bad quality. The tillage is just what you would expect it to be after forty years of the worst kind of mismanagement. You will say—Why did I take such a farm? I did not;—as Talpa says—it took me. I am making it better. I have commenced a tile-yard, and for the next few years I hope to bury all I can make. However, what I want now, is to be told how to cure my Lambs of their sores, and how I am to improve the condition of my Ewes. This information will be very useful to many farmers in this neighbourhood.—W. Lorr, Tenbury."

[Your Ewes are, no doubt, suffering, as you say, severely from the epidemic in its worst form, as evidenced by the sore mouths and noses both of the Ewes and Lambs; and I am inclined to think this has been aggravated, rather than otherwise, by the housing in close fold at night, particularly

if the same fold, with occasional litter, has been used continuously. Wherever disease exists in a flock of Ewes in the epidemic form, it is best to avoid, if possible, close folding altogether; but when it is necessary to use the fold, let it be a shifting one, choosing, if possible, a dry, sheltered pasture, and removed on to fresh land daily. In those cases of foot lameness, let them be treated exactly the same as for the foot rot, cutting away the affected part of the hoof as far as the disease has extended, but the caustics to be applied should be somewhat milder than those in ordinary use. The sores on the mouth and nose show that the disease is not entirely local, but that the constitution is seriously affected, this being the worst form in which the epidemic shows itself, and is at the same time the most difficult of treatment, for I have known medicine given internally, and with very little effect; and if it could be given with the wished-for effect, the number of fresh cases continually breaking out makes it a very lengthened and expensive affair. I, therefore, advise that the mouth and nose affection should be disregarded, and allowed to wear itself away, which I have always found it will do, after awhile; the lameness of the foot will yield to mild caustic remedies, but the whole flock should be examined, and the diseased treated every other day; this course persevered in will soon reduce the virulence of the disease, if not eradicate it. With regard to keep, the more changes the better, and let it be generous and liberal; do not allow too many to run together in one flock. And as you say your Ewes were purchased with the view of setting up a flock for the breeding of Tups, I would observe, that in case your flock does not speedily become quite sound, and free from disease, you had better make them fit for the market, and sell them, and commence Tup breeding next year with a sound flock, under more favourable circumstances.—J. B.]

POULTRY.

SITTING HEN'S EGGS CHILLED.

"On the 19th inst. I placed a sitting of eggs under a Cochon-China hen; she sat well and very close; and to-day, the 23rd, she came off to feed; but on returning to the poultry-house, sat on some eggs that had just been laid, and allowed her own to go cold, having remained off them for several hours. Is it any use for her to sit upon them; or ought I to place fresh eggs under her, and destroy these?—B. P. I."

[This is of such frequent occurrence that we shall be glad to hear from our readers, when, and for how long, they have known eggs to have been left by the hen and yet to have produced chickens. We have known a brood of six from nine eggs that had been left for several hours after being sat upon for two days. We recommend you to let your hen continue on the eggs; for we think it was too early in the incubating process for injury to have been occasioned even if the eggs had become quite cold. There was no vitality in the embryo. We shall be glad to hear of the result.]

FOOD FOR YOUNG CHICKENS.

"What is the best food for quite young chickens? I have a family of eleven, and have given them nothing but grits as yet.—R. Norwood."

[You have adopted an unerring mode of killing them by slow degrees. For the first fortnight chickens are best kept upon boiled feedings of Indian meal, bread crumbs, and eggs beaten hard, chopped fine, and mixed with a little crushed hempseed. The Indian meal should be only so far moistened as still to remain crumbly. After the first fortnight, and until large enough to feed with the older fowls, give them daily, in addition, a feed or two of either wheat, or grits, or rice boiled dry. From the very first days of their life, continue, without fail, to give them daily fresh green food. Cabbage and lettuce leaves, and mowings of grass, are best.]

TO CORRESPONDENTS.

CALCEOLARIAS (*Tom Poove*).—You will have seen that Mr. Appleby has commenced a series of lists of Florists' Flowers, which he will continue weekly, till all worthy of notice are enumerated. There are some

new bedding Calceolarias, hybrids from Kentish Hero and Sultan, raised near London, which will be advertised shortly.

TAXODIUM DISTICHUM (*W.*).—You are quite right; it is *not* an evergreen (although stated otherwise at p. 483 of our last volume). It is known by the English name of "The Deciduous Cypress."

CHEAP PAINT FOR OUT-DOOR WORK (*Ghyra*).—Try coal-tar, and dust it over whilst fresh with lime. Answers to other queries next week.

SHANGHAI COCKEREL WITH DORKING HENS (*Syntax*).—This will have no influence over the chickens produced by Shanghai hens when the cockerel returns to these.

HEN EATING HER EGGS (*J. G. B. L.*).—This species of cannibalism is unaccountable. The only remedy is to use artificial nest eggs, and to watch the culprit whilst laying, so that her eggs may be removed as soon as produced. Your other query was answered last week.

HYACINTHS DONE BLOOMING IN GLASSES (*W. K. T.*).—These are little worth; but the best treatment is to plant them in a warm border without injuring the roots. They will not bloom next year, but may the year following.

SILVER-PENCILLED HAMBURGH (*A. A.*).—All trustworthy, but No. 2 is in the best district for them.

BOTANICAL PERIODICAL (*Linda*).—Buy a number of *The Botanical Magazine*. It contains, monthly, five coloured plates.

ROOPY PULLETS (*A Clergyman's Wife*).—We have no doubt your pullets have the roup. See what Mr. Tergetmeier says to-day upon this disease.

PROFITABLE PIGEONS (*T. H. E.*).—We should keep *Runts*; they are prolific, and about the largest.

DUCKWING BANTAMS.—Mr. C. Barstow, Halifax, Yorkshire, would be glad to hear from any one keeping this variety.

POLMAISE HEATING.—"I have noticed, in your recent valuable numbers, articles written for and against Polmaise Heating. Being about to erect a pine stove, and rather anxious to try Polmaise, I have read each article with great interest. I am not certain who is the inventor of this system; a friend tells me he thinks Mr. Bundy was the inventor. Perhaps this gentleman, or some other, would be kind enough to give me a little information how to proceed to be successful with this system.—D. B."

NEW HOLLAND PLANTS (*A Reader from the beginning*).—The whole of the plants you mention are well worth growing in collections; but in choice selections we should leave out Nos. 4 and 7. 4 appears to be the *Pomaderris Andromedafolia*; and No. 7, *Casuarina equisetifolia*.

RHUBARB WINE (*A Subscriber*).—The best recipe ever published is in our No. 99. It is too long to reprint.

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Advertisements.

CHOICE NEW GERANIUMS, &c.—Henry Walton, Florist, &c., Cage End, Marsden, near Burnley, Lancashire, begs to offer the following at the reduced prices annexed:

Geraniums,—Optimum, Queen of May, National, Elcanor, Raebael, Heroine, Atria, Leonora, Zaria, Lagonia, Cordelia, Kulla, Butterfly, Spot, Vulcan, Commander, Harriet, Jupiter, Purpurea, and Basilisk. Purchasers selection of twelve of the above, for 36s. or the set of twenty for £3, hamper, &c., included.

Geraniums,—Ambassador, Bride of Abydos, Chloc, Commissioner, Christine, Enchantress, Exactum, Elise, Flying Dutchman, Ganymede, Julien, Lablahe, Lavinia, Lord Mayor, Lord Gough, Lancashire Witch, Pulchra, Painter Improved, Rosa, Renown, and Surprise. Purchasers selection of the above, 20s per dozen; H. W.'s selection 17s per dozen; or the set of twenty-one for 35s with a plant of Henderson's Geranium Extravaganza included.

Geraniums,—older show varieties, 9s and 12 per dozen.

FANCY VARIETIES, 12s to 24s per dozen.

Fuchsias, new varieties of last season: Beauty, Brilliant, Collegian, Dr. Lindley, Duchess of Lancaster, England's Glory, Glory (Banks'), Incomparable, King Charming, Lady Emily Cavendish, Lady Montague, Lady Franklin, Mrs. Paterson, Perfection, Princeps, Premier, Purple Perfection, Vesta, Beauty of Devonshire, and Roi des Fuchsias. The above 1s 6d each, or 10s 6d to 15s per dozen.

Cinerarias,—British Queen, Uttoxeter Pet, Dagobert, Lady of the Lake, Brilliant, Enchantress, Hebe, Tyrian Prince, and Prima Donna. The above nine for 14s.

Cinerarias,—Catherine Seaton, Clara Mowbray, Gustavus, Iago, Mrs. Sidney Herbert, Mr. Sidney Herbert, Mrs. Charles Kean, Marianne, Magnum Bonum, Nonsuch, Rosy Morn, St. Clair of the Isles, and Surprise, 12s per dozen, package included; older varieties 6s and 9s per dozen. Verbenas, choice varieties of last year, 1s each, or 7s 6d per dozen. Petunias, new varieties of last season, 1s each. Pansies in great variety, of which H. W. possesses more than two thousand extra strong healthy plants, of the best leading show varieties out, 4s 6d, 6s, 9s, 12s, and 18s per dozen.

The above selections are all strong, healthy, well-established plants, and cannot fail to give satisfaction to parties purchasing. H. W. has also a good collection of Hollyhocks, Dahlias, and a great variety of Bedding Plants, &c., Catalogues of which may be had for one postage-stamp. It is respectfully requested that all orders from unknown parties (unless a reference is given), be accompanied with Post-Office order, payable at Marsden, Lancashire.

LILIUM LANCIFOLIUM, PELARGONIUMS, RANUNCULUSES, ANEMONES, AND GLADIOLUS.—HENRY GROOM, Clapham Rise, near London, by Appointment Florist to HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to say that his SPRING CATALOGUE is ready, and will be forwarded by post on application.

WEEKLY CALENDAR.

M D	D W	APRIL 13—19, 1854.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
13	Th	<i>Leistus rufescens.</i>	30.057—29.892	48—22	N.	04	11 a 5	50 a 6	ises.	☺	0 34	103
14	F	GOOD FRIDAY.	30.145—29.999	57—31	N.	—	9	52	8 a 43	17	0 18	104
15	S	<i>Elaphrus uliginosus.</i>	30.166—30.105	51—42	N.W.	—	7	54	10 16	18	0 3	105
16	SUN	EASTER SUNDAY.	30.098—30.088	55—39	N.W.	—	4	55	11 42	19	0af.12	106
17	M	EASTER MONDAY.	30.068—29.997	58—45	W.	—	2	57	morn.	20	0 26	107
18	TU	EASTER TUESDAY.	30.070—30.000	65—33	N.	—	0	59	0 53	21	0 40	108
19	W	<i>Bembidium littorale.</i>	29.896—29.760	56—37	S.W.	07	1V	V11	2 1	22	0 54	109

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 57° and 37° respectively. The greatest heat, 73°, occurred on the 14th in 1852; and the lowest cold, 20°, on the 16th in 1847. During the period 96 days were fine, and on 93 rain fell.

BRITISH WILD FLOWERS.

(Continued from Vol. xi., page 473.)

CARDAMINE PRATENSIS: Meadow Lady's Smock; Cuckoo Flower.



Description.—It is a perennial. Root tuberous, somewhat toothed in the manner of the genus *Dentaria*, to which the affinity of this species is remarkable, and with which, therefore, Mr. Brown has united the whole genus. *Herb* variable in luxuriance; generally smooth, of a shining green; now and then a little hairy. *Stem* about a foot high, or more, round, leafy, simple. *Root-leaves* several, on long stalks, each of one or more pairs of roundish, or heart-shaped, wavy, angular, or toothed leaflets, sometimes viviparous in shady places, the terminal one largest; *stem-leaves* of more numerous, and much narrower, leaflets, which are in general line-like, entire, and smooth. *Flowers* in flat bunches, numerous, large, and handsome; sometimes more or less double. The petals either light purple, flesh-coloured, or white, are remarkable for a tooth, or notch, on the claw, noticed in Haller, but not from his own observation. *Pods* not often perfected. *Style* more prominent than in some other species.

Time of flowering.—April and May.

Places where found.—Common in meadows and moist pastures.

History.—This is

“The wan-hued Lady's Smock, that loves to spring,
Near the swamp margin of some plashy pond,
Amid the blooms that early Aprils bring.”

It was this “wan-hue” which probably suggested the old English name of Lady's Smock, or Chemise, for in the

monkish days every popular flower was associated by the ecclesiastics with the name of some saint of their Calendar. Very soon after Lady-day, or the day specially dedicated to the Virgin Mary, this plant opens its flowers, and this may have induced them to apply to it the name of “Our Lady's Smock,” for though when freshly opened they have a pinkish or purplish tinge, yet the petals are soon bleached, and justify the rhymers' description of the season as being

“When Lady's Smocks of silver white
Do paint the meadows with delight.”

Or, as in better poetry,

“While pink-eyed Cuckoo Flow'rs, all silver white,
Fling o'er the dazzling glare a softer light.”

The name of “Cuckoo Flower” was given because that bird and this plant's blossoms appear about the same time. So regularly does the bird make its appearance in Sussex, that the 14th of April is known there as the “Cuckoo day.” Old Gerarde says it is called “in English, Cuckoo flowers; in Norfolk, Canterbury Bells; at the Nantwich, in Cheshire, where I had my beginning, Lady Smocks, which hath given me cause to christen it after my country fashion.”

Parkinson says of this and the other species, “these herbs are seldom used, either as sauce, or sallet, or in physic, but more for pleasure and to deck up the garlands of the country people.” Some later authorities, however, have had a higher opinion of it as a medical plant, and the following is the statement of the two Drs. Withering:—

“The virtue of the flowers in hysteric and epileptic cases was first mentioned by Ray, in his letters, published by himself; and since then, by Sir W. Baker in *Med. Tr.* i. 442. The dose is from twenty to ninety grains twice a day. Do they not act like *Erysimum Cheiranthoides* in the epilepsies of children, and cure the disease by destroying the worms in the stomach and intestines, which were the cause of the fits? I have accounts of their success in young epileptics, from good authority; but have never been fortunate enough to see them of much use in hysterical cases. Whilst in Cornwall in the year 1793, I had the pleasure of meeting with the Rev. Mr. Gregor, who told me that the flowering tops of the Ladies'-smock had been successfully used by his family for some generations in the cure of epilepsies, and some cases he mentioned to me were not likely to have been owing to worms. Our medical practitioners have only used the flowers, but Mr. Gregor's family use the flowering tops. Can this account for the different success? (The evidence of Mr. Gregor has been fully confirmed by the testimony of others entirely unconnected with his family, and resident in a different part of England.) Lady Holt, late of Aston Hall, Warwickshire, and her sister, Mrs. Bracebridge, were long celebrated for curing many inveterate cases of epilepsy by the use of Ladies'-smock. They were accustomed to give three doses a day, twelve grains each, of the powder carefully prepared from the dried heads of the plant, and to continue its use many weeks. The failure of this remedy may often be attributable to improper management in the preparation; and the virtue may easily be dissipated by too much heat. The whole flowering head should be pinched off the stalk together, when in full bloom and before the seeds are formed, and when free from either dew or rain. Spread the heads upon pewter dishes before a brisk fire, stirring and moving them. Rub them to a powder when sufficiently dry; pass it through a sieve; and put it into

clean dry bottles. Cover the bottles with leather (no cork), having holes pricked through it. Two bushels of flowering heads will yield about eight quarts of this fine powder. Thus preserved it will keep to a second year. The leaves may be eaten as other cress. The juico expressed from the

whole plant is considered an excellent antiscorbutic in northern countries, where salt meat is much used. The double-blossomed variety is an elegant ornament to the flower-garden."—(Smith. *Withering. Gerarde. Parkinson. Ray.*)

NONE but those who have lived within the tropics can appreciate the lingering desire which is there felt for the cool fruits and fresh crisp vegetables of our temperate climate by those who in early life had been accustomed to them. The Guava, the Litehee, and the Shaddock, are but poor substitutes for the Grape, the Peach, the Apple, the Pear, and the Gooseberry; and no sooner does a ship from North America laden with ice anchor before the Gaunts of Calcutta, than the earliest enquiries are for the Apples and Pears packed among her conservative cargo, and rapidly are they sold at prices which would appear ridiculously high, if we did not know what a luxury they are there, and that every luxury is costly in proportion to its rarity. Peas in December, and ice in June are enormously high priced even here, because they are then rare, though if the months be exchanged they are cheap enough.

This lingering for the garden produce of their native land affects all classes in India; and as an evidence of this, we have just received the following from a Birmingham correspondent, who subscribes himself "G. P. T."

"I have a friend, a soldier (a corporal), who is in the Punjaub, in the East Indies, at Seeakote, about forty miles from Jumna, in the Vale of Cashmere. He wants a few vegetable and flower seeds, and you will oblige me by publishing a short list of those most desirable for the climate."

This is just the individual we shall be most gratified by being able to aid, and it is cheering to think that, "sitting at home at ease," we can help to add to the comfort and gratification of a cottage gardener on the banks of the Chenab. Seeakote is not far from that river, and on the road that leads from Wuzerabad to Jumna. It is in latitude $32^{\circ} 5'$, and longitude $74^{\circ} 5'$. Its temperature, from notes before us, we conclude to average in winter 54° , spring 81° , summer 87° , and autumn 72° . We remember very well a Committee of the Agricultural and Horticultural Society of India, assembling at Calcutta in 1840, and the results of their enquiries were published by the late Dr. Spry, entitled "Suggestions for Extending the Cultivation and Introduction of Useful and Ornamental Plants into India." That volume does not contain many documents which were brought to the Committee's notice, among which were several papers relative to the productions of the Punjaub. Those papers left little doubt upon our mind that all the productions of Europe could have localities found for them in the Punjaub where they would flourish. In the plains near the Himalayah might be found a climate resembling that of Italy, and Seeakote is not much hotter.

We should send to the corporal seeds of various Brocolis, Cauliflowers, Lettuces, Kidney Beans, Red Beet, Carrot, and Celery; and of flower seeds, those of Fuchsias, Pelargoniums, Cinerarias, Carnations, and a

collection of one hundred varieties of annuals, all of which annuals may be had for fifteen shillings of the Florists who advertize in our columns.

In return for these suggestions, we wish the corporal would give us some information. Among the papers brought to the notice of the Committee we have mentioned was one from the traveller, Mr. Moorcroft, on "The Fruit Trees of Kashmeer and the neighbouring countries." It is so full of interesting particulars that we shall publish it nearly entire, and the information we covet, is whether the names of the varieties of fruits which we print in *Italics* are similar to any varieties we have in England.

"The fleshy and pulpy fruits of Kashmeer consist of Apples, Pears, Quinces, Peaches, Apricots, Plums, Cherries, and Mulberries.

"The shell and stone fruits of Kashmeer, are Pomegranates, Walnuts, and Almonds. Altogether the collection of fruits is highly respectable, and announces an attention to Horticulture of no insignificant order.

"The Apples may be divided into cultivated and uncultivated varieties; the former are named as under:

"*Kundsooree, Sufur-kundee, Ambree, Kermanee, Khatoon, and Moe-ambree.*

"The wildings, or those not grafted, are, *Suffed*, or white *Trela*, *Soorkh*, or red *Trela*, *Jambazee*.

"Among the former, some have the acid, and others the sweet principle largely developed, whilst others again possess an agreeable union of both qualities; but in general flavor all the apples that have come under my notice are inferior to those of France or of England.

"The form of this fruit varies considerably in character betwixt oblate-round and conical, and there is also a considerable variety in their coloring, which is of green, yellow, and red, in distinct and different proportions of commixture. The size, form, and colour of the *Ambree* entitle it to be held as one of the most beautiful of the apple family, and though thin-skinned and ripe in October, I have seen it in high preservation in April.

"The apples of Kashmeer are generally inferior to the most favoured kinds of apples in Europe for the dessert, yet for baking some seem almost equal to the Codling; and many are of special promise for the press.

"Were it necessary to indicate particular varieties, for the latter purpose it may be said, that if the red *Trela* retain its qualities when acclimated in India, its juice will yield a beverage perhaps rivaling that of the Red Streak, and that of the white *Trela* one emulating that of the Golden Pippin.

"On the modes of extension, it may be sufficient to observe that budding and engrafting are both practised, and that of the latter, the process called stock or crown grafting is simple and successful.

"Pursuing a similar division of Pears, here called Putung, the cultivated varieties are the following, viz., *Nakh, Goshbuggee, Koturnul, Goolabee, Kaghzee, Nashpatce.*

"The wildings are, *Seikatung, Tanjeh, Vetanjeh, Khur tanjeh.*

"I found only one variety ripe, and which approximated in qualities to the white Beurée, though inferior in quality.

"In Ladakh the *Jargonelle* and *Cressanne* were met with; and as the wild pear is not indigenons to this country, it is presumed that these varieties were introduced from Kashmeer.

"The Quince, or Boomzoontoo, is of three varieties, viz., *Toorsh, Shereen, and Bedana.*

"The whole of the apple family of Kashmeer seem to be free bearers, and this remark applies especially to the Quince, of which the peculiar flavor is so much higher than any I have seen in Europe, that it is likely to afford a

material, under due management, standing a fair chance of exceeding the marmalade of Macon, and is now converted into an excellent preserve.

Peaches, called *Soppunoonoo*, are of two varieties, distinguished more by one having a bitter and the other a sweet kernel than by the respective qualities of their pulp, and held therefore as indifferent.

"*Tser* and *Bhota Tser*, or *Apricot* of Tibet, neither particularly good.

"The best of the family is the white *Apricot of Baltce*, which is in perfection in the garden of the Kaloon or Prime Minister at Ayoo, but on account of the great distance, is only procurable with much difficulty and expense.

"A very large *Apricot Kotach* is found, but it comes in season in the rains, and is generally spoiled owing to flies depositing their eggs in the pulp.

"*Plums* are of few varieties, and as they are not fully ripe, I can say little respecting them, except that a green variety called *Subza* borders on the greengage, but its sweetness is not sufficiently relieved by acid.

"The best plum in India is a variety with small fruit in the garden of the Joona Masjid in the Fort of Lahore. This has peculiar characters, and seems to hold a rank between a loose-pulped cherry and a plum.

"The *Cherries*, called here *Gilas*, are of three varieties; two approach to the character of the *Bigarreaux* and *May Duke*, and the third is decidedly the *Morel* or late black bitter Cherry. The fruit is rather smaller than that of Europe, and of this, as well as of the *Apricot*, there are wild varieties.

"Vines are of many varieties, both of exotic and indigenous origin; of the former are the *Moshka*, *Sahibee*, *Hoosenee*, and *Kishmishee*, which last was introduced by the Emperor *Juhangeer* *Kabool*. The latter, or those indigenous and cultivated, are, *Pamuthil*, *Takree*, *Upamahee*, *Bura kawur*, *Nika kawur*, *Kacheeboor*, *Kanahepee*, *Harduch*, and *Kathoo Hoosenee*. The wild grapes are *Deza*, *Kuwaduch*, and *Umburbaree*.

"The four first are good, but it is said that those of similar name in *Kabool* are still better.

"The skirts of the southern face of the northern hills were formerly largely clothed with vines, and under *Hindoo* rule much wine was made.

"The practice was continued to, or revived in, the reign of *Juhangeer*.

"A little Brandy is occasionally distilled, even now, and under suitable management might vie with *Cognac*.

"The *Mulberry* has many varieties, with fruit large or small, sweet or sour, round, oblong and cylindrical, black or white, with and without seed.

"The sweet are *Boota*, *Seea*, *Suffed*, and *Bootanee*.

"The sour is the *Shah Toot*. No *Mulberry* of Europe or of Lower India is equal to the sweet varieties, of which the juice furnishes a material for wine and spirit. The fruit of the *Shah Toot* is much superior to the European *Mulberry*, being larger and more juicy, with a pure rich acid uncontaminated by any medicinal flavor.

"This fruit would afford a great resource to the population of India, as well when eaten ripe as for wine and vinegar.

"The *Pomegranate* has the following varieties, viz., *Duhan*, *Julalabadee*, *Kathidehan*, *Hudehan*, and *Jigree*.

"Several of these are particularly fine as to flavor, and the size is large.

"The *Almonds* are not especially good. The *Walnuts* are of four varieties, viz., *Kauuk doonoo*, which is wild and worthless, *Wantoo*, *Doonoo*, and *Kaguzee*. The three last are cultivated, and the *Kaguzee* is the best, but its thin shell exposes its kernel to the attack of the *Boobool*.

"In *Kashmeer* the Custom-house pass return of the produce of the fruit in oil and oil-cake amounts annually to 1,30,000 rupees, independently of the quantity of nuts consumed by man. The quality of the wood of the cultivated *Walnut*, also, for gunstocks, is little inferior to that of Britain."

liberal prizes are offered for the encouragement of those who are endeavouring to improve our farm poultry.

Dorkings, as might have been anticipated, occupy a prominent position on the schedule, no less than four prizes being assigned to the young and old birds respectively. *Spanish*, *Shanghaes*, *Brahma Pootras*, *Game Fowls*, *Hamburgs*, in their several varieties, and *Malays* follow, and then a class for *Polands*, an addition, if we remember rightly, to the last year's list. *Turkeys*, *Geese*, and *Ducks*, are to be shown without any restriction as to age, but none of these birds have a higher first prize than £3, while the principal fowls are allotted £5, £3, £2, and £1, respectively. But the former are surely not less important in the economy of the farm-yard, and might, therefore, have been placed on an equal footing.

A great boon to intending purchasers will be granted by the exhibition of *single cocks* of the *Dorking*, *Spanish*, *Shanghae*, and *Game* breeds, although the older birds will appear to disadvantage from the usual raggedness of their plumage at that season of the year.

We shall be glad to find that the inconvenient, open shed in which the birds were shown at Gloucester, has given place to some arrangement better calculated for the exhibition of the specimens themselves and the comfort of spectators in the event of bad weather. The disagreeable experience of the tenacity of Gloucestershire clay should also induce precautions against a similar immersion in Lincolnshire mud. The main paths, and the alleys between the different sheds, should be either gravelled, or laid with some material that may permit walking after rain without at each step risking the loss of a shoe, or finding ourselves prostrate in a morass.

The prize-list is decidedly well-arranged, and provides for the competition of all fowls that are likely to benefit the farm; and the presence of the birds, in conjunction with so distinguished a collection of equine, bovine, ovine, and porcine aristocrats, may serve to attract notice and favour even from those who are as yet disposed to think lightly of their profitable character.

The arbitrations on the live-stock at the meetings of this Society have frequently been concluded at an early hour in the afternoon; should this be the case on the present occasion, we trust that the public may then be admitted,—a request, indeed, of which the justice can hardly be denied.

MANAGEMENT OF THE SMALL HOLDER'S COW.

In my last, it will be remembered, I offered a few remarks on the breeds of Cows adapted to small holders; I may now say something about the fodder question, and this, I hope, will gradually lead us up to a free consideration of crops requisite, and to cultural matters.

I need scarcely remind even the most uninformed of our readers, that good hay is a most important item or part of the fodder for Cows, especially milking stock; as, however, I am merely attempting to advise those who know little or nothing of such matters, I mean to touch on every little topic connected with the subject, however

The week commencing July 17th will witness the meeting of the *Royal Agricultural Society* at Lincoln, where

familiar to many of the readers of THE COTTAGE GARDENER.

Hay, then, although it be inferior in quality, must be obtained; but it must be remembered, that in some cases it will pay better to buy it than to grow it. For instance, a person may have a flourishing plot of ground, of a deep and rich character, near a town possessing good markets, and where plenty of manure is attainable; such land will often prove more profitable for vegetable culture, roots, &c., and, in such cases, such articles as brewer's grains may be obtained, and they are capital for forcing milk, and, of course, tend to economise the hay and other fodder. Sometimes, too, hay may be purchased very cheaply, and this may be allowed to influence the course of culture. When, however, Cows are dry or barren, a very moderate amount of hay will suffice, and oat-straw may be used instead, and even wheat-straw; and here I may just point to the practice which prevails amongst our Cheshire cheese farmers, who know as much practically as most men about stock, as may be well supposed. Their chief aim is to have their cows calve in early spring, in order to have a long summer in which to make cheese. This they call "coming in to a good note," and February, March, and April, may be counted as the period. Of course they are thinking about good pasturage, and have to economise both hay and straw; and well they may, for even the *daily* maintenance of a dairy stock is no trifle; some large cheese farmers milking as many as from fifty to seventy cows.

Well, then, soon after Christmas there is, in general, a hue and cry about hay; their stacks become more noted for height than for bulk, and now it is, or even sooner, that the majority have to fall back on oat-straw or even wheat-straw. But this does very well indeed for stock in a "dry" state, and, in my opinion, is one of the reasons why the losses at calving-time are so trifling with these great cow-keepers; I mean, the loss that so often takes place where cows have been petted and highly "forced" as to their milking powers.

When I was a youth, in the neighbourhood of the great southern metropolis, there was a constant dread of cows "dropping" at calving time, but these old Cheshire veterans in the cow way never seem to care a straw about it; the fact is they cannot afford to pet cows in a dry condition, and thus they escape, in the main, those serious inflammatory attacks, which are the result of an over-fed condition acting injuriously on the peculiar condition of the animal; as they use principally oat-straw, and inferior hay, with a few Swedes, and this carries them up to calving time, in very proper condition, according to Cheshire men; but I suppose what some of our friends in the neighbourhood of large towns, who keep a couple of cows, would consider half-starved. As soon, however, after calving time, as they feel safe from "milk fever," they of course use the best fodder they possess. Their cows for the next year's cheese tub are generally thrown "dry" about the beginning of December; they have then about seven or eight weeks of rest. Since, however, this introduction of improved chaff-cutting machines, turnip slicers, &c., our farmers have departed a good deal from the old-fashioned practice, which, indeed, in former days, in these parts, frequently consisted in giving the dry stock coarse oats, or wheat straw; hay was too choice, and as for turnips, their culture was indeed limited. And this brings me, for a moment, to the matter of steaming food, or of otherwise cooking it: this was scarcely a reality a century since.

Everybody, of any real weight in this question, knows, in these progressive times, that as with the human species, so with our domesticated animals; health, and the consequent due performance of the functions of the animal system, must be sought for in a carefully assisted digestive process; for, as has been well observed, the

stomach is like the boiler of the engine, and every body knows that if the boiler is deranged, or its propulsive power is obstructed, the machine but drags its slow length along, is thrown out of gearing, or even a "blow-up," may occur.

Steaming, or otherwise cooking the food of animals, is a proceeding which, in my opinion, cannot be too highly recommended, both on the score of principle and of economy; and many of our farmers, who would have ridiculed the idea only a few years since, now fully recognise its importance, and possess their cooking machines. Straw-cutting machines, too, have been so improved as much to economise labour; and my neighbour, Mr. Cornes, of Barbridge, has, I believe, produced the best yet out. Such, with turnip-slicers, oat-bruising machines (called here "kibbling"), all conspire to bring the cooking question forward. As to economy in the use of fodder, much refuse hay, straw, &c., which in former days went to the dunghill, or was used as bedding litter, is now worked up with other materials, and a little steaming, with a handful of salt, soon renders it capital food.

With regard to corn for cows, the Cheshire cheese maker will hear of nothing but oats; indeed, whether for cows, or pigs, he has a prepossession for oats; but little barley is used in this county. This, however, probably arises from the fact that barley is little cultivated, the soil in general being too adhesive. Since Indian corn became so much cheapened, it has proved a rival of the oats in pig-feeding, but for the Cows oats are still the principal food.

The milking stock in Cheshire is fed soon after five A.M., and if kept to the stall during bad weather, again at noon; and, finally, at five P.M.; but the "stock tender" "looks them up" at about eight o'clock for the night, in order to see that every Cow has been properly served, and that no fodder is wasted; also to provide against any accidents through the mode in which they are fastened.

At calving time, they are, of course, very attentive to the stock, and, if possible, they like them to calve in-doors (a loose house—the cow being turned loose). They are very cautious in their use of fodder on such occasions. As soon as the cow has calved she has a bucket of oatmeal gruel warm, about two handfuls of oatmeal, and a pinch of salt added; this about three or four times in the whole day, and a little of very good hay, and this is continued for about three days, when, if all is well, they gradually fall into the regular dieting. The Cow should not be allowed to have access to cold water until out of danger. The placenta, or "cleansing," should come away in from a couple of hours to eight or ten; and if not away in twenty-four, a cleansing drink of some kind is given: any veterinary surgeon or druggist will furnish this.*

Before entering farther into this subject, I may advert to their mode of rearing calves. Of course, these are of two classes—those for stock, and those for the butcher; they, however, share the same fate for about three weeks or so, when it is generally expedient to separate them, inasmuch as it is not necessary to make those for stock as fat as those for the butcher. The calves are, in general, removed from their mothers as soon as they are dropped; this is hard usage, I confess; but when it is considered that the butcher's calf is a secondary consideration, "the cheese tub" being the primary one, the reasons will appear tolerably plain. The fact is, that quietness being necessary for the Cow at as early a

* If the cleansing is delayed, give the cow a dose of physic, composed of one pound of Epsom salt and two drachms of ginger, in some warm gruel. Leave the calf with the cow for a few days. The following drink may also be given—Cummin-seed powder, two ounces; sulphur, two ounces; bay berries, powdered, one ounce; turmeric, one ounce; boil them together in a quart of water for ten minutes, strain it, and give it when cool mixed with a little gruel.

period as possible, the instant removal of the calf to be "fed by hand" soon breaks up the desire of the mother for her calf, and thus agitation on that head ceases betimes. They are fed by hand in a loose box, and receive as much of their mother's milk as they can take warm from the Cow for a fortnight, and then a little gruel of oatmeal is substituted, with, of course, a good deal of the mother's milk in it. As before observed, the "rearing calves" may be removed from the others in about three weeks, and receive a different treatment, and the object being to get them to take hay, &c., until pasturage is available. Linseed is sometimes resorted to, and an excellent thing it is, nothing but its comparative dearth can hinder it coming into very general use. When the calf is a month old, a little linseed may be added,—say, a good handful in the mess of gruel; and for butcher's calves, many are fond of using "gin balls;" these are composed of the best wheat flour, and as much gin added as will make it a paste; these are given in small balls large as marbles, three or four a-day; this makes them lay quiet and sleep. Such, however, should not be resorted to until about a fortnight before they go to the butcher. Calves are very liable to what is called in Cheshire "gur," that is to say, a looseness, which wastes the system in a little time, and if not timely stopped will kill them: the best thing, I think, is a little powdered rhubarb, as much as will lay on a sixpence, repeated if necessary. This looseness is generally caused by a corrupt atmosphere, and the preventions in the shape of cleanliness and ventilation will generally avert it.

R. ERRINGTON.

CUTTINGS OF BEDDING-OUT PLANTS, AND EXCHANGES.

ALTHOUGH we are now within a month of the usual time for planting-out bedding plants for the summer, there is sufficient time yet left us to finish off a late or last supply of cuttings for that purpose, while those who are already full-handed, and have more than they need for themselves, ought to push on as if they were in the hindmost ranks, so that the final change, under the directions of the propagating department, may be the boldest, the most brilliant, and the most decisive of the whole season. The boldest, because you can now resolve on cutting down, to the last joint, all the half-guinea purchases of the last six months, so as to be able to furnish your ranks with the most brilliant flowers of the British and exotic Flora—all novelties being always the most brilliant!

The hardest and the easiest point, according to the point of my story, is the *final decision*. It is an up-hill work for some to acquire so much courage, when it comes to the last, as to give away a morsel of a new cutting to even the Queen herself, the first season; while the hardest thing in the world is to give anything, at any time, otherwise than on the principle of *value for value*, or in other words, strain for strain, without reference to valuation. While one of the greatest pleasures one takes in flowers, and seeds, in cuttings, and in roots, and slips, and all manner of plants, is, from the state of the funds of such things, the anticipation of being able to give away ten times more than you can ever expect to receive, to all around you and within your influence. All these points meet once a year, and every year of our lives, just about this time in April, and after all the selfishness that the great exhibitions of plants have engendered, it is very pleasant to be able to report, that go where you will, and meet with as many strango faces, and more than one can readily remember for a while, you find ten out of a dozen who would rather borrow and give than have to refuse anything in the

garden way, even to the last secret of doing a thing in a better way than before. Knowing that it is as useful to know ourselves, in our failings and tendencies, as to know how to plant our gardens to the best advantage; and also knowing the feelings of the trade, in the matter of borrowing and giving, perhaps better than most writers in our line, I make no apology, after such a propagating season, in thus referring to the subject, both for the good of all parties, and for the information of a good number of honest people, seeing that "beg, borrow, and steal," is a phrase of other days. I think I know some nurseryman or seedsman in every county in the three kingdoms, and in most of our large towns, also a number of foreigners, and I am quite sure that not one out of the number ever thinks that the begging, borrowing, and giving, injures his trade; but on the contrary, that this very system is the surest nursery for raising a stock of new and valuable customers every year, and that without it, one-half of the trade might shut up shop altogether, and go out with Lord Raglan.

If one-tenth of our young amateurs, who now pay their garden bills much more regularly than many who have been at it for years and years, were to know, before they took to gardening, that nothing could be had without drawing out the purse, they never would think of such extravagance, nor of the pleasures of gardening as only fit for dukes, and lords, and such folks; and every nurseryman in the kingdom can tell you that ten customers who pay a pound a piece to the very day, is better custom than that of one who pays, goodness knows when, his last bill of fifty pounds, and forgets to pay the one before that altogether. The great nurserymen ought to keep me in my old days, for I have brought forward for them more real good customers than half the gardeners put together; for I have begged, and borrowed, and given away on the largest scale for many years, and even now I make a customer now and then by begging from one neighbour to give to another, and by saying all sorts of fine things about flowers, till they cannot stand it any longer, go to the shops and nurseries they must, even now in the face of the income tax.

What made me think of all this, just at the right time, seems to me to have come on purpose for some good end or another. One lady told me, last week, that another lady told her, that she often had seeds and cuttings given her by kind friends, and would give in her turn, but that she did not wish the thing to be spoken about, lest some gossips might set it down for stinginess. The real meaning of this was, that neither of them knew the practice was fashionable, and I made up my mind on the spot to tell them, and all the world, that this very thing is just as fashionable as a "drawing-room day." That the Queen gives away cuttings, grafts, seedlings, seeds, and any thing, which her Majesty's gardeners can spare, any day in the year, and receives cuttings, &c., in return, or for no return at all, and takes as much interest in the success of such things, in cuttings and in seedlings, in "potting off," and all the rest of it, as any lady in the land. All the duchesses do the same. Some of them within my own personal knowledge, indeed all the great ladies, put a better face on the practice than most people are aware of; and it is so fashionable that no lady of great name will ever think of leaving a place noted for gardens, when visiting about, without asking for some kind of cuttings, or seeds, as a memorial of the visit; or if she does, it is looked upon as disrespectful, or, at least, as throwing cold water on the gardener's best efforts; and to have something to give away, or to be thought worthy of asking for by a great lady, is one of the greatest spurs, or, at least, the spur that will prick the deepest into the sides of a noted country gardener.

Then, after pushing on the usual quantities for

planting out next May, and making a reserve stock of such as I had plenty of, for exchanging with my friend through the coming season, I would call to mind all such plants as I found difficult to keep through the last two or three winters, and of them I would make another reserve stock before I slackened the propagation now on hand; and this stock I would keep in pots, plunged to the rim, all through the summer, and they would be ready to house and winter in the same pots in which they would pass the winter with less risk or loss than was ever known under any other system.

But while we have it in hand, let us glance at the summer management of this part of our labour, and then mention a few plants that are known to be the most troublesome to keep over a long winter. As soon as the cold frames are well thinned, to make up the next planting, and the hurry of the planting season is just over, we shall have no want of pots, and of room to keep them well employed, for another month or so, in getting through the reserve stock to the plunging ground out-of-doors; when all the plants in this stock are put into single pots, and are well established in them, the season is kind enough for getting them plunged, the size pot best for this purpose is that called forty-eight's; all the pots of one kind of plant should be plunged in a row, or rows together; sifted coal ashes is certainly the best material for plunging in; but old tan, leaf-mould, sand, or any loose, light soil will do; if you water the rows as they are plunged, you will see at once if the pots are all level; this is a great point to be considered, for if any of the pots lean to one side, you can never be sure of good watering till they are all on the level; a spirit level is not more sure than the little water on the surface of your plunging pots, so there is no sort of difficulty in seeing that all are as they should be as the work proceeds. There is very little danger in over watering a lot of pots plunged in coal ashes, and very little trouble in looking after them through the season. To make good stocky plants of them, and to have as many tops as possible for cuttings, it is only necessary to see that none of them are allowed to flower all the season; that every shoot they make is stopped to a few joints, as often as one has time to look over them; and that the sun plays over them every hour of the day, or as long as possible.

Now, if people would but think over this a little at the right time, that is, at the present moment, we might expect to hear less and less of heavy losses in future winters, and the more old plants we are able to keep well, the more money is saved to buy in new plants as they come into market.

There are two good, and only two good varieties of the *American Groundsel*, a dark purple, and a red-purple, and they are among the worst plants one can think of for keeping over a winter-autumn; cuttings of them slip through our fingers, no one knows how, but hundreds of amateurs find they are very scarce plants in the spring; old plants of them, treated in the ordinary way vanish like autumnal cuttings, and they never, by any means ever yet tried, come good from seeds. Practised gardeners, however, find them as easy to do as *Tom Thumb* Geraniums; but they propagate their store plants of them at the end of April; plunge them, as I have just said, stop them, take them up, clean the pots, and place them on a high shelf in the greenhouse, and keep them rather short of water, till next January, when they begin to force for spring cuttings. All other difficult-to-keep plants, or such as do not answer to be taken up for potting, as *Heliotropes*, *Petunias*, and so forth, ought to be on this reserve list. D. BEATON.

THE SENSITIVE PLANT.

A PERFECT shoal of inquiries respecting this plant, *Mimosa pudica*, came on me last season, especially from young ladies. Apart from the interest of the plant itself, I had myself to thank for the aroused curiosity.

Some years ago, having a large batch of seedlings, I had somewhat liberally distributed them, and though few of the recipients managed to keep the plant long, it enabled them, while alive and somewhat healthy, to present an interesting feature in vegetation to their neighbours, and to raise a laugh by some sly joko at their expense. I have even now a vivid recollection of the first time I saw the plant, carefully nursed in a cucumber frame, when houses were not so plentiful as now, and the confusion that mantled the cheeks of a pure-minded maiden, when, conscious of her blamelessness, she fell into the trap the sly old gardener had prepared for her—the leaves dropping at her slightest touch—whilst the experiment, oft repeated, enabled him gently to touch the under part of the foliage without exciting the irritability of the plant; and thus showing, from the *ordeal*, how pure and simple-minded he was. Last season the inquiries about this plant were so repeated, that having none of my own, I was under the necessity of getting one from my neighbour, Mr. Fraser.

This plant belongs to a group of the *Legumes*, distinguished by their beautiful pinnatifid foliage, and all of them being more or less sensitive; the chief difference in their general appearance taking place during the night, when the foliage generally not merely collapses, but turns the under side uppermost. The whole of the tribe is worth watching for this peculiarity alone; and this can hardly be done without a more vivid impression of the necessity of manifesting intelligent kindness to all things having life passing over the mind. From these, the present subject is chiefly distinguished by its foliage collapsing and drooping at the slightest touch; this sensitiveness increasing according to the strength of light and the vigour of the plant; and the same causes acting as a rule of proportion in restoring the plant to its previous position; its irritability, a name for a vital phenomenon which we cannot comprehend or unravel, being dull and sluggish in a dull, cold, miserable day.

The plant is an annual, as commonly cultivated, coming from the warmer parts of Brazil, but we had it growing nicely, for many years, in a plant stove; and there becoming not a large, nor very handsome, but still a fair-sized, shrub. Treated as an annual, every person may amuse himself by possessing one who has the convenience of a Cucumber-frame. Seeds sown in light sandy soil, in March or April, and covered with a bell-glass, or a flat square of glass, will be ready to pot in small pots in the course of a month, and will want another shift in another month: requiring a fair amount of water and shade, while in this young state, from the mid-day sun. A little peat or leaf-mould will be useful in the soil, and a moist atmosphere, with a little sulphur-fumes from a tile or two painted with flowers of sulphur, in its neighbourhood, will keep off its great enemy, red spider, without a frequent or drenching operation from the syringe. One plant had better remain in the frame for the purpose of ripening a pod or two of seed. As the flowers are not greatly attractive, when a couple or more of pods begin to swell, it will keep the vigour of the plant to pull or cut off all flowers as they appear. Other plants from the frame, after being a little hardened off by more air, will stand in a window or greenhouse, where there is plenty of sun and little draught, and where a thin muslin shade can be given during the months of July, August, and September. When the seed is ripe and gathered, the plants may be thrown away, unless where a high temperature of from 60° to

70° can be given in winter. These, with a little pruning and fresh potting in spring, make fine plants in the following year. Treated as an annual, sow again in March in a hotbed.

ARDISIA CRENULATA.

This plant, found plentifully in the West Indian Islands, would never be admired for its small, whitish, spear-headed flowers. The leaves are pretty and singularly notched, but the great beauty is the small red fruit, about the same size as the currant, and which frequently remains for two or three years; the fruit for that period, in regular stories, being found on one plant some two feet in height, with a story of flowers, for the succeeding crop above them, and surmounted with a corona of young shoots, that will bring flowers by-and-by. What a beautiful fruitful Holly would be on a lawn, this *Ardisia* would, and much more, exceed in a plant-house; being one of those plants, that placed in a proper position requires a very minimum of care and attention, as it makes few enquiries respecting soil, and bears moisture and dryness with more impunity than most other favourites. It generally finds a suitable residence in a plant stove; and there it requires but little care. We have several times had it more beautiful in a warm greenhouse, with a temperature in winter from 45° to 50°, and the assistance of a cold pit in summer, than even we had it in a stove; and as many enquiries have been made, if such a plant could be had healthy in a greenhouse, I shall say a little of its treatment for this purpose.

The first essential for having a fine show of red fruit in winter is a temperature seldom below 45°, and rather as much as 48° or 50°, than below it. Even in that temperature cold water should never be given to it. If not near the heating apparatus, the supply of water wanted will not be much. In such circumstances, it will be a striking object during the winter and spring months. The whole treatment will have a bearing on merely keeping the plant in health without growing it. By the end of May it should be kept close in the end of the greenhouse, with plenty of moisture and little air, and better still, be transferred to a cold pit, where growth may be encouraged by a somewhat close, shady, moist atmosphere. By the middle of August more air and light should be given, and by the end of September the plants should be transferred to the greenhouse. If kept in a plant stove it will grow and bloom continuously. Loam and peat will grow it admirably, but it is not at all particular. I have seen good plants which had not been shifted for years, and so carelessly watered that the pots were half empty. It is easily propagated by half-ripened shoots, in sand, under a bell-glass, and plunged in bottom-heat. The seeds will also vegetate freely, though they take more time to make a plant than cuttings. They are frequently self-sown in plant stoves.

MIGNONETTE IN EARLY SUMMER.

Many of our friends complain that they cannot get Mignonette so early as they used to do out-of-doors. I can easily believe it, as I find it but seed thrown away to sow it earlier in our cold ground than from the middle to the end of May. This would give the odour of the plant very late to those who prize this unobtrusive looking thing above all the flowers in the garden. To have it in bloom, say in the end of May, or the beginning of June, I have, at various times, adopted various modes of treatment; such as sowing in pots, in semicircular drain tiles, with the ends clayed up, or mossed up, and in small ruts formed in pieces of turf three inches in width, and from two to two-and-a-half inches in thickness. So far as fitness and economy are concerned, I prefer the drain tiles, either small or large;

because, with a little rough matter at the bottom, and the finer soil at the top for sowing in, the plants turn out beautifully and receive scarcely any check. The only fault I have to turf is, that the roots do not ramify freely through it; and, consequently, a miserable habit of growth is thus produced. By adopting any of these modes, and protecting the young plants either under glass, or any other covering that would keep out extreme wet and cold, this general favourite may be had pretty early in the borders. I have tried a plan which answers admirably with dwarf annuals possessing fibrous roots; namely, making a very slight hotbed, covering it a couple or three inches with very rotten dung, lumpy leaf-mould, and pieces of turfy loam, beating that firm, and then covering with two or three inches of fine soil, and then sowing the seed in rows; but though this answers beautifully with many things, the plants rising in patches and never feeling the moving, it has rarely answered so well with Mignonette as the tiles or the turf.

I have not lately been under the necessity of having Mignonette early in *pots* or *boxes*, and many amateurs have told me, that they had more trouble with their autumn-sown Mignonette than with all their Geraniums, Calceolarias, &c. I fear that the trouble is not likely to be greatly abridged: the trouble of watering carefully, to keep the plants from being over wet or over dry; the trouble of giving air to keep them sturdy, and yet not giving it when it was too moist or too parching; and the trouble of keeping frost out of the cold frames and pits, with the usual attendance of litter and no small amount of crashed glass. Were I under the necessity of having a great supply in May or June, I should now be inclined to put up some moderate hotbeds; in the beginning of March, fill them with pots and sow in any common rich soil, thin, and give air, and water, and after being duly exposed, and the pots getting a twist round several times to prevent rooting through, the plants would be gems for windows and balconies in May and June.

The first idea I obtained of this excellent plan was from Mr. Wood, of the Bedford Nursery, Hampstead-road. Some years ago, I have seen thousands of pots there that could hardly have been equalled by the very choicest pots that had been receiving attention for an extra six months. Though such a thing is not to be got every where, I am sure, if Mr. Wood sees this, he will excuse me for stating that he largely used spent hops as his heating medium; as many might get that material, where it is now neglected. By-and-by, nothing that will yield *heat* by fermentation will be lost sight of. Not very long ago, I saw a great mound of refuse from a flax mill, and yet several people who liked a moderately early cucumber could not get them, because they could get no dung to produce them. I have found few things yield a more equable lasting heat than this flax refuse.

R. FISH.

WOODS AND FORESTS.

THE OAK.

“Than this tree a grander child the earth bears not!
What are the boasted palaces of man,
Imperial city, or triumphal arch,
To forests of unmeasurable extent,
Which time confirms, which centuries waste not?
Oaks gather strength for ages; and when at last
They wane—so beauteous in decrepitude!
So grand in weakness! e'en in their decay
So venerable! 'twere sacrilege to escape
The consecrating touch of time.”

IN ancient times these giant sons of earth were looked upon with veneration; the nobles of the land held high court under their leafy shades, and received in simple dignity the ambassadors of rival powers. The

Druids celebrated their religious rites, and though their superstitious and cruel orgies have long ceased from the earth, yet the Oak still stands a memorial associate with the noble stand Englishmen have ever made to secure liberty and independence. From this venerable and dearly-cherished tree the wooden walls of old England were formed that withstood all the power of the boasted Spanish Armada, and still our ships are principally built with the timber of this "monarch of the forest."

HATFIELD OAK.

Such reflections as these passed through my mind on visiting Hatfield Hall, the seat of the Marquis of Salisbury. The park there is thickly clustered with groves of ancient gnarled Oak.

In the midst of an avenue of large Limes, the Oak was pointed out to me as the one named "Queen Elizabeth," or "The Hatfield Oak." Under this tree the maiden future Queen was sitting, on a mild November day, when a booted and travel-soiled messenger bent the knee, and hailed her England's Queen. This tree is yet alive, though sadly broken and be-plastered to retain its life, an interesting memorial of such a striking event.

QUEEN ELIZABETH'S OAK.

There is, however, a far finer specimen of an ancient Oak associated with the same Queen, now standing, alive and flourishing, in Huntingford Park, in Suffolk. This tree is likely yet to live and smile upon our children's children. Visitors are still entertained with traditions of one Oak in particular, as the one named "Queen Elizabeth's Oak," under which she stood and watched the red deer put into motion by the keepers, some of which, it is said, she shot with her own hand.

WINFIELD OAK.

Connected by history with the same age is "Winfield Oak," near Winfield Castle, the prison, for many years, of the unhappy Queen Mary of Scotland. This old Oak stands directly in front of the town, where the Queen was confined under the surveillance of her titled jailor, the Countess of Shrewsbury. Even then it must have been a noble tree, as its remains still show, though its branches have suffered greatly from the many successive winter blasts that have passed over it, yet it still presents "its oft renewed green" as it did in Queen Mary's time.

THE QUEEN'S OAK.

A yet more ancient Oak exists in the forest of Whitebury, in Northamptonshire, and it is also dedicated as a living memorial of one of England's Queens. History gives us a romantic, true story, that under this tree Elizabeth Woodville (the widow of John Grey, of Groby, who fell in one of the battles of the rival Roses, fighting under the White Rose of Lancaster), stood to watch for the passing by of the youthful Edward the Fourth. Under this noble tree she caught his eye, with her fatherless children by her side, and intreated him to bestow on them their father's forfeited lands, and, as is well known to the readers of English history, she not only recovered the possessions, but so won the favour of the amorous King, that at length he raised her to the high station of Queen of England.

LADY MARIAN'S OAK.

Nottingham is a county famous for its Oaks. There are some of these whose age is out of date, but, probably, the oldest is the one named "Lady Marian's Tree." It still lives near the ruins of Dunmow Priory. In one of the aisles of this fine ruin there is a monument of the bride of the "famous Robin Hood," the Lady Marian. Tradition says, under this tree the bold outlaw kept his

merry court, graced by his lovely bride, the daughter of the Earl Fitzwalter, who was slain by Prince John, because he was true to his absent king—Richard. His daughter escaped to the forest glades of Sherwood, and there married the outlawed Earl of Huntingdon. To her memory this Oak was dedicated, and is still pointed out as the trysting tree of this romantic pair.

AMPTHILL OAK.

At Ampthill, in Bedfordshire, in a park belonging to Lord Holland, there stands another ancient historical Oak, consecrated to the memory of the ill-used "Catherine," the first Queen of Henry the Eighth. This park is remarkable for its beautiful scenery. It is undulating, and well wooded. In the centre there stands, on an eminence, an ancient Gothic cross, and an inscription on it says that there once stood an ancient dwelling on this elevated site, and in this mansion the good old Queen lived and died. Just below, in the vale, stands "The Ampthill Oak," and under its shade, tradition says, the Queen had a seat formed, and here contemplated the vanity of human greatness, and its too often melancholy end. This tree, though so many hundred years old, is still fresh and vigorous, and will, most likely, live many years to bear its annual leafy honours, and thus carry down to a late posterity the memorial of the sufferings of "Queen Catherine."

KING CHARLES'S OAK.

I shall only at this time notice one more historical Oak, and that is, "King Charles's," which concealed him in its leafy shade from his pursuers after the battle of Worcester.

My allotted space is full, but I will just state that I am promised the history, size, and other particulars of some noble Oaks in the very centre of England, which, I trust, will be found interesting and useful to the readers of *THE COTTAGE GARDENER*. T. APPELEY.

(To be continued.)

NEW FLORISTS' FLOWERS.

(Continued from page 7.)

PELARGONIUMS.

THERE are not very many superior new varieties offered this spring. The following is a small selection of such as are really better than any we have had before.

ATTRACTION (Foster); dark top petals edged with bright crimson, lower petals rich crimson; a superior flower, of first-rate form.

CARLOS (Hoyle); dark maroon, upper petals bordered with bright carmine, lower petals rose mottled with white; centre white, a large truss; free bloomer and very distinct.

CLOTH OF GOLD (Foster); dark maroon, top petals bordered with scarlet, lower petals bright orange-scarlet; a desirable show flower.

LEAH (Beck); deep maroon, blotch on the upper petals, broadly bordered with rose, eye clear white, with the lower petals of a warm pink; good shape and substance; free bloomer and very early.

NEATNESS (Beck); deep maroon, blotch on the upper petals, with a very narrow margin of bright crimson, lower petals rosy crimson; a good shape, free bloomer, and flowers through the season; a first-rate show flower.

REGALIA (Hoyle); a brilliant scarlet flower, with a dark blotch on the upper petals; a great improvement on *Magnet*; obtained the medal at the Regent's Park Show as the brightest scarlet.

VIRGINIA (Hoyle); a great improvement on that good old variety, *Virgin Queen*; the white is pure, and the

blotch dark on the upper petals, edged with an even border of white; a good show flower.

The following are the best of last season.

ASTREA (Hoyle); upper petals dark maroon, blotch with orange border, edged with rose; lower petals deep pink, spotted with orange.

BASILISK (Hoyle); deep crimson, blotch on the upper petals, broadly bordered with orange-scarlet; lower petals the same colour.

ENCHANTRESS (Foster); dark crimson, blotch edged with lighter crimson on the upper petals, lower petals rosy-crimson; a rich looking flower.

LANGONIA (Hoyle); upper petals with a rich black blotch edged with deep rose, lower petals rich rose.

OPTIMUM (Foster); upper petals a glossy black, with even margin of crimson-scarlet, lower petals bright crimson; the gem of the last season.

PASIA (Beck); upper petals deep maroon centre, and a distinct margin of scarlet, lower petals deep mulberry, centre of the flower pure white.

ROSA (Beck); a bright rose-coloured flower, with a small dark blotch on the upper petals.

ZARIA (Hoyle); the whole flower is pink or flesh-colour, with small spots of orange on the upper petals, and a constant spot of maroon on the lower petals.

NEW CINERARIAS.

EVA (Lochner); ground-colour pure white, with a narrow margin of purple; centre or disc very dark; a good form and stout substance.

LADY CAMOYS (Sutton); ground-colour pure white, deep blue tips and blue disc; fine form and habit.

NOVELTY (E. and G. Henderson); ground-colour a rich damson-purple, with light centre or disc; a large novel-coloured flower, rich and showy.

PICTURATA (E. and G. Henderson); ground-colour clear white tipped with rosy-purple, and a lavender-coloured disc; a good showy variety.

SCOTTISH CLEFTAIN (Sievewright); a fine white ground-colour, tipped with rich violet; disc also a rich violet, fine shape, and a good habit; a first-rate flower.

EXQUISITE (Dobson); pure white edged with rosy-crimson, dark disc, a good shape, free bloomer and of a dwarf compact habit; excellent for exhibition.

It is somewhat remarkable, that the last summer has produced no self-coloured varieties, excepting the novel-coloured one named *Novelty*. Below are a few selected from the best raised in 1852.

BEAUTY (Ivery); ground-colour pure white, broadly edged with lavender; much superior to *Cerito*.

BRILLIANT (E. and G. Henderson); ground-colour crimson tipped with white; a good show flower.

CHARLES DICKENS (E. and G. Henderson); a large, purple-pace, self-coloured flower, with a light disc and fine form.

KATE KEARNEY (E. and G. Henderson); a large flower, of a clear white, with lilac centre; excellent form.

LOVELINESS (E. and G. Henderson); bright rosy-crimson, with a circle of white round a carmine disc; a distinct variety.

LOVELINESS (A. Henderson and Co.); ground-colour pure white, edged with violet-purple, dark disc; fine form and distinct.

PRINCE ARTHUR (E. and G. Henderson); bright crimson self, with fine broad petals; very showy.

PRINCE OF BLUES (Ivery); very dark blue self, with dark disc; large flower, and very showy.

TYRIAN PRINCE (Cole and Sharp); the richest of blues, a self-coloured flower, with dark disc; flat flower, fine form, and dwarf habit.

T. APPELBY.

(To be continued.)

THE PEACH.

(Continued from page 9.)

PLANTS are often pronounced hardy, and treated as such, with but little claim to that title, and as long as they continue to exist under favourable circumstances, their claims to that title is but little doubted; but, by-and-by, they either succumb to the hardships of their situation, or no longer flourish under a treatment so much below the requirements of their constitution. Still, having once been received as "hardy," they continue to be so regarded; and those misfortunes which almost annihilate them are often laid to other causes than the tender constitution of the plant in question. Is not, in a certain degree, this the treatment met with by the Peach? Is it not often denied that protection and kind assistance, in the shape of good situation, &c., which our great-grandfathers were more liberal in granting it? This system of non-cultivation has, I think, been carried too far with the Peach; and because, now and then, cases of successful culture present themselves wherein little care is bestowed, it is too generally set down that none whatever is required. Now this is wrong; for the Peach, coming from the warm and sunny regions of central Asia, can hardly be expected to mature its wood and embryo buds in our summer to an equal extent to what it does in its own native clime. Still less has it a chance to do so, when, instead of having a southern aspect, and dry well-drained situation, it has an east or west one, with a cold, wet, ungenial soil to grow in. No improved method of pruning nor top culture can atone for this; but there are cases, also, wherein a favourable situation is lost to the plant by other judicious assistance also being denied it; but, to consider this, let us for a moment glance at the treatment it received from our ancestors, and the light in which they viewed it.

It is well known that our worthy fore elders regarded this tree as a much more delicate production than we do, they justly considering, that because it inhabited the same country as the Melon, and other plants requiring all the artificial heat to grow them well that our means can command, they took more than ordinary pains to secure this one more of the good things of culture than we allow them now. A Peach was rarely planted anywhere save in situations where it was likely to flourish and do well; few or none were to be seen on other than full south aspects: besides which, due protection was granted them while in bloom, and the appearances of insect or disease always met at the threshold—a good Peach, or crop of ditto, being in that day as much an object of pride as a well-grown potted plant of the most fashionable sort is at the present one; consequently, the Peach was what it ought to be, "a well-managed tree;" but I believe I have not told all the advantages that it enjoyed in those good old times, and which it is sometimes honoured with now.

Many of the walls on which Peach trees were trained were hollow, or flued, and heated moderately at certain times. This beneficial aid to their well-being has been abandoned too hastily; for in those places where it is adopted its beneficial effects are seen on the trees so treated; and when it is known that in the north of England as good fruit and better trees are produced than in the south of it, solely by the aid of that assistance, it becomes a matter of importance how far that useful auxiliary would repay the cost of erecting elsewhere. In fact, the cost in the build of such a wall is very little more than that of a common one; but the expense of firing is an item of some amount: however, to those who deem the luxury of a good Peach and the pleasure of seeing good healthy trees a desideratum worth sacrificing something for, I may with safety affirm, that nothing whatever is more likely to conduce to that

object than a well-flued wall. I will not even place the latter second to the careful selection of suitable soil and dry situation, because that is likely to be already attended to—although, of course, attention to these latter matters is also essential to their welfare. Now, as a much greater proportion of the fruit grown years ago was done under the advantageous circumstances enumerated above, it follows that a non-attentive policy can hardly be expected to be so successful.

In drawing these remarks to a close, I cannot avoid alluding to an opinion too often expressed, "That after a certain period of time a plant becomes, to a some extent, acclimatized to the country it has adapted." This is certainly wrong; for, though attentive cultivation, and the raising of hybrids or varieties having a hardier constitution than their parents, may, in some few instances, be adduced, by far a greater number will be seen of a contrary kind; and as the Peach, and its companion the Nectarine, still retain that tendency to bloom and start growth earlier than our native trees, we may infer that their natural-disposition is not overcome by the change of abode, neither have we reason to believe them one whit more hardy than before; and as our experience with ordinary flowering plants of a hardy kind has been for some time guided by the rule of letting everything alone that does not call for urgent alteration, the principle seems to be carried to the Poach also. Hence the neglect and want of success in situations where a contrary result might be looked for; while, in the more ungenial climate of the north, the walls, being flued, are warmed in spring for some few weeks, protecting the setting of the blossom and favouring the production of wood; and in the autumn, again, the same is done to ripen the wood, and, if needs be, the fruit. Now, these necessary assistants, with that close looking after which things only get, when, by common consent, they are reported not to be able to do without, generally commands better crops than is found in the south of England, where a less careful system is followed, and without the help of the flued wall above.

J. ROBSON.

WHAT A SOLDIER OUGHT NOT TO BE.

By the Authoress of "My Flowers."

At this particular time, when everything belonging to our gallant defenders by sea and land is so interesting to our hearts; when we have just seen our noble regiments marching onwards in all their martial array, we feel it a suitable time to bring forward a sketch or two of a soldier's character, to show what he ought to be, and what he ought not to be, in private life. Good soldiers are not always good men—they may be true to their country, yet traitors to their God; and it is melancholy and painful to think, that those who have such a claim upon their country's gratitude and regard should be so unworthy of it as we sometimes find them. I will give the warning first, and the example in my next.

Tom Sparks is the son of a cottage gardener, whose character I have already touched upon in a former paper. He enlisted at fifteen, much to his father's sorrow; but he could not prevent it, and the boy's heart was set upon a red coat. For years and years they knew little about him; he was absent on foreign service; and as he could not write, they seldom heard anything of him. At last—it was the very time of the riots—Tom came for a few days on leave, before sailing again for Canada; and it was remarked as a wonder, in an out-of-the-way village, that a red-coat should be seen at church the precise day of the breaking out of the disturbances. From that day he returned no more until his term of service expired, which happened very early in his life; and he left the army with a pension. Before this, however, he was quartered for some years in Ireland; and his parents learned that he had married there. His poor

father had a horror of Papists, and concluding that his son had taken one to be his wife, he was never easy about him. "The poor soldier," was ever on his lips; and he became very anxious to find out what kind of spiritual state his son was in after so many years of absence and vicissitudes.

At length the cottage door opened, and the aged couple beheld their tall son, and with him a little Irish wife and child. I believe the iron entered into the poor cottage gardener's heart when he saw her; but it was of no use to give way. She was the warmest-hearted little creature that ever came from her warm-hearted country; but her ways were so unlike English ways, her language and voice so unlike those of our land, and the old man's prejudices were so strong, that he never quite got over it; and I think his end was hastened, in a measure, by such an addition to his household. He was warmly attached to his son, and they used to sit up at night quietly together, over the embers, talking of a thousand things the father wished to hear and say; but by day there was no peace. The boy was ungovernable; the mother talked unceasingly, without ever altering the tone of her voice, and as fast as the words could flow. Tom seemed a steady man, he was as stiff and as strait as an arrow, and no man had less to say. He was very slow at his work, but he was quiet and respectable, and very seldom out of employment.

While the old people lived things went on well with the son; but when they died, and Tom and his wife set up for themselves, matters took a turn. With seven shillings a week pension, and day labour besides, they ought to have been in easy circumstances; but instead of that they were always in debt. The poor little woman was always in a dirty cottage, either cowering over the fire upon a low stool, or block of wood, or else-messing with a wash-tub, "just two or three little tings for the childer;" and looking the very picture of warm-hearted untidiness. Her second child was a beautiful fellow, the pride of her heart. He was snatched from her by scarlet fever, and one child only remains.

Some time after this, it came to light that Sparks had taken to drink. He could never pay his allotment rent; he had always a long debt at the shop; his wife had no Sunday gown or shawl; but he himself was always well dressed, and in his place at church. At last he began to beat his poor little wife, and a more miserable looking creature could not be seen. He beat her frequently and very severely, but she said nothing till her neighbours found it out and spoke of it. Sparks had got into shocking company, and spent his evenings and earnings in drink, giving much of his money to one who had no lawful claim upon him, which agonized the poor wife more than all the rest, as she sat starving and weeping in her cottage.

It seems a hard case that an offended and injured wife is never to express her indignation; that she gets nothing but harm by it; that the only way to deal with such husbands is to be civil and smiling, when the heart is turned almost into curd by its wrongs. Poor Mrs. Sparks was driven beyond her power of endurance sometimes, and her lips spake truly, but unadvisedly. This made matters much worse; a silent, determined, violent man was made furious by expostulation; and the poor little creature could only mourn that she had ever left Ireland and kind friends, and become, as she says, "a poor stranger" in England. Neighbours, however, are very kind and compassionate to her, and stand by her as far as they can. One good-natured man draws Sparks into his cottage sometimes, to have a chat, and a little friendly beer, on purpose to keep him out of evil company. But what a thing that is? What a hopeless case it is, to go striving on against such evil habits! The wife implores his employers not to turn him off, for work keeps him quiet all the day, and prevents her being totally destitute, though she gets scarcely enough to support herself. She lives in hopes that he will mend, which he sometimes promises, but never performs; so there she sits in her melancholy cottage, "chewing the cud of sweet and bitter fancy."

Readers! this is a retired life of a British soldier. I grieve to record it, for the honour of the army; but so it is. He is the child of many prayers. His poor father wrestled for him, and would have mourned bitterly had he suspected

how things were to be. Can it be thought, that a brave soldier would raise his hand against a helpless woman, and the wife he has sworn to love? What will not *one* sin produce? *One* commandment broken; *one* statute and precept cast aside—who can calculate the consequences? First one and then another follow; till the man who may at first have said, "Is thy servant a dog that he should do this thing?" fills up the measure of his iniquity. Without God's grace there is no security. A man may go steadily half his life, for some reason or other, and wrong the other half. Worldly reasons shift about just as the wind blows; Scripture reasons stand fast for ever. Worldly circumstances alter; Scriptural influences abide. Nothing shakes *them*; so that if a man is under their power he is safe, and may be answered for; if he is not, he is shaken about like a lottery ticket, and no one knows whether he may turn out a prize or a blank.

There may yet be mercy in store for Sparks. He may yet "turn and live;" but he is rebelling against his great Captain, and he *may* suffer death for his crime. Readers! this is a word for us. *We* are all soldiers. How are we serving our King? "Not every one that saith Lord, Lord, shall enter into the kingdom of heaven, but he that *doeth* the will of my Father which is in heaven."

"LA CHAISE," JERSEY.

THE pretty secluded and sheltered property recognized by the above appropriate cognomen is situated on the north-eastern coast of the island, and has, for the last ten years, been an object of much attraction to all the lovers of Floriculture visiting and residing in the neighbouring localities.

About two years preceding the time above specified, an elderly gentleman, seeking retirement and seclusion from the harassing cares and solicitations attendant on the past exertions in behalf of his fellow-creatures, came to the island, and after looking about for a place in the which he thought he might spend the rest of his days in peace and quietness, pitched on this particular spot. He there saw many of the conveniences he desired, the beauty of the situation being such as to enable him, in fine weather, to enjoy the sea-breeze from the top of the hill, which commands an extensive view of Rozel bay and harbour, with the adjoining coast, and, across the rippling, bright blue sea, the opposite coast of France, upon which he could, in fine clear weather, discern homesteads, church steeples, lines of trees, and even human beings on the sandy coast. He also saw, that whilst the upper part of this beautiful place was high up, and much exposed, there was a southern and a sheltered side, where he might build himself, what all Englishmen do or ought to love, "a home," and surround it with a romantically-beautiful and sheltered terrace garden, filled with nooks and crannies, in the which he might plant many of the bold and majestic foliaged trees and flowering plants from farther south, besides multitudes of greenhouse and exotic plants, that they might there enjoy the benefit of ample room for extending their roots and, nature's atmosphere for the development of their growths and foliages. He knew much about the nature of trees and plants, from their having been the objects of his patient attention, care, and study for a long series of years, and felt, that having once acquired the property, which he did by paying down £50 old Jersey currency for it, thereby gaining a per centage of eight and one-third on the value of his British coin and paper, which the native proprietor, almost guileless on the subject of discount, then most readily received; but a change has come o'er the generality of these gentlemen since, and they now understand the meaning of that delightful word "British," in its application to pounds, shillings, and pence, as well as the veriest "screw" at the change. If our respected friend had now to make the purchase, he, doubtless, would have to pay the amount in full, and not be allowed the discount.

Apologizing for this digression on the subject of cupidity, which so interests or amuses us all, I proceed. The property acquired, he quarried out the stones for building a cottage and the necessary surrounding walls, according to his own correct views of good taste and applicability to situa-

tion, and then he did not hesitate in proceeding with his arrangements for making a garden in that locality which nature had already rendered beautiful; he laid it out in the most fascinating style, both irregular and beautiful. It was sheltered, because protected on the northern and eastern sides by the large rocky hill already alluded to; warm, because it laid open to the southern and western sun, and enjoyed the reflected heat of its protector, "The Rock;" productive, because, whilst enjoying the advantage of thorough drainage from its peculiar position, it was also benefited by every western shower of rain that fell. All things in his favour, through the wise selection of the locality and the quality of the island climate he began. Yea, he began in earnest! This was gardening! gardening in reality! not with the assistance of artificial means, but with God's handmaid, Nature. Could any earthly joy surpass the pleasure of gardening, with such a helpmate and a heart to realize and feel it?

Our friend had walls built and walks made with the pudding-stone and rubbish broken from the outside of the rock, and steps, where necessary, to mount to the higher terraces and parts of the Cotil, until he had right and left made paths and zig-zag ways, so as to be able to get without scrambling or great exertion to all parts of the grounds and gardens. He planted apple and other trees for the production of fruit, and evergreen Oaks, those hardiest of evergreen trees, to shelter them from the eastern winds on the eastern side. He excavated holes and caves wherever they might be useful or ornamental; and for planting the more tender favourites, he made irregular and uneven edges to all these walks and ways, with the pudding-stones selected for the purpose, placing the crustaceous side uppermost, so as to increase the romanticity of this already romantic place; and then bethought himself, that having so much done, he had better begin to place his favourites in their intended homes, that they might there do, what he himself desired and deserved to do, "Vegetate in peace." But anon! such is not the man of genius' lot; he was not placed here for such a purpose, and that which was within him placed made him and still makes him, although threescore and fifteen years have passed over his head, ever active and industrious in endeavouring to improve this already improved and pretty place; and even this winter, much alteration and improvement have been going on here in surrounding the summit with a fortification of dry walls, composed of that peculiar amalgamation called pudding-stone, hewed out from the surface of the rock and cut in square blocks.

As might be supposed to be the case, as the natural result of his past exertions, our friend has the gratification of showing any of his friends or acquaintances who may do him the pleasure of calling, or obtaining permission to look over the premises (which is readily granted), many beautiful clumps and specimens of trees, shrubs, and bulbous-rooted plants, not hardy enough to thrive in less sheltered localities, but here vegetating in all their natural luxuriance and beauty, amongst which may be seen large clumps of green *Irias*, producing from fifty to one hundred spikes of bloom; *Sparaxis* of every shade and hue, and the beautiful varieties of *Gladioli cardinalis* and *insignis*, flowering away in the most beautiful luxuriance—the contrast of colours in both one and the other of these splendid varieties when seen in masses, and the glaring sun shining down upon them, is truly magnificent. *Vallotta purpurea*, or the Scarlet Amaryllis, named *purpurea*, from some peculiarity not attached to the colour of the flower, but, I suppose, from the purplish colour of its neck in the early stages of the plant's growth, also thrives and flowers here; the *Rosa cromatella*, or Cloth of Gold Rose tree, here has been the admiration of all visitors who have had the good fortune to view it during the summer months flowering in the greatest beauty. It is a magnificent specimen. I am informed that flowers have been gathered from it at forty feet apart from each other; its limits have, however, been lessened during the improvements of the past winter; the flowers of this variety of Rose are of a beautiful crome-yellow colour, and I have frequently grown and gathered them five to six inches in diameter; they are large, rich, and fragrant, and generally produced on the lateral shoots produced on the long and strong

branches which the plant makes when growing vigorously. This plant has an aversion to hard-pruning, and the want of judgment in practitioners on this score has been the cause of its condemnation in many places. By its side stands a magnificent specimen of *Correa alba*, hiding many superficial feet of the rock's surface with its sandy foliage and pretty little white flowers, and as it flowers at this early season of the year (March) it is really pretty; with *Osmunda regalis*, or the "King of the Ferns," which was found in all its natural elegance and perfect beauty indigenously growing at the bottom of a secluded valley, about half-a-mile distant from "La Chaise," and here brought and planted to thrive equally well; whilst the red, crimson, and purple *Rhododendrons*, growing in different parts of the grounds, the whole extent of which are about one-and-a-half English acres, are truly beautiful; the plants being large, eight to ten feet in height and diameter, and covered with bloom. The favourite *Kalmia latifolia*, or Broad-leaved Kalmia, grows and flowers here in all its porcelain-like elegance; whilst the other varieties, with *Ledums*, *Andromedas*, and *Daphnes*, of different varieties, are endeavouring to excel one another in successful vegetation. Very many beautiful *Epacrises*, *Ericas*, *Acacias*, *Mahonias*, *Fortunecii*, *Entaxia myrtifolia*, *Bauera rubioides*; and one pretty specimen of *Phyllocladus rhomboides* several feet high. This pretty Van Diemen's Land conifer, with foliage of peculiar coppery hue, is growing under the shade of two or three old Oak pollards, where it seems to enjoy itself; and the *Vaccinium urceostaphyllum*, or Madeira Whortleberry, is doing very well here, showing but little injury from the late severe weather. The worthy proprietor informed me, during my last visit, that he had gathered from three to four quarts of really excellent fruit from some of this last-named plant, which, though rather acid for dessert, was excellent for making tarts and preserves. He also expressed a hope "that he should live to see it as common as Black Currants in our market, offered for sale, at per quart." The only sympathy I could offer him for his good wishes towards this pretty Sea-girt Isle was, "that he might not hope in vain;" but I could not help thinking that I should live to a good old age if my hair did not turn grey, as a preliminary, until then; the affected sagacity of the inhabitants precluding all possibility of introducing any novelty amongst them. The apathy and aversion they feel to any new introduction having been fully developed in the following instance:—

The proprietor of these premises being informed that the committee of the Agricultural Society was to dine with one of the society's officers, last autumn, prepared a jar of the fruit, and sent it to that gentleman's house, where the worthy host introduced it amongst condiments and other good things in the shape of dessert after the repast. Some few members tasted it on the host's recommendation, but reserved their opinions; whilst the greater portion of the guests were noticed to taste and look on as if impressed with an idea that "there might be poison in the jar." With such want of perspicacity and determined opiniativeness, there is but little probability of rendering the soil and climate of any locality as productive, or that produce as useful and beautiful as it might otherwise be. However, it is a straight lane that there is no turning in, and the tide of events may bring about sweeping changes.

Round and near the summit of the hill, there is a row of the "*Cedrus deodara*," or the Himalayan Pine, which promise, at some future day, to make beautiful trees; beautiful they are, even in their present state, but they are wanting in one essential having reference more particularly to grandeur than quality, I mean "Size." And on the north-eastern side, near the top, from whence the beautiful view alluded to in the beginning of the article may be seen, a small "*Cedar of Lebanon*" is planted, in the hope that the birds will, at some future time, come and build their nests in its branches; but, it must be sometime before this will be realized *de facto*, as the wind is particularly cutting here when it blows from that quarter, so much so that from this point it is pleasant to descend the hill in windy weather, and, turning to the right, fall in with a splendid collection of *Mesembryanthemums*, and other thick-leaved plants, which, when flowering and seen in fine sunshiny weather, of almost every hue and colour (excepting blue), are gorgeous and grand. They hang down from the

crevices and excavations made in the walls among the rough stones and on the banks of the terraces, and are amongst the prettiest objects that can be seen, under favourable circumstances. The locality in which they are planted is so sheltered that they do not seem to have suffered much, although the cold has been so intense during the past winter, at intervals, that these and all their kin have been killed in less favoured places. A little lower down there is a fine plant of *Sollya heterophylla* growing and flowering every season most luxuriantly; also a great variety of other plants, generally considered and treated as inmates of the greenhouse and conservatory, but here growing and thriving in the open air.

A collection of the varieties of *Rhododendron*, lately introduced by Dr. Hooker from the Sikh Mountains, has also found its way here, with fifty or sixty varieties of *Ferns*, the whole of which it is to be hoped may do well; whilst in one crevice there is a fine plant of *Echinocactus multiplex*, with its numerous progeny surrounding it, which does not seem to be at all affected by the past cold; and now the equinoctial gale is past, and the fine weather is fairly set in for the season, there is no need for alarm respecting it, or any of the rest.

Upon the whole, "La Chaise" is a beautiful place, either to ramble about or live in; and your readers must not be surprised at finding I finish this sketch of "La Chaise" by telling them, that many good-humoured visitors have told the proprietor they would like to turn him out, and come and live there themselves; to which proposition his usual reply is, "a good-natured wink," as much as to say, "Would you?"—C. B. S., *Jersey*.

SHANGHAES, AS RECENTLY EXHIBITED.

IN the remarks that have recently been made in these pages on the appearance of the different breeds of fowls at the exhibitions of the past year, terms of commendation have usually been employed in comparing them with their predecessors on like occasions. With Shanghaes, however, the verdict, we fear, must be adverse; in common estimation, indeed, they would, probably, be reckoned as having receded, rather than advanced, during the period in question.

Our own view of their case, indeed, will not admit of their improvement, though we should be unwilling to give our assent to the notion of any serious retrograde movement. The causes that must have led to such a result will naturally become interesting matters of enquiry; and we venture to believe, that several sufficient reasons may be found to account for their present position, without any real drawback to the character and pretensions of the breed, or, if the term may here be permitted us, species.

In the first place, the adult classes are those mainly concerned in this charge. The condemnatory declaration on the part of the judges, "*none of sufficient merit*," has more than once, within a few months from this date, accounted for the withholding of first and second prizes, and popular assent was readily accorded to the justice of such decisions. So general, indeed, was the opinion of the justice of this severity, that we need alledge no reasons in support of it, but may pass on at once to the circumstances that might have led to it.

The Shanghae, we well know, is remarkable for early maturity, and this character is evidenced not merely by a rapid acquisition of weight, but even more especially by a remarkably early production of eggs. The consequence necessarily follows, that these combined influences induce corresponding rapidity in the decay of constitutional strength manifested in both form and feather. A three-year old Shanghae, indeed, is rarely fit for competition where opponents above mediocrity may be expected. The plumage at this age becomes rough, ragged, and devoid of the bloom that indicates condition, and both male and female share this disadvantage alike. Form becomes gaunt and ungainly, the head loses its neat character, and the comb is then too often coarse and discoloured. These manifold disadvantages are surely sufficient for the mishaps that have of late attended the senior Shanghae classes. These circumstances, we apprehend, have lowered the honours of the adult Shang-

haes of 1853. There are others, however, that apply equally to them with the young birds of which we have next to speak.

These latter may demand more particular mention than has been granted their parents. We will speak of them, therefore, separately, as regards form, feather, condition, and size.

Form.—The excessive prices to which great demand and a limited supply brought the Shanghae race during the earlier part of the past year, circulated a great number of birds of inferior character, and the evil effect of such a selection of breeding-stock was disguised under the common, though absurd notion, that birds for which such sums were commonly offered must possess high intrinsic merit. The great majority of poultry-keepers were thus satisfied, and if on any occasion their own observation, or a friend's criticism, suggested faults in such purchases, value given was constantly quoted in proof of excellence. A long period, indeed, was required to dispel these delusions, and thus, at exhibition after exhibition, from Newcastle to Southampton, and from the Land's End to Hull, numberless pens were brought out merely to receive censure. In no one point has the Shanghae suffered more severely from these causes than in respect of *form*, and we are not certain but that birds superior in this respect, both old and young, could have been picked out in 1853, than the most careful investigation of the pens of 1854 could have supplied. We do not lay so much stress on the fact of some names that had occupied the most distinguished on the prize lists of past years being absent from the catalogues of the one just gone by, for their stock had been so widely disseminated, by sale and otherwise, that the reproduction of equal excellence under an equally skilful system of management seemed of easy attainment. Neither of those seasons were of a favourable character for rearing chickens, but neither could claim any advantage over the other in that respect.

We have heard it stated that a full prominent breast should be regarded as an unfavourable point in a Shanghae; from such an opinion, however, we must emphatically dissent. The breast is, doubtless, a point where Shanghaes are most vulnerable, and failures most frequent; the more earnestly, therefore, should our efforts be given to remedy this defect, and we have many instances where this objection has been satisfactorily overcome. That a protruding breast-bone, indicating the absence of flesh on the most valuable part of the bird, should not be considered an essential property of the race, we confidently affirm, however numerous in ill-bred specimens may be the fault complained of. The Shanghae, be it remembered, labours under peculiar disadvantages in this respect, the fluffy feathering of the thighs bringing them apparently so forward that they frequently, even in good birds, appear to continue the line of the breast, not receding as in the case of other fowls.

We now come to *Feather*, a point that is sure to strike the eye of the novice sooner and more forcibly than any other; and we are by no means sure that such exclusive impressions of the novice have most frequently an existence long after that period should be past. The buff variety is that to which the requirements of the breeder have in this respect been necessarily limited, the other colours admitting less deviation from acknowledged standards. But as we are now speaking of feather, generally, our remarks on this head will more properly be reserved till we speak specially of the above-mentioned variety.

Advertisement after advertisement re-echoes the praises of the *falcon-hock*, and our blindness in not recognising its merits, as a consequent of a curve being a line of beauty, has been commented on. We have, however, already said, and now briefly repeat, that the natural characteristics of any race of fowls are the first objects of the breeder's attention. The fullest development of these, in due proportion regulated by an eye to general effect, is his proper aim, and his only legitimate course. Thus, in the race now before us, we discard a tufted, or a clean-legged Shanghae; because, in the first instance, it is an addition to the distinctive characteristics of the birds, and in the second, an absence of the same. This coveted "*falcon-hock*," we apprehend, can scarcely be attached to the true nominal character of the Shanghae fowl, and, consequently, if not rejected as an unauthorized adjunct, it should not, at any

rate, be regarded as meritorious. So far our objections rest on general principles applicable to fowls of all breeds; but, let us ask, is this extension of the feathers of the thigh pleasing or otherwise to the eye? It is urged, that a curve being the line of beauty, the question must receive an affirmative reply. From this, however, we must dissent; the outlines of a fowl should certainly consist mainly of a succession of curves, but the effect of these depends on their falling one into the other, and abrupt termination, such as the falcon-hock exhibits, appears to form no element of beauty. We would not disqualify a bird for its possession of this peculiarity, but it certainly would not cause the specimen to find any great favour in our eyes. Our summary, as regards "*feather*" in 1853, would place it at least on an equal footing with the results of preceding years. It has, probably, been the point most thought of, even to the depreciation of others of equal importance.

Condition requires few words. The food and management of poultry have received greater attention, and such inquiries and discussions have necessarily led to a better state of management, of which we receive sufficient evidence in the state of the specimens that are sent to exhibitions.

Size is the last feature on which our comparison has now to dwell. Here we do not believe that heavier good shaped birds have been produced of late than those to which we could refer in 1852 and previous years. Greater weights might very probably be proved, but without equal excellence in figure; mere pounds and ounces must avail but little; and yet how constantly has this one point been almost exclusively relied on. The extraordinary conflicting notions that appear to have influenced the actions of many Shanghae breeders, would surely be more than enough to account for all the falling off that their bitterest opponents can now lay to their charge.

The principal causes, therefore, to which reference might be made, as productive of the asserted falling off of the Shanghae might be thus enumerated:—The high prices, that brought into the market so large a number of indifferent birds. Breeding from prize, or commended pens, containing birds closely related to each other; also breeding from aged birds. Too exclusive an attention to particular points, colour of feather more especially, to the comparative neglect of others equally important. To these might, perhaps, be added, if a lenient view of the case be taken, a general expectation that great as have been the improvement in past years, it ought to have maintained a progressive advance; but this not proving to be the case, dissatisfaction beyond their due ensued. Novelty, too, with many so important an ingredient of popularity, was on the wane, and may probably have had some share in the work.

(To be continued.)

CULTURE OF DIPLADENIA CRASSINODA.

Go where one will, how seldom is this beautiful flowering plant seen, grown, and bloomed in that perfection to which its merits entitle it. The chief cause of failure is, I believe, the dribbling system of watering pursued, without examining whether the plant requires water or not. A plant is purchased and repotted, and takes up its position with the other inmates of the stove, and daily gets a soaking from the watering pot. Now, the fresh soil used in repotting not being occupied with an abundance of living roots constantly sucking up food for the future development of the plant, through this course of watering, in time, becomes sour and uncongenial to vegetation; consequently, the plant becomes stunted, the leaves turn yellow and drop off; and, finally, the plant goes to the rubbish heap as a thing very difficult of culture.

I am satisfied that the philosophy of watering pot plants is but little understood or cared for as it should be. This most important operation is generally left too much to the mercy of a second person; hence so many failures. Obtain a nice healthy plant, and repot it at once into a 12-in. pot; using turfy peat two parts, sandy loam one part, very rotten dung and leaf-mould one part, gritty sand, broken pot or charcoal, enough to render the mass porous; mix all well together, but do not sift. After repotting, place the plant in a warm, moist, light, airy position in the stove.

After a few days, give the plant a gentle watering with tepid water; then let it alone for two or three weeks; then rap the pot with your knuckles: if it has a hollow ringing sound, give it another watering enough to moisten all the soil; but if, on the contrary, it has a dead heavy sound, pass it by for a few days longer. Think before you water whether the plant really wants it or not. Do not water it because it is so long since it had any. Pursue this treatment and success will follow. After the plant is well established, weak manure-water at every third watering will give the foliage a beautiful dark-green colour.

Train the branches regularly over the trellis, tying and not interlacing them with the trellis. Just before the first bloom is expanded, remove the plant to the conservatory or greenhouse, where it will bloom finer and for a greater length of time than it would if it remained in the stove. About the middle of September, remove it to the stove again, and keep it rather dry throughout the winter. At the latter end of February, shift into a pot 15 in. over, and give it the same kind of treatment as before; and the next shift should be to the rubbish heap, as old plants do not bloom nearly so fine as young ones.

The easiest way to propagate it is to fill a small pot with sandy peat, tie it to the trellis, cut a young branch half through at a joint, and peg it down into the pot. In a few weeks cut the branch away. Plunge the pot into a cucumber bed, and shift on as the plant requires it. The plant must not receive a check, or it will never make a first-rate specimen. Plants struck in March or April will make fine specimens by the year following.

MOULD.

BEEES WITH EXCESS OF QUEENS.

I wish to communicate, through the medium of your valuable periodical, the following fact, to such of its readers as are familiar with the Natural History of the Bee, in the hope that some one among them may be able to explain satisfactorily the circumstance.

On the 6th of June, 1853, one of my hives threw its prime, and on the 16th its after-swarm. In the course of the next day (17th), five dead supernumerary queens were cast out. On the 23rd, I saw the young queen leave the stock-hive on two different occasions to meet the drones. All this was quite usual, and in the natural course; and the bees worked well, and carried farina abundantly; a pretty sure indication of the presence of a fertile queen. They continued to carry on the business of the hive without interruption, and prospered during the whole of the season. But the deviation from the ordinary course of their habits was in this, that a second brood of queens was produced in the month following, and ejected from the hive as soon as they became fully developed. On June 15th, I found one lying at the mouth of the hive, and on the 16th, two more on the ground in front. All three had evidently been destroyed before being capable of flight; they were clearly not so far advanced in age as those we observed at the conclusion of swarming.

I have been an attentive observer of bees, and kept them for many years; but, during my experience in their management, have never met with an instance similar to this. My first impression was, that the young queen, which I saw leave the parent hive on June 23rd, had commenced depositing eggs, and from some unknown cause died while so engaged, and that the bees had themselves selected four worker eggs, and built around them royal cells to supply the loss they had sustained. I have always, however, noticed that when a queen is abstracted from the hive, and the workers have set about the formation of queens, that very shortly they cease to carry farina, *i. e.*, as soon as all the brood left are sealed up; nor do they resume the collection of the bee bread till the new queen is impregnated and depositing eggs; therefore, I concluded that the queen of the 23rd of June was still the mother bee of the hive.

I have watched with great interest the proceedings of the bees of that hive. I sent it with others to the heath, whence it returned nearly 40lbs weight in September; has wintered without assistance; and I have now (March 17) the satisfaction of daily seeing its inhabitants carrying into it farina in great abundance.—A SUBSCRIBER.

NEWCASTLE POULTRY SHOW.

HAVING observed your observation on the Newcastle Poultry Show, and knowing that several gentlemen south purposed exhibiting, notwithstanding the unfavourable season of the year for the purpose, the following may not be uninteresting to your subscribers, if you think it worthy of a place in your columns.

In consequence of the schedule of prizes containing a class for Cochins bred in 1853, I wrote to Mr. Trotter one of the secretaries, to inquire whether fowls of that year were disqualified to compete in the classes for old birds, and also to know whether my servants would be allowed to attend on my poultry, to feed and see that proper care was taken of them during the exhibition; to this I received the following reply:

"Dear Sir,—I have to state, in answer to your favour, that there are no restrictions as to age.

"I do not think the committee will object to parties feeding their own birds at proper times; but servants entering the building will be expected to pay like others.—WM. TROTTER."

I am not very well acquainted with the rules of the principal shows in the south; but although there can be no reasonable objection to pay for the entrance of a servant once in each day, yet, it is rather unreasonable to require pay from attendants every time that they may have occasion to go out and return.—H. MARSHALL, *Durham*.

[The feeding department of a poultry show should be so arranged as entirely to do away with the necessity for servants having to provide for their master's birds. Confusion at the door, and in the room, must inevitably result from a contrary arrangement.—W.]

QUERIES AND ANSWERS.

GARDENING.

PLANTS FOR A CHURCH-YARD.

In answer to "R. K. A. P.," who enquires for our opinion relative to appropriate plants for Churchyards and Cemeteries, we have to express our entire dissent from those who would plant anything but evergreens, up to a certain height, in, or round such depositories of those who will live for ever. Yews, Hollies, and Cypress, are the most usually planted there, but we see no reason why others should not be equally fitted for the purpose. There is no tree, the mode of growth of which is better fitted to associate with church architecture, than the Evergreen Cypress (*Cupressus sempervirens*), but it must have a dry situation, and a warm climate. It might be planted within a yard of the church, without any danger from shade, or spreading about; next to any of the corners of the church, in pairs, that is, one at each corner, it would just be in place. The Horizontal Cypress (*C. horizontalis*) which is considered a species by some, and by others a variety of the last, is more fitting for a churchyard than any tree we know, but not to be planted near the church or any building. The celebrated Cypress of Mistra is believed to be of this kind; it branches out in all directions, and the young shoots hang down in dense soft clusters, not in long wreaths like the Funeral Cypress (*Cupressus funebris*). The Twisted Cypress (*C. torulosa*), the Weeping Cypress (*C. pendula*), and Gowen's Cypress (*C. Goweniana*), are all very suitable for Churchyards and Cemeteries. All these will grow in good ordinary soil, but the question requires to be handled, both practically and scientifically, and at great length.

LESCHENAULTIA BILOBA.

In answer to "J. C.," none but the very best gardeners have ever succeeded with it better than yourself, and some of them not half so well as you, the secret is to keep the roots always confined, by under-potting, or using much smaller pots than the size of the plant would suggest, and to go on "stopping" the young growth for the first year or two, without regard to flowering, but first to get a thick bottom to the plant, and then very little stopping. Your *Acacia* has not the smallest resemblance to *Drummondii*, but it belongs to the same section.

CHINESE AZALEAS DROPPING THEIR FLOWER-BUDS.

E. N. C. asks:—"Can you tell the reason why my Azaleas are throwing out strong shoots close to the flower-buds, which seem to be withering, instead of coming into blossom." Here are united two questions, wide as the poles asunder. The "reason" why the shoots grow "close to the flower-buds" was given on the third day of the Creation, and is recorded in the first chapter of Genesis—that the plants might *increase*. The "reason" why the flower-buds wither, is that they did not arrive at the proper state of development before the plants went to rest last autumn, or, in garden phrase, they were not ripe. The reason for their not ripening might be the wet season, a large shift the spring before, and other causes. Another reason for Azaleas casting their buds is, a ball of earth "as dry as a bone," in the centre, and wet enough next the pot, but if that was the reason in this instance, the new growth would not be so strong as is described.

BORDER AND VINES FOR SMALL VINERY.

"Will you inform me how to make a Vine-border, and what sort of compost to use in the making. Also, what sorts of Vines will best suit a small vinery in Lancashire.—M. D."

[If you were intending to cultivate Vines in the open air, it would be important for us, as your adviser, to know in what part of England you reside, but as they are to be under glass, our answer would be about the same whether you resided in the south, midland, or northern district of England.

Make your Vine-border as much above the surface as you can, say half-a-yard. Drain it thoroughly, or it will not succeed. Chopped turf, the older the better, is tolerably complete in itself, but if you must have a compost, use half turf, the other half leaf soil, and half-decayed manure adding lime rubbish liberally. These ingredients must be thoroughly mixed. The Black Hambro', White Muscadine, and Barbarossa, will suit a small Lancashire vinery well, putting the Barbarossa at the warmest end.]

CLIMBER FOR UNDER A WALNUT-TREE, &c.

"I have an apiary, one post of which comes under a Walnut-tree. I have, at the other posts, Clematis and Honeysuckle, but can get nothing to grow under the Walnut. Can you tell me of a creeper? What name does the old-fashioned 'Bachelor's Button' go by at seed shops; and the pretty, yellow, globular flower one sees in large old-fashioned gardens? I think it belongs to the Ranunculus tribe, it is about two feet high.—ANNIE."

[*Ranunculus acris flore pleno* is the book name for Bachelor's Buttons, but the garden and trade name is just Bachelor's Buttons, and it is a much better name. Neither of them produce seeds. You can only get plants of them at 6d., 9d., or 1s., according to where you buy them.

The "pretty, yellow, globular flower one sees in old-fashioned gardens," is a Ranunculus, and one of our best *herbaceous plants*, late in the spring. The name is *Trollius europeus*, or Globe flower, another sixpenny, ninepenny, or a shilling plant. The *Ayrshire Rose*, called *Ruga*, will suit you exactly for the climber, but you must save it from the roots of the Walnut till it is strong enough to fight it out for itself. That can best be done by planting it in a barrel sunk in the ground by the post. A thin, empty butter, or pork tub from a grocer, will do for this strong climber, as after four years the Walnut cannot hurt it. Let some of the shoots be trained all over the Walnut-tree, and then let them hang down from the boughs, and festoon them over or along the back of the apiary; nothing looks better.]

FUCHSIAS AND PELARGONIUMS SHEDDING THEIR LEAVES.

"I have a very small greenhouse, to enable me to nurse a few plants, and last autumn I had it heated with hot-water, in pipes, and the *Geraniums* and *Fuchsias* appeared to do pretty well through the severe weather. I had struck a number of cuttings of *Geraniums*, &c., and I potted them very carefully, and also some old dried *Geraniums*, in rich soil, the last week in February. I have since lost such a great number, I feel quite at a loss. Some of them are

alive, but have *poor little* leaves, the size of two pins heads, and quite yellow; the large leaves having dropped off. What is the cause?—A SUBSCRIBER AND AMATEUR."

[We wish you were within half-an-hour's distance, we could then tell you more about it, and know more about your wants and wishes in five minutes, than we should be able to unfold in five columns. We do not profess to read hearts and heads by calligraphy, and yet we feel more than ordinarily anxious to oblige you, and as a proof of that, we would humbly give an advice, and that is, to express yourself *clearly*, as well as elegantly. In the present case, we do not know whether it is the *Fuchsias* or the *Geraniums*, and of the latter, whether it is the old dried-up plants, or the young ones propagated last summer, that have lost all their foliage, and have only some tit bits the size of two pins. All this would be necessary for our telling you all about it just as if we were inside the greenhouse. For instance, if the *Fuchsias* were of any size, and the ripening process was going slowly on during the winter, we should expect the old foliage to drop, and then the small leaves would break, gradually increase in size, and the plants could be treated in any of the various ways hitherto detailed. If the old *Geraniums* that were partially dried up were chiefly alluded to, then the falling of the large leaves, and the coming of these tiny things would just be the thing wanted, as they would be large enough by the middle of May. But if reference is chiefly made to the young or middle-aged *Geraniums* that were comparatively healthy before potting, and so miserable afterwards, then there has been something radically wrong. Such as—1st. The soil being *too rich*; nothing is better for such things than sandy loam from the road side, and the addition, if any, of a trifle of very rotten manure or leaf-mould. 2nd. Was there no cheek at potting time? were the plants properly watered before being potted? was the soil warm and aired, not cloggy, nor cold, nor frozen? were the plants not taken out, and kept out, in a very cold day? was cold water used after potting? was there not as much air and light given when the little plants were moved from the cutting-pots as before, instead of being kept closer and warmer, until the roots were able, at least, to press against the sides of the pot? Instead of being warmer, was not the house at several periods allowed to get colder, after shifting? Some of these you may detect as the cause in your case. As a general remedy, keep your plants in cutting-pots until next March or April, there will be fewer casualties in moving them then.]

PRIMULA SINENSIS FIMBRIATA.

"Which will be my best and proper method of raising the *Primula sinensis fimbriata* from seed? I am a great lover of flowers, and though in a humble class and home, I always contrive to have a flowering plant or two blooming in my window in the summer. There are *Fuchsias* plenty. In the winter I can get little else than *Primulas*, or a *Scarlet Salvia*, nursed into a premature blooming. This year my *Primula sinensis* has hardly pleased me, it has been very flat and single-looking. Will you kindly tell me if 'fimbriated' means double-looking, and if so, what will be the proper mode of sowing, transplanting, and rearing through the summer?—PRIMULA SINENSIS."

[You may rest assured that we are never more delighted than when we can gain access to *humble homes*, as nowhere are flowers more appreciated, and nowhere else do they shed such a mellowing and elevating influence. The term *fimbriata* means fringed, and not *double*, the only difference of this and the common being, that the petals are more cut and crumpled on the edges, which gives the flower a much more massive appearance, and then the colour is much brighter and richer. We suspect you have obtained the common pale variety, and frequently you may have pale flowers from seeds saved from the best flowers. If you told us of your conveniences, we could tell you more about its management. You would have less trouble if you could sow the seed in a hotbed. If you have only your window, sow in light, sandy soil, and put a tumbler over it. When the seedlings are up, give a little air on one side. When possible to handle them easily, prick them out in another pot, one inch apart, and still shade from bright sunshine. By-and-by they will want a pot a-piece, and by

that time they should be set on boards, in a shady place, out-of-doors, and housed in October.]

CAMELLIA BUDS DROPPING.—SWEET-SCENTED GREENHOUSE CLIMBERS.

"Why do my Camellia buds, when half expanded, drop off the stems? There is good show for flowers, but they have now done so two years; and at the same time. Can you recommend me two or three sweet-scented, quick-growing greenhouse climbers? Evergreens would be preferred.—M. M. M."

[Either the roots of your Camellias are in a bad state; the wood was not properly ripened last season; the plants were shifted too late; there have been too many buds left; or they have not had sufficient water. The quick-growing, sweet-scented climbers, for greenhouse, may be—*Jasminum gracile*, *J. ligustrifolium*, *Mandevilla suaveolens*, all white, and *Jasminum revolutum*, yellow.]

DESTROYING WIREWORMS.

"I have tried hand-picking, but to do justice to the work the time occupied is very great, and to delegate to another the work, from my own experience, I should have little confidence therein. What I wish to know is, whether by baking the earth to be used for potting, the process is detrimental to the future growth of the plants. I have tried the effect of heating the soil to 170 degrees, and can assure you there are few animals that can stand it. If, therefore, the roasting of the soil does not alter its vegetating qualities, I will continue the process, but if it does, I must go back to the hand-work.—A. K."

[There are some people so encrusted in their own hard shell, that it is as difficult to get at a tender part, as to extirpate a host of these wiry gentlemen from a favourite patch of ground or ridge of compost. The most effectual mode, on a limited scale, is to feed and entrap them by one and the same means. A few slices of potatoes, turnips, and carrots, we have frequently found enticed them, and have thus destroyed dozens in a morning. In addition to this, all composts in which they are suspected should be hand-picked.]

"Baking soil to a heat of 170°, will it destroy the wire-worm?" We would give it 10° more. We have found it alive after being some time in water at 160°. Would this baking of the soil injure its properties for cultivating plants? We presume not, unless there is something peculiar in the process. We should have liked better if, instead of baking, it had been charred. In either case, for all small plants, it would be advisable to have the soil well aired afterwards, and if very dry, water added to moisten it sufficiently. We have found plants grow vigorously on such soil, whenever we could find time to prepare it.]

TO CORRESPONDENTS.

N.B.—Many answers have necessarily been omitted. They will all be given next week.

HEATING WITH HOT-WATER (W. F. C.).—You have started well; but why not make your flow and return pipes correspond on either side? On one side, the flow down the pine-bed is towards the outward or atmospheric pipes, in the other the reverse; the former for us. As a maxim, take care of that portion towards the walls, and the inside will take care of itself. But you have not put down all the data requisite. Remember that you *must* have some twelve or fifteen inches in depth of rubble over the pipes if you are going to plant out like Hamilton. You ask "if the reservoir at the end will answer?" Why, there is no need for so much expense. Besides, at the hot end an open (?) tank or reservoir like that would be destructive—it would be "steaming" with a vengeance. Perhaps, however, you wisely cover it. But why not a simple, round, four-inch flow-pipe, costing a tithe of the expense? You need not care about nicety of calculation as to B. and H.'s boiler, &c. You have enough piping, and not too much. You may rest perfectly satisfied on this head; but we do not say that your levels and general arrangement of them is particularly superior. Your glass plans are good. As to soil, you need no rotten manure if you will secure them depth enough (nearly two feet) of chopped turf. As to guano-water, apply it subsequently as the plants demand it.

VINES OVER FLUES (Ashton-under-Lyne).—You may plant your Vines over the flues, but not touching them. We should have a cavity of four to six inches. Mr. Elphinston, by "plenty of bottom-heat," meant from 75° to 80°.

POMEGRANATE AND PSIDIUM PYRIFERUM (A Young Beginner).—The Pomegranate is fruited much on the principle of the Apricot; it flowers in the main on the young side-spurs, and must not be grown too luxuriant. It will require a temperature such as the Vine, and as much

exposed to light. The *Psidium* will fruit well in a comfortable greenhouse in large pots.

SEEDS FROM CALCUTTA (W. A. L.).—They are tolerably good sorts, but of not the least use without a stove, and they are not the sort of plants for the present style, if you had one. No. 3, *Mimosa pudica*, is the Sensitive Plant; perhaps some one with a Cucumber frame would like it. There is no difficulty in growing it.

PAVING A FARM-YARD (Ibid.).—A "mud hole" of a farm-yard is not to be improved by concrete, it would soon make it worse; to stand "wear and tear," concrete must be kept dry, and if you could get chalk, pound it, and lay it down a thickness of six inches of it, all over the bottom of the farm-yard; why, you would heat Mr. Mcchi himself. We cannot name the beautiful plant you so admired along the creeks in the "Ovens," in Australia, but republish your description, as some one may recognize it. "It is an evergreen shrub, five or six feet high, with pea-green leaves, prickly as a holly, but much smaller, flowers yellow, of the exact shape, size, colour, and perfume, of the common *Acacia* growing there."

ACACIAS (Ghyra).—Most of the Australian *Acacias* ought to flower in five years from seeds, and some do in half the time. We cannot say why yours have not yet flowered.

ANIMALIZED CHARCOAL (G. W. D.).—We do not know this manure.

CINERARIA SEEDLING (J. Ker).—Yours is a very good flower; medium size; petals very pure, white tipped with lilac, and imbricate well, but the notch is rather too marked; disk purple; rather highly-scented. All the trusses sent to us had eight pips each; and if this prevails *Octavian* would be a good name for it.

DELPHINIUM SINENSE (C. and H. and Old Subscriber).—This and *D. chinense* are the same. Mr. Beaton did not say, nor did he intend to say, that Mr. A. was the only one who had true seed of it. It may be had of any florist who advertises in our columns.

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Advertisements.

CHOICE AND RARE BARGAINS.—KNIGHT

AND CO., Florists, &c., Terminus Road, Eastborne, Sussex, are now prepared to send out, free of expense by post, the following choice plants to any address, on receipt of the amount with the order, without any risk of perishing in healthy plants:—

FUCHSIAS, any of the following new and choice kinds of 1853, at 7s 6d per dozen—Glory, King Charming, Glory of England, Premier, Wonderful, King of Beauties, Roi des Fuchsias, Mrs. Patterson, Lady Franklin, Collegian, Perfection, Purple Perfection, Beauty, Lady Montague, Princes, Transcendens, Brilliant, Vesta. Ditto, extra choice older approved kinds, 6s per dozen, or two dozen kinds for 10s.

VERBENAS, 12 extra choice new kinds, sent out in 1853, for 5s; 12 approved older kinds, 4s. Ditto, in separate colours, *scarlet*, white, pink, blue, and purple, for bedding purposes, 3s per dozen.

CHRYSANTHEMUMS, extra choice, large-flowered, show kinds, 12 varieties, 5s; 24 varieties, 8s. Ditto, extra choice Pompon or Liliputian kinds, 12 varieties, 5s; 24 ditto, 8s.

PHLOXS, 12 extra choice kinds, 5s; 24 ditto, 8s.

HARRY HERBACEOUS PLANTS—Knight and Co.'s collection of these plants is unrivalled, comprising many hundred kinds; they will be sent free to London, 24 new varieties for 7s 6d; 50 choice kinds, including the most ornamental, for 13s; 100 ditto, ditto, 21s.

Post-office Orders payable at Eastborne, Sussex.

FLOWER SEEDS FOR PRESENT SOWING.—

KNIGHT AND CO., Seedsmen, &c., Terminus Road, Eastborne, Sussex, are now sending out, post free, Choice Annual Flower Seeds, for present sowing for early or autumn-blooming, fully described, 100 kinds, 5s; 50 kinds, 3s; 25 ditto, 2s. Also, in sealed packets, saved with particular care, warranted from the best kinds, in 6d and 1s packets,—Aster German, Stock German, Antirrhinum, from 60 kinds; Pansey, from 100 kinds; Sweet William, from 50 colours; *Calceolaria*, *Pluk*, *Carnation*, *Picotee*, *Hollyhock*, *Verhena*, *Phlox Drummondii*.

Post-office Orders payable at Eastborne, Sussex.

FUCHSIA "TRENTHAM."—COLE and SHARP,

Aston Lane Nursery, near Birmingham, have the satisfaction to announce that they are preparing to send out the above noble seedling *Fuchsia*, which they feel confident, from its colour, habit, and fine character, will be generally regarded as a desideratum, both in the conservatory and for exhibition purposes. The following critical remarks upon its merits will show the high estimation in which it is held by competent judges:—

Mr. Charles Turner, Royal Nursery, Slough.—"Your *Fuchsia*, is a bold and distinct variety, with remarkably broad scarlet sepals, and a fine purple corolla, of good substance and brilliant colour. It may not reflex sufficiently for some parties, but its bold properties will, doubtless, render it a great favourite."

The Midland Florist, October, 1853.—"Your bloom has good broad sepals, and is a stout and well-reflexed flower; the foliage is fine. It will prove an addition to its class, or we are mistaken."

The Censors of the "Birmingham and Midland Society for the Promotion of Floriculture," who awarded this *Fuchsia* a first-class certificate.—"The blooms are unusually large, well-proportioned, and of good substance; the sepals being of a brilliant scarlet colour, very broad, and gracefully reflexed. The corolla is of a purplish-mazarene blue, smooth, and velvety. The foliage is fleshy, large, and handsome."

Plants 10s 6d, with the usual allowance to the trade. Coloured engravings (mounted) forwarded on receipt of address, accompanied by six postage stamps.

WEEKLY CALENDAR.

M D	D W	APRIL 20-26, 1854.	WEATHER NEAR LONDON IN 1853.					Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.					
20	TH	<i>Trechus meridianus.</i>	29.775-29.716	55-38	N.W.	25	56 a 4	2 a 7	2 47	☾	1 7	110
21	F	Sun's declinat., 11° 51' N.	29.518-29.440	55-42	S.E.	23	54	4	3 20	24	1 20	111
22	S	<i>Harpalus ruficornis.</i>	29.486-29.315	51-36	E.	24	52	5	3 41	25	1 32	112
23	SUN	1st, or LOW SUNDAY.	29.879-29.765	54-32	W.	09	50	7	4 4	26	1 44	113
24	M	[DS. GLOU. B. 1776.]	29.858-29.570	47-31	S.W.	60	48	8	4 20	27	1 56	114
25	TU	ST. MARK. PRS. AL. B. 1843.	29.526-29.266	41-31	N.	16	46	10	4 34	28	2 7	115
26	W	Oxford and Cambridge Terms beg.	29.805-29.668	53-25	N.W.	—	44	12	4 48	29	2 17	116

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 59° and 37.8° respectively. The greatest heat, 75°, occurred on the 23rd in 1842; and the lowest cold, 25°, on the 25th in 1827. During the period 103 days were fine, and on 86 rain fell.

NEW PLANTS.

AMOMUM DANIELLI (*Daniell's Meligetta Pepper*).



DR. DANIELLS sent a specimen of this to the late Dr. Pereira, under the title of "Bastard Melligetta." It is a

native of Africa, on the Gold and Slave coasts, and near Clarence Town, in the island of Fernando-Po. The natives call it "Bassalo." It is highly ornamental, the three outer sepals of the flowers being a beautiful red, and the lip or labellum large and creamy-white, tinged with yellow and rose colour. It requires a moist stove. The genus belongs to the Natural Order of *Gingerworts*, and to *Monandria Monogynia* of Linnæus. All the *Amomums*, or *Meligetta* Peppers produce seeds abounding with a pungent oil. Among them is the *A. grana Paradisi*, which yields the well-known Grains of Paradise.—(*Botanical Magazine*, t. 476L.)

CHEILANTHES FARINOSA (*Mealy Cheilanthes*).

A stove Fern found in the tropics, in Abyssinia, India, and Mexico. It is very pretty, with black stems, dark green upper surface of the fronds, and white from a mealy substance beneath.—(*Ibid.* t. 4765.)

4 WARREA QUADRATA (*Fragrant Warrea*).

A stove Orchid believed to be introduced by Mr. Warszewicz, from Central America. Colour of sepals and petals creamy-white; lip of the same colour, with a border of purplish-crimson.—(*Ibid.* t. 4766.)

SCOLEPENDRUM KREBSII (*Krebs', or Pinnated Hound's Tongue*).

This greenhouse Fern is a native of South Africa, in the vicinity of Graham's Town and Natal.—(*Ibid.* t. 4768.)

ALLOSORUS CALOMELANOS (*Deltoid-leaved Allosorus*).

This Fern reminds us in form and colour of some of the Maiden-hairs. It is found high up in mountain districts of the Cape of Good Hope. It will succeed with even mere protection from frost, but "flourishes in a cool greenhouse with a northern aspect."—(*Ibid.* t. 4769.)

THE Hebrew word *Tappuach* is rendered in our translation of the Bible—the APPLE, or the APPLE TREE. There is no doubt upon our mind that this is a mistake.

The fruit of the *Tappuach* was of a yellow colour (*Proverbs* xxv. 11); its fragrance was used as a restorative (*Canticles* ii. 5), and that fragrance was so powerful that it remained upon the nose that had been applied to it (*Ibid.* vii. 8). So refreshing was the fruit, that Solomon adopted it as a just simile for "a word fitly spoken" (*Prov.* xxv. 2).

All these references are inapplicable to the *Apple*, but are perfectly agreeing with the *Citron*. A palatable *Apple* is almost unknown in the land of the Israelites, or Western Asia, indeed, so much so, that Dr. Kitto says, "Nowhere in that region did I taste an *Apple* which an Englishman would praise, except at one place, Gumital Kona, among the mountains of the Black Sea. There they are very good, and admit of comparison with some of our best varieties." Dr. Russell, speaking

of the *Apples* about Aleppo, says they are "very bad." The *Citron*, on the contrary, is a native and popular fruit in all the land of Israel. The Oriental ladies employ it as English ladies use a scented bottle, having it within their reach, and inhaling its fragrance as a reviving perfume. The *Tappuach*, we may believe, was similarly employed, not only from the text we have quoted, but because the word is employed in the Talmud to describe "recovery from sickness."

The *Citron*, as a tree, is also much more consistent than the *Apple* with the *Tappuach* of the Bible. The *Citron* is a very noble tree, evergreen, and throughout the year bearing either fruit or blossom. It is, therefore, much more likely to be referred to in this verse—"As the *Tappuach* among the trees of the wood, so is my beloved among the sons. I sat down under his shadow with great delight, and his fruit was sweet to my taste." That the *Tappuach* was an evergreen seems evident from the 12th verse of the 1st chapter of Joel.

The deciduous trees—the Vine and the Fig—are spoken of as being “dried-up” and “languishing,” but the evergreens—the Pomegranate, the Palm, and the *Tappuach*—“as withered.”

That the Citron was a fruit in general use among the Jews, even at a very early period, appears from the narrative related by Josephus of their pelting King Alexander Jannæus with those which they carried, “according to the law,” at the Feast of Tabernacles (*Antiq.* 1. 13, e. 13, s. 5). This use of the Citron at their feasts is still continued, and Dr. Russell says the fruit is brought on those occasions from Jerusalem to Aleppo.* That it was produced plentifully in certain districts, appears from towns in Manasseh and Judah being named after it (*Joshua* xv. 34; xvii. 12).

As further evidence how appropriate the scriptural allusions to the *Tappuach* are also to the Citron, we will conclude with a notice of it by a modern botanist (Dr. Lindley), who, probably, had nothing less present to his mind when he wrote than illustrating texts of the Bible. “The Citron (*Citrus Medica*), supposed to be the Median, Assyrian, or Persian Apple of the Greeks, is, probably, the most beautiful species of the genus. It is described by Risso as having a majestic port, shining leaves, and rosy flowers, which are succeeded by fruit whose beauty and size astonish the observer at the same time that their sweet odour gratifies his senses. The trees are constantly in vegetation, the flowers appear even in midwinter, and there is so continual a succession of them that flowers, young fruit, and ripe fruit, may always be seen together at the same time.”

A more fitting object for use by the Hebrew poet and in festal processions it would be difficult even to imagine.

IN drawing a parallel between the functions of the skin in plants and in animals after our own fashion, we have pointed out the importance of attending to the skin in cholera, and in fevers, as a means of preserving the general health, as a sure and certain index of the state of the health; and, likewise, we have noted the close connexion of the skin with the whole inner covering of the bowels and lungs.

In confirmed cholera the whole skin will become so shrunken and livid as to age the poor patient apparently thirty years in as many hours. In fevers, a well-marked shivering fit is often the first notice a man gets that he is ill. The existence of some form of rash has commonly been found to characterise all the more grave forms of epidemic. According to the cholera rash, “exanthem,” has at length been made out, and is described by Dr. Babington, and others; and from the accounts of those who have examined the bodies of persons recently dead of the complaint, an intense redness of the whole surface of the lining membrane of the bowels has been invariably

* In *Leviticus* xxiii. 40, the sentence “boughs of goodly trees,” is more correctly translated “fruit of goodly trees,” and is understood by the Jews to be the Citron, which at the time of the Feast of Tabernacles is in perfection.

observed a few hours after death. Inasmuch as the prostration of the nervous system is of itself enough to account for these and other symptoms, are we justified in regarding these appearances as more than secondary; are they not the effects rather than the causes of the general depression?

Without presuming to answer this question, we would venture to lay before our readers the subjoined observations on the so-called nervous system of plants, which are interesting enough of themselves, and which go some way to justify the expectation, that facts may yet be gathered from the history of the life of the town animals, and even of plants, which will throw some light on the study of disease.

As each successive stage of the earliest formation and growth of that wondrous thing which is to become a perfect man, we leave behind us the type of some humbler form of existence, and are endued, one by one, with the attributes of superior created beings, and become, afterwards, more and more instinct with energy, and more independent of mere physical laws. But, alas! for our frail bodies—there comes, sooner or later, a change, and a reversed movement, the very opposite of all this. As the lamp of life wanes in age, or is eclipsed in time of “plague, pestilence, and famine,” we are again lowered in the scale, and again become obnoxious to external agencies and influences which, it would be no contradiction to say, exercise no power at all over the human constitution in its natural healthy state. The familiar expression, that such a one (the same not being one of our readers) is reduced to a mere vegetable existence, or that another (a novel reader, perhaps) is a sensitive plant, conveys a moral along with it, as we shall presently see.

In health we are accustomed to consider the brain and spinal chord as the one great centre to which all our external impressions are conveyed, and from which alone we derive the legitimate impulses of our acts, and all our sufferings. But we are not, therefore, to conclude, that in disease, when all the powers are in abeyance, the skin and the extreme parts of the nervous system may not at once, and directly, be impressed by the external forces to which they are subjected.

The breaking up of the bodily frame resembles the disorganisation of a great state. In a strong centralised government each department is drilled into an exact obedience to the ruling power. But this state of things lasts only for a time. The fall of great states usually begins with an inability to control or to protect an enormous extent of frontier.

In troublous times the borderers of remote marches and principalities will set up some system of their own, and will get into all manner of mischief, without so much as, “by your leave;” and the more timid and degenerate will fail to hold their own against the first invader, and there is no help for them.

The following observations may serve to point out one way, at least, in which we may hereafter find that an atmosphere charged with poisonous matter can attack the human frame, by making an impression on

some part of that one vast and highly impressible surface (or frontier), consisting of the skin and the lining membrane of the bowels and lungs; and, possibly, by a direct deadening influence on the nerves, as the unwholesome vapour is seen at once to paralyse, benumb, chill, and deaden the Sensitive Plant.

Human life has often been compared to the life of a plant, but the likeness would appear most striking between the latter, and that poor, precarious existence (lifeless life, the Greek poet has called it) which we just drag on when borne down by old age or long continued illness or pestilence.

"It has for a long time past been suspected that there exists in vegetables a nervous system in some degree analogous to that of animals; an opinion which microscopic observation has partly confirmed. A French physician, M. Leclerc, Professor in the Medical School of Tours, has recently conducted a series of experiments, which go far to prove that in this respect, at least, the animal and vegetable kingdoms approach within very near limits of each other.

"The Sensitive Plant, *Mimosa pudica*, a delicate shrub, very commonly grown in hothouses, which, when touched, has the remarkable property of folding its leaflets together in pairs, and suddenly drooping, as if death-struck, was selected as a fit object to experiment on.

"A Sensitive Plant, and several open vessels of ether, were placed together under a bell-glass, surrounded with sand, so as to cut off all communication between the exterior and interior air. The experiment took place in sunshine, and lasted from ten to fifteen minutes. When the bell-glass was removed, after the lapse of this time, all the leaflets of the plants were wide open; but the plant had entirely lost its irritability, no effect being produced by the most violent shock, acids, fire, or extensive mutilation; though, under ordinary circumstances, the plant is sensibly affected by either of these modes of treatment.

"A leaf being cut off and laid on the hand seemed to be favourably affected by the heat, disengaged from its support, and, in a short time, a slight shock produced a movement in the leaflets, which appeared as if recovering from a continued numbness. Another leaf cut off while the plant was under the influence of ether was submitted to the action of a current of voltaic electricity, and recovered its sensitiveness more quickly than the first. The fact is well worthy of being noted, if it be taken into consideration with reference to the observations of M. Abeille, which tend to prove that electricity exercises a favourable influence over the effects produced by ether and chloroform.

"The presence of sunshine during the experiment appears to have had a marked influence on the phenomena, for whilst the effects of ether are evident in from ten to fifteen minutes under the rays of the sun, in gloomy weather, or at night, they are not visible until an hour at least has passed. If the experiment be continued too long the plant is killed.

"If the Sensitive Plant be exposed for several hours to the action of ether during night, it is always found to be dead when withdrawn from the apparatus, and its leaflets closed—in the position, that is to say, which they held when submitted to the ether; and this proves that inspiration takes place in plants not only in the day time, but in the night as well, and during the so-called sleep of plants.

"The Sensitive Plant, when taken from the bell-glass, presented a peculiar appearance, being singularly rigid, and reduced to a temperature much below that of a plant in its natural condition; the coldness remaining until it had parted with all the ether with which it was charged. A portion of the ether which had evaporated during the experiment was detected by M. Leclerc beneath the ground attached to the extremities of the spongioles of the roots, tending to prove that there is in plants a circulation of fluids, and that they have also the power of rejecting fluids through their roots.

"It does not appear, from the experiments tried, that there is any centre to the nervous system of vegetables analogous to that existing in the higher races of animals, but that, as

in some polypes, the vegetable is composed of several individuals; for M. Leclerc succeeded in etherising one portion of a plant, without affecting the rest, though the communication between the parts was in no way intercepted. The effect of chloroform was found to be similar to that of ether, only more rapid and violent."—[*The Nervous System of Vegetables.*]

ADVICE TO SMALL HOLDERS. PIG-KEEPING.

In order to pursue this subject in an orderly way, I now intend to examine the Pig question, as connected with the holders of small plots of land. In all cases, I consider, that where a cow or two are kept, Pigs ought, by all means, to form a portion of the system, on account of the manure, the importance of good bacon and hams, and the impropriety of wasting the swill of various kinds, which is ever produced where house-keeping is carried on together with a little dairying.

The breeds of Pigs vary so much, or rather the crosses are so various, that it seems almost invidious to point with a feeling of favouritism to any one. One thing I may observe, the day for long-legged breeds is gone by; indeed, so much have Pigs advanced during the last few years, that a show Pig of these days has scarcely a fourth part of the offal of the gaunt, leggy, slouch-eared Pig of thirty years since; head, legs, and neck, have been reduced to a minimum point. This is, perhaps, mainly traceable to the China and Neapolitan breeds, the blood of which has now become more or less traceable in the majority of our present swine. But, here let me pay a passing compliment to the good old Berkshire breed; to which much of the success in modern crosses is to be attributed.

What is called Fisher Hobbs's breed, or cross, is one of the finest Pigs I have seen for small holders; who, in the main, manufacture bacon for home consumption. Such persons are in the habit of using pickled pork; and as they do not require it so very large and coarse as those who manufacture simply for the market, Pigs of what are termed porkel breed are most suitable. By porkel breed, I mean those of whatever cross which fatten very speedily, and which may, in general, be known by their "prick-ear;" the ear being for the most part an index to the feeding qualities, and to the size ultimately. Fisher Hobbs's breed, which is generally black, or nearly so, is (I believe) considered a cross between the best Berkshire blood and the Neapolitan; of this, however, I am not sure; but they possess every requisite for the case in hand. They are all carcase, scarcely any neck and head; the latter so small, in proportion to what our grocers term the "middle piece," as to look like one of Punch's extravagant caricatures; at least, such is the character of some possessed by a relation of mine in Derbyshire; who, on a farm of nearly three hundred acres, keeps, I believe, no other breed. However, I merely point to them as a good cross for small holders, not by any means wishing it to be inferred that they are the only good kind, or the very best in the kingdom. The dairy or cheese farmers in this part of Cheshire, which is about the centre of the cheese district, encourage much larger breeds of the slouch-eared kind; for they have to produce a vast amount of bacon for the use of their servants, who, in general, possess such capacious stomachs, that porkel breeds would prove much too dainty. It is no uncommon thing for one of these farmers to kill nearly a dozen of this class of hogs in a season, besides several of the porkel class; such hogs running from fifteen to twenty score each; and this enormous quantity is mostly consumed by their own workmen. They, however, breed many young Pigs for sale, and these are generally farrowed in early spring, in order that they

may be reared and fed on the swill from the cheese-tub, thus escaping the miller's bill. They add meal to the swill for about a month or so at last, to prepare them for the butcher; but during the summer they have simply a grass run with plenty of swill. Those Pigs are cleared off in September, and thus commences the feeding or "finishing off" of those intended for their own bacon, and which are already largish hogs. These, of course, consume a good deal of meal, for the huge sides of bacon may be seen decorating the rack, roof, or sides of the kitchen six inches in depth of solid fat; but, as I before observed, these rustics are not the fellows to flinch from it. However, they have other uses for the bacon fat; they make pies and puddings rather extensively, and when potatoes were plentiful, they used to work up a good deal in frying or warming-up potatoes for the household.

I may now take leave, for a moment, of the Cheshire farmer, and point to the character and quality of the various roots, meals, &c., as bearing on the Pig question; and having fairly done this, we must take a glance at the plot of land; inquire about its capabilities; see what may be corrected, and how to apportion it.

Root crops, as to their qualities for pig feeding, may, I think, be placed as follows—1st. Parsnips; then Mangold, Swedes, Carrots, common Turnips. I am aware that many will differ from me as to the order in which they are placed, but I put them as I have found them. Potatoes are now almost entirely out of the question for Pigs, but should they ever be restored to that position, I should be inclined to place potatoes first on the list, not for quality simply, but because few Pigs will refuse them; but I have known many to refuse carrots, parsnips, and mangold. As to meal, I think barley may stand first; then oats, and next Indian corn. Beans have been much extolled, and high-feeding properties they possess, but it is well-known they produce a very strong and unpleasant flavour in the meat; in all cases where they are used, their use should cease some three weeks before killing time. But I would have our readers remember that the economical and *safe* feeding of swine is not a matter of quality alone in the material; the comparative value or price of the materials must ever be allowed to influence the question, and not only price, but its adaptability to promote and to sustain a proper medium condition of bowels, for, without this, the feeding can scarcely prove successful. In regard of the meals, barley may be considered rather opening, oats somewhat binding, Indian corn a happy medium, and peas, which I had forgotten to name, rather binding. All this points to the propriety of using mixtures where the extreme tendencies of one thing are corrected and kept within bounds by the qualifying character of the others. I may here point to the way in which Pigs are led in these parts by those who keep a cow or two. I purposely leave the regular cheese-farmer out of this part of the subject, inasmuch as his mode of feeding, through the summer especially, is ruled principally by the vast amount of buttermilk, whey, &c., produced in the process of cheese-making.

It is generally understood, that stale or sour pig food is better for the animal; but whether really correct or no, our Cheshire folks pay no heed to it; and our cottagers, than whom nobody produces better pigs, pay no heed to this doctrine, but cook or warm their food as wanted, three times a day; so that, go into a cottage when you will, there is always a pig-kettle steaming away, containing a few chopped Swedes, and what parings of potatoes are produced by the family dietary; for no potatoes are boiled in their jackets here; all are pared, and the best way, too. For store pigs, the roots, water, and all are given; and as they generally manage to get a little butter-milk from the farmer's, this is

added, and the roots are crushed as fine as possible. When, however, the pig is fattening, the water is poured away, and added to other store pig's meat, and a liberal allowance of meal being added to the strained roots, the whole becomes a thick and rich diet. Over a breeding sow at farrowing time they take a great deal of care; opening food is given a few days previously, in order to get the bowels in an easy state, and the sow is kept in the sty to farrow. A very clean and sweet bed is provided of very short straw, for long straw is apt to confuse and entangle the sow in her movements, and to cause "overlaying." The sow is kept as quiet as possible for several days, and every care is taken not to disturb her during her farrowing. A little linseed put in the sow's mashes at this time would doubtless be an excellent thing.

I may now, before concluding about Pigs, take occasion to advert to the Cheshire mode of curing bacon and hams. From Christmas to the second week in February may be considered the best period for curing bacon and hams to keep a long while; many, nevertheless, cure as early as the middle of September, and continue as late as the beginning of April. One thing I may observe, that unless the meat "sets well," that is, to say, becomes firm instead of flabby, at killing time, no good luck can be expected; and I need scarcely observe, that this "setting well" is entirely dependent on a cool and dry air. In frosty weather, however, there is always a jealousy about it, for the meat will not take salt if in the least frozen. The hog, in general, is cut up the day after it is killed, and as bacon is the chief object, the cutter up pays little regard to the joints to be used as fresh pork; the latter, in this case, simply consists of the spareribs, the loins, and sundry trimmings. The head is made into brawn, and a capital thing it is here. When the hog is not very large, many deem it expedient to leave the "hands" in, and they, of course, form a portion of the side. The fresh pork being cold and well set, is placed in layers on a bench in a larder or buttery, each layer being well rubbed with common salt as it is deposited, and plenty strewed between. After about three days it is turned and rubbed again, and a little saltpetre added to the hams and hands. These turnings are repeated when necessary, and more salt added if requisite. The sides, &c., lay thus nearly a fortnight, and then placed on the rack or hung in the kitchen in a dry airy place away from the fire. After about three or four weeks, when thoroughly dry, they are removed to a cold and very dry room, where they will keep for a twelvemonth, or more, if necessary. Some persons dress their hams with good ale, and a rich ham it makes. In this case, a very little saltpetre is used instead of salt, well rubbed in; then lay for twenty-four hours; when about one pound of salt to every fourteen pounds of meat, with half-a-pound of moist sugar, and one quart of good ale boiled hot on the hams, and they are left in pickle three weeks, and drenched with the liquor twice every day.

R. ERRINGTON.

MEETING OF THE HORTICULTURAL SOCIETY.

4TH APRIL.

The principal attractions at this Meeting were a splendid collection of cut Roses, from Mr. Lane, of Berkhamstead, and a collection of Hyacinths from the Pine-Apple Place Nursery. The greatest novelty was *Rhododendron Dalhousianum*, in bloom; and one of the most important subjects, in a national point of view, was a lecture on the *Grass Plan* of China, with specimens of its various produce in illustration. The meeting was much crowded, owing to the fine weather, perhaps, as much as to our novelties.

The late winter had destroyed so many kitchen vegetables that no one here thought it worth his while to compete for the prizes offered by the Society, and those who fought the kitchen battles so gallantly last year are either gone to the Baltic themselves, or their vegetables have been crushed by the *Northern Autoerut*, with whom we poor gardeners have had to contend every winter and spring of our lives, without making half the fuss about it that they do now-a-days.

There were sixty kinds of *Roses*, cut-flowers, in Mr. Lane's collection, and from four to six flowers of every kind, besides buds. They were in four long boxes, stuck in green moss, just as they show cut *Roses* in summer, and you never saw so many cut *Roses* in summer looking half so well; it is too hot for them in summer, and the *Roses* open too much, or get half faded before the public are admitted. Not so in the beginning of April; they then come out of a warm house, are carried in warm vans, and our room is beautifully heated by two gas stoves; the cold air and the sun do not reach them all the while, and that is how people in London and other large towns ought to manage the cut-flowers they get up from the country, or buy in the market; instead of letting them droop the next day, and die, and be done with, and send home for more before half the week is out.

There is nothing about which some people have less conscience than about cut-flowers, and about which less is understood by the great bulk of the moving world. A man who would grudge to give twenty shillings for a fancy waistcoat would not scruple to kill fifty shillings worth of cut-flowers in two days, as if his gardener could cut and come again, like his tailor.

Geant des Battailes, *Paul Joseph*, and *General Castellane*, are, perhaps, the three most fiery *Roses* we have. *Paul Joseph*, and the *General*, are darker in the summer than they are now, and less like the *Geant*.

There were two *Roses* in this collection which I never saw before, and they are far above all that I know of in richness of tint. They may not be so good from the open air, and the habit of the plants I cannot even guess at, but two such *Roses* were never seen before at one meeting. They are both *Bourbons*, one is called *Scipion*, with dark, velvety, crimson flowers, and the other is *Jury*, a sister to *Scipion*, with petals equally velvety, but they are more of a scarlet-crimson.

Every one who forces *Roses* for cut-flowers for the drawing-rooms ought to buy these two at once, grow them well this next summer, prune them at the end of September, and save the cuttings; keep them half dry in a cold pit till the first week in January, then begin to force them, as Mr. Errington would do a *Peach* or a *Cherry*; ripen off, and begin to force next time in December, and so on, till the plants take to winter growing, as if it were natural for them, and then you will have these dark, velvety, *Bourbon* *Roses* for the Christmas party; and to match them in blush, take *Souvenir d'un Ami*, and *Madame Willemory*, a new one to me, and a worthy rival to *Devoniensis*—the flowers of it were really magnificent. *Baronne Hallez*, *Inermis*, and *Eugene Sue*, were extremely rich hybrid *Perpetuals*, and *Viscountess de Cases* was the best yellow; but as forced *Roses* are so very different from *Roses* in the open air, I must not describe any more of them till next May, and even then one is apt to be deceived. Last May I took *Queen Victoria* to be a white *Rose*, but when I saw it in June, out-of-doors, it was not even a blush *Rose* till it began to fade and lose colour.

The *Rhododendron Dalhousianum* is the most extraordinary plant that has yet come to us from the East Indies, and there is not a man between here and India who could tell what flower it is if he did not see the plant. This flower, in shape, size, or colour, has not the slightest resemblance to any *Rhododendron* you ever saw or heard of before. Its flowers are of a creamy-

white colour all over, and more inches across the opening than I venture to say; suffice it, that I likened this flower to that of *Hippeastrum solandriiflorum* with the tube cut off, and that one of our botanists observed on this that it was "not a bad hit." Others said it looked more like the flower of the Gigantic Lily of India, which Mr. Veitch showed last summer. At all events, there it was, and of more substance, too, than most of the Lily flowers. It was brought into bloom at Ewell Castle, a few miles from Kingston, by Mr. Packman, gardener to J. Gadesden, Esq., and, as some said, for the first time in Europe; but in the lecture we were told that one flowered before this at Dysart House, in Fifeshire, with Lord Rosslyn, a place on the north side of that great arm of the sea called the Forth, and opposite Edinburgh.

Among a collection of nice plants from the Messrs. Henderson, of Pine-Apple Place, were two very interesting ones,—the first was called *Eleocarpus dentatus*, a pure white little flower, in the form of a bell, mouth downwards, and fringed all round, as if it was jagged on purpose for an artificial flower. Then there were from six to ten or twelve of these white-fringed bells on a slender stalk, growing out from every joint, quite horizontal, and if they were only in bud, one might mistake them for white currants, for that is like the kind of stalk. The leaf is dry, thin, and as large as a bay-leaf, and the whole plant seems well adapted for pot-culture, and not requiring much room. The other plant has been known here for some time by specimens sent home from New Holland, I think, by the late Allan Cunningham, who named the genus; but this is the first time it flowered, and it was forced for that purpose, and were it not, they said it would be so much the better. The name is *Cheiranthra linearis*. The leaves are long and linear, and the flowers are blue, like some *Campanula*.

The Society furnished a newish plant, *Weigelia amabilis*, evidently a variety of the old one, but a better form, flower, and colour, and on those grounds entitled to be called a species.

Mr. Veitch had a new kind of *Dendrobium*, a monster variety of *macrophylla*, the rhubarb-scented one, and with flowers more than three times the size of those of *macrophyllum*, with the eye or bottom part of the lip of a more decided purple. He also sent a strong white *Calantha*, a new one, belonging to the section of *vestita*.

The Messrs. Rollinson, of Tooting, sent a collection of *Orchids*, among which were *Cypripedium barbatum*, a variety with a darker pouch than usual; a new *Anguloa*, with purplish flowers; *Chysis bractesens*, a strong *Orchid*, with large, white flowers; *Dendrobium densiflorum*, with eight long spikes of deep-yellow flowers; *Cattleya Skinnerii*, perhaps the most lovely of all *Orchids*, certainly the most lovely of this charming genus, with eleven open flowers, but rosy-crimson is but a faint expression of this rich colour; *Burlingtonia fragrans*, with eight large flowers on a raceme, and all but white; *Dendrobium albo-sanguineum*, not very pretty, a dull white and a dark eye, or, rather, two dark eyes in every flower; a very prettily-branched *Oncidium*, with small speckled flowers, having the back parts, or sepals, rolled back—it was called *phymalochyllum*—a much larger name than the flower itself; *Cattleya citrina*, with its large yellow flower; a stubborn little Alpine *Orchid*, from high parts in Mexico, requiring to be kept as cool as the *Barkerias*.

There were six pots of sixties in Mr. Henderson's collection filled with very little plants, which were all flowers, such as they were: this was *Grevillea ealendulacea*. There is not much beauty in these flowers, but as the plant can be had in small sixty pots, and in full bloom all over, and at this early season, they are well worth having for fringing baskets of plants in the

rooms, and for many kinds of decorations. They had, also, *Acacia pulchella major*, a standard plant, with rich, yellow, globular flowers. Many of these Acacias are eminently fitted for making little standards, which would take up little room in a house, and make a marked variety in the usual forms of pot plants; *Boronia tetrandra*, three feet in diameter, and two feet high—a fine plant; also *Eriostemons*, and others; with a collection of fifty *Hyacinths*, among which *Asterius*, *Gunal*, and *Prince Albert*, looked all but black; *Grand Vidette*, *Queen of the Netherlands*, and *Victoria Regina*, are three single white ones, of good substance; *Commandant* was the best of the indigo-blue, double ones, and *Cœur Blanc*, or White Heart, was a large, light blue, with a white eye or centre; *Laurens Koster* is still the best light blue; *Roi de Pois Bas*, buff-yellow, and *Jaune Supreme*, a clear yellow.

From the garden of the Society we had a good collection of showy plants, including a fine large specimen of *Rinchospermum jasminoides*, with its sweet-scented, white flowers. This climber will grow and flower very well in the open air through the summer; *Rhododendron theaeflorum*, which comes very near to, if it is not the same as, *glaucum*, in the Sikkin collection; a good specimen of a pink, wild, Indian Balsam, well known as *Impatiens latifolia*, the earliest of them I recollect to have seen. It will also flower on till the end of next October, by a succession of plants in pots; and it will make a very good bed out-of-doors for the autumn, if planted out about the beginning of July. A large *Azalea*, from China, called *calycina*, no doubt a hybrid; *Triomphe de Gand* *Tropæolum*, a most useful winter flower, and the best of that section; *Gesnera Douglassii*, an old and very scarce plant, and others.

J. Alnutt, Esq., of Clapham Common, sent, or rather brought, a white seedling *Camellia*, which he raised twenty years ago, and which flowered true till this season, when a beautiful red flower appeared as a sport. The two flowers were before us, and were texts for the lecturer to show how that many things which we grow, and admire, and relish, are the result of such sports; but science cannot yet fathom the cause of such departures from the first type. The Golden Drop Plum, to his own knowledge, was a sport from the *Magnum Bonum*.

Dr. Royle sent a strong, healthy Balm, or rough *Salvia*-looking plant, a kind of Nettle, but called the *China Grass Plant*; it was growing in a China-looking contrivance, like a hand-basin of lead. Some people said that this was the Manilla Hemp plant; but Dr. Royle, who has all such things at his fingers ends, told us the Manilla Hemp is the produce of a Banana-tree, called *Musa textilis*; that the true name of the Grass Plant of China is *Bahmeria vinea*; that it belongs to the Nettleworts; that it is cultivated as far north in China as Shanghai for its fibre; that it would grow in Assam, and in the Sutlej, or north-west of India, as well as the tea, and pay better than tea; that, like the tea, it is a perennial, and may be cut down twice or three times in the year; also, that it is just the plant for the south and west of Ireland, and that the Irish Flax Society would make their fortune with it, but that they must write to Mr. Fortune to send them seeds of it to begin with. All this, and a great deal more, about textile fabrics, Musas, and fibre plants, were lectured about; but the best of all was, the very things were in specimens before us, and handed round for us to examine. There were imitations of the fibre of our linens, cottons, and silks, and real manufactured cordage, from a cable size and strength down to a sash line and to staylaces; also, a piece of exquisite cloth fit to make a couple of French aprons for an opera dancer, and all from the fibre of one plant.

As a sign of the times I may say, that fourteen years

since I endeavoured to influence this Society to patronise a lady, Mrs. Randolph, who made beautiful flowers out of the feathers of Brazilian birds, but she was told that that belonged rather to the Society of Arts, while to-day they are encouraging the art and manufacture of ropes to hang the Russians, and to destroy their trade in hemp. The refuse fibre from all this manufacture would be the very thing to make us paper sufficient to make our books as cheap as blackberries.

D. BEATON.

GROUP OF SPRING-FLOWERING SHRUBS FOR THE GREENHOUSE.

CYTISUS RACEMOSUS LATIFOLIUS.

THE *C. rodophæna* is among dwarf plants of this family; the one instanced above is among the more robust and free-blooming section. I am not quite sure of the botanical name. It generally passes under the term "*latifolius*." Its leaves are much larger and more elegant than most of its congeners, while its large racemes of delightfully-scented, high-coloured, yellow flowers give it, in our opinion, the first place in the family. A plant from four to six feet in height, and wide in diameter in proportion, clothed with flowers and healthy foliage, is not easily to be forgotten, nor yet pushed aside for mere novelties, more especially when it preserves its beauty for several months at a time, and if allowed to have its way would almost always present a stray raceme to cut for the flower vase. It is so accommodating, that by altering the time of pruning, and varying the treatment, it may be had in bloom almost at any time. In a greenhouse it blooms most naturally from March to July. Certain of our friends have a prejudice against its colour, associating it with the dread terms of *deceitfulness* and *jealousy*; but I quite agree with a London nurseryman, who once descended to me on the dullness of all plant-houses, and even of nosegays, unless bridal ones, that were not relieved and enlivened up with a sprig of *jealousy* colour. I will shortly glance at a few points in its culture; and

1. *Propagation*.—It is easily and generally truly raised from seeds, when obtainable. Few seed-pods should be left on a plant, as they weaken it, and render the plant later in making its fresh shoots. The seeds should be kept until spring, moistened in water at a temperature of 80° for twelve hours, and sown in a hotbed in March. It is generally raised from cuttings of short, stubby, half-ripened shoots, which are easily procurable from March to July. These should be inserted round the sides of a pot, in silver sand, with peat and loam beneath, covered with a bell-glass, and placed in a temperature a few degrees higher than that the plant stood in. In either case, the plants should be potted when sufficiently large to be easily handled, kept close, and shaded for a time, and then exposed gradually to plenty of air and sunshine.

2. *Choosing a Plant*.—We have seen this plant very plentiful in the London nurseries, but it is not nearly so plentiful now, its place being supplied by the smaller-leaved species and varieties, which, though in our estimation not nearly so beautiful, are easier kept and managed. Do not trouble yourself about a large plant, provided you get it healthy, and bushy to the bottom, or shoots there, that by stopping you can make as bushy as you like. Size is of less importance here, as with good treatment you will soon have the plant as large as you wish.

3. *Soil*.—When the plant is young, I advise nearly equal parts of peat and loam, with an allowance of broken charcoal and sand to keep the whole open. Thorough drainage must be given. As it increases in

size and age, turfy fibry loam must be increased, and the peat diminished; this will give strength and compactness to the shoots and bloom. A little charcoal will always be of advantage, and after the second season, when growing and blooming, top-dressings of rich compost or manure will be thankfully received, if not given to repletion.

4. *Pruning and Potting*.—The pruning should take place when the flowers have lost their beauty, removing all the decayed blossoms and any straggling shoots, by shortening them, so as to render the plant compact and bushy. When the new shoots have got an inch or two in length is the best time to repot. An eight or a twelve-inch pot will grow a nice plant for years, if it is examined yearly, part of the old soil picked out and removed, bad roots pruned back, and fresh compost added. If during these operations the plant can stand in a close, shady place, it will reap an advantage.

5. *Watering*.—When freely growing after pruning, and when in full bloom, abundant waterings will be necessary, and if weak manure and clear water, alternate, so much the better. When the plant is pruned, or immediately after flowering, or when the period of blooming is wished to be retarded, water should be given at the roots, merely to prevent flagging. A dash over the foliage and tops frequently with the syringe will be more useful than.

6. *Enemies*.—The chief is the red spider, and the frequent use of the syringe is the best remedy; as with this plant great care must be taken in using sulphur fumes, or the leaves will drop to a certainty. A weak mixture of the lime and sulphur decoction, mentioned in these pages, will be preferable to fumes. In the summer time, when the plant is out-of-doors, the head of the plant can scarcely be too often forcibly drenched with weak soap-suds, lime-water, and soot-water, clear, from the syringe. A spider-covered plant has little beauty, and presents no compliments to its attendant.

7. *Position and General Treatment*.—From the middle of October to the middle of June it will be best under glass. When done flowering, it is advisable to let it stand, cool, for a week or two before pruning and dressing. If it can be kept close and shady afterwards, so much the better. There will be no difficulty in giving it shade when growing after potting or surface dressing. The use of the syringe must not only be continued, but first a gradual, and then a full, exposure to sunlight given. It should have no shade in September or October. During that period it will be very advisable to plunge or shade the pot. The plant is hardy, and if pressed for room may be kept in a sheltered place until November; but though it does not show it much at the time, I have always noticed that plants that had suffered much of a pinch from frost never did so well as those that were put under glass earlier, and were kept from frost, though in a cool temperature.

AOTUS.

I think the main points of this interesting genus of small-leaved pea-blossomed flowers was previously given, but I cannot now refer to the place. It has been brought to my mind by seeing lately a beautiful plant of *gracilis* filling a large space with its slender branches, covered with its bronzy, yellow flowers. Every one of these natives of New Holland is beautiful in the spring and early summer months. Most of them have small yellow flowers, *gracillimus* and *lanigeras* have a dash of crimson with the yellow; and the most of the rest, as *incana*, *villosa*, *virgata*, *ericoides*, &c., are chiefly distinguished by the peculiarities of foliage. All are slender shrubs that bloom best when regularly pruned back after blooming, and kept to a height of from one-and-a-half to two-and-a-half feet; though if allowed they would grow much higher, and many would look well when

grown in standard style, or grafted at a height of four feet, and the twiggy branches allowed to dangle at will.

The general characteristics of this pretty family, as respects cultivation, may be shortly summed up. *Cuttings* strike freely in sand, under a bell-glass, from March to June. The soil may be rather more sandy, fibry loam, than peat. Good drainage must be thoroughly secured. Soft-water should be used for watering. Manure-water should be seldom used. A little leaf-mould in the soil will be safer. The syringe may be safely applied, except when the plants are in bloom, when it should be used merely as the finest dew. In syringing, it may be necessary to lay the plant down, or adopt other means to prevent the soil, especially on the surface, becoming clogged and saturated, as a sour, sodden soil will soon ruin them, though in other respects they are not over delicate. When pruned after blooming, keep them in a close, warm part of the greenhouse until the young shoots are two or three inches long, when the roots may be examined, and re-potting take place if necessary. A close place will suit them best for a couple of weeks or so afterwards. A cold pit, after June, would be the best place, as you could have a close, moistish atmosphere at command. As the shoots lengthen give more air, and gradually, by removing the glass, expose the top of the plant to the sun in the autumn months, shading the pots, and only putting on the lights to guard against heavy rains. They will require to be secured, either in pit or house, by the middle of October. If kept in a low temperature in winter, averaging 40° at night, unless there is a bright sun during the day, the visits from the water-pail will have to be seldom. A dash over the foliage, in a sunny day in winter, will be better than frequent delugings at the roots. When in bloom in March, April, and May, they will require a fair amount of water. Let it be proportioned to the drain on the plant from its leaves when exposed to heat and sunshine.

DAVIESIA.

This genus, in many of its species, resembles the twiggy, rush-like stems, with few or no leaves, of the allied genus of *Viminaria*. The most of the species have yellow pea-blossoms, though those of *corymbosa* are whitish, and such as *latifolia* have the upper part of the flower of a bronzy, copper colour. Like the genus *Aotus*, most of the specific distinctions rest more upon the appearance of the foliage than of the flowers; such as *alata* (winged), *cordata* (heart-leaved), *juniperina* (juniper-like), *juncea* (rush-like), *longifolia* (long-leaved), *ulicina* (furze-leaved), and *latifolia* (large or broad-leaved), the leaves approaching from three-quarters to an inch in length. I lately saw a fine plant of what is called *latifolia floribunda*, and abundant in flower it was, being literally so covered, that the leaves, though about the largest of the genus, were scarcely perceptible. In a common greenhouse of hard-wooded plants the whole tribe may be calculated upon as being in bloom from the end of March to the middle of July. They can easily be encouraged earlier, or retarded later. Plants from two to three feet in height may be considered a very fair size, though time and attention will get specimens of almost any size, and the more rush-like kinds would look well grown to a single stem, stopped, and the shoots allowed to dangle wild, or slightly secured by a ring, as Mr. Gardener practises with his standards, as detailed last season,—the simplest and best mode that has yet come under my observation. *Latifolia*, and its variety of *floribunda*, would be best grown as a pyramidal bush, and so, by the way, would our first subject, the *Cytisus latifolius*. Were only one plant of this genus to be cultivated, I would select this *latifolia floribunda*. The treatment that suits the *Aotus*

would just do for this, only that there will be more peat than loam wanted for the compost, a fair amount of charcoal and broken pots, to keep the whole thoroughly open; very good drainage, to guard against stagnant moisture; the general mass of the compost open, lumpy, and fibry, but a covering of finer material on the surface, alike to prevent the too free evaporation of moisture, and the too free access of air, to dry up the interior of the ball.

MIRBELIA.

This, like the last, is a commemorative genus of New Holland plants, producing abundance of small, peablossomed flowers on the slender, twiggy branches. Some of the best, as *grandiflora* and *Baxteri*, have yellow flowers; others have purple flowers, as *floribunda*, *Meisneri*, and *speciosa*, while *reticulata* has lilac blooms. The purple species would make a nice contrast with the yellow plants I have previously alluded to. They will bloom at the same time. They are just a little more impatient of stagnant moisture at the roots than those already specified. The compost must be chiefly fibry peat, with a very little fibry loam and charcoal, as the plant gets older and stronger. For young plants, I would use chiefly peat, silver sand, and a few little bits of charcoal and broken pots or sandstone. Care should be taken not to expose the pots to bright sunshine in summer. During August and September, the top of the plant should have all possible sunlight. The temperature for this and those already specified should seldom be below 40° in winter, 5° more will keep them more healthy. The syringe is the best security against insects.

R. FISH.

NEW FLORISTS' FLOWERS.

(Continued from page 23.)

NEW DESIRABLE FUCHSIAS.

DUKE OF WELLINGTON; a noble flower, with very broad well reflexed sepals of a light scarlet colour. The tube is a deep carmine; and the corolla rosy-purple. The habit is good; the flowers are produced at every joint. A most excellent variety, raised near Birmingham.

TRENTHAM; this is, also, a noble, large flower. I saw the original plant in bloom at Trentham last summer, and was very much struck with it, and considered it a noble plant for a conservatory, or even for pot-culture. The sepals are very broad and of a deep scarlet; and the corolla of a velvety purplish-mazarine-blue. The plant is an exceedingly strong grower.

GRANDISSIMA; this is a white Fuchsia, that is, the tube and sepals are white; the former of an extraordinary length; corolla deep claret: habit excellent.

MR. CHARLES PALMER; corolla scarlet, white tube, with broad reflexed sepals of the same colour; a free bloomer.

TELEGRAPH; a splendid variety; plant free in growth, flowering freely; tube and petals smooth, well reflected, and of a brilliant wax-like red. The corolla is of a deep violet colour, large and round. This will be a favourite among growers for exhibition.

THE BEST OLDER FUCHSIAS.

COLLEGIAN; deep crimson tube and sepals; corolla rich purple; fine form and well reflexed.

DUCHESS OF LANCASTER; the best of the whites of last season; tube and sepals pure white; corolla rich deep purple; excellent in habit, and a fine bloomer.

DR. LINDLEY; this is undoubtedly one of the best dark Fuchsias; tube and sepals shining bright crimson; corolla the darkest purple; substance good, and habit excellent.

ENGLAND'S GLORY; another excellent light Fuchsia; tubes and sepals pure white; corolla a singular colour, difficult to describe, unless we can conceive a crimson-lake-colour; a stout flower, well reflexed.

GLORY; an excellent dark flower; tubes and sepals rich crimson; the corolla of the darkest purple, well-formed, and of a large size; reflexed well; form excellent.

INCOMPARABLE; like Mayle's *Purity*, but reflexes better; tube and sepals white; corolla fine purple.

KING CHARMING; tube and sepals bright crimson; reflexes in the best style; corolla intense purple, and round as a cup.

PURPLE PERFECTION; a fine dark variety of excellent properties.

QUEEN; sepals and tube white, well-formed; corolla vermilion-scarlet, superior to *Hebe*; a profuse bloomer.

NEW AND GOOD VERBENAS.

ANGELINA; rosy-purple-crimson, with a pale yellow, bold eye; very fine.

CALIBAN; purplish-crimson, very large, with smooth edges and excellent form. This was exhibited at most of the London shows, and obtained first-class prizes.

ISLINGTON RIVAL; a good addition to our scarlets. The colour is bright, and it has a beautiful clear white eye, contrasting well with the scarlet.

LADY HOLLAND; a light flower, of excellent properties; has not yet been exhibited, but is in the trade. As soon as it is advertized every grower of these charming flowers should procure it.

BLUE BONNET; a dwarf grower, of a fine blue colour; suitable for small beds, or for pot-culture.

NOBILISSIMA; a fine flower, with a large truss, and first-rate form; colour a rosy-peach, with a striking white eye; excellent for pot-culture.

QUEEN; this fills up a desideratum. It is a pure white flower, with a circular crimson edge, trusses well, and each pip is of the best shape.

PURPLE KING; the finest purple, of a good habit and form; excellent for bedding.

SCARLET KING; a good variety for bedding, and of the brightest colour.

GOOD OLD VERBENAS.

ALBINA; fine white.

***ALBA MAGNA**; pure white; large truss.

ANDREW; violet-blue; large truss.

***BELLE MELANIE**; white, deep maroon eye; a striking, distinct variety.

***CLEOPATRA**; rich ruby-crimson, with a dark eye, superior to *Chawierii*.

FAVOURITE; a fine purple, with white centre.

JOHN SALTER; orange-scarlet; extra fine.

MADAME MALET; a carmine flower, with deep crimson eye.

MARIANNE; a variegated flower, with purple eye; very striking as a pot plant.

***MONSIEUR PAQUIN**; violet-plum or blue, with a large white eye; very distinct.

VIRGINIUS; good violet-blue.

Those marked with an asterisk (*) I consider the best.

THE BEST HELIOTROPES.

AZUREUM; deep blue.

ALBESCENS; white.

BLANDA GRANDIFLORA; large blush-lilac.

CONSPICUA; deep violet, and large white centre.

IMMORTALITE DE LOUIS MARIE; blush-violet, with a vanilla scent.

GEM; blue-purple, with a large white eye.

SOUVENIR D'ALICE; violet and white eye; fine.

SOUVENIR D'ECONBLAY; lilac-blue, with large beads.

T. APPLEBY.

(To be continued.)

WOODS AND FORESTS.

THE OAK.

(Continued from page 22.)

EVERY writer on Forest Trees agrees, that for the soil and climate of Great Britain there is no tree equals the Oak for grandeur, usefulness, and profit. We may all write in favour of this or that species of timber trees. One is in raptures in describing the rapid growth and good useful timber of the Larch; another takes up cudgels in favour of the Ash; a third is equally zealous in commending the Elm; whilst others, myself included, are strongly advising the newly-introduced conifers (especially, of late, the Deodar), as being immensely desirable to plant largely; but after all this, bother about new or old plants, all agree there is no tree, none whatever, that can vie with or supplant the glory of the forest and the park—the Oak. It is, *par excellence*, the Englishman's tree, because from its timber principally the wooden walls of old England have been built, for which its great strength and durability well fits it. For naval architecture, indeed, it is unrivalled, as every body knows. For articles of furniture, too, it is a great rival even to the mahogany of South America. Though not so much used now as formerly for flooring of rooms, forming stairs and balustrades, yet, whoever builds for the succeeding generations, like as our forefathers did, should use this long lasting timber. I have seen one very long room in that ancient place, Haddon Hall, in Derbyshire, the floor of which is laid with Oak, the produce, I was told by our cicerone, of one tree only, which was cut down for that purpose five or six hundred years ago, and is yet as sound as the day it was laid down. When I saw it it was as dark a colour as mahogany, and as smooth as glass, so that we were obliged to take tent to our steps, or we should have had not a very pleasant tumble on that hard polished surface. Is there any other timber that would have lasted so long and been so sound? I trow not!

It is not, however, for its timber alone that the Oak is valuable, its bark also is valuable, as is well known, for tanning leather, and after that is used by gardeners to make hotheads. It produces, also, what is called Oak-galls, useful for various purposes; but more especially for making that article by which I and others can communicate our ideas and experience to our fellow-men; I mean, as will be anticipated, that fluid with which I am now writing. Then, when young and straight, the branches or young stems make excellent stakes, inferior to none for durability, besides hoops, rails, posts, and various other uses, as the auctioneers bills say, too numerous to mention.

I might have saved myself all this praise and enumeration of the valuable qualities of the Oak to us, more especially, for I rest assured that every reader well knows its value; but as I intend to write a few papers on its culture, I could do no less than remind the cultivator that he is planting for generations to come the means of defence; and a timber that will yield the greatest profit in the long run, providing it is planted properly in a suitable soil and situation.

The two points of *soil* and *situation* shall be my first essay on Oak culture. Without these are attended to properly the plantation will be a disappointment.

Now, the Oak, though perfectly hardy, will never form a goodly, fair tree in low, marshy ground; and, on the other hand, if planted on thin, sandy soil, or rocky, stony land, its produce will be poor and stunted, though the wood in such situations is often exceedingly beautiful, in knotty, curiously-marked timber, very useful for small tables or doors. I once knew a gentleman (W. Brocklehurst, Esq.), near Macclesfield, that purchased an old guarded Oak, that had grown on a hill side, which,

when sawn up into boards and planed, was so beautifully veined, that he had the principal part of his furniture, doors &c., made of it; and the house on that account is the wonder of the neighbourhood. If I am not mistaken the tree was bought for ten pounds, and made articles worth a thousand. Yet, notwithstanding this, for general purposes the Oak should only be planted in a deep clayey loam, the subsoil to be moderately dry. If the ground is springy and cannot be drained at least four feet deep, the Oak, though it may grow fast for twenty or more years, will then become stunted, perish at the ends of the branches, and die at a premature old age.

Then, again, the situation of the Oak forest should not be too low, not only for the reason that water will be in the subsoil, but because lichens and other parasitic plants will grow upon the branches and effectually check their growth. Then, again, on elevated sites, the strong blast of winds, as well as deficiency of soil, prevent the Oak from forming that straight, tall, clean timber so necessary to build the walls of our noble ships, as well as to cut into planks for domestic purposes. From all this, it will be easily perceived that a moderate elevation above the sea, yet not a high and exposed situation, is the site to be chosen on which to plant this truly useful, as well as stately, ornamental tree.

T. APPLEBY.

(To be continued.)

COPPICE GROWTHS FOR FIRE-WOOD.

IN considering the kinds of wood proper to plant for fire-wood purposes, I may say, that in the counties of Herts, Beds, and Bucks, where such fuel is largely employed, *Hornbeam* is much grown and used for fire-wood purposes; and on dry lands having a chalky bottom it seems as well adapted as any; and its qualifications for burning being of the best order, it might advantageously be introduced into other counties where fire-wood is much wanted, and a soil suitable for it; it also bears cutting pretty well, and stools out and grows again as well as most other hard-wood trees, but it often happens that the growth of the first season's shoots after cutting do not get ripened early enough in the autumn, so that its growth is prolonged until the season be over for its maturity; and the consequence is, the leaves hang on all the winter. This, however, rarely happens after the second season, which is much less so than the first, and I do not know that the tree takes any harm from its being so, the leaves, doubtless, protecting the embryo buds against the severities of the winter; but in cutting this wood in the winter, care must be taken not to do it too closely, as the shoots are but sparingly produced on the old stumpy part, this plan necessarily compels the tree to have that unsightly large scraggy bottom so much complained of by those who like such things to be trim and uniform; however, it amply repays for the indulgence granted it, and occasionally a large limb may be entirely cut away when it gets away so very far from home, in the same way that spurs are cut out of wall and other trained trees when they become so much elongated as to be no longer endurable when growing.

The *Ash* does not make the best kind of fire-wood, but it is often planted for the uses it is in other respects, as poles, &c., for different purposes; but the absence of much of that spray which makes the *Beech* and *Hornbeam* so valuable, places this tree on the second place as one of utility that way. Nevertheless, it has one peculiar property not found in any other; the wood burns nearly as well while green as when seasoned.

The *Elm* is a much worse tree for fire-wood purposes than the *Ash*, the wood not being so good to burn.

Hazel is much better; but where much of this is grown without its being wanted for any particular purpose, elsewhere, it might be cut oftener than that of *Hornbeam* and other hard-wood trees; it burns freely, and the straight rods found in it are often converted into other purposes than fire-wood; it is, likewise, very accommodating in the way of growing, but in the usual way a light soil suits it best. *Oaks* make but indifferent stools, so many of them dying out after a lapse of years. In districts where *Sweet Chestnuts* will grow, they form a better coppice, and as poles for the making of hurdles, &c., they are second to none for durability and general utility. Most of the soft woods are objectionable for fire-wood purposes; in fact, *Poplar* is used for certain purposes where its anti-combustion qualities render it valuable. *Birch*, *Willow*, and *Lime* trees are all inferior to the hard-wooded section, the *Poplar* having a peculiarity of throwing up suckers from the roots, instead of shoots from the stool. But I must not omit to mention that the most, if not all, of the trials that were made a few years ago to introduce the *Thorn Acacia* into coppices have failed, the tree not stooling well, neither does it seem to possess any of those qualities which give value to some of the others named above; it is, however, remarkable for its durability when placed in the ground as a stake or a post, in which capacity it, doubtless, equals, if not excels, most other woods we have, excelling *Oak* and *Chestnut* in that respect, and probably equalling *Yew*, which, however, has been but little tried in that way.

In concluding, it is proper to add that the fact of certain trees not being found in a wild state in some woods of apparently primitive growth is no proof that they are not suitable to the place, as it is only reasonable to suppose the soil and situation being suitable to the well-being of some half-dozen or more kinds, and accident having only brought half that number there, we may be led to reason that it would produce the other half quite as well, and perhaps better than those found there, the beneficial effects of a change being on the side of the new comers. A considerable latitude, however, must be given to peculiar situations; and as it frequently happens that steep hills and other places inaccessible to cultivation are the best adapted to timber growing only, such trees may be planted as are known to flourish on such soils. While it is equally important to plant a bog, or other wet marshy place, with trees suitable to its growth, the *Alder*, *Willow*, some of the *Poplar*, and other woods being well adapted for that purpose, and every way likely, where they are a saleable article, to furnish a more profitable crop than does that of the high or dry lands, so much more rapid is their growth and other peculiarities; while, on the other hand, *Chestnuts* and *Beech* can only be advantageously grown where the soil is dry, and more or less stony.

In this chapter I have not said anything of the uses of the various *Firs* which are often introduced into woods intended for timber; but as the above is merely as an outline of such woods as only produce fire-wood, or the various fry to which faggots form a good adjunct, I do not advise the planting of *Larch* amongst them, as they only hurt the growth of the more permanent crop, without, in themselves, producing anything good enough to atone for the sacrifice made; the case is, however, different where the local demand for young *Larches* is such as to deserve attention, or where they and others are necessary to give variety and ornament to a landscape; but when that is the case, the plantation comes under another class than the one these notes are devoted to.

J. ROBSON.

SEA WEEDS.

(Continued from Vol. xi., page 448.)

5. PHYLLOPHORA. *Grev.*

"FROND cartilaginous, or membranaceous; of a purple rose-red colour, plain, proliferous from the disc, furnished with a more or less imperfect or obscure mid-rib. Fructification 1. capsules, containing a mass of minute, roundish, free seeds. 2. sori of simple granules, in little foliaceous processes."—*Grev.* Name from leaf and to bear.—*Harvey.*

1. *P. RUBENS* (Blushing). On rocks; very generally found on the British shores, though not so common in Scotland as in England and Ireland. Fronds from three to eight inches long, rather rigid, and not adhering to paper; colour a fine deep rose, or even, as Harvey says, blood-red, but varying much in colour from this to purple and green. I have had it in beauty from the Channel Islands.

2. *P. MEMBRANIFOLIUS* (Membrane-leaved).—Common on rocky shores; fronds wedge or fan-shaped, purplish, from three to twelve inches high, cartilaginous, and not unlike some specimens of *Chondria crispus* in appearance.

3. *P. BRODIEI* (Brodie's).—"Rare, growing on rocks in the sea, from one to eight inches high; stem round, branched, or simple, with wedge-shaped leaves."

4. *P. PALMETTOIDES* (Palmetta-like).—Rare; frond rose-coloured; stem from half-an-inch to an inch in height, terminating in a leaf, "sometimes forked, and sometimes bearing small leaves from its apex." Chiefly from Devonshire and Cornwall. My specimens came from the latter county.

6. PEYSSONELLA. *Dne.*

"Frond membranaceous, orbicular or lobed; attached by the whole of its under surface."

P. DUBYI.—"On old shells, stones, &c. Frond one to two inches across; not uncommon." I had a specimen of this skin-like weed from Jaffa, of a dull red, and more curious than pretty.

7. GYMNOGOUGRUS. *Mart.*

"Frond cylindrical, filiform; much branched. Fructification, naked warts composed of cruciate tetraspores. Name from the Greek, signifying naked and a wart, in allusion to the appearance of the fruit upon the branches."—*Harvey.*

1. *G. GRIFFITHSLE*.—"Growing on rocks in the sea. Found by Mrs. Griffiths on the coast of Devonshire. Fronds from two to four inches high, slender, and of equal length; the whole plant has a roundish outline." Substance cartilaginous; as the Rev. Dr. Landsborough observes, "it is like a miniature specimen of *Polyides rotundus*."

2. *G. Plicata* (Plated).—On rocks in the sea: common. The fronds are matted together, horny, and rather thicker than hogs' bristles; colour darkish purple.

8. POLYIDES. *Ag.*

"Frond cartilaginous, thread-shaped, cylindrical. Fructification naked, spongy warts, of radiating filaments, among which are imbedded roundish clusters of wedge-shaped seeds, surrounded with a pellucid border."—*Greville.*

P. ROTUNDUS (Round).—On rocks in the sea. In England and Ireland, and more rarely in Scotland. The colour is blackish-purple; fronds from four to six inches high; "the tips fastigate, giving the plant a roundish outline."

9. FURCELLARIA. *Lamour.*

"Frond cartilaginous, cylindrical, thread-shaped, dichotomous. Fructification terminal, elongated, pod-like receptacles containing a stratum of dark, oblong, pear-shaped seeds in the circumference. The name signifies a little fork."—*Greville.*

F. FASTIGIATA (Tapering).—Common; on rocks and stones. A very variable plant, sometimes eighteen inches long, sometimes only two or three; of a dull purple colour, sometimes yellowish or greenish.

10. DUMONTIA. *Lamour.*

"Frond cylindrical, simple or branched, membranaceous, tubular, gelatinous within; of a red or purplish-red colour. Fructification globules of seeds attached to the inner

surface of the membrane of the frond. The name is in honour of M. Dumont, a French naturalist."—*Greville*.

D. FILIFORMIS (Thread shaped).—Stones and rocks; common, with a remarkably pungent smell; branches from ten to fourteen inches long, gelatinous, of a deep purple, sometimes tinted with green and yellow. There is a twisted or curled variety, which is the most common form.

11. HALYMENIA. *Ag.*

"Frond compressed, or flat, gelatinoso-membranaceous, consisting of a double membrane, separated by a very lax network of articulated filaments; cells of the membrane, minute, coloured. Fructification spherical masses of spores (favellidia), immersed in the frond, attached to the inner surface of the membranous periphery. Name from the sea and a membrane."—*Harvey*.

H. LIGULATA (Strap-shaped).—Growing on stones and rocks, principally on the southern shores of England and Ireland, but not very rare in the west of Scotland. Frond from six to eight inches long, frequently divided, but very variable in form; when the colour is good (rose-red), it is a very pretty plant.

12. GINANNIA. *Mont.*

"Frond terete, dichotomous, membranaceo-gelatinous, traversed by a fibrous axis, from which slender, dichotomous, horizontal filaments radiate towards the membranous periphery; surface cellulose hexagonal. Fructification spherical masses immersed in the frond, affixed to the inner coating; composed of radiating filaments, whose apical joints are converted into spores. Name in honour of Count Ginnani, an Italian botanist."—*Harvey*.

G. FURCELLATA (Forklet).—Rare; on rocks and stones in the sea; fronds from two to six inches long; found on the English and Irish shores, but not got in Scotland, says Dr. Landsborough, until 1850, when it was dredged in Arran by Mrs. Balfour, of Edinburgh.

13. KALLYMENIA. *J. Ag.*

"Stem short, cylindrical, suddenly expanding into a roundish, sub-simple, or irregularly cleft, somewhat lobed frond; favellidia densely scattered over the frond." "Name from words signifying beauty and a membrane."

1. K. RENIFORMIS (Kidney-shaped).—Stem short and round, simple or branched, spreading into a roundish or kidney-shaped frond; of a soft, thick substance, and blood-red colour. Rather rare; but found "from Orkney to Cornwall."

2. R. DUBYI—On rocks, within tide marks. Fronds



six to twelve inches long; colour dull brown-red, and much resembling *Tridcea edulis*. It has not been found in Scotland. The specimen from which the accompanying plate is figured is from Cornwall.

14. TRIDCEA. *Bory.*

"Frond flat, expanded carnosose, or gelatinoso-carnosose, more or less of a purplish-red colour. Fructification globules, of roundish seeds, imbedded between the two coats of the frond."—*Greville*.

T. EDULIS (Eatable).—Common on rocks near low water. Colour a fine deep red; rather thick or "leathery fronds." It is said to be sometimes eaten by the fishermen;

at any rate it is a popular dish in the sea, for it is rare to find a frond which has not been nibbled.

15. CATENELLA. *Grev.*

"Fronds thread-shaped, somewhat compressed, creeping, throwing up numerous branches, contracted, as if jointed in a moniliform manner, composed interiorly of branched filaments, radiating from the centre."—*Greville*.

C. OPUNTIA (Indian-fig-like).—A pretty little plant, though rather small and much resembling *Chylocladia articulata*; it is not uncommon; its little fronds are thickly matted together; colour a crimson-purple; substance tender. It does not adhere very well to paper. Its specific name is from its resemblance to the jointed leaves of *Cactus opuntia*.—S. B.

(To be continued.)

SHANGHAES, AS RECENTLY EXHIBITED.

(Concluded from page 27.)

HITHERTO we have spoken of Shanghaes generally; particular mention of the separate varieties may now follow.

As in previous years, the "Buff and Cinnamon" classes have obtained the greatest number of entries. The former, indeed, have, perhaps, received greater attention at the breeder's hand than any other of the whole family. Popular taste, sanctioned by the evident fault of the opposite extreme, has here demanded that the hackle should be perfectly clear, *i.e.*, free from dark markings; and, to gain this, other properties and characteristics have too often been lost sight of. The necklace, technically speaking, where the extremities of the feathers are merely tipped or lightly edged with black, and where it is limited to a space not exceeding two inches from the shoulders, is far from disagreeable, to our eye, as it serves to exhibit the ground-colour to the best advantage. Here, as elsewhere, in discussing the colours of a bird's plumage, our estimate should be formed on the acknowledged principles that regulate their effect on other occasions and for other purposes. Anything, on the other hand, that approaches a decided harsh contrast of the whole neck to the general body colour of the bird, is certainly, we must admit, among those things that ought not to be.

In seeking the lighter tints of fawn and yellow, we have constantly missed our aim, and aided the production of "mealy" birds, with a greater or less proportion of white feathers interspersed in the plumage. Against such there is a very general and just prejudice; and, probably, no error has ever been the source of greater mortification to the Shanghae breeder than his own anxiety for the lighter colours, irrespective of a clear, decided, and uniform tone.

The cinnamons are here an illustration of our meaning, those especially whose colour is identical with that of the substance whence they obtain their name. We here find a clearness, and, at the same time, a depth of tone, that in well-selected specimens invariably elicits admiration.

The darker cinnamons, the cocks more particularly, in such cases as they have been correctly matched with their hens, have proved attractive, but the hens are too subject to a slightly mottled character, and the tide of popularity in favour of the buff and lemon birds places the former at a disadvantage in the same class.

The silver-cinnamons have but seldom had the male birds suited in feather to the hens. At Birmingham, in 1853, however, this too unusual defect was absent, and some very uniform pens were there exhibited. Even these, however, were open to the objection of too great an opposition of colours on the neck and body.

How rarely do we now meet with a really good pen of Partridge birds, either in respect of form or feather? Here, assuredly, there has been great deterioration, attributable, possibly, to comparative neglect, as the buff may have suffered from an unwise preference of one particular point. The short-legged, compact-bodied birds of this class are now of rare occurrence, and still more seldom has their characteristic plumage been preserved. Full half the hens are partially buff, especially on the breast and neck, and, with few exceptions, they fall short of former weight.

The darker, or "grouse" birds, are subject to the same criticism; a matter of regret, since none of their family are better adapted than these and the last-mentioned to the economical purposes from which, after all, the real value of their race must be derived.

The white Shanghaes of 1853 can hardly be regarded as evidencing any onward progress; general opinion, perhaps, would draw the contrary conclusion. Harmony of colour, that has rejected the dark-hackled buff and silver-cinnamon birds, repudiates, with equal justice, the same antagonistic effect in a white bird with green or rather olive-stained legs. A similar rule is at once submitted to in the case of white Bantams and white Dorkings, but in white Shanghaes there seem to be many exhibitors hard to persuade of this incongruity, if we may judge from the number of specimens thus disfigured that are so constantly brought before us. Even for the kitchen the disadvantage is great, still more so in the poultry-yard, where we now know that our best birds for the table may also pass the strictest ordeal in respect of feather. This blemish, we are inclined to think, increases with age; at any rate, from the greater coarseness of the scales it then becomes more apparent. So numerous, indeed, have been the pens thus defective in one or more of their occupants, that the deliberations of the judges in this class have seldom been of long continuance. Neither in respect of "feather," "form," "condition," or "size," can we place the white Shanghaes in an higher position than they had previously reached.

Whether "white" or "black Shanghaes" are really and truly distinct and permanent varieties, in the literal sense of that word, is hardly a matter for present enquiry; but in respect of the black, more especially, we cannot but observe an absence of at least one test of individuality, viz., that of "like producing like." We should not, indeed, despair of eliciting the fact, that from black parents nearly every shade and combination of colour hitherto noticed in a Shanghae fowl has seen the light. But this very designation is rarely correct, and, so far as the cocks are concerned, "black-breasted red Shanghaes" would be the more correct term; for certainly, one-half the male birds would be far more fitly described as such. With the hens there is evidently less difficulty in the retaining the uniform black that a bird thus distinctively named from colour should invariably possess. This circumstance, like the green legs in the birds last spoken of, has usually expedited the judges in their progress round the exhibition-room; any departure from the normal colour justly disqualifying.

Cuckoo Shanghaes, Tufted Shanghaes, Emu or Silk Shanghaes, and possibly other accidental off-shoots from the same family tree, have also invited attention. But even if there had been no addition to, or deviation from, the special characteristics of this breed, there was certainly an absence of any attraction, in respect of plumage, that could advance their claim to notice. Diligently as the Shanghae fowl has been recently studied, and positive as are the conclusions that are sometimes over-hastily drawn from our comparative short experience, it will be well for us to remember the many thousand years that may have passed by this bird in a state of domestication, and consequently, the many changes, even in material points, to which it may have been subjected.

Our conclusions, were such a course adopted, might not, indeed, be so satisfactory to ourselves on the subject of the specific differences of the several sub-varieties of this bird, but they would be less liable to the contradiction of every-day experience, and in closer analogy with the history of the other fowls whose existence has been coeval with that of our forefathers, and of which, it must be owned, we still know, comparatively, so little.

Ordinary buff birds have produced the silk or "Emu" Shanghae; the multiplicity of colours resulting from the union of the black and white have been already alluded to; white, again, have sprung from buff, and the lightest shades of the latter from the darkest partridge. Greys are not wanting to complete our list of variations; but of these we shall have more to say in another place. All we now urge is the present absence of sufficient evidence of permanency of variety among Shanghaes; and that the facts known to us would lead to the inference, that the sources of their present distinctions are referable to the same causes that

have produced the mongrelism of poultry generally, *i. e.* indiscriminate breeding in and in.

Exhibitions of poultry, as now constituted, will be recognized as the safest criterion of the merits of fowls, not merely as ornamental and fancy birds, but in their actual value as egg-producers and for the kitchen. If, therefore, our view of the position now occupied by Shanghaes in public estimation places them somewhat lower in the list than heretofore, there naturally arises the presumption that they must have failed, in a greater or less degree, to comply with the expectations that had been held out for their remuneration; for it must be denied that the depreciated position now occupied by them is not referable solely to their less honourable mention in prize-lists. There are charges preferred against them abstractedly, without respect either to present shortcomings or past excellence at Bingley Hall, or elsewhere. But have they, let us ask, truly deserved such censure? Have they really fallen short of the good character claimed for them by those who most carefully and impartially stated their pretensions to the favour of poultry-keepers? We venture to think not; though at the same time perfectly willing to admit that the too sanguine anticipations of many of their admirers have not been realized. Novelty of form and character, unquestioned productiveness, to which no bounds at first were assigned, and general superiority over other fowls in respect of all economical properties, were each and all, unhesitatingly, and, we must add, most unwisely, asserted on their behalf. The Spanish were thus represented as out-done as layers, while the quality of the Shanghaes as dead poultry was often placed over even the Dorking and the Game fowl. Here was the error; by asking too much for them, the real merits of the bird were depreciated, since they failed to fulfil all the promises of their injudicious friends. Disappointment at not obtaining all that had been thus rashly promised induced comparative neglect; and hence their present position. Now, had their properties been stated as abundant layers at a time of year when eggs are always scarce; steady and attentive mothers; the chickens being singularly hardy, and free from the usual maladies of that age: early maturity and attainment of a great weight of meat of an average quality at an unusually early period; a disposition of so quiet and contented a character as to permit their being kept under circumstances where other poultry would be both an annoyance to ourselves and a nuisance to our neighbours; their present position would have been avoided. These are the points, independent of individual ideas of mere appearance, which should have been relied on in any statement of their merits; and fully sufficient would they have been found to warrant the warmest recommendation based on such grounds.

But there is an old saying, which teaches us that "*there is some good even in the greatest evil*," and another, that "*it is an ill wind that blows nobody good*." Thus the inordinate and excessive sums that from various causes were lavished on these birds have brought about one good result, though individually, and for the time their character has been lowered. So large a number have been bred, eggs and chickens have been so widely disseminated, that those in whose eyes the Shanghae fowl has possessed qualifications for strictly economical purposes, may now look forward, from their present abundance and consequent cheapness, to their occupancy of many a farm and cottage-yard to which their previous cost would have forbidden entrance.

RETENTIVE VITALITY OF EGGS.

I wish to communicate one or two facts to the poultry world, through the columns of the COTTAGE GARDENER, with respect to eggs, that will probably be received as conclusive evidence of how surely they may be sent a distance without injury, and of how retentive they are of the principle of life they contain.

A little while since I put eleven under a hen which had been sent to me as broody. She was placed, as is my usual method, in a covered basket, such as fowls are usually sold in at Stevens', taken off every morning at the same hour to feed and refresh herself, put on again, and the basket cover fastened down. At the end of a fortnight the hen became

restless and dirtied constantly in the nest. I therefore ordered her to be taken off for five minutes every afternoon, as well as for ten minutes in the morning. Still she dugged in the nest; and was always standing over, not sitting on, the eggs when the room was entered to remove her, and the eggs seemed nearly, though never quite, cold.

On the 23rd day, no chickens having appeared, I turned the hen down, and resolved to see how far life had been developed in the various eggs. The first two or three had dead chickens in them of various sizes; but in the fourth a chicken showed faint signs of life. I therefore put the remaining eggs under a close sitting hen, and five chickens were hatched out next day, and promise to become large birds.

The second case I will mention is that of a hen which had sat some time, and was then sent with her eggs a journey by rail, being hand-carried to and from the railway station. Every egg produced a chicken.

The third is respecting some eggs which I sold to a gentleman at Liverpool. The box containing them was knocked about a good deal *in transitu*, and four of the eggs were cracked. The sound eggs were put under one hen; the cracked ones, covered with collodion, under another. The result has just been communicated to me. All the sound eggs and two of the cracked ones produced five chickens. The other two cracked eggs had chickens in them which did not come to maturity.

The majority of results reported to me by persons at a distance to whom I have sent eggs by rail has been, that about seven-eighths of them have produced chickens.—W. H. SNELL, *St. Swithin's Lane.*

BEE-KEEPING FOR COTTAGERS.

(Continued from Vol. XI., page 509.)

OCTOBER, b.—Almost all labour will now be at an end: weak hives are supposed to have been joined, the winter stocks alone remaining: these must all be weighed. If, after having allowed for the weight of the floor-board, hive, and comb (and comb, it must be remembered, increases in weight at the rate of about one pound in each year), the hives weigh about twenty pounds each, there is nothing further to be done than to keep them dry, warm, and clean, through the winter. If they do not weigh so much they must be fed until they do. White sugar boiled in water for about five minutes after it has began to boil (in the proportion of one pound of sugar to half a pint of water or rather more) makes excellent food, and as bees never waste anything, they need not be stinted: all that is given them is carried down and stowed away in the combs: the one pound of sugar and half a pint of water make nearly one pound and a half of food, and costs sixpence or fourpence per pound. As the honey is worth much more than this, it is good policy, when bees are kept for profit, to induce them to work in supers as late as possible, regardless of winter store; and afterwards to feed them up to the required weight. All food should be given at the top of the hive in fine mild weather, and in as large quantities as possible: bees will carry down four or five pounds in a day with ease, and as, during the feeding, the internal heat, and with it the consumption of the hives, is greatly increased, it is desirable to get the feeding over as quickly as possible; it should by no means be delayed beyond the end of the month, and once over, no more food should be given till March.

The feeders, or, if the bee-master has not as many feeders as he has hives, the condensers, should be left on till the beginning of March, to catch and condense the perspiration that will rise from the bees, and that would, otherwise (as already mentioned), run down the combs and make the floor-boards and hives damp and mouldy; the worst things that can happen to the bees, and the cause of their frequent destruction. (e.) The entrances may be further narrowed.

NOVEMBER, DECEMBER, JANUARY, FEBRUARY.—In the beginning of November the floor-boards should be changed, and the entrances narrowed, so that they will only admit one or two bees at once: the pieces of wood, about three inches square and one inch thick, mentioned in Section 2, should

now be placed about an inch before the entrances to keep off the sunshine and all reflected light, which would otherwise bring out the bees, and the cold air would be the death of many of them. These pieces will not prevent the admission of the fresh air, which is almost as necessary for bees as for men.

The pedestals must also be examined just below the surface of the earth; if any signs of decay appear in them they must be replaced by fresh ones.

Not much further is to be done till March, except looking well to the coverings of the hives, keeping off all wet, brushing away the snow from tops, entrances, and fronts of the hives, as soon as possible after a fall, and emptying the bell-glasses and condensers (except gallipots or bell-glasses are used, when the directions in Section 2 are to be attended to) about once in a month: some recommend that bees should be altogether shut in when snow is on the ground, but the eagerness of the bees to void themselves in the open air, as soon as a thaw succeeds a long period of severe weather, is so great, that it seems cruelly to do so: doubtless, many will fall upon the rapidly-disappearing snow, and perish, but one does not like to thwart their natural instincts from a purely selfish consideration; if many fall, a careful bee-keeper will collect them in a bell-glass, and having restored them to life by the aid of the kitchen fire, will restore them to their hive; unless the temperature be very mild the bees will not venture out.

As many bees die in the winter months, it will be necessary, every now and then, to remove the blocks, and with a feather, or a thin knife, to sweep the dead bodies and dirt from inside the entrances. The blocks may, with good results, be left out on these occasions for a few hours: bees, as may be gathered from what has been said above, never void themselves inside the hive, but take advantage of fine mild weather and sally forth.

Many bee-keepers recommend January for purchasing stocks: a few remarks on this subject were made in the calendar for April.

In February, advantage should be taken of fine dry days to do what painting is necessary: unless everything is quite dry when painted the paint will peel off; therefore, the middle of the day (after the sun has been upon the hives for some time) should be chosen for this purpose.—R.

POULTRY-YARD REPORT.

SHANGHAI v. SPANISH.

(Continued from Vol. XI., page 448.)

FEBRUARY.

SHANGHAI.			MINORCAS.		
One hen with chickens.			Stock remains as before.		
Three others sitting. The invalid dead.					
No. of eggs laid in the month 100			No. of eggs laid in the month 16		
lbs. oz. drs.			lbs. oz. drs.		
Total weight . . 10 13 5			Total weight 2 2 0		
Highest weight of single egg 0 2 1			Highest weight of single egg 0 2 5		

The house is still warmed, and food and other circumstances are the same.—H. B. S., *Monmouthshire.*

HARDY BORDER PLANTS.

PULMONARIA VIRGINICA.

THE VIRGINIAN LUNGWORT.

This genus of plants belongs to the Natural Order of Borageworts, and from their early flowering, the whole of them may be said to be worth a place in every flower-garden. This species, in particular, deserves such distinction, for it is the most ornamental of the whole family. It is certainly a very choice hardy border plant, and will flourish in any common garden soil, upon a dry bottom, in open, warm situations. It is a native of mountainous parts

of Virginia, in North America, and was introduced to this country in the year 1699.

Although readily increased by root division, this should be done with a little care, as its fleshy tuberous roots and crowns are rather brittle. To avoid breakage, the whole plant should be taken up when increase is required, and the separation made carefully.

In replanting it there should be equal carefulness, so as not to break its roots more than is necessary. To effect this, work the soil well with the spade, and plant with the hands. This plant is not a very rapid increaser, so that if once well planted in the flower-border, and as a front row plant, since its height is no more than from nine inches to a foot, it might remain in the same spots for one's lifetime, and then not be too large for its situations. A little top-dressing may be given to it every spring when it puts up its stems.

We have a plant of this which has stood in the same place the last nineteen years. It is now a noble bunch, but not a bit too large for its place, nor should we think it would be so at the end of another nineteen years.

The main thing to mind is that it does not get injured with the spade, trowel, or hoe, during the many months it is out of sight. As it is an early flowerer (from the end of March to the first of May), its leaves and stems have all died down by the end of June, and, of course, where it is not kept labelled, it is very liable to be destroyed before its time to put up again.

The whole plant is quite smooth, and of a peculiar bluish or glaucous-green colour. Its flowers are large, numerous, and of a reddish-purple before opening, becoming of a light bright blue when expanded.

There are two other species of this genus much allied to the preceding plant, namely, the *Pulmonaria sibirica*, and *P. maritima*. All three are pleasing plants, and may all be treated in like manner as front border plants, in the dry, warm borders, particularly noting where they are planted, so as not to disturb them during their months of rest, when their leaves and stems have died away.

P. angustifolia, *P. officinalis*, and *P. officinalis alba*, these names are to be found in our English Floras, but, notwithstanding this, they are generally to be found classed among our hardy border plants, and very properly so, too, and though of a coarser habit and growth, yet as they flower early, that is, from March to the end of May, and will flourish in any soil or situation, they are very useful marginal or front row plants, flowering freely. They are often called "Jerusalem Cowslips," or "Bethlehem Cowslips," or "Common Lungworts." They are all readily increased by division, at any season, but, of course, spring or autumn is the most proper time for division.

P. grandiflora and *azurea* may be called the two next best, and most worth our notice, as hardy border kinds, but in private gardens we are advocates for choice selections rather than collections. T. W.

BRAHMA POOTRAS CERTAINLY ARE GREY SHANGHAES.

THE question, whether the so-called Brahma Pootra fowls are anything more than Grey Shanghaes, is now, I think, pretty well settled, although there are some parties who still cling to the idea that they are a different variety of fowls altogether; and the fact that some of our poultry shows have offered premiums for them under that name is rather calculated to mislead the public.

I would ask, whether any specimens have reached this country direct from the neighbourhood of the Brahma Pootra River (for I presume they have their name from that neighbourhood, being their supposed native country), for, doubtless, were they to be found there, we should have had some specimens of them here years ago. The remarks you have made on the subject, at different times, are sufficient to convince any unprejudiced person, but if further evidence was wanting, you will find it in the enclosed review of a poultry show held in the United States, which I have cut out of *The New York Tribune*. You will there find that the committee have agreed to drop the name of Brahma Pootra altogether; and even Mr. Burnham, who has, I

believe, sent numbers to this country, now exhibits his birds under the name of Grey Shanghaes.—T. S.

"THE NEW YORK POULTRY SHOW.—We continue our descriptive notes of varieties in the exhibition, and first of the *Shanghaes*, which is the general name which should be applied to all the large class of Asiatic fowls in this country; to which we might add a prefix to indicate the various colours, as black *Shanghaes*, white *Shanghaes*, red *Shanghaes*, buff *Shanghaes*, grey *Shanghaes*, speckled *Shanghaes*, &c., and drop the names of Cochin-China, Brahma Pootra, &c., and so on to the end of the catalogue. This the N. P. Society have agreed to do and recommend to all others.

"Here is a coop of *black Shanghaes*, exhibited by R. C. McCormick, Jr., of Woodhaven, L. I., who is a young man of means, who has turned his attention to raising poultry, more for the pleasure of the thing than profit, yet he must desire a little of the latter, for he has sold this premium pair for 50 dol. He was the recipient of the 50 dol. premium for the best and largest variety, to which he is fairly entitled, not only for the quality of his poultry, but for the neat coops in which they are exhibited. Here is a coop marked 'Pure blood Cochin-China, for sale for 15 dol. the three pair and no less.' That is right; why should he take less for the long-legged red and yellow beauties?

"Here is a coop of *Brahma Pootras*, raised in Brooklyn; the cock weighs 9½ lbs. and the hen 8½ lbs. They are of a sort of cream colour, with short black striped or pencilled necks, short tails, and forms which may be understood by the term 'dumpy' or 'bunchy.' They are a pretty fair variety, not mounted upon stilts.

"*Buff Shanghaes* are of a dirty light yellow colour for the hens, and a yellowish dirty red for the cocks. Pullets eight months old are marked 7¼ and 8 lbs.

"A coop of *Chittagongs* are of a cream-coloured white, the cocks' necks yellowish, the necks of the hens pencilled black; marked 15 dol. per pair.

"The first premium Cochin-Chinas, owned by George P. Burnham of Boston, are buff-coloured hens, striped with black, the cocks red and feather-legged, the hens of medium size, and round bodied.

"The first premium *Grey Shanghaes*, owned by the same extensive poultry dealer, are handsome round-bodied fowls, with legs of moderate length. The cocks are of a greyish cream colour, the hens dark on the back, and cream-coloured on the breast, with black striped necks and black tails.

"A pair of nearly the same colour and general appearance, owned by H. L. Ballou, are named *Ettagony*, and marked as weighing 19½ lbs.

"Another coop, similarly coloured, are marked *Yellow Shanghaes*. The cock 19 months old, 11 lbs., and hens, 7 months old, 6¾ and 7½ lbs. Price 15 dol.

"A coop of *Black Shanghaes* from Bedford, L. I., are marked, the cock, 18 months old, 11 lbs., hen 8 lbs.

"*Chittagongs* 16 months old, are marked, cocks 10 lbs., hens 8 lbs., nine months old pullet 7½ lbs.; price 25 dol. for the trio.

"*Red Shanghaes* from Newark, are about the same colour of ordinary red cocks of the farm-yard, pure blood of imported stock, 10 dol. per pair.

"*Buff and white Shanghaes*, from Paterson, 12 dol. per pair.

"A coop marked *Malays*, are of a yellow colour, black pencilled, and are of the size and look of red *Shanghaes*.

"A coop of four *Chittagongs*, white hens with black pencilled necks, and cocks black pencilled over the body, and of handsome form, seven months old, were sold for 25 dol. four grey ditto, same price. Four handsome black *Shanghaes*, and four brown ditto, from Blackwell's Island, are marked 50 dol. a coop. These are eight months old, and are very large. One pair of fowls are marked 10 dol. and the coop the same price, and cheap at that. All sorts of coops are used. One man has taken a cheese box and nailed slats to the box and lid, elevating the latter for a roof. Others use bird-cages. Some are wood, some iron, some brass, and some basket-work, and some were made with very little work.

"Somebody from Gowanus has sent in a coop of *Shanghaes* in their original unimproved native ugliness. The coop is labelled, 'not owned by any member of the Committee, and consequently the owner thinks he has been foully dealt

with. The coop under this one has a cock with legs about a foot long apparently jointed to the back bone. We noticed both of them laid down to eat.

"Among the best and handsomest of fowls are the *Dorkings*. The distinguishing mark of this breed is five toes. They are medium size, very symmetrical, good layers, and good mothers, and afford good eating.

"The first premium pair of *grey Dorkings* were sold by Mr. McCormick for 15 dol. A cock and three hens, of very pretty speckled *Dorkings*, for 20 dol. These were bred by Mr. McCormick out of L. F. Allen's importation, and are very splendid birds, though he says that those of Mr. Pail, of Westchester County, are larger, and equally entitled to the premium. A pair of white *Dorkings* also sold by Mr. McC. for 12 dol.

"The *Dorkings* are of a size large enough for any practical or profitable purpose, and crossed upon the game fowl, as Mr. Allen has done, they make a very choice variety.

"The first premium *Turkeys*, owned by R. H. Avery, of Brooklyn, are very much admired. The male weighs thirty and a quarter pounds, and the female sixteen pounds. They are black, and one year old past. In the same coop is a grey *Shanghae* cock for which Mr. A. paid 15 dol. He sold a black *Shanghae* hen which laid 192 eggs within a year, and raised two broods of chickens in the same time.

"Among the 'Fancy Poultry' is a *three-legged Duck*. The extra pedal is rigged on behind, to hold up the stern. We recommend this specimen to the peculiar attention of the 'fancy poultry breeders.' If they can manage to breed on an outrigger of this kind to some of the monster breed of *Shanghaes*, it might save them the necessity of lying down to eat, or prevent them from falling over backward while eating corn by reaching up to the garet windows.

"SHANGHAE PRICES.—We give a memorandum of a few of the sales which came to our knowledge, and think of getting up regular reports of the *Shanghae* market. Why not? since they sell for as much as some bullocks, and by far higher than ordinary sheep or swine.

"We have sales of two coops of four each, *Grey Shanghaes* for 50 dol. a coop; a pair of *Muscovy Ducks*, 12 dol.; a pair of *Turkeys*, 10 dol.; a trio of *Bolton Greys*, or *Silver Hamburgs*, 12 dol.

"Mr. Platt, of Rhinebeck, sold two trio of same description of fowls at 10 dol. a trio; also a pair of *pea fowls*, 11 dol.; a pair (not pure) *Aylesbury Ducks*, 5 dol.; two trio of *Dorkings* at 12 dol. or 4 dol. each; one pair of *White Shanghae*, 15 dol.; one pair of *Sumatra game fowls*, 40 dol.; one pair of *Irish fowls* 25 dol.; a trio of *Grey Shanghaes*, 30 dol.; a pair of *African Bantams*, 12 dol.; a trio of *Buff Shanghaes*, 20 dol.

"Mr. Burnham of Boston sold a trio of *Grey Shanghaes* for 50 dol., and three old fowls for 100 dol.

"The beautiful bird called a *Silver Pheasant*, owned by Mr. Platt of Albany, which was much admired, was sold for 35 dol.

"What practical purpose he is worth thirty-five cents for is more than we know.

"A great many other sales have been made, but the above give a fair indication of 'ruling prices.'

"We believe some of the fancies sell at home at those rates, but generally speaking, we think they are a shade above the market. In short, they are *Shang-high* prices."

EFFECT OF THE LAST WINTER ON HALF-HARDY PLANTS.

I AM indebted to her majesty "Queen Mab," for the following report of half-hardy plants in her garden in Oxfordshire. Her majesty paid a visit lately to the south coast, probably to see that all was right about the expeditionary powers for the east, and she called at the Exeter nurseries of the Messrs Veitch, and Lucombe and Pince's, "both of which were well worth a visit."

The last winter has not been so destructive among doubtful plants as she expected. An *Eriobotrya japonica*, on a wall protected with fir boughs, is now "finer in leaf than any I saw in Devonshire; two specimens of *Solanum jasminoides* are quite alive; *Benthamia fragifera* is looking very well;

Escallonia organensis and *Euonymus fimbriatus*, not against a wall, but protected with boughs, are dead; *Grevillea rosmarinifolia* and *Acacia dealbata* are coming into flower; *Buddleia Lindleyana* stood better against a wall than it did the previous winter; *Escallonia rubra* in the open shrubbery is safe; *Strawasia glaucescens* rather the worse, one of them is without a leaf; *Habrothamnus fasciculatus* looks rather dead, perhaps it will shoot up again from the roots; *Cupressus thurifera* has been much browned by the frost; I think the *Stauntonia latifolia* and *Lardizabala hibernata* will have a squeak for their existence (but were they not very young plants?) Mr. Veitch's *Eucalyptus coccifera* is a very handsome specimen; he showed me a new hybrid *Rhododendron*, between *jasminiflorum* and *javanicum*, a pinkish colour, very curious looking."

Mr. Jackson told me he had a great run for his young plants of *Stauntonia* last autumn, and if his customers did not keep them in pots over the winter, to be turned out this next May, they must go to the shop for it a second time. We can never press it too seriously, that these half-hardy plants should not be turned out after the middle of June. May is the right time to plant out such plants; the soil for them ought to be rather poor and dry, so as not to encourage strong growth at first.—D. BEATON.

WHITE SHANGHAE COCK SAVED BY CARE.

A FRIEND of mine having purchased a valuable bird of the above description, found, within a short time of the purchase, that he was in a fair way of losing his prize. The bird had been very badly kept previously to coming into his possession, having been deprived of his liberty, and fed on too spare a share of diet. My friend was much annoyed at the prospect before him, and brought the bird to me, to see if I could cure it. I have no pretension to being "*très conuissant*" on the subject of medical practice amongst the "*Gallinaceae*," but "*Common sense*" suggested to me, "That the bird, having been half starved, and badly kept, as regards confinement, &c., and then well fed, and allowed sufficient recreation, a reaction must have taken place in his system, and caused the disease he was labouring under, viz., a suffusion of blood to the head, causing much inflammation and blindness, with a disgusting exudation of matter from the nostrils and eyes, the intense pain attending it causing loss of appetite and consequent weakness."

The friend to whom it belonged, seeming very anxious to retrieve the bird, and I equally so, to oblige him by trying to do so, he left the bird in my care. Here the combined duties of medical practitioner and friend commenced on my part.

I took the bird, and washed its head in luke-warm water, cleaning out the nostrils, eyes, and beak, of the dried humour and crustaceous matters which surrounded them; removing, at the same time, the catarrh, or skin, from the tongue, commonly called "*pip*," caused, I consider, by the disease; giving the patient, at the same time, two pills of rue and butter, about the size of boy's marbles; the bird was at the time so weak that it could not stand, and seemed in the last stages of virulent disease, approaching a speedy exit out of its misery and pain. I washed its head again the next morning, putting some crushed oats and bran down its throat, so as to nourish it a little. I then found that its crop remained hard, and that digestion was not going on as I could wish, so in the course of the second day I gave it one-third of an ounce of castor oil, and pumped on its head so as to allay the inflammation. Hard cheese for a sick bird, some people will, doubtless, think; but I thought it was a kill or cure case, and excessive disease, I thought, required extreme measures to remove it.

Two days after, I gave it the second one-third of an ounce of castor oil, having in the mean time fed the bird on soaked bread and a little barley and buck-wheat, by hand, and washed its head under the pump two or three times a day.

The fifth day the bird was better, and picked up a little grain I threw down to it in the corner of the fowl-house, where it stood moping like a great sulky boy. I then gave the last one-third of an ounce of castor oil, and put it out in

the sun to bask itself and get warm, which it seemed to enjoy.

I washed its head on the seventh day, for the last time, the inflammation being allayed, digestion progressing favourably, and the bird being able to stand and look about, apparently concerned about its appetite being satisfied.

The last three days 7th, 8th, and 9th of treatment, I have fed it on grain, coarse bread, and green food, being careful not to allow it to gorge itself, for its appetite was quite recovered, but the bird weak, so I gave it three pieces of bread, about the size of marbles, soaked in brandy; and it is now after ten days, may I say, judicious? care able to take care of itself in the yard with the rest of the poultry.

If you consider the above "rough and ready cure" worthy of insertion in the columns of your valuable Journal, please to insert it; it may prove useful to persons buying birds under similar circumstances. I never gave the bird any extraordinary care, having merely kept it in a basket, on a little dry straw, in a shed, during the first two or three days, and left it to shift for itself in the fowl-yard as soon as it was able to stand, taking it up when I wished to administer the doses and cold baths. I noticed, that as soon as it was able it veered round opposite the sun in the yard, proving that the heat was agreeable to it. There were no other male birds in the yard to annoy or punish it in any way, so as to counteract any good effects which might arise from the rough treatment it was being subjected to.—AMICUS, Jersey.

HUNTER RIVER VINEYARD ASSOCIATION.

The following are extracts from the presidential address delivered by Mr. King, of Irrawang, at the annual meeting of the Hunter River Vineyard Association (Australia), held on 4th of May.

"There can be no question whatever that the objects of this our original association will be eagerly sought after, and promoted, with ardour and ability, by future generations, when the digging for gold in this country has long ceased, and the present richness of its mines will only be known in its then early history. The various locations of land on the rivers of New South Wales and their tributaries, and hence inwards to the far interior, were originally taken up and occupied with reference to those pastoral pursuits for which the country is naturally so well suited, and which have hitherto been so successfully carried on. These locations were consequently far apart; and when some of the more intelligent and enterprising proprietors began to cultivate the grape vine and become growers of wine in addition to their other occupations, their extreme distance from each other prevented that personal intercourse, that interchange of ideas, and knowledge of each other's process in the new culture, which are so desirable in promoting a favourable result.

"This drawback, however, was partially obviated by the few vine cultivators making occasional visits to each other's vineyards. But this was not always convenient or agreeable, ever involving time, labour, and expense. It was consequently suggested by one of the present members of this association that the wine growers in the district should meet on stated periods, at some point of mutual convenience, for the purpose of comparing samples of their respective wines, and of submitting written statements of their vintage operations to the meetings.

"A preliminary meeting with that view was accordingly held in Maitland, when a committee was formed to draw out a code of rules and regulations, by virtue of which the first meeting constituting this association was held at Maitland, in May, 1847. Half-yearly meetings have been held ever since, till the meeting in May last year. Hence the origin and objects of our existing association.

"In May this time twelve months, however, it was considered that its meetings were rather too frequent for some of the members to attend regularly without inconvenience. It was therefore proposed and agreed to that the society should in future only have a stated meeting once a year, and that in all time coming a president should be annually elected, with prescribed duties. This office for the last year you all know I have had the honour to fill.

"The association seems to have infused a spirit of emulation amongst its members, judging from the marked improvement in the quality of their wines, some of them, in common with others, having consequently had gold medals awarded to them by the New South Wales Botanical and Horticultural Society, and the highest testimonials have been received from England in favour of the wines of Porphyry, a vineyard belonging to one of its members: whilst the publicity of its proceedings has tended to the advancement of vine culture in the colony, and to the bringing into more general use and favour the wholesome product of our home vineyards.

"The wine growers in the older part of the colony soon saw the advantages of our local institution. They immediately followed our example, and, adopting its model, formed themselves into "the New South Wales Vineyard Association." This association has taken a wider range of action, and has not restricted membership to growers of wine, or to cultivators at all. Nevertheless, it includes amongst its members some of the most successful wine growers in the colony.

"Thus the culture of the vine is producing a valuable commodity of commercial exchange, both as an article of domestic use, and of export; and the conviction of its importance as an appropriate agricultural pursuit in the colony is making rapid progress amongst us.

"The districts of the Hunter, and those of its tributaries, are well suited for vine culture, as evinced by the very satisfactory proofs which have been exhibited from time to time at the meetings of this association. The introduction of its culture, however, as a source of profit, is of comparatively recent occurrence, particularly in this locality; whilst many circumstances have, moreover, tended to retard its more general introduction. What, for instance, could be more unfavourable to the progress of wine culture than the fact, that the landed proprietors of the colony had emigrated from a country where no indigenous wines are grown, and were consequently not practically acquainted with the details of vine management, nor previously versed in the slightest degree in vintage operations; neither was it in their power to gather such information on the subject as had been verified by local experience. Still, with these and other drawbacks, it is gratifying to witness the progress that has been made by unassisted efforts at this early stage, in the production of wine in this district, as well as in the more early settled parts of the country; and it is to be hoped that our exhibition to-day will further mark our onward tendency. With the experience already here acquired, and aided by a knowledge of the principles involved in the process of wine making, it is not saying too much to affirm that most of the present wine growers in the colony are better qualified for the right management of business here than any mere empirical practitioner of the art just arrived from Europe, however successful he may have been in his particular locality. There is no question, that when chemical processes in any position are carried on precisely under the same circumstances they must ever produce the same results; at the same time it cannot be overlooked that the complex actions involved in the vital process of vegetation, and in the subsequent fermentation of its products, being ever subject to many subtle modifying influences, must cause marked varieties in the result. Even the slightest changes in condition, so minute as scarcely to be perceived, will cause appreciable differences. Hence the varied character discernable in wines, of which scarcely two individuals or two localities are found to produce the same or similar specimens. So far as the individuals are concerned, no doubt, that is caused mainly by a want of knowledge of the principles and circumstances which modify and influence chemical action, on which the production of the qualities of wine so much depends; and it is this want of familiarity with the principles involved in the chemical processes which so much retards the successful introduction of such processes into a new country.

"As bearing on the subject in hand, and throwing out valuable practical suggestions—suggestions which ought, in my humble opinion, to guide our future operations—with your kind permission, I will read two letters, which I have had the honour to receive since our last meeting, from that distinguished philosopher, Baron Liebig; who has done

more to make men acquainted with God's doings, as revealed in His divine works of creation (without adventitious aid, the everlasting and unequivocal records of His will and power) than all who have lived since the days of Sir Isaac Newton."

TRANSLATION.

"Giessen, 6th March, 1852.

"Dear Sir,—It is a long time since I owe you my thanks for your friendly letter of October, 1850, and your kindness in forwarding me a sample of your wine for more minute examination. I have duly received both your transmissions—the one *via* London, the other *via* Hamburgh. My time was so occupied last year with other labours, that I could not, until now, institute my experiments with your wine. At the same time with yours, I obtained a sample from Colonel Macarthur, which I tested at the same time.

"The wine, Pincou Noir, Tinta, and Pincou Gris, indicates a specific gravity, .9920; produces, in 100 volumes, 16.20 of alcohol; in the same vols. .505 free acid, 3.265 dry residue, and .498 of incombustible ashy constituents.

"The other (white) sort, Irrawang, has a specific gravity .940; contains, in 100 volumes, 13 vols. of alcohol; 660 free acid; 100 vols. yield, by evaporation, 3.313 dry residue, which consists principally of saccharine matter, and .563 ashy constituents.

"These proportions are met with in Germany and France, in the most choice wines. Both sorts contain more alcohol and less free acid than the most esteemed Rhenish wines. The soil on which these wines are grown must contain much calcareous matter, for they approach in flavour the wines of Hungaria and Franconia.* The red wine has many properties in common with Burgundy; two bottles of it, nevertheless, were turbid, and evidently not sufficiently settled. It might be possible to procure a sale for this wine in England and Russia, were you to succeed, by carefully conducted fermentation, in producing a stronger bouquet. Should you be inclined to make the experiment of adopting the mode of fermentation which is usually resorted to with Bourdeaux wines, a great improvement might result from it. The best Bourdeaux wines are not pressed, but the grapes are put along with their stalks into vats, in which they are allowed to remain until the fermentation is completed. I would advise you also to make this experiment with the white grapes.

"As the wine of Irrawang contains an ample quantity of saccharine matter, I deem it expedient that you should allow it to ferment at the highest possible temperature. In Germany, where the wine is poor as to saccharine matter, and rich in yeasty ingredients (a consequence of the use of strong animal manure) it is necessary to proceed quite contrary to this, namely, to allow it to ferment at a low temperature. I think, moreover, that by employing, as regards the white wine, the method of fermentation adopted in Hungary, namely, at Tokay, you would obtain a wine resembling Tokay. There they allow grapes dried on the stalks to ferment together with undried grapes. The best Tokay is ob-

* The soil of the vineyard at Irrawang contained, originally, very little calcareous substance, although strata containing a large proportion of shells exist within a few chains of it. It is supposed, however, that a sufficient quantity both of carbonate and sulphate of lime has from time to time been added, so as to render it well suited for the production of wine. This addition has been made under the impression that only a small proportion of lime in the soil is necessary, since a very minute quantity of that mineral can be assimilated by the vine; much less, indeed, than siliceous is by cereals, the reed, or bamboo. On the other hand, a calcareous soil, strictly so-called (notwithstanding the prevailing opinion to the contrary), is not indispensable to the production of superior wine. In this respect the presence of alkaline salts is much more necessary. In the absence of lime, therefore, when the mechanical and chemical composition of any soil is otherwise suited for the growth of the vine, I am of opinion that the minute proportion of calcareous matter, then so necessary an ingredient in the food of plant, may be readily and effectively applied artificially.

I have also added to the soil of the vineyard at Irrawang, with marked advantage, considerable quantity of wood ash, charcoal, and even the prunings of the vine cut small. The vineyard of Terreela, of which the soil is sandy, it is my intention, this winter, to enrich by a dressing of strong red clay, from the forest land, which the influence of the sun and atmosphere will soon intimately intermix with the sand.

Many of the clays in this locality are rich in valuable mineral constituents, which render them naturally fertile, particularly those resulting from the disintegration of basaltic whinstone and porphyry, or from alluvial deposit; but in many cases such soils are rendered utterly barren by their impenetrable solidity, resisting the entrance of roots, air, and also by retaining water too long on their level or hollow surface.—J. K.

tained from three to four parts of dried pounded grapes, with one part of must from fresh grapes.

"The proportion of free acid in your wine is not considerable; it might contain even more without detriment to its quality. Since the bouquet is produced principally by the formation of various kinds of ether, resulting from the presence of free acid, it is possible that you would obtain a wine of stronger bouquet, if you do not wait the full ripeness of the grapes.* According to the Hungarian mode of fermentation you obtain a sweet wine; by the application of not quite ripe grapes, a wine resembling, if not surpassing in quality, the noble Rhenish wine.

"The wines of Colonel Macarthur are stronger than yours, namely, richer in alcohol; they are in that respect proportionally too rich, which is no advantage to their quality.

"Since these Australian wines contain too little free acid, they would not improve by laying, that is to say, by age.

"The wines of Colonel Macarthur contain—

	Spec. grav.	Alcohol.	Free Acid.	Residue on evaporation.	Residue on combustion.
Verdeilho and La Folle	.989	17.15	.48	3.075	.2650
La Folle and Muscat	.9402	20.473	.600	5.510	.30
White Muscat Lunel	.9970	19.53	.640	6.420	.238
Verdeilho	.990	17.68	.580	22.98	.278
Riesling grape	.189	15.81	.275	2.81	.206

"The proportion of ashy constituents in your wines is on an average greater; and it appears as if Colonel Macarthur cultivates a soil poorer in mineral constituents, or that he has added sugar previous to its fermentation. The abundance of ashy constituents renders the wine superior and more wholesome.

"In the new edition of my chemical letters I have inserted a passage from your last letter, and I wish that the residents in your part of the world may act up to the wish I have therein expressed.†

"For your kind transmission of seeds I thank you sincerely. I have distributed them in many Botanical Gardens in Germany. I likewise thank you for the interesting minerals, and the two skins of the *ornithoryncus paradoxus*.

* In order to avoid the bad effects consequent on not allowing the grapes to be sufficiently ripe before harvesting them (an error too often committed), I had for some time fallen rather into the opposite extreme, by allowing them to remain too long on the plant before gathering them; conceiving that fruit intended for the press could not possibly be too free from acid, or too rich in sugar. The wines made under these circumstances were those experimented on by Baron Liebig. I soon saw the injurious effects of allowing the fruit to be over-ripe, which I endeavoured to prevent by mixing must of opposite qualities, with favourable results, as mentioned in my last wine report. Still, much of the wine then made, although sound, was deficient of aroma. I suspected the over-ripeness of the fruit to be in some manner the cause, and expressed my suspicions to that effect, having before made better wine when less attention was paid to the condition of the fruit. During the last three vintages, acting under these impressions, the wine was purposely made with the fruit on the whole less ripe, or at least a portion of the must of such was mingled with the must of the more ripe fruit, with a marked improvement in the quality of the product. At the same time, I freely admit that the deficiency of free acid in the former samples of wine, and the great advantage of its presence in all wines, did not occur to me until I received these instructive letters from Baron Liebig, giving his opinion of the samples I had forwarded to Giessen for his examination, with his valuable suggestions on the subject of wine making, which I have eagerly followed this last vintage.—J. K.

† This valuable practical observation has reference to the sample of wine then under examination, not to Australian wines generally, although it is also applicable to such of them as may be deficient of free acid; a defect, however, which seldom occurs in the wines of this country, as the growers more generally err by gathering the fruit before it is sufficiently ripe. I have, nevertheless, tasted dry old wines made in the colony, having a fine aromatic perfume, of full body, and largely possessed of that peculiar ether (the *cinanthic*) produced only by age, which constitutes the bouquet of fine wine, and were then of improving quality. These wines were the produce of vineyards in this district, where the fruit must have been harvested in proper condition, and the vintage on the whole conducted with consideration and care. Even now, there is at Irrawang a small quantity of wine made by me in 1836, upwards of seventeen years ago, which has all the while continued to improve. It is now an excellent wine, resembling first growth Burgundy, a sample of which I hope to produce to-day, when the wines are tasted.

All this is calculated to show that, with common care and attention to minute circumstances, our wines may generally possess superior qualities; and if they do not, it is our own fault, not that of the climate or the soil.—J. K.

‡ See Baron Liebig's Familiar Letters on Chemistry, last edition, London, 1851, of which the author kindly presented me with a copy.—J. K.

It will afford me great pleasure to hear from you from time to time.

"With the expression of the most perfect regard, I am yours sincerely,

"To James King, Esq.,
Irrawang."

"DR. JUS. LEIBIG.

(To be continued.)

QUERIES AND ANSWERS.

GARDENING.

MANAGEMENT OF THE IRISH YEW.

"In one of the numbers of THE COTTAGE GARDENER, a method was mentioned of pruning the Irish Yew so as to keep it in proper shape without tying, which always looks bad. Will you kindly tell me in what volume and page it was mentioned.—A. K."

[We had better give the directions again, and more fully, for the management of Irish Yew, so as to have it on one central stem was only incidentally mentioned along with the Italian Cypress (*sempervirens*). An Irish Yew, six or seven feet high, with three or four leading shoots to it from near the bottom, is worth what one chooses to give for it, but we would grudge and grumble very much indeed to be obliged to take a cart load of them for a gift, to plant in a cemetery; and we would not plant one in a geometric garden, or along a terrace, for the value of the whole load, the cart and horse included. The side branches of an Irish Yew, and of the upright or Italian Cypress, ought to be stopped four or five times every growing season, until the plants have attained their full height, and the sides ought to be as firm as the face of a strong hedge, without being regular, or even appearing to have ever been pruned, or stopped at all. All that can be done with plants which have been allowed their own way, is to cut back to different heights all the long shoots, except the middle or leader, when the plants are very large or very old, and that this would be a worse remedy than the fault; all that can be done is to keep the side leaders tied into the centre by tarred cord, or copper wire. All Yews, Junipers, Arbor Vitæ, Cedars, and Cypressess, ought to be first trained to one leader, and to be kept to that one leader for many years before they are allowed to spread out in their natural style.]

BANANA (MUSA CAVENDISHII) CULTURE.

"BUSY-BODY will be obliged by any information respecting the culture of the *Musa Cavendishii*, and whether the temperature (during frost) of 60° is sufficient for it?"

[Sixty degrees is the lowest temperature that should be given to this *Musa* for the three winter months, if it is grown for its fruit. It will *live*, however, in a half-dry state, in any temperature above forty degrees. We have had it so ourselves for months at a time, but then, the fruit which followed was not worth anything.

We may observe that we have tasted this fruit from the best growers in England and Scotland, Paxton and McNab, and we do not hesitate to say that their fruit was not worth dishing for table; it was what the Scotch say, "a whim," and nothing more. The Banana "whim" may be begun by a start with fresh young suckers, at the end of March to the beginning of May, using very strong, rich, porous loam, a bottom-heat of about 80°, and a moist top-heat of 65° to 80°, according to the sun, keeping the plants supplied with abundance of water till the end of September, then drier and less heat until you gradually arrive at the point we started from.]

FRUITING CRATÆGUS PYRACANTHA.

"BUSY-BODY wishes to know the way to make the *Pyracantha* fruit all the way to the ground, instead of only on the upper branches."

[This Thorn, flowers and fruits only on the last year's growth, and it, therefore, fruits higher and higher on the wall, year by year; but if people would take the same pains with it as they take with the Peach it would probably fruit all over the wall; we are not aware that this has ever been

tried, and, probably, it may not be so easily managed as the Peach, but the principle of management must be the same for both.]

GRAFTING RHODODENDRONS.

"I should feel very much obliged if Mr. Beaton (or any of your other correspondents), would favour me with the best mode of grafting Rhododendrons, and the best time for it, as my gardener is not so successful as I think he should be.—R."

[The best mode of grafting Rhododendrons is one of the simplest operations in all gardening, but the great art and mystery is, to take care of them after they are grafted, until the grafts have "taken." Any time in the whole year, except just when the plants are making their annual growth, will answer about equally well for grafting these plants; we have so grafted them in every month in the year, but from the end of July, to the middle of, or end of, September, is, perhaps, the best time. The stocks ought to be established in pots, and the grafts ought to be placed as low down as can be done. The operation is on this wise—make a down-cut on the side of the stock, about an inch long, and a quarter-of-an-inch deep at the bottom; make a cross-cut at this bottom the depth of the cut slice, then take a graft three inches long, square the bottom, and cut out a slice to correspond exactly with the slice from the stock, leaving the bottom of the graft just a quarter-of-an-inch in thickness; place this on the notch in the stock, and if you did the thing properly, the cut parts of the stock and of the graft will fit as if they had been growing so; now tie them with a worsted thread round and round, just as you would a rose-bud, and no more is needed; there is no clay or mulling about. The leaves of the graft may be tied up to the stock, and the stock is not cut back till the graft has taken. A close cold frame is best all this time.]

REMOVING A LARGE ARBOR VITÆ.

"I wish to remove an Arbor Vitæ tree, about twenty feet high, and seven inches diameter in the stems. Can you inform me what is the best time to do this?—J. B."

[Cut the roots all round at three feet from the trunk, before the middle of May, and remove it in dull, damp weather, any time after the first of September, and before the middle of October, and see that it is well staked, mulched, and watered the following spring and summer.]

GROWING ORCHIDS IN PINERY.

"Having the offer of the following Orchids, but having only two Pine-stoves and an early and late vinery, do you think I can grow them? *Oncidium papilio*, *Zygopetalum Mackayi*, *Dendrobium*, different sorts. And please to inform me where I can get the best tobacco paper.—Q IN THE CORNER."

[The Orchids you mention, and many others, such as *Cattlegas*, *Barkerias*, *Lælias*, some *Epidendrums*, *Phaius*, and most of the species from South America, will thrive and flower exceedingly well in your Pine-stoves. When growing, keep them moist by frequent syringings, shading them from the midday sun, and when the growths are perfected refrain from both syringing and shading, except in long continued sunny weather. Two or three days of sunshine will not hurt them. With regard to tobacco paper, we never recommend dealers. They should advertize.]

POULTRY.

HEN LAYING SOFT EGGS AT INTERVALS.

"Will you oblige me by giving me some advice upon the following case:—A Cochín-China hen, which is apparently in good health, lays a soft egg every other day. One day she lays in the nest, and the next it is usually dropt from the perch on which she roosts. This has been going on since the middle of January. Several times she laid two perfect, and one shellless, in two days. This circumstance arising with only one hen, and having several others, I do not suppose the food or treatment has anything to do with the imperfection of the eggs.—E. F."

[You have allowed this derangement of the egg system to go on too long. In all disturbances of so important a part the most prompt measures should be adopted. If we

observe even an irregular incrusting of an egg-shell, we immediately put the hen producing it upon a lower diet. It does not at all follow that because the other hens are not affected, that the diet they all live upon is not too exciting for the hen that is affected. In all species of animals some individuals are more easily excited than others. It is quite certain that the egg system of your hen is disordered, and we should remove her from the other birds, put her upon a lower diet, give her plenty of green food, a good grass field would be the best, and give her, every other day, a pill of one grain calomel and one-twelfth of a grain tartar emetic, until the soft egg-laying ceased. If she leaves off laying for a few weeks all the better.]

TO CORRESPONDENTS.

ENGLISH BOTANY (Farm).—We cannot give you the particulars you require. This, and many other applications, show how needful it is to advertise such works.

BLACK BEETLES.—*G. A. G.* wishes to know "the best mode of getting rid of black beetles."

CLIMBING PLANTS (A Subscriber).—You must wait until the autumn for planting such as you require. Remind us of what you need next September.

COTTAGE GARDENERS' DICTIONARY (Primula Sinensis).—This cannot now be had either in weekly or monthly parts. Its price, complete, is only 8s. 6d.

NAME OF ROSE (W. T. G.).—The fac-simile of the gardener's label, "B. Jauni Serin," is much nearer correctness than many we have to decipher. It means, "Banksian Rose, Jaune Serin." It is a yellow Rose.

WHITE SHRUBLAND PETUNIA (A Subscriber).—This and the *Shrubland Rose Petunia* are patronised in our National Botanic Gardens, and in the garden of the London Horticultural Society, as the best bedding Petunias of their respective colours. For the last six years you might have seen large beds of them at Kew, and during that period they were repeatedly described in these pages. Now, if a gentleman had written a cross letter to us because his nurseryman could not supply him plants of one or both of the said Petunias, we would cross swords with him on the spot, true British fashion; and if anybody asked us where they could be bought, we would say quietly, we did not know where any plant is on sale which is not advertised in our columns; and that all that are so advertised are as well known to our readers as to any of us. If our nurseryman told us "there is no such Petunia," we would go to another dealer. Every plant that is recommended by any of the writers in **THE COTTAGE GARDENER** may be relied on, *unless it is perfectly new*, and all the world put together may be wrong about a new plant that was never tried by any one. But it is possible that any nurseryman in the three kingdoms should tell a customer that there is no White Petunia but *Nyctagyniflora*? (*R.*)—They are the best of Petunias for bedding, but you must not mix them. The *Shrubland White* is much stronger and faster growing than the *Shrubland Rose*, and would soon kill it. The latter looks well even in the smallest beds, but the White requires plenty of room, and deserves it.

B. M. AND E. (J. K. Walk).—These letters in our Calendars, Almanack, &c., mean "beginning," "middle," and "end" of the month.

PERSIAN CYCLAMEN (L. E. L.).—Any of the florists advertising in our columns can supply you.

Cow (K.).—You will have seen an article by Mr. Errington, which includes the very subject. On no account use violence.

THISTLES (Ibid).—Your only remedy, as the field cannot be broken up, is to persevere in cutting them down with the scythe.

FLOWER-GARDEN PLAN (Harlow).—A very pretty group of beds, which we shall engrave some day, to show a reason for departing from a rule we often insist on, namely, a flaming centre. You have just hit the nail upon the head, as they say, with the centre and four other circles; but your 6, 7, 8, and 9, will not suit at all. The plants are, at least, six times too low, and the weak colours will be drowned by the blaze from the circles; but now it may be too late to alter, as your stock is already provided; two of the beds, 6 and 8, ought to be Yellow *Calceolaria Angustifolia*, or *Rugosa*, and the other two, a good White Verbena, or the four might be either white or yellow. This pretty group might be repeated several times from a good central point; but all that we shall show with the engraving.

HAYTHORN'S HEXAGON GARDEN NET.—"In your last number, a correspondent recommends Nottingham thread net for protecting fruit-trees, and states a piece attracted the notice of one of our best gardeners, the other day, who pronounced it to be a most desirable article. I am only surprised the gardener had not seen the net before, as you will find, from the enclosed prospectus of "Haythorn's Hexagon Garden Net," that it has been most extensively used for seven years, and was recommended by Mr. McIntosh, in his "Book of the Garden," also in "Beck's Florist" for February, 1850; "Agricultural Magazine," page 45, 1852; "Midland Florist," pages 97 and 130, 1852; "Gardener's Record," page 56, 1852, &c. The prospectus contains testimonials, prices, &c., and, with patterns, is forwarded gratis and post free to any gardener, or his employer, wishing to have one, who will send his address, directed to "Mr. Haythorn, Nottingham." The net is cut to any length required, from two to eighteen feet in width, is sent *Carriage paid to London*, &c., and the payment is not expected before the net has been received and approved.—Z."

SIANGHAE'S ROOSTING-PLACE (M. B.).—Perching is almost sure to produce crooked breasts in these birds. We have them roosting on the floor, which is littered down every night with straw.

CANKER IN FOWLS (W. F. Lipter).—We should keep them on soft food, and touch the ulcers with *Egyptiacum*, a recipe for which was given by us a few weeks since.

BRITTLINESS OF HORSES' HOOF (A Constant Reader).—Rub well into the crust of the hoof a mixture of three ounces of oil of tar, and six ounces of train oil. Stop the hoof at night with a mixture of two pounds of clay, and one pound of bacon salt, made into a dough with water.

LONDON: Printed by HARRY WOOLDRIDGE, Winchester High-street, in the Parish of Saint Mary Kalendary; and Published by WILLIAM SOMERVILLE ORR, of Church Hill, Walthamstow, in the County of Essex, at the Office, No. 2, Ainen Corner, in the Parish of Christ Church, City of London.—April 20th, 1854.

Advertisements.

NORTH DEVON.—With or without about Thirty-five Acres of Land.—TO BE LET, Furnished, a very desirable RESIDENCE most delightfully situated within two miles of Bideford, with good Gardens, Coach-house, Stabling, and all requisite offices and accommodation for a gentleman's family.

Full particulars to be obtained, by addressing, post paid, W. K., Post-office, Bideford, North Devon.

The Great Western Railway will be extended to Bideford in the autumn of the present year.

VALUABLE AGENCY TO CHEMISTS, STATIONERS, CONFECTIONERS, AND OTHERS.—Agents wanted in all parts of the United Kingdom for the Sale of the Free Trade Company's celebrated Tea, Coffees, Cocoas, Chocolate, and a variety of Goods, in tinfoil, air-tight cases, in quantities from two ounces up to one pound, forming a complete business of themselves, or a valuable addition to another. There is no waste or dust, and a previous knowledge of the business not required. The agents are supplied with cards and circulars, at the Company's expense, which has been found considerably to increase their general business. Family Orders amounting to £3 and upwards sent carriage free to any Railway Station.

Apply to R. E. DOVER and Co., Wholesale Tea Dealers, 25, Jewry Street, Crutched Friars, City.

DR. LOCOCK'S COSMETIC.—A delightfully-fragrant preparation, for improving and beautifying the complexion, rendering the skin clear, soft, and transparent, removing all eruptions, freckles, sunburn, tan, pimples, and roughness,—curing guat bites, and the stings of insects generally. In the process of shaving it allays all smarting, and renders the skin soft and smooth. Sold in bottles, at 1s 1½d., 2s 9d., and 4s 6d. each. Beware of counterfeits. Observe the name on the government stamp outside the wrapper. Sold by all respectable chemists; also may be had DR. LOCOCK'S PULMONIC WAFERS, for asthma, consumption, coughs, colds, and all disorders of the breath and lungs; they have a pleasant taste. Price 1s 1½d., 2s 9d., and 11s per box. Wholesale Warehouse, 26, Bride Lane, London.

Of Vast Importance to the Army, Navy, & others.

HER MAJESTY'S ROYAL LETTERS PATENT, for valuable and extraordinary improvements in the most powerful and brilliant Telescopes, Camp, Race-course, Opera, and Perspective Glasses, to know the distances of objects viewed through them. Messrs. S. & B. SOLOMONS, Opticians, 39, Albemarle Street, Piccadilly, observe, opposite the York Hotel. These Telescopes possess such extraordinary powers, that some, 3½ inches, with an extra eye-piece, will show distinctly, Jupiter's moons, Saturn's ring, and the double stars; with the same Telescope, can be seen a person's countenance, 3½ miles distant, and an object from 16 to 20 miles. They supersede every other kind for the waistcoat pocket, and are of larger, and all sizes with increasing powers accordingly. The Royal Exhibition, 1851.—Small glass for the waistcoat pocket. A valuable newly-invented very small powerful waistcoat-pocket glass, by which a person can be seen and known one and a half miles distant; they answer every purpose on the Race-course, at the Opera-houses, country-scenery, and ships are clearly seen at 12 to 14 miles. They are invaluable for shooting, deer-stalking, yatching, to sportsmen, gentlemen, gamekeepers, and tourists' Camp, Perspective, Opera and Race-course glasses, with wonderful powers. An object can be clearly seen from 10 to 12 miles distant. Newly-invented Spectacles, immediately they are placed before extremely imperfect vision, every object becomes clear and distinct, the most aged defective sight is brought to its youthful, natural, and original state.

DEAFNESS—NEW DISCOVERY.—The ORGANIC VIBRATOR, an extraordinary powerful, small, newly-invented instrument, for deafness, entirely different from all others, to surpass anything of the kind that has been, or probably ever can be produced. Being of the same colour as the skin, is not perceptible; it enables deaf persons to hear distinctly at church and at public assemblies; the unpleasant sensation of singing noises in the ears are entirely removed; and it affords all the assistance that possibly could be desired.

39, ALBEMARLE-STREET, PICCADILLY—observe, opposite the York Hotel.

GLENFIELD PATENT STARCH, used in the Royal Laundry; Wotherspoon's Machine-made Lozenges and Confits, packed in neat 4 oz., 8 oz., 16 oz., and 7 lb. Boxes, free from colouring matter, which is so much objected to; Scotch Marmalade, Jams and Jellies, now so universally known for fine quality, prepared by Steam Power, for Home use and Exportation. Sold by all Shopkeepers.

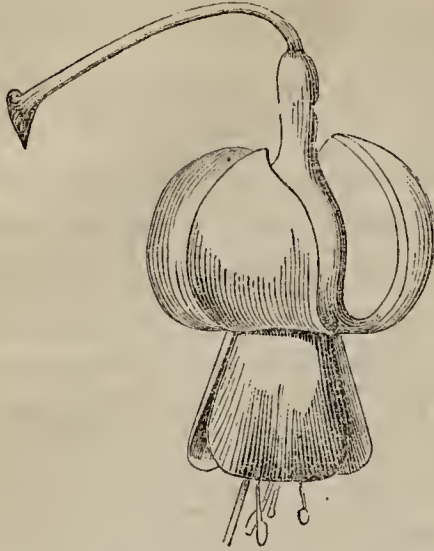
London—WOTHERSPOON, MACKAY, & Co., 66, Queen Street, Cheap-side. Glasgow—ROBT. WOTHERSPOON & Co., 40, Dunlop St.

"THE POULTRY CHRONICLE"

Treats of all the leading questions connected with Poultry Prize Fowls, Poultry Shows, Rules for Exhibitions, Contributions from Leading Amateurs.

Published every Wednesday (No. VI. on Wednesday, the 5th of April), at No. 1, York Street, Covent Garden, where Orders and Advertisements should be addressed, and Sold by G. RUTLEDGE & CO., 2, Farringdon Street. Price 2d., or stamped for post, 3d. The Monthly Part for March will be ready April 1st.

FUCHSIA "DUKE OF WELLINGTON" (STOKES).



Colour—sepals light scarlet; tube deep carmine; corolla rosy purple.
Form—as given. Habit—shrubby, compact, and very prolific, blooming at every joint, perfectly distinct from all others yet in cultivation, and a type and groundwork for a new and much improved class.

JOHN MOORE & SON, NURSERYMEN, PERRY BARR, near Birmingham, beg to state that they are the fortunate possessors of this truly magnificent Fuchsia, and will send it out on and after the 20th of April next, in strong plants at 10s 6d each, with usual trade discount.

The great improvement of late in colour of Fuchsias has added much to their value, but while that quality has been attained, others of equal or perhaps greater importance have not been so rapidly advancing, namely, form and habit, the latter in many instances being worse in new than in old varieties; it will, therefore, be evident that improved form and habit are highly desirable. The above fine Fuchsia has these qualities in an eminent degree, and is, therefore, invaluable for hybridisation alone; but apart from this it is considered of first-rate merit, as the following extracts will show:—

Mr. C. Turner, in a letter of August 27 says, "Your Fuchsia is a fine flower, of best form. I wish the corolla had been darker."

John Edwards, Esq., in National Garden Almanack.

"Stokes' 'Duke of Wellington' Fuchsia is reputed to possess many high class claims; this, we know, that the men of Birmingham are amply competent to appreciate all that pertains to merit in Fuchsias."

Mr. Glenny, in Lloyd's Newspaper of October 2, remarks:—

"We some time ago noticed an extraordinary Fuchsia, of which the blooms were sent by Mr. Stokes. We have now others from MOORE & SON just announced—"The Duke of Wellington." We could wish for a more decided contrast, but there is everything else that can be desired; the form, size, habit, and its reflexing qualities especially, place it among the best." And again, October 9, 1853:—

"'Duke of Wellington,' the variety was raised by Stokes, who sent it long ago to us for our opinion, which was highly favourable; in fact, the flower loses upon only one point, which is the same as the Duchess of Lancaster does."

Mr. S. Moreton, of Birmingham, in a letter dated March 1853, says:

"The Fuchsia 'Duke of Wellington' I selected from a number of seedlings submitted to me last autumn by Mr. Stokes. It is a fine variety; the form is undeniable, and will please the most fastidious of the Birmingham growers. The tube is short; the sepals a light rosy scarlet, very broad, of good substance, and relaxing so as nearly to hide the tube; the corolla a rosy purple, proportionate, nicely rounded and smooth; size, a full average. The flower has only one fault, viz.:—corolla scarcely strong enough in colour, but from its excellent habit will make one of the best exhibition varieties that has been let out in this locality."

Mr. George Glenny, in his Garden Almanack:—

"The flower is an acquisition, and the drawing faithfully executed." In the Sheef Almanack it is classed among Fuchsias "really fine;" and by letter dated February 8, Mr. G. remarks, "The Duke is different to anything else."

At Handsworth and Lozells Exhibition, July 26th, it was highly commended by the judges. See *Midland Counties Herald*, July 28, report of the Show.

At the Wolverhampton Horticultural Show, August 30, it was awarded a Certificate of Merit; also at Wellington, Salop, September 5, and at Walsall, September 14, the only places where it has been shown for a prize. It has already been seen and ordered by the following gentlemen:—

- | | |
|------------------------------|---------------------------------|
| Messrs. A. Henderson and Co. | Mr. G. Sniith |
| " Jackson & Son | " R. Smith, Worcester |
| " Fisher, Holmes, & Co. | " Rogers, Uttoxeter |
| " J. & C. Lee | " Mc Pherson, Gardener to the |
| " A. Paul and Son | Rt. Hon. Lord Calthorpe |
| " Mac Intyre & Mac Intosh | " Poole, Gardener to the Rt. |
| " Low & Co. | Hon. Earl Aylesford |
| " E. G. Henderson & Son | " Carpenter, Gardener to Sir F. |
| Mr. C. Turner | Scott, Bart. And many others. |

London Agents, Messrs. HURST and M'MULLEN, 6, Leadenhall-street. A coloured Lithograph, correctly and beautifully executed, may be had free by post for twenty-four stamps, which will be allowed to purchasers of not less than three plants.

FUCHSIA—DUKE OF WELLINGTON.—J. MOORE

AND SON, Perry Barr, Birmingham, beg to call attention to their advertisement of the 25th ult., and in answer to numerous correspondents, they beg to say that although possessed of a Large and Fine Stock, they cannot in fairness send it out before the day appointed, namely, the 20th inst., when good plants will be supplied at 10s 6d each, with Trade discount.

LILIAM LANCIFOLIUM, PELARGONIUMS,

RANUNCULUSES, ANEMONES, AND GLADIOLUS.—HENRY GROOM, Clapham Rise, near London, by Appointment FLORIST to HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING of SAXONY, begs to say that his SPRING CATALOGUE is ready, and will be forwarded by post on application.

BEE-HIVES.



NEIGHBOUR'S IMPROVED COTTAGE BEEHIVE, as originally introduced by GEORGE NEIGHBOUR and SONS, with all the recent improvements, glasses, and thermometer, price 35s, securely packed for the country.

This unique Hive has met with universal commendation, and may be worked with safety, humanity, and profit, by the most timid; its arrangements are so perfect that the Honey may be taken at any time of the gathering season without at all injuring the Bees, the produce being of crystal purity. The public are hereby cautioned against a piracy of this Beehive.

Early applications addressed to GEORGE NEIGHBOUR and SONS, 127, High Holborn, or 149, Regent street, London, will receive prompt attention.

Their newly-arranged catalogue of other improved Hives, with drawings and prices, sent on receipt of two stamps.

AGENTS.—Liverpool: James Outhbert, 12, Clayton Square. Manchester: Hall and Wilson, 50, King-street. Glasgow: Anstlin and M'Aslen, 168, Tron-gate. Dublin: J. Edmondson & Co., 61, Dame Street.

DEANE'S WARRANTED GARDEN TOOLS.

Horticulturists, and all interested in Gardening Pursuits, are invited to examine DEANE, DRAY, and Co.'s extensive stock of GARDENING and PRUNING IMPLEMENTS, best London-made Garden Engines and Syringes, Coalbrookdale Garden Seats and Chairs.

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| Averucators | Garden Scrapers | Pick Axes |
| Axes | Gidney's Prussian Hoe | Potato Forks |
| Bagging Hooks | Grape Gatherers and | Pruning Bills |
| Bills | Seissors | Knives, various |
| Borders, various pat- | Gravel Rakes & Sieves | Saws |
| terns | Greenhouse Doors and | Seissors |
| Botanical Boxes | Frames | Shears |
| Brown's Patent Fumi- | Hammers | Rakes in great variety |
| gator | Hand-glass Frames | Reaping Hooks |
| Cases of Pruning In- | Hay Knives | Scythes |
| struments | Horticultural Hammers | Seythe Stones |
| Daisy Bakes | and Hatchets | Shears, various |
| Dibbles | Hoes of every pattern | Sickles |
| Doek Spuds | Hotbed Handles | Sickle Saws |
| Draining Tools | Ladies' Set of Tools | Spades and Shovels |
| Edging Irons & Shears | Labels, various pat- | Spuds |
| Flower Seissors | terns, in Zinc, Por- | Switch Hooks |
| " Stands in Wires | celain, &c. | Thistle Hooks |
| " and Iron | Lines and Reels | Transplanting Tools |
| Fumigators | Marking Ink | Trowels |
| Galvanic Borders and | Mattocks | Turfing Irons |
| Plant Protectors | Menographs | Wall Nails |
| Garden Chairs and | Metallic Wire | Watering Pots |
| Seats | Milton Hatchets | Weed Hooks |
| " Loops | Mole Traps | Wheelbarrows |
| " Rollers | Mowing Machines | Youths' Set of Tools |

DEANE, DRAY, and Co. are Sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with their Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom. Also, Wholesale and Retail Agents for SAYNOR'S celebrated PRUNING KNIVES, used exclusively by the first Gardeners in the United Kingdom.

DEANE, DRAY, and Co. (Opening to the Monument), London Bridge.



SCYTHES.—BOYD'S PATENT SELF-ADJUST-

ING SCYTHE will last out three of the ordinary sort, and is always ready for use. "We have seen this scythe at work, and can strongly recommend it."—See *Mark-lane Express*, May 16, 1853. To be had of every Ironmonger and Nurseryman in the kingdom, and wholesale and retail of WM. DRAY and Co., Agricultural Implement Makers, Swan-lane, London.

WEEKLY CALENDAR.

M D	D W	APRIL 27—MAY 3, 1854.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
27	TH	Oodes helopoides.	29.872—29.836	60—28	S.W.	—	42 a 4	13 a 7	sets.	☾	2 27	117
28	F	Loricea tenax.	29.821—29.718	56—40	E.	—	40	15	8 a 51	1	2 36	118
29	S	Agonum coerulescens.	29.634—29.586	56—37	E.	38	33	17	10 3	2	2 45	119
30	SUN	2 SUNDAY AFTER EASTER.	29.808—29.665	66—31	S.W.	30	36	18	11 10	3	2 54	120
1	M	ST. PH. & JAS. PR. ARTH. B. 1850.	29.885—29.808	68—40	S.E.	—	34	19	morn.	4	3 1	121
2	Tu		29.869—29.748	64—47	E.	06	32	21	0 10	5	3 9	122
3	W	Syctodes thoracicus.	29.802—29.658	55—47	E.	58	30	23	1 0	6	3 16	123

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 61.7° and 39.7° respectively. The greatest heat, 81°, occurred on the 23rd in 1840; and the lowest cold, 25°, on the 2nd in 1852. During the period 113 days were fine, and on 76 rain fell.

BRITISH WILD FLOWERS.

(Continued from page 16.)

CARDAMINE AMARA: Bitter Lady's Smock; Bitter Cress; Bitter Water Cress.



Description.—It is a perennial. Root toothed, somewhat creeping. Stems one to two feet high, leafy, a little zigzag, more or less hairy, their lower part creeping, putting forth several rootlets, and sometimes a few slender scions. Leaflets all widened in the middle; those of the upper leaves

oblong or elliptical, deeply and unequally wavy or notched; those of the root leaves more rounded, blunt and entire. Flowers the size of the *Cardamine pratensis*, but petals always white or cream-coloured, with violet anthers. Mr. Curtis first pointed out the essential mark of this species, in the slender, obliquely elongated, style, and minute stigma, which seem to be deciduous, still leaving the pod with a sharp straight point.

Places where found.—Common in boggy places, near streams, and in moist meadows and pastures.

Time of flowering.—April and May.

History.—There is little doubt that the earliest herbalists considered it a variety either of the Common Lady's Smock (*C. pratensis*), or of the common Water Cress. To the latter, before it flowers, it bears a strong resemblance, but its taste differs from it, being very bitter and nauseous. Mr. Curtis was the first distinctly to point out its permanent and botanical differences from *C. pratensis*. In the latter the anthers are yellow, but in *C. amara* they are purple; the petals of *pratensis* are tinged with purple, but in *amara* they are creamy-white; and, lastly, the style of *pratensis* is upright, whilst in *amara* it has a very unusual bend to one side.

No animal but the sheep and goat eat it readily, for its taste to most palates is disagreeable. The young leaves, however, are sometimes mixed with salads in Lincolnshire. When the plant is full grown the bitter flavour increases, and Parkinson justly observes, "that none can away with it to eat it, unless it be boiled in water, and shifted again into other fresh boiling water, to take away the bitterness, and so some do eat it."

A very beautiful Butterfly, *Euchloe cardamines*, the *Papilio*, *Pieris*, and *Ganoris cardamines* of some entomologists, is often found in the vicinity of various species of *Cardamine*, for on these it deposits its eggs, and on them its caterpillars feed. The common names of this Butterfly are *The Orange-tipped*, on account of its white wings being tipped with that colour; and *The Wood Lady*.—(Smith. *Withering*. Curtis. Parkinson. Westwood.)

The Meeting of the Entomological Society for April was held on the 3rd instant. W. Wilson Saunders, Esq., F.L.S., Vice-President, in the chair. A small but highly interesting collection of minute insects, chiefly of the order *Coleoptera*, from Ceylon, was presented by G. H. K. Thwaites, Esq., the superintendent of the Botanical Garden at Paradenia. The insects had been sent in spirits, and consisted of a selection of all the unique species, many new and very curious.

The Secretary announced that a new part of the Transactions, being the eighth and last part of Vol. ii., of the second series, was ready for distribution.

Dr. Baly exhibited a number of *Hymenoptera*, chiefly of the fossorial and melliferous tribes, collected in Dalmatia, by M. Bottari, now in this country, and who is about to start to Mexico, on a natural history excursion.

Mr. Samuel Stevens exhibited a box of small diurnal

Lepidoptera, recently received from Santaren, in the interior of Brazil, collected by Mr. Bates. Amongst the species were a number belonging to the beautiful family *Erycinidae*, to which family Mr. Bates had paid particular attention, South America being the chief metropolis of the family. By this means he had been able to determine the sexes of different species which had hitherto been regarded as belonging to distinct species, and even, occasionally, to different genera! Amongst some of them are the loveliest little Butterflies with which we are acquainted. Their mode of flight somewhat resembles that of the geometridous Moths, being weak and unsteady, and like them, too, they are generally beaten from the trees.

Mr. Stevens also exhibited three *Coleoptera*, of great rarity, just received, by post, from Mr. Fortune, who had obtained them in China. They are the *Dicranocephalus*

Wallichii (male and female, the latter sex now for the first time transmitted to Europe), and a splendid new species of *Carabus*.

Mr. Douglas exhibited some blades of Grass inhabited by the larvæ of different species of minute Moths belonging to the genus *Elachista*, the transformations of which had been previously unknown. Likewise specimens of the rare *Depressaria capreolella*, taken at Sanderstead, in March. Specimens of the rare Moths, *Stauropus fagi*, and *Glyphisia crenata*, reared from the larvæ now sent for exhibition, by the Rev. Jos. Greene, from Halton, Bucks.

The Chairman exhibited the transformation of a Butterfly belonging to the genus *Adolias* (the larva of which is a strange creature, with rows of very long feathery spines), and of a Moth allied to the genus *Arctia*, reared by Mr. Thwaites, in Ceylon.

A letter from the same gentleman, addressed to William Spence, Esq., F.R.S., was communicated by the latter gentleman, relative to the employment in Ceylon of colonies of Red Ants, for the purpose of destroying the "bug" which attacks the Coffee plants, and does great injuries on the plantations of that vegetable. The "bug," from the description, appears to be a species of *Coccus*, and the nests of the Ants are built on the Cinnamon-trees, at the end of the boughs, the leaves being drawn together by the Ants. It appeared, however, that the Ants proved so irritable to the natives employed in the plantations, that it was doubted whether they did not prove a greater evil than the bugs themselves. Mr. Westwood suggested, further, that the Ants not only did not destroy the Coccidæ, but that they frequented the plants infested by them, in order to feed upon the honey dew secreted by them, as is also the case with Ants in this country frequenting plants infested with aphidæ.

A paper by Mr. Newman was read, containing the description of the transformations of a species of Moth from Santaren, to which he gave the name of *Perophora Batesii*, after Mr. Bates, by whom it had been observed and reared in Brazil. The perfect Moths have a good deal the appearance of our Drinker Moths, but the larvæ reside in cases formed of pieces of leaves very beautifully united together; the genus had previously been named *Saccophora*, by Dr. Harris, the American Entomologist, who had found a congenerous species in North America, but he had subsequently altered the generic character to *Perophora*. The Caterpillar closely resembles those of the genus *Psyche*, but the chrysalis has transverse rows of fine teeth on the back segments, like that of *Cossus* and *Zeuzera*, but the veins are quite unlike those of *Zeuzera*.

Mr. Saunders read a paper containing descriptions of a number of new species of Stag Beetles, *Lucanidæ*, brought from the tea districts of China, by Mr. Fortune. The northern parts of India are also very rich in species of this family, which appears to have its metropolis in the High Lands of India and Assam.

Mr. Douglas communicated a translation of a memoir on the habits of the rare *Bolboceras Mobilicornis*, num-

bers of which had been captured in France, flying at dusk over foot paths near fields of Lucerne, and digging holes into the ground. Mr. Curtis suggested that the habits of insects varied in different countries, as he had found the species in question flying in numbers over heathy places near Norwich many years ago.

The last-named gentleman also read a paper containing descriptions of the larvæ of several kinds of beetles, including *Velleius dilatatus*, found in hornets' nests by Professor Henslow; *Elater rhombeus*, found in a decayed tree at Pau; *Boletophagus reticulatus*, found in a large Boletus, in Scotland, by Mr. Foxcroft; and *Prostomis mandibularis*, found in rotten Walnut trees, in France, by Mr. Curtis himself.

A VERY well-arranged Agricultural Show took place at Aylesbury, on Wednesday the 12th inst., when fourteen silver cups were awarded to the different owners of cattle, the stock exhibited being both numerous and of excellent quality. By very far the most interesting feature of the day, however, was the spirited competition for a very massive silver teapot, valued at twenty guineas, the liberal gift of the Baroness Meyer de Rothschild, being by far the most valuable prize that has ever been awarded at a poultry exhibition. Fourteen individuals competed, the regulations limiting the entries "to parties holding not less than fifty acres of land, and the prize to be awarded to the four best and most useful pens of poultry for agricultural purposes (of four different varieties), the property of a single individual." The result proved in favour of Mr. Ed. Torry, of Aylesbury, who exhibited Grey Dorkings, Black Spanish, Buff Cochins, and Aylesbury Ducks. These were very excellent specimens, more especially the Dorkings and Cochins, which were superior to the general run of birds we meet with at exhibitions. Mr. Rd. Fowler, and others, also were exhibitors of very meritorious fowls. The services of Mr. Edward Hewitt, of Birmingham, were obtained as judge on this occasion, and the interest in poultry matters thus excited, has determined the acting committee to very shortly hold another similar exhibition.

ADVICE TO SMALL HOLDERS.

I MUST now cast an eye over those vegetable adjuncts which may be said to belong to the garden rather than the field. But that strict line of demarcation which has hitherto kept these twin arts from such a cordial and enduring agreement as when once thoroughly recognised will give equal impetus to both, is gradually losing its distinctions, and, I hope, in a very few years, a great proportion of our British acres will have so much advanced in high culture as to puzzle a spectator in deciding whether they be farms or gardens.

The chief vegetables applicable to cow and pig feeding, or capable of being made subservient to a system which aims at a combination of farming and gardening, are as follows;—as usual, I place them in the order of their importance as near as may be:—Cabbages and the various greens, Beans, Peas, Lettuces, Jerusalem Artichokes, and Spinach.

I may now endeavour to show their bearing on a small holding, and will take them consecutively.

CABBAGE.—Of all the various greens, not one is so universally esteemed or so eligible as the Cabbage; I mean, as an ordinary vegetable, whether for man or beast. Sown in succession for at least six months in the year, a very long succession may be looked for; and cut where we may for house consumption, there are always some trimmings for the cow or pig if folks will look properly after them. They may be grown either as principal crops and forming part of a rotation system, or by what is termed mixed cropping. It is here necessary to step aside and whisper in the ears of those of our readers who have not hitherto “whistled at the plough,” or spade, that “mixed cropping” means cropping by anticipation, or, what some farmers term, “stealing a crop,” meaning thereby, that owing to a judicious forecast, founded on an accurate knowledge of what pertains to vegetables, they have so planned matters as to take more produce in a given time from a given plot than an unknowing person could do, and without any material injury to the soil, or any compromise worth notice to the principal crop. Moreover, to go a step further, without breaking up an established rotation. Cabbages, then, beyond most other crops, possess this eligibility, and, as they are continually in request for the kitchen, matters ought to be so planned that a constant supply is at hand. Then there are others of the same family of eminent services, such as *Green Kale*, *Brussels Sprouts*, *Savoys*, and, lastly, the Brocoli family and Cauliflowers. We must not forget the old favourite, too, of the agriculturist, the *Drumhead* Cabbage. Of all three, however, I would place the chief reliance on the ordinary Cabbage, the *Drumhead* and the *Green Kale* as forming part of a system. The others merely as “stolen crops.” A good stock of *Drumhead* Cabbage coming in about the beginning of October, when grass runs short, will be found valuable where there are cows kept; they will serve to force milk, and also keep the “stock tender” from dipping too deeply into the winter and spring stores. They will help on until nearly Christmas, when the roots will be in great demand. The *Green Kale* will be the first spring green food as a vegetable; this will be in use from January until the middle of April, by which time there will be grass, or spring cutting of Rye, Vetches, &c. The *Thousand-headed* Cabbage is a valuable thing, and might probably supersede the Kale, but it takes much room.

BEANS.—These, as a garden product, are very valuable in mixed cropping; from their upright mode of growth and height they may take their place amongst many crops without doing much harm; indeed, sometimes a positive good. I have known summer Cabbage, Brocoli, &c., much benefited by Beans planted thinly through them. For this purpose I prefer the Longpod class, as their foliage is lighter than the Windsor section. Beans, then, may be grown liberally, if the soil is suitable; and after supplying the family they may be bundled when ripe, dried, threshed, and ground into meal to mix with pig food.

PEAS.—These stand next in our list, and, in point of quality, might fairly stand before the Beans; but the inconvenience and expense of staking, in these days, when the labour question assumes an awkward form, is a sad drawback on their extended culture. I am quite aware that some of our ordinary Peas may be grown on the ground without sticks, but this can only be said of our southern counties, and on dry uplands. Peas may be treated as the Beans, ripened and ground, or what is, in my opinion, far preferable, as soon as the family is well served, and the crop is three parts gathered, pull them up at once, and give them to the Cows, they are very partial to them; they will eat all up, if not too

much decayed. This sets the ground at liberty for winter greens, and thus no time is lost. And here it is I prefer Beans as mixed crops; they do not compromise a scheme, which seeks, as a basis, to cover the ground with winter crops as well as summer; for I should like to tie my friends down to this principle, that all the ground be covered with greens, or be made fallow by the second week in November, that is to say, all arable land.

Come we now to the LETTUICES, than which a more useful vegetable does not vegetate. They are capital for either man or beast; few animals refuse them, and as to their qualities, the world has long since agreed on that head. I do think they deserve a more extended cultivation, and it shall not be my fault if they do not before long receive it. Their eligibilities are very great; they do not smother contiguous crops; they require little trouble, and they are soon off the land. People, however, have taken a fancy that they must be transplanted, and that such involves too much trouble; the fact is, they are better, under many circumstances, without transplanting. When the land they occupy is not required for other crops immediately, spring-sown Lettuces may be allowed to run towards seeding, and may be cut for the hogs nearly a yard long, thus producing a great amount of valuable food. It is, however, a mistake to depend on a few sprinkled in with Onions, or other permanent crops. I will shortly show a better way, one more systematic.

JERUSALEM ARTICHOKE.—Here we have a root, or tuber, which it has been much the fashion to “write up.” I am sorry to say, however, that there are some serious drawbacks to its extended culture, and this is the more to be lamented, inasmuch as any accession to our keeping roots, now that the Potato threatens to slip through our fingers, may very fairly be doubly prized. This plant requires an amount of room in the branches that is by no means compensated for in the produce at root, whether as regards bulk or quality. Moreover, the ordinary labourer does not add to their utility in the act of taking them out of the ground; for, somehow, it becomes a dawdling process. I, therefore, dare only recommend them as proper to occupy wastes, odd corners, and unimproved portions of ground; they are, assuredly, not fit to occupy ground which is known to be eligible for Swedes or Mangold, either of which will pay three roots for one of the Jerusalem Artichoke. They are a useful thing to plant as a summer blind to shrubberies near public roads, or to assist in adding privacy to the house during the summer season; for folk can better afford to be stared at in winter than summer, especially if a blustering and noisy north-easter receives a chorus from within, through the medium of a crackling fire.

SPINACH is last on our list of garden things eligible for little farming. It is not to be recommended on the score of profit; but is a useful thing, occasionally, both to pigs and cows. It is very opening to the bowels of animals, and I must say, that a free use of this vegetable when running to seed has occasionally proved a softener of the bowels, and superseded the use of medicue. I well remember, about eighteen years since, a cow of mine having what is termed “red water.” This was, I believe, entirely in consequence of a conceited fool of a cowman persisting in giving her an unusual quantity of Mangold, a mere plaything with Tom, who, like the Hibernian, thought an apple-pie all quinces would be a step in advance. The Mangold, in unusual quantities, made her very hot within; and she might be seen routing up the soil of the hedger banks and licking it, no doubt, through a sensation of an unusual heat, and a perverted condition of stomach. We gave her a pound of salts, and I think more, and then put her on Spinach; and not only on that, but on

other occasions, I have found that it has an excellent tendency to counteract a bound or costive habit.

I have now gone through the chief garden vegetables applicable to live-stock and the wants of the household; and in a further paper will proceed to our five or ten acre plot, and endeavour to point to a good economy, with a few remarks on cultural processes.

R. ERRINGTON.

SPRING AND SUMMER PROPAGATION.

A NEW "sport" was pointed out to me the other day in a garden near me, where the flowers of the Japan Quince (*Cydonia japonica*) turned from the usual deep crimson to different shades of rose colour. There is no doubt but the white or pale blush variety of this plant originated in a similar way, and I am sure that two good intermediate varieties might be had from the plant now in sport in this neighbourhood, if it were in the hands of a clever propagator. The sporting shoots—for there are three of them—are far from the ground, and are mere spurs, so that they can neither be layered in the ground, nor got into pots placed upon posts close to the spurs. This plant does not readily take by either grafting or budding,—at least, they say so,—but I never made the attempt, and I cannot say either way. Some might say it is now too late in the season to graft fruit-trees like this, but that is not at all right, for every tree or plant that will take from grafting in March and April, will take equally well any day from this to the end of next August, and of that everybody in the country ought to be aware. That, however, is not all; there are some trees that will hardly take by grafting until the summer growth has advanced considerably. The Walnut, the Beech, and some fancy Oaks, evergreen and not-evergreen ones, recur to me as familiar instances; and who knows but this *Cydonia* might be grafted on that plan. Has any one ever tried it so? At all events, this plant, or, rather, the sport on it, set me thinking so much, that I could write a very useful lecture on spring and summer grafting, and other modes of propagation as well, and that is how I came to think about it, and to introduce it into my series of "the alphabet of gardening," so that those who do not choose to be turned back to the A. B. C. need not trouble themselves to read any more of this article, but pass on, at once, to Mr. Fish's department.

In spring grafting they generally take shoots of the last summer's growth for grafts, because they are the easiest to handle, and to unite with the stock; but there is no law in nature to hinder a man from grafting a shoot of any age which he may think proper. There is a story of a foreigner, I think Dr. Van Mons, who once grafted a whole pear tree on the old bottom of another pear tree, and it did just as well as a last summer's shoot. I think there is another story about how they could never get the Walnut to graft, until some one, and I think Mr. Knight, the great vegetable physiologist, tried two and three-years-old grafts, and, I believe, he could do little or no good, even with these, until June, or early in the summer, after the trees were out in full leaf and a little growth made. Perhaps I am not quite right here, but the thing is right enough, for I grafted that way often and often; and I recollect, when I was in Hertfordshire, hearing of a farmer who, whenever he tasted any particular cider which he thought better than any he had, would beg a graft of the apple tree from the fruit of which that cider was made, whatever time in the year it might happen to be, winter or summer, it was all the same to him; but I never heard that he made use of any such graft which he fancied after the first week in September till the usual time of grafting in the spring; but all his selected grafts from

the end of March to the end of August he would graft as soon as he got home. It was from disbelieving this story that I first took to try the summer grafting, and it is all right enough.

This is how it is managed: Suppose you see a sport, or something in a tree, next summer, which you take a fancy to, and you wish to graft a shoot from it; take a shoot of the last season's growth, or if the part is two or three years old it may do as well, then from this graft cut off all the growth of this season, *very nearly*, but not quite, then cut off all the leaves which were not removed in cutting the fresh growth. You see here that your graft is plump, full of sap, and swelled buds, or, at any rate, lots of hidden buds where the young wood was cut from, and what is the difference between it and one cut from the selfsame tree last February, only that it is more full of sap, and that is in its favour? The truth is, you put this graft back four or five months, and now you cut your stock, or branch of a tree for a stock, that, too, is now full of running sap, on it you put your graft and clay, and it is wonderful how soon you see the graft in leaf again; and you must not leave it nearly so long untied as a spring graft, because the action of making new wood is so much faster in the summer than it is in the spring of the year.

We now see that the same law which taught us lately to break off the full buds, and any young growth on a Roso-cutting, late in the spring, is equally applicable to grafts in the summer; all we have to do is to cut off all the young growth of the season to very near the bottom, and the hidden buds then cannot swell much before the union of the graft with the stock takes place, whereas, if we attempted to make a cutting with the leaves on, or to graft with leaves on the shoot, the action of the leaves would dry up both the cutting and the graft before a communication was made for supplying the necessary sap, at least, out in the open air; but if the stock was in a pot, the graft might take to it with the leaves on under a hand or bell-glass; the cutting the same, under protection.

But how is the sport on the Japan Quince to be propagated? It is said not to take on any other stock by the usual process; but suppose it might be worked on another *Japonica*, all one would have to do would be to buy one in a pot, and graft the sport on it, after cutting away the leaves and any young growth; still the sap already in this stock plant might mix with the sap of the sport so much as to turn back the sport to the old thing again, then all the labour would be lost; for fear of this being the case, I did not advise a plant to be got for a stock, and yet the lady was anxious to have the sport secured in some way or other. It struck me that the following plan was more likely to answer than any other that could be tried, and there is never a moment to be lost in securing a sport as soon as it is noticed, because in a few more days it might turn back to the original. What I advised was this, to dig down to the roots of the same plant, and select two or three roots about the size of a penholder, and as long as they could be had, and with as many little fibry roots as possible, to graft these with short pieces from the sport, to clay the graft in the usual way, and then to pot the roots so grafted in forty-eight sized pots; the roots to be coiled in the pot, and one half of the grafted part to be buried in the soil, and to put the pots under a hand-glass in a cold frame, and to keep them shaded with a piece of newspaper over the hand-glass, so that the other plants in the frame might not be shaded. From October to April I do not see that there would be much advantage in this root-grafting over grafting on an established plant in a pot, as the roots of plants are supposed to be full of ripe juice all the winter. I am afraid that if a sport that *must* be grafted, like this one, which is not likely to come from cuttings, is supplied

with ripe juice, that juice would turn the sport back to the normal condition. If a sport can be rooted from a cutting, there is no juice but that of the sport itself to cause any difference, and the chances are fair that the sport is at once secured. Now we almost know that the flowers of the Peach, the Almond, and such like, which come before the leaves, like those of this *Cydonia japonica*, do take up a good deal of the sap which was resting in the roots all the previous winter; we know, also, that as soon as this sap is up to help the flowers a fresh supply of sap is gathered by the youngest roots immediately, and that that sap or juice is much thinner, and quite different from the old sap which is ripe; in short, after the winter store of sap is drawn up for young growth in the spring, whether it be for making flowers, or leaves and shoots, or both, all the new sap which comes after it for the rest of the season is very watery, and the smaller the roots are the faster they part with the ripe and receive the watery juice; then, the more watery the juice is the less likely it will be to cause the sport to go back to the old condition of the parent plant; so that there is a reason for all that I have said and suggested for this sport; there is, also, one comfort belonging to the whole, that is, if my surmises are not right, and as I take them to be, there is not a man alive who can prove it wrong by actual facts, or by reference to recorded experiments the other way.

Grafting on the roots differs nothing from grafting on the branches; it may be done in any of the usual ways, and for a make-shift on the spur of the moment, it is one of the most convenient things possible; hundreds of pot plants are increased every year by root-grafting.

Just as the last sentence was written, a letter from a titled lady was placed before me, beginning thus,—“I have grafted some shoots of *Perpetual Roses*, last February, on the roots of some old stocks from the hedge rows, and put them in a cucumber frame, removing them, as soon as the shoots were started, to a greenhouse; they are now strong and healthy plants, with young shoots eighteen inches long, some have flowered, and some have not,” &c. Here, then, is a proof on the spot. There is no surer way of getting *Roses* up in a hurry, than that pursued by this lady. When Smith's *Yellow China Rose* came out first, I knew a nurseryman who made a half-guinea plant of every bud on his first-purchased plant of it in six weeks, and one of the lot I bought myself, and that was the first root-grafted *Rose* I ever saw. If he had gone the round-about way of budding his buds, his plants would not have been ready for sale that season; or, if he had made cuttings of them, he would not have had half the number of plants, besides waiting six or eight months when the price was down one half.

The way to graft buds is to take the top bud first, with all the stalk below it to the next bud, and so on as long as the joints are long enough to handle. The piece of wood below the bud is cut like a wedge on the opposite side to the bud, and this cut part is slipped down between the rind and the wood of the root, very much like the way of budding, only in this grafting the bud is just above the cut end of the root. A nice *Myrtle* might be got by root-grafting in one month. A healthy *Myrtle* is a wonderful plant for making roots, and a piece of root taken from the outside of the ball, though not thicker than common packing twine, will do to graft a shoot ten inches long on; if this is put into a hot-bed, and kept from the sun, the plant is finished in the time stated. The roots of the old common *China Rose* are the best I know for grafting all kinds of *Roses* on, and they will stand more bottom-heat than the *Pine Apple*; or, if the graft fails, you can put another and another before these roots get tired of the heat.

The common evergreen, *Berberis fuciculata*, is in almost every garden, and its roots might be used

extensively for grafting the new sorts on. It is as hardy as the *Oak*, and would make large plants of such as *Darwinii* in a quarter of the time they take on their own roots; but we must recollect there is out-doing the work even with root-grafting. If a very dwarf plant—a *Fairy Rose*, for instance—were to be grafted on the roots of *Blairii*, or on the roots of the *Dog Rose*, the plant would soon dwindle from the great difference between the strength of the root and graft. All the variegated, new, and curious *Yews*, graft better on the roots of the common *Yew* than on plants of the same; and it is the same with *Beeches*, which are very difficult to graft. No plant succeeds better by grafting on its own roots than the new *Diclytra spectabilis*, and it makes long-fanged roots for that purpose. *Dahlias* may be grafted, with the greatest ease, on long, slender pieces of their own roots; and so may all the *Paeonies*. The *Tree Paeony* is so grafted, but it is difficult to manage.

Australia is the place where root-grafting would be most valuable, where proper stocks are, probably, scarce. A *Peach* or *Apricot* would grow there much better on its own roots than on the *Plum*-stocks we use in this country; they would also grow on the *Almond* there better than on the *Plum*-stock; this has been already proved in Italy and in the south of France. It is only because of our cold soil that we use the hardy *Plum* to graft on. But it is for summer grafting, and particularly for grafting *spurred* shoots on during the summer, when the juices are very watery in the roots, that I look upon root-grafting as of the utmost value. Every season shows us the value, more and more, of looking after sports, and we can never secure them too soon. Suppose a *Cabbage Rose* to exhibit a branch with a variegated flower, or with any particular variation from the old sort, a bud of it ought immediately to be inserted in another *Rose* for stock, or in a *Wild Rose*; but suppose this to be done late in the season, and that the stock so used has all the shoots nearly ripe, there are two chances against the sport—the first is, that the bark will not “rise,” owing to the ripeness; and the second, that the ripeness itself is not so favourable for securing the sport in its real character as unripeness, or what the physiologists call organised sap; there is very little, indeed, of this ripe or organised matter found in the smaller roots of any plant during the time of active summer growth, hence their greater value for grafting sports on; and after two such wet seasons, and this very dry and peculiar spring, we may expect to see or hear of more sports than for many years past.

D. BEATON.

LOOKING AROUND US.

THE very best gardeners should now and then see what their neighbours are doing. I never have entered a garden, however small or neglected, that I did not pick up a useful lesson, pointing to an admonition or a warning. With all our happy, social feeling, we now and then get into a grumbling mood. A worthy friend of ours, when you speak highly of some fine object, draws out a Y-e-s, as if it pained him; and, before you are aware, brings you down from your stilts, and fairly souses you over head and ears in the waters of some disappointment and disaster. The world has quite enough of trouble in it without continually contemplating its dark shades. These cold, wet blanketers are as destructive to all buoyant joyousness within their reach, as an army of *Don Cossacks* would be on entering one of our peaceful villages. I stumbled into a place the other day which would have done more to shame many of our croakers and grumblers than a whole bevy of homilies on patience and contentment. Just imagine a splendid kitchen-garden, of some four or more acres, walled all round, the quarters rather rough,

with enough of groundsel waiting the hoe before it seeded to make a little fortune for a boy, could he pick it and carry it easily to the bird fanciers in London; wall-trees, all finished nailing, and a fine show of fruit; a fine range of glass, with Vines showing fruit, and Strawberries ripening; a good supply of plants, and a fine show of flowers in the conservatory, and then get into the confidence of the active, shrewd, intelligent, happy-looking young man who has the charge of this place, and you will learn that with the assistance of a youth he manages all this himself, that he receives merely labourer's wages, and yet has had the *happy assurance* to get a helpmate in these circumstances, on the principle that two are better than one; and yet, with this added responsibility, he talked as cheerfully of working on for the present, as his rough, stumpy hands demonstrated he had been doing, and of trusting as confidently that better times would come for him, as if he had been receiving three times his wages, which he richly deserved, and which, from the answers made to some enquiries from those who knew him, I do hope he will ere long receive. Such an instance of prudent, contented, hard-working, almost sleepless diligence, I had rarely met with, enough to scatter to the winds the mostly phantom troubles with which many people vex themselves and edify their neighbours. His contentment was no matter of stoicism. In his position, it was more than proper that he should see a firm footing for his right foot before he loosened the left.

CONCENTRATION OF AIM.

The management of the above garden showed a fine example of this wisely directed. The first sight told you the kitchen-garden was either partially neglected, the fault of the gardener, or the result of a deficiency of labour power, which he could not overrule. If in that garden weeds were prevented seeding, no injurious consequences would ensue, at a future period, if not hard cropped, it would be all the better for the comparative fallow. But if wall trees and vineries were neglected even for a season, future years would suffer for the neglect. *These* were thoroughly attended to. Flowering plants, in the circumstances, might have followed in the wake of the kitchen-garden; but these, though of a common description, were gay and well-cared for. Many who could manage well miniature editions of Trentham and Chatsworth, would have scratched their heads in bewilderment when placed in such circumstances. The great thing, whatever be neglected from the force of circumstances, is to see to those things most important in themselves, and most important in the estimation of the proprietor, who has to pay for all. For want of attention to this simple principle, many young gardeners, and veterans too, so act as to produce first unpleasantness, then estrangement, then want of confidence, and, finally, the snapping of the ties of the employer and employed. Perhaps more than in any other profession, gardeners, as a class, are anxious to improve the places they superintend, and the baulking in any way of this honourable desire is, by many, looked upon as a grievance. The resources of their employers in wealth and power—their tastes and their willingness to lay out money in a certain direction, are with them minor considerations. Gardening being a *chief* thing in their estimation, they cannot perceive how their employers should think differently. A little reflection on the relative duties of the employed and the employer—a little concentration of aim by the former, to meet the peculiar wishes of the latter—would often oil waters, now scarcely ever without more movement than a gentle ripple. There are few old stagers but could clap their mental eye on scores of cases where unpleasantness was thus produced. For instance, there is Mr. A., a

first rate gardener, living comfortably in his situation, and having every thing always in first-rate order. A reduction of labour power comes over the scene, and although he knows that plenty of crisp sweet vegetables is a matter of first import with the family, vegetables are comparatively neglected, that he may gratify his *own* fastidious eyes with a flower-garden well cropped, and a lawn without a daisy; though his employers see either merely by fits and starts during the season. Then there is a counterpart in Mr. B.; he, too, must do the best he can with a reduction. He knows his employers are particularly partial to the good management of a small flower-garden close to the house; employers who have ever treated him with kindness and respect; and, of all places, he fixes upon leaving several clumps in this flower-garden comparatively neglected, that the effects of the reduction may at once be seen and felt, as if there was no other place where the change could be seen, and not valued a rush, because scarcely ever coming under their notice. If, for causes with which Mr. B. had nothing whatever to do, a reduction of labour power was deemed right and necessary, was it right, manly, or honourable in him, when he continued in his situation, thus to poke the results of that reduction before the eyes of his kind employers, and in the most sensitive part, for the greatest space of the gardening season? If the many of my younger brethren who will read this will answer in the affirmative, then I own that I shall be disappointed; but if they reply in the negative, and thus learn, in all such circumstances, to acquire concentration of purpose, and to act in unison with the wishes of their employers, many sources of uneasiness will be avoided, and I shall feel that this entrance into a comparatively neglected garden will have been useful to others as well as myself.

SUBSTITUTES FOR POTS FOR BEDDING PLANTS.

Our readers who can turn back to previous volumes will find many of these modes discussed, and among others the use of moss, as so largely employed by Mr. Ferguson for growing his cheap plants for the million. I myself have used moss largely, and with considerable success, as a very small proportion of my bedding plants are ever honoured with seeing a pot. Most of them are struck in borders or boxes; are kept in wooden boxes during the winter; and then those with little inclination to make fibres are taken separately in the end of March; a handful of light earth put about them, a little moss tied round it, placed in water, and set in borders and boxes to grow and harden. Those with abundance of fibry roots, such as the *Caleolaria*, are struck late in autumn, preserved over the winter, and planted out on a border, with protection at the end of March, and are lifted with balls, and transferred to the beds in May. I saw, the other day, not a new substitute for pots, but one which I do not recollect seeing noticed in these pages, and which many might be inclined to adopt, as equal, if not superior, for home use, to the mossaing. Of course, it is understood that the moss goes into the ground, when planting time comes, along with the earth and roots, after all have been dipped in a pail of water. This other mode is adopted by merely scarifying the surface of a piece of fibry turf, taking up the turf then from one to one-and-a-half inch in thickness, cutting it up into pieces from two-and-a-half to three inches square, then with a sharp knife, or a gouge-like instrument, cutting out a roundish hole in the centre of the piece, but not going quite through at the bottom, of something like one-and-a-half to two inches in diameter, and in this hole fastening the young plant with a little nice light soil. These squares may be set on shelves, but better in the ground of houses and pits; take up scarcely more room than the smallest pots; may

be moved from place to place almost as easily as they, and by planting time be well interlaced with roots; a little rubbing off at the corners then being more quickly and easily accomplished than disentangling roots that had been crammed and pot-bound in a pot. Of course, if the grassy side of the turf was roasted, or other means taken to destroy vegetation, the scarifying process might be avoided, and to the benefit of the young plants, as the most valuable part of the turf would be retained; and all experience goes to show that a roasting, or charring, so as to destroy vegetable and animal life, when properly moistened and aired afterwards, is eagerly relished by most tribes of vegetables.

HEAVY CROPS OF RASPBERRIES LATE IN AUTUMN.

"Live and learn" is a good old proverb, to which we give a ready acquiescence, though we are slow to practice the principle it involves. A neighbouring gardener has informed me, that for many years he has obtained heavy crops of Raspberries in the autumn months, up to the middle of November, or later if the autumn was mild, which were found to be of great consequence at that time for tarts and dessert. I may be mistaken; but, so far as my knowledge goes, the practice he follows is not generally adopted. If in this I should be wrong, there can be no harm in ventilating the subject in these pages. I owe the detail of Mr. Coxe's practice to having seen rows of Raspberries with no canes, but with vigorous shoots a few inches above the ground. As this kind bears best on the young shoots, it was found, that when allowed to bear at the same time with other Raspberries, and late in the autumn, likewise, the shoots become exhausted and worn out. By cutting down the canes, and having only one crop of fruit in the year, the gathering commenced after those grown in the usual way had finished; and there was no extra drain on the strength of the plants.

It is very likely that other kinds, such as the *Falstoff*, might answer well under a similar treatment. At any rate, fruit, and very fine too, is often produced late from young shoots. As the fruit of the double-bearing kind is comparatively of little use in summer, when the common kinds are producing largely, this system of cutting clean down at the end of the season, to ensure a plentiful supply the following autumn, may be useful to many lovers of this fruit.

R. FISH.

THE EFFECTS OF THE SEVERE WINTER OF 1853-4 ON SOME TREES AND SHRUBS.

SINCE the ever-to-be-remembered hard winter of 1837-8, there has been introduced into Great Britain a considerable number of previously unknown trees and shrubs from various climates, many of which were supposed to be hardy, and others considered too tender to bear our climate. The winter that has just passed has been severe enough to test that important point to almost the greatest extent. When the thermometer sinks by frost down to almost zero, that is, to thirty-two degrees below the point when the freezing of water commences, any tree or shrub that will live under such severe cold may be considered hardy enough to be planted in the open air, because such severe cold may fairly be considered the greatest that it is probable will ever occur in this country. Information that can be depended upon on this point is especially of importance to parties now or hereafter about to plant for timber, or to form ornamental shrubberies near their dwellings.

It may now be fairly assumed, that if any trees or shrubs of doubtful hardihood have passed through the last winter uninjured they may be safely planted in quantities. I, in consequence of these ideas floating on my mind, have made some few observations on this

subject, and shall in this paper report them. If others of the readers of THE COTTAGE GARDENER residing in various parts of the country would do the same, a mass of useful information would be stored up in our pages, that would be, no doubt, highly prized, and gladly received by parties interested in such matters.

Rhododendron Gibsonii, syn. *R. formosum*. I have accidentally discovered that this fine, large-flowered shrub is perfectly hardy. My nursery is much exposed to the north and north-west winds. The soil is a strong, heavy loam, very suitable for fruit-trees and Reses. The situation is neither high nor yet low. There is a small river (the Colne) within a quarter-of-a-mile, and my ground rises above the level of the water nearly thirty feet. The subsoil is brick earth, some four feet thick, resting upon gravel. Under such circumstances, the ground may be fairly considered to be below the average temperature, having the advantage, however, of retaining moisture longer than land the subsoil of which is gravel close to the stratum of vegetable-feeding earth.

In this situation, and in such soil and subsoil, the following have stood uninjured:—First, the *Rhododendron* above mentioned. There can be no mistake here, for the plant stands fully exposed, and has had no shelter whatever! I was from home during the whole of the winter storm, and the foreman housed all plants he thought needed shelter, but mistook the *Rhododendron* for something else, and left it out. Had I been at home, I should certainly have sent it into comfortable winter quarters in the greenhouse, but, as it happened, it was left out, and thus, I may say, I have accidentally found that it is hardy, and thus there is added a handsome shrub to our known stock of proved hardy ones. The only damage it has received, is the tips of the leaves are a little browned. The plant stands three feet high and about half-a-yard through.

I have been rather particular in describing the soil, situation, and other circumstances respecting the place in which this fine shrub has stood the winter, in order that our readers may perfectly understand the ins and outs of the subject.

Ceanothus papillosus.—The plants of this species in this nursery were plunged in their pots in tan, close to a south wall, in a sheltered corner. They were all killed down to the tan, but are springing up again just from that point.

Pinus excelsa, fully exposed, has every leaf sound.

Pinus insignis, rather browned at the tips, but is recovering.

Picea nobilis, fully exposed, not in the least injured.

P. grandis, a little injured.

Taxodium sempervirens, rather browned, but is pushing now freely.

Cryptomeria japonica, browned very much, but amongst them there are some as green as a leek, showing that there is a difference in constitution in some plants of the same species.

Cedrus Deodara.—In very exposed situations some plants are a little discoloured, but the ends of the shoots are perfectly sound.

The *Araucarias* are slightly browned also, but are recovering.

The new and beautiful shrub, *Deutzia gracilis*, has proved as hardy as *D. scabra*. Many of my plants were in pots, not plunged or otherwise sheltered, but are now showing abundance of bloom. Some of them have been placed in gentle heat, and have bloomed, and are in bloom as fine as heart could wish. The standards are equally as hardy as the low dwarf ones.

Mitraria coccinea quite killed.

Arbutus, Sweet Bays, common Laurels, *Laurus-tinus*, are all more or less injured. The Bays will lose their leaves and young shoots.

T. APPLEBY.

(To be continued.)

FLORISTS' FLOWERS.

(Continued from page 38.)

NEW VARIETIES OF THE DAHLIA.

DUC DE BRABANT; scarlet; a finely formed flower, well up in the centre; colour fine; size large, a constant show flower of unrivalled beauty.

GLORY; dark red; a distinct variety of excellent properties.

GODEFROY DE BOUILLON; salmon self; very large; full in the centre; petals broad, and well filled in; a fine show flower.

KING OF THE YELLOWS; this is a great improvement on any of that colour; form excellent.

MAGNET; a large flower of a ruby-crimson colour, and the finest form.

ORIFLAME; golden-buff, full size, clear colour, fine form; an excellent show flower.

RACHAEL RAWLINS; a delicate peach-blossom, or pink colour, form good, full in the centre, and a good show flower.

NEW FANCY VARIETIES.

ADMIRATION; a red ground, tipped with white; very distinct.

BUTTERFLY; sulphur ground, striped with rose and red; a curious distinct variety.

DANTE; light cinnamon, striped with red; a good show flower, and very distinct.

TOPSY; lilac-rose, tipped with white; fine form, and distinct.

A FEW GOOD OLDER DAHLIAS.

BRILLIANT; a bright scarlet flower, full, and constant.

EXQUISITE; clear peach colour; fine form, and very beautiful; requires the shoots thinning freely.

GRAND DUKE; the best lilac.

JOHN FRANKLIN; a clear buff, with every good property.

QUEEN VICTORIA; yellow, edged with red; a large, magnificent, very striking flower.

OLDER FANCY VARIETIES.

CLAUDIA; violet-purple, deeply tipped with white; a distinct, handsome variety.

DUCHESS OF KENT; yellow ground, tipped with white; very beautifully distinct.

HARLEQUIN; maroon ground, curiously striped with pink and white.

MRS. JAMES; dark buff, tipped with white, distinct, and very full.

UNANIMITY; scarlet, with distinct yellow stripes; good form.

WONDERFUL; pink, striped with white; a showy variety.

The following also are good and constant:—*Barmaid*, white; *British Queen*, white, tipped with purple; *Dr. Frampton*, white mottled; *Duke of Wellington*, orange; *Fearless*, lilac; *Mrs. Seldon*, yellow; *Queen of White*, very pure.

HOLLYHOCKS.

This fine autumn flower has been greatly improved. The flowers are larger, better shaped, and more densely placed on the stem. There are also many varieties that do not grow so inconveniently tall as they did formerly. Old plants, in heavy soil, have suffered greatly during the past severe winter, hence there is a great demand for plants this spring. A stock of young plants should always be kept in a cold frame through winter.

NEW VARIETIES.

CHARLES LIDYARD; a large, well-shaped flower, of a pale salmon colour.

CROCEA; buff and yellow; very distinct.

CREAM OF THE VALLEY; a creamy-white, of the finest form.

CRIMSON KING; very fine, superior to *Comet*.

MAGNIFICENT; fine rosy-pink; form excellent.

NATIONAL; fine bright crimson; very full.

OPHIR IMPROVED; a clear sulphur colour, of good show quality.

POURPRE DE TYRE; the first purple, of first-rate quality.

SWANSDOWN; paper-white, very clear, and very double; fine show variety.

YELLOW MODEL; first-rate in form; bright in colour; full, and constant.

GOOD OLD VARIETIES.

BLACK PRINCE; very dark, and of a good form.

CHARLES TURNER; bright rosy-crimson.

DIDO; salmon-rose; large flower, and constant.

EMPEROR; dark crimson; a fine variety.

GOLDEN PRINCE; bright full yellow.

JENNY LIND; pure white; fine.

MAGNUM BONUM; fine dark maroon; good.

MRS. CHARLES BARON; improved salmon-pink; one of the best Hollyhocks.

ORANGE BOVEN; mottled red and orange.

PANDORA; buff-orange.

PURITY; pure white; excellent.

SIR DAVID WEDDERBURN; dark crimson; a good useful variety.

TRIUMPHANT; yellow, large and full, and of the brightest colour.

WALDEN GEM; bright rosy-crimson; one of the best of that colour.

PETUNIAS.—NEW VARIETIES.

ADMIRABILIS; rose, edged with green border and velvet throat

MARIE RENDATLER; rosy-blush, with lilac throat and pencilled carmine centre.

MARQUET; a bluish ground, tipped with green; an excellent variety.

NAPOLEON III.; purple, shaded with indigo; a rich flower.

FURST VAN SCHRANBURG; rosy-blush, edged with green, and violet throat; fine.

T. APPLEBY.

(To be continued.)

WORK FOR A DRY SEASON.

It is a common observation, and repeated every day, that any little peculiarity of the weather, or other circumstance, is either better or worse, finer or wetter, or, in some way or other, approaches more to an extreme than anything of the kind that ever preceded it. In the present instance, how often are we told that such dry, fine weather as the whole of March and early part of April "was never known before;" while some individuals, whose memory is doubtless at fault, are now and then dunning us with the remark of what a fine, mild winter it has been; forgetting, that at Christmas, as well as before and after, we had a taste of what they called, "an old-fashioned winter!" However, putting all jesting aside, the spring has certainly been a very dry one, and probably may be followed, or rather merge into, a summer equally dry. This, however, has to be proved yet; but those who assume the position of "weather prophets" tell us that it is very likely to be a dry one. Now, as dry summers and wet ones differ essentially in the influence they exercise over vegetation in their different positions, there is no doubt but a dry one will be hailed by one party, while it is dreaded by another; or it may be carried further, and the benefits it confers on certain productions counteracts its evil

tendency on others. In such cases as those where the latter is of least importance, we all know that most of our fruit—Strawberries, perhaps, excepted—delight in a dry, fine, sunny, summer; and most of them are only good when the season is thus favoured, as it accords with the climate to which many of them owe their origin. However, as I purposed to make some observations on the cultivation of the soil when an unexpected dry season sets in upon us, I herewith abandon the fruit-trees to their fate in this matter, and commence that of digging and breaking up the ground on all hard places.

It has been often said, that a summer's fallow is quite as good as a winter's one in regard to mellowing down the ground. This, of course, is much better performed when a continuance of dry weather has penetrated the ground; and, by its absorbing or withdrawing much of the moisture by which it was charged, has left it in that porous condition whereby the beneficial effects of the atmosphere is made to act upon it to more effect than before, and the consequence is, that after such a period the ground works beautifully; but then it often happens we are compelled to work it, or rather to crop it, while the dry weather continues, and the question is naturally asked, what is to be done then? This is attended with some difficulty—stiff, heavy ground, that has just been turned up sufficiently long to become very hard and lumpy, is not so easily reduced to a fine pulverized condition, neither is it so good as when nature performs that operation; but as the ordinary routine of things renders it necessary to put in certain crops at fixed times, forcible means must be adopted to render the ground fit to receive such crops, and not the least effectual way is to secure as much fine earth as possible about the roots of plants that may be planted, presuming the crop to be one of that sort; and if it be of the Cabbage or Brocoli tribe, when there is sufficient room to keep working the soil, the clods at top might remain some time in a rough state after the plants are put in, as they will be in a condition to receive more fully the benefits of a good scorching; but be sure the roots are treated to something firm, and, if possible, more matured.

Dry weather usually eases all wet or heavy grounds into such an impenetrable mass that no little difficulty is experienced in separating it again; but, if it be rendered thoroughly dry it will break with a little force, and I would certainly prefer that plan to using water, unless in certain cases where other reasons rendered that necessary. A roller is a good thing on such soils as it will affect, which, however, is not every one. When not able to accomplish the work with this implement, wooden mallets must be resorted to, and sometimes a tool like the "turf beater" is made use of with good effect, the object being to get a little fine earth, and the whole made finer than it had hitherto been.

When it is necessary to sow seeds on such ground, a little fine earth from some other place will be of great service in covering it, and is less likely to tempt the birds and other depredators of a dry season than a heavy watering; but, if watering seem indispensable, which it sometimes is, it is better to cover it afterwards with dry earth, as well to keep in the moisture and prevent birds troubling the seeds, as also to prevent the sun from acting on the newly-watered ground, which it would certainly do to its hurt. If dry earth be not obtainable, some other shading substance ought to be put in requisition, as it is essential that the hard caking surface common in hand-watered ground should be avoided.

In stiff, heavy soils of the above description, newly-planted trees and shrubs are also liable to injury; in a dry season these, however, may be watered thoroughly at times, and the ground then covered with litter, or short dung, or something that would prevent rapid

evaporation. The practice, in a technical way, is called *mulching*, and its performance may be extended to established trees when growing under circumstances likely to require additional moisture, which is given to them through the mulch noted above; but this is more likely to be wanted on a dry, sandy, or gravelly soil than on a clayey one; nevertheless, the operation is the same, and the principle of shading in that way may be carried to a great extent.

On dry, hungry soils, the evils of a dry summer are felt to a much greater extent than on a heavy, clayey one, the former being then incapable of itself of supporting vegetation in a healthy condition; this, of course, does not include the generality of garden vegetables and flowering plants on such soils. Hand-watering must be resorted to in earnest, and due care that it is made to perform its duty well; the anti-evaporating contrivance mentioned above being especially wanted here; and in places where heavy cropping is resorted to, something better than plain water must be now and then administered, and the full advantage taken of such dull or partially-showery days that we have to give the various crops a good watering, such as, in fact, will reach the roots thoroughly. This, with other judicious treatment, in not allowing the ground to be over-cropped, will usually ensure as fair a share of success as can be looked for where the principal elements to it are supplied artificially.

The rapid growth, and, not unfrequently, the premature ripening, of various products of the garden in very dry, hot weather, ought to be guarded against if possible. Lettuce and Cauliflower running to seed, Onions and Cabbage looking blue, and the former beginning to die off at the ends of the blades, are not uncommon occurrences at such times; the only way, therefore, to guard against them, is to thin the crop well, water freely, and shade as above. Seeds will germinate very well when partially shaded, which refuse to do so in full sunshine; and as the ground is at such periods usually warm, the process is facilitated rather than delayed in consequence. Very homely contrivances will serve a good purpose in shading the ground and crops, and many important beds of flowering plants, &c., have been covered over with short grass. This article is especially applicable to the American beds, where it is but little seen; in the kitchen-garden, and other places, I would prefer a half-decayed leafy-mould as better, or anything that will bear water poured on it without hardening at top; and as the ground will again require moving underneath it at times it can be dug in to advantage.

J. ROBSON.

ALLOTMENT GARDENING.—MAY.

As it is but too probable that during the ensuing winter and spring the ordinary provisions, such as bread, bacon, cheese, &c., will be at what is termed war prices, I most strenuously advise every one holding a small plot of land to be unusually active this summer; more especially during the present month, when the least neglect or dilatoriness will tell sadly on the fare of the ensuing winter. We have had a capital March and April over most parts of the kingdom; the dryness of this period, together with a good deal of sunshine, has been the very thing wanted to dissipate the extreme cold and dampness engendered by a serious winter, accompanied by an unusual amount of snow. The latter, however, is generally understood to be a fertiliser, and, with regard to existing vegetation, it is assuredly a protector; we have generally found an unfluctuating covering of snow equal to a covering of litter, and, indeed, in some respects, superior, as the snow falling in small flakes, in a progressive way, does not crush vegetation like litter. During a dry and sunny period the warmth of the soil increases more and to a greater depth than in wet and

cloudy periods; a notion quite familiar to every good gardener, but apt to be overlooked by those who do not profess this interesting and highly useful art.

As to weeds, he must surely be a sloven who is pestered with weeds now; let us advise such to slip off their jackets immediately, and declare war with all the energy and thorough determination of Napier in the Baltic.

Root Crops, as usual, are with me the first consideration; if Mangold, Swedes, and Carrots are not in, lose not a day, if the weather suit. Swedes to transplant, however, after Potatoes, or other crops, which will not be off the ground before the middle of July, need not be sown for a fortnight yet, unless the party can sow them very thinly in drills, and thus obtain not only flourishing tops, but bulbs as big as hen's eggs; these I greatly prefer, they stand sunshine better, are less liable to mildew, and will make bigger roots. The larger kinds of Carrots should now be just breaking ground, and much care is necessary with young Carrots to protect them against insect enemies, slugs, and weeds. The hoe should be plied between the drills before any "singling out" takes place; this enables the operator to proceed with more ease and certainty. The first thinning may take place when they are about two inches high, and a light hand must be used, as they are liable to many casualties; if no two touch, it will be thin enough at present. Of course, every weed must be pulled out, and when this is done, our practice is to strew fine-cinder ashes amongst them, fairly covering the ground; this proves a great impediment to the slugs, for they do not love a macadamised road. The *Horn Carrot* may be sown until the beginning of June, after which they will not make much size. These latter, at the final thinning, need not be more than four inches apart; at this distance I have had them with their crowns touching, or nearly. The large *Altringham* and *Surrey Carrots* require to be about six to eight inches apart in the drills at the last thinning. PARSNIPS will now be a strong little plant, and must undergo a similar operation to the Carrots; final distance, eight or nine inches. MANGOLD, also rising, must have like treatment; final distance, seven to ten inches.

POTATOES.—The early crops will now be up and rising; let it be remembered that we are not safe from frosts, sufficient, at least, to give them a serious check before the third week in May, on the average of seasons. Those, therefore, who have small lots of *Ash-leaved Kidneys*, and such on warm slopes, should devise some means to protect them at nights. A few poles, and any old mats, canvass, old carpeting, &c., spread on them, will render them secure. There is scarcely a cottager but can do this; too many, however, talk about the trouble, and this, in such light matters, should not be found in the cottagers dictionary. We adopted a simple plan last year which answered right well. I planted a slope of the *Ash-leaved Kidney* near the third week of April, the sprouts on them were an inch long, and strong as little Oaks. These were coming through about the 10th of May, and I then scattered a little loose soil over them, an inch thick, just to kill the weeds, and then covered the whole with oat straw, shaken lightly over them. The straw lay on them night and day, until the end of the month, when each had pushed it up, and formed itself a sort of night-cap. When the straw was removed, to be sure some looked a little hump-backed occasionally, but in three days or so they were all right.

Main crops of *Potatoes* should have attention towards the middle of this month; they will require the hoe or some cleaning implement between the drills, and soon after hand-weeding in the drills. I do not like much hoeing in the drill, it is but too apt to injure many surface fibres; it is quite sufficient to cultivate well between the drills, and when they are about six inches high, a little soil may be drawn to their stems, unless they have been planted deeply at first, a plan I do not admire. Those who have, in pursuance of former advice in these pages, planted on poor soil, and think their plant weakly, may apply a good soaking of guano-water at a dry period, when the young Potatoes are as big as horse-beans, and a second application will do them no injury. Two ounces of guano to a gallon of water will suffice, but it must not be Deptford Creek Guano. I stand for the genuine Gibbs' Peruvian.

SOWINGS IN MAY.—Remember, BEANS may yet be put in, soaking the Beans in tepid water one hour previous. The

dwarf Kidney Beans, such as the *Negra*, may be put in in a warm border for a main crop also. Autumn Brocolis, as the *Cape Sprouting*, *Walcheren*, &c., may be sown in the beginning; but these are a mere hobby. A barrow or two of warm dung, and three or four of weeds or rank herbage mixed, and piled half above the ground-level, in some warm nook, will bring a few Cucumbers, and the old bed will make capital dressing in the ensuing spring for *Horn Carrots* or other early crops. A few yards may, perhaps, be spared for a score of *Celery* plants; those and the *Cucumber* plants any decent gardener will willingly give to little holders. *Rhubarb* plants going to seed should have the bloom-buds cut away. In plucking *Rhubarb*, the cottager must remember, that if he is too greedy this year, he will come the worse off in the next.

PEAS.—These are staked, of course; if a few very early Peas are grown, let the tops all be pinched off as soon as a fair crop is set, this will swell the pods better, and get the Peas off the ground a fortnight sooner, at least; a most important matter as concerns autumn cropping. Indeed, I top all Peas, and find the practice good. BEANS, the broad class, such as *Windsor*, *Longpod*, &c., may be topped the moment a good bloom is secured; this prevents the Dolphin fly getting a foothold, and helps to swell the Beans; also, in mixed crops, prevents the Beans from lopping sideways, and injuring their neighbours.

CABBAGEWORTS.—The forward *Savays*, *Green Kale*, *Brussels Sprouts*, &c., will require "pricking-out" to strengthen towards the middle or end of the month; they become much more profitable by this practice, and are content to wait longer for any given crop being removed. Cabbages may be sown as formerly advised, monthly, until September.

Those who keep a cow will do well to look over my papers on that head, which now appear weekly, for awhile, and refer more particularly to those who are lucky enough to farm some half dozen acres.

After these things are carried out, let me advise a constant and unwearied attention to the muck-heap, now in a small compass, but speedily to be enlarged. There is no better plan than to have loose soil of any kind close at hand, to rough-spread the manure in the hole weekly, and spread an inch or two of soil over it: this keeps in the strength of the manure, and prevents sweating; few people are aware how much quality they lose during a dry and hot period when the manure lies in a neglected state. Indeed, heavy rains are equally to be guarded against, therefore let the heap be always rounded a little to carry off rains. I will undertake to grow some of the finest *Drumhead* Cabbages in Britain, if I may be allowed to occupy a pole or two of ground just below a bad muck manager.

Finally, let every nerve be strained now; no lounging, no indecision; "none but the brave deserve the fair," and none but the truly industrious deserve a good garden. One of the first considerations on behalf of our first parents was a garden, thus showing, notwithstanding the glare of our great towns, that something more than mere shops, with showy counters, was needed to meet both the economic, social, and moral condition of man. R. ERRINGTON.

NEWCASTLE, NORTHUMBERLAND, AND DURHAM POULTRY SOCIETY.

"In your paper of the 9th ult. you express 'much surprise on learning the determination of the above Society to hold their next exhibition on the 19th and 20th of April.' In justice to the Committee, I hope you will allow me a place in your paper to explain how it is that the exhibition is to be held at that time; your arguments against which are very correct; but I think you cannot suppose they were not fully discussed by the Committee when they fixed the time. Committees of such societies have to take local influences into consideration. Easter week being a sort of holiday in Newcastle, the Committee of the Society in question were unanimous in their convictions, that at no other time would the exhibition be attended with such success; and, as you express having had experience in poultry exhibitions, you must be aware how desirable it is to have them "self-

supporting." And, moreover, gentlemen who reside in a locality are more likely to know better what arrangements are most probable to succeed in their district than gentlemen who reside three hundred miles off. But, notwithstanding all this, the Committee purpose to hold their shows earlier in the season, as soon as their finances will justify the change.

"You also express dissent at the arrangement of the prize list. I shall not attempt to make it appear faultless; but I would observe, that we have only one variety of Spanish, to which the Society offers £3 7s. 6d., whilst to each variety of Hamburgs it is intended to give £2 5s. A sum not altogether out of proportion when it is understood how very much the Hamburgs are prized in the North, as much for being good layers as for their beauty of plumage. Nor do I think the Bantams should have less offered to them than 15s. for each variety.

"In continuing, with your permission, my remarks upon your criticism, I beg to be allowed to express my surprise at finding that you so strongly condemn class 38, 'Cock and Four Hens of any breed,' when you cannot have already forgotten how strongly you wrote, in your report of our show last year, in praise of this class,—that was in April, 1853,—the consideration of which would naturally lead one to suppose the production in your paper of the 9th ult. is that of a 'dissatisfied person.' In alluding to this class, I would beg to differ with you with respect to the difficulty of judging between different varieties which are so unlike each other. Having had some experience myself, not only with poultry, but also with cattle, &c., exhibitions, I write with some confidence on this point. At our leading agricultural shows, we generally find a good prize offered for 'the best beast of any breed in the yard;' and I do not recollect of any more dissatisfaction having been expressed at the awards of such prizes than at others, where the competing animals were all of the same breed. Thorough judges can manage such things with comparative ease; but I grant it must be perplexing to others. In your report of the show in 1853, you wisely commended the *extra* prizes given to cottagers; how is it, then, you condemn its wording this year, when the words used are alike on both occasions? I cannot see the fairness of your interpretation with respect to the secretaries being obliged to receive cottager's baskets without any previous notice, when the lot, to enable to compete for these prizes, must be entered and exhibited in some other class. Neither *fee* nor *entrance* is required; it being simply the duty of the secretaries to make out a list of the pens exhibited by cottagers, and to place it in the hands of the judges.

"Not being a 'Pigeon Fancier,' I do not profess to be able to judge of the merits of your remarks on the Pigeon arrangement of the list, but I hope the Committee may benefit by them.

"In adverting to eggs, I might state, that dealers in them soon display in a market their preference to this or that basket, attributable to a cause which I thought all must have known; but perhaps, Mr. Editor, you have, like some of your correspondents, met with 'an abomination of six months,' and, therefore, are not interested about eggs.

"I cannot see but there is some connexion between the production of Poultry and of Butter, both being departments of farming, which come under female management; and, perhaps, you may hereafter report proceedings of Societies established for the improvement of Domestic Poultry and Dairy Produce.

"In conclusion, I beg to state that these remarks are penned with no bad feelings, but simply in defence of the Society upon which you have, in my opinion, been rather severe in your criticism. My remarks have been written hastily, but I trust you will find nothing in them which is out of place.—W. T., *Bycell*."

[In reference to the above, we can only observe that "local influences" must, of course, be duly regarded by the Committee of a Poultry Society; but we must, at the same time, express our doubts as to whether any such reasons will really compensate for the extremely unfavourable season that has, in this instance, been selected. As regards the prize-list, we still hold, that where a distinct breed of fowls, like the *Spanish*, are necessarily comprised in a single class, their premiums might be permitted to range somewhat

higher than those assigned to each separate variety of the *Polish*, *Hamburgs*, or *Bantams*. We would not, for instance, assign £9 15s. to Hamburgs, and limit Spanish to £3 7s. 6d.

A cock and four hens are a needless number for the illustration of the breed, and at such a season the female contingent is difficult to attain.

We are certainly of opinion that there may be common points beyond that of mere condition running through the stalls of the Herefords, Devons, and Shorthorns, which afford readier grounds for judgment than where a long and varied list of poultry competitors is to receive a single champion. "*Thorough Judges*" have, again and again, reiterated their complaints of the practice of submitting to their arbitration for a single prize birds of whom mere condition would oftentimes be the only common standard to which they would be referable. At Birmingham, and elsewhere, the objection is specially guarded against by the directions that in the miscellaneous class each breed shall be judged separately.

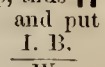
We are always glad to see the announcement of Cottagers' prizes; what we objected to, in this instance, was the vagueness of the notice, that "*no entrance is required for this class*;" and extreme accuracy is always desirable in such announcements.

That we are very far from being indifferent on the subject of eggs is apparent from our recommendation of the practical test of internal quality, in addition to those of form and size.

In an exhibition for "*Domestic Poultry and Dairy Produce*," butter and fowls would be in legitimate alliance; but, where a Society is instituted for the former purpose only, the fact of butter being a "*department of farming*," seems to convey no title to admission.

W. T. is inclined to believe that some "dissatisfied" person must have been the author of the article to which he refers. We beg, however, to assure him that this is not the case, and that the remarks he finds fault with resulted solely from a conviction of our obligation to comment, without reserve, on all that interests the poultry community, without partiality, and, as we hope, without prejudice.]

A FEW WORDS ABOUT HAND-GLASSES.

I HAVE tried cloches: they are very good (but the crates and carriage from a distance make them very dear); also bell-shaped hand-glasses not ventilated: these require wiping dry, and something put under to raise them to admit air. I think the ventilated ones the best. I should recommend glass tubes of various sizes, that would pack one in the other, say from eight inches to eighteen inches in diameter, sorted depths according to the size, and to put over the tops Hartley's sheet-glass; two sticks could be put against the glass tubes to prevent the tapered sheet-glass from moving; a hole might be made in the sheet-glass for putting a wooden peg through, also to prevent its moving; and to slope the glass tube it is only to press it a little deeper in the earth on one side, and the rain would run off; and to ventilate it would only require a strip of wood put under the sheet-glass; and to remove the damp from the sheet-glass, it would only require the damp side turned uppermost. Three weeks since, I sent Messrs. Chance's Glass Works, Smethwick, near Birraingham, this idea of horticultural glasses, and I am in hopes they will make them, and I am in hopes of hearing of them through THE COTTAGE GARDENER. They would be cheaper than the bell-shaped hand-glasses, very portable for packing, easily ventilated, and no wiping away the damp. I have also used sheet zinc, thin, to protect flower-seeds sown in round patches in a flower-border, and merely slipped on an iron cramp, thus  I. B.

W.

FACTS RELATIVE TO POULTRY.

You are continually expressing a desire for "facts" from poultry-keepers. Are the following worth inserting? You may rely upon their being accurately stated.

FACT No. 1.—Table drawn up from my egg-book:

Produce of three Cochin and three Spanish pullets during the first three months of the present year. The six birds were all about the same age; they were fed alike, but kept in separate enclosures.

	JAN.	FEB.	MAR.	Total		JAN.	FEB.	MAR.	Total
Cochin, No. 1.	26	10	23	59	Spanish, No. 1.	7	14	18	39
Cochin, No. 2.	24	21	—	45	Spanish, No. 2.	20	20	23	63
Cochin, No. 3.	23	22	12	57	Spanish, No. 3.	16	19	24	59
Altogether Cochins Laid				161	Altogether Spanish Laid				161

Cochin No. 2 was set on the 23rd of February. No. 3, which had been laying without cessation ever since Michaelmas, was set on 17th of March. No. 1 wanted to sit early in February, but was prevented from doing so; she resumed her laying in about a fortnight, and was set on the 23rd of March. In spite of these interruptions, you will see that the Cochins produced exactly the same number of eggs as did the Spanish.

FACT No. 2.—A Cochin hen, bought at Mr. Fairlie's sale, last October, never laid, but continued to increase in weight up to April 3rd, when by an accident she was killed. She was taken up suddenly, and carried by the legs a few yards, when she had a fit and died. She then weighed 10½ lbs.; and on being opened, 2 lbs. of pure fat was found encasing the entire mass of entrails. She never had any animal food, but was fed on grain and mixed meal and pollard.

FACT No. 3.—A yellow Cochin pullet was running in the yard with a Spanish cockerel. I had a very fine yellow Cochin cockerel lent me for a fortnight; I put the Cochin pullet with him in a separate place; the pullet was laying at the time. I discarded the first two eggs, and set the next seven. From the seven eggs, seven chicks made their appearance. Two were black, clean-legged cockerels, evidently half-bred Spanish, and the remaining five are very promising, clear yellow Cochins, with no sign of cross-breeding about them.

FACT No. 4.—A Cochin hen was running with a Cochin cockerel, and had been laying freely, and the eggs set from her proved very productive of chickens. The cockerel was removed one Wednesday, and the seven eggs laid by her in that week, ending on Saturday, were given to a person who set them. He had, however, but two chickens from the eggs, although, from earlier sittings of the same hen's eggs, an average of five might have been expected.

FACT No. 5.—Early in April, and late in May, two broods were hatched; half the eggs in each case being Spanish and half Cochin. The (April) Cochin pullets began to lay in September; the Spanish pullet did not produce an egg until the middle of December. The (May) Cochin pullets all laid in November; their sisters of Spanish blood did not lay until the new year had been in some days. The Spanish pullets stopped laying when the snow came, but the Cochin laid throughout the severe weather. The April Cochins all moulted in December, but the Spanish did not change a feather. These facts were all observed last winter by—A NORFOLK CURATE.

APIARIAN'S CALENDAR.—MAY.

By J. H. Payne, Esq., Author of "The Bee-Keeper's Guide," &c.

HIVES.—The time has now arrived for those persons who are wishing their bees to swarm to have a supply of hives in readiness; and where straw hives are used, I would recommend new ones in all cases, except where a swarm of the last year has died, and the combs still remaining in the hive, the combs being dry and free from mould; a hive of this kind is a great help to a swarm, for one treated in this manner will generally be found better than one a fortnight or three weeks earlier that has been put into an empty hive.

FEEDING.—Weak stocks must still continue to have barley-sugar supplied to them, for during the prevalence of north and easterly winds but little food can be collected.

WASPS.—Queen wasps are more numerous this year than usual; it is, therefore, necessary for the Apiarian, as well as

every gardener, to be active in destroying them. With the help of a "Read's Hand Syringe" I have captured almost every one that I have yet seen.

DEPRIVING HIVES.—It will now be time to have small hives, boxes or glasses, in readiness to place upon stock hives; each box or glass should have a few pieces of guide-comb neatly fixed in it, but refrain from putting them on until there are evident signs of want of room; this may be ascertained by the bees thickening at the entrance, and by a loud hum inside; for if put on too early it will retard the hatching of the brood, as well as give the bees an unwillingness to enter it at all. The most desirable time for placing a glass or box upon a stock hive is the exact time when they will enter it immediately; but the knowledge of this, I am aware, is attended with some difficulty. I have always found, that by giving a glass too early in the season bees appear to take a dislike to it, and will swarm rather than enter it. When I have been able to put a glass upon a crowded hive at about nine o'clock on the morning of a warm day, it has scarcely ever failed to be filled with bees immediately.

VEGETABLES AND FRUITS OBTAINABLE IN APRIL.

THERE is no great difference now and what was mentioned for February and March, only that many things that were scarce, such as French Beans, young Potatoes, and Strawberries, and Cucumbers, will now be more plentiful; and other things, such as Rhubarb, and Sea-kale, and Radishes, that required forcing, will now be obtained naturally, so far as heat is concerned. Nice, crisp Lettuces, and young Cabbages, where they have not been injured, will supply a gap where Brocoli has been destroyed, and before Cauliflower has been hastened in. Celery, so far as freeness from running is concerned, will soon disappear; but even before they are in blossom, Green Peas are being enquired about; whilst, just to oblige us, Asparagus is coming earlier this season than I ever knew it before. In almost all things, with the exception of Pears on walls, there is, in general, a more than ordinary supply of fruit-blossom, and young Apricots are already finding their way into the tart dish. A few notes may be more useful than a dry recapitulation.

1. *Strawberries.*—If this sunny weather lasts these will be early out-of-doors this season, and may be forwarded by matting over at night, and, better still, by setting a frame with sashes over a few good rows. Slates between the rows, so as to absorb and then radiate heat, will be an advantage.

2. *French Beans.*—Few care about having them in their houses after the middle of this month. Plants raised in boxes, or in small pots, and planted out-of-doors, will come, with a little protection, a few weeks earlier, and will well repay a moderate hotbed, covered either with glass, or hoops and mats.

3. *Turnips.*—Everybody likes an early Turnip. The great drawbacks to their being got are the cold nights and sunny days, which give such checks as to start the plant prematurely into seed. Protection by night, with mats, or the growing them in a bed covered with glass, are the best remedies. If a small Turnip early is worth from three to four Oranges, this care will not be thrown away.

4. *Sea-kale.*—Instead of the paraphernalia of pots, boxes, and manure, this vegetable may be had during the month in fine style by covering the crowns with mounds of dryish earth or ashes. At a place I once lived, for this vegetable, forced and unforced, they used a covering of black mossy peat from a morass, and I have never seen Sea-kale finer, cleaner, or sweeter.

5. *Parsnips, Carrots, Beet-root, &c.*—All these should now be stored in a cool underground cellar; and to save the properties of the two first the crowns should be cut off.

6. *Mushrooms.*—The hot, dry weather is almost too much for these in Mushroom-houses on shelves. They will thrive nicely in underground cellars, and in June and July the place cannot be too cool for them. Without these appliances, those who want them in the dog-days should make a bed under the shade of trees, and yet where there will be a

current of air. We have been very fortunate in such places, and in cool summers we have had plenty in a common house: but when very hot, it is next to impossible to get them of any size in common houses above ground.

7. *Early Peas*.—Thanks for the able and interesting articles of this subject. Now let us agitate the best mode for securing early Peas with the best possible trouble and the least chance of disappointment. I have altogether given up sowing out-of-doors until a fine day in February. I find many are now perceiving, like myself, that sowing in autumn is too often a waste of seed, and a waste of slug hunting, and botheration into the bargain. Some time in March, I sow, under protection in boxes, but generally in semicircular drain tiles, with the ends stuffed with hay or moss; when well hardened they are transferred to well-pulverised ground, protected with a few boughs, and then staked, and generally come in a fortnight earlier than if they were sown in November; saving thus a vast amount of worry about slugs and mice, and getting to the table much earlier. This speed in fruiting I attribute to two causes: 1st. The fine friable aired state of the soil when planted. 2nd. The check given to the growing principle by the transplanting; thus encouraging the early formation of blossoms.

R. FRISII.

HUNTER RIVER VINEYARD ASSOCIATION.

(Continued from page 48.)

TRANSLATION.

“Giessen, 16th April, 1852.

“DEAR SIR,—I received yesterday your letter of the 12th August, 1851 (forwarded by Messrs. Kirchner and Co.), and it has therefore been near nine months on its way. A few weeks ago, I despatched a letter to you to the care of Mr. Thomas Brown, London, in which I advised you that I had duly received the two cases of Australian wine which you had sent me. It has afforded me a true pleasure to compare this wine with European wines.

“I have obtained the following results:

	Sp. gravity.	Per cent. Alcohol.	Per cent. Free Acid.	Per cent. Ashes.	Residue on evaporation.
Irrawang Pincau Noir } Tinta. and P. Gris, }	.9920	16.20	.505	.4987	3.265
Irrawang White . . . . .	.940	13.00	.660	.563	3.313

“In their contents of alcohol and in fixed constituents your wines are not behind the best French and Rhenish wines. The best Rhenish wines (Hoek) do not contain above 13 per cent. of alcohol. The red Australian wine greatly resembles a mixture of Burgundy and Claret, which it surpasses in strength; it does not contain, however, the aroma or bouquet, in which claret in particular excels. These wines, however, appear to me capable of great amelioration in this respect by the method of fermentation; and well considered experiments, based on solid observation, will doubtless lead you to improve [emoble] still more these excellent wines, and to bestow on them that quality which the prevailing taste demands.

“The strength or proportion of alcohol and saccharine matter, as you well know, does not regulate the value of wine; but it is the perfect combination, or a kind of equiponderance of its constituents, which is most esteemed and paid for highest. In a first-class wine, neither alcohol, nor sugar, nor aroma, nor acid, should predominate; not one of these constituents should be discernible above the rest—each of them producing in their due proportion the most desirable effect on the tongue, &c. Your proposal of mixing the must of the Verdeilho grape with the juice of the Gouais is excellent, and quite adapted to point out the way in which improvements may be effected. This proposition evinces how much you have reflected on the process of wine making, and how thoroughly you are acquainted with its principles.*

* It may possibly be remembered by some of the gentlemen present, that in my report presented to this association in May, 1851, I recommended the propriety of mixing the must of grapes possessing opposite

“I perceive from your wine report, that at Camden the must is allowed to ferment in vats of masonry. In France, also, these vats of masonry are made use of; but when the stones are united by mortar made with lime, the latter exercises an injurious influence on the wine. The lime destroys the tartaric acid, which is of importance to the preservation of the wine, and the production of bouquet; and when acetic acid is contained in the wine it dissolves the lime, which in that case communicates to the wine a perceptibly earthy flavour. Nevertheless, I am sensible how difficult it is to suggest improvements without knowing the locality, the condition of the grapes and must, and the climate. I can only wish that you may proceed as you have hitherto done, directing your efforts towards the improvement of the fermentation. You are sure to arrive at the end you have proposed to yourself. It is true that difficulties are great, but they are not insurmountable.

“You have last year had a visit from a German traveller, Mr. Gerstaecker, who, in the *Augsburg Universal Gazette* (which is read in Sydney), has described his visit to the Hunter, and your great kindness and hospitality. Thus your property on the Hunter, and all you have done for the culture of the vine, has become known in an extended circle of Germany, and I have particularly rejoiced over it, it appearing to me as if he spoke to me of a friend. Gerstaecker's description of the gold district is not so favourable as yours; he says that much gold is found, but that only a few gold diggers obtain an adequate remuneration for their great trouble and labour. The discovery of gold in Australia is useful, inasmuch as by it an army of colonists will be attracted thither. Gold is a magnet which has an irresistible influence on mankind; and Australia, where the law is in force, infinitely preferable to California.

“You have afforded me great pleasure by the transmission of seeds from the Botanical Garden in Sydney, as well as of the minerals and other productions. I have distributed the seeds amongst several Botanical Gardens in Germany, where your presents are remembered with gratitude.

“The eucalyptic oil I have not as yet analyzed; I will do so however this summer, and inform you of the result. One of the crystallised minerals was a salt of magnesia.

“I have been last year for a few months in Scotland, where I have many friends and pupils. I am partial to your country and to the people inhabiting it—they have much in common with Germans. I can very well conceive the longing which draws you towards your native land, and I wish you may enjoy the happiness of beholding once more that beautiful Edinburgh from Calton Hill. At fifty-four you are far from being too old to undertake this voyage, and when you are again in Great Britain, pray remember that you have a friend at Giessen who will esteem himself happy to see you under his roof. I have a son studying medicine, and who will this year conclude his studies; he has a great desire to make a voyage round the world, and it is not improbable that he may one day pay you a visit at Irrawang.

“Farewell, my dear Sir, and be assured that your letters have impressed me with as high a regard as affection for you.—Yours, sincerely,

“DR. JUS. LIEBIG.”

“To James King, Esq., }
Irrawang, ” }

(To be continued.)

QUERIES AND ANSWERS.

GARDENING.

THE BEST VARIETY OF OAK.

“In your impression of April 6, Mr. Beaton, alluding to the respective merits of the two varieties of *Quercus robur sessiliflora*, and *Q. robur pedunculata*, as timber-trees, gives a

qualities, not with the object of compounding them, merely that an average strength might be the result, but as a means of ensuring a more complete fermentation of their constituents—the neutralization of their antagonistic elements—thereby so far preventing that acidity which is apt to be generated in imperfectly fermented wine. A copy of that report I had forwarded to Giessen, for the perusal of Baron Liebig.

I cannot here refrain from observing that, although that recommendation of mine seemed of slender import in the estimation of some of our colonial wine growers, who, after all that was said, really mistook its character and bearing, it is gratifying to have its merits thus upheld by so high an authority as Baron Liebig.—J. K.

decided preference to the former, and attributes to it the roofs of many of our old Halls, hitherto supposed to be of Spanish Chesnut. In this good opinion he is opposed to Mr. Loudon, who condemned the timber of the sessile-flowered Oak. I have not the Magazine at hand to refer to, but I remember, several years ago, my attention being called to these two varieties by communications from the Rev. Mr. Bree, and observations by Mr. Loudon, in his Magazine, and I long sought in vain for a fine specimen of *sessiliflora*, although the variety occurs plentifully as copswood, in the North of Devon. At Whithy Abbey, near Coventry, in Mr. Bree's own neighbourhood, I could not find one; and the first fine specimen I met with was at Vaenor Park, Montgomeryshire. There was no mistaking my friend, even at a distance, and whatever may be the merit of the timber, I can bear witness to the picturesque beauty of the tree. The greater number of the Oaks in this neighbourhood were sessile-flowered, and, thanks to the kindness of the proprietor, I have a well-filled bed of seedlings. I wish, however, to meet with some of a larger growth, six or ten feet high, for planting next autumn; and as others may have the same desire, I trust that Mr. Beaton's notice, and this letter, may be the means of bringing some advertisements to your paper, and some more remarks upon the merits of this tree. I do not think the variety has met with sufficient notice from nurserymen; indeed, they generally seem scarcely to know it, except by name; and if Mr. Beaton's estimate of its timber be correct, its general cultivation should be particularly encouraged.

"*Quercus sessiliflora*, is in habit very different from *pedunculata*; of a deeper green; the leaf more regularly lobed, and the tree of a more pyramidal growth when young. The foliage hangs in more graceful folds, for (the precise reverse, both as to fruit and leaf, of the *pedunculata*) the leaf, instead of the *acorn*, is furnished with a footstalk, which gives it a graceful fall.

"At a distance, an old *sessiliflora* bears some resemblance to a Spanish Chesnut, as, according to Mr. Beaton, its timber does when felled. I believe it to be of more rapid growth than *pedunculata*, whence I should have inferred an inferior quality of timber, although it is an advantage to it as an ornamental tree."—J. W. WALROND, *Bradfield, Collington*.

[It is an old but very mistaken notion, that the slowest-grown specimens of a given species of tree is the most durable. Experiments have been tried showing the contrary to be the truth. The opinion entertained unfavourable to the timber of the Stalkless-flowered Oak (*Q. sessiliflora*), is equally old, and equally erroneous. The rarity of fine specimens of it is attributable to the fact that our forefathers used the finest timber, and this was obtainable from the *Q. sessiliflora*. The panelling of some of our finest old Halls, the tomb of De Vere, Earl of Oxford, in Hedingham Church, Essex; the roof of Westminster Hall; the canoe, forty-two feet long, found buried in the soil in Ireland, and many others of the most enduring and fine-grained specimens, are all the wood of this species of the Oak.

We shall be much obliged by our readers informing us of any fine specimen of this variety at present existing. Somewhere we have read that there is one more than one hundred feet high in Studley Park. There is a specimen about forty feet high on Lisgate Common, near Littleworth.

M. Vilmorin, writing in the *Gardeners' Magazine* for 1831, page 699, says, that "*Q. sessiliflora* will grow in shallow, dry, gravelly soil a great deal better than *Q. pedunculata*; and its wood is more firm, close, and heavy, and of better quality for fuel." There is an excellent paper, illustrated with drawings, relative to the same species of Oak, in the same Magazine for 1836. At Nettlecombe Court, near Bridgewater, in Somersetshire, Mr. Loudon, writing in 1842, related from personal inspection, that "the Oak woods contain a greater number of large well-grown trees than he ever saw together before. Many of them one hundred feet high, with clean trunks of nearly uniform thickness for half or two-thirds of their height, the diameter varying from three feet to six feet at four feet from the ground. They are all, without a single exception, *Q. sessiliflora*; there being scarcely a plant of *Q. pedunculata* in the Park, or for a mile around it."—(*Gardeners' Magazine*. 1842. p. 485.)

Q. sessiliflora is a species, and *Q. pedunculata* is now considered as only a synonym of *Q. robur*.]

PIT FOR GERANIUMS, HEATHS, &c.

"I want to erect a pit to grow a few Geraniums and Ericas, &c. My ground will allow 30 feet in length, and as wide as would be necessary. Please to give me your advice as to what would be the best plan to adopt for heating, and the erection altogether.—A. J."

[See what Mr. Fish said the other week about pits; the sinking of them, and the raising of them, &c. In sinking below the ground level, Geraniums will feel quite at home; but Heaths, unless you adopt the mode mentioned by a correspondent in the article referred to, of giving air near the base line, will require more care to keep them from mildew. Such a pit as No. 1, sketched the other week, will suit your purpose; if you merely wish a common pit from five to seven feet in length. Two, three, or four-inch pipes heated by water would cost you least trouble, though a small flue taken once along would answer well.

But as in addition to the length 30 feet, you may have any width; and if you wished to combine economy with ease and comfort, we would recommend a span-roofed pit; width ten or eleven feet; side-walls 18 or 24 inches above the ground-level; pathway of 2½ feet wide in the centre, and sufficiently sunk to admit of the easily clearing the headway of a tall man; sides of the pathway held up by brick walls; a platform of earth covered with sand, &c., of some 3 feet 9 inches on each side for plants standing on; and a single four-inch pipe round the house. If you raised the side walls a foot or eighteen inches more, then, without any extra sinking of the middle path, you might heat the house by a flue passing along its centre, the top of the flue well-covered constituting the path-way; and then the two sides might be a level platform, or a sloping staged one, having regular rows of plants, the tallest next the outside, and the smallest next the centre, so as to admit of all being easily examined, watered, &c. Under this arrangement, it would be best if the pit stood with its ends somewhat north and south. Such pits would be more uniform in temperature than houses or pits elevated. If instead of merely sinking the path you excavated the whole space, and had a latticed platform on each side, or slate, or other shelves, you would gain the means of storing many things, such as Fuchsias, old Scarlet Geraniums, Dahlia roots, &c., on the ground beneath your platform; but your plants will require more attention than when set on a platform of earth, and there will be an additional expense for platform or stage, when the earth, in the other case, would serve all the necessary purpose.

Supposing you could command a width of fourteen or fifteen feet, then, if the expense did not come in the way, and to avoid the going down into a house, instead of stepping up to one, we would recommend you to discard the pit, and have a nice, low, span-roofed house,—height of the apex, 9 or 10 feet from floor; width, 14 feet in the clear; side-walls all round, 3 feet; glass, 3 feet; door both ends; side-shelves all round, 1 ft. 10 in. each; pathway round, 3 feet; trellised platform in the centre; shelf and platform from 2½ ft. to 2 ft. 6 in. from the floor level; two hot-water pipes all round. In such a house you could always command comfort and pleasure, and could grow first-rate specimens if so disposed. The simple pit will grow things well; but then you cannot look at them and work amongst them in all weathers. The span-roofed pit, with a path sunk in the centre, would be the most economical, if the examining of the plants be considered.]

WHITE SALVIA PATENS SHEDDING ITS FLOWER BUDS.

"A White *Salvia*, last year, always dropped its buds; what is the reason of this? I am told the pot is too small; but as the reverse of this is generally the cause of bud dropping, I await your reply. The soil was rather poor than rich, moderately watered, growing in a west balcony; pot eight inches across; a first year's plant.—A."

[We presume the White *Salvia* is the White *Patens*. It is apt to drop its buds whenever allowed to get dry, or on very poor soil out-of-doors. Your light soil in a pot was right enough, but it should have had some rich dressing on the surface, or manure waterings. It is also very likely that the west balcony, without a little shade, and the least dry-

ness, would give too great sun power in an afternoon. If kept well moistened, and a little shaded in the height of the day, we did not use to have much trouble; the individual flowers stopping only a short time, but being quickly followed by others.]

ROOT-GRAFTING ROSES.—PROTECTING BLOSSOMS.

"I grafted some shoots of Perpetual Roses last February, on the roots of some old stocks from the hedgerows, and put them in a cucumber-frame, removing them as soon as the shoots had well started to a greenhouse. They are now strong and healthy plants with young shoots eighteen inches long; some have flowered and some not. Should I cut them down now to within an eye or two of the original stem, before planting them out, as I hope to do in May? or would that be taking too much strength from them?"

"You have some suggestions in last month's COTTAGE GARDENER about protection for fruit trees. I put up an iron rod under the coping of my wall, to which I have hung curtains, exactly on the same principle as window curtains for a room. These are easily drawn backwards and forwards, and at night are tied down to some stakes about two feet distant from the wall. I have found this answer perfectly, and a cheaper plan than rollers and pulleys. The curtains are made of the commonest unbleached calico, and cost 2½d. the square yard.—G. M. C., Ludlow."

[Many thanks for your notice on grafting these Roses. You will see in another page that your authority has been admitted in court, to the satisfaction of the presiding judge. Such notices are always valuable, and that about covering the fruit trees is not less so. It is best not to shorten the Roses till next November. It is now time to remove them from the greenhouse to a cold frame, to harden them still more before they are planted out by the end of May; they do not like sudden changes so soon after grafting. When you plant them let the grafted parts be buried an inch or so, and keep them watered two or three times a-week, for the first six weeks after planting, and they will be quite safe, and more so if you stake them, as, if the men should disturb them much when cleaning round them, the grafts might snap off; the matter which forms the union between stock and graft is delicate during the first season, but all newly grafted plants require care as well as Roses the first season.]

VALLOTA PURPUREA OFFSETS.

"I have a large pot sent me with a centre bulb of *Vallota purpurea*, surrounded by about a dozen fine offsets. The soil is dry, but the plant is healthy; foliage green and luxuriant. I want to know when and how to repot it, and how to treat the offsets. I have referred to THE COTTAGE GARDENER, vol. iv., page 137; vol. v., p. 106; vol. x., p. 451, but cannot find out all I want. How is it possible to plant the *Vallota* out, with a saucer of water under it?—W. J."

[The *Vallota purpurea* is an evergreen bulb; the reference to it, vol. v. page 106, was by a good grower, but he did not study that branch of culture. What he there says is about *Amaryllis*, and the *Vallota* is often so called. The reference in vol. x., page 451, reads odd from the want of one little word: thus, "when you plant out your Dahlias next May, you may plant the *Vallota* out too;" or, "put it under a south wall, with a saucer of water under it." When an old bulb of this *Vallota* gets over-crowded with offset bulbs, and it becomes necessary to detach some of them to give room to the rest, to give away to a friend, or merely for increasing the number of plants in one's collection, from the end of March to the middle of May is the best time to make the separation; but this bulb is so hardy in constitution, that a gardener would not scruple to take off all the offsets any week in the year. There is not a single bulb, from *Crocus* to *Paneratium*, or from the hardiest to the most tender, but will do better under cultivation, when more than two or three of them are tied together in a lump, as it were, by their own natural ties. We would separate all the offsets of your bulb, but the strongest four; these four we would leave to bloom with the old bulb, and pot the others in single *small pots* in strong loam, with a little sand, and keep them close for a month or six weeks. After the middle of May we would place the old pot in a saucer

of water, and after Midsummer we would place it in the open air under a south wall, still keeping a saucer of water under it, and in August we should expect it to bloom; when the bloom was nearly over we should leave off the saucer till the May following. We never knew it to refuse to flower by such treatment, but the young offsets take some long time to come to a flowering age; but keeping them in pots is not the surest way to get them to flower soon; if they were planted out under a south wall two summers, from the end of May to the end of September, they would increase as much in size as they would in pots in three seasons.]

PLUM-STOCKS.

"I planted some Plum suckers for stocks, which I thought would do to bud Peaches and Apricots on; they are about three feet high. Ought they to be cut down, or left as they are, and the bud inserted in the main stem? I want them for dwarfs.—P. W."

[You should have cut back your Plum-stocks to bud Peaches and Apricots on during the rest season. They will, however, take no harm by cutting them back to about two feet now. The nurserymen do not suffer them to become too rampant before budding, for the grosser they are, the larger is the wound made in the act of heading them back after the buds have taken. You will, of course, insert the buds in July or August, about four to six inches above the ground-level.]

POULTRY:

RETENTIVE VITALITY OF EGGS.

"Seeing you are desirous of examples of the fact of eggs being deserted, and afterwards hatched, I beg to afford the following case in point. On the 14th March I set a hen upon 14 eggs which the hen most carefully tended for about a week; I say *about* a week, for I had not kept a note of the precise day of desertion; nor had I then any notion that the circumstance might be of any use, so let it pass. At this period, then, she got fighting with another hen for the right of the eggs, and actually left them, as did the other hen also; and both sat nearly a whole day, and part of a night, say until ten o'clock P.M., upon another nest, thus rendering the whole fourteen eggs, to all appearance, *stone cold*. This was very mortifying to me, and I thought it a hopeless case; but I put her again upon them as a sort of forlorn hope; and no chicks appearing, I *yesterday* (April 6th) determined on breaking up the nest, eggs, and all; but, as she had sat so long, I thought I would chance the hen sitting until Saturday (to-morrow), and then have done with it. To my surprise, this morning, on going to the fowl-house, I heard the faint chirp of a chick, and on lifting up the patient sitter, I found 11 chickens *all alive*, and apparently hearty, although *one* has since died—the other eggs were abortive, and I can well afford to lose them after such good luck so unexpectedly. This proves, that after a week the impregnated ova retain its heat, although the shell may feel externally cold.—W. F. WHITMORE, Grove House, South Lambeth."

An anonymous correspondent (S. B. P.) says, "I beg to offer a few remarks relative to the article that appeared in your valuable journal of the 6th of April. In the first place, I will mention having a hen that had sat nine days, and then leaving her nest for eleven hours. I put the eggs under another hen, and, to my surprise, I had from every egg a *bird*. I had another hen that had sat three days, left her nest, and was off six hours; however, she returned and sat well afterwards, producing me from every egg a *bird*."

"I set a young Cochin-China hen about the middle of February; she sat very well for three nights and days, but in going to the house early the fourth morning, I found the hen on another nest, and her eggs quite cold, having, I suppose, been left from feeding-time the day before; but I allowed her to take to them again, but only to have another mishap; for, on going to the nest a few days after, I found she had by some means broken three or four of her eggs. I made a fresh nest, washed the eggs that were left in warm water, and let her try her luck again; the result was they were all bad. At the same time I had another hen brought of seven chickens, which I put in a room with a boarded floor; they did very well for the first fortnight, after which

they one after the other moped into corners, and stood see-sawing, reeling, and pitching on to their heads like a drunken man; and by the third week I had not one of them left. Could this be cramp? I noticed some of their toes appeared cramped; I kept them upon grits, barley-meal, bread-crumbs, a little hemp-seed, potatoes left from the dinner, and greens, with now and then a little meat.—G. W.”

[Your first hen was a bad sitter, and does not afford any evidence as to when and for how long incubating eggs may be chilled with impunity. Your chickens that died as you describe were Dorkings, we suppose, and are difficult to rear so early; but a boarded floor is bad. We prefer a dry earthen bottom to the house or shed in which they are kept, and that bottom well covered with dry sand.]

“On Tuesday, March the 14th, I placed a sitting of twelve eggs, Shanghaes, below a common hen; she sat closely until Monday, the 3rd instant, twenty-one days, when she came off to feed, and appeared indifferent about returning; she did so, but only stood on the eggs; two hours subsequently she again left them, and continued during the whole of that day to walk about the poultry-house, occasionally taking to the eggs, but only standing in the nest; next morning—Tuesday, twenty-two days—I found her still walking about the poultry-house, but desirous of making her escape: the eggs were cold. I returned at 10 A.M., and found that she had not taken to the nest, and the eggs were quite cold. I then gave up all hopes of any of them being hatched, and broke two; there was a dead bird in each, feathered to the toes. I placed the remaining ten eggs below a common hen that laid an egg the same morning, and appeared desirous to sit. I did so, solely with the view of ascertaining if she was steady before giving her fresh eggs; she continued on them up to Friday evening, twenty-five days in all, for the two hens, when a chirping was heard to proceed from the eggs, and one, on examination, was found to be chipped. On the following day—Saturday, twenty-six days—five birds were hatched; and yesterday—twenty-seven days—three more appeared. I broke the remaining two eggs; one was addled, and the other contained a dead bird. The remaining family of eight are doing well.—J. A. T.”

“On the 14th of last month (March), I placed thirteen eggs under my most valuable Shanghae hen; on the morning of the 25th, or eleven days after, to my great regret, I found the hen dead, *stiff, and cold, on her back, about two feet from her nest.* I concluded that the eggs were quite useless, but for the sake of the experiment, I put another hen upon them, not, however, until more than an hour after I had found the hen dead, so that I think the eggs *must* have been left for six or eight hours, and may have been left many more. The result of my trial was this, that one chicken broke the shell on the 21st day, and came out on the 22nd day, that is April 5th. This chick I gave to another hen who was hatching at the same time. The next day, April 6th, as no more eggs were cracked, although I could hear faint chirpings, I determined to break the rest of the eggs as gently as possible, and I found four more chickens perfectly formed, but all dead or apparently dying. One of them I put under the hen who had hatched the day before, but a short time afterwards, I found it turned out of the nest and dead. The other I wrapped in flannel, and placed near the fire, but failed to save it. Thus, out of thirteen eggs, eight were addled, five contained perfect chickens, one of which only came out in proper course, and still survives.—JAMES WILKINS, *Bedford Cottage, Walmer.*”

“On the 6th of March last, I placed twelve Dorking eggs under a hen I borrowed of a neighbour, as none of my own were broody at the time. She sat on them three days very steadily, but on the fourth day, from some cause, she left the eggs, and could not be induced to return to them. I was anxious save the eggs, if possible, and then borrowed a Cochin pullet that was broody for the first time, and placed them under her, though they had been left at least six hours. Unfortunately her maternal instinct did not seem to be sufficiently developed, as instead of gathering the eggs close under her body, she sat with her legs flat upon the top of the eggs, and thus the warmth was but

feebly communicated, and when examined, which was done repeatedly, they never exceeded a sort of luke-warmness.

“Having no other hen broody at the time, I allowed them to remain till the night of the 12th, when I had a game-hen of my own ready for sitting, and I at once removed the eggs, and placed them under her. She sat on them very closely the remainder of the time, and on March the 31st, three days beyond the ordinary period, I had five chicken from the twelve eggs. Of the seven unhatched, six proved, on examination, to be infertile, and in one was an embryo chicken, which appeared to have died in an early stage of its development.

“It is a curious feature in this instance that the half-warmth the Cochin pullet gave these eggs should be sufficient to keep alive the vitality of the embryo chickens without conducing to their progress in the least, as is shown by their hatching the three days later than they otherwise would have done.

“The five chickens are now a fortnight old, and strong and healthy; the fine weather we have had being much in their favour.—H. E., *Huddersfield.*”

RESULTS OF OVER-FEEDING FOWLS.

“I have two lots in two separate yards; first, a cock and three hens of the Cochin breed, in a yard of sixteen feet by six feet, which has the sun upon it the whole day; the other is about the same size, or rather larger, in which I have a Spanish cock, and five hens, and has the sun upon it from about ten o'clock. They are all fed upon barley, oats, and scraps from the house, mixed with meal; they have about ten pounds of grain per week, and about a quart of the scraps a day. Now, they do not lay well, we got only twelve eggs last week; they are always very ravenous, swallow their meat with the greatest haste, and run about anxiously looking for more, but yet they look all very healthy (except the Spanish cock), and are very heavy. About a fortnight since one of my hens (a Cochin) was ill, she parted with her dung in a very liquid state, seeming more like matter, and her rump was very much inflamed, and rather swelled, and she sat moping, but eat well. I washed her with warm water, and gave her a pill of common soap, but she died in the night. When I opened her next day she appeared quite healthy in her intestines, no bad smell, and inflamed only just at the rump; she had a great quantity of solid fat upon her, in flakes, near an inch thick, just the colour of beef fat, and as solid, and was in excellent condition, but she looked yellow about the head; her eyes were quite clear and brilliant. Now, my Spanish cock looks very black about the head and face, comb and wattles, and is fearfully ravenous, and very thin, a mere handful of feathers, but the hens are healthy and fat. My last cock of the same breed went just the same, although both were in very good condition when I got them; my last I parted with. They have plenty of green food, and have had the run of the fields until this last three weeks. He was loose in the bowels, but I put him by himself for a few days, and gave him a little chalk, and now both he and all the rest seem very regular that way. Also, the hens peck his comb; he was fighting some time since, and ever since then they have done so.—S. C. BENNETT.”

[There is no doubt about this case. If you cannot let your fowls have the run of the field or fields again, sell *all* your fowls immediately, for to imprison them in a space of sixteen feet by six feet is unmitigated cruelty to them, and never can be productive of either pleasure or profit to yourself. No fowl requires more, daily, than a quarter-of-a-pint of corn, in the grain, and a quarter-of-a-pint in meal; but they must have more room, and a supply of green food. Discontinue the “scraps,” except of potato, cabbages, and bread; and give them less of corn and meal, in proportion to the amount of scraps. Every symptom you mention is an evidence of the over-fed and depraved appetites consequent upon their unnatural treatment. The hen died of apoplexy; the hens picking the cock's comb, and the wasting away of the Spanish cocks, are all the usual consequences of close confinement, and the general derangement of health that is the result.]

TO CORRESPONDENTS.

*** We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed "To the Editor of The Cottage Gardener, 2, Amen Corner, Paternoster Row, London."

MILLET-SEEN FOR FOWLS (E. M.).—Millet is an exceedingly wholesome and nutritious food for chicken, it contains a high proportion of nitrogenous or flesh-forming food. The Shanghai hen not feeding, arises, in this case, most probably, from irritation of the digestive stomach, a very intractable disease: give her soft cooked food only, as boiled oatmeal, rice, &c.; and if she is falling away rapidly, try a tea-spoonful of cod liver oil twice a day.—W. B. T.

CINERARIA (J. H. W., Essex).—The specimens were quite withered. Flowers should be packed in damp moss, or other moisture-retaining mode.

SIZE OF BOILER (E. S. B., Norfolk).—The size of the boiler is immaterial, all that you have to attend to is the extent of its surface exposed to the fire. If you have two-and-a-half square feet exposed to the fire, it will be more than enough for your two houses, each twenty-four feet by twelve feet.

FOWLS FOR COLD SOIL (A Farmer).—As you require them for use, by all means have Shanghai (Buff and Partridge-coloured) hens, and a Dorking cock. This will secure abundance of eggs (if you buy some fresh pullets every autumn) through the winter, and the chickens will be good table birds. Answers to other queries next week.

SOFT EGGS (W. Wilson).—Give your Shanghai pullet a calomel and tartar emetic pill every other day, until she ceases laying soft eggs. Separate her from the cock, and give her plenty of green food, rice, and boiled potatoes.

PEAS (M. P.).—The *Victoria Marrow* grows six feet high and more in some soils. The pods will be fit for gathering in July.

STOCK SEEN (A Cork Subscriber).—We never recommend tradesmen. Look into our recent advertisements.

PROBABLE COLOUR OF CHICKENS (T. L. O.).—It is quite impossible to be certain of the colour of chickens, but from a Cinnamon Shanghai hen, and light Buff cock, we should expect chiefly Cinnamon and Silver-cinnamon chickens. A Shanghai cock will not increase in weight if nearly two years old.

WASPS (B. B.).—All wasps killed at this season are queen wasps. They are much larger than the unfertile wasps.

CINERARIA—FLOWER-PACKING (Pansiciana).—The flowers are small; petals white edged with lilac, but they do not imbricate well; notch slight. It is only a second-rate flower. You packed it admirably, and all who send us flowers should do likewise. The box is tin, lined with fresh cabbage leaf, then the flower with its end folded in wetted blotting-paper put in, a piece of wood bent across it, to keep it in its place, then a piece of cabbage-leaf over, and then the lid. The cabbage emits moisture, and keeps the bloom fresh.

NATURAL HISTORY OF NEW SOUTH WALES.—*Elshia* wishes to know of some book on this subject suitable for a colonist, and cheap.

NAMES OF PLANTS (W. A. M.).—Your little plant is *Cochlearia officinalis*. (H. B. H.).—Your flowers, "eight or nine in a bunch," are those of *Tecoma capensis*. (C. L.).—1 and 2. Different forms of *Erica carnea*; 3. Unknown to us; 4. *Pulmonaria angustifolia*. (Sophia).—Your greenhouse plant is *Siphocampylus bicolor*. We cannot name your bulb from such a tip. (Abbot's Morton Rectory).—It is, we presume, *Nolana atriplicifolia*. (J. N.).—1. *Epacris campanulata*. 2. *Epacris sanguinea*. 3. *Erica herbacea*. 4. A *Bignonia*, probably, *jasminifolia*. No one can be certain of specific names from such small specimens. (J. Mc. P.).—1. *Polygala chamæbuxus*. 2. *Dielytra ophthalmodes*, are very desirable hardy border plants. (M. J. Ball).—1. *Epacris nivalis*. 2. *Candollea cuneiformis*. 3. *Thomasia quercifolia*. 4. *Lotus hirsutus*. 5. *Ceanothus dentatus*. 6. *Thomasia solanacea* (?). (A Novice).—The plant from which the two flowers were taken, we believe to be *Erythrina crista-galli*, which may be treated like a Fuchsia.

CALENDAR FOR MAY.

ORCHID HOUSE.

AIR: now that the days have lengthened, and the sun obtains much power, air must be given liberally. If the house is built, as we recommended, facing east and west, the sun will have great power early in the morning, and late in the afternoon, and, therefore, air must be given accordingly. **BASKETS,** examine weekly, and such as are dry give a good steeping in tepid water. **CATASETUMS, CYRTOPONIUMS,** and plants of similar habit, will now be growing freely, and should be as freely watered at the root, care being taken that no water lodges in the hollow of the young leaves. **DENROBIUMS,** and any other plants in flower, should either be removed to a cooler house, till the bloom is over, or be placed at the coolest end of the house, and more air given there; but they should be removed into their growing quarters till they have formed the new bulbs. **NEW PLANTS,** such as have just been received from abroad, should not have much water or great heat till fresh growths are commenced. **HEAT:** during this month the greater part of the plants will be making rapid growth; the heat must be kept up to the maximum. **MOISTURE** must also be plentifully bestowed upon the internal air; wet the walks, walls, and pipes, two or three times a day, especially in the morning and afternoon. **INSECTS,** such as snails and slugs, will abound;

destroy them diligently. It is a good practice to look in upon them in the evening, with a lamp or candle; they may be probably found at their work of destruction. **POTTING,** if not finished last month should now be completed. As soon as a flower is potted, secure each pseudobulb to a stick, the compost being so open they would fall over if not securely tied; this gives an opportunity to arrange the shoots in a symmetrical form. **LYCORONIUMS** grown in the Orchid House, divide, repot, and tie. **SHADING,** apply daily when the sun shines. **SYRINGE:** this will be in constant requisition, especially for plants growing on blocks. **WATER,** at the root, bestow liberally to all growing plants, but withhold it gradually as the bulbs arrive at maturity. Let the **WEENS** be all drawn up, for they will grow even in an Orchid House. T. APPLEBY.

STOVE PLANTS.

ACHIMENES, attend, with support for the weak-growing; give freely plenty of water to those advanced in growth; pot the last batch this month. *A. picta* is a fine species to bloom in winter. **AIR,** give liberally to keep down at maximum point the internal atmosphere. **AMARYLLIS** coming into bloom, water freely; those going out of flower place in a close pit, and allow the heat of the sun to fully play upon them, to ripen the bulbs. **BASKETS,** if any are used for drooping plants, should be taken down frequently, and dipped in tepid water. **CLIMBERS,** attend to, tie on, keep within bounds, and syringe freely to keep down the red spider. **CUTTINGS** of stove plants: the plants will now be making young growths, and these make the best cuttings; take them off, and pot them in sand in heat. **GARRENIAS,** remove out of hotbeds into the greenhouse to prolong the flowering; give less water; such as have done blooming place in a cold pit. **GLOXINIAS** and **GESNERAS,** repot, and syringe every day. **IXORAS,** specimens, tie out; young plants, place in dung-heat to encourage rapid growth. **HEAT,** keep up to the maximum, 70° by day, 60° by night. **MOISTURE** to the air, supply liberally, by flooding the walks twice a day. **OLEANERS,** place in pans of water, to cause the blooms to open freely, and encourage growth. **SYRINGE:** use this instrument freely every fine day, avoiding such plants as may be in flower. **POTTING:** continue to repot young stove plants, to bring them on in growth. **WEEDS;** let none appear beyond the seed; keep everything tidy, neat, and sweet, in order to render the stove attractive and agreeable. **WINTER-BLOOMING PLANTS,** such as *Justicias, Eranthemums, &c.,* cut down, repot, and place in heat, to start them into growth. T. APPLEBY.

FLORISTS' FLOWERS.

AURICULAS and **POLYANTHUSES,** shade, and keep well supplied with water; pot seedlings, and sow, if not done last month. **CARNATIONS** and **PICOTERS,** finish potting without fail; plant out seedlings to bloom; sow seed. **CHRYSANTHEMUMS,** rooted cuttings, pot off; old plants, divide and repot, use rich compost. **CINERARIAS,** shade; pot off seedlings as they grow; it is not too late to sow seed yet. **DAHLIAS,** harden off, and plant out towards the end of the month; cuttings of rare kinds may yet be put in. **FUCHSIAS,** young plants repot twice during the month; old plants, stop shoots, and repot for the last time; seedlings transplant, water with liquid-manure as soon as the foliage is abundant. **HOLLYHOCKS,** stake, and water with liquid-manure. **PANSIES,** in bloom, shade from sun; water and stir the soil about them; keep them clear of weeds. **PELARGONIUMS,** such as show flower, repot; tie out specimens; give plenty of air to, and water occasionally with liquid-manure; put in cuttings; sow seed. **PINKS,** stir the soil between the rows, and apply a mulching of short dung. **RANUNCULUSES,** water freely in dry weather. **TALL LOBELIAS,** plant out where they are to bloom. **TULIPS,** protect from frosty nights and heavy rains; retard the bloom, if too early, by shading during hot sun. **VERBENAS,** stop cuttings, by nipping off the tops, to make them bushy; sow seed: plant out in large pots for specimens; water freely and shade. Look out for weeds, slugs, and various insects, and destroy them constantly and diligently. T. APPLEBY.

FLOWER-GARDEN.

ANEMONES, water well between the rows. **ANNUALS (Tender),** remove into another hotbed; pot, if not done in April; water gently, and give air as much as possible; prick out April-sown. **ANTIRRHINUMS,** plant and sow for late autumn bloom. **AURICULAS** done blooming, remove to N.E. aspect, where they will not have the sunshine after nine; offsets with roots detach, and plant three in a pot; seedlings keep in the shade; water moderately in dry weather; Auriculas to seed should be kept from wet. **AWNINGS,** or other shelter, continue over beds of Tulips, &c., now in bloom. **BENDING-PLANTS,** be not in too great hurry to plant out; the middle of the month is time to begin any of the half-hardy plants. **BIENNIALS,** sow, b., in rows, thinly, **BULBOUS ROOTS,** generally, directly leaves decay, take up and store; seedlings shade through mid-day; plant again after separating offsets, or else store until the end of July. **SOW CHINA ASTERS** to succeed early, or supersede late annuals. **CARNATIONS;** remove side-buds from flower-stems; shade from meridian sun; water in dry weather; put stalks to, and tie stalks; sow. **DAHLIAS,** old, part and plant, b.; young, plant out, e. **DRESS** the borders, &c., frequently. **FLOWERING PLANTS** require staking, &c. **FUCHSIAS** may be planted. **GRASS,** mow and roll weekly. **GRAVEL,** roll weekly. **HYACINTHS,** take up and store as leaves decay. **MIGNONETTE,** sow for succession, h. **MIXED BORDERS,** go over twice this month, and mark such plants as seem out of place. **GNOTHERA MACROCARPA,** make cuttings of when the young shoots are three inches long. **PRUNE** and transplant **LAURESTINUS** when done flowering; also prune **BERBERIS AQUIFOLIA.** **PERENNIALS,** sow, b.; propagate by slips and cuttings. **POLYANTHUSES,** part, and shade throughout the summer; sunshine destroys them; sow seed of. **ROSES,** watch for insects on, and destroy them; **Roses** in groups, keep them low; **Roses** in pots may be planted out. **Rose-stocks** for budding, do not rub off shoots; but stop those not wanted at the second or third joint. **STAKE** and tie up plants. **SEEDLINGS,** thin. **SURFACE-STIRRING** cannot be too frequently performed. **TULIPS,** remove seed-pods; take up and store as leaves decay; water frequently

in dry weather, WALL-FLOWERS, sow first crop, to bloom next year. WATER-GLASS bulbs, plant in borders as flowers decay. WATER OVERHEAD newly planted shrubs and trees, and see to the mulching. WATERING, attend to in dry weather, especially to plants newly removed. At the commencement of this month, during showery weather, plant cuttings of *Double Wall-flowers* and *Pansies*, and divide the roots of *Neapolitan* and *Russian Violets*, transplanting in preparation for potting to flower in winter. *Half-hardy plants* may now be brought from the greenhouse, and their other winter shelters, and distributed in the borders. Mild moist weather is most suitable for this work. The more tender *climbing annuals*, such as *Tropæolum aduncum* and *Convolvulus major*, should not be planted out until the end of the month. Put in *Slips* of *Double White* and *Purple Rocket*, under hand-glasses, or near a wall on the north side. CUTTINGS of *China Roses* plant in a shady place.

D. BEATON.

GREENHOUSE.

AIR admit freely in good weather. If the house should be shut up in cold nights, give air the first thing in the morning; toward the end of the month leave a little air all night, increasing the quantity by degrees. ANNUALS, &c., bring in from pits and frames, when approaching the blooming state. Sow quick-growing ones, as *Balsams*; and hardy ones, as *Collinsias* and *Nemophilas*, for succession. MIGNONETTE, sow in pots, or in turf under protection, for succession. ACHIMENES, bring first or second lot from their winter quarters, and place them in pans in the front of a cucumber-pit, or under a handlight in the greenhouse. BALSAMS and COCKSCOMBS must now be sown or potted; the Balsams requiring less heat and more air than the Cockscombs. CUTTINGS, consisting of nice stubby side-shoots of young growth will now root readily in a mild bottom-heat. All bedding-out plants intended for the balcony or a small flower-garden may now be propagated very easily, if inserted in a bed of light soil over a little sweet dung, and a frame placed over them. All quick-growing things, such as *Verbenas*, *Ageratums*, and *Calceolarias* may thus be rooted with little trouble, and be fit for planting or potting in two or three weeks. Young shoots of *Heaths*, *Epacrises*, *Azaleas*, &c., may now be struck, inserting them in silver-sand, in pots well drained, and putting a bell-glass over them; keeping them rather cool for a few weeks, and then giving them a little mild bottom-heat. The whole of this section must be treated as previously recommended, according as they are in bloom, have finished blooming, or have been cut down by pruning. EARTH: stir the surface on pots and borders, and fresh dress where rotting or renewing the earth is not advisable. Sow seeds of the *Orange* or *Lemon*, and when of a suitable size let them be grafted or inarched—preferring the former—and placing the plants in a moist hothed; any stocks raised late last season may be used. For flowering in a dwarf state, and almost continuously, the *Otaheite Orange* is valuable. SHIFTING into larger pots must be carefully proceeded with. In the case of *Fuchsias*, *Geraniums*, *Cinerarias*, &c., intended as successive crops, these advancing should be carefully trained, according to the principles recently adverted to. SUCCESSION crops of *Achimenes*, *Gloxinias*, *Gesneras*, &c., must now be seen after. SALVIAS must be propagating for autumn and winter blooming. Seeds of *Salvia patens* produce strong nice flowering plants. Their doing well for the season will depend on the treatment they receive now. In consulting present convenience we must not forget the future. STOCKS, and all half-hardy plants, may now be sown under handlights, or a covering of some sort on a border, and will take the place, in succession, of those that received some artificial heat. HARDY PLANTS should now be set in a sheltered corner, to make way for the importations from the pits and frames. The first to be removed may consist of *Coronilla*, *Cytisus*, *Acacia*, *Pittosporum*, &c., SEEDLINGS and cuttings must be pricked off in time, or they will destroy each other. WATER will be required oftener as the sun gains strength. Plants with large leaves generally require the greatest supply. PLANTS in WINDOWS will now require extra attention. The increase of mild temperature will bring an increase of dust of insects. VASES and BASKETS for balconies and small gardens must now be got ready, but do not be too venturesome in planting them for a fortnight to come, unless you can cover at night.

R. FISH.

FRUIT-FORCING.

AIR, attend to regularly, still avoiding draughts. ATMOSPHERIC MOISTURE, sustain in due proportion. APHIDES, destroy. BOTTOM-HEATS, attend to carefully; beware of burning; 80° to 86° is enough for any purpose. CHERRIES will be ripe or ripening, ventilate freely. CUCUMBERS, thin, stop, and train; renew linings; get forward for ridging. FIRES, use cautiously. FIGS, water freely and stop. HEATS in general, advance with the season; be moderate in night heats. LIQUID-MANURE, use occasionally. LIGHTS, keep clean. MELONS, dress frequently; thin in the bine; stop a couple of joints beyond the fruit; sustain bottom warmth, and above all, permit no insects. NECTARINES: See Peaches. NIGHT-HEATS, be moderate in. PEACHES, attend to thinning both wood and fruit; stop wild shoots, and see that the root is moist, applying liquid-manure tepid. PINES, let top-heat rise with the season; keep abundance of air-moisture, and ventilate liberally; bottom-heat 80° to 86°; successions get on by syringing and closing early; airing well in the morning. STRAWBERRIES will be getting towards the end; water freely, liberally, and harden off early forcings to turn out for late out-door crops. VINES, stop, train, thin berry, tie shoulders, &c., according to their stages; ripening grapes, remove some laterals, and ventilate very liberally. VENTILATION in general must be constantly attended to. WATERING frequently; examine carefully the roots of fruits, if well drained they will take liberal waterings.

R. ERRINGTON.

HARDY FRUITS.

APPLES, choice, protect in blossoming; apply a briny clay paint for the American blight. APRICOTS, pick for the grub; pinch back all foreright shoots to two eyes, and disbud where absolutely necessary, remembering that where naked boughs occur, they may be clothed with spurs by tying down young shoots on those reserved at this period.

BLOSSOMS in general cleanse or otherwise assist. BANNAGES of all kinds remove or loosen as early as safe. BLACK CURRANTS, dress for fly; soapsuds and tobacco-water, and water mulch at the root in the end. CHERRIES, beware of insects; dress as *Currants*. DIGGING of horders, beds, &c., finish. Grafts, replace and secure clay if loose. GOOSE-BERRIES, hand-pick if grubbed; top-dress where necessary. MULBERRIES, in training, disbud and pinch back similar to *Apricots*. NUTS, keep down rising suckers, and pinch gross shoots. NECTARINES; see *Peaches*. PEARS, disbud gross superfluous shoots, and pinch back weak ones where too thick; hunt for the Pear grub or caterpillar which clusters in curled leaves. PEACHES, disbud; pinch back; remove foreright and back shoots, and thin fruit slightly at the end; apply mulchings if on platforms, towards the middle; beware of insects, they prove ruinous in a very few days. PLUMS, as *Apricots*, dress for insects, as *Black Currants*. STRAWBERRIES, keep down early weeds and runners, and water very liberally in dry weather. VINES, disbud, train, &c. VERMIN, continue to destroy with intermission. WATERING, attend well to in new planting, and all needful cases.

R. ERRINGTON.

KITCHEN GARDEN.

ANGELICA, plant, or thin out, as the case may require. ARTICHOKEs, dress off, if not done, and plant a few suckers for succession. ALRX-ANDERS, attend to thinning, &c. ASPARAGUS, sprinkle with salt once a week during the cutting season. If this be attended to there will be no fear of weeds or slugs; but the surface of the beds should be opened once a week with some little pointed implement. BALM, earth-stir among. BEETS (Red), thin out, &c. BASIL should be exposed to the open air all fine weather, so as to have good stocky plants to plant out toward the end of the month in warm borders. BEANS, sow in succession in cool situations; attend to topping and earth-stirring advancing crops. BORAGE, sow, and save seed from such as have stood the winter. BOE-COLE, sow, b.; prick out, and save for seed. BROCOLIS of any kind may be sown at the beginning, for *Cape Brocoli* in particular this is just the season, when sown sooner they are so apt to run and button; attend to pricking and planting out any early-sown kinds, and to look to favourite kinds for seed. BURNET, attend to. CABBAGES, sow or plant; earthing attend to. CAPSICUM raised in hotbeds should be well inured to the open air, for planting out in the open warm border, at the end of the month. CARROTS, sow; attend to thinning out advancing crops, also attend to watering the early crops in frames or the like. CARNOONS, thin out or sow b. CAULIFLOWERS, the early hand-glass crops should be well hasened up, supplied with water, and *liquid manure* water, once a week; attend to pricking or planting out in succession. CELERY, may sow; attend to pricking and planting out the earlier sown. CHAMOMILE, earth-stir among. CHERVIL, sow and leave for seed. CRESS (American), sow; save for seed. CHIVES, keep clear from weeds. CORIANDER, sow and leave for seed. CROPS FAILEN, lose no time to replace. CUCUMBERS, plant out under hand-glasses upon a little bottom-heat; attend to thinning, topping, and removing any decayed leaves daily; those in bearing assist with a little top-dressing often. DILL, attend to. EARTH-STIRRING, in all cases attend to in dry weather. ENDIVE, sow a little towards the end of the month for early use. FENNEL, attend to planting out seedlings. HOTBENS, attend to. HYSOPP, attend to. KALE (SEA), earth-stir, or carefully fork up among the old crowns, if not done before; look over seedlings, and where sown in patches to remain, thin out and attend to. KINNEY-BEANS (Dwarfs) and RUNNERS, sow main crops at the b., or transplant from hotbeds; make another sowing e. of the month for succession; attend to protection in case of frosty nights. LEEKS, thin out early, or transplant; leave for seed. LETTUICES, sow every fortnight; plant out and tie a few every week, and mark some of the best, or any favourite kinds that have stood the winter, for seed. MARIGOLDS, sow. MAJJORAM (Sweet), see *Basil* (common garden), may plant and keep clear from weeds. MELONS, sow b.; pot off and ridge out in succession; attend to setting fruit, thinning, topping, earthing-up, and watering the advancing crops. MINT, plant out new beds where required; if short of rooted plants, cuttings will root readily at this season, if planted and well watered. MUSHROOM-BEDS should be made in the coolest situations at this season; attend to those in bearing. MUSTARD and CRESS, sow in succession where required. NASTURTIUMS, sow without delay, if not done before. ONIONS, weed; keep the surface-earth loosened; a small fine-toothed iron rake will be found an excellent tool for this and similar purposes; (Welsh) leave for seed. PARSLEY, sow; thin out *Hamburgh*, and leave for seed. PARSNIPS, thin, and earth loosen. PEAS, sow in succession; draw up earth along each side of the rows before sticking, in case soakings of water should be required; sticking attend to in time. PENNYROYAL may be planted in a cool situation. POMPIONS, sow, or plant out under hand-glass, upon a little bottom-heat. POTATOES, hoe amongst with care not to injure the young fibre. PURSLANE, sow; leave for seed. RADISHES, sow in cold situations; and leave for seed. RAPE, sow for salading; (edible-rooted) sow, e. ROSEMARY and RUE, may plant. SAGE, may plant; cuttings root readily at this season if planted in a shady border and well watered. SALSIFY and SCORZONERA, sow main crop b. SUMMER SAVORY, sow or plant out. SAVOYS, prick out, &c. SPINACH, sow and leave for seed, and thin out young crops. TANSY and TARAGON, may plant. TOMATOES, attend to for planting out e. of the month. TURNIPS, sow, thin out and leave for seed. TURNIP CABBAGE, sow. VEGETABLE MARROW, sow or ridge out under hand-glasses upon a little bottom-heat. Many frosty nights may be expected during May, therefore, previously to planting out tender plants, remember how they are to be protected should cold or unkind weather set in.

T. WEAVER.

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WEEKLY CALENDAR.

MAY 4-10, 1854.			WEATHER NEAR LONDON IN 1853.									
M	D		Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
4	TH	Dolomedes mirabilis.	30.073-30.042	55-39	E.	—	29 a 4	25 a 7	1 38	7	3 22	124
5	F	Salticus scenicus.	30.141-30.014	61-31	E.	—	27	26	2 9	8	3 23	125
6	S	Ixodes ricinus.	29.994-29.547	50-35	N.E.	—	25	28	2 32	9	3 33	126
7	SUN	3 SUNDAY AFTER EASTER.	29.640-29.530	42-28	N.	24	23	30	2 51	10	2 37	127
8	M	Petrobius maritimus.	29.615-29.560	53-29	N.W.	02	22	31	3 7	11	3 42	128
9	TU	Cychnus rostratus.	29.510-29.407	52-36	S.	24	20	33	3 23	12	3 45	129
10	W	Carabus intricatus.	30.020-29.771	56-27	N.W.	02	18	34	3 38	13	3 48	130

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 62.5° and 40.7° respectively. The greatest heat, 81°, occurred on the 6th in 1830; and the lowest cold, 28°, on the 4th in 1852. During the period 112 days were fine, and on 77 rain fell.

NEW PLANTS.

EXACUM MACRANTHUM (*Large-flowered Exacum*).



THERE is reason for hoping that this very beautiful

member of the Gentianworts will be cultivatable as an annual or biennial, and bloomed in our open borders. It was first discovered by the late Mrs. General Walker, who found it at an elevation of 6,000 feet in the mountains of Ceylon. That lady was one of the most ardent of botanists, and of skilful portrait-painters of plants we ever had the pleasure of knowing. We met her some fifteen years since during the hottest period of the year, in India, yet she was still adding to her stores, for although the climate was a barrier that she could not surmount so as to search the jungles and other localities for plants personally, yet she employed many native explorers, and rewarded liberally those who brought her any floral treasures.

This *Exacum* bloomed first in these islands at the Glasnevin Botanical Garden, in the December of 1853, under the skilful management of Mr. Moore, the curator. It bloomed there in a stove. In what does this differ from the *Exacum teres* of Dr. Wallich? The flowers are a beautiful gentian-blue, and the plant about eighteen inches high.—(*Botanical Magazine*, t. 4771.) It belongs to the Natural Order of Gentianworts, and to Pentandria Monogynia of Linnaeus.

PITCAIRNIA MUSCOSA (*Hoary Pitcairnia*).

This member of the Pineapple-worts belongs to the Hexandria Monogynia class and order of Linnaeus. It grows in small tufts, and blooming freely in December, its scarlet blossoms rendering it a desirable decoration for the plant-stove during the winter. It is a native of Serra de Piedade, in Brazil.—(*Ibid.* t. 4770.)

SACCOLABIUM DENTICULATUM (*Toothed Saccolabium*).

An Orchid not sufficiently conspicuous to render it an object for exhibition. It is a native of Khaysa in Eastern Bengal.—(*Ibid.* t. 4772.)

In gardening quite as much as in any other pursuit in life, if its practitioners assume anything as sure to come to pass, usually they will be disappointed, and if they do not provide for the possibility of its *not* coming to pass they as usually suffer for their temerity. Leave nothing to chance, is an axiom as full of protective wisdom in gardening as in war.

We were led into this train of warning reflection from having walked round a kitchen-garden during the morning of Monday, the 24th of April. We never saw the crops more forward, more healthy, or more abundant. The Asparagus thick, and wearing a vigorous green hue; the Gooseberries, on some bushes, as large as the ripe beans of the Scarlet Runner; Potatoes with leaves and stems spreading broadly, and six inches above the surface; Cherries with leaves fully expanded, and fruit thickly set, and as large as peas; and Strawberry-blossoms thick in clusters, and expanding their broad faces to the warm and unclouded sun. The wind,

still in the east, however, was chilly, and we remarked that that day, the 24th, was the day on or about which severe night frosts almost invariably occur. We pointed to the Potatoes especially, and recommended that a ridge of earth should be drawn up on each side of every row, and a little littery straw be scattered over them at night, to be removed in the day, until danger was passed. Our auditor, however, seemed to think that summer had "found some of the months asleep, and leaped them over." He thought that it was going to be just such a season as his father remembered in seventeen hundred and something, when the thermometer never fell to the freezing point after March, and the earth got so warmed that, to use his own words, "winter was put aside wholly."

We visited that kitchen-garden again on the morning of the 25th of April, and we were glad that our auditor of the previous day was not there. The thermometer during the night had fallen to 21°, accompanied by a

strong easterly wind, and we had seen ice an-eighth-of-an-inch thick. The Asparagus was purple, and its tips soft; the largest Gooseberries were white, and mere bags of moisture; the Potatoes were black and shrivelled up; the Cherries were as dark-coloured, and looking as if violently bruised; the eye of every Strawberry-bloom was also black; the Apple-blossoms, and even those of the hardier Barberry, were browned as if scorched.

This, one instance only out of thousands, needs no farther comment; but much do we fear, from letters which have reached us, that the fruits and other garden crops not only near London, but in the east and south of England, have suffered most disastrously from that night's frost.

Flowers and Poultry are to combine their attractions at an Exhibition to be held at *Exeter*, on the 18th and 19th of May next. The concise arrangement of this prize-list deserves very favourable mention; we have rarely, indeed, seen a similar document that excelled it in this respect. Dorkings and Shanghaes are to be represented in the chicken classes; but other breeds appear to have no limitation as to age. Single specimens of Spanish, Dorking, Shanghaes, or Game fowls, are also invited; an innovation, indeed, on the usual order of things, but certainly conducive in a high degree to the interests of poultry-keepers generally. We are at a loss, however, for reasons that should limit competitors in the "Pigeon" classes to Carriers, Almond Tumblers, Fantails, and Jacobins. It would be better to admit all recognised varieties, or, otherwise, say there is a want of room, money, or inclination.

The locality of the *Cheltenham* Meeting for the present year, which is fixed for the 14th and 15th of June, has been changed from the Gardens of the old Royal Spa, to those at Pittville. Few situations hold out greater inducements for a Poultry Show than Cheltenham, and the acknowledged success of the Exhibition of 1853, will justify, we most sincerely trust, the liberal offers of the present schedule. The first prizes for the principal breeds, are £5, or a silver cup of that value; Shanghaes, Cinnamon and Buff, Partridge-coloured, White and Black, with Dorkings and Spanish, are those that receive so tempting an invitation, nor are their chickens forgotten. Grey Shanghaes, here termed "Brahma Pootras," Game, and Malays, have £3 each for their champions; while Hamburgs and Polands, in their several varieties, fall to £1. Class 24, for any other variety of fowls, has the wise provision attached "*thorough-bred*;" and the Pigeon classes, though somewhat curtailed, conclude with an allotment of three extra first-prizes to those not specially enumerated. The attention of the Secretaries, Messrs. Jessop, (on whom, we apprehend, the whole responsibility devolves) to the varied details of management on former occasions of previous exhibitions, will, doubtless, induce numerous entries, and secure from any risk of pecuniary loss those who proved themselves such zealous friends to the denizens of our poultry-yards.

As the season of Poultry Exhibitions has commenced, with abundant assurance that they will be as numerous and as well sustained as they have been during the preceding two years, we wish to raise a warning voice relative to one or two points concerning them.

First in importance is the statement of chickens' ages. We are quite aware that the judges are to give the prizes to the best pens of chickens which conform to the regulations and requirements of the prize list, but those regulations, by calling upon the owners to state the age of their chickens, give evidence that age is important to be known; and if important to be known, it is important only in proportion as it is accurate. The importance arises from two sources; namely, that it is a guide to purchasers as to the size of the birds when full grown; and if two pens are of equal merit in all points, the award of the judges would probably be influenced in favour of the youngest birds.

Unfortunately, we *know* of many false statements, and our experience is confirmed by that of others. One of our most triumphant exhibitors, says, in a letter now before us:—"I know cases where chickens shown as birds of 1853 were hatched in November and December 1852." Captain Snell, writing to us on the 28th of March, says:—"We all know to what extent the deception was practised last year. I am told, an amateur stated, about a fortnight ago, that his chickens (Shanghaes) of this year, weighed $2\frac{1}{2}$ lbs. Will any one believe this? I have a very fine brood hatched the 8th of January, and the largest specimen only weighs now one pound and nine ounces."

In making these observations, we are not forgetful that where chickens are hatched within a week or two of each other it is almost impossible, without some special marks, to be able to select the members of one brood from those of another, when both are mingled together late in the season; but we think such marks might be easily adopted by intending exhibitors. One nick filed in the beak of March birds; two nicks on the same side in the beak of April birds; a nick on each side for May birds, and so on, would prevent any great mistake, and it would be easy to adopt marks that would secure even greater accuracy.

On the part of the Committees of Poultry Shows, we recommend them to be particular in requiring a statement of the chickens' ages *on the day of exhibition*, and that that statement should be made on a printed form pledging the exhibitor's honour to a belief in the accuracy of the statement. We are quite aware that this will be no check upon the intentionally fraudulent, but it will be a salutary check upon even more than the careless, by calling more decided attention to the statement—the attention both of the exhibitor and his neighbours.

Whilst we ask for these salutary checks, we also ask for an avoidance of a hasty judgment being pronounced that chickens are older than they are stated to be. No one who has experience as a poultry-breeder but must have witnessed broods that have surpassed rapidly in size and development those much their

seniors. In Shanghaes especially, April-hatched birds will, very commonly, be finer birds in July than those hatched a month earlier. Captain Hornby also tells us the following corroborative fact in another breed:—

“It is very difficult ever to say with even an approach to accuracy what is a bird's age, high feeding makes such a difference. I had a Dorking cockerel once, who was a great pet—very highly fed, always warm. He slept in his keeper's bed-room, on the head of the bed. He throve *immensely*, and at ten months old he had the spur and the leg of an old bird. I never *dared* to show him. Any judge in England would have disqualified the pen, from the cock being *not a chicken*, and the protestations of the owner would not have been believed. I would scarcely have believed all this, had I not seen it. When the bird was nearly a year old, his frame was set; the younger and less forced birds beat him. He had been too much forced. The Dorking chickens I showed at Gloucester, and took the first prize with (they were first-rate), did little or nothing afterwards. They were beaten by later birds.”

We intended to offer a few comments upon the exhibition of young Geese, but must defer our remarks until next week.

ADVICE TO SMALL HOLDERS.

We may now take a glance at the plot of land, whether five acres or ten, and see if everything is ready for business; whether the soil is in a state adapted to carry out with comfort, certainty, and profit, those various operations necessary in cases of this kind. To lay down rotations, and propound schemes which can only be carried out in well-drained and well-worked soils, will, of course, be labour in vain, if the plot is stagnant below, and cloddy and adhesive above; means must be taken to correct these evils, or the design will be frustrated. Fences, too, form an important consideration; no man can hope to carry out such views whose land is open to trespass from horses, cows, or sheep, to say nothing, for the present, about bipeds.

DRAINING is now universally recognised as the basis of all good farming, that is to say, if the land require it, and we may safely affirm that the majority of plots do, in some portions, at least. The effects produced by stagnant soils on vegetation may be thus stated. Whilst the soil contains excess of water which cannot pass, manures cannot efficiently act, and neither spade, plough, nor any other implement, can efficiently reduce the surface, and without this, it is surely almost needless to add, no success in after-culture may be expected. Its effects on pasture or grass lands, too, is even as bad as upon arable soils; the finer grasses become exterminated by those gross kinds which thrive under the very conditions so averse to superior herbage. The cattle, or stock, not being satisfied with it, pine or look half-starved. Indeed, the produce, in whatever shape, is bound to be inferior in quality, and short of bulk, and general weight of produce. Added to these evils, the very air that floats above and around such plots is damper and colder than from highly-cultivated soils, and the very trees, if any, bear ample testimony to the deteriorating effects of water retained in the soil. And then, the cultural expenses are much greater than on improved soils, for plough, harrow, spade, and roller, pass on with much more freedom on sound or mellow soils than on those unimproved. This serious cata-

logue of evils is, indeed, only one-half of the full amount which our limited space will not allow us to go fully into. We will now look at the bright side of the picture. What gardeners term “bottom-heat” is greatly promoted by thorough draining, and it is not too much to affirm, that during the absence of frosts, snow, &c., well-drained lands range from three to six degrees higher in temperature than those in a stagnant state. The effects of this on early, late, or, indeed, on any crops, will appear obvious. Draining acts not alone on what is termed the mechanical character or texture of soils, but on their chemical condition also. The free passage of rain-water, and, by consequence, the free admission of air into the soil, facilitates a continual decomposition of both organic and mineral matters; thus presenting a liberal amount of the necessary food of plants for absorption by the spongioles or fibres.

Sir J. Sinclair, so long back as 1817, affirmed that the rent of sundry sheep farms in the southern parts of Scotland had been quadrupled through the beneficial influences of thorough drainage. To finish our recommendations, let me repeat, that where even stagnant soils are thoroughly reclaimed, the very air of the spot becomes more salubrious—more conducive to the welfare of both man and beast.

About modes of draining, we can here afford no space for remarks; such would weaken the subject; so let us look next at our FENCES, and see what can be done with them. I have before observed, that a good exterior fence is indispensable; and, indeed, the divisional fences where stock of any kind is pastured are scarcely second in importance. Fences are various, according to the need or means of the proprietor, or the character of the locality; but one character of fence I would especially urge on the owners of small farms, and that is the Holly hedge; especially for an exterior boundary. If, indeed, only the north and east sides were thus protected, much advantage would be gained in the earliness of certain crops, and the excellent protection they afford to cattle. We have some in these parts from eight to twelve feet in height, and not more than two feet diameter, having been well “knifed-in” during their earlier stages; they are, moreover, thick down to the ground, and almost impenetrable. I need scarcely observe, that the shelter they afford is beyond every other kind of hedge, and they are, moreover, a great ornament in any situation. One of the chief recommendations of the Holly as a hedge plant is the durability, or permanency, of the lower branches; I know of no hedge evergreen which will so long retain power and freshness in the lower branches; thus removing all anxiety about nakedness at the bottom of the hedge. In this part of the country Hollies are used to a considerable extent, and our farmers are loud in their praises concerning them. They are frequently dotted here and there in a line of hedge, from twenty to fifty yards apart; and cattle plainly attest to their sheltering properties, as in cutting weather and snow storms they generally congregate behind a group of Hollies. In some cases they are planted about one in a yard or so, amongst the quicks, and a very strong hedge it makes. I, however, prefer all Hollies.

DRAINING and HEDGES being done with for the present, let us enquire about the character of the SOIL, chiefly as to what is termed its mechanical texture, and see whether any ameliorating proceedings are necessary. I may here just observe, that the soil in which plants are growing should be permeable to the free extension of the fibres of the growing crop; and that whatever impedes the progress of the roots occasions at least a loss of time. The soil is, indeed, the fruit laboratory, in which the food of plants is prepared for them; the facility with which this is accomplished depends not only on its mechanical conditions, but on the combined

agencies of moisture, heat, and air; these, by united action in a progressive way, reduce and diffuse the elements or principles which are contained in both organic and mineral substances.

When, by the application of labour, guided by a proper appreciation of these principles, a soil has undergone the necessary amount of improvement, it is in a condition to afford every facility for the fibres to range in quest of food, not only at the present moment, but during the life of the crop. This, indeed, with a proper application of manurial matters, and a judicious course of culture, constitutes what is called good farming; and by such means is the character and value of the land itself, as well as of its produce, increased.

The following condensed view of those soils which require *particular* assistance may be sufficient for our present subject:—

ADHESIVE, or stiff soils, the clayey principle predominant.

LOOSE soils, in which silica, or the sandy principle, predominates.

PEATY soils, containing excess of vegetable matters.

Many intermediate characters there are, but these will suffice for our present purpose. How to correct these in an economical way is our present business. I may here observe, however, that according to our first-rate scientific men, who have been at much pains to classify soils, that those containing about fifty per cent. of clayey matter, are termed **ARGILLACEOUS** or **ADHESIVE SOILS**. Those with from twenty to thirty per cent. of clay, are called **SANDY SOILS**. The **PEATY** consist chiefly of the remains of dead vegetable matter in various stages of decomposition. In an unimproved state, and moist, it is said to be charged with humic acid, which is injurious to vegetation.

ADHESIVE SOILS, our first class, can only be permanently improved by the introduction of such substances as, by insinuating themselves through the soil when in a pulverised state, prevent its ever returning to a stubborn condition. Of such a character are sands, or very sandy soil, lime or mortar rubbish from old buildings, the scrapings of brick-making grounds, burnt ashes of any kind, especially from peat or vegetable matter, &c., or, indeed, anything which *cannot be made to cohere* by pressure.

LOOSE SOILS are highly improved by marls, or even clay; the latter, however, of rather difficult application; ditchings from strong lands, pond mud, &c., all, of course, in a state of division, so that they blend uniformly with the loose soil.

PEATY SOILS.—After the stagnant moisture is fairly removed, these soils will, through airing, become mellow and crumbling; and, to facilitate this condition, many throw such lands into high ridges; this, during a dry and warm period, greatly hastens its improvement. Land of this character requires liberal applications of both sand or sandy soil, and the marly or clayey principle, for it is apt to “burn” during dry weather; a soil, indeed, liable to extremes, which extremes must be corrected.

Those who live near thriving towns should be ever on the look-out for materials of a corrective or manurial character, for such are always to be had. Even sawdust may be turned to excellent account in various ways, and such articles may commonly be had for carting away. By the way, sawdust is a capital material to throw under stock of any kind. A reverend gentleman, of these parts, who has been long noted for good husbandry and stock management, and who farms rather extensively, uses immense quantities of sawdust beneath his ordinary stock and in his pig-styes. This would, with the addition of soot and a little guano, make an excellent drill compost for root-crops. The *debris* of old buildings, walls, &c., which is always to be had near

busy towns, is a capital improver, it can hardly be applied wrong; it is, however, particularly adapted for correcting stubborn soils. I have known grass land become speedily covered with white Clover and Trefoil on the heels of an application of this kind.

And now we will suppose draining has first been properly carried out, and that when the land had become emptied of stagnant water, due attention had been paid to the other improvements; the next thing will be how to crop or apportion it. R. ERRINGTON.

MEETING OF THE HORTICULTURAL SOCIETY.—18TH APRIL, 1854.

This was the vacation for the Easter holidays in Parliament, and London was gone to the provinces;—the cabmen were hanging about in groups. You could see, by the young men in the shops, the hair-dressers had more time on their hands, and the rooms and shops in Regent-street were not half full that day, but it was the gayest day of the season for flowers, without any very particular novelty of great merit. There is a horse-shoe table in front of the Chairman, in the centre of one side of the room; the open part of the shoe is not open in the table; the seats for the Fellows are in half or three-quarter circles round the table. A member sitting opposite where the great toe would be in the shoe is directly opposite the Lecturer, Dr. Lindley, the Vice-Secretary; and he who sat opposite the little toe faced the Chairman; then, on this trellis, in front of the Chairman and Lecturer, they place all the rarest things—the fruit and the low plants; tall plants are on other tables. If tall plants stood here, many could not see the Lecturer, or who was in chair. Now, and for the future, to make easy work of it, I shall begin to tell the plants as they stand upon this table. The first was a new plant from Mr. Weeks, of the King's Road, Chelsea, he who grows the Victoria Water Lily out in the pond, it is called *Aphelandra lateritia*, is from Guatemala, does not seem to be difficult to grow, and flowers in a very dwarf state, which few of the *Aphelandras* do. This was a cut-down plant to within six inches of a twenty-four pot; the stool made two shoots, and one of them was in bloom, a few inches “above the start.” The Lecturer had seen this plant a week or ten days before, when, he said, it was very much finer; *lateritia* means brick-colour, and that was about it. Apart from the novelty, this plant exhibited quite a new feature in cultivation, at least, it did so to me; and I would ask, has any gardener ever seen a strong *Aphelandra* or *Justicia*, or even any strong plant of an *Acanthad*, the Natural Order to which they belong, that went into bloom, on the first move, after being cut down? I never saw such a thing, and I believe it to be unnatural in the whole order, and that the disposition to flower so soon after resting was induced by other means, and if so, why not get many more of the long-legged *Acanthads* to flower on short stumps. I can conceive how the effect was produced, but it would take me out of my way too far to describe it to-day.

Epidendrum Stamfordianum, from an old friend, Mr. Dunsford, Chingford, Essex, was very fine, with four long, branched, flower-stems or panicles, studded with cream-colour and brown-speckled flowers. Four pots of the hardy (I believe) *Yellow Violet*, from South Patagonia, which Mr. Veitch introduced a few years back; they were very nicely in bloom, and the colour is a soft, dark yellow, but there is no scent in the flowers; these were sent from the Pine Apple Place collection. The Messrs. Lee, of Hammersmith, had on this table two small plants of *Epacris miniata splendens*, by far the best cross I have yet seen from *miniata*, deep, shining,

crimson tube, with a mouth as white as snow. *Pultenaea biloba*, a fine specimen plant. Two plants of *Epacris Kinghornii*, a blush-pink flower, the first I have seen of this sort; and *Azalea vittata*, from China, which is very like a common cross which comes from *variegata*, with any of the white kinds. I have seen scores of such *vittatas* from crosses. *Azalea amana* was also in this collection. This is a spring-flowering, or ought to be made to flower always in the spring, and under glass, to see its real beauty; by-and-by it will hardly be worth looking at in the competition collections.

Mr. Jackson, of Kingston, had a prize for some nice plants of *Vriesea speciosa*, of which he is certainly the best grower in England, and his secret is only to keep the hollow of the leaves full of water, from the end of March to the end of September, with small pots in proportion to the plants. Gardeners should recollect, that the *v* is mute in *Vriesea*, and that the hollow at the bottom of the leaves ought always to be full of water all the summer, as the plant is one of the handsomest stove plants in the country, when done as it is always done here in Kingston. The rest in this collection were chiefly Orchids, and one of them, from Brazil, is very scarce.

Leptotes serrulata, a dwarf plant, with about a score of curious white flowers, the sepals or back parts curved forward, and meeting in front like the claws of a hawk flying off with a Cochin chick; *Chysis bracteosa*, with waxy white flowers; *Barkeria elegans*, again; six different varieties of *Lycaste Skinneri*, some of which no Orchid grower should be without, being one of the most useful of the order, and pretty nigh as cheap as a new Fuchsia; and *Dendrobium pulchellum*, a perfect cushion of fringed, light lilac flowers, having each a soft yellow eye in the centre.

There was a fine specimen of *Phrynium sanguineum* from Pine Apple Place, under the name of *Maranta*; and if any one wishes to see the shades of shot-silk in the leaf of a plant, here it is in perfection. The leaf is like some *Canna* leaf, a foot long, and four or five inches broad; the upper side is a darkish green, veined with purple, and the underside is purple all over; but if you move it about in the sun you have green and purple in waving shades as true as in a silk dress. The flowers are on long, upright scapes, and the scarlet bracts are the real beauties. Mr. Gaines sent *Rhododendron delecta*, a blush from the breed of *ponticum*, and *Azalea Holdfordensis*, of the China breed, which may be said to be among the very best coloured crosses, besides a freak of doubleness, one or two of the stamens having run into petals, colour between light crimson and rose. Mr. Pince, of Exeter, sent his seedling *Calceolaria Ajax*; and although I never make any pretences about a knowledge of florists' flowers, any gardener in the country may take my word for it that this is the best bedding *Calceolaria* of all the crosses. The truss is very large, the individual flower is also very large, the whole front of the pouch is one purple blotch—not very dark; the top and the sides being a good yellow. In my day, I had twenty thousand seedlings of this very stamp, and one, called *Youngii*, was the original, just two-and-twenty years this summer, from which I commenced. Now, of all the cross *Calceolarias* of mixed colours which I have seen, I would first choose *Ajax* for a bed, the leaves are large, soft, and look exactly like those of a good herbaceous *Calceolaria*; but the stems are quite woody, and it is a shrubby sort, with the habit of an herbaceous kind. Of course, I cannot say if it will continue in bloom all the season, and of course, also, I know nothing of it beyond what was on that table before us. Next to it was a great novelty, a new strain in *Rhododendron*, a continental cross, sent by Messrs Standish and Noble, it is named *Alströmérioides*—the flowers are not very large, nor do they open wide,

about the size of some older *Ponticums*; colour, dull rose all over, and the inside is barred and marked with brown just like some *Alströméria*. The Lecturer suggested that it might be a cross from *Ferugineum*, and I thought him both right and ingenious to the bargain in his surmise, the more readily, as I was somewhat puzzled to account for the parentage myself.

There were six little plants in bloom, in No. 60 pots, of the new white China *Azalea*, called *Narcissiflora*, also from Messrs. Standish and Noble; this is a clear white, with the centre turned half double, and there can be no question about its being a cross effected in China, like *Calycina* and some others. Lest any one should misconstrue my meaning in telling that this or that plant was shown in a sixty-pot, I must say, once for all, that every *Rhododendron* and *Azalea* in existence, whether they be hardy or not hardy, might be had in full bloom in a sixty-sized pot; it is only a question of gardening, not of kinds. A propagator who could not graft a full flower-bud with a joint or two of wood to it of the large Indian tree *Rhododendrons*, on a small *Pontic Rhododendron* in a sixty pot would not be worth salt to his porridge. There was a pretty little hardy *Indigofera*, from Mr. Standish, which he had from China. All these, and the first, stood before the Chairman. Mr. Lane, the great Rose-grower, sent three large specimen bush plants of rare kinds of *Rhododendrons*, and they seemed to be growing in nothing else but yellow loam; the best of the three is called *General Napier*, a blush or French-white; the other, *Striatum*, a whiteish also; and *Campanulatum*, all but white. There was a plant like *Gesnera mollis*, but differing from it in throwing out long stalks, on the top of which clustered a lot of flowers, all growing from a flat disk, and from this the plant is made a new genus of called *Sciadocalyx*; *Gesnera mollis*, variety *pedunculata*, would have been as good a name; it is botanically interesting.

There were Pansies, and a double new Primrose, brown and yellow, and very distinct, from Mr. Dobson, of Isleworth; and he sent eight plants of the best grown *Cinerarias* you ever saw; and really, when one sees them so early in the season, and so well done, it is impossible not to admire them; some of the faint light ones will not be worth sixpence next Juno, but now they are different, and *Lady Hume Campbell*, a white centre, and a light blue edge, is the very best of that class. A grafted plant of *Rhododendron Edgworthii*, which was forced, did not answer that way scarcely so well as when it flowered last year naturally, and was shown at one of the exhibitions at the Garden of the Society. I saw lots of the tree *Rhododendron glaucum*, from Sikkim, in flower, with Mr. Jackson; they have rose-coloured flowers, and are very different from *Rhododendron theaeiflorum*. There was a plant of *Tropaeolum tricolorum* on a target-like trellis, wide enough for a regiment of militia to shoot at, from a Mr. Keeble. A large bush of *Rhododendron aureum*, and a nice pink one called *dilecta*, were sent by Mr. Gaines.

From the Garden of the Society were cut flowers of the white *Wistaria sinense*, alias white *Glycine*; fruit of the Japan Citron (*Citrus japonicus*), this is not the *Mandarine Orange*, or the *Otakeite Orange*, of which they make such pretty little standards, but the fruit is as small as that of any in the tribe, and of the shape of a small *Ash-leaf Kidney* Potato; the rind is most fragrant, and the whole fruit is highly prized by the Chinese; when preserved in sugar they call it the *Cum Quat*; *Indigofera decora*, a splendid specimen; *Chorizema Laurenciana* fine; *Daviesia latifolia*, with numerous clusters of yellow flowers; *Bossiaea Hendersonii*, very small in the leaf, and profusely covered with yellow pea-flowers. *Acacia grandis*, in a sixteen-pot; the first two feet of it from the

pot was ballooned by turning down the shoots, and from the top of this balloon the centre started as from a pot; when this stage gets bare, or rambling, it will probably be ballooned also, and so on they go, till they make a full pillar of this most elegant *Acacia*, which every queen and empress in the world ought to have.

I have no more room but for the fruit; and the late clear sunny weather allowed Mr. Fleming, of Trentham, to give such quantities of air by night, no doubt, as well as by day, to the Duke and Duchess of Sutherland's forced Cherries, that they seemed more like those from an open wall than forced fruit; he had a good prize for a beautiful dish of them. There were six bunches of *Black Hamburgh* Grapes from Mr. Spary, of Brighton. There were also dishes of *Keen's Seedling* Strawberries, and of *British Queen*, with a dish of Apples, and some Potatoes, of which one, called the *Fluke potato*, which we were told, in the lecture, never yet took the disease; and many people are going to try if it holds out against it this season under different circumstances. There were two or three kinds of Lettuces from the Garden of the Society, or Lettuces in different stages of growth, some from the open air, and some of the same over which hand-glasses had been placed last March; those under the hand-glasses were forced as beautifully and crisp as any Dutch gardener could turn out, and the kind of hand-glass which answered the best is the one of which Mr. Errington wrote about the other day; they were invented by Mr. Errington, and they are made by Mr. Pilkington, and the Horticultural Society of London have already proved them to be the best. These good bell-glasses have a neck, a throat, and an open mouth at the top; a little pot, say a sixty, turned over the mouth of this glass, cuts off the air; or if you want it more light, a little bell-glass turned over the mouth would do that; but I prefer the little flower-pot. . D. BEATON.

FAILURES.

THERE are few, however humble, that will studiously keep their success under the extinguisher of an opaque bushel measure. Without getting into the miry egotism of a self-laudation, there is something pleasing to our feelings, as thinking agents, in finding that we have done or produced any thing worthy of favourable notice, or intelligent approbation. The great failing with some people is, that do what they will, they never do wrong, however disastrous the result. There is always a sufficient reason, wholly apart and inseparable from anything they could have done or left undone. The bump of self-esteem, a good thing in its way, has quite closed up with its bulk the organs of perception, that would have enabled them to see virtue and successes among their neighbours, and among these, some causes of their own failures. If such happy specimens of humanity should ever even affect to ask for an advice, it would only be after their own plans were fully resolved upon; or that they might have the pleasure of acting directly contrary to what some of their friends deemed an authority. The scrapes and disappointments their headstrong, self-opinionated determination get them into are never so much as mooted by them. An accidental success will be duly chronicled; a host of failures, never. With a spirit overtopping the meanness of envy and jealousy, speak of the abilities and achievements of some third party, and forthwith our hero will shunt you up with a homily on his own wondrous deeds. Previous experience would tell us, that to all such we can be of little benefit were our knowledge as amplified as it is limited.

Were I to take the correspondent column as any test for guidance, I would say that *failures* are some of the chief bonds that unite writers and readers. The best

way of doing a thing is all very well; the stating the reasons why such a mode is best in the circumstances is also instructive; but we find there is a something wanting after all that, when we do as well as we know how, and yet do not rightly succeed. In fact, however much we may respect and honour a man, we can have but little sympathy in common, if we find that upon a given point, in which we are greatly interested, he is immeasurably above or beyond us. There is something cheering to a pupil, however hazy and intricate his task, when he knows that similar difficulties attended the progress of his preceptor. Hence, keeping this in view, as well as from a principle of honesty, I have deemed it right not unfrequently to allude to failures of my own, even when I did not clearly see the reason; and the failures of others, when a mode of success could be pointed out; and to a few cases of this latter description, thrown together at random, will our attention now be directed.

CHANGES IN THE WEATHER.

Among all earnest amateurs, during the greenness of their first zeal, this is a fruitful source of disappointment. The day has been so beautiful and mild, they reckon not of the dangers of the night, but banish care and anxiety when slipped at the fireside, until frequent disappointments have taught them to be ever watchful. A favourite article may be properly secured at the time, but a change of temperature may require a great change in its treatment. A lady, last season, was right proud of her Dahlias and Scarlet Geraniums. She found out that oldish plants of the latter bloom more profusely than young ones. She described her conveniences, and received appropriate directions for managing them in a spare room. The Dahlias were packed in dry earth and ashes, and the Geraniums, after the soft wood and leaves were removed, were packed in earth neither wet nor thoroughly dry. The season approached when signs of active vitality should be appearing, but though anxiously looked for, still they came not, and, so far as the Geraniums were concerned, never will come. They had been rightly kept every way, *only* that the frost had thoroughly penetrated them, and made the inside of their stems as black as hats generally were before so many new tints of colour were coming into fashion. No shutters had been put to the window; a single fold of a piece of mat had been laid over the plants, and no more was thought about them, though the frost was sufficient to crack crystal decanters in bedrooms, by the freezing of the water within them. Many found in unheated bedrooms an extra blanket something more than a luxury; and if an extra blanket had been given to the plants, in the shape of a good covering of a non-conducting medium, the Geraniums would have been green and flourishing to-day, and most of the Dahlias would not have required a resting-place in the dust-heap.

PROTECTING VINE BORDERS.

A friend of ours has generally had fine heavy crops, and yet such small foliage as to demonstrate two things—first, that the Grapes received the chief strength of the Vines; and secondly, that the roots must be near the surface, when the Vines were so distinguished for fertility instead of extra luxuriance. He had no reason to find fault either with the quantity or the quality of his Grapes; he took every opportunity to admire the splendid parasol-like foliage in the vineery of a neighbour—and the bunches everything that could be hoped for, though rather scanty. They both forced moderately early. In one point chiefly did their practice differ. Our friend carefully covered his border, and tried to throw a little heat into it; as well as preventing the escape of the heat stored up in autumn. His friend regularly laughed at him for his pains. “Disfigure the

front of his house with a mound of litter!—not he." Banter and raillery will often accomplish what mere reasoning or argument will fail to effect; and, in an evil hour, our friend resolved to give the non-protecting mode a fair trial. Notes of comparative success were duly made; the weather, on the whole, was generally mild—all went on as well as could be; but, *presto*, a night or two of severe frost comes—the incipient bunches had become two or three inches in length, looking as plump and promising as could be; but in the morning they were as flaccid and woe-begone as if they had been dosed with a virulent narcotic; and though, at the eleventh hour, syringings with warm water, and rude coverings of the border were resorted to, not a fourth of the usual crop was obtained. The frost had penetrated to the roots; the relative and co-relative action between branches and roots, previously existing, was thus interrupted; the bunches, being the most tender and the most important, were the first to feel it; long-continued, the Vine itself would have suffered, and as it was, progress was properly arrested, by lowering the inside temperature until the balance was somewhat restored. The strong-growing Vines escaped almost without a sign of the frost affecting them, and our friend very properly came to the conclusion, that if he wished to do without protection, he must contrive to get his roots a foot or eighteen inches deeper, and thus run the risk, if he obtained extra luxuriance, and immunity from the trouble of covering, to have his Vines less distinguished for fertility; and, not unlikely, his Grapes less stored with saccharine matter. Of the two contingencies, our friend has resorted to the protecting process, and, I am almost sorry to add, that on one occasion, he so far forgot his usual characteristic blandness, that when extra luxuriance of foliage was descanted upon, he muttered something as to its being very beautiful, but *then it could not be eaten*.

HARDY FRUITS.

Seldom has there been such an appearance of plenty and earliness combined as during the present season. *Keen's Seedling* Strawberry, on a south border, has been as full in blossom the 20th of April as we have had them at a similar period in May. The splendid weather in March and April has brought other fruits forward proportionately early. Gooseberries have been picked for tarts the 24th of April, and might have been done so earlier. Old stagers did not in all this see much cause for rejoicing. They dreaded having March weather in May, and it has come sooner than they expected. The gardens where things are latest will generally be the most fortunate. A sudden change of temperature, from 48° and 50°, to 30° and 26°, is no trifling matter for fruits in bloom and just set. A few of our Gooseberries were done for on Sunday morning. Strawberries had the centre of their bloom blackened on Monday morning, and more would have followed in their wake in the colder morning of Tuesday, if means had not been taken to prevent it. Complaints have reached us of Peaches being blackened, notwithstanding the profusion of foliage; and Gooseberries and Currants destroyed, notwithstanding their leafy canopy; and in some cases the inquiry is made what could be done, and what could have been done. Nothing can bring back what is gone. If every thing possible in the circumstances was done to prevent a failure, then there is no reason for repining. If these were neglected, then, when fine weather comes, I know, by experience, that every deficiency in produce will stare us in the face, and the language of rebuke they will utter will be direct and unmistakable. With the greatest attention, the most diligent and careful will often be overtaken, and often there will be an "if they had done so-and-so," to prey upon their minds; but it is

true policy to guard against these self-inflictions as much as possible. I can easily imagine that the cold would be felt in many places worse than here, as we not only stand high, but that elevation deprived us of the heavy rains that on Friday and Saturday next to flooded some of the vallies. The drizzling dropping we received, and which I rather grumbled at, has saved us from the increased cold likely to be produced by a rapid evaporation. Still, even here many things shewed signs of suffering. In such sudden emergencies, who does not wish that he could ransack a canvass or a mat depôt. Gardeners, in general, must be provided with simpler and less costly agencies. Walls likely to catch the sun's rays early were previously thawed with a sprinkling of cold water, and Gooseberries and Currants had a similar dose. This is always useful when the frost is not intense; when the fruit is frozen through, or the embryo is fairly chilled, it is seldom of much consequence. By a provision of nature, cold often causes the petals to collapse, and thus so far protect the parts of fructification. This is still further accomplished, when, as in the Cherry and the Plum, the blossom is whitish in colour, as this lessens the radiation of heat. Then, as the night threatens to be equally cold, and the wind direct north, Morella Cherries, &c., on that aspect, and dwarf Pear-trees, &c., were protected with Laurel and Spruce branches. Rows of Strawberries, and quarters of Gooseberries and Currants, had a sprinkling of light litter shaken thinly all over them. Many beyond, or escaping the influence of the litter, are yellow and black; those beneath it are all right as yet. Brocoli had a small handful stuck into each; and forward Cauliflower had a slight sprinkling all over. "What a littersome concern it makes." Aye, true, if you can provide bunting and canvass, so much the better. If you cannot, or care not, the litter would be all gone before the bright days of summer and autumn; and then, if successful, there will certainly be a difference between a poor and an abundant supply.

AZALEAS SHEDDING THEIR BUDS.

"These are the very plants you eulogised last season; what can be the matter with them? I have watered them myself every day." So much the more pity! the drop, drizzling water system has done for one, and pretty well killed the other. Strike the lower part of the pot firmly with your knuckles. Why it emits a sound like a cracked bell. Just so; if it was wet it would emit a dull, dead sound. Turn out the plant past all redemption. It is damp for two inches from the surface, beyond that the roots appear to have been dried at a kitchen grate. The one less injured is almost as bad. Set the pot for a couple of hours in a tub of milk-warm water, and then let it drain before placing it on your stage. Even this may not save your buds, but if anything will, it will save your plant. Whenever you are led from the above experiment, or feeling the weight of a pot, to decide that it is dry internally, the dipping mode is a capital plan. Another test is the rapidity with which water sinks. If after being poured from the water-can it stands long on the surface of the soil, you may safely apply to the dip-in-the-tub antidote. Hence, after a period of great drought, the farmer and the gardener hail with gratitude a few genial, gentle showers, before the drenching rain of a thunder-storm, as, when the latter comes at once on a dry surface, much of it, instead of sinking into the earth, finds its way to the nearest ditch, rivulet, or valley. The Azaleas referred to remind us of the royal law for watering plants in pots—namely, water sufficiently to reach every fibre of roots, and then stay your hand until the plant wants another thorough refreshing.

UNIQUE GERANIUM, NOT FLOWERING.

"I cut this down similar to another Geranium, potted

it after it pushed, and now, though it is growing, there is no appearance of its blooming much; though I was given to understand it would be almost always in bloom." If you wished for a neat, compact plant, to bloom in summer and autumn, either in pots or a bed, you acted quite right. If your object was to have, as nearly as possible, a continuous supply of bloom on the same plant, you did not do as we would advise and practice. We should have no general pruning, but merely remove, now and then, a long, naked shoot, and take the points out of some others. I have several large plants thus treated that are generally well supplied with bloom nearly the whole year. These have been in the same pots five or six years. A little of the surface-soil is picked out every spring, and fresh compost added, and manure-waterings now and then applied. For several Sundays I have seen, in a window, a nice little specimen of this charming *Unique*, trained flat, trellis style, and well studded with flowers, that had been brought into shape and beauty by the taste and industry of a young lady amateur. Anxious were the looks it received from hundreds passing to church and chapel. Its appearance at once told it had been treated in the way here described. Cynics, there might be, who would have wished such an attractive object shrouded from sight on such a day; but if I have any anxiety at all, it is that the taste for, and love of, the beautiful, may become more and more the attendant handmaid of all that is soul-elevating and pure.

R. FISH.

NEW FLORISTS' FLOWERS.

(Continued from page 58.)

PANSIES.

FLORISTS have brought this charming flower to such a degree of perfection, that it is extremely difficult to produce superior varieties to such as we already have in cultivation. I have heard, however, that Mr. Turner, of Slough, exhibited one called "*Memnon*," at the last meeting of the National Society, that was so good as to call forth the admiration of the visitors. The judges gave it a certificate of merit, but desired it to be sent again, as they had no doubt it would improve so much as to deserve a first-class certificate. I shall reserve a description of it till that takes place. The following are proved varieties of superior properties.

CLASS 1. SELFS.—*Blanche*; a large white flower, even at the edges, and flat in form.

Fanny Irby; purple in general colour, shading towards the centre into a clear blue, and the eye nearly black; a rich-coloured, finely-formed flower.

Flower of the Day; a large, rich, dark flower, of the finest form.

Nonsuch; rich, dark flower, with a large black eye; size medium; form and substance excellent.

St. Andrew; a dark flower, very glossy; good form and substance; medium size.

CLASS 2. The flowers in this class have gold, yellow, sulphur or straw-coloured grounds, with margins of maroon, crimson, chocolate, bronze, pure and intermediate shades. N.B. The first-mentioned colour is the ground, and the other the margin.

Brutus; yellow, with narrow edge of bronze; a fine show flower.

Favourite; yellow and dark maroon, the latter broad; first-rate form and substance.

Gliffé; yellow and rich maroon, with broad margin; very fine.

Hero; yellow and bronze-red; a stout flower, with broad margin; a good show variety.

Joe Miller; yellow; a distinct variety, remarkable for

the margin, a bronzy-red, running round the lower as well as the upper petals. This is not a common case; fine form and substance; margins narrow.

Marion; straw and purple; a delicately-coloured flower, of a large size and good form; the purple edge is very broad.

Sir John Cathcart; deep gold-yellow top petals, lower petals crimson, margined with fiery bronze; an extra fine flower, of good substance. The belt is broad.

CLASS 3. This class has the ground colour pure white, or nearly so, with margins of purple, lilac, blue, mulberry, and intermediate shades.

Criterion; the top petals of this fine variety are purple, the lower pure white with narrow purple margins.

Marchioness of Bath; blue top petals, white lower, with light blue eye, very large, especially on the three lower petals; substance and form extra fine.

National; light purple top petals, lower petals pure white with margins of the same colour as the upper petals, eye distinct and well defined; medium size; substance and form almost perfect.

Royal Visit; top petals of the richest dark purple, white very clear, margin broad and well-defined; a flower of the best properties.

Mr. John Salter, of the Versailles Nursery, Hammer-smith, has, in addition to the above classes, introduced a fourth class, which he calls *Fancy Pansies*. These are remarkable on account of their fantastic colours, which are splashed, striped, and mottled in a most extraordinary manner. The varieties, when first exhibited, three years ago, were of the worst form, but in that particular they have been much improved, and will now vie with the best of the other classes. They are a great addition to this distinct and attractive class, which promises to be as popular as the *Fancies* of Dahlias or any other flower.

I select a few of the best.

Boldero; rose and yellow, striped with violet.

Cerulea Alba; lilac-blue, striped with white.

Citronia; pale lemon, striped with purple.

Hecla; light, spotted with red, centre yellow.

Hippo; bronzy-yellow, spotted with purple.

Phoenix; blue, spotted with white.

Versicolor; rose and orange, striped with purple and crimson.

NEW CALCEOLARIAS.

This flower is divided into two sections, 1st Herbaceous, 2nd Shrubby. The former is so difficult to preserve alive after the first year, that it is far better for the amateur to procure from some respectable seedsman a packet of seed annually; sow it in May, and keep the plants through the winter on a shelf in the greenhouse near the glass, rather than buy named sorts.

Shrubby Calceolarias are improving in size and form, and may be easily increased by cuttings in July or August, kept in small pots through the winter, and potted into blooming pots early in the spring. The following are worthy of cultivation either in pots for the greenhouse or for bedding in the flower-garden.

Crimson King; a deep crimson-coloured flower, of good form; a great improvement on *Sultan*.

Model; a decidedly shrubby variety, rich brown, large spot, shading off to orange-yellow at the edges; large flowers, large truss, and good form, suitable either for a pot or the flower-bed; a hybrid between *Kentish Hero* and *Sultan*.

Magnificent; the pouch of this variety is of the richest crimson, beautifully contrasted with its clear yellow hood; a beautiful and remarkable variety.

OLDER VARIETIES.

Brilliant; rich, shining, bronzy-red.

Candidate; fine orange colour, large trusses.

Golden Chain; orange colour, with large flower.

Wellington Hero; fine golden-yellow; very shrubby, and a free bloom

T. APPELBY.

(To be continued.)

STOVE FERNS.

(Continued from page 8.)

LOMARIA.

A LARGE genus of Ferns whose geographical distribution embraces almost every country and climate in the world. The well known *Blechnum spicant* of this country, so common at the foot of rocks in Derbyshire, belongs to this genus, under the name of *Lomaria spicant*. Any person acquainted with this Fern may have a good idea of the whole genus. *Lomaria* is closely allied to *Blechnum* and *Acrostichum*, differing from both in its contracted fertile fronds, and long, narrow seed-cases. As the genus is so large, a description of every stove species would occupy too much space, and, probably, tire the patience of many of our readers, especially such as do not care for Ferns, or have not the convenience to grow them. Hence, I shall only notice fully three of the best and most interesting.

L. ATTENUATA (Thin-leaved).—A pinnated, interesting Fern, from the Mauritius; barren fronds, lance-shaped, with the edge of the pinnæ quite entire, growing about a foot high. Fertile fronds pinnate, growing a foot high in the centre of the others. Both kinds are placed on the top of a slender stem or caudex. I have had plants of this species with a stem more than a foot high. The whole plant was then very interesting, looking like a bird's-nest set upon a slender stump. Increased by offsets, which are often produced on the stem. A suitable Fern for small collections.

L. ONOCLEOIDES (Onoclea-like).—An interesting Fern, found in most of the West Indian islands. Barren fronds, oval, lance-shaped, pinnate; the wings, or pinnæ, thick and leathery; wavy at the edges, and roundly cut at the margin towards the top of the leaves. Seed-bearing fronds pinnate, also the wings, or pinnæ, are narrow and contracted; stems of the leaves scaly. The root-stock is creeping; hence it may be increased by division. The whole plant seldom exceeds a foot in height; therefore is a desirable species for a small collection.

L. GLANDULIFERA (Gland-bearing).—A native of Java; introduced lately from continental gardens. Barren fronds pinnate, attaining two feet in length; pinnæ of a lengthened oblong shape, leathery; the stem of each wing is petiolated, and a gland may be seen on the upper side at the base of each petiole; fertile fronds pinnate. Very rare; increased by seeds only.

MENISCIUM

A genus of Ferns remarkable for their regular veining. So beautiful are those veins arranged, that they form numerous regularly disposed rectilinear parallelograms, and the fructification is arranged in the form of a crescent. Hence its name, from *meniskos*, a crescent. Upon this latter character the genus is formed.

M. PALUSTRE (Marsh).—A South American Fern, of great beauty, though rather a large one, requiring considerable space to grow it well. Fronds pinnate, growing four feet high; pinnæ, or wing, eight inches long. When of full size every frond is fertile. The seed-vessels are regularly disposed between the veins in crescent-shape. There are, sometimes, small buds formed at the base of the pinnæ, and by these, as well as by dividing the creeping rhizoma, the species may be increased. I have grown this Fern to over a larger size than indicated above, by potting it frequently (that is every three months), in rough sandy peat, and

half-decayed leaves pressed close. It is a fine Fern, and worthy of being grown wherever there is room.

M. SIMPLEX (Simple-fronded).—A rare dwarf Fern, from the warmer parts of China. Fronds simple, growing not more than a foot long; beautifully veined, of an elliptic shape. It is in cultivation only as yet at Kew; but when rendered more common, by increasing it, by dividing its creeping rhizoma, should be in every collection, however small.

NEOTOPTERIS.

A noble genus of Ferns, formed by Mr. Smith, of Kew, out of *Asplenium*, from which genus it differs by the continuous marginal vein running on the edge of every leaf or frond, connecting or binding, as it were, all the cross veins at their extreme points. The name is derived from *neottia*, a bird's-nest; hence it is commonly called the Bird's-nest Fern; the leaves being arranged circularly around the top of the tufted root-stalk, giving it a fanciful similarity to a bird's-nest.

N. VULGARIS (Common).—A Fern rather widely distributed, it having been found in India, the Mauritius, and the tropical parts of New Holland, besides on several islands in the Indian seas. Fronds simple, growing three or four feet high; stems black, and squared on the under side. Seed-vessels large, placed in lines about half-way between the midrib and the margin, and filling only the upper part of the frond. A handsome Fern, even when small, and increases freely by seeds.

NEPHRODIUM.

A rather large assemblage of Ferns, separated from *Aspidium* by the foreign and learned botanist, Mr. Schott. Name derived from *Nephros*, a kidney, alluding to the form of the seed-vessels.

N. MULTILINEATUM (Many-lined).—The arrangement of the veins of this beautiful Fern is extremely elegant, quite as much so as in *Meniscium*. Fronds pinnate, growing two feet high, and of a lively green colour; pinnæ, or wings, lance-shaped, and pointed with a deeply-notched margin; seed-vessels kidney-shaped. A beautiful Fern, from Ceylon; and increases freely by dividing the creeping rhizoma.

N. MOLLE (Soft).—Every collector is almost certain to have this very common Fern. It used to be quite a weed with me in the Orchid-house, coming up from seed abundantly in almost every pot, and even on the walls, between the bricks; yet it is a very fine Fern, the fructification is so free and lovely. Fronds covered with soft wool; hence its specific name; and the cover of the seed-cases is very hairy and of a bluish colour. The plant grows about two feet high.

N. TERMINANS (Ending).—An East Indian Fern, of considerable beauty. The leaves, or pinnæ, end abruptly; hence its specific name. It is somewhat similar to the last species, but is not so densely clothed with woolly hairs. Fronds pinnate, growing ten feet high. Increased by division.

The rest of the species cultivated in Great Britain are

N. articulatum (Jointed); *N. Hookerii* (Sir W. Hooker's); raised among some Orchids imported to the Botanic Garden, Sheffield; *N. unitum* (Joined).

NIPHOBOLUS.

A very pretty, dwarf, useful genus of Ferns. The name is derived from *niphobolus*, covered with snow, the fronds being covered with white, starry clusters of short hairs. I have used these Ferns much to ornament rustic rockwork in the stove, and grown them in rustic baskets, vases, &c., with the happiest effect. It is a very distinct genus, and may be known at once by its simple fronds and star-like clusters of short hairs.

N. PERTUSUS (Bored).—An East Indian dwarf Fern, creeping very fast on rockwork. Fronds simple, six inches long, very thick and leathery. Fertile fronds; narrow seed-vessels, thickly placed on the upper half of the frond, giving it the appearance of a piece of new leather. The rest of the species are *N. nummularifolius*, (Nummularia-leaved), a very small Fern. *N. lingua* (Tongue), *N. rupestris* (Rock), and *N. varius* (Variable).

T. APPLEBY.

(To be continued.)

WATERING NEWLY-PLANTED TREES, &c.

THE long continued verdure which clothes our landscape, as contrasted with that of the Continent, is, no doubt, owing, in a great measure, to the humidity by which the foliage as well as the roots are fed. This genial moisture, by prolonging the growth, and checking the maturity of the various productions in the vegetable kingdom, enables us to command many of those articles of "green food" which hotter and more suitable climes for ripening crops cannot at all times produce. Now, it is not difficult to trace the cause of this to the absence of that dryness which hastens the growth, and, consequently, the ripening (whether properly matured or not) of all vegetation growing in such climes. This state of things, differing much from the generality of seasons with us in England, is, nevertheless, partially imitated when we are visited by one of those hot, old-fashioned summers, as our elders are pleased to describe them. And as in such seasons many of the ordinary duties of a garden have an altered character, the excessive drought, which to the fruit crop on trees has so beneficial an influence, is attended with a corresponding baneful effect on such crops as are of a more transient nature, and derive their sustenance from a more limited source, their root not running so deep, while some that it is necessary to sow frequently have to be, in a manner, fed by hand. Now, this latter mode is always an expensive one, and every means that can be taken to avoid it, ought to be taken, consistent with the production (in due time) of the article wanted, besides which, it does not always happen that the hand-feeding I allude to can be effected in every case, for the materials for so doing cannot always be had, neither is it always attended with the desired effect, although it, doubtless, is of great use in many instances; but if the like effect can be produced without having recourse to such extraordinary means, and at a less cost in labour, and other et ceteras, it is certainly advisable to do so.

In the above remarks, it will be seen that the allusion is made to the watering-pot, which in dry weather is used so unsparingly. This useful beverage, like liquid of another kind, may be used too freely, and serious results follow; but I believe there are few who handle the watering-pot but would be glad to relinquish it if they knew how it could be dispensed with, and although it would be wrong to say it can be so in all cases, there are many where its uses might be much diminished, while in others it might, perhaps, be withheld entirely; but to enter more particularly into the individual cases, it will be necessary to cite examples explaining both.

Where fruit or other trees or shrubs have been unavoidably planted late, and their roots injured more or less by the operation, and if the ground on which they are planted be of a very dry nature, the effects of a hot summer will be severely felt by them, unless some mode of securing their moisture be adopted; this desideratum is, then, to be considered—whether it is advisable to furnish it frequently with this refreshing fluid, or to supply it only occasionally, but to take care that none which is given to it be wasted. This latter object, by lessening

labour, has a strong recommendation in its favour, which is further enhanced by its being the more beneficial mode. Cold spring water, which is very often used, when poured on indiscriminately over the roots of a tree, carries with it a chilliness, which is but indifferently compensated by the good it does, and this process to be so many times repeated increases the evil, so as to keep the temperature of the ground in which the roots of the tree is placed considerably below what it ought to be, and, consequently, tend to prevent that harmonious design of nature which keeps up an agreement of temperatures between the bottom and top heat, or between the root and branch; and if we reckon on our chilly draughts of cold water diminishing the ground-heat only two or three degrees, so exceedingly delicate are the roots of most trees and plants, and so easily affected by such changes, that we have no doubt but a serious evil is incurred thereby, independent of which the tree is made to drink copiously of a liquid it has a repugnance to, cold well-water being always more or less charged with some mineral substance or other, not wanted for the purposes of vegetation, however agreeable such may be to the palate of the human species; however, to the majority of plants this is obnoxious, while the absence of that necessary ingredient which rain-water contains, makes it still more objectionable. Rain-water, we all know, is much lighter, bulk for bulk, than well-water, owing to the one being charged with air, and the other with mineral substances, in some shape or other, and it is in the difference of these substances, as well as in their respective quantities, that the quality of the water for cultural purposes depends. In a usual way, all water, after being exposed some time to the action of the atmosphere, becomes modified, many of its most noxious qualities being dissipated, and its other lessened, while it derives other properties from the atmosphere which impart a beneficial influence to vegetation, only it seldom happens that the exposure is sufficiently prolonged to ensure of all these processes being accomplished, and not unfrequently some counter agent is at work to prevent its being so. A pond of standing water would speedily become fit for watering purposes did it stand on ground not likely to keep feeding it with objectionable qualities; or, it may be, some stream running into it conveys the deleterious ingredient, and, consequently, keeps up that state of impurity which the action of the atmosphere is unable to neutralise. Now, as the less of this description of water that is used the better, provided that the wants of the plants can be supplied in another way, or, in fact, if they can be made so as to want but little or none of it, for it is not practicable, in many instances, to obtain any other, and as it is possible, in many instances, to prevent what moisture is given being wasted, it follows that this ought, more especially, to be the case when such is of a deleterious kind. And the best way to accomplish that is to give the article watered a good soaking, and then to cover it up for a time with some material that will allow the action of the sun to play on it, without allowing much evaporation to take place; short littery straw that has been in dung is the best material for trees and shrubs; for while it does not entirely seal up the ground against the beneficial effects of the atmosphere, it prevents undue evaporation, and enables the roots to derive the full profit which the moisture imparted was intended to produce; and as the wants of newly-planted trees and shrubs are not so great as that of crops, where the whole ground is intersected in all directions with roots greedily searching for food to supply a heavy and increasing top, it is not necessary to repeat the watering process any further than just to prevent the object operated on being injured by the absence of moisture; but this is not likely to be the

case if due means be taken to prevent undue evaporation.

This important subject seems more likely to be called into exercise this season than for several past ones; an unusual dry spring seems not unlikely to be followed by a summer equally so, consequently, the watering-pot will be often seen, perhaps more so than prudence would suggest; it is, therefore, for this reason that I have now called attention to it, and will continue the subject next week, in so far as relates to the well-being of former crops; but in the mean time it would be advisable for our young friends to ascertain the full extent of the wants of their trees and other crops, and, by collecting all their protecting material, endeavour to stem and meet the evil before it comes, rather than endeavour to cure it after it has made its appearance; and be sure to take advantage of dull days, to give the foliage a good washing as often as you can, for the benefits conferred then are not less than that which the root derives, while the quantity of water required in the one case is but small compared with the other. This treatment also extends to established trees as well as newly-planted ones. Smaller things will be treated of next week.

J. ROBSON.

THE SOLDIER AS HE OUGHT TO BE.

By the Authoress of "My Flowers."

Now for the British Soldier as he ought to be! The following narrative has been sent to the Editor by a kind correspondent, and well deserves a place in these pages. The original MS. is rather too long, and somewhat too minute for a slight sketch, and I have, therefore, ventured to put it into my own words, that I may twirl it about in my own peculiar way. The matter is closely correct.

Thomas Mills, the son of humble but industrious parents, is the subject of my sketch. He received from them not more than the simplest schooling, but what is abundantly better, *right principles*. When just of age, however, and probably not quite settled in them, he, with the headlong folly of youth, thought to get over disappointed affections by rushing into the army, and he enlisted hastily into the —th Regiment of Foot. In the course of a twelvemonth this disappointment was happily forgotten by a union with the object of his attachment, who made him an excellent and industrious wife, accompanied him in most of his campaigns, and became the mother of seven children, who were born in as many different parts of the world, and frequently "under trying and peculiar circumstances, but Providence, as he says, always favoured and protected them."

He was very soon promoted to be a corporal, and shortly afterwards a sergeant; but this honorable position did not do. He was naturally humble in mind, and could not comfortably command his former comrades. Punishments, too, were frequent and severe, as they were then stationed in India, where the strictest discipline was obliged to be enforced, and the floggings and executions went to his heart, having, in his new capacity, so much to do with them. Poor Mills fainted in spirit at all these dreadful scenes, when he was obliged to act a part, as well as witness them; and, having no fondness for rank, he resolved to give it all up, and sink quietly back into the shade. With a good deal of difficulty he gained leave to do so, and again returned to the sweets of what *we* should call private life, in which he said he was much happier, and never once regretted the height from which he had himself stepped down. His pension, of course, is less than it would have been; but it would have been too dearly paid for, considering all his feelings suffered; and surely *enough* is all that we require in the station where the Lord has placed us? I have myself known an instance of a private soldier rising more than once to be a commissioned officer, and, after each elevation, quitting his position and returning again to the ranks. It was in the last war, and his custom was always to make one of the forlorn hope, whenever and wherever it might be. This led to his rapid and repeated promotions; but he could not be happy

among associates so much above him in birth and education, and he left them as soon as he had joined their mess. I believe people are never happy out of the sphere in which God has placed them. They may be gratified, and honoured, and all that; but they never grow in a strange soil; they do not bloom luxuriantly—there is a worn nibbling somewhere, or their roots do not expand freely—they are never at ease, and at home.

Mills served his country faithfully for twenty-four years, in very many climates. He then quitted the service with a pension and received through his commanding officer, in Her Majesty's name, "a small sum of money, as a mark of respect for his long-trying character, and good conduct, he also having voluntarily served for a longer period than he had any occasion to do."

Mills left his eldest son in the regiment when he quitted it. This young man had received a good, plain education, by the kindness of the officers, and is now corporal, and orderly clerk too, which preserves him from some of the hardships of such a climate and service as those of India, where the regiment is now stationed. A father's good conduct usually is a provision for a child—a blessing rests upon it, and waters the young seedling by his side. How needful is it, that even for the low, short-lived season of worldly advantage, a parent should walk uprightly! It creates an interest for his child, and sometimes procures benefits that the father never could obtain for him. This young man is enabled to write to his parents; his letters are affectionate and interesting: noticing providential circumstances in his life, and "generally concluding with some pious wish, or asking a blessing." He was at the storming of Moultan (a fortress in India), and sent home an excellent description of that severe engagement to his parents, with an order for part of his pay. And here I would strongly press upon young men, when absent from home, whether they are high or low, the importance of writing to their parents. Nothing is more agonizing to them than waiting, and watching, and weeping for letters from their absent ones: and a dutiful and affectionate son may be little aware of the pangs he is giving, without any intention of doing so, by not writing home *whenever he can*. Nothing should interfere with this duty. I speak the more earnestly, because I *have seen* the wretchedness of month after month of hope deferred, and the sickness of heart, and the broken-down spirit that pertains to it. Young Mills wrote, and he sent his picture besides; and there were two stripes on the sleeve of his uniform, and two medals shining on the breast! Every British mother will understand the feelings of Mrs. Mills when these proofs of her son's affection, bravery, and good conduct met her eye! The Sergeant, too, more proud of his son's distinctions than of his own! Oh, what power for weal or woe children possess if they did but understand it! How they often trifle with the happiness of those that love them, and dash down hopes to the ground! Perhaps this sketch may some day meet the eye of this dutiful son. If so, his heart will, I trust, throb with gratitude to the Lord, who has caused him to differ from wild and thoughtless youths, who have caused needless tears, and perhaps heaped bitter sorrows on their own heads.

I find I have rambled off from one subject to another, with somewhat of woman's permitted waywardness. I began with the father, and have ended with the son, so that I cannot finish my sketch of the "Soldier as he should be," *quite*, until my next paper. I have, however, said enough to make many a heart rejoice for the honour of the British army, old and young; and let old and young strive to follow their steps, for all may do so, if they will.

At the same time, let us remember that duty to our parents and our country, or to any earthly tie, is but half, and the *second* half too, of our spiritual work. Our great Father, our great king, our great country, our great concern of all, make up the "one thing needful." We may *do all* for earth, and yet do *nothing* for heaven. We may fulfil every single earthly duty, and yet in no way "serve the Lord Christ." This is a frightful thought. May it quicken us to look well and closely into our hearts, for with the fairest outward appearances a mistake in this matter may be fatal. We may be "soldiers as we ought to be," and yet professing Christians "as we ought *not* to be." Needful is it, beyond all that we can imagine, that we should "examine

ourselves, whether we be in the faith," and "prove our ourselves." Readers! remember; I beseech you to remember *this*.

THE QUINCE STOCK FOR THE GROWTH OF PEAR-TREES

I LOVE to come in contact with any man whose main object in promulgating information is the elucidation of the truth; and as R. E., boldly asserted that that was his object, and I knew "that all men's views of the self-same subject, and its stern reality," depended on their own peculiar turn of mind, and the experience they had had in reference to it, I felt assured, that if I put forth my views and opinions on the above subject, I should be met with that courtesy by him it is desirable and necessary should be exercised for the extension of useful knowledge. Under such circumstances, I availed myself of an early opportunity, after Christmas, whilst the rest of folks surrounding me were spending their time in frivolity and nonsense (*i. e.*, according to my way of thinking), to write the article on the subject of "Growing Pear-trees on Quince stocks," which appeared in the January number of the COTTAGE GARDENER, and which Mr. R. Errington chastises me so gently for in your last number, that I am inclined to think him too polite to "hit me hard"; but he nevertheless seems somewhat annoyed at finding he has not had the same opportunities of experiencing and developing the same practice as I have there advanced.

Mr. Errington is quite correct in stating, "that it will not do to beg one-half the question;" and that it is all very well to say, "where the soil is suitable, &c." He is more than right; he is in real earnest, when he rallies the writer of an "original article" so far as to provoke him to substantiate the principles he has advanced; because, were parties to be allowed to write what they pleased, and not to be cross-questioned, any penny-a-liner might write a plausible article on a subject he had collected a few facts in reference to, and palm it off on the public, through the liberality of the Editor or proprietor of some widely-circulated Journal, and produce an immense deal of harm by it. This, however, was not my case; for I well knew what I was writing about when I stood up, or rather sat down, in behalf of my friend "Quince Stock."

If I had recommended the Quince stock to be planted in an unsuitable soil, I should have done wrong, positively wrong. If I had not specified what kind of soil was suitable, I should not have done right, but I did so; and Mr. E. seems particularly pleased to find we are met in opinion on some of the most important points in reference to this knotty question. It is as useless to place a plant in an unsuitable soil, under the impression it will thrive in it, as it is to offer an animal unsuitable food and expect it to do well on it.

It is quite correct that a Pear-tree grafted on a free stock will grow in almost any kind of soil, as this stock throws out long, strong roots, which go great distances in search of the moisture and nourishment necessary for the support of the tree; and that such tree will stand and thrive as an ornament, where a Quince stock tree would dwindle and look miserably poor: here this system of growing the Pear-tree has particular merit peculiarly its own. But would it produce a proportionate or an equivalent amount of fruit, taking size or age into consideration, to the Quince-tree, if it were planted in a suitable (*i. e.*, a moist, rich) soil for either? No; most certainly not! Here, then, I must pronounce the Quince-stock system to be the best; for where the free will grow and only grow, the Quince will grow and produce abundance of fruit. This I, of course, advance as a general rule, applicable to the generality of varieties of Pears; but that exceptions may be selected, I am as ready and as able to prove as any man; and that "*Marie Louise*" is one of the exceptional varieties, and that the *Easter Beurrie* is another, I am well aware; and also that those varieties do not generally do so well on Quince stocks as they do on free. But, again; I can produce exceptions to this rule, and show trees of these varieties doing well on Quince stocks.

Mr. Errington seems to fancy, that because I have called particular attention to the fact, "That a Pear-tree which

has budded on a Quince stock is not worth planting, and unless it and the stock are well healed together, that the only chance of succeeding with it is to plant it a little below the bud &c.," and considers it is almost tantamount to my expressing a doubt as to the value of the system. Nay, my friends, not so, indeed! It is tantamount to informing the readers of THE COTTAGE GARDENER, that what is worth doing, is worth doing well; and that imperfect workmanship in the fixing and tying a bud may be partially counterbalanced by the mode adopted in the planting. It is only proving, to a mathematical demonstration, the philosophical working of nature in the science of horticulture. Not expressing a doubt; not it, indeed.

I trust some better-informed individual than myself will answer Mr. Errington's enquiry, as to "How many situations in the different counties of England (and particularly in the northern and eastern counties), the Quince has been thriving on unprepared soil?" What does he mean by unprepared soil? because it is a usual practice to make gardens without preparing the soil; and it is also desirable to select warm and sheltered situations for such purposes; but as to the climate, if they are sent by thousands annually to the United States of North America, and are there found to do well, I cannot fancy that the cold of England, Ireland, or Scotland, is to have very sad influences on them. This is, of course, ideal. I have sent trees to North America, and have never heard complaints therefrom respecting them; and in looking over the printed catalogue of Messrs. Ellwanger and Barry, of Rochester, New York State, for 1848, have been a little surprized to find that the descriptions given by them of the Pears were similar to our own; and that in their general remarks they spoke more favourable of many of the varieties than we may venture to do; and they furthermore specify, that the great advantages of cultivating the Pear on Quince stocks, for garden culture, as dwarf pyramids, are becoming so apparent as to create a very general partiality for trees of this sort. During the last five years we have given a large share of attention to this particular branch, and have now about ten thousand young trees of this kind in various stages of growth.

I trust the question as to the coldness of the climate will be somewhat elucidated by this explanation. It has been, and is still, my opinion, that cold winters are, generally speaking, decidedly in favour of deciduous trees, whether of fruit-bearing or an ornamental character.

Now, as to the soil. I confess I have never planted a Pear-tree on a Quince stock that has not thriven to my satisfaction; but I have seen hundreds planted that have done no good, either from their being placed in soil unadapted to them, to mismanagement, or neglect. I have planted in different kinds of soil (be it remembered, that my practice is limited to the Island of Jersey, where the soil is generally of a good retentive character), and have found the trees to do well in them. I have avoided situations which were too elevated, and the bottom composed of rock or gravel; and I have no doubt that the latter is the cause of Mr. Errington's failure in the case to which he particularly alludes; and I hope he will pardon me for stating, that had I had the planting of the trees, I should have selected "free stocks" for the sandy soil, with gravelly bottom, in preference to Quince. Such soils are subject to extremes from their own perviousness and the draining properties of the gravelly bottom; but, whilst I admit this, in his particular case, and in answer to his complaint of their "having proved a total failure," I am very unwilling to admit, as a general rule, that it is the "better plan."

I have little doubt but that the advice is judicious, says Mr. Errington, in reference to using sea-sand, lime, and salt, as manures to the Quince; but he still seems to hanker, like a man looking over the brink of a precipice, doubtful as to whether it would be judicious to jump or not, ere he will change his opinion. He must be more thoroughly convinced. He must have proof positive. I love this caution? It is most desirable in an individual who is catering for the public good; and when the man who so acts announces a well-weighed conviction of some positive fact, it is doubly valuable, and is received with much greater confidence by his hearers and readers. Than sea-sand, there is nothing better as a manure; and I have no doubt, that if he had a few tons of it, and a ton or two of "vraie"

or sea-weed, such as is, and may be, gathered around the coast of the United Kingdom, as well as elsewhere, he would make the Quince thrive even in his unfavourable position. As to lime, we all know that no more favourable material can be used for opening and pulverising a stiff soil of the description it is recommended for at page 285, and salt is always used when either sea-sand or sea-weed is used; but under other circumstances, and where necessity impels you to use it in a crude state, it must be used sparingly, as otherwise its caustic nature might do more harm than its powers of imparting moisture can do good. Messrs. Ellwanger and Barry's catalogue specifies—That a sprinkling of salt around the roots of Quince-trees in the spring is found to be highly beneficial.

Thus, I hope, I shall have better and more explicitly defined the practice I was desirous of developing; but as Mr Errington has to take another view of my paper some long evening, I suppose I shall have to come forward again in substantiation of what I have advanced. I shall do, if necessary, "*sans haine, ni gene, ni crainte*," as our continental neighbours say, being satisfied that what I have advanced will bear the test of examination, and being furthermore satisfied that the more this subject is brought before the horticultural world, the more they are likely to take notice of it, to try it, to prove its merits and beneficial effects, and by giving their friends and neighbours "ocular demonstration" (which is considered the best of all proof) in its favour, to extend the practice, until throughout the length and breadth of the kingdom, the folks who love a mellow Pear may enjoy a "Melter" gathered from their own "dear little Quince-stock Pear-tree," growing in the corner of the garden, and not taking up more room than an ordinary Gooseberry-bush.

I can enjoy an argument with such a generous-minded individual as Mr. Errington. I regret he should not have been placed in a favourable position to have realized the truth of what I have advanced, or the readers of "THE COTTAGE GARDENER" may remain satisfied it would not have remained for me to make it public. He would have done it himself. The great desire he feels of being useful to his fellow-men would have impelled him to the task; and whilst his very ingenious and clever methods of training the Pear-tree on the free stock have deservedly attracted the attention and admiration of his compeers, he must, nevertheless, make room for others to prove that something has and can yet be done in the cultivation of the Pear more than has yet been generally practised; and that not only by his own ingenious styles of pruning and training, but by budding them on Quince stocks, and keeping them dwarf and productive.—C. B. SAUNDERS, *Cæsarean Nursery, Jersey*.

THE GREY SHANGHAE OR BRAHMA POOTRA FOWL, AS RECENTLY EXHIBITED.

It has been asked, "If a breed of fowls be really valuable, why trouble ourselves about their name?" and we reply, usually there would be little need so to trouble ourselves, but we must take exception to this inference intended to be drawn in the instance of the birds that form the subject of this paper. We do so on these grounds, that the designation "*Brahma Pootras*," now commonly applied to them, assigns their origin to a particular district, and is furthermore employed in support of a claim to specific distinction, to neither of which propositions are we prepared to yield our assent.

There being many persons who, from different motives, are desirous that these birds should occupy a high portion in public estimation, it becomes our duty carefully to sift and enquire into the evidence brought forward on their behalf. Their case, we think, may be fairly stated under the three following heads.

1. What proof have we that these birds were originally imported from the neighbourhood of the Brahma Pootra river, or that they should be regarded as a breed commonly found in that country?

2. Have they complied with the usual tests by which we are accustomed to decide on the distinct character of any race of fowls?

3. If not a distinct breed, are they to be regarded as a Shanghae variety, or consigned to the obscurity of a mongrel origin?

Before entering on our enquiries, it becomes necessary to refer to a difficulty that awaits us on the very threshold of our subject. It is this, that we are confessedly without a generally acknowledged type in respect of certain points of both "form" and "plumage" by which this alleged species may be distinguished. Dr. Bennett, the American poultry fancier, whose name has been so closely allied with these birds, and from whose stock so large a proportion of those now in England have been descended, thus describes his specimens. "The cock is mostly white, the hackle being pencilled with black, saddle feathers white faintly tinged with yellow, the tail black, the wings being pencilled with black. The pullets are white, with black tails, the wings and neck being slightly pencilled with black." Such, certainly, has been the character of the plumage of very many of the so-called Brahma Pootras exhibited in this country, if we substituted "silver" for "white." But other authorities, and those of no mean repute, require them to be uniformly pencilled throughout the whole of the upper part of the body, the tail being black, and the under part a dark grey. We will not lay much stress on the presence of combs of a widely distinct form as an argument against their specific character, since we daily witness the change that has been wrought by domestication (probably) in some of our own fowls, the Dorkings, perhaps, more especially. But surely it is not too much to ask of the advocates for their new aspirants to fame, that they should agree as to the nominal characteristics of the bird for which they would claim the high position of a distinct breed. It will be evident that the absence of such positive definition renders the argument on this side less satisfactory, by its plain tendency to narrow the gap between their favourites and the Shanghaes.

Our first query referred to the presumed importation into America of these birds from the banks of the Brahma-pootra, or, as it is sometimes spelt, the "Burrampooter" river. A single pair appear to be the only specimens of whose extraction from such an aboriginal abode there is any account, and names, dates, and persons, moreover, are very indistinctly referred to. The country in question does not seem to have supplied any specimens to English poultry-keepers, and considering that for a considerable distance the river in question flows through the Presidency of Bengal, and that we have not been less keen than our Transatlantic brethren of late years in our search for new varieties of poultry, it would certainly be strange that we should have been unsuccessful in the search which procured them the race of fowls of which we are now speaking; and that, still further, such a breed should have been there found, of which we still remain in ignorance, though so much more favourably situated for procuring accurate information. A reference to the map, moreover, will show that for many degrees from its mouth the Brahma pootra traverses countries whose climate is far from that which would be likely to produce fowls capable of enduring that severity of cold which the birds in question are represented as encountering without injury. Dr. Gwynne, as quoted in the "Poultry Book," page 177, thus expresses himself:—"Another circumstance which confirms me in the view I have ventured to express as to the identity of these birds with the Shanghae breed, is the fact that the fowls recently presented to Her Majesty by Mr. Burnham, under the name of *Grey Shanghaes*, are admitted by Dr. Bennett to be precisely similar to his own; and yet Mr. Burnham assures me that the original stock from which the Grey Shanghaes presented to Her Majesty were bred, were imported by himself direct from Shanghae." This fact, in connexion with some similar statements, evidently points to a common habitat for the Brahma Pootra and the Shanghae, while the derivation of the first-named from the territories watered by the river whence the name has been claimed, is unattested by sufficient evidence, and, from natural circumstances, is highly improbable.

In the second place, we have to ask, whether, in the case before us, the usual tests by which we are accustomed to pronounce on the distinctive character of fowls have been complied with? Many will here reply, they most assuredly have been so proved. The chickens, it is asserted, have

come true to their parents; and there is a marked contradiction in their shape, habits, and properties, to the Shanghae fowl, of which they have been termed a variety. It will be worth our while, therefore, to allude to the points thus relied on. In the first place, we are told that distinctness of breed has evidence in the chickens proving true to the colour of the parents: This assurance we ourselves received from a gentleman, not merely one of the keenest observers of the habits and characteristics of fowls generally, but also himself an extensive Brahma Pootra breeder. But, however convincing might otherwise have been such testimony, conflicting facts within our own knowledge prevent our general adhesion to the opinion thence deduced. In many instances of imported birds from what has been termed the best American strain, the chickens have, in both form and colour, presented wide deviation from their parents. "Facts" are well termed "stubborn things;" and here it seems we must be content to await further evidence. If it be urged, that in instances where the test of "*like producing like*" failed there must have existed impurity of blood, we can only reply that we speak of birds that were esteemed free from any possible blemish in point of blood.

The chickens, again, are said to be infinitely more hardy than those of the Shanghae; braving both frost and snow with impunity, and gaining ground even under these adverse conditions. But not having seen Brahma Pootra chickens (we employ the term for the sake of clearness, not as admitting its correctness) at such times, we cannot speak from our own knowledge of the fact, but must confess ourselves unable to detect any greater power of resistance to wet in the down that covers them in a juvenile state, as has been sometimes stated. But the Shanghae chicken possesses a strength of constitution which, hitherto, has been unequalled by the young of other fowls; and, indeed, could hardly, we should have thought, have been surpassed. At any rate, it is so remarkable for the possession of this property, that even granting a still greater hardihood to the Brahma Pootra, it would be still insufficient to prove the required distinction.

The adult birds are affirmed to be of better form than the Shanghae, especially the cocks, in respect of a fuller development of breast. In the specimens which seemed best to represent the alleged distinctive character, we have hitherto failed to notice this peculiarity, although perfectly ready to acknowledge that in some pens, whose alliance with the Dorking was not only perceptible, but admitted, the natural results of such an union were thus manifested.

In respect of the general character and habits of the birds we have been comparing, we receive accounts widely at variance with each other. The Brahma Pootra, in some cases, is said to wander far from home, and to seek its food in distant fields, possessing, moreover considerable powers of flight; while those belonging to the other writers are stated as the most "quiet, docile fowls known, and will seldom leave the yard where bred when an opportunity is given to them, unless forced to do so." Surely fowls of widely different character must be here spoken of; but Mr. Miner, the American author, from whom the last passage was quoted, tells us that his stock were from the famed strain of the Brahma Pootra of Dr. Bennett himself. A friend, on whose judgment we have the greatest confidence, thus alludes to the foregoing inference, "The wandering disposition of the Brahma Pootra is instanced as conclusive evidence of their distinctness. Shanghaes have generally no cause to look for food, but it does not appear clear to me, that if Shanghaes were brought up in a farm-yard, that they would not search for food as well as other fowls. I am inclined to think they would, but the result might be a diminution of size."

The egg of the Brahma Pootra has been declared as larger and of much higher flavour than that of the Shanghae; but the former assertion is contradicted by facts, and our palate has not hitherto been sufficiently acute to detect the latter quality. Their vocal powers, again, afford to our ear no clue towards distinction. Our conclusion, from a careful, unprejudiced consideration of all these *pros* and *cons*, may thus be briefly given. So far as these birds are yet known to us, they have not made good their claim to be regarded as a distinct family.

Our last query, therefore, is now before us. If the Brahma Pootra is not of a distinct family, is it to be considered as a Shanghae variety, or the result of an illegitimate alliance between that and other breeds?

In proposing an answer to this inquiry, our readers must again be reminded, that of the birds on which this name has been bestowed, many will, by general consent, be included in the last-named class. But there are others which, in every point of view, appear to us as in possession of all the points and characteristics which would establish them as a Shanghae variety. So far, indeed, from regarding their general figure as adverse to such an hypothesis, it appears to us as highly corroborative of this close connexion, for, neither in respect of form or feather is there any greater departure from the normal type of the Shanghae than we witness in birds acknowledged as mere varieties of that race. In respect of habits, the evidence is evidently conflicting, and, therefore, of little value on either side of the question. But the entire absence of proof of the distinct habitat claimed for the Brahma Pootra, and the fact of their importation from the same districts as have given us the Shanghae, strongly support our view of the relation existing between them. The colour and size of the egg, and their laying properties, are also further links in the same chain. The Brahma Pootras, we apprehend, have hardly as yet been amongst us for a sufficient period to admit positive conclusion, favourable or otherwise, to the position claimed by their admirers. Our observations on form, feather, habits, and properties, therefore, must be continued before the final hearing of their case comes on, for as yet, present impressions are all that we desire to lay before our readers, and these, we must acknowledge, would induce us to receive the Brahma Pootra in the same position as the black and white Shanghaes, taking colour alone as the distinction.

But there are those who would altogether consign the whole tribe of Brahma Pootras to the ignominy of a mongrel origin. In this we do not concur. A majority of the specimens that have appeared in our exhibition rooms, may very probably, have justly incurred this discredit; but, on the other hand, there are, we believe, many that have as good a title to be called a "*permanent variety*," as can be urged on behalf of either the "white" or the "black" Shanghaes. The triple-folded comb has often been adverted to as a token of Malay blood, but such a cross would be far more likely to give a partially warded, or semi-double comb, either of which is distinct from the pea-comb of the Brahma Pootra. The comb of the Shanghae, indeed, as most of us know to our cost, is frequently twisted, and we have seen birds that have shown this reduplication to an extent that bore a close resemblance to the pea-comb of the Brahma Pootra itself.

We believe that birds may be bred from Shanghaes and grey Dorkings, or Shanghaes and grey Malays, which would sorely test the judgment and discrimination of the best Poultry judges when placed in competition with confessedly purely-bred Brahma Pootras, and to such descent should we be inclined to ascribe a very large majority of the specimens that have appeared at our exhibitions during the past year.

These remarks will, we fear, be at variance with the opinions of some experienced poultry-breeders; but in the position we occupy as recorders of poultry annals, our belief, be it right or wrong, must be placed without equivocation before our readers. We are, moreover, satisfied, from what has already occurred in the case of Shanghaes, that we are acting the most friendly part to the so-called Brahma Pootras, by bidding the public pause and await more conclusive evidence, previously to receiving them in a position to which, at present, their claim has not been substantiated.

Our suspicions, we may observe, as to their being merely a grey variety of Shanghae, are strongly confirmed by the New York Poultry Society having lately renounced the name "Brahma Pootra," and adopted that of "Grey Shanghaes," and hitherto the Americans seem to have possessed a greater practical knowledge of these birds than has hitherto been attained in this country.

We commenced these notes with an allusion to the reasons why a denomination that refers to a particular district as producing the object on which the name has been be-

stowed, should be of proved correctness, let us now conclude by reminding our readers, that the evil of such a course has already been manifested in the "Shanghae" race. We have been thought to have laid undue stress on the acceptance of this name to the exclusion of the common appellation "Cochin-Chinas." Our reasoning, however, rested on the fact, that the districts around the city of Shanghae had given us all our best specimens, while from Cochin-China we had no authenticated instance of any such importation. Geographical accuracy must ever be considered as an important element of the natural history of our Poultry-yards, and requiring, as we now do, satisfactory testimony on the actual importation of the alleged Brahma Pootra fowl, from the neighbourhood of that river, we again record our protest against the use of the word "Cochin-China," to distinguish fowls imported from a distant country, and, so far as we know, not known in that from which they have obtained this name.

THE FIFTH CLAW OF THE DORKING FOWL: A DISQUISITION.

THE Royal Agricultural Society's Prize Essay on Poultry teaches us that "The fowls of this breed have five toes on each foot, a peculiarity, if absent, denoting impurity of blood." This opinion should have been qualified, or might have been given as an opinion, rather than in the dogmatic form of an undoubted matter of fact. It would have been prudent to have cautioned purchasers from buying a so-called Dorking Fowl with four toes; but as a matter of fact, the above statement is fallacious. Birds of the very purest strain sometimes produce chickens with four toes only, and this peculiarity occasionally occurs to a large extent; in the year 1852, my Dorking Fowls, of whose purity, through many generations, at least, there could not be the slightest doubt, produced one-fourth of their chickens with four toes—an incident which never occurred with the same fowls before, nor did it transpire in 1853, although no change in their management had taken place. In the same season large numbers of the chickens had five toes on one foot and four on the other, while several had six toes on one foot and four on the opposite. Neither will the converse hold good—the fifth toe being by no means a test of purity; for it will show itself through several generations by one cross of Dorking blood. In the same year in which my pure-bred Dorkings produced chickens defective in the number of their claws, some *half-bred* chickens presented this peculiarity in a redundant degree—the cockerels with the plumage, gait, and figure of their sire, a game fowl, possessed the fifth toe of extreme length and size; and nothing is more common than to perceive this supernumerary member on the feet of barn-door fowls, which contain in their veins as much variety of "blood" as is to be found in a Yankee. Yesterday, for instance, I saw in the yard of a farmer a fowl which resembled a Spangled Hamburgh in colour, but it possessed a fifth toe, and was the offspring of a white game cock with a grey spangled fowl not a Dorking, but probably possessing through some remote ancestor a faint trace of that breed. Is not the fifth toe, after all, an "abnormal" and useless growth? Did it not spring up originally as a surplus appendage in some fowl of great size, and become stamped by hereditary descent through many generations, so as to become almost a fixed type, through parties breeding from the *large* hen, because of her size, and not for the purpose of securing this supplementary number to the locomotive organ?

Some ardent disciples of Natural Theology might be offended with the above remarks, and indignantly repudiate any such thing as a surplusage in the works of nature. The good Dr. Paley, in his zeal to explain all things, could describe the use of one organ in the human body as being "a stuffing, a soft cushion to fill up a vacancy, or hollow which unless occupied would leave the package loose and untidy,"—overlooking the fact that such a clumsy expedient rather dimmed than exalted the skill of the Workman. In like manner, he described the use of two large curved teeth which emerge from the upper jaw of the Babyroussa, or wild hog, as being to support the head of the animal when asleep: "he sleeps standing, and the curved processes are

hooked upon the branches of trees to support his head." Recent research has proved that the wild hog does not ordinarily sleep standing, nor are the huge, curved, and extraordinary bony processes on his head ever used for the purposes described. How much better to confess our ignorance, than to resort to such wild explanations as the above. We know that man has had "*dominion*" given to him over all living things, and can perpetuate any "malformation" which may accidentally spring up; nay, he does so when it serves his purpose. In the Annals of Philosophy we are told, that a ram accidentally produced on a farm in Connecticut, with elbow-shaped fore legs, and a great shortness and weakness of joint indeed, in all four extremities, was selected for breeding purposes, and that a flock was thus procured which was unable to climb over fences. Again, by excluding all black sheep from the breeding pen, we have white flocks; it is equally certain we might have entire black ones, if the opposite plan were pursued. Can any one maintain that long horns curving into and growing through the cheeks of the bovine tribe are other than a natural defect, and yet how common was this in the palmy days of the almost extinct "Long Horns" of Bakewell, Princep, and Mundy? Horace, who flourished in the Augustan age, some two thousand years ago, sang that the brave were created by the brave and good, and that the converse is equally true, indeed the poet said—

"Ebrui gignunt ebrios;"

and we are sure that we can at any time produce *hair* or *wool* on the backs of sheep, by selecting for the first the wild sheep of Ethiopia or Siberia, and for the second the beautiful sheep of Mr. Sandys, or the native animals of Thibet. But enough—my neighbour, who reads the *Reporter*, as he smokes his pipe on a Friday evening, is already exclaiming what on earth has Dr. Paley and Horace and wild hogs, and Long-horns, and Siberian sheep to do with the fifth claw of the Dorking fowl? Much every way they intimate that a natural defect may have been perpetuated in the desire to secure other qualities of a high character with which this supernumerary appendage happened to be associated. That it is a defect (if such a paradoxical term may be applied to a thing in excess), is certain, for some high-bred chickens now before me, have great difficulty in walking, in consequence of these prolongations from each foot becoming entangled with each other; and suffer some pain from the abrasion which constant friction has produced upon each supernumerary toe.—J. H.—(*Derby Reporter*).

POULTRY-YARD REPORT.

SHANGHAE v. SPANISH.

I SEND you the report for the month of March. It is, undoubtedly, in favour of the Minorca race, both for number and weight. For many days only one Shanghae was unoccupied in maternal duties; and one of the others, during the early part of the month, repaired to her nest almost daily without depositing an egg: she is now diligently sitting. The report, then, stands thus:—

SHANGHAE.			MINORCA.		
Two now sitting. Five have been engaged with chickens.			Not in thorough laying. None, however, broody. One pullet has not yet laid.		
One only laying throughout the month.					
Number for the month 41			Number for the month 59		
lbs. oz. drs.			lbs. oz. drs.		
Total weight...	4	6 7	Total weight...	7	11 6
Highest weight			Highest weight		
of single egg.	0	2 4	of single egg.	0	2 4

The single egg of the Shanghae was double yolked, laid on the 8th; the same hen having laid another on the 1st, weighing 2 oz. 3 dr., also double yolked.—H. B. S., *Monmouthshire*.

POULTRY NETTING.

In bygone years, "when George the Third was king," I was an expert maker of nets of various kinds for the capture of the different wild animals that fall in the way of a youthful naturalist; and although the rapidity of manufacture on which, as a boy, I once prided myself, has long since disappeared, I still remember perfectly the different contrivances and ingenious modes of construction which I gleaned from various hunters and fishers of the deep; and not unfrequently do I find that the ability to make a small piece of netting, either to fill up some vacancy in a poultry run, raise the height of a fence to enclose some coop, or secure some window, &c., is of much service, inasmuch as a few minutes will suffice to supply me with what could not be obtained from the wire-worker under several days.

The kind of netting which is most useful in a poultry yard is that termed the square-meshed, which, when stretched out, is of a fixed and definite size and form, and cannot be elongated and rendered narrow by pulling. As the mode of making this is not generally known, and as some of my specimens have attracted attention from their evident superiority over the diamond pattern, I am induced to forward a description of the process, as promised many months since.

Into the mode of using the needle and spool, and making the knot, I will not at present enter, as it is precisely similar in both the square and diamond pattern, and five minutes' instruction from any person who can net will give greater facilities for the performance than as many hours' practice without.

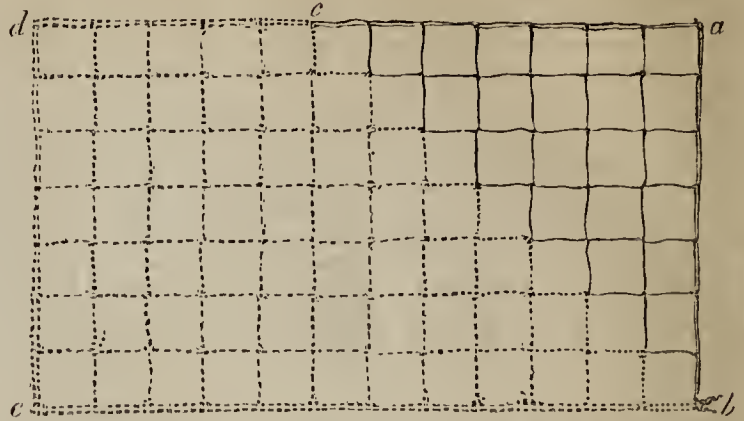
Pre-supposing, then, that the ability to net in the common manner exists, and that it is desired to make a piece of square-meshed netting of a square form, to close a window, or a long strip to raise a fence a foot or more in height, the following plan must be adopted: First, net one loop, which by itself constitutes the first row; draw out the spool and net two loops, by taking up the first loop twice; these constitute the second row; again draw out the spool, and make the third row of three loops, the additional loop being gained by taking up the *last* loop of each row twice; thus proceed, always adding a loop at the end of each row, by netting two loops into one until the two borders are as long as the sides of the square are required to be.

On opening out the net it will now be observed that a half square has been formed, the first loop constituting one corner, the two borders the sides, and the last finished row the diagonal. Now net one row without increasing a loop at the end, and then proceed to net the other half of the square, by diminishing a loop in each row; this is done by reversing the former proceeding, namely, by taking up the last two loops at the end of each row at one time, until the last row is diminished to a single loop; on stretching out a net so formed it will be found a perfect square, with square meshes, and bordered all round with a doubly strong selvage, and possessing the great advantage of being fixed in size instead of varying in shape, with the degree of force employed to extend it as the diamond pattern does.

On referring to a very scarce book by the Hon. and Rev. Charles Bathurst, entitled "Notes on Nets," I find so good a description of the mode of making square-meshed nets longer than wide, that I am induced to give the note in the words of the learned author in preference to my own. He states,—

"But suppose you want your net to be longer than it is wide, and yet the meshes composing it to be square: this is effected nearly in the same way as in the complete square. From half a square, as before, the length of one side (*a*, *b*) of which will determine the width of the oblong to be made; when this is done narrow on one side and increase on the other; that is, at the end of every alternate row you take two loops up at once, whilst at the end of the other rows you net two loops in one.

"When your oblong is of the required length, which is ascertained by measuring the long side of the netting from *a* to *d*, from the corner at *a* to the last loop at *d*, finish off as you did in the case of the complete square, namely, by taking up two loops at once at the end of each row.



"In the oblong net you need not make a row of plain loops before you begin finishing off, as was done in the square net.

"It is necessary to bear in mind that whether you add or diminish it must always be done at the end of the row; and it is as well to make the side on which you are to increase in oblong netting, lest you fall into a mistake and increase or diminish on the wrong side or irregularly.

"Many nets are made up into a confused mass, 'or made pie of,' as a printer would say, by not attending to these points.

"Oblong or square nets worked as now directed will, when first completed, appear in the shape of a lozenge; but by stretching out the sides at right angles to each other the nets will assume the proper shape.

"It makes the angles cleaner if in making the last single loop, *e*, the spool be withdrawn before the needle is drawn (*taught*), the last loop is thus absorbed instead of remaining to spoil the appearance of the net.

"The single loop with which the net was begun (*a*) may also be untied to enable the better to draw it up *taught*, and make it vanish as he did the last one. (In the engraving these loops are shown thus drawn up.)

"Many netters consider it a great saving of time and twine to make their oblong nets with square-shaped meshes."

This last remark of the rev. author is unquestionably true, for as every mesh hangs its full size, which is not the case in the diamond pattern, there is necessarily a great saving of material, labour, and weight.

The only disadvantage attending square netting is, that after having been once made it cannot readily be altered in size, either by addition or subtraction; this, however, is a minor point, as it is usually made to some required size, and does not necessitate subsequent alteration.

I will at some future time forward an account of a simpler mode of making the knot than the plan commonly followed, by which nearly three times the ordinary speed can be attained, and which I have never seen described in books, having learned it from an Irish fisherman, who had practiced it for many years, and who assured me it was the general plan in his native locality.

The applicability of these square-meshed nets to garden purposes I must leave to be determined by my more experienced colleagues; but the circumstances of their not requiring any cord to bind or strain them, and their sides hanging perpendicularly under the fronts of support, seem to offer advantages over the diamond pattern.—W. B. TEEBMEIER, *Willesden*.

HARDY BORDER PLANTS.

THE NATURAL ORDER FUMEWORTS.

The whole of this order of plants are more or less strikingly beautiful. If we look at the *Dielytra spectabilis*, we may justly say this is the king of them, nor does it lessen its claim to the title that it appears to be quite as hardy as any of the other species which we have known for years in our borders. This is such a noble plant, that we should say it will ever have a place in our cool conserva-

ories, or other slight protection, as a pot plant. Large and strong plants of it may be grown to almost any size in pots, and its graceful habit, and its continuing so long in bloom after being grown, will be sufficient reason for keeping a few plants in pots to flower in succession during the early spring months of each successive year.

It is readily increased by root-division, and the best time to do this is shortly after it is out of bloom. Then cut them down, and carefully divide their crowns, and either plant out each division in some cool border, or pot them, and stand them in some cool situation. They soon become established, and bloom the following spring.

The *Dielytra formosa* of our borders, grown in a pot by the side of the *D. spectabilis*, would be a beautiful associate, if the same pains were taken with it to bring it up to the mark of perfection. This is an old species, and we can see it in our border commonly, but I think it is not one-twentieth part so common as it should be. The same charge of commonness may be brought against the *spectabilis* some day, but I do not know when.

The *D. formosa* is an extremely beautiful plant, and it blooms for a great length of time, namely, from April to the end of July. Its beautiful racemes of flowers are produced upon longish stalks, these blossoms being of a sweet rosy-red colour. Its leaves are many times cut, and of a glaucous green colour, as in all the rest of its beautiful family. This is readily increased by division of its fleshy roots and crowns at any season. It is a native of North America, and was introduced to this country in the year 1796. It flourishes in any good common garden soil, and forms a pretty front-row plant in borders.

Dielytra eximia is, I believe, a very rare plant to see, and is very nearly allied to the last-named. Indeed, one must know them well to distinguish them when apart. The leaves in this are a little more pointed; the raceme more loose than those of *formosa*, but the principal mark of distinction is the stigma, which is four-angled, while in the *formosa* it is only two-angled. This species was introduced in the year 1812. It is a pretty front-row plant in the borders, and, like all the others of its family, readily increased by root-division.

Corydalis tuberosa, or, as it is sometimes called, *Fumaria cava*, or the Hollow-rooted Fumewort, is a very pleasing, early-flowering plant; its time of blooming being from the end of February to the middle of April. Its flowers are of a reddish-purple and white-colour, forming a very pretty dwarf front-row plant in the border. It flourishes in any good garden soil, but delights in a rather shaded situation. It was introduced into this country in 1596, and is a native of Germany.

Corydalis bulbosa, or, as it has been called, *Fumaria solida*, the Solid-rooted, or bulbous-rooted, Fumewort. This is another very strikingly beautiful and early blooming plant, flowering from the middle or end of February to the middle of April. It forms a neat, compact bunch, and is a profuse bloomer, but of short duration, but retains its beauty much longer when planted, as it should be, rather in the shade. Its flowers are of a pinkish-purple and white, and not so large as those of the *tuberosa*, but a little earlier in flower. These plants are readily known from each other by their colour and size of flower, or the cut of their leaves and bracts. In *bulbosa* the leaves are much finer cut or divided, and the bracts hand-shaped, while the bracts in the *tuberosa* are egg-shaped and entire.

The *C. bulbosa* is said, now-a-days, to be a native of Britain. It may be called, perhaps, a doubtful native, or an escape from old gardens; but whether so or not, it is still a very desirable front-border plant for a shady situation, and is readily increased by division of its little bulbs after it is gone out of bloom. The main point to mind is that the bunches do not get disturbed during the months they are out of sight, as they die off so very early after flowering.

Keeping such pretty little things as these in pots, and the pots plunged out of sight in the borders, is an excellent plan. Keeping such plants always labelled is also a means of protection. These little bulbous plants will flower for many years in the same undisturbed pots in this way.

On first receiving any little choice bulbous or tuberous rooted plants, whether bought or begged, we always pot them, and plunge them in the border, and label them too. Of course, in after-years, as the plant flourishes onward and

is grown into plenty, we may then divide it, and plant it out of a pot. Notwithstanding, we have many pots of bulbs that have stood the test of many a year, and still flower well.

C. lutea, the yellow-flowered Fumitory. This is another so-called native of Britain, and which is often seen growing out from the crevices of our old garden-walls, where it ripens its seeds and freely scatters them about on other parts of the wall, and borders too, so as to become rather a weedy plant; but when kept within bounds, in moderate sized bunches, it is then a pretty ornamental plant for the dry, open borders, or the rockery in particular, forming pretty glaucous green bunches, and flowering, more or less, from April to October. It is a neat front-row plant in the borders. Like the others, it is a hardy perennial plant.

C. glauca (the Glaucous Fumitory). This is sometimes called *C. spervirens*, though not appropriately, for it is an annual plant. It is not very often to be seen in our gardens, though it is such a beautiful plant, and might be as common as candytuft. It seeds freely, and sows itself about wherever a plant of it might have ripened its seed, and stands the winter as well as any plant from seeds autumn-sown. We seldom save the seeds of it, and yet we never seem to be without it. We have beautiful single plants of it in bloom at this time (April 18th). Its beautiful blossoms are of a deep crimson and orange colour; and the leaves and stems of beautiful glaucous green. This plant is a native of North America; and was introduced to this country in 1683. It rises from twelve to fifteen inches in height, and looks extremely pretty upon a rockery. T. W.

QUERIES AND ANSWERS.

GARDENING.

PIT FOR HEATHS.

"I wish to build a pit for the sole purpose of growing *Ericas* to the best advantage, and shall feel obliged if you will kindly give me your opinion on the enclosed plan. Will it be requisite to have artificial heat for winter?—S. C. G."

[It will be quite requisite to have artificial heat for winter; not so much on account of the cold as because our summers and autumns will not sufficiently consolidate the wood, and because without it, even though coverings were used, it would hardly be safe to give as much air as would keep mildew at a distance. The fitness of the span-roofed pit, seven feet wide in the clear, five feet high to the ridge, side walls two feet six inches, eighteen inches of that to be sliding-sashes, will depend greatly on the management. In moving the top lights upwards or downwards, or even tilting them, we should dread an attraction between these side sashes and the knees and legs of the workmen. With a somewhat similar arrangement at the sides, the pit made two or three feet wider, the ridge-board elevated a couple or three feet more, and a pathway down the centre, you would have first-rate conveniences, not only for growing, but admiring and attending to your plants in all weathers. If even your roof-sashes have been ordered or made, you might have an opaque-roof over the pathway, and there, too, if you felt disposed, you might have ventilators, which would save so much moving of the top-sashes.]

WATERING THE LEAVES OF CAMELLIAS, &c.

"Should greenhouse plants, such as *Camellias*, *Fuschias*, *Azaleas*, and *Pelargoniums* be frequently or at all watered over the leaves? Or, is the foliage of any of the above sorts spoiled by water thus administered? Should spring-water with a tinge of iron be applied?—A. G."

[All these plants are better to be frequently syringed when growing; in fact, will relish it at any time, except when in bloom, or when the temperature is so low as to give them a state of rest. It is of importance, however, that the water be clear, without sediment. Spring-water, with a slight tinge of iron, will not hurt them, provided it is aired in a tub or tank in the sun for several days previously. Rain-water, without the iron, or pure river-water, would answer better. The chief point in keeping plants healthy in rooms is to keep the leaves well-washed and clean.]

CUCUMBERS CHECKED IN GROWTH.

"My Cucumbers have looked well up to the present time, but have stopped growing; the linings have been constantly renewed, shaded from the hot suns, &c. I am led to think it is in the watering. Could you give me any idea of the quantity of water a two-light frame should have in fine weather, and the time and how to apply it?—O. P. Q."

[If Cucumbers are allowed to bear very freely at an early period they will exhaust themselves prematurely. The only remedy, as respects them, is to cut off every blossom that appears, stir the soil frequently, shade from bright sunshine, encourage in every way the growing principle, and then, when that is secured, allow the plants to set and mature fruit. Frequently, when forced, to obtain a present advantage in this respect, at the risk of a future loss, we have had succession plants ready, and pulled out at once the exhausted ones when they had served their object. It is impossible to tell the exact quantity of water a two-light box would require. In fine weather, in April, we have given such a box six gallons of water at a time, and as often as twice a week. In dull weather, over a dung-bed, a gallon per week has frequently been sufficient, and more. The time of applying it is generally the forenoon, when the sash can be opened with least danger, and it should always be soft water, and from 70° to 80° in temperature. As to the mode, in a fine day we have watered all over with a rose watering-pot; when duller and colder, we generally water with the spout; in sunshine, rather bright, but not bright enough to warrant shading, a slight sprinkle with the syringe will lessen the evaporation by the leaves, and yet keep them healthy and robust. Shading is only a necessary evil, and the more it is resorted to, the less the robustness of the plant. When there is a good lining the sides of the box may be frequently sprinkled with water, to create a moist heat. Have you got no green fly or other insect? An amateur, the other year, came in great trouble, because such an one had said his Cucumbers had the thrip. They had no thrip, but fat fly in abundance. What surprised us exceedingly was the fact, that though he had grown Cucumbers so well as to exhibit successfully, he had never seen a green fly there before; a thing which few growers could say.]

LILY OF THE VALLEY, AND OLD FILBERTS.

"Will you oblige me with the best way to cultivate *Lilies of the Valley* on cold clay, poor soil; and how to manage *Filberts* of many years standing?—A FARMER."

[*Lilies of the Valley* require exactly the same kind of soil, the same kind of preparation to that soil, the same amount of fertilizers, and the same degree of skill and perseverance as are required to produce a fair crop of *Swede Turnips*. Cold clay will not yield *Swedes* nor *Lilies of the Valley*, neither will poor soil; clay soils need not, necessarily, be cold; good drainage makes a wonderful difference to the temperature of clay land. Now, let us suppose that some company removed the first eighteen inches of soil, or clay, from an acre of such land; that the landlord drained this acre, so reduced, that he broke it up or ploughed it next summer, when it was very dry; and that another company made up the original depth of this acre with fresh soil from the top spit of a moor or common. Then, suppose the farmer to have carted so much rotten muck on this new soil—so much salt and so much soot—ploughed the whole a good depth, reduced the surface to a fine tilth; would it not give thirty tons of *Swedes* the first season? If it would, a bed four feet wide and twenty feet long might be made, without a company, on any soil, to grow the *Lily of the Valley* fit for the queen. The beginning of October is the time to plant it; the strongest buds are then seen among the roots, which look very much like couch grass; six or seven inches of the couch-like roots are taken with each bud, the whole are placed down on the surface of the bed regularly and thickly; then the bed is covered with four inches of leaf-mould, sandy soil, and rotten dung; it is then mulched with short littery dung a full inch deep, and next April, May, and June, it is well watered once a week or ten days; water from the laundry on washing days is excellent for it; after that the bed is not touched or disturbed for full twelve

years, and all that time, after the first season, no one can count the quantities of flowers which come, and they are far more sweet and strong than scanty flowers from a poor, hungry, cold, cloddy bed.

Filberts requiring aid after many years standing can only be relieved by thinning out about one-half of the shoots and stems from the bottom, and then to shorten and keep thin the side-wood of those branches that are left; it will be a yearly and a troublesome job. You had better prepare for a new plantation of them.]

REMOVING SPRING-FLOWERING BULBS.

"Which is the best way to clear flower-beds of bulbous roots, which have been gay this spring, as *Snowdrops*, *Crocuses*, *Daffodils*, &c.? The beds now look untidy, and if cleared away with as much soil as can be managed, I have found them very much weakened for another season.—A. W., *Derbyshire*."

[None but the very best gardeners can safely remove spring-bulbs from the beds and borders as soon as they are out of bloom, and it is not unusual for the best of them to fail now and then, according to the season. It is true, amateurs can often do things better than a first-rate gardener, but they do it with their own hands. Why gardeners do not seem to fail in many things, is, that they anticipate losses, failures, and bad seasons, and provide extra plants, &c., to meet such losses. Suppose a gardener to lose 1000 *Crocuses*, 100 *Narcissus*, and a proportionate number of other bulbs by removing them at the wrong time, he goes to his reserve-ground to make up the loss, and no one hears more of it. Bulbs for the best beds ought to be in pots for removal.]

CELERIAC AND NEW ZEALAND SPINACH.

In answer to the queries of "A Subscriber," we give the following directions.

Celeriac should be sown in March or April, in a slight hotbed; when about three inches high prick out the seedlings in rows three inches apart; water liberally and frequently. When six inches high plant out finally in rows two feet apart, and the plants nine inches apart. They require a rich light soil, and abundance of moisture. When the bulb begins to form they require to be earthed-up two or three inches deep.

New Zealand Spinach is sown in the seed-vessel, as gathered the preceding autumn; sow it in small pots, three seeds in each, late in March, and plunge them in a Melon-frame. When the seedlings are an inch or two high, move the pots into a frame without bottom-heat, keep them there until the end of May, and then turn them out of the pots, without disturbing them, into a light and very rich soil, in rows four feet apart each way. Twenty plants will give a daily supply for a large family. In about six weeks after planting-out the ends of the young shoots will be fit for use.

POULTRY.

PILE GAME FOWLS.

"Can you tell me which colour is most thought of for Pile Game fowls? as I suppose fowls are all called Piles, if mixed in colour.—J. H. R."

[The word "*Pile*," in reference to fowls, is employed to denote a bird of whose plumage white is a component part, and is used more particularly, if not exclusively, of the Game breed; although we have heard it applied to Malays of similar plumage. The Piles best known, and most esteemed, are the "*Worcestershire*," the "*Staffordshire*," and the "*Cheshire*."

The *Cheshire Pile* is of a deep chesnut on the back and wings; while the "*Staffordshire*" has a lighter tinge of yellow; the "*Worcestershire*" are subdivided into the cream-coloured and blue. See *Poultry Book*, p. 144.]

ROYAL DUBLIN SOCIETY'S POULTRY EXHIBITION.

This was held in the Great Exhibition Building, on the 18th of April. We took some pains to obtain a prize-list,

but having failed in this instance, we feel the more indebted to two correspondents who obligingly sent us the following:

"The Exhibition was characterised by the greater preponderance, even than usual, of the *Shanghai* varieties."

"Three pens of the so-called *Brahma Pootras* were exhibited, and differed from each other in plumage as much as birds claiming a distinct parentage could well do. Two of the birds in one pen were of a dusty-grey body-colour, and single combed; the cock was a silver-grey, with hackles slightly marked with black, also single-combed.

"The plumage of the birds in the other two pens was more uniform, but one of the hens was nearly white, and had not any of the markings so much relied upon to prove the distinctness of the breed. In this pen, the cock had a comb somewhat similar to the Malay, it approached almost to a triple or poa-comb, the centre one being larger and higher than those at either side. I have had a Black-breasted Partridge *Shanghai* cock with a comb just similar. The birds were, in my estimation, deficient in form, and not to be compared, in that respect, to good specimens of the Bull variety of *Shanghai*.

"Some of the exhibitors of *Spanish* fowls found great fault at the arrangement, or rather mis-arrangement, made for their favourites, in which you will, no doubt, agree, when informed that nearly every good pen of *Spanish* was consigned to the ground tier, not from want of room, as a third more cages could have been added by placing them closer together, and allowing a passage between every ten or twelve, instead of between every two.

"The judgments, too, in this class, were particularly (in my opinion) erroneous. The first prize, for Lot 124, was quite right; but how pen 129 could have been awarded the second prize, in preference to several very superior pens, is not so easily accounted for; neither can I reconcile the justice of the awards to my mind, when I compare the cock exhibited in pen 171 with the one exhibited in pen 155; the former had a sprig upon a falling comb, his wattles had been torn, and were, in consequence, lumpy and imperfect, and he carried his tail crookedly. Altogether, he was a very inferior specimen, and admitted by his owner to have been sent in for sale, and not for competition.

"Size, I imagine, was the point the judges took into consideration mostly in the *Shanghai* class, as the inmates of the prize pens were not at all uniform in colour. The best lot was in pen 19 (Buffs), but they arrived too late for competition. The *Dorking* class was well represented, and contained some excellent specimens. The *Turkeys* and *Geese* were good, and so were the *Ducks*, particularly some of the *Aylesbury*. The pen of Rouen Ducks, No. 274, was the best I have yet seen in Ireland."

NEWCASTLE, NORTHUMBERLAND, AND DURHAM POULTRY SHOW.

THIS Society held its Third Annual Exhibition in the Corn Exchange, Newcastle, on the 19th and 20th of April; and, taking into consideration the unfavourable period of the year for holding such an exhibition, it was the best show—whether we look at the quantity or quality of the birds entered for competition—which has ever been held in the North of England. The arrangements, made in the best possible manner, were, we understand, under the superintendence of Mr. Trotter, of Bywell, one of the Honorary Secretaries. The judges were the Rev. Robt. Pullett, Kerby West, Thirsk; J. H. Travis, Esq., York; and Edward Bond, Esq., Leeds.

The *Shanghai* breed was the cause of the greatest competition, and, as usual, attracted the largest share of attention. There were fifty-nine pens entered in the seven classes into which the breed was divided. When we mention that a large portion of the birds had been bred from the stocks of Fairlie, Fletcher, Gilbert, Sparham, Collinson, and Capt. Snell, the best idea will be given of their beauty and high quality. In the first class there were thirteen competitors, and the prize, it will be seen, was carried off by H. Marshall, Esq., of Durham. His birds were acknowledged by all having any pretence to a knowledge of such matters to be the finest specimens of the breed ever shown in the North of England. The cock, "Sir Charles Napier," weighs 14 lbs.,

and was bred by Mr. Fairlie, of Newmarket—the hens weigh 11½ lbs. and 12 lbs. respectively. The birds exhibited by Chas. F. Perkins, Esq., and to which the second prize was awarded, were universally admired. For beauty of plumage they were perhaps superior to Mr. Marshall's but they did not possess that shortness of leg, fulness of breast, and squareness of body which characterised the winning birds. In class two (cinnamon or buff) Mr. Perkins, with a couple of pens of splendid birds, was placed both first and second. In the white variety the birds exhibited were not deemed worthy of a first prize. In class 7, Cockerel and two Pullets, hatched in 1853, there was a strong competition—no less than 29 pens having been entered. The first prize was awarded to Mr. Marshall for three splendid birds of the Vulture-hocked variety—the same to which the first prize was awarded at Darlington in December last. Taking the large number of birds exhibited in these classes, both for beauty of plumage, shape, and size, there was a decided improvement over the exhibitions of previous years. In the *Spanish* Class there were many good birds, but the breed was not so well represented as last year. Mr. W. Lightfoot, of Newcastle, maintained the high position he won at Darlington. Mr. Powell, Mr. Dixon, Mr. Trotter, and Mrs. Bell, also took prizes. Amongst the *Dorkings* there were some good birds shown, but they were not present in such large numbers as they have been in former years. This is to be wondered at, considering that the many useful qualities of this fine class are every day beginning to be more appreciated. The prize in the coloured class was deservedly awarded to Mr. J. Graham, of West Jesmond, a cottager. The birds which took the prizes in the other classes belonged to Mr. Lambert, Mr. Swarbeck, and Mr. James; they were all excellent in their way. The show of *Game* birds, though small, was truly handsome, and attracted a large share of attention. Mr. Hudson, Mr. Charlton, and Mr. J. H. Smith, were the prize takers. There were some beautiful specimens of the tiny *Bantam* breeds exhibited. The chief prize was awarded to Mr. John Gray; Capt. Snell being placed second. *Geese* and *Ducks* were only shown in small numbers, owing no doubt, in some degree, to the unfavourable season of the year.

There was a large display of *Turkeys*; some splendid specimens of the American breed, shown by Mr. Trotter, attracted universal attention. There were 58 entries of extra stock. The first prize was awarded to Mr. James Richardson of York, for nine *Shanghai* pullets (marked at 30s each), and the second to Mr. H. Marshall, for a pen of chickens, bred from prize birds in February last, they each weighed about a pound and a half. There was a beautiful show of *Pigeons*. The Almond Tumblers belonging to Mr. G. Fawdon, of Gateshead, could not have been well surpassed. Prizes were also awarded for hen and duck eggs, but how the judges decided on the merits of those sent in by the 19 competitors, we are at a loss to imagine.

Neither the *Hamburgs*, *Polish*, nor *Malay*, fowls were well represented. The season of the year was against their being in any great numbers. There was no award for Malays; Mr. Trotter, Mr. Surtees, Mr. Hume, and Mr. Millon, took the chief prizes for *Hamburgs*; and Mr. Collingwood and Mr. Trotter for *Polish*.—(From a Correspondent, and abridged from the *Durham Advertiser*.)

TO CORRESPONDENTS.

WILLIAM ARAMS.—The Authoress of "My Flowers" begs to inform "C.," and all those kind friends who have so benevolently administered to the wants of that great sufferer, that he expired on Saturday, April 22, after bodily anguish of the most severe and distressing kind. The widow desires to express her deep and grateful thanks for all the help her husband received during his protracted sufferings. [The Editor of THE COTTAGE GARDENER wishes to add his thanks to those who have gratified him by making him the agent of their charity. In accordance with "C.'s" wish, he adds, that the Authoress of "My Flowers" made advances to William Adams in anticipation of "C.'s" bounty.]

CATERPILLARS ON GOOSEBERRY AND CURRANT BUSHES (A.G.).—The most effectual application is white Hellebore powder, applied by means of a dredging box. Two or three applications after intervals of a day or two is usually quite sufficient to destroy them all.

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GERANIUMS.

BASS AND BROWN

Having this season a very large stock of GERANIUMS, are enabled to offer the following of strong and very fine plants, in 4-inch pots, ready for immediate re-potting, which will yield an abundant bloom. For descriptive List, see Autumn Catalogue.

BEST NEW VARIETIES OF LAST SEASON.

Any 12 may be selected for 50s, our selection, 44s, or the collection of 19 for 70s.

Hoyle's Astrea 5 0	Hoyle's Lagoma 5 0	Foster's Eleanor 3 6	Dobson's Jupiter 3 6
Albina 3 6	Leonora 5 0	Optimum 10 6	Spot 5 0
Basilisk 3 6	Novelty 3 6	Rachel 5 0	Vulcan 5 0
Butterfly 3 6	Portia 5 0	Queen of May 5 0	Simond's Admiral 3 6
Kulla 3 6	Zaria 5 0	Dobson's Harriett 3 6	

Any 12 of the following for 21s, our selection, 18s, or the set of 30 for 45s.

Ariadne	Chieftain	Exhibitor	Incomparable	Major Domo	Painter Improved
Ambassador	Commissioner	Flavia	Lavinia	May Queen	Rubens
Arethusa	Exquisite	Gem	Magnet	Nepaulsc Prince	Shylock
Ajax	Elise	Generalissimo	Mochanna	Ocellatum	Silk Mercer
Alibi	Enchantress	Herald	Monteith	Prince Arthur	Tyrian Queen

Fine varieties, our selection, 6s and 12s per dozen.

FANCY GERANIUMS.

The following Six choice new varieties of last season for 18s.

Ambrose's Barrier	Henderson's Lady Downs	Ambrose's Princess Alice	Mande
Darling	Ambrose's Magnum Bonum	Wilmore's Surprise	
Caliban	Delicata	Formosissimum	Marion
Captivation	Electra	Gipsy Queen	Miranda
		Princess Royal	Singularity
		Richard Cobden	Superba

Fine varieties, our selection, 9s and 12s per dozen.

GLOXINIAS.

The following new varieties are chiefly Continental, and very beautiful. The Collection of Nine for 33s.

Belle Clymene, white, with a large, deep, blue throat, and the entire marbled with blue, very beautiful 3 6	Imperialis, delicate lavender white, with deep purple centre 3 6
Charles Dickens, the best red grown, white throat, beautifully spotted 3 6	Leonic Van Houtte, beautiful rose, with a pure white throat, very distinct and handsome 5 0
Duchess de Brahan, a fine, new, Continental variety 5 0	Princess de Lambelle, a fine variety, figured in the "Flora" of L. Van Houtte 3 6
Dr. Planchon, flowers very erect, rich red, with spotted throat, very handsome 3 6	Wilsoni, pre-eminently majestic above all others, figured in the "Floricultural Cabinet," July, 1853 5 0
Fyfiana grandiflora, very fine 5 0	

Alba grandiflora	Fyfiana	La Perouse	Margatina	Priestleyana	Tricolor
Argyrostigma	General Baudraud	Labiata	Mrs. Addanson	Puleherrima	Victoria Regina
Carninata splendens	Grandis	Leopold 1st	Passinghani	Spectabilis	Wortleyana
Frederick Lenning	Hogoveen	Marie Van Houtte	Petoiana		

Descriptions, see Spring Catalogue.

ACHIMENES.

- CHERITA, fine ultra-marine blue, shaded with red, magnificent 3s. 6d.
- LOUIS VAN HOUTTE, rich rosy purple, white centre 2 6
- MR. APARPAIT, beautiful carmine purple 2 6
- SIR TRECHERNE THOMAS, beautiful rosy carmine, very rich 2 6

The following 12 beautiful varieties for 10s. (Descriptions, see Spring Catalogue.)

Bæckmani	Hilli (or Kewensis)	Kewensis vera	Magnifica purpurea	Multiflora	Fimbriata
Venusta	Hirsuta cœrulea	Longiflora alba	Margaretta	Ghiesbreghtii	Coccinea grandiflora

A FEW NEW PLANTS.

Æschynanthus splendidus each 2s. 6d. to 5s. 0d.	Gastrolobium Drummondii each 7s. 6d'
Æchmea fulgens 5 0 to 7 6	Gesnera purpurea macrantha 2s. 6d. to 3 6
Alloplectus Schlimii 15 0	Leopoldiana 7 6
Aphelandra aurantiaca 1 6 to 2 6	Hexacentris mysorensis 5 0 to 10 6
micans 3 6 to 5 0	Hoya coriacea 2 6 to 3 6
grandis 3 6 to 5 0	campanulata 2 6 to 3 6
variegata 5 0 to 7 6	picta 5 0 to 7 6
Berberis Darwini 1 6 to 2 6	Imperialis 2 6 to 3 6
Begonia miniata 5 0	Ixora Lobbiana 15 0
Prestoniensis 3 6 to 7 6	Kennedy ovata alba 3 6
Centropogon tovarensis 5 0 to 7 6	Passiflora Comte Nesselrode 2 6
Cissus discolor 5 0 to 7 6	Kisseleff 2 6
Cyrtanthera magnifica 2 6	alata superba 2 6
Fitzroya patagonica 5 0 to 7 6	cœrulea grandiflora 2 6
Libocedrus chilensis 3 6 to 7 6	Plectranthus concolor picta 2 6
Saxe-Gothæ conspicua 5 0 to 7 6	Rhodolea Championi 21 0
Deutzia gracilis 1 6 to 3 6	Streptocarpus biflorus 2 6 to 3 6
Dracena nobilis 10 6 to 21 0	Tritonia aurea, 24s. per doz. 2 6
Echites Harrisii 2 6 to 3 6	Viburnum suspensum 1 6 to 3 6
Franciscea eximia 2 6 to 3 6	Weigela amabilis 3 6 to 5 0
	lutea 1 6 to 2 6

GREENHOUSE PLANTS.—List of these and Stove Plants, see Spring Catalogue.

12 fine and select species and vars., 12s; 50 ditto, 45s; or 25 for 24s; 12 extra choice and select ditto, 25s.

STOVE PLANTS.

12 fine and select species and varieties, 18s; 50 ditto, 60s; or 25 for 35s.

HERBACEOUS PLANTS, &c.

Heights and Colours, see Autumn Catalogue.

100 distinct and showy vars. 30s. 0d. or 50 for £0 17s. 6d.	HOLLYHOOKS, choice vars. per doz. 9s. to £1 5s. 0d.
25 ditto ditto 10 6 or 12 for 0 6 0	DWARF ROCK CISTUS, 24 beautiful vars. 0 15 0
100 superior and new vars. 50 0 or 50 for 1 10 0	ditto 0 7 6
25 ditto ditto 17 6 or 12 for 0 9 0	AZALEA INDICA, 25 superb vars., bushy plants 1 15 0
25 fine vars. best adapted for Rockwork 12 0 or 12 for 0 7 6	ditto ditto 0 18 0

CHOICE FLOWER SEEDS.—For bed assortments of these, see our advertisements in THE COTTAGE GARDENER of April 6th and 13th. The Autumn and Spring Catalogues free by post for three penny stamps each. GOODS CARRIAGE FREE (not under 20s) to all the London Termini, and all Stations on the London and Norwich Colchester line. Plants added gratis with orders of 40s and upwards. Post-office Orders payable to BASS and BROWN, or STEPHEN BROWN, Sudbury Post-office.

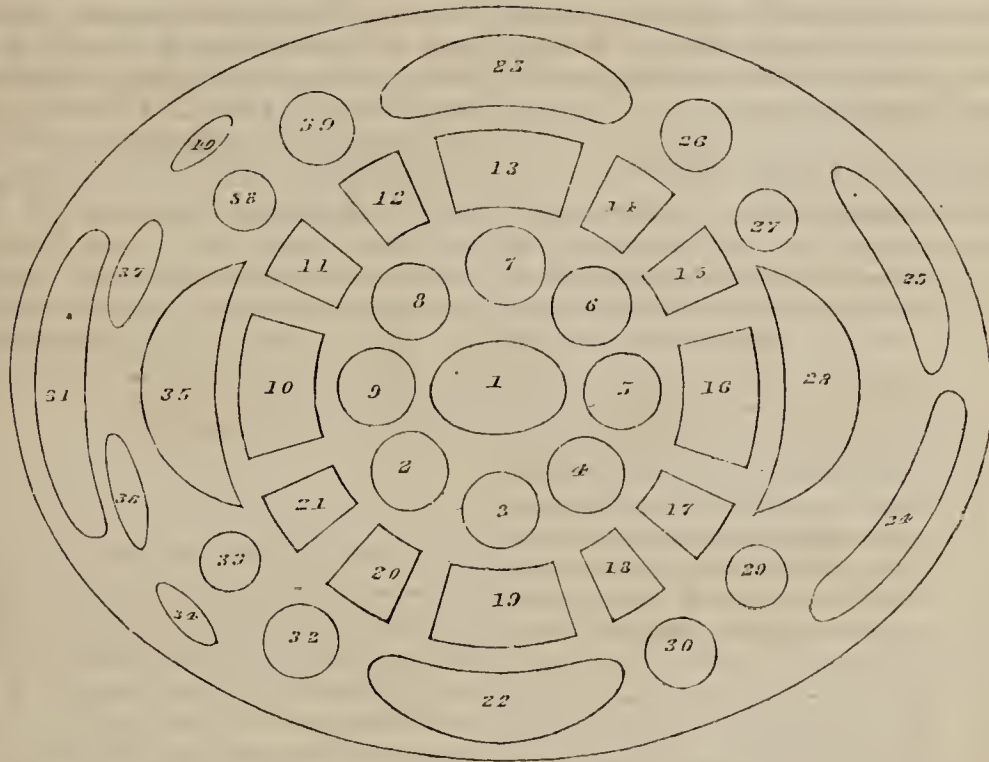
SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

WEEKLY CALENDAR.

M D	D W	MAY 11—17, 1854.	WEATHER NEAR LONDON IN 1853.					Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.							
11	TH	Carabus monilis.	30.078—30.003	56—31	N.E.	13	16	36	3 54	14	3 51	131	
12	F	Carabus nitens.	29.988—29.923	57—42	E.	—	15	37	rises.	☺	3 52	132	
13	S	Nebria complanata.	30.012—30.010	56—37	S.E.	13	13	39	9 a 18	16	3 54	133	
14	SUN	4 SUNDAY AFTER EASTER.	30.007—29.876	61—40	E.	—	12	40	10 41	17	3 54	134	
15	M	Leistus Raulinsii.	29.856—29.672	67—49	S.E.	—	10	42	11 54	18	3 54	135	
16	TU	Panagrens crux major.	29.669—29.598	69—47	E.	—	9	43	morn.	19	3 51	136	
17	W	Bembidium flavipes.	29.712—29.659	71—40	S.E.	—	7	45	0 47	20	3 53	137	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 64.2° and 41.6° respectively. The greatest heat, 86°, occurred on the 15th in 1833; and the lowest cold, 29°, on the 15th in 1850. During the period 117 days were fine, and on 72 rain fell.

FLOWER-GARDEN PLAN.—No. 13.



- | | | | |
|---|--|---|--|
| <p>Beds.—1. Geranium Flower of the Day, with Verbena venosa mixed. Will this do for a shot-silk bed?
2, 3, 4, and 5, Pink Saponaria Calabrica.
6, 7, 8, and 9. Blue Chinese Larkspur, which, I under-</p> | <p>stand, to be Delphinium sinense.
10, 13, 16, and 19. Scarlet Geranium Tom Thumb, edged with variegated Alysum.
11, 21, 17, and 15. Yellow Calceolaria amplexicaule.</p> | <p>12, 18, 20, and 14. White Ivy-leaved Geranium.
28 and 35. Yellow Calceolaria.
33, 38, 27, and 29. Geranium Flower of the Day.
32 and 39. Crimson Unique Geranium.
34 and 40. Calceolaria Kentish Hero.</p> | <p>37 and 25. Heliotrope.
36. White Geranium Boule de Neige.
26 and 50. Verbena venosa.
22 and 23. White China Roses.
24 and 31. The old red China Rose.</p> |
|---|--|---|--|

HERE is another style of flower-garden, and different from any of our former ones; the object of the designer is to fill, or make the best of a given space, or, in other words, to get as many flowers as possible in this piece of ground, which is in the form of an egg; to have the flowers planted on a given system, and to have the whole look well and pleasing to people who might not understand any of the principles on which flowers are grouped or planted together.

“Jonathan,” the author of this plan, has succeeded in planting the beds in first-rate style, peculiar, in one respect, yet not a fault. But let us start from the key note, which is here in the very centre bed. No. 1. Flower of the Day Geranium, and Verbena venosa, will never do together; nothing but strong old plants of the old variegated Scarlet Geranium will give the shot-silk tint desired; the white of the leaf of Flower of the Day is too much, and the trusses and flowers are too decided in shape and colour, for the shades required. Flower of the Day by itself would answer very well in No. 1, so would any other of the variegated

Geraniums; also, Heliotropes, alone, or mixed with Grey Verbenas, and so would Emma Verbena, with an equal quantity of any light Verbena, so as to cast the dark purple of Emma into a decided neutral tint. A pure white would answer just as well, but none of the decided colours—as scarlet, yellow, blue, purple, or pink (and that is the order of their decidedness), should ever be planted in the centre bed of such a figure.

The peculiarity is having four pink beds, 2, 3, 4, and 5, on one side of this centre, and a beautiful blue on the opposite side in equal force. I should prefer pink and blue alternately, all round, and so would seven out of every ten persons who have studied the subject; but there is no law, that I know of, against “Jonathan’s” arrangement, and, therefore, he has a right to hold his fancy, as we have to hold ours. The difficulty in this plan was in providing for the planting of the two ends of the figure, and it is very well done by “Jonathan,” but there is a radical error, and a violation in the fact, that 24, 25, and 28, are different from

35, 36, and 37; there is certainly a *variety*, as they say, by having the two ends different, but to do anything on principles, and to admit variety to a higher place than a principle, is a weak faith in principles altogether. 34 and 40 are introduced as equivalents for the larger size of 25 and 28 than 36 and 37. The group from 31 to 40 is infinitely better managed and more pleasing than the opposite end. Nevertheless, the plan is very well done, and "Jonathan" himself will find out, by-and-by, better than I can tell him, where his weak points lay. 11 and 12, for instance, are right in colour, and quite wrong in size, and the same ob-

jection applies to 20 and 21, to 17 and 18, and to 14 and 15. The *Calceolaria amplexicaulis*, in good soil, will be twenty inches high by the first of August, while the white Geranium next to it, all round, will hardly be ten inches high. Heights are just as essential as colours, in instances like these, and so are *styles of growth*. *Calceolaria* here is an upright, and the fellow style a trailer, therefore, opposite styles of growths mar the effect produced by the colours when they thus come in contact. Altogether, there are some useful lessons to be learned from the style of this plan.

D. BEATON.

CONTINUING (from page 1) our observations on the Peas, we come now to consider a very valuable class of varieties—the *Early Green Marrows*. It is not very many years since these first appeared in the form of the old *Early Green Marrow*, but a great improvement has been obtained since then, so much so, that I very much question if the old variety is really in existence.

BELLAMY'S EARLY GREEN MARROW.

The plant is of a strong and robust habit of growth; sometimes with a single, and sometimes with a branching stem, which is four-feet-and-a-half to five feet high, and producing from twelve to eighteen pods on each plant. The pods are in pairs, rarely single, and from three-inches-and-a-quarter to three-inches-and-three-quarters long, seven-tenths-of-an-inch broad, slightly curved, thick-backed, and terminating abruptly at the point. The surface is quite smooth, and of a very dark green colour, somewhat like the *Woodford Marrow* for intensity. The pods contain, on an average, from six to seven large peas in each, which are of a very dark bluish-green colour, nine-twentieths-of-an-inch long, eight broad, and seven thick. The ripe seed has a mixed appearance, some being of a dull, yellowish-white, and others light olive-green, in about equal proportions.

The seed was sown on the 5th of April, and the plants bloomed on the 15th of June, on the 21st the blooms dropped and the slats appeared, and on the 8th of July many were fit to be gathered, but the crop was not generally ready till the 11th.

Of this variety we cannot speak too highly, both as a good bearer and a Pea of first-rate quality, whether for private use or for the markets. For the latter purpose it is admirably adapted, as the pod is of a fine, deep colour, handsomely and regularly shaped, and always plumply filled. The old *Early Green Marrow*, as we have stated above, is now out of cultivation. Its character was the same as that of this improved variety,

but the pod was considerably smaller, and the produce of the plant infinitely inferior.

There is even an improvement on *Bellamy's*, known in some of the midland counties, particularly some parts of Leicestershire, as *NOBLE'S EARLY GREEN MARROW*, having been obtained and sent out by Messrs. Noble, Cooper, and Bolton, of Fleet-street. This variety is certainly superior to *Bellamy's*, is a very much more abundant bearer, producing from eighteen to twenty pods on each plant, and the pods are all so equally and handsomely shaped as to give the idea that they had been all cast in the same mould. It is, in fact, from my own observation, as superior to *Bellamy's* as the true *Flack's Victory* is to the old *Bedman's Imperial*. The figure which accompanies this description was taken from a specimen of *Noble's*.

R. H.

(To be continued.)

ON the 26th of April, in the 69th year of his age, at his house in Upper Gower-street, London, died Dr. NATHANIEL WALLICH, author of the *Plantas rariores Asiaticae*, as well as contributor to many scientific periodicals of England and other countries. For many years he presided over the Botanic Garden at Calcutta, and the writer of this notice wrote as follows in 1843, whilst the remembrance of him was fresh upon his memory:—

"Of the Superintendent of the Botanic Garden, Dr. Wallich, I cannot speak too highly: his scientific attainments need no testimony from me; they are demonstrated by his published works, and by fifty societies, which, unsolicited, have enrolled him among their associates. But I must not omit to mention the urbanity and liberality with which he meets the wishes, not of his friends only, but of all who seek from him either the gratification of their curiosity, or an addition to their botanical stores.

"Dr. Wallich is by birth a Dane, and was a medical *attaché* to Chandernagore, the chief Indian colony of his native country; and it was to the estimable Dr. Carey that he was indebted for bringing his scientific merits under the notice of the government, and, subsequently, for his appointment to the honourable, lucrative, and delightful office he now holds. To this he is devotedly attached; and though of late warned that a residence of many years in a tropical climate renders a change to one more temperate desirable, yet I much fear he will linger on, till he becomes the tenant of that grave which he has already prepared in a favourite shaded spot among his botanical treasures.

"During the last two or three years, the doctor has succeeded in acclimatizing many plants, which must eventually become objects of commercial importance. Madder (*Calotropis procera*), *Manettia glabra*, a substitute for ipecacuanha; *Crinum Asiaticum toxicarium*, a substitute for the squill; the guaiacum, and quassia plants; *Hemidesmus Indicus*, a substitute for sarsaparilla; fustick (*Maclura tinctoria*),

Cæsalpina coriaria, abounding in tannin; and various other useful plants, are of the class in question."

The anticipation that Dr. Wallich would die in harness at Calcutta was nearly fulfilled soon after that anticipation was written; but a visit to the Cape of Good Hope renovated his strength, and he then returned to Calcutta. Unmistakeable warnings, however, compelled him to retreat finally from a tropical temperature. He resigned, in 1850, the Curatorship of the Botanic Garden, and was succeeded by Mr. Scott, gardener to the Duke of Devonshire, at Chatsworth. Dr. Wallich reached England in that year and has ever since been engaged in his favourite pursuits. As a Vice-President of the Linnæan Society he was often chairman of its meetings, and, until within a very recent date, was in better health and spirits than when we first knew him some fifteen years since. He then pointed out the grave he had prepared for himself close to the all-graceful specimen of *Amherstia nobilis*, which he had been the first to plant in the Calcutta Garden. That resting place may now find another occupant; but we hope that the East India Company will cause a monument to be erected to his memory in that garden, for it will be a worthy accompaniment to those which already are placed there as records of Kyd, Roxburgh, and Griffiths.

LAST week we promised some notes relative to the exhibition of *young Geese*, and we have been led to the subject by two almost precisely similar occurrences—three young Ganders being shown instead of one with two Geese, which the rules of the two Societies (Leeds and Winchester) required. Those at Leeds obtained the first prize in December last, but those at Winchester were not rewarded. Both pens were sold, and the uniformity of sex was not discovered until this spring, and the breeding season, consequently, has been lost.

To prevent disappointment from such errors in future, we think that the Committees of Poultry Shows will act wisely in requiring three Goslings, without stipulating anything about their sex. If the committee do so stipulate, and the birds gain a prize, then they as well as the judges pledge themselves to a certain extent that the sexes are correctly assigned. We do not think that the exhibitor is involved in the proceeding. He exercises his best judgment to attain correctness, and he can do no more. He so exercises it, because he, of course, wishes to avoid the risk of his pen being disqualified, and when the judges have acquiesced with his opinion, we think that no after discoveries, however provoking and regretted, should be allowed to disturb the award. If it could be so disturbed we think no one would exhibit young Geese, and we so think, because we believe that no breeder of them would pledge his word that the sexes were certainly as he believed them to be.

In corroboration of our view of the case, we quote the following from "The Poultry Book," p. 271:—"The curled feathers in the tail of the Drake are a ready indication of his sex, even if the colour were un-

certain; but we have no such tests with Geese. The carriage of the *old Gander* signifies his masculine gender; and the rise and fall of the bony enlargement of the windpipe (so curious a distinctive feature among the anatiðæ), is another mark for his recognition. But with young birds it is often difficult to speak positively, the closest inspection at an early age being frequently unsatisfactory. The protrusion of the enlargement of the windpipe, which is seen below the feathers of the throat, has been first noticed by us in the young male bird when shouting forth his harsh notes of exultation at the appearance of his juvenile family. On this account judges at the Poultry Shows often find a difficulty in satisfying themselves that Ganders and Geese are in the right proportion in the pens for birds of the year."

To the purchasers of young Geese we can only say, take the advice of the best judges as to the correctness of the sexhood alleged, and if you find them uncertain in their opinion, which is usually the case, then, whilst it teaches you not to judge harshly of the exhibitor if he has been mistaken, it may also suggest the wise precaution of stipulating with the seller that he shall exchange birds of the desired sex for those which may prove to be of the opposite.

WE are making rapid advances towards uniformity in the regulations and management of our Poultry Shows; and greatly is it to be desired that the classification of the birds themselves should receive similar treatment at the hand of those in authority.

We are led to this remark by the recently issued schedule of *the Amateur Poultry Society of Dublin*, where the rules, in all important respects, are identical with those in use at Birmingham; a guide that has been generally and wisely followed. But when we come to examine the several classes, we cannot but regret the wide departure there manifest from the principles of that and the other great English Exhibitions. We allude, especially, to the arrangements for what we are now accustomed to term "*Hamburgh fowls*." Instead of finding these entered as "*Pencilled*" or "*Spangled*," with a further subdivision as to their respective colours, "gold or silver;" we have "*Dutch Pencilled fowls (Bolton Greys)*; *Dutch Pencilled fowls (Bolton Bays)*; *Pheasant fowl (Golden)*; *Pheasant fowl (Silver)*;" and amongst the fowl with crests, "*White-crested Red fowl (Hamburgh)*." Now, we readily grant that the "*Pencilled*" are, probably, the only variety of Hamburghs, as that term is now commonly understood, of Dutch origin; the Spangled having every evidence of being an English-breed; but to designate these last as "*Pheasant fowl*," is to adopt a system of nomenclature most liable to erroneous construction, and than which any of the other synonyms "*Moonies*," &c., would be most preferable. The "*tufted Hamburghs*," again, we have never been able to distinguish from Polish fowls, though well aware how fondly Irish breeders have clung to this appellation. Societies in

this country might have justified the adoption of an arrangement so generally acquiesced in, and avoided the confusion necessarily consequent on the present schedule. Saving this point, the Dublin prize-list calls for most favourable mention; the distinction is there mainly drawn between fowls with "combs," and those with "crests." Among the former, we have separate classes for the single and rose-combed Dorkings, with the "Brahma Pootras," in their correct position as "Grey Shanghaes." The fowls of "any other distinct breed" are not mentioned, but "Persian or tailless," and the "Frizzled" are separately invited; we should, however, have preferred the class as it usually stands. In "Bantams" there is a wise distinction drawn, and which will avoid much discussion, by placing the "clear-legged assorted colours" apart from the "feather-legged assorted colours." The "Irish Cuckoo" we presume to be the common Cuckoo fowl of this country, which, in its best form, is simply a "Cuckoo Dorking" with all the characteristics of that family.

Among the "fowls with crests," we notice classes forty-four and forty-five for "black-crested White fowl." Is there, then, any clue to that great and long-sought desideratum of the poultry-yard, the "Black-crested White Poland?" Sincerely shall we offer our congratulations to the fortunate owner who exhibits, and the Society which is the medium of the re-introduction of the bird that shall truly answer to this description.

In Pigeons, we notice the singular absence of Jacobins, with some others of less note, which are usually, however, specified in the prize-list; these birds, moreover, should always have a prize, or prizes, for "any other variety," many specimens of high excellence frequently appearing under this head.

The 5th, 6th, and 7th of December next are the days appointed for this Exhibition.

The locality selected for a Poultry Show is always an important element in its financial success. We offer our congratulations, therefore, to the *Devon and Cornwall Society*, to whom the permission has been accorded of occupying, for this purpose, the beautiful grounds of Antony, the seat of W. H. Pole Carew, Esq., on the Tamar, near Plymouth. To make the most of such an advantage, the season of the year, in other respects most suitable, must yield precedence to the summer months; and if the older birds will fail to do themselves full justice in June, a far greater number of persons will probably be disposed to avail themselves of the exhibition, and thus both contribute to the funds, and themselves benefit by the efforts of the Society.

There are but few points requiring comment in this schedule, which announces the 27th and 28th of June next as appointed for the Exhibition.

The so-called "Brahma Pootras," we are glad to find, receive no honour at the hands of this Association, not being alluded to either specially, or finding admission in a class for "any other variety." The latter, however,

we should always consider as an useful portion of every Poultry Show. The Game Fowls are enumerated as "Red," "Grey," and "any other named variety." The fourth Poland Class, wisely introduced, is for "white or buff;" this we should have advised to have been more extensive, so as to include the "black" and some others, which have clearly as good a claim to be considered distinct varieties as those there specially named. Pigeons are somewhat restricted; but this is compensated by power being given to the Judges to award prizes to any specimens not mentioned in the list.

The rules, local details alone excepted, are framed after the Birmingham model.

ADVICE TO SMALL HOLDERS.

ROTATION SCHEMES.—It is a notorious and well-ascertained fact, that it is by no means expedient to continue the same kind of crop on the same plot for many years. I do not say that some kinds will not succeed; such a position can scarcely be maintained, inasmuch, as even in the matter of Onions, a garden vegetable, I have known cottagers and farmers in this county grow these on the same bed, or beds, for some twenty years or more, as a matter of choice. But I never could obtain a reason for this proceeding, except that they succeeded on that spot. Such arguments, or rather whims, may not, however, be permitted to dictate cropping schemes in these times. The deductions of science have long since proved that plants differ somewhat in both the character and the amount of certain qualities derivable from the soil, and that the long-continuation of one kind of crop from a given plot, must, of necessity, have a tendency to reduce or dissipate certain qualities, whether of an organic or mineral character.

Besides this, however, the character of the tillage has, perforce, an influence on the mechanical character of the soil; one crop tends to solidify and close the portions of soil; another, to divide and air them: this is a consideration of no trifling importance.

A knowledge, therefore, of rotation cropping, together with a just appreciation of the benefits derivable from a judicious course of the same, constitutes one of the main features in the much-improved condition of agriculture at the present day.

We have not space here, neither is it desirable, to expatiate on the whys and wherefores of this wide and interesting question; our business must be rather to direct attention to a few salient points, bearing more immediately on the owner of a Cow or two, with some Pigs; for with such an object we set out.

And now a slight difficulty presents itself in the outset. All our readers, I am assured, are not confined to one Cow or two, some may keep half-a-dozen. I name Cows, because I consider the case in hand must have special reference to Cow-keeping; not that every body keeps Cows, but that the majority as to the case in hand do, and that, as a good system of manure-making is indispensable to high culture, so he that can keep the most stock on a given quantity of land, other matters being right, must, of necessity, prove the better farmer. It is, confessedly, not easy to understand how Cows can be most profitably kept without the adjunct of Pigs, or *vice versa*, how swine can be made a profitable speculation without occasional assistance from the dairy.

As to the manure question, nobody esteems Messrs. Gibbs' Peruvian Guano more than myself, but it is too costly in these times to play with; moreover, after all, muck can do what Guano never can; it can furnish

what is called organic texture to the soil, a matter of infinite importance to hard-worked land.

Thus then, I think, stands the case; and now I may, before I wind up this subject, which has, probably, already engrossed too much of the time of our readers, just point to a few useful maxims in modern practice.

Supposing that persons keeping two or three Cows, a proportionate number of Pigs, and, of course, holding from six to ten acres of land, how are they to apportion it? It must first be understood, that as soil differs, so may the crops and rotation; then, as to root-crops—Mr. A. has land peculiarly adapted to Carrots; by all means, then, let him keep a sharp eye on their culture. Mr. B. has a deep, mellow, loamy soil, adapted to Mangold, Swedes, &c.; his course is plain. Mr. C. has a chalky loam, a Parsnip soil; what can beat heavy crops of Parsnips? But even with all this adaptability, the soil will tire of repetition, and it becomes expedient to resort to other things as a change.

In looking over the candidates in the shape of Roots, Vegetables, Hay, Pasture, and Seeds, we may see that with reference to a sort of gardening mode of handling farming subjects, the roots must, of necessity, occupy a very prominent situation. However, since good hay and good pasturage are valuable articles, not only in themselves, but as contributing to that kind of rotation which restores a fibrous texture to the soil, we must not allow ourselves, I conceive, in a six to ten acre plot, to leave them out for a more market-gardening view of the question. The fact is, setting aside bias, it becomes a duty with those who attempt to guide the inexperienced in such matters to offer advice suitable to the position of the majority.

The crops which may find a place in such holdings as I have taken for my theme may be classified under the heads—exhausters, restorers, and improvers. This, I am aware, will appear an arbitrary and cramped view of such matters to our extensive farmers; but admitting that the classification is somewhat arbitrary, and convened for a special purpose, I must beg to submit it as suitable to the case in hand. As exhausters, I would name most of the Cabbage-worts, or *Brassica* family; all Peas, Beans, or other plants, grown for their seed, especially if ripened on the plant; and, lastly, we may point to the exhaustion occasioned by root-crops, as Mangold, Carrots, Swedes, &c., especially if merely a coaxed crop by means of a light amount of stimulating artificial manures. When, however, such crops are produced by the use of liberal applications of farm-yard manures, containing, of course, much organic matter, the case becomes widely different; our old farmers will tell you, that Wheat, on such lands, will be too "proud," will "go down," in an awkward summer; thus pointing at once to the power imparted to the soil by the application of organic manures, in conjunction with high cultural processes. I leave what are called, technically, "white crops," grain crops, or the cereals, out of our present case; for in these days of corn-law repeal, however much the effects of such changes in society may be warped or modified by a grievous war throwing everything into a false position, I do think that our five to ten acre men have no occasion to trouble themselves about growing grain, more particularly if they be near capital markets, or close to a good railway station. If a man, keeping two or three cows, sundry pigs, &c., can manage to produce all his hay, it will be well; he had best accomplish this, I think, before talking about grain crops; especially as the production of good hay necessarily implies a system of progressive improvement to the soil, if due attention be paid to cultural affairs. I will, therefore, at once dismiss all consideration of those rotation schemes, which are the common practice of our farmers on a large scale, and proceed to advise on the foregoing suggestions

Be the soil ever so stiff, we cannot afford to talk of fallows in this case; we must have it so drained to commence with, and so aired and humbled by cultural processes, as to be nearly always at work—winter and summer. I think, then, that for general purposes, whatever number of acres the little farm contains, it may be employed in hay, pasture or grass, roots, and vegetables—all kept distinct, and following in regular rotation. Thus, suppose a plot of seven acres:—

Hay	...	...	...	...	2
Seeds, or ley	...	...	...	...	2
Roots	...	...	...	...	1
Vegetables and green cutting	...	...	...	...	1
A home paddock	...	...	...	...	1
Statute acres					7

As to rotation—Roots might follow the breaking-up of hay-ground, vegetables, green cutting, &c.; next, those sowed down with good grasses, &c. If any grain crop were introduced, I think that Oats will be found the most eligible, for two reasons; one, that Oat straw is capital fodder for ordinary winter work; the other, that Wheat would occupy the ground too long, especially if autumn-sown. As for Barley, I would not by any means choose this. I do think, that where only one white or grain crop forms part of a rotation where the prime object is to support as much stock as the land can be made to carry, that the very straw of that crop should be capable of forming part of the diet.

But here a question arises—How is the stock to be bedded? Everybody knows that it is difficult to produce bulky manure-heaps without litter of some kind. And, indeed, this is one of the most puzzling questions connected with stock keeping, especially on plots where grain culture forms the exception. It will seldom pay well to buy straw to litter down with. However, I will say more of this shortly.

Let us review the rotations alluded to, and see the policy of them. I do think that two acres out of seven should be allotted to hay, producing, let us suppose, three tons—a fair computation; this, with an acre of good root-crops, and the produce (chiefly green food) from vegetable culture, with occasionally patches of Vetches, with Rye, and such things, &c., ought to keep three or four cows, or a couple of cows and a pony, or horse, if required, and, of course, several pigs—with, it may be, a breeding sow. The hay ground, when ploughed or dug, should be cropped down close in the aftermath by the end of October, and the turf then immediately broken up to become mellowed for spring operations. After thorough working in March, some prepared manure might be introduced during a good period, and this manure might receive a good dressing of soot, with a little Peruvian Guano, just before being turned and divided in the dunghill. Such a compost, adding all the burnt ashes you can lay hands on blended with it, applied in the drills, and immediately covered, would produce first-rate root-crops. These root-crops would leave their division in excellent order for what I have termed "Vegetable cropping," and would set that division at liberty during the end of October and into November, at which time it would become necessary to commence operations having reference to early produce in the coming spring. This vegetable division, as I have observed, might in part be appropriated to what is termed "cutting." Rye and Vetches might be sown, on a portion from which (as Onions or Carrots) could be removed easily in October. Thus Rye and Vetches would be ankle-deep in April.

Now many other rotation schemes may be found equally good, some, perhaps, better; for, indeed, the mode of scheming rotations must ever be influenced less or more by the character of the soil and the designs of

the holder; some may prefer to grow both roots and other crops for marketing purposes.

I am not assured that I have quite exhausted the subject with which I set out, but, perhaps, I may have exhausted the patience of our readers; be that as it may, I have reserved a margin for afterthought, or for anything omitted necessary to the subject.

ROBERT ERRINGTON.

PLANTING BEDS AND BORDERS.

Now that we are just ready to plant out the "bedding plants," let us say a few words about the way we "used to do it." What used to be, and what we used to do, are two of the strongest excuses which prejudice, or laziness, or want of forethought, can lay hold on, when found out to be in the wrong box. But in England, at least, we gardeners were all in the wrong box this spring, and we may be so again, if we do not take more heed to the times, and keep our weather eye more open.

April began, *with us*, this year, about the end of the first week in January, and lasted six weeks; after that, as in other years, May came on all through the month of March, and lasted to the middle of April, when June arrived, as a regular June ought to do, hot and broiling. By that time the Vines on the open walls were in full leaf, and some of the top shoots were a foot long, but the weather wheel was suddenly reversed, and the second week in June was turned back into the "borrowing days" of March, and our Vine-shoots were blackened and destroyed in one night, after all our talk and contrivances for covering half-hardy things. The like may happen again, ere long; and if so, he who first plants his beds may not be the first to have them first in bloom, and worth looking at.

On the 6th of May, 1831, I slept at the White Hart, in Bath, and next day all the Oaks, Walnuts, and some other trees looked as black as "Topsey," from the frost of the previous night, in that warm part of the country. Ten days after that, I called at the Deepdene, near Dorking, in Surrey, and there I found a bed of Heliotropes, a bed of the old Scarlet variegated Geraniums, and eight or nine other beds of *bedding plants*, were destroyed by that frost. The bedding system was then in its infancy, and they might be excused for planting out too soon, but now we have no excuse on that score, save that some of us, perhaps, *used to do it* at such and such times.

My own day for beginning the work used to be the 10th of May, unless it happened to be Sunday, and all that was allowed, by the laws of propagation, to be planted on that day, were the different kinds of *shrubby Calceolarias*, and of them only the old plants which were housed from year to year, on purpose for filling up the centre of their beds; the value of a couple of rows all round the outside of the Calceolaria beds were left unplanted for a week later, and then young plants from last autumn cuttings were put in to bring down the bloom to the grass or gravel. A bed that is more than four feet across the narrowest part, and is above seven or eight feet long, should never be planted with pot-plants, all of the same size, except, perhaps, *Verbenas* and *Petunias*, because, if they are of one size, one of two things must happen, the plants, or rather the whole surface of the plants, must be low, and much lower than they need be, or if they are tall, and all of a size, you may have the sides closely leaved down to the grass, but you cannot have flowers so low as that. Some think it cleverly done if the earth in the beds is all covered by the leaves, but unless there are flowers in all the parts, making the bed equally rich throughout, and all round, it is not up to the present high standard of furnishing.

Petunias, *Verbenas*, and all trailing plants, on the

other hand, may be of one size all over a bed at planting time, for in their growth or progress they fill up the open spaces, and flower down to the edges of the beds.

Geranium beds are not so difficult to manage as Calceolaria beds, because old Geraniums, for the centre, are more bushy, generally not so tall as old Calceolarias, and always less leggy; still we keep the lowest plants of them also for filling the outside. Now, practically speaking, there is very little gained, and a great deal is risked, by planting very young Geraniums, or very young Calceolarias, the same day as the old plants. As long as the planting of a garden is in progress, there is little room for criticising this or that bed for not being quite full at once. You have only to take possession of your beds first with the old plants, to show the law is in your own hands, and it only amounts to a matter of convenience whether you fill them at once or not. Old practitioners take advantage of these clauses to get rid of their hardiest and oldest plants as soon as it is safe to trust them out, so as to get pots and pot room for the younger stock, which they do not think would be safe yet in the open beds. On the contrary, young beginners are more anxious to be in the fashion than to be on the safe side of the question. They hear and read of the great ones having begun their planting-out, but hear what they may, I am quite sure they seldom read about the whole story as it is in actual practice; that practice is what I have just stated, in nine places out of ten, of our first-class gardens; hence, it follows, that to plant many of your beds off hand at once, so as to be in the fashion, as you take it to be, you are just flying in the face of the best fashion in the world; namely, a fashion forced upon us by necessity, and for the safety of our plants.

The distances at which the different bedding plants ought to be apart is often asked by new beginners, but that question can never be answered properly, so much depends on the weather, the richness of the beds, the situation and the size of the plants. As in sowing seeds, it is best to be on the safe side by sowing or planting as thick as one can afford to do; we can always thin out. The best answer that I can give must be gathered from the following directions:—*Tom Thumbs*, and all other *Scarlet Geraniums* of stronger growth, should not be more than nine inches apart, leaf from leaf, *not plant from plant*, and all *Scarlets* of less growth, from four to six inches between the outside leaves of one to the nearest leaf of the next plant; *Baron Hugel* would be wide apart at six inches; *Grossulariaefolia*, *Golden Chain*, and *Lady Caroline*, would be far enough apart at four inches; *Lady Plymouth* (the variegated Oak-leaf or *Graccolens*) and *Dandy*, the same; *Diadematum* and *Quercifolium*, six inches apart; *Lady Mary Fox*, *Splenii*, *Rouge et Noir*, and all the varieties of *Jehu*, including the best of them, *Sir William Middleton*, might be nine inches, leaf from leaf; *Touchstone* the same. All these are among the very best bedders.

In *Verbenas*, we might plant such as *Robinson's Defiance*, *Emma*, and *Beauty Supreme*, so that the extreme point of one plant did not come within a foot of the nearest part of the one next to it, while *Miller's Favourite*, and most of the *Melindris* breed, would be too wide at seven or eight inches. All the *Verbenas* ought to be tied down to the surface, so to speak, as soon as they are planted; doubling small strips of matting round their shoots, and fastening the ends of the matting in the earth, is still the simplest, cheapest, and safest way; a handful of such matting, four inches long, and divided as much as one can, will go a very long way indeed in tying down all sorts of plants.

Petunias, of all sorts, ought by all means to be so tied the moment they are in the ground, as no plant is more liable to get knocked over by the least puff of wind than a *Petunia*. *Shrubland White* is the very best

bedder of all white Petunias; it is very strong, and may be planted as widely as *Robinson's Defiance* Verbena; *Shrubland Rose* is the best of that colour, but it is of tender constitution, or at least does not go off very freely at first, so it is to be planted rather close. There is no end to the plain, dark purple Petunias, nor to the varied coloured ones, but of them I do not know any better than those I named last July, from the Duke of Devonshire's garden, and from the garden of the Horticultural Society.

None of the little blue *Lobelias* require pegging down; *Ramosoides* is the best of them, and it may be planted rather loose, or say, little plants of it six inches apart, centre from centre, and larger plants wider in proportion; the best seedlings of *Lobelia erinus* might stand six inches apart also.

The *Double American Groundsel* requires tying down if the plants are of any length, and so must all the *Anagallis*. Old plants of *Calceolaria amplexicaulis* ought to be tied down, or else the longer shoots to be docked in; this is the only *Calceolaria* that I would train down; all the other kinds do as well, or better, if they are staked upright, that is, supposing the plants are big enough to require it. *Salvia patens* ought to be planted thickly, and it is better to stop the first, second, and third shoots from it, than to train it down as some people do. *Salvia chamadrioides* ought to be as long in the shoots as one can get them, and they would not be too thick if the branches were trained on the surface only an inch apart.

Saponaria calabrica, the best of the pink, and the very pink of all the annuals, ought to be raised in the reserve garden, be now planted on a rich, light, south border, and not to be finally planted till after Midsummer, and then at six inches apart each way, centre from centre; by doing it that way another annual might be flowered in the same bed, or it is an excellent thing to plant in just now, at once, between spring bulbs that are not to be disturbed, or it may be sown in the spot where it is to flower.

This is the latest week, or, at least, not later than the middle of next week, when the last *China Asters* should be sown out-of-doors, in the back grounds, for coming in to fill up rows and vacant spaces in the autumn. These will come in most useful next September, and as they may be transplanted after the flowers are open, no one ought to be without lots of them from this late sowing. Another sowing, next week, of *Lobelia ramosus*, will flower to the last week in September; *Coveopsis Drummondii*, ditto, but it would flower on till far into October, if the weather is dry, and this, also, is the latest season for sowing the most useful *Taygetes tenuifolia*, alias *signata*, and it should be in poor soil throughout.

A NEW BEDDER.—A friend of mine has just got a wonderful new cross seedling Geranium, a most curious variegation in the leaf, such as none of us have ever thought of before. The whole story is too long for my paper to-day, but the plant is to be exhibited at one or other of our great London shows this season. They say it will make me "claw my head when I see it," and exclaim, "What an acquisition." White, crimson, dark, and green, in the way of horse-shoe, in one leaf!

D. BEATON.

FAILURES.

A BATCH of odds and ends still remaining, and likely to be interesting to more than one party, I toss them up, and take them as they come.

CAMELLIAS AND ORANGES BLOTCHED.

"My Camellias and Oranges are all blotched with brown and blackish spots on the leaves, and look miserable; How can I recover them?" Just by growing

them well, and thus ripening and getting rid of the old leaves; for this purpose, a little shade, and ten degrees more heat than the greenhouse requires, will be an advantage. If the young leaves produced this spring are thus injured they may not get over it at all for the whole season. If the old hard leaves have thus been burned or parboiled, the extra stimulus given to growth will cause them to ripen and drop. The cause of the evil is too full exposure to light, deficiency of air, and the centering of the sun's rays, by foci, or nodules in the glass. These concentrated rays are often quite harmless to plants with small foliage, or to those with foliage very soft and pliant, but which burn at once when they meet the firm leathery substance of a Camellia or an Orange. It is advisable, and especially if the house is glazed with sheet glass, to hunt for these burning warp places; and if economy is an object, and you would rather keep your present glass than replace it by other, which may serve you a similar trick, then just daub the places on the glass with a little thin paint; and if that should be deemed unsightly, use a little double size, in which a small quantity of oil and turpentine has been incorporated, and though scarcely discernable when daubed on thin, it will prevent the burning and blotching. If a person had more leisure than falls generally to the lot of gardeners, the watching of these phenomena produced at times by the nodules, and scratches and points in glass, would form no bad introduction to the science of optics.

PLANTS DOING BADLY WHEN SHIFTED.

"So long as I keep my plants in the greenhouse, or pit, they look healthy and well, but when I shift my greenhouse plants, they often suffer so much for a long time afterwards, that I often prefer to have miniature specimens in small pots; and then my bedding plants, which you say ought to be hardened-off before turning out in the open ground, get so miserable-looking during the process, that the hardening-off is almost synonymous with me to killing-off. How is this?" Aye, that is it; but how are we to know, unless you tell us all about the plans and usages you adopt? Suppose I give the memory and observation bumps a tickle, and have a guess at it.

Now, first, as to greenhouse plants, I will mention a few cases, and very likely you will find your own among them. There is a youth potting plants with an activity and a seeming tact enough to do your heart good to look at him. But go nearer to him, and though you find pots all well drained, and soil just what it should be, you will notice that each plant is just as dry as can be to prevent it flagging. The ball has also been much pot-bound, as your small pots are likely to be; and in turning the balls out the best roots are frequently injured. The disentangling of the roots would have interfered with the dispatch you admired, and, therefore, in goes the dry hard ball into the fresh pot, to be surrounded with the new mellow soil. What is likely to take place before the roots can penetrate that soil, likely itself to become unduly sodden, while the ball containing the mass of roots remains as dry as when it was inserted, the moisture passing away all round it, but never getting into it?

Again, here is a man resolving that he will succeed, aware of the importance of having the ball of his plant rather wet than dry, just in that happy condition in which a well-drained plant will be found several hours after being thoroughly watered; but he is given to extremes, and one time uses soil that you could almost squeeze the water out of it, and at another time so dry, that no pressure would make it cling together; and he wonders that his plants do not thrive, when, in the one case, the soil is as impervious to air, rather more so than a brick would be; and in the other, it is next to

impossible to get the whole thoroughly moistened unless you give it a tub of water to stand in for a couple of hours or more, according to the size of the pot?

Then, there is a third, who manages plants very well, so long as they are under the roof of his greenhouse, or pit, but cannot be brought to see how extremes of temperature, and light, and moisture in the atmosphere and at the roots affect them. That they are organised, living existences, with perspiring and respiring functions, almost as sensitive as his own, is only a pretty theory for boarding-school misses! He laughed outright, and considered it a capital coarse joke, when I spoke of teaching certain folks the importance of this, by whipping them out of bed, and placing them, without any habiliments, in a clear, frosty air, with the pensive, cold moon, telling them to shiver, and be wiser in future! And yet, what would be considered insanity were we to practise it on ourselves, or attempt to do it to others, is perpetrated every day upon plants, without a shade of a feeling of compunction. For instance—it would be an easy matter to shift a few plants in a greenhouse, or take two or three out to a cold shed, getting them in again as soon as shifted; but that is a peddling way of doing things; there is nothing grandly-comprehensive, or largely-systematic about it—and forthwith, all the plants that are demanding more pot-room are collected in the potting-shed; and, however great the changes to which they are subjected, there they remain until each and every one of them have received their fresh pots, that there may be no difficulty in properly arranging them on the shelves, and doing all that is necessary at once. Our friend has heard of airing soil for potting—of getting it at an early season warmed, either by the sun or otherwise, that the young roots may receive not the smallest chill; but he magnanimously prefers, even on a chilly day, going to, and cutting soil from, his compost-heap at once; looking upon all such extreme fuss and care as bordering upon, and analogous to, the quackery of some of our elder, though successful, florists, whose composts were made up of an almost unlimited number of ingredients, and many of these so infinitesimally small in quantity as would quite chime in with the ideas of our modern homœopathists.

Then, though he has heard and seen enough of the ease of having water in winter and spring, when applied to the roots of plants rather warmer than the atmosphere in which they are generally placed, he has been so much in the habit of drinking cold liquids himself, on the principle that if there was any strength in them they would warm themselves and him too afterwards, that as soon as one of these potted plants, when standing in the shed, even shows a feeling of languor or drooping, down comes a refresher to them in a deluge of water a little removed from freezing point; and after all this, when the plants afterwards stand still, get diseased, covered with insects, and one set of leaves turn yellow and blotched after another, there is a world of questions sent to gardening periodicals, to get a solution of the enigma; the last part being the best of the whole, so far as we scribblers are concerned.

Then, as a fourth case, and a companion to the last, there are little errors committed as to the *position* and *circumstances* which plants should have at different periods of their growth. So much is this case, that the most successful in gardening will, generally, be not so much those with large means and conveniences, as those who, by earnest study, have got into the knack, as it were, of almost intuitively giving their plants the very position they require. Let us give one instance of this, bearing upon the present question of failure.

Here are a number of plants taken out of a greenhouse on this second day of May, to be shifted and taken

back again. The plants have been enjoying plenty of air, and as much sunlight as chooses to come. They are replaced again, and receive just similar treatment. They show, sometimes, a little flagging and languor; but the only surprise is that they want watering, with all this additional pot room, more frequently than before, and they get it; and by-and-by, after several serious misgivings, they fill their pots and get on well. Another man shifts plants the same day. He has done everything implied in these previous remarks, as to proper moisture in the old ball, suitable condition of soil, &c., avoiding extremes of temperature. He knows, that however carefully performed, the shifting of a plant from one pot to another always involves less or more of a check, and his first care is to mitigate or counteract it. He knows that a closish, warmish, moistish atmosphere promotes elongation downwards and upwards, and his first care is to secure fresh rooting and growth for his shifted plant. If he cannot place his plants in a pit where he can, for a week or two, give them these accessories, he places them together in a part of the greenhouse, where, by removing the air in their vicinity, he can keep them closer than before. He waters, of course, but before the roots begin to enter freely into the new soil, and if a sudden burst of sunshine should cause the plants to look distressed, he does not fresh soak the soil, when he knows it is wet enough already, but he lessens the evaporation of moisture from the foliage and stems by just *dew*ing them all over from a syringe; and if even with this, frequently repeated, there should still be the smallest signal of distress, then, through some of the hottest and sunshining hours, he takes means for giving his plants a slight shade. By this means the roots will soon interlace the fresh soil; no, or little, check will be given; and ere long, these potted plants, gradually inured to it, will flourish in the usual temperature and atmosphere of the house. All this, it is true, involves thought and consideration; but these, and not *lucky* hits, are generally the attendants of success in all departments of knowledge.

The same remarks apply to bedding plants. They must be exposed to no sudden extremes. If plants do not show it at once they are sure to feel it, and whenever a severe check is given there is a great and needless demand made at the vital powers to surmount it. Some time ago, I saw a number of plants next to destroyed from being removed from a warm pit; the sun having shone upon them for a couple of hours without ever being thought about. Had they been shaded, had they been removed in dull, warm weather, they would have sustained no injury. No possible directions in these matters can make up for want of thought. In the dog-day weather, which April lately presented us with, the water from an open fountain was warm enough for the generality of plants even a little tender. What would you think of a person, who ought to know better, going, as a mere matter of routine, to the same receptacle after one of these frosty nights that carried such dismay among our fruit gardens, and watering with that cold water his tender annuals in hotbeds? Success greatly depends on never allowing a check to be felt. I never go into a shed, and see some dozens of pots of cuttings hanging their languishing heads, without a fit of the shivers, and a wish that the poor things were placed in their suitable quarters. I engross every word that Mr. Beaton has said about the giving away of cuttings. I should have a difficulty in deciding whether I had more pleasure in giving or getting. But when a person solicits a cutting, and then acts toward it as if it was a piece of dried hay or straw, trusting to some roundabout method of reviving it when he gets home, then, I confess, that I feel it would have been better to have saved me and himself the unnecessary trouble, as such cuttings seldom find themselves changed into healthy plants.

SCORCHING LEAVES ON A BACK SHELF.

"I keep my house scrupulously clean, generally whitewash the back wall twice a-year. On this back wall, within 30 inches of the apex of this lean-to house, I have a broad shelf, which I use for bringing on some of my favourite plants in winter and spring, and on which I place boxes for Cucumbers, about April, as I like to see the fruit hanging over the path. Now, when the sun gains power, the leaves of Cinerarias, Geraniums, Fuchsias, &c., get scalded and shrivelled, and though the mass of the foliage of the Cucumbers is all right, I can scarcely ever get a leaf to remain unburned near the boxes. Can you suggest any remedy for such an unpleasant state of things?" Yes, and with much pleasure. Not few have been caught in a similar manner during the sunshine of this last April. In my younger days, I was as partial to a nice white wall in a lean-to house as ever a young girl rejoiced in a white frock and a pink or blue ribbon at Midsummer. If there was nothing growing near the apex of the wall, no harm would be done; only, when very white, every spot showed itself. On this account, I gradually fell in love with a dark stone-colour in preference to white. For plants situated on such a shelf as described above, that surly fellow, experience, has forced me to have a shade darker still. In an emergency, I have frequently been compelled to pass a brush, loaded with soot-water, over such a place, to prevent the burning. In a cool house, with sliding sashes, there will be less danger in such circumstances from a white wall, because the opening of the sashes will allow the reflected heat to escape. In a forcing house, or greenhouse, without such a shelf, the white wall would be an advantage, as the heat and light would be reflected into the house, and thus more light would be obtained by the plants than if the wall was of a dark colour, the more especially if there were openings for the rays to pass from the roof-sashes and to fall against the wall. When there is no obstruction to the light, little air given, and the wall white above such a shelf, burning in a sunny day will take place almost to a certainty; and this just because the heat and light are reflected from a white surface, while they are absorbed by a dark one. A dark colour, in such circumstances, will yield another advantage, namely, a more equal temperature, for the heat being absorbed in sunshine during the day, will be radiated back again whenever the atmosphere of the house becomes colder than the wall.

OXALIS BOWIEI GROWING TOO LUXURIANTLY.

"The plants have died down some weeks ago; have been taken out of the pots, placed in paper bags; when should they be replanted to flower in the autumn? Whether will they do best in an open border or in the greenhouse?" I have never tried keeping the little bulbs in paper bags. I frequently leave them in the pots; if not left there, and kept in a warmish, dry place, they are taken out when the foliage has been sometime withered, and placed in shallow pans, and covered with sand or earth. When the roots push from one-half to a whole inch in length, pot them into a mixture of peat and loam, well drained with a little leaf-mould, or rotten cow-dung, to enrich it, and a little silver sand and charcoal to lighten it. Five or six good roots would be required for a six-inch pot, and eight or nine for a twelve-inch pot, if a large mass is desirable. The bulbs should be covered half-an-inch or more if deemed necessary, as the stems of leaves will rise easily enough. I have had five masses in twelve-inch pots, from five roots. I cannot recommend out-door treatment from my own experience, as a little wet soon spoils them. In some dry, warm, sheltered situations, they do tolerably. I never could do anything with

forcing the bulbs until they were fairly started. They blow beautifully in the later summer, and in the whole of the autumn months, in a Greenhouse. After the middle of November, the opening of the blooms requires a higher temperature than that of a common greenhouse, and even then the plant will be no great thing only in bright sunshiny weather. If the enquirer has only a greenhouse, and the plants are only lately withered, they might have been too late for blooming well. To prevent this, encourage free growth after a start is made.

R. FISH.

HORTICULTURAL SOCIETY'S GARDENS,
CHISWICK.

WE have often to deplore the sad effects of late spring frosts, and I have, in the course of a long life spent in gardening pursuits, seen the hopes of a fine crop of stone fruits, such as Peaches, Nectarines, Apricots, and Plums, destroyed by late frost, but in all my time I never met with such a sudden destructive frost as occurred on the night of the 24th of April last. In my neighbourhood we had eight degrees of frost, that is, the thermometer fell to 24° Fahrenheit. At Chiswick, I was informed it fell to 14°, being 18° below the freezing point.

The weather previous to that had been bright and clear; the nights slightly frosty, but nothing to do any harm. The powerful rays of the sun had brought the Cherry and the Plum in the orchards to a fine show of blossom, but the frost on the night alluded to above has destroyed nearly all the expectations of the fruit growers around us. The young fruit is nearly all turned black, and the small fruit, such as Gooseberries and Currants, are injured so much as to seem as if they had been scalded with hot water. Peas injured, and all Potatoes above ground cut down.

On the 26th of April I had occasion to be at Chiswick, and called at the gardens there for the purpose of seeing how the various trees, shrubs, &c., had borne the winter just passed over, and what I saw there, as well as elsewhere, of the effects of the what I may call the more solid and lasting winter frosts, combined with the effects of the frost on the night in question, induced me to take notes, and now write them, to show how fruit-trees and shrubs have borne the extreme cold to which they have been subjected since November last to the present time. Such records are of importance, inasmuch as they show how necessary it is to be on our constant guard to protect doubtful trees, doubtful as to their perfect hardihood, and also to guard our fruits from late frosts up to the time when the weather is so settled as to render such protection unnecessary.

In the Gardens at Chiswick, the following plants have withstood the severe cold of the past winter, either totally uninjured, or very slightly affected, *Ceanothus rigidus*, *C. dentatus*, *C. varicosus* (syn. *integerrimus*), not in the least injured. *Berberis Darwinii*, *B. Nepalensis*, 3 feet high, in a sheltered corner. *Chusan Palm*, *Crataegus Laxii*, *Paria Californica*, *Myrica Californica*, *Ilex latifolia*, *Spiraea Blumei*, *S. prunifolia pleno* (a mass of bloom), and the new evergreen Plum.

Very much injured are the old *Ceanothus thyrsiflorus*, *Weigelia rosea*, *Glycine sinensis* (tho blooms). In Coniferæ the following are uninjured: *Araucaria imbricata*; some Deodar Cedars, but most of them have had the young spring-made shoots destroyed; *Cryptomeria japonica*, *Cupressus Uldeana* (quite safe); *C. funebris* (safe), *C. thurifera* (slightly touched), *C. macrocarpa* and *C. Gordoniana* (10 ft. high), *Saxe Gottha conspicua*, *Pinus monticola*, as green as possible; *P. Montezuma*, *P. Sabiniana*, *P. tuberculata*, *P. cembraoides*, *P.*

radiata, *P. macrocarpa*, 60 ft. high; *P. Benthamiana* (a young plant, quite safe); *Picea Nordmaniana* (not touched in the least); *P. grandis*, and *P. amabilis*.

Leaves browned: *Pinus Devoniana*, *P. Russelliana*, and *P. Lindleyi*; *P. Hartwegii*, killed down to the ground, but is already springing up again at the base; *Fitzroya patagonica* killed.

On the conservative-walls the casualties are few, though most of the shrubs show more or less the effects of a hard winter. Here I noticed the rare *Glycine sinensis alba* in flower. The blossoms are of the purest white, and are freely produced. Everybody having space on a wall ought to have this beautiful climber.

In the above report it will be seen that the spring-made shoots of the Deodar have suffered from the frost of the 24th; but let not that deteriorate its value. I noted the Lebanon Cedar's shoots had suffered also. In truth, many of the young shoots of the common Spruce Firs are turned quite white and dead, as also the young shoots of common and Portugal Laurels; *Aucuba Japonica*, the young leaves of which were quite black; the hardy *Deutzia scabra* every shoot and blossom killed; and also the shoots on the Walnuts—so that we shall have no Walnuts for pickling this year.

This is a doleful account of the mischief done by frost; and I hear, further north its ill effects are still more disastrous. To turn from this melancholy picture, let us glance at the houses. The first I entered is one without any artificial heat. By an inscription over the entrance we learn that it is a model greenhouse, presented to the Society by the Messrs. Hartley, the great glass-manufacturers at Sunderland, and a nice-looking square-ridge-and-furrow house it is. The borders inside are planted with some of the best kinds of Roses, also presented to the Society, by Messrs. Paul, Mr. Rivers, Messrs. Lane, and others. I noted the following in flower:—*Abbe Meiland*, Tea (deep rose), *Count Bobrinski* (deep crimson), *Madame Guerin* (blush, flesh centre), *Madame Willermoriz* (flesh), *Niphotos* (fine blush, yellow centre, a delightful Rose for a conservatory), *Mirabile*, *Caroline* (blush centre shading to white), *Josephine Malton* (beautiful delicate blush), *Moirè* (large buds), *George Curier* (deep rose, very double), and many others. This house is a desirable one to a lover of the Roses, on account of its protecting the more tender Tea-scented varieties, and requiring no farther expence than the first cost—no fires, smoke, or dust to annoy the owner.

Near to it is the Glass Wall. I noticed the Peaches and Nectarines under its protecting influence are safe; but the Vinos are frost-bitten, as also the Figs. The new *Viburnum suspensum* uninjured, and also the *Metrosideros lanceifolia*, the young shoots of which fine shrub are perfectly healthy. The young tops of the Fuchsias are all cut down by the frost of the 24th, and the Camellias have shared the same fate.

In a part of the garden adjoining to the Glass Wall there are a range or two of glass-covered, span-roofed pits. In these are planted the *Chinese Tree Peonies* sent home by Mr. Fortune. Though these are cold-pits, and have had no covering, the foliage is uninjured; indeed, in the open ground they have not suffered much, proving they are more hardy than was expected. Many of them were in bloom, and are fine varieties. It is a pity they are not easy to propagate.

Just behind these pits there are a stove, a greenhouse, and the Orchid-house. The stove was gay with flowers; the most conspicuous I noted *Indigofera decora* (this fine plant forces well), the *Balsamina latifolia*, and its white variety *Amaryllis*; several fine hybrids, the little neat *Manettia nitida*, covered with bloom; *Adonia versicolor*, *Begonius*, many species; *Franciscus*, *Henfreyia scandens*, *Turnera elegans*, *Euphorbia speciosa*, *Alloplectus speciosus*, a large plant of *Cullostylus* species,

with many heads of yellow flowers, and the now scarce *Gesnera Douglassii*. The roof was covered with a variety of the *Passiflora alata* (Mr. Gordon said it was *Middletoniana*), with hundreds of flowers open, yielding a strong perfume.

The Greenhouse, also, was rich in plants in flower, *Azaleas*, *Chorozemas*, *Eriostemons*, *Ericas*, *Calceolarias*, *Schizanthus*, &c., &c. On the roof was a splendid specimen of the *Tropaeolum Triomphe de Gand*, covered with thousands of its fine scarlet blossoms.

THE ORCHID HOUSE.—Here I found my old acquaintance, the *Phalcnopsis amabilis*, with many spikes of bloom. This species is invaluable, for it is always in bloom when sufficiently strong and established. I met with a stranger in bloom, named *Epidendrum vanderfolium*, foliage broad on stems, two feet high. The spike is produced near the top of the stem, and hung down a foot in length. Each flower is large, sepals and petals whitish-green; lip divided in three broad lobes. Though not brilliant in colour, its large flowers render it a desirable species. *Cattleya Skinnerii* well bloomed, and a curious variety, with flowers highly-coloured, and inclining to be double, the sepals and petals being more than the usual number.

*Oncidium*s were blooming profusely, especially the best variety of *O. ampliatum* and *O. Wentworthianum*. The large and famous plant of *Lelia superbiens* is making a greater number of shoots than ever. Mr. Gordon told me it had bloomed finely during the winter. In a small span-roofed stove, used as a nursery, I saw a new and beautiful plant in bloom—it is called *Sciadocalya Warscewicksii*. The blooms are produced in fours, on stems (clothed with foliage) not more than a foot high. It is evidently a Gesneraceous plant. The flowers are tubular, about an inch-and-a-half long, the border is turned back, and this part is bright yellow, spotted with crimson; the calyx is broad, five parted, and spreading. This is an acquisition to our stove early-flowering plants.

In the large Conservatory I noted several large plants, profusely bloomed, of *Salvia gesneriflora*, one of the best of the tribe for decorative purposes. Also a fine plant of *Candollea tetrandra* covered with its pretty yellow blossoms, and *Lasiopetalum solanaceum*, a large bush with innumerable spikes of white flowers spotted with black. As a conservatory plant this old species is very suitable. Large specimens of *Polygala grandiflora*, and *Dalmaniana* were blooming profusely; also the *Brymansias Knightii*, *sanguinea*, and *flava*. Generally speaking, the plants in this house are very healthy and flourishing.

I had nearly forgotten to mention the Rose *Fortuniana*, the true species. It was in flower; the blooms are sparingly produced, are of a medium size, very double, and pure white. In leaves and wood this Rose bears a considerable affinity to *R. Banksia*, only the flowers are not in bunches.

In a retired part of the ground where the American plants are grown, the soil has been excavated, thrown up in mounds, and rockwork formed with what are called *burs*; these are lumps of bricks that have run together in the kiln. By a little ingenuity in putting them together in large masses with Roman cement, so as to imitate the layers of natural rocks, and then coating them over with thin cement, a very natural looking rock has been effected. This rockwork was quite lively with early flowering Alpines and rock plants, especially *Mysium saxatile*, bright yellow; *Iberis Gibraltica*, clear white; *Aubrietia deltoidea*, blue; and *Phlox setacea*, pink. By planting and arranging these colours in large masses a good show is made at this early season.

In cold-pits there are large stores of new things, such as the Koordistan Oaks, *Viburnums*, *Spiræas*. One, named *Blumei*, has proved quite hardy; and various

other unproved plants. I noticed *Viburnum plicatum*, with many heads of bloom; and a shrub bearing a large pentandrous yellow flower, quite new.

The lawns where the tents are placed on exhibition days have been all taken up, and the ground excavated in places so as to form gentle undulations. Part of the trees have been taken down, and the old scraggy clumps quite removed. This is a great improvement, and gives a fresh character to the place. A broad terrace walk has been made from the entrance gates on the left hand, and on each side of this long broad walk architectural beds have been formed, and all the best new Conifers planted regularly on the grass beyond these beds. This is a great improvement upon the old curving, narrow walk that was in this part formerly. Taking a bird's-eye view of the whole of these interesting gardens, I consider them very creditable to the Society and their managers.

T. APPLEBY.

FLORISTS' FLOWERS.

(Continued from page 77.)

CARNATIONS.—NEW OR SCARCE VARIETIES.

SCARLET BIZARRES.

Coriolanus; a finely-coloured flower, with round rose petals, filled in the centre without confusion.

Oliver Goldsmith; a flower with excellent properties.

CRIMSON BIZARRES.

Black Diamond; the crimson in this flower is very dark, the white clear, and habit good.

General Monk; form excellent; colour evenly laid on; size medium; an excellent show flower.

King of Carnations; new, and very distinct; size large; form excellent.

Magnificent; colour very even; white pure; size very large; a truly noble flower.

PINK AND PURPLE BIZARRES.

Galatea; a good show flower, with excellent properties.

John of Gaunt; very good.

PURPLE FLAKES.

Ascendant; the finest of its class in new varieties; form excellent; colour fine, and very distinct.

Jaques; a noble flower, with distinct stripes.

Rachel; medium size; but in other respects a first-rate flower.

SCARLET FLAKES.

Acanus; very bright scarlet stripes; white clear; form excellent.

Canute; a good show flower.

Cromwell; very fine, size large; colours very distinct.

ROSE FLAKES.

Aglais; a beautiful flower, with the rose stripes broad and distinct; white clear; petals well formed.

Flora's Garland; though an old variety, this is yet one of the best of its class. It is by no means plentiful, being so much sought after; properties most excellent.

Queen Phillipa; this is also a good variety, with excellent show properties.

OLDER VARIETIES.

SCARLET BIZARRES.

Admiral Curzon, Captain Edwards, Gainsborough, Howard, Knostrop Pet, and Lord Rancliffe.

CRIMSON BIZARRES.

Duke of Bedford, Indispensable, Jenny Lind, Lord Milton, Queen Victoria, and South London.

PINK AND PURPLE BIZARRES.

Falconbridge, Prince Albert, Sarah Payne, and Twyford Perfection.

PURPLE FLAKES.

Beauty of Woodhouse, Companion, Great Northern, Mayor of Oldham, Prince Arthur, and Squire Trom.

SCARLET FLAKES.

Eardley Pet, Firebrand, Justice Shallow, Queen Victoria, Standard, and Troubadour.

ROSE FLAKES.

Benedict, Haidee, Lady Gardener, Poor Tom, Princess Royal, Rebecca, and Romeo.

PICOTEES.—NEW OR SCARCE VARIETIES.

RED-EDGED.

Countess Waldegrave; a light-edged flower; white very clear; edging distinct; a good show variety.

Esther; this is a finely-formed flower, with a heavy, clean edge; white pure; and form excellent.

Lady Shadwell; distinct, with a broad red, even edge; petals well formed; centre full; a fine show flower.

Lavinia; form good; edging neither broad nor narrow, but clear and distinct; form good.

PURPLE-EDGED.

Bridesmaid; a light-edged flower, with good properties.

Duke of Devonshire; the best of its class; edge broad and well-defined; size large; an excellent variety.

Haidee; a fine flower; form excellent; colour even on the edge, which is beautifully laid on narrow.

Norah; a light-edged flower; very fine in form, and well filled.

ROSE AND SCARLET-EDGED.

Ariel; an excellent variety, with a narrow, well-defined edge of the brightest colour; white clear; form very fine.

Frances; edge narrow, but clear; white pure; a first-rate formed variety.

Helen; very excellent in form, with a broad, distinct, bright-coloured edge.

Marian; another heavy-edged flower, with good form and substance.

Miss Puxley; edge broad; colour well defined; an excellent show flower.

YELLOW GROUND.

This is a rather new class, with the colour inside the edge, more or less of a pure yellow. There are not many new additions to this class.

Cloth of Gold; a clear yellow ground, form good.

Mount Etna; not very bright in the ground colour; but an excellent flower in other respects.

Queen of Yellows; colour bright; one of the best.

OLDER GOOD VARIETIES.

RED-EDGED.

Bellona, Conspicua, Gem, Guilio Romano, James the Second, Mrs. Norman, and Prince of Wales.

PURPLE-EDGED.

Amazon, Alfred, Diadem, Ganymede, Juliet, Lady H. Moore, Lord Nelson, and Portia.

ROSE AND SCARLET-EDGED.

Countess Howe, Julia, Lamia, Mrs. Barnard, Princess Royal, Queen Victoria, and Rosalind.

YELLOW GROUND.

Euphemia, Gipsy Queen, La Grandeur, Malay Chief, Pride of the Isles, Princess Alice, Queen, and Topaz.

T. APPLEBY.

(To be continued.)

ON CROPPING WALL-BORDERS.

HAVING, at page 24, given some reasons for the frequent failures we so often see in the Peach, I herewith propose to continue the same subject, but in a different light, and shall begin by attacking what I believe to be a much more serious evil than many are aware of—"the close cropping of Peach-tree borders" with various kinds of early vegetables, flowers, and such like; but before doing so, it would be better to glance a little at the Peach, and study its character, its requirements, and, what is not less necessary to know, its dislikes.

In the first place, the preceding chapter would convey much that bears on the native place and constitutional wants of the Peach; flourishing, as it does, under the genial sun of the east, it seems to have been transported to the west with equal advantage; for we hear of our transatlantic cousins feeding pigs with this esteemed fruit, only their notion of what becomes a good well-flavoured Peach runs diametrically opposite to ours, inasmuch as with us the variety called "Clingstones," are not half in the repute with us that they are in America, and, doubtless, both parties may be right, as, in fact, both parties often are in most disputes. However, allowing our friends in the west the full power to choose for themselves, we have a sufficient task in setting forth the evils which we too often inflict on our trees at home by that greedy and injudicious mode of heavily cropping the ground, which we see so often adopted in gardens where almost everything else seemed faultless. The reason, or rather the excuse, for so doing, is certainly one that ought not totally to be disregarded; for the value of a dish of Peas some three or four days earlier than usual, or the production of Potatoes, Cauliflowers, Lettuces, and other eatables, may all have their claims in such a way as to leave some doubt whether they were not to be regarded as the legitimate occupants of the border. However, as these crops are all useful in their way, and, whatever may be said to the contrary, it is certainly proved beyond a doubt that a south border is the place where these things are best preserved through a winter, and brought soonest to a useful state in the spring. The temptation to plant or sow them, then, is such as few gardeners can resist, notwithstanding that all are sensible of the evils they do; and as it is of no use expecting to find a border equally applicable for early vegetables and fruit-trees, when the latter is excluded for the vegetables, for wherever a wall of five feet and upwards exists it is in vain to expect such a wall to remain idle, unless it be one of those primitive ones which defy all attempts to fasten a tree to them; but as few such are to be found attached to gardens, we are led to conclude that all sheltered borders calculated to hasten on or protect vegetable crops, are themselves protected by the wall or building to which we refer. It is true, that now and then, the same effect will be produced by a hedge, but that is not so well, for the roots of that barrier are sad robbers of the adjacent ground. It is, therefore, left for us to do the best we can with the early vegetables and Peach-trees, between which the contest for the sovereignty of the wall-border has been waged for many years.

Whoever has noticed a wall-border where a heavy crop of Peas or Cauliflower has been removed, will easily see the exhausted condition of the soil these greedy feeders have been enjoying themselves in, especially if the season be dry; for in that case they will have been sending their roots downwards in search of food, after exhausting all that is near the surface. The result was, that the border was quite worn out for the time, and, though naturally good, its powers had been taxed to such an extent as to leave it little energy for future exertions, until it had again been renovated, either by exposure to the influences of the atmosphere, or by some extraneous help furnished it from other sources; the latter is the one most in use. A heavy vegetable

crop is removed, and a good manuring is expected to put all to rights again; this, however, is not the case; for it is reasonable to suppose that heavy crop lately removed withdraws more ingredients from the ground than could be immediately supplied to it again by a mere good dunging, useful as the latter may be; but even if it were so, which I by no means admit, the loss the tree has sustained by being so unjustly deprived of its proper nourishment at an important stage of its growth, is such as very often brings on disease, or opens the road to insects, or, in some way or other, paves the way to that unsatisfactory result which we so often witness. Now, in this, and many other cases, a sort of middle course is very often adopted with advantage, and it is this middle course, with some other judicious treatment, that I now advise.

When, as illustrated above, a border has been under crop of Cauliflowers, Lettuces, or Peas, and has been cleared about the end of June or beginning of July, which is about the time such things usually get off, and the weather at the time be dry, it would much assist the struggling tree if the ground was well watered with weak manure-water, forking it at the same time, of course. This watering, or rather applying manure in a liquid state, is more useful than solid dung at this time, for the absence of moisture, at such a season, is a sad drawback to the healthy action of the roots; but cold deluges of spring water are bad, and ought to be modified if possible. The after-culture of the ground is easily attended to, and it is seldom that the same piece is again subjected to such a severe ordeal that season; but, as the object of this paper is to try and moderate the evils resulting from vegetable crops, rather than try and cure what has been done, it is better to turn back to the culture of the year following, and chalk out what it is proper to do, and what to avoid.

As it seems an almost conventional usage to occupy the south wall borders for early vegetables, it is right here to enforce the necessity of their being planted very wide, so as to allow sufficient space for their roots to ramify in all directions without occupying all the ground; a better class of vegetables will be the result, if there be fewer; and the wall-trees will not be so much deprived of the utility of the ground. But, the most important duty of all is to supply the vegetable crop with food while in its growing state, so as to prevent its exhausting the border so much, as well as, in fact, feeding the border too. The process is an exceedingly simple one, yet in its effects satisfactory, and in its application not expensive. Apply, from time to time (as the weather and other circumstances seem to require it), liquid-manure over all the ground the crops occupy—do this with no grudging hand; and, as the crops alluded to are generally all cleared off by the end of June, the length of time this duty is called for is by no means great, while the uses at that important period are such as cannot be commanded by any after-treatment. The rapid growth of all vegetation at that time is such as to require more of those juices with which the earth abounds than at any other season; consequently, to supply the vegetable crop with what they want in the growing months of May and June is calculated to keep their roots near the surface, which systematic watering is sure to do, and, consequently, prevent their doing that harm by absorbing so much from what ought to belong to the Peach-tree roots below. All manure so given ought to be in a liquid state, and it ought to be applied both plentifully and often, and the result will prove more beneficial than many may imagine; for the Peach, as well as some other things, do not at the moment tell the injury they are suffering; unlike a plant in a pot lacking water, its plaintive notes are not so immediately heard, but it is not the less sure to follow for all that.

In conclusion, let me observe, that I do not by any means recommend the planting of vegetables on wall borders; but in so many instances this seems so indispensable, that I have advised the above remedies to an evil which cannot always be averted. I, therefore, strongly urge on all who have such borders suffering from the causes alluded to, to begin at once and correct the mischief. It is true the trees may not seem to take any harm in some places where a good soil and other generous treatment is awarded them, but they are sure to feel it in time, consequently, it is certainly better to make the vegetable crop subservient to the present state of treatment, and leave the ground with as much as possible of its maiden freshness to support the less greedy, but more nice, appetite of the Peach and kindred trees, and I have no doubt but their health and usefulness will be prolonged to a greater period by that means than by any other mode of management.

J. ROBSON.

THE SOLDIER AS HE OUGHT TO BE.

No. 2.

I now proceed to lay on a few finishing touches to the picture of Thomas Mills. In the quiet of private life, perhaps, there is less of interest to the reader, but it proves more satisfactorily what the man really is, and shows his character in a more trying light than before. In the hurry and excitement of active service, under military discipline, and with many eyes upon him, a man does not *always* appear what he really is. It is when he settles down, and is his own master, and off his guard, that he becomes his real self. That is the trying time. If the evening of life corresponds with the morning, we who cannot see into the heart, may speak well of the day; but until then, we must speak softly.

Sparkes's evening of life set in with clouds and darkness; but Thomas Mills still shines brightly, as an example to all who dwell around him. Kindly disposed; strictly moral in walk and conversation; active, industrious, and clever in any outdoor employment, he is always ready and willing to oblige his neighbours by every means in his power. Cleanliness and regularity are very striking in him, though soldiers are generally noticed for these qualities; and such is his entire respectability, that he is known and approved by the resident families of the neighbourhood, and intrusted fearlessly, by the officer who has the payment of certain pensioners, to transact money affairs, when assistance is required for the purpose.

Mills has never been seen in a public-house, or a beer-shop, or with idle and worthless characters. He loves, and diligently attends the House of God; and by so doing is, at least, *in the way* of righteousness. We cannot confidently speak of all who are regular attendants at church, I am grieved to say. Sparkes is never absent from *his* place, either; and one or two notorious characters, also, are always to be seen there too. There is a fearful description of respectable sinners in the 38th chap. of Isaiah; a picture drawn by the hand of the Lord himself, which no man can gain say or resist, and it bears strongly upon the subject in hand. "Yet they seek me daily, and delight to know my ways, as a nation that did righteousness, and forsook not the ordinance of their God: they ask of me the ordinances of justice; they take delight in approaching to God."

Readers! we may *take delight in approaching to God*, and yet be outcasts! How it behoves us to sift ourselves; for outward sin may be unperceived, while inward corruption is doing the work of death!

Mills had, at first, a poor, wet bit of a garden; but his diligence and skill made it flourish. How it should encourage us to labour in the "garden enclosed" of our own hearts, when we see what can be done with barren soil before our eyes, and when we have a fuller assurance of the "early and latter rain," than any husbandman has to rest upon! Now, however, his outward concerns are improved; he has another cottage and a better garden, and is no doubt as thankful and contented as when he told the writer of his little memoir. "Ah, sir! it is very snug and comfortable,

and almost fit to be the residence of Prince Albert." Surely "a contented mind is a continual feast."

There is, in the neighbourhood of Mills's dwelling, one of those interesting associations for the encouragement of cottage gardeners and labouring poor. Premiums and prizes of various kinds are offered, and a spur is given to the diligence and endeavours of the humble classes, not only to cultivate the productions of the garden, but to conduct themselves, and bring up their families, with credit and respectability. I have, indeed, *heard* that such associations do harm, by raising the bad feelings of men, instead of encouraging sound principles; and I think, where the desire of triumphing over each other, and the mortification of losing the victory are excited, harm must certainly spring up: but having no personal opportunity of judging, I pass the matter by, with the remark of the writer: "we can only say to those who have joined it here, and of those districts where such an association is wanting, 'Go ye, and do likewise.'"

Mills gained a handsome certificate, in a gilt frame, stating his having gained the first prize of £3, for having brought up a large family without parish relief. This was, of course, a subject of thankfulness, and a very honourable distinction; and it is to be hoped that Mills gave glory to Him "who caused him to differ" from many who might as freely have gained a like good character. Too often it is not the hardness of the times that starves poor families, but, as Solomon says: "The drunkard and the glutton shall come to poverty; and drowsiness shall clothe a man with rags."

I cannot better close this sketch of Thomas Mills than in the words of the original narrator: "By grace are we saved, not by works, lest any man should boast;" and, though a moral character, or any good works, so called, avail us nothing without the grace of God in Christ, they are the *evidences* of our faith, according to which we shall be judged by One who knows the heart; and they are the outward, visible signs by which, if at all, we may form an opinion of each other: "by their fruits ye shall know them;" therefore it behoves us, not only for our own sakes, but for the encouragement and example of others, to be careful of good works; and when we find them in others who act and walk consistently, duly to appreciate them, which has been one reason for my bringing forward the character of Thomas Mills as worthy of observation and imitation.

Numerous instances shew that there are some quite as pious and moral men in the army as in other classes of society. I have known several such, I am happy to say, and it is constantly seen and experienced, that a well-disposed man who endeavours to do his duty in that state of life in which it has pleased God to call him, will be honoured and respected, whatever his calling, or occupation, or rank in life may be. A writer in *The Churchman's Penny Magazine* says: "I love old soldiers; they are always courteous, always entertaining, not seldom instructive. When the grace of God has reached the heart they are often men of no ordinary attainments in spiritual things." I can only say that these observations are justly borne out in the subject of this narrative. "The way of transgressors is hard," whilst, on the contrary, even in this life, the happiness, and comfort, and peace of mind of a poor man, like the one I would wish to pourtray, very far exceeds that of many who are rich in earthly possessions and means of enjoyment, but walk wickedly, or carelessly, and live without God in the world."

THE MALAY FOWL, AS RECENTLY EXHIBITED.

If our pen was somewhat discursive when the Shanghaes and the so-called Brahma Pootras were its subjects, the same license will not be required in the case of Malays. Size, the point for which these birds were formerly esteemed, is now more readily attained in the Shanghae fowl, where we have also earlier maturity and greater productiveness. It followed, therefore, that the former should gradually recede in popular esteem, and this has gone on so continuously, that year after year are the Malay pens more sparingly filled, till, so far as exhibitions are concerned, we should almost fear that the day will come when they must

be reckoned as of the past alone. We need hardly say that this would be matter of sincere regret to us, for poultry literature, indeed, has hitherto failed to throw any very satisfactory light on the natural history of its subjects, and the loss of one of its distinct varieties, we are tempted to say, "species," could therefore but ill be spared. There is little or no medium between a good and a bad Malay specimen; the naturally scraggy figure of the bird requiring all the advantages of colour, size, and condition, to impress us in its favour. The closeness of the bird's feather, and the peculiar shortness of the lower part of the hackle, disconnecting as it were the neck and shoulder, gives a still more gaunt appearance than mere height alone would have conveyed. Its powerful frame and assured carriage, an eye bent on mischief, and a spur well able to execute it, has procured them the range of many a stable-yard or town alley, where exhibitions are unthought of, and where "might is right." We must not be here understood as undervaluing the Malay fowl in an economical point of view, though we hold him to occupy a place of secondary importance in this respect. The quality of the young bird's flesh is good; but the cook finds objections in the extreme yellowness of the skin, which unfits them for the saucepan, however meritorious for the spit.

The greater number of these birds exhibited during the past year have been of the usual red variety, or rather, we should say, of the combination of orange-scarlet, maroon, chesnut, and brown, which produces so gorgeous an effect in a well-conditioned specimen. White, grey, and black birds, have also appeared at intervals; the latter being among the most attractive of their race, but they are by no means common. Many, too, are now bred similarly to the pile Game fowls.

The above are the forms in which the Malay pens have been legitimately occupied; but a voice of remonstrance must make itself heard against their unauthorized introduction into other classes. Among the Game fowls, for instance, we have had constant cause to complain of specimens so slightly removed from the Malay that a skilled eye alone could detect the presence of any sign indicating a Game origin. We are willing to suppose, that the fact of the Malay being constantly used as a combatant in its own country may have led to this error; but such a combination ruins both breeds, and causes the summary rejection of the specimens thus produced. The Grey Malays, again, have, probably, been instrumental in the Brahma Pootra manufacture; in some instances, the character of the head, eye, and comb especially, have evidently betokened this alliance.

On another occasion we shall have to speak of the "miscellaneous class," where the Malay element present in many of the breeds, for which a distinct character has been asserted, is manifested; but of this hereafter.

THE SALE OF PLANTS AT EALING PARK.

THIS fine collection of Stove and Greenhouse Plants was sold by auction, by Mr. J. C. Stevens, of King-street, Covent Garden, on the 27th and two following days of April, in consequence of the ill health of Mrs. Lawrence. Every visitor to the Great Metropolitan Exhibitions will hear of this event with regret, for no exhibition seemed full and complete without the plants from Ealing Park. There is no doubt that Mrs. Lawrence has, for many years, given an impetus to the cultivation of plants, and has, by untiring perseverance, successfully shown to what perfection in form, in bloom, and in magnificent size, plants may be brought by cultivation. Now, full of well-deserved honours, she retires from the field of competition, and our sincere hope is that she may long be spared to continue her garden pursuits, now freed from the excitement inseparable from such a contest as she waged yearly.

The principal purchasers were—W. Upton, Esq., of Forest Hill; H. Colyer, Esq., of Dartford; Mr. Aiton, gardener to the Earl of Stamford and Warrington, at Enville Hall; The Crystal Palace Company; Messrs. Fraser, of Lea Bridge; Mr. James Veitch, of Chelsea; and Mr. Turner, of Slough. The plants, upon the whole, realised fair prices, especially the Azaleas, some Heaths and Epacrises. Stove

plants did not sell well, partly, perhaps, in consequence of their immense size and the cold weather.

The following is a list of the best plants, and the prices they fetched:—

	Height. Feet.	Width. Feet.	£	s.	d.
Azalea variegata ..	5	by 5	15	15	0
" Lawrenceana ..	4	by 6	24	3	0
" exquisita ..	5	by 6	17	17	0
" rubra plena ..	6	by 4	8	6	0
" magniflora ..	5	by 5	7	10	0
" coronata ..	4	by 6	8	0	0
" Gledstausia ..	3	by 5	10	10	0
" Apollo ..	5	by 4	8	10	0
" lateritia ..	5	by 5	10	10	0
" optima ..	5	by 5	7	10	0
" Broughtonii ..	3½	by 3½	5	5	0
" Perryana ..	4	by 4	8	10	0
" prestantissima ..	3½	by 4½	6	10	0
" Grenvillii ..	4	by 4½	7	7	0
" decora ..	5	by 4	8	0	0
Erica Aitonia turgida ..	1½	by 1½	3	10	0
" Hartnelli virens ..	2	by 2½	4	15	0
" metalæflora bicolor ..	3	by 3½	2	10	0
" Cavendishii ..	4	by 4	5	10	0
Eriostemon nerifolium ..	4	by 4	5	10	0
" buxifolium ..	3½	by 5	3	10	0
" intermedium ..	3	by 3	7	16	0
Epacris grandiflora ..	6	by 6	12	10	0
" miniata grandiflora ..	3	by 3	5	15	0
Dillwynia rudis sanguinea ..	2	by 2	5	5	0
Chorozema varium nana ..	2	by 2	6	15	0
Coleonema rubra ..	6	by 6	7	5	0
Pimelæa spectabilis ..	4	by 5	11	0	0
ditto ditto ..	5	by 6	6	15	0
Polygala accuminata ..	4	by 5	10	15	0
Boronia serrulata ..	2	by 2½	5	15	0
Adenandra fragrans ..	3	by 4	6	0	0

STOVE PLANTS.

Ixora coccinea ..	2	by 2½	7	0	0
" Javanica ..	4	by 3	6	5	0
" alba ..	3½	by 3½	7	0	0
" crocata ..	3	by 2	5	15	0
Hoya imperialis ..	very large		6	0	0
Dipladenia crassinoda ..	4	by 3	0	15	0
" splendens ..	4	by 2	2	2	0
Clerodendron splendens ..	3	by 2	2	12	0

The Orchids were not offered for sale. It was reported they were disposed of by private contract to the Crystal Palace Company.

Other plants varied from 8s to £5, the latter price was given for lesser specimens of such plants as the Azaleas and Pimelæas. There were five Plant-houses also disposed of for about £300; but they were old, and, consequently, did not realise large prices. The largest, sixty-five feet by fifty-five feet, with two boilers, pipes, and other fittings complete, sold for £105. There were 474 lots of plants, and they sold for rather more than £1050.

The above prices, to our country readers, may appear high, but it must be borne in mind that many of the purchasers are exhibitors, and most likely desired the plants for that purpose. These prices ought to spur our nurserymen, even for their own interest, to support exhibitions. It may be relied upon, that if there were no exhibitions the demand for plants would be much less than it is. Y. S.

SITTING HENS' EGGS CHILLED.

"As you are in want of some information respecting sitting hens' eggs that have been chilled, I beg to say, that last year I set a hen on Spanish eggs; she sat very well for five days, and then left. I kept them two days in a room where there was no fire. I then bought another hen, and put the eggs under her, and she brought out a large brood exactly twenty-one days from the time they were first set. I had another hen, which left her eggs after sitting four days, with which I did the same; she also brought out in twenty-one days from the time she was first set; and those

two sittings brought out the best broods I had last season.—WILLIAM THOMPSON, *Highgate, Kendal.*"

"A friend of mine had a hen this season whose nest was made of loose straw, and placed upon a lot of kids or faggots; and on examining the nest at feeding time one morning, he missed three eggs, for which he blamed the rats; however, to his consternation, on the following morning all the eggs were gone; and on removing the nest, the whole of them were discovered, unbroken, at the bottom of the heap of wood, and quite cold. He, therefore, made up the nest securely, and placed the eggs therein; and after a few days prolonged hatching nine birds were brought out, and are alive.—C. POCKLINGTON, *Boston.*"

"On the 25th of March, I set a small Cochin Pullet on seven eggs, she sat pretty well till the 28th, when, on going to feed her in the morning, I found the eggs perfectly cold, and concluded that they were spoilt, but resolved to leave them, (in order to prove whether I had done right or wrong in putting fresh eggs under a hen who had served me the same trick a fortnight before); again, on the 1st of April, she allowed them to become cold, and so continued every two or three days till the 9th, when I, of course, thought no hope remained; she then sat pretty well, but on the morning that they ought to have been hatched not one was billed; therefore, I was agreeably surprised to find her yesterday morning (April 16th), a day after time, in a high state of frustration, keeping watch and ward over seven chickens, which are all strong and well. My motto will be for the future, '*Nil desperandum.*'—H. S., *Whitehill.*"

SEA WEEDS.

(Continued from page 40.)

16. CRUORIA. *Fries.*

"Frond gelatinoso-coriaceous, forming a skin on the surface of rocks, composed of vertical, tufted, simple, articulated filaments, set in a firmly gelatinous matrix, one of the joints of each filament larger than the rest. Fructification, tetraspores lying at the base of the filaments. Name from *cror*, blood; because the plant looks like a blood-stain on the rock."—*Harvey.*

1. C. PELLITA.—Not uncommon; but few would ever think it is a plant; found often on the roots of *Laminaria digitata*.

17. NACCARIA. *Endl.*

"Frond cylindrical, or compressed, filiform, solid, rose-red; central cells large, empty; those of the surface minute. Ramuli composed of jointed, dichotomous, whorled filaments, surrounded by free gelatine. Fructification spores attached to the whorled filaments of the (swollen) ramuli. Name in honour of F. L. Naccari, an Italian Algologist."—*Harvey.*

1. N. WIGGILLI.—A rare and very pretty weed, from six to twelve inches high, of a fine rosy-red; the branches thickly set with smaller ones of minute filaments in whorls.

18. GLOIOSIPHONIA. *Carm.*

"Frond cylindrical, tubular, gelatinous; periphery composed of a thin stratum of longitudinal interlaced fibres: clothed externally with short, horizontal branched, moniliform filaments. Fructification spherical masses of spores (favellidia), immersed in the moniliform filaments, to whose base they are attached; the name signifies a viscid tube."—*Harvey.*

1. G. CAPILLARIS.—A very rare plant. I have had specimens from the Isle of Man, where it has been found by Miss Heslop; also one specimen from Cornwall, and some from Scotland, found by Dr. Landsborough on the Ayrshire coast, at Salcoats, and Ardrossan. I shall copy what he says in his "British Sea Weeds." "I observed it was in Salcoats Bay at low-water, growing on shale. As I was in danger of being surrounded by the returning tide, I snatched in haste a small portion from a large patch, thinking it was some common thing with rather an uncommon aspect. On floating it in fresh water, spreading it on paper, and exposing it to the sun, I was surprised to see it changing from a dull brownish-red to a fine dark crimson. One of my

family, by wading into deep water, and catching the plants with his toes, got still finer specimens, which, being treated in the same manner, assumed even a richer hue. Its season is limited from the middle of June till the middle of July."

19. NEMALEON. *Targioni.*

"Frond cylindrical, gelatinoso-cartilaginous, elastic, solid; the axis columnar; dense, composed of closely packed longitudinal interlaced filaments, whose alternate ramuli are moniliform and coloured. Fructification globular masses of spores attached to the filaments of the periphery. The name signifies a crop of threads."

1. N. MULTIFIDUM.—Not uncommon; growing on shells, &c., near low water mark. The fronds vary in height from three to six inches; they are once, sometimes twice, forked; colour a pale purplish-brown.

2. N. PURPUREUM.—This handsome weed is very rare; the fronds are sometimes two-and-a-half feet high, of a fine purple-red, and slippery; found at Sidmouth and Torbay, by Mrs. Griffiths and Miss Cutler; also very fine by Mrs. Gulson, at Exmouth.

20. DUDRESNAIA. *Bonnem.*

"Frond cylindrical, gelatinous, elastic; the axis is composed of a lax net-work of unanastomosing filaments, coated with a stratum of closely-combined longitudinal fibres; the periphery of horizontal, dichotomous, moniliform, filaments. Fructification of two kinds on different individuals:—1. Globular masses of spores (favellidia) attached to the filaments of the periphery; 2. External tetraspores borne on the filaments of the periphery, generally terminating the ramuli. The name is in honour of M. Dudresnay."—*Harvey.*

1. D. COCCINEA.—Of a fine rosy-red; tender and much branched. It is very rare on the southern shores of England and Ireland. It has also been found in Scotland, at Arran, by Dr. Landsborough's son, and at Belhaven, near Dunbar, by one of his daughters; the branches have a moniliform or beaded appearance. It is a summer plant.

2. D. HUDSONI.—This *Dudresnaia* is not rare like the last. It is very much branched, and slender; the colour a pale reddish-brown; very gelatinous and tender. *Harvey* says "that the structure is very remarkable; the frond appears to be made up of tufts of fibres radiating from a centre, each tuft, when separated in water under a glass, resembling a double Aster, or sea Anemone."

21. CROCEANIA. *J. Ag.*

"Frond gelatinous, filiform, consisting of a joined single-tubed filament, whose joints are clothed with dense whorls of minute multifid ramuli. Fructification, 1. Favellidia, sub-solitary near the apex of the ramuli, affixed to the base of the whorled ramuli and covered by them, containing within a hyaline membranaceous perispore, a sub-globose mass of minute spores. 2. Obovate tetraspores of large size affixed to the bases of the ramuli. Name in honour of brothers *Crocean*, of Brest."—*Harvey.*

1. C. ATTENUATA.—A parasite from one to two inches high; growing on *Cladostephus spongiosus*; very rare, of a red or purple colour, and all the branches resembling strings of small beads.

This little plant brings us to the end of the largest order of Rhodospirae, whose beautiful purple or rosy-coloured varieties of species are so widely dispersed.—S. B.

(To be continued.)

GUELDERLANDS AND OTHER ANOMALOUS POLANDS.

I HAVE recently been paying some attention to the minutest distinctions between the different breeds of poultry, especially as regards the structure of the skeleton. This I have done chiefly with a view to establish, if possible, a certain line of separation between the different varieties; a point of no small importance at the present time, when a difference in colour, or a variation produced by crossing, is held by many to constitute a distinct breed. At present,

however, I merely wish to call attention to the existence of certain anomalous Polands, some of which I have not hitherto seen noticed in books. In the American poultry works are described a set of fowls called Guelderlands, from the province of Holland of the same name, lying south of the Zuyder Zee; whence they are said to have been obtained. They are birds of moderate size, with a full, prominent, fleshy chest; uniform dark glossy plumage, with large tail. Their most striking peculiarity consists in the head, which is ornamented with very large pendant wattles beneath; but is destitute of either comb or topknot, unless the slightest possible trace of redness, and a minute prominence, can be so termed. The birds are, in fact, untopknotted black Polands; and, as might be expected, their habits and general characters are precisely those of the breed from which they are derived; being good layers and non-sitters.

A friend, who has frequent mercantile dealings with Holland, was fortunate enough to obtain for me a specimen of these birds from that country, where I have no doubt more could be found if it was worth while to make the search; but I must confess that I am not one of those who think you can *add* to the appearance of a Poland by cutting off its crest; or that a Chinese improves upon the "human form divine" by shaving his head, or an Englishman his chin; in fact, I am sufficiently imbued with sense of the perfection of created works to imagine that such "capillary attractions" were designed for some more good and useful purpose than to occupy ten minutes of a man's time every day of his life in endeavouring to get rid of them.

The Americans, who seem to have a peculiar talent in originating half-breeds, have crossed these with some feather-legged race, and consequently part of the Guelderlands are thus habited.

A few days since, my attention was called to a nondescript variety of fowls just imported from the continent, the like of which had never been before seen; on examination, I found them to be precisely parallel to the Guelderlands, only that in this case, the alteration was from the Golden-spangled bearded Poland; the birds were sufficiently bearded to please the most ardent admirer of that appendage, and looked most quaint and strange, from their bare heads being totally free from topknots or combs. The spangling was tolerably perfect both in the cocks and hens, and the arched nostril, with two rudiments of the crescentic comb, gave unmistakable evidence of their origin.

The same reasons that prevented my admiring the Guelderlands led me to look with disfavour on these bald pates, and, therefore, I left them for some more speculative amateur.

It would be interesting to trace the origin of these varieties. I am inclined to regard it as accidental in the first instance, and perpetuated by careful breeding, although, in these instances, I think the variations by no means improvements on the original stock.—W. B. TEGETMEIER, *Willesden.*

HUNTER RIVER VINEYARD ASSOCIATION.

(Concluded from page 63.)

"I will not occupy your time longer than merely to make a few concluding remarks on the same subject, the result of personal observation.

"Ample evidence exists to show that the climate of this country (with the drawback of occasional unfavourable seasons), within a certain range of the sea, is eminently suited for the growth of the grape vine, and the successful production of marketable wine.

"On account of the long periods of drought so often experienced in this country, the rapidly evaporating influence common to the atmosphere, and the consequently frequent deficiency of moisture in the soil, the vine may properly be grown here on richer and deeper land than is employed or recommended for that purpose on the continent of Europe.

"At different periods I have planted three vineyards: two of them at Irrawang—the one on forest land, the debris of pudding-stone and porphyry, trenched, and wholly turned over to the depth of at least thirty inches; the other on

the rich alluvia deposit which composes the bank of the River William.

"The other plantation, at Turrecla, is land consisting almost wholly of silicious sand.

"In dry seasons the density of the must of the same variety of grape (as indicated by Long's saccharometer) is very nearly the same from all these soils and situations.

"The following were the specific gravities of the must at the last vintage at Irrawang of six well known varieties of the grape, viz.—

Black Pineau	1.102
Black Hermitage, after rain	1.072
Lambrusquat	1.102
Gouais	1.092
Shepherd's	1.105
White Hermitage	1.103

"On comparing notes with Mr. Carmichael, it was found that his estimate of the specific gravity of the must of the same grape, grown on the same quality of soil at Prophyry, was exactly the same as that grown at Irrawang.

"Must of the above densities will produce on fermentation wine containing from 17 to 23 per cent. of proof spirits. Such memoranda of the product of the vineyards in Europe would afford valuable information to wine growers in New South Wales: not only the quantity of grape sugar there is contained in the grape would be shown, by which the quantity of alcohol naturally in the wine might be estimated, but they would also afford sufficient data by which the quantity of brandy artificially added might be ascertained on examination here of a sample of the wine.

"The must produced by the forest land vineyard is generally of the greatest specific gravity, and the produce of the sandy soil is next in density; but the difference is very inconsiderable. In moist seasons, however, the produce of the river bank vineyard possesses less *gout* and a smaller amount of saccharine matter than is produced by the others: but that deficiency is abundantly compensated for by the much greater quantity of fruit annually produced by the alluvial land; and there is no question that it will continue so to yield in all seasons for many more years than land of any other description.

"The vine, although long-lived, from its ability to extend its roots far in quest of nourishment, is nevertheless, like other organic beings, subject from deficiency of food to premature disease, death, and decay, and that deficiency we must make good, sooner or later, in our vineyards, in order to prolong their existence, in proportion as their soil has originally been poor or rich in the elements essential to the growth of the vine.

"With regard to the kinds of grape to be here cultivated, it is of the utmost importance to select those which have proved themselves naturally suited to the climate—by growing freely, being generally without spot or blemish, bearing fruit abundantly every year, and bringing it to perfection.

"In this way will varieties be found specially adapted to every locality.* No matter what their European reputation may be, they will produce that which will eventually become the wine of the district, and, with the greatest probability, too, of affording the highest remunerative return. Such varieties, it may reasonably be expected, will be aptly produced from the seeds of the approved grapes now cultivated in the colony. There are many imported varieties of the grape already in our vineyards, and known to the producers of superior wine in Europe, that have been found to be totally unsuited for this climate.

"Wine being more the product of the soil in a favourable climate than that of the particular grape which produces it, I am inclined to the opinion that the matured fruit of any variety of grape grown on the same spot, under the same circumstances, although the quantity of saccharine matter may vary a little, will produce a similar wine; hence the primary importance of selecting varieties congenial to the climate, as they only can be expected most generally to yield fruit in perfection, and consequently the best wine the district can produce.

*The colony is highly indebted to Mr. Busby (who is now resident in New Zealand) for his indefatigable exertions in having visited many of the vineyards on the continent of Europe, at his own private expense, for the purpose of collecting information and varieties of the grape, which he afterwards gratuitously distributed and published in the colony at his own risk.

"From the paucity of hands at the time of the vintage, it is sometimes almost impossible to prevent the over-ripening of some part of the crop, which is here rapidly facilitated by the heat and dryness of the climate. To meet this circumstance, I have recommended the planting in separate plots such varieties of grapes as are found to follow each other in the period of their maturity, so as to give more time to the vintage; and should one portion of the vineyard become over-ripe another portion may yield fruit less so, which may be mingled with the other, and thereby ensure the more complete fermentation of the whole. With few labourers, and without such an arrangement, much of the vintage might be injured or actually lost. Varieties of the grape growing apart in the same vineyard also ensures the crop against a total failure in unfavourable seasons, as some of the varieties generally escape its influence.

"Our wines, when sufficiently matured, must find a ready sale in this and the neighbouring colonies, and it will yet be many years before that demand can be sufficiently supplied from this quarter. Until then the wine-growers of New South Wales need seek no other outlet for the produce of their vineyards.

"The difficulty in procuring an ample supply of bottles will prevent our being able to exhibit that produce to the public in the most favourable state, and to place it in the hands of the consumer in the most acceptable shape. This drawback in the sale of our wines will continue until bottles are manufactured in the colony. Until then the wines of this country will not occupy that position in the market which they would otherwise command.

"I am gratified to be able to state, that material for the fabrication of bottles (besides fuel) exists in exhaustless abundance in many parts of this district, specimens of which, in the immediate neighbourhood of my own house, consisting of basaltic whinstone (one of them in a vitrified state, having been the subject of experiment) are now exhibited at the meeting."

POULTRY-YARD REPORT.

APRIL 1854.

SHANGHAE *v.* MINORCAS.

I SEND the monthly report. It is only slightly in favour of the Spanish for number and weight: it has proved to me still further the value of the Shanghae as layers. The frosts at the end of the month greatly checked the laying of the Spanish; while not a single Shanghae in the yard stopped for a single day, whether those included in this report, or two other pullets, the produce of which I have not calculated in the report, as they have only just been introduced to my stock. The statement is as follows:—

SHANGHAES.			MINORCAS.		
Number of eggs	.....	.64	Number of eggs	.....	70
Weight	.....	lbs. oz. drs. 7 6 0	Weight	.....	lbs. oz. drs. 9 4 3
Highest weight of single egg	. 0 2 1		Highest weight of single egg	. 0 3 4	

I mentioned, in the last report, the death of one Shanghae pullet; a sister is now ill, apparently she has not recovered from the last sitting, now seven or eight months since, she has not laid. Of the others, one hatched chickens 30th Marek, laid again 19th April; another hatched the same day, and laid on the 20th. Another, that commenced laying again the end of Marek, laid nearly every day, sat again 21st of this month (April): another laid again the 7th, and on the 22nd was placed on some eggs; while another, that has laid nearly from the beginning of the year, took to her nest April 12th; thus, four are at the present time sitting, one has a dozen chickens round her, one ill, two laying.

On the Minorca side, one pullet is, I fancy, barren; at any rate, as she has not laid, and her sister of the same brood has been laying two months, I have sent her away for change; the other six laying, but, as already stated, checked occasionally by the cold frosty nights, &c. The same pullet that laid the large double-yolked egg, laid another large egg, nearly 3 ozs, on the 29th.—H. B. S., *Mounmouthshire*.

BEE-KEEPING FOR COTTAGERS.

(Continued from page 43.)

SECTION 4.—METHOD OF OPERATING.

INTRODUCTORY.—It may be useful to introduce this Section with a few remarks upon matters always to be kept in mind in operating. And first of all, be as quiet and gentle as you can in everything you do; and next (at all events until experience has given confidence), let no false shame prevent your using a bee-dress and gloves, and tying your trowsers round the top of your boots and ankles whenever an operation producing much disturbance amongst the bees is to be performed. The feeling of security which one has when rightly equipped is in itself pleasant; and when a sting has the effect which it has upon ourselves, a considerable amount of trouble is well spent in protecting one's-self; stings, however, affect some people very little, and it has been said, that the oftener a man is stung the less he feels it. Again, always have at hand, before an operation is commenced, everything that, after a little reflection, you fancy may possibly be required successfully to carry the operation through, as a spare hive, an adapter or two, a knife, and particularly the box containing various articles, as string, blocks, rag, pencil, note-book, &c., already recommended to be kept. As soon as an operation has been performed, let any apparatus which has been used be carefully cleaned and put away in a dry place. Consider, also, in what manner you can best fall in with the usual habits of the bees; as, for instance, in joining swarms, remember that each hive has a different smell, and that to prevent fighting, and the destruction of many bees, this difference must be done away with; that warmth is required in the spring when breeding is going on, and that then cold currents of air should not be let into the hives by emptying condensers on cold days, and other similar matters that will occur, from time to time, to a reflecting bee-keeper. By keeping these remarks in mind much trouble and disappointment will be prevented. We will now proceed, following the order of the Calendar, in treating of the various matters.

Removing Condensers in the Spring.—Bearing in mind what has been said about keeping cold currents of air out of the hives, choose some mild morning or evening for doing this; if the hive be very strong and lively, it may be advisable to push one of the pieces of metal under the condensers before removing them, and then, having placed one of the stout pieces of wood over the centre of the hive, withdraw the piece of metal, and tie the wood in its place by means of a piece of string stretched across it, and tucked under two of the bindings of the hive, the ends being afterwards tied together. If the hive be not very strong, or the bees still drowsy, the condensers may be quickly removed, and the piece of wood substituted without using the piece of metal. The pieces of wood and metal to be used in these and similar operations should be about six inches broader than the centre hole in the hive to be operated upon.

Weighing.—If the tripod already described be used for weighing purposes, let it be placed over the hive to be weighed, and the hooks at the ends of the cords having been fixed into the eyes in the floor-board, and the entrance closed with a piece of rag, let the hive and board be gently raised by means of the pulley, and the gross weight, and also the numbers or weights of the hive and board, be marked on the page of the note-book set apart for the hive on which you are operating; the net weight of honey can be ascertained at your leisure by deducting the weights of the hive, board, old comb, and bees, from the gross weight. A similar plan must be adopted whenever any other weighing machine is used. Where no weighing machine is to be had, the bee-keeper's judgment must be his guide in ascertaining the net amount of honey in his hives. A little practice with hives, and the domestic scales will, as already observed, soon enable him to form a pretty correct judgment as to this.

Changing Floor-boards.—We will suppose that you have but one spare floor-board; commence with the last hive in the row, and having stopped its entrance, place in front of it a large block of wood, or low stool, or large flower-pot about two inches lower than the hive entrance, and gently lift the

hive and board together on to the block, stool, or pot, then place the clean floor-board on to the pedestal from which the hive has been removed, and holding the old floor-board firm with the foot, or between the knees, detach the hive from it by a sharp jerk and place it.

(To be continued.)

QUERIES AND ANSWERS.

AGRICULTURAL.

ROOTS BEST FOR COWS.

R. P. H. asks—"What roots are the best for a milking cow, that the butter may escape being flavoured by them?"

[Mr. Errington says—"In answer to this gentleman, I must observe that Mangold and Parsnips are amongst the best roots we have as to purity of butter. Turnips are well known to affect the character of the milk if used in quantities. If your soil is stiff, perhaps the *Orange Globe Mangold* will be best, or if sandy and deep, Carrots and Parsnips; but why not some of each annually, alternating with each other."]

GARDENING.

ABRONIA UMBELLATA.

"Mr. Beaton, in *THE COTTAGE GARDENER* of the 30th of March, describes the *Abronia umbellata* as a new annual, with light lilac or violet-coloured flowers. On turning to the *Cottage Gardeners' Dictionary*, it is there described as a half-hardy perennial trailer, with pink flowers, introduced in 1823. In Paxton's 'Botanical Dictionary' it is a hardy, evergreen trailer, with red flowers, introduced in 1823. Which of these accounts are correct? Is the plant Mr. B. describes the same as the one introduced in 1823, but now treated as an annual; or is it a different species of recent introduction? Can you tell me anything about a new annual called *Sabbatia campestris*, whether it is worth growing or not?—S. J."

[*Sabbatia campestris*. We do not happen to know it, but the relations of *Sabbatia* are very respectable, and some of them are good-looking.

Abronia umbellata was named and figured sixty or seventy years ago (1791) by Lamarck, a French botanist. The name is repeated in "Hooker's Exotic Flora," with a figure, and on the authority of this last figure the late Mr. Donn registered the introduction of *Abronia umbellata*, for the year 1823. "Paxton's Dictionary," and the "Cottage Gardeners' Dictionary," follow Donn. All this time the plant was not known in cultivation. But in January, 1848, the Horticultural Society received seeds of it from Mr. Hartweg, who gathered them "on the sands, near the sea-shore, at Monterey, in California." The true date of its introduction into cultivation, is, therefore, 1850. To be introduced into this country, and to be introduced into cultivation, are two things in the history of some plants as different as any two things can be. It was even asserted within the last twenty years, by a very high authority, that a new plant introduced into our national garden, at Kew, should not be considered as being introduced into England at all, much less into cultivation. But now they distribute new plants from Kew as freely as they do from the Horticultural Society. Therefore, and henceforth, we may reasonably expect to find that all good plants, like *Abronia umbellata*, will find their way into cultivation first, and into books and lists afterwards. The Horticultural Society gave a figure of the plant in their Journal for 1849, and there they recommended it to be planted out "in the open border, treated as an annual." So it seems that seeds are produced freely, and every year, and that the best judges at present look upon that mode as the safest way of dealing with the plant. That question is altogether apart from that of annual, biennial, or perennial, which are often relative terms. The *Mignonette* is a perennial, and so is *Abronia umbellata*; but in England, according to our present knowledge, they are both better treated as annuals. "The flowers are formed in close umbels, and consist of a long violet tube (like *Leptosiphon*), with a five-cleft flat limb, the lobes of which are regularly

two parted," that means, that the flat part of the flower, which is like the flat part of a *Verbena* flower, is divided into ten parts or divisions; the colour is reddish and violet.]

DESTROYING THE MEALY BUG.

"Is there any means of destroying the 'White Mealy Bug?' I have it in abundance on a *Stephanotis floribundus*, which is growing at the back of a house. I have kept the little rascals down pretty well through the winter with my thumb and finger, but I find I can do it no longer, as they make their appearance by wholesale on every young shoot.—O. J. C."

[You must wage the most vigorous and unremitting war against this vermin, or it will devastate half the plants in your greenhouse. Crush and rub off as many as you can, and then paint over all the plant by the aid of a painter's large brush with this mixture. Soft soap two pounds, flowers of sulphur two pounds, tobacco one pound, and a wine-glass full of spirit of turpentine. Mix the sulphur, turpentine, and soap, into a paste, with warm water; boil the tobacco in a covered saucepan with a gallon of water, strain it, mix the liquor with the soapy mixture, and then add enough water to make five gallons altogether.]

PANS FOR ACHIMENES—VERONICA SPECIOSA.

"I have pans of the following dimensions—fourteen inches square by four deep; twelve inches square by four deep; round pans eleven-and-a-half inches diameter by three deep; which of these would you recommend for Achimenes? What should be the distance of the tubers from each other in the pans, or what number of tubers to each pan?"

"My varieties are as following—Ought the culture to be varied:—*Lepmanii*, *Longiflora alba*, *Grandiflora* or *Jauregia*, *Gheisbrechti*, *Gloxiniæflora*, *Picta*, *Venusta*, *Patens*, and *Tugwelliana*.

"I have a small plant of *Veronica* (I believe) *speciosa*, which has just thrown a flower ten-and-a-half inches long, from the base or footstalk to the extreme point of the flower; there are two small branches, each three inches long, starting from it. Do you consider the size (ten-and-a-half inches) unusually large, or worth looking after for seed?—AGRICOLA."

[We do not think any of your pans too deep for these plants, but supposing that you use them all, then we would advise the deepest for *Lepmanii*, *Longiflora alba*, *Grandiflora*, and *Tugwelliana*, and the shallower ones for the others. There is no question but these plants may be grown in fine condition in these shallow boxes or pans, but they must be carefully attended to in watering. In this matter, common pots have an advantage over the shallow pans, inasmuch, as after giving an abundance of drainage, there is less likelihood of the plant being exposed to sudden changes, as respects moisture.

The number of tubers depends on their strength, and whether you wish a mass of bloom early or rather late. We have had five plants in a six-inch pot from a single tuber. We have also had a fine show from half-a-dozen. In the first case, the plant was topped and tied out. In the second, no topping was given. For pans you mention, from six to twelve tubers would be a medium number. Many would prefer five to more. We prefer potting or panning after the shoots have sprung an inch or two. The soil should be peat and loam, with sand and leaf-mould, or cow-dung. If in pans, a little manure on the surface, or frequent manure-waterings will do them good. In growing, the great thing is to prevent a strong sun striking the foliage when young, otherwise it will be sure to be blotched and marked. If in a dung-bed, the least steam should be guarded against.

The flower-stalk of *Veronica speciosa* is a very good one, and we do not remember one quite so long. When few flower-spikes are left on a healthy plant the spikes are likely to be longer. The saving of seed can do no harm.]

RASPBERRY-BUD GRUB.

"Four years ago my master had a fine flat of Raspberries, that were considered as fine a flat as ever were seen, and they bore abundantly. The next year they were not so good, and they have been wasting ever since. There is a small red grub in every bud that dies, and we think that must be

the cause, for they come from the pith of the cane through the bud. Then the bud seems to die immediately. I have sent you some, and if you could tell me of any application that would destroy or check them, I shall be greatly obliged to you. I am afraid if they are not checked they will soon destroy them all. The ground is a light soil with a sandy bottom.—SCOTHOLM."

[The grubs are those of a small Moth called *Tinea corticella*, being so named by Linnæus, who, from finding it in the cracks of the bark (cortex) of the Apple-tree, thought its grubs fed there. The Moths are small, being about half-an-inch only across their expanded wings. The upper wings are glossy brown, varied with gold-coloured spots, two large ones of which are on the upper edge of the wings, meeting when these are closed; the under wings are dark brown. It appears at the commencement of June, and lays its eggs on the canes of the Raspberry; these hatch early in August. The grubs are very small, and feed on the leaves until the approach of winter, when they burrow into the buds, and continue torpid until the return of spring. They eat their way out about the middle of May, form a web among the leaves, and pass into the chrysalis state, and emerge in June as Moths, as already stated. The only remedies are to seek for the caterpillars in August; but the most radical course would be to cut down all the canes, young and old, in the autumn, and burn them. The next year's crop would be sacrificed, but the pest would be exterminated, unless fresh invaders could come from your neighbours.]

POULTRY.

ULCERS IN DORKING HEN.

"I have a Dorking hen which is suffering from two lumps, one on each side of the beak; and on the tongue is a flat yellow spot like matter. The bird picks up its food with great difficulty; and the lumps seem very sore.—J. H. C."

[It is most difficult to prescribe for any disorder unless the symptoms are very fully detailed. From the description given it is not possible to know the exact situation of the lumps, or what part is affected; nor is it stated whether they are hard or soft, inflamed or otherwise. If the lumps are soft, and appear full of fluid, open them, and then wash them with a little blue vitriol dissolved in water (10 grains to the ounce). The sore tongue may be touched with the same, and three grains of blue pill given as an alterative.]

A COCK SPELL-BOUND.

S. J. says—"Take a cock of any breed, set him down, hold his bill to the floor, draw with a piece of chalk a line from his bill straight from him, and he will not move, and cannot be frightened from the spot. What is the cause?"

[We cannot tell, any more than we can tell why a person is so unnerved by the mesmerist that he cannot move his hands, or rise from his seat. We know, from unmistakable testimony, that people can be so mesmerized; and we know, from actual experiment, that the Cock can be deprived of the power to move by a chalk-line drawn straight from the point of his beak.]

MORTALITY AMONG SPANISH CHICKENS.

"Should you have time and space, I shall feel obliged if you would state, in THE COTTAGE GARDENER, your opinion as to the cause of death in my Spanish chickens. They were hatched on the 17th of March, and have gone on very well until the last week, when, out of a brood of nine, two have died yesterday, and three more are pining. They have been fed upon oatmeal, crumbs of bread, boiled eggs, small wheat, and occasionally potatoes and oatmeal mixed; have been allowed to run in a small enclosure of grass, where the large fowls could not get among them. They have eaten heartily until they died, and their crops were full at the time of death, nevertheless they are mere skeletons. Could the cold easterly winds have had an injurious effect upon them, and have caused death? Last year, with similar treatment, and care, I was very successful, and scarcely lost a chicken, but this season I fear a totally different result.—WM. B. SELWOOD."

[We sent your note to the most successful breeder of Spanish fowls, and this is his reply:—"I see nothing to object to Mr. Selwood's treatment, except, perhaps, the Potatoes, which for very young Chickens, I do not like. Three things may have caused the death of the Spanish chicks, if exposed at all to the cold easterly winds, they are likely enough to die, as very many have done this year; but from their being skeletons, at the same time that they were feeding well, I do not think it was this. He says nothing about water, which I hold to be of first rate importance. I believe that many a chicken would be saved if more attention was paid to water. An old woman, who was very successful in rearing all sorts of poultry (especially Turkeys), would never give them water from a tin vessel, always preferring a rusty iron one, or a lump of rusty iron in an earthenware one. This may be an old woman's story, but is so easily done that I at once used it, and, I think, successfully. Let the chickens be examined. It is not impossible they may be infected with lice—not an uncommon thing! chickens will then pine and die. Snuff will cure this, blown under their feathers, but must be used carefully. I prefer taking the very finest possible sand, bake it in an oven, put it in the chickens' way when pleasantly warm; the warmth will induce them to use it, and so get rid of their tormentors. I have known a puppy (a Skye) pine almost away from being infected with vermin."]

TOBACCO CULTURE IN NEW YORK.

The kind of soil best adapted to the growth of this plant is a sandy or gravelly one, which must be pretty highly manured; but any field, rich enough to grow a good crop of corn, will give a fair crop of tobacco. The proper system of culture is to plough your land set apart for this crop early in the spring. (It should be land that has had some cultivated crop grown on it the year previous, as experience has proved it to be better than green sward, and not as liable to be infested with worms, which sometimes do much mischief in the early stages of its growth.) Plough again about the time you are ready to set the plants, and harrow it well. The plants should be five or six inches high, grown in a bed in the garden, or other warm, rich place—sown as soon the frost is out of the ground in the spring. Sow the seed on the ground, and spat it down hard with the back of a spade, or tread it over with your feet. A bed ten feet square is sufficient to raise plants for an acre. The time for transplanting is from the 10th to the 25th of June. The best time to transplant is immediately after a rain. If the ground is very dry, it will be necessary to water the plants as you set them.

The ground should be marked in straight rows, three feet apart, and slight hills made on these marks two feet six inches apart; then set the plants, which should be done well, taking care to press the earth firmly around the roots. As soon as the plants are started to growing, run the cultivator through, and follow with the hoe, resetting where the plants are missing. The crop should be hoed at least three times at proper intervals, taking care to hoe the ground all over. When the tobacco begins to blossom, the tops of the plants, and the suckers also, should be broken off, with some of the smaller leaves on the top of the plant. The suckers should all be broken off at the time of harvesting.

Harvesting commences the first of September, and ought to be finished by the middle of the month, as frost may be expected by that time. The stalks must be cut near the ground, and left in the sun a short time to wilt the leaves, then taken to the drying-shed and hung on poles by means of strong twine, at the rate of thirty to forty plants to twelve feet of pole. The poles are to be laid across the beams about sixteen inches apart. The sheds are built high enough to hang three or four tiers, the beams being about four feet apart up and down. In this way a building forty feet by twenty-two will cure one-and-a-half acres of tobacco. The drying-sheds should be supplied with several doors on either side to allow the free circulation of air, in order to facilitate the process of curing.

It will be sufficiently cured in two or three months, when as much as is desirable is taken down in damp weather, laid in a pile, the butts of the stalks outward; the leaves are then stripped off and done up in small hanks by winding a

leaf around it near the butts of the leaves. It is separated according to quality, making three qualities. It is then packed in a snug pile, the butts outward, to give them a chance to dry well. Then, to finish the process, it is packed, in damp weather, in boxes large enough to contain three or four cwt.

The cost per acre, of raising tobacco, I make 77,50 dollars. A fair average yield per acre is 1,500 lbs., although 2,000 lbs. is sometimes raised. It is worth from seven to ten cents per lb. Growers in this vicinity sold the crop of 1852 for the latter price—the crop of 1853 is as yet unsold, but we expect to get as much as eight cents per lb. for it.

The kind of tobacco grown here is, I believe, called "Connecticut Seed-leaf," which is quoted in New-York city papers at five to fifteen cents per lb., according to quality.—L. KEITH, *Liverpool, U.S.—American Country Gentleman.*

TO CORRESPONDENTS.

. We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed "To the Editor of The Cottage Gardener, 2, Amen Corner, Paternoster Row, London."

FLOWER-GARDEN PLAN (*G. D., Penryn*).—This is the first plan we have received of those pretty attempts of showing flower-garden designs in models, so to speak, at local Horticultural Societies. We very much approve of these models, as one step in advance on the common way of huddling flowers together, without any principle of arrangement. We shall engrave your plan, and give your own details in making and arranging it, with our own observations on the whole; and we invite others to follow your example in sending such for public criticisms.

BEETLE POISON (*A Subscriber*).—We cannot recommend proprietary articles, except as advertisements, especially when the recommendation is anonymous. If it is as effective as you say, it will amply repay for advertising.

GAPES IN CHICKENS (*F. A. C.*).—If you will refer to the Index of our last volume, you will find all that is known upon the subject; and that causing the chicken to breathe the vapour of spirit of turpentine is the best cure. We believe that very liberal feeding in chickenhood, and extreme cleanliness, are an effectual preventive of the gapes.

ORCHARD OVERRUN WITH NETTLES, &c. (*W. H. W.*).—Pare off three inches of the surface, and burn the whole; spread the ashes over it, fork them in, and drain the orchard. Poultry for laying and fattening should be Shanghae pullets and a Dorking cock. We do not know the *Pea* called "Le Maun," and shall be glad of a sample, as you say that in Scotland "it is very early, only one-and-a-half foot high, a profuse bearer, and the peas very large and sweet." If it comes up to this description it is a pea without a parallel.

DYING HAIR (*T. P. M.*).—We really know nothing about the matter.

GUANO IN SMALL QUANTITIES.—Several readers wish to know where this can be obtained, say in 14 lb. bags.

DISEASED SHOOTS OF PEACHES (*J. E. M.*).—We cannot write letters in answer to queries. Judging from the gangrened appearance, we should say that the subsoil is wet and requires draining; but as we neither know the nature of the soil, nor the aspect, nor any particular as to the culture, or training, we have no guide.

DORKING FOWLS LOSING FEATHERS (*E. H. S.*).—It is not unusual for poultry to lose the feathers round their neck first at moulting time. Let them have plenty of green food, and if any eruption appears on the neck, give them a little flowers of sulphur mixed with their soft food.

HIVES WITH COMBS IN THEM (*C. C.*).—You will have seen that Mr. Payne recommends these for hiving swarms into. We know of no Society insuring Cows against disease.

MAGGOTS IN COW'S BACK (*A Subscriber, Farnham*).—Squeeze them out, and dress the places thoroughly with a dusting composed of 8 ounces of flowers of sulphur, 2 ounces of white hellebore powder, and 4 ounces of white lead in powder. Give your hen pills of calomel and tartarized antimony, so often recommended in our pages. Give her one every other day, and keep her upon soft food, and green food, until she lays eggs in a natural state.

ANTS CLIMBING TREES (*A. A. J.*).—If the trees are standards, a piece of wool tied round the stem, about two feet from the ground, will prevent the ascent of the ants. If the trees are against a wall, the wool must be tied round the stems, and a broad band of coal tar painted along near the bottom of the wall.

CINEARIA SEEDLINGS (*A Novice*).—We regret being unable to do anything in their favour as show flowers.

OXALIS BOWIEI (*S. L.*).—See what Mr. Fish says to-day.

NAMES OF PLANTS (*A Subscriber from the beginning*).—*Ajuga reptans*, certainly. (*Lancastriensis*).—The little yellow flower is *Polygala chamabuxus*, and the other *Heuchera villosa*. (*T. W. L.*)—Your plant "found on a dry bank outside a cottage garden," is *Doronicum pardalianches*, an early-flowering, hardy, herbaceous plant, now considered a native of England. It is rarely found in a wild state. (*W. X. W.*)—*Boronia viminea*; *Solanum dulcanaru* (common English Bitter-sweet); and *Neja gracilis*.

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Bagging Hooks	Grape Gatherers and	Pruning Bills
Bills	Scissors	" Knives, various
Borders, various pat-	Gravel Rakes & Sieves	" Saws
terns	Greenhouse Doors and	" Scissors
Botanical Boxes	Frames	" Shears
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gator	Hand-glass Frames	Reaping Hooks
Cases of Pruning In-	Hay Knives	Scythes
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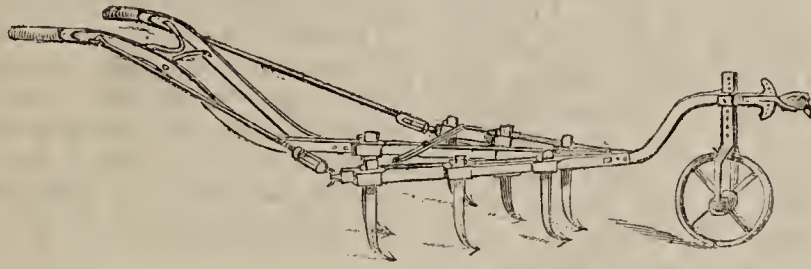
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WEEKLY CALENDAR.

			WEATHER NEAR LONDON IN 1853.									
M	D		Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock bf. Sun.	Day of Year.
MAY 18-24, 1854.												
18	Th	<i>Bombidium pallipes.</i>	29.901-29.864	72-39	S.E.	—	6	46	1 25	21	3 51	133
19	F	<i>Cilicenus lateralis.</i>	29.964-29.896	72-40	S.E.	—	5	48	1 52	⊕	3 49	139
20	S	Sun's declination, 19° 53' N.	30.053-30.012	68-30	E.	—	3	49	2 11	23	3 46	140
21	SUN	ROGATION SUNDAY.	30.076-29.989	65-40	E.	—	2	51	2 27	24	3 43	141
22	M	<i>Agonum 6-punctatum.</i>	30.033-30.060	66-39	N.E.	—	1	52	2 42	25	3 39	142
23	Tu	<i>Agonum vaporariorum.</i>	30.070-29.979	69-45	E.	—	111	53	2 56	26	3 34	143
24	W	QUEEN VICTORIA BORN 1819.	29.968-29.803	71-48	E.	—	58	55	3 9	27	3 29	144

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 66.1° and 44.3° respectively. The greatest heat, 59°, occurred on the 24th in 1847; and the lowest cold, 31°, on the 24th in 1839. During the period 112 days were fine, and on 77 rain fell.

COMBINED HOP SKIM, BEAN BRAKE, AND BROAD SHARE.



I now send you a description and sketch of the agricultural implement of which I made mention in my former note, and I do it from the belief, that, as more than one large farmer has tried it here, and highly approved of it, by sending you this sketch and description, I may render some service to farmers in general, and help to extend the good that may arise from this invention beyond the precincts of this parish.

Mr. John Snashall, a blacksmith, of Bore's Isle, Tenterden, Kent, who is the inventor and manufacturer, has named it the "Combined Hop Skim or Nidget, Bean Brake and Broad Share," as it embraces all the advantages of those three formerly distinct implements. It is entirely made of wrought iron, and, therefore, considerably stronger than such implements in which a good deal of cast iron is used.

The peculiarity of this implement consists in the side braces, which, giving additional support to the wings, prevent any oscillation in the handles; a fault frequently complained of in iron-made implements of this sort.

The braces, as may be seen in the sketch, can be made shorter or longer by means of the screw and swivel at the lower end, according as the wings are set close or wider

open. In the sketch the wings are represented as set at their full width.

The wings will shut up close to the centre beam, when the tines will cut less than a foot of ground in width; at the same time they will open so as to cover three feet of ground, by means of the jointed bar that connects them, which can be fixed in any position by the nut and bolt going through the long mortise in the centre beam.

The depth of cutting may also be regulated from surface work to thirteen inches, by merely removing the wedge at the back of each tine, and shifting them up or down.

Again, by removing all the tines and substituting large shares in the three sockets nearest to the handles, it will then cover nearly four feet of ground.

To conclude; this implement having all its parts bolted together, and not rivetted, any portion may be easily removed for the purpose of repair, whilst in most other implements of this kind they are so fastened together, that four times the necessary expense is incurred for a trifling accident, from the waste of time in getting the implement to pieces and putting it together again.—H., Tenterden.

FOLLOWING in alphabetical order the names of Scriptural plants, as they occur in our authorized translation, we come next to THE ASH TREE. The word so translated occurs but once, and this is in the 14th verse of the 44th chapter of Isaiah. The prophet is deprecating the course pursued by the worshipper of idols, and adds sarcastically, "He planteth an Ash, and the rain doth nourish it. Then shall it be for a man to burn: for he will take thereof and warm himself; yea, kindleth it, and baketh bread; yea, he maketh a god and worshipeth it; he maketh it a graven image, and falleth down thereto."

The Hebrew name is *Oran*; and Dr. Parkhurst, tracing its derivation from *ran*, one of the meanings of which is "to move to and fro with quickness and freedom," thought this a sufficient ground for concluding that not the Ash, but some species of Pine was so named. Dr. Kitto, after remarking that the Septuagint also translate it *Pitun*, makes one step further advance, and considers that the species of Pine intended by the

name *Oran* is the Larch. In support of this opinion he remarks, "It is a fast-growing tree, and its wood is scented like the Cedar of our black-lead pencils. The rapidity of its growth would naturally recommend itself to one who wished to have a god hewn out of the tree which he himself had planted; while the freedom with which any kind of deal burns when kindled, rendered it very proper for fuel. It is a native of warm climates, and produces a kind of Venice Turpentine."

There are many objections to this conclusion. The Larch is not a native of Judæa; and there is neither evidence nor probability that the Jews imported its seeds, or young plants, to grow wood for idol-making. The wood of the *Oran* the idolater employed for "baking bread;" but it is well known that no wood containing Turpentine will answer for such a purpose, because, if so used the flavour it imparts to the bread renders it unpalatable. The wood of the *Oran* was also a fuel-wood; and the idolater, the prophet says, "will take thereof and warm himself." Now, for such purpose the

wood of the Larch is especially unsuited. On this point, we will only extract what Dr. Martyn says, in his edition of "Miller's Gardeners' Dictionary":—"Larch wood is in a manner incombustible; that is, though it may be consumed by fire, yet, where the masses are large, even if a fire be placed on the bare wood, though it will be slowly corroded by it, yet, unless in particular circumstances, it cannot be made to flame, so as to communicate it to other bodies." It is this difficult combustibility which renders it well fitted for employment in furnaces where coal is not to be had; and, consequently, it is thus used in the Ironworks of Styria.

For many reasons we incline to the opinion that the *Oran* of Isaiah was a species of Ash. In the first place, *Aran* is the Arabic for a species of this tree, agreeing, according to the descriptions given by Arabic writers, with the Lentisk Ash, the *Fraxinus lentiscifolia* of modern botanists. "It is," says Dr. Lindley, "a most graceful species, with long, narrow leaves, composed of five or six pairs of small, distinct, sharply saw-edged, shining leaflets. It inhabits the country about Aleppo, and is hardy in this country, where it forms a tree of the most elegant appearance, intermediate, as it were, in form between a Willow and an Ash. The branches are deep rich purple."

The graceful pendulous habit of this tree satisfies Dr. Parkhurst's derivation having allusion to its freely waving top and fro. Then, its native country is adjoining Judæa, being the ancient Beræa, and the properties popularly attributed to the Ash, are such as would suggest its adoption for the formation of an idol.

In confirmation of the belief that the *Oran* was a species of Ash, we may observe that the Talmudists generally so consider it; nor is it inapplicable evidence that *Ornus*, the Roman name for an Ash, is but the Hebrew name latinised.

That the properties vulgarly attributed to the Ash, as well as its good qualities, are such as would suggest its use in making idols, will appear from the following particulars. These particulars, we are quite aware, are related concerning the common Ash, *Fraxinus excelsior*, but we can bear testimony that nearly similar superstitions are attached to other species, and that their useful qualities, especially those of *F. lentiscifolia*, are almost as excellent:—

"The Ash tree has been styled by Gilpin, and not inappropriately, the Venus of the forest;

'*Fraxinus in sylvis pulcherrima:*'
(The Ash, fairest among trees.)

"In the darker ages the Ash was associated with various gross superstitions, whose vestiges may still be traced, as by Mr. White, in Hampshire. 'In a farm-yard near the middle of the village of Selborne, stands,' (in 1776) 'a row of pollard Ashes, which by the seams and long cicatrices down their sides, manifestly show that, in former times, they had been cleft asunder. These trees, when young and flexible, were severed and held open by wedges, while ruptured children, stripped naked, were pushed through the apertures, under a persuasion that, by such a process, the poor babes would be cured of their infirmity. As soon as the operation was over, the tree was plastered with loam, and carefully swathed up. On the Plestor, an area near the church, lately stood a very old grotesque hollow pollard,

'Religione patrum multos servata per annos.'

and held in no small veneration as a *Shrew Ash*, prepared with certain ceremonies and incantations, so that its branches gently applied to the limbs of cattle supposed to be suffering cruel anguish from the baneful run of the shrew-mouse, produced instant relief. In Queen Elizabeth's time, the inhabitants of Colton and Hawkshead Fell remonstrated against the number forges in the country, because they consumed all the loppings and cropping, the sole winter food for their cattle. *Penn. Tour.* 1772, p. 29. Ash is also used for oars and pullies, and much employed by coach makers. The wood hath the singular advantage of being nearly as valuable when young as when old. It is hard and tough, and is much used to make the tools employed in husbandry, carts, wains, &c.: for the wheelwright, maiden poles, the first cuttings are esteemed most valuable: the after stoles, which may be cut every few years, are not of so good quality. The ashes of the wood afford very good pot-ash. The bark is used for tanning calf-skin."

Finally, we may observe that veneration for the Ash is traceable among many nations, and to the most distant ages. In the Edda of the Saxons, man is described as being formed from its wood, and the earliest of Greek historians, Hesiod, says his brazen race of men were similarly made, and among his sylvan deities were the Nymphs of the Ash, *Meliai*.

The May Meeting of the *Entomological Society* was held on the 1st instant, H. T. Stainton, Esq., Vice President, in the chair. Amongst the donations received for the Society's Library, since the last meeting, were the publications of the Royal Society; the Society of Arts; the Literary and Philosophical Society of Liverpool; the "Révue de Zoologie," of M. Guérin Meneville; the first volume of a very elaborate work on the Genera of Beetles, "Genera des Coléoptères," by M. Lacordaire, the well-known entomologist of Liege; and the first two numbers of a work by Messrs. Duval and Migneau, containing beautiful figures of the Genera of the Coleoptera of Europe. The volume of M. Lacordaire contains the Cicindelidæ, Carabidæ, and Water Beetles, whilst the latter authors have commenced their illustrations with the Bruchidæ and Weevils. Both these works are indispensable to the student of Coleoptera; and, what is equally to the purpose, both are very cheap, and at the same time very good.

Messrs. Dale, Wallace, and Bates, were elected members of the Society.

The Rev. Joseph Greene exhibited specimens of the very rare moths *Notodonta cucullina* and *N. trepida*, bred from larvæ captured at Halton; Mr. Edwin Shepherd, specimens of the equally rare *Ephyra pictaria*, also reared from the larvæ; and Mr. F. Bond, specimens of *Anticlea berberata*, also reared, the upper wings on each side being different in their markings.

Mr. Douglas exhibited the caterpillars of a minute moth, *Elachista cerusella*, which was found mining in the leaves of a reed, and of *E. Poæ of Dougl.*, found in the leaves of *Poa aquatica*.

Mr. Samuel Stevens exhibited a pair of the very rare *Notodonta carmelita*, the female still alive and laying eggs; also a very fine specimen of *N. Dictyoides*; and specimens of the rare beetle, *Hylacetus Dermestoides*, with its larva and pupa found on the bark of Birch

trees, the larvæ making transverse galleries in the alburnum; also, *Elater sanguineus*, *rufipennis*, *balteatus*, *crocatus*, *Ips*, *A-pustulatus*, &c., all taken under the bark of trees, in Sherwood Forest, during the preceding week.

Mr. Stainton exhibited some shoots of Ash, on which the larvæ of the little moth, *Prays Curtisellus*, were burrowing beneath the bark. These larvæ, when young, in last October, had mined the leaves of the Ash. A figure, by Mr. W. Wing, of the young mining larvæ, was also exhibited. Mr. Stainton observed, that M. Guenée had said of this species that it was of doubtful position, its larvæ being unknown; but Mr. Stainton doubted whether the discovery of the larvæ, and its singular habits, would tend to remove this uncertainty, unless we discovered other larvæ of similar habits. He also exhibited some drooping shoots of the Spindle tree, the drooping being caused by minute larvæ feeding on the pith of the young shoot. It does not, however, remain long within the shoot, but comes out, and, spinning a few leaves together, feeds externally on the leaves, thus almost reversing the order of things which takes place with regard to the preceding species. Mr. Stainton conjectured that this latter larva is that of *Yponometa plumbella*.

Mr. Stainton also exhibited a new *Lithocolletis* larva, discovered by Mr. Scott, in the underside of the leaves of the Bear-berry (*Arcto-staphylos uva-ursi*), which was interesting, as affording another instance of the larvæ of this genus feeding on an herbaceous plant.

Mr. Curtis communicated a list of raro insects, of different orders, captured by himself at Tunbridge Wells and Dover, in 1852.

A conversation took place on the increasing difficulties experienced by collectors of insects near London, owing to the encroachments of landed proprietors on the ancient public foot-paths over fields.

The Secretary announced, that the Council had resolved to co-operate with, and aid, Professor E. Solly, in the formation of the Trade Museum of the Society of Arts, on which he is now engaged, in matters connected with insects and insect produce, such as silks, honey, wax, &c.; and that any duplicates of injurious or beneficial insects in the Society's collection should be placed at his disposal.

THE one health-giving, blest attribute of water, mainly insisted on in the Bible, is, that it be 'living;' that is, running, fresh, sparkling; well aerated; holding in suspension free oxygen and other gases. This one simple and sublime standard of excellency is thoroughly established by experience; there being no comparison between the restorative qualities of water drunk from a running fountain or from a deep, cold, old well; and the unsatisfactory liquid which we ordinarily get out of a pipe in the street, pumped from the nearest river perhaps; mawkish, warmish, and charged with all the varied earthy, animal, and vegetable refuse of an extended and diversified tract of country.

A very few years ago, it was thought sufficient to collect by thorough drains, on Smith's principle, the surface drainage of a limited portion of land, and to impound the same in a great standing reservoir, for use. A tolerably soft article may thus be procured, of economical value for cookery, brewing, tea, washing, and so forth. So far, so good. But we have yet to learn that any other quality, as even this most valuable one of softness, can atone for the want of freshness in the beverage we are to drink. It occasionally happens (but rarely, and the whole burden of proof in this case lies with the fault finder) that the spring water of a country place is excessively hard, and naturally unfit to drink; the source of impurity being, perhaps, lime or iron. But it has been shown, in a former volume, how the roof of every house, outside a smoky town, furnishes water enough for the ordinary supply of a family; and good water too; only, it is not exactly fresh. To make up for this deficiency, civilised man has contrived a singular variety of preparations, all having the common object of improving the flavour of the indifferent water which civilised man too often has had to put up with. Beer was an early invention of the ingenious people who first dwelt on the banks of the mnddy Nile. The Chinese, with their canal water, invented tea; and in other eastern countries they resort to coffee, sherbet, and other harmless compounds, from a like necessity. Then, our continental neighbours have their *eau sucrée*, their *orgeat*, their *capillaire*, their *groseille*, &c.; and we, ourselves, why should we be ashamed of our raspberry-vinegar, lemonade, ginger-beer, and soda-water? All these are more or less successful substitutes for the only true restoring quality which the hydropathists have yet found out.

But, to return to the fountain head. Napier has pointed out the necessity of substituting for Smith's principle the old Elkingtonian system of spring drainage; the object being to collect, by a very few well laid out deep drains, all the springs of any convenient mountain side as a source of artificial water supply. The geological nature of the mountain range being known, the quality of the water will be pretty certain to correspond to it. Some of the springs will be certain to flow all the year round; a small reservoir, therefore, only is needed, the contents of which will mostly be quite fresh; and, again, at a certain altitude, evaporation and the condensation of vapour almost compensate each other, as the author of the "Natural History of Selborne," has observed, respecting mountain tarns. It is to our mountains, then, that we must flee for help and health, in this as in other matters.

When at last successive improvements, and their results, have rendered it necessary that we should fetch our water supply from the hills, the means to be adopted for this purpose are hereby second in interest to the great question of source. It is singular, that in Oriental countries, and among nations who appear to have had early communication with that favoured race with whom were so long deposited the oracles of Divine Wisdom, many of the plain requirements of national

religion have been more carefully attended to than by our enlightened selves. Thus, it can hardly be doubted now, that the Mexican civilisation is traceable back to Mesopotamia, in some way or other. The soldiers of Cortes tell us of the thousand scavengers daily employed in removing all filth from the city of Montezuma; of the unique floating gardens, and of the water for 300,000 people brought down from the mountains in two earthenware pipes, each wide enough for a man to go up, and of which one was always kept in perfect repair, in order to be at once available if any accident happened to the other pipe.

In the remote city of Erzeroum, near the birthplace of our first parents, we read that the people have their water brought down from the mountains in pipes of wood. The Arabians are said to have carried water for the Persian army into the desert by means of pipes made of the hides of oxen; an expedient not unlike our modern adoption of gutta percha.

As for iron pipes, though not so objectionable as lead, we must say that we neither like iron contained in water, nor water contained in iron.

In Persia, every little streamlet is covered in, and the inhabitants of a village will often bring the water a distance of forty miles from its source. They find the adhesive clay of their subsoil to admit of being hollowed out into sufficiently water-tight conduits. The hydraulic works of this very old kingdom, indeed, would afford many instructive lessons to our crack engineers. The oldest water-works seem mostly to have been formed of stone or earthenware. Horace speaks with becoming doubt of the value of lead, when applied to this purpose. In the very passage in which he observes, that "we may drive nature out with a fork, and she will continually come back again," he enquires which is the more pure, that which is ready to burst a leaden-pipe in the street, or the streamlet which murmurs and trembles at first entering on its headlong, downward course.

The famed wells sunk by the old patriarchs; the deep Moorish wells made by the descendants of Ishmael, in Spain; the old Roman wells, and the Artesian wells of the present day, are worthy of more than a passing notice. Anyone who will take the trouble to study a diagram or section showing the course of a bed of gravel, will see that a gravel-bed is Providence's own model water-works; collecting, storing, and filtering the rain that has fallen on high and distant ground, and bringing the same to our very feet, for use. It is only gross mismanagement which can render this source of supply corrupt; but it may at last become, on the score of cost, unavailable in a populous city, when successive well sinking, or, perhaps, a deep cutting through a bed of gravel, shall have removed the immediate source of supply.

M. Soyer has been the great advocate for seeking water at a very great depth, even in London. He thinks it is the softest, and best adapted for culinary purposes, and the making of tea. For this he proposes a very simple test: the softest water, he says, and that which

makes the best and cheapest tea and soup, is the soonest to boil. He found different waters to take from six to eleven minutes in boiling, according to their purity. But he also had been anticipated by the ancients. Hippocrates says, the lightest water is the first to boil, and the first to cool. This quality was as much admired in his time as in ours. We have already referred to Herodotus's account of the Greek ambassadors comparing notes with the long-lived Ethiopian Highlanders: who attributed the great and almost patriarchal age to which they attained to their very light water. Herodotus, however, questions whether it be the water altogether. Perhaps something was due to patriarchal habits. One way or other it comes to this: the farther we are removed in our way of living from the simple requirements of nature, and from the personal habits of those high-minded "gentlemen" (as Dr. Barrow calls them) "whose lives have been handed down to us for our ensample,—the more precarious becomes our chance of ensuring a good, fresh, pure supply of water: which (like that equally scarce commodity now-a-days, fresh air,) Providence clearly intended to be free to all. But man has been happily taught to supply himself with this inestimable benefit, either by bringing it down from its very source, pure and undefiled, to his own door; or he has availed himself of the wonderful provision of nature to the same end, by simply digging a deep well to bring it up. In default of these means, we have had recourse to many strange expedients to disguise the mawkish flavour of our daily potatoes; to be judged of on grounds of expediency for the most part.

On the great water-drinking question, we are of the opinion of Sydenham, that when men have been accustomed to it from their youth up, no drink is to be compared with it. "It is the natural drink of the greater part of mankind: more happy they in their poverty than we in our wealth and abundance. The vast host of diseases which afflict our bodies are standing witnesses to this: gout, stone, apoplexy, palsy, &c. Then, there are the bad effects upon the mind. This is warped from its right direction by wine drinking."

For exceptional reasons, however, and under a sort of protest, Sydenham recommends small-beer, and weak wine-and-water. Of this latter compound a classical authority has said, that the wine in it should be *seen, but not tasted.*

J. J.

PEAR-DRESSING.

In consequence of repeated and pressing applications concerning my practice with Pears, &c., I am induced to take up the subject again. A gentleman, whose letter lies by me, and who uses the initials "H. T.," says, "As the time is now approaching for his practice to be carried out, I should feel obliged by your calling his attention to it. I allude to his method of pruning his Pear trees, or rather, I should say, his not pruning them."

It will be remembered by our friends that Mr. B. Saunders did me the honour to assist in the examination of this question a long time since, and he has recently replied to certain doubts I had ventured to express concerning the general introduction of the

Quince stock. Although I still have the misfortune to hold some doubts, I must say that it is a pleasure to meet with so agreeable an opponent, if such I may call him. However, as time presses, I must at once advert to spring Pear-dressing, and in doing so, I must point to certain peculiarities of habit, &c.

Everybody knows that Pears in general, on the free stock, have a tendency to produce too much breast-wood in June and July, some, indeed, almost up to September. It is equally well known that those on the Quince, in a number of cases, are so shy at growth, unless placed in very favourable circumstances, as to prove somewhat unsatisfactory to those who seek for profit. In confirmation of the latter point, I would urge the fact that few of our market-gardeners grow extensively on the Quince. Now there is really no necessity for *compelling* the free stock to produce so much gross wood; this fault is not in the tree but in the planter. I have no doubt that many of our stronger habited Pears would succeed better in a compost one half of which was stones; perhaps burnt clay would be a useful thing, nearly in the state of brick. A slow but continuous root action is the state to be desired, and I need scarcely add the absence of any such rapidly exciting media as manurial matters or humus is as desirable. I do think that some of our amateurs would do well to try such an experiment.

The first proceeding with Pears in a trained condition, according to my practice, is to disbud; this is performed during the end of April. It consists in going over every main branch, and totally removing those gross shoots which may be considered as having a tendency to encourage an over-powerful root action. It may here be understood, that in general, although the removal of such a class of shoots has a tendency for awhile to throw increased strength into those which remain, yet that the same proceeding, also, has a tendency to check rampant growth, or grossness in the general system of the tree. If any of the trees at this time are very luxuriant, I do not hesitate, if time can be spared, to open a trench, and remove a slight portion of the extremities of the root-fibres, although this must be done with more caution now than late in the autumn, for I consider that the best period to root-prune bearing trees.

As I before observed, these gross shoots are entirely rubbed away, and now every attention is given to hand-picking those destructive caterpillars, or grubs, which do so much mischief to the foliage, and soon destroy, or much reduce, the crop of fruit. This has generally to be performed towards the middle of May, and when carried out the trees will require little attention until the beginning of June. Of course, young trees, in the meantime, will need a little training, and the leading shoots of the larger trees will need fastening in position.

In the very beginning of June it will be found that the young spray on many of the trees has become too crowded to give fair play to either the fruit or the shoots necessary to be reserved, and we deem it necessary to go over and thin them. Some persons may think that such operations necessarily involve much skill or science, but the fact is, any tidy labourer can do it; for, indeed, gardeners in these times have too much in their head, and on their hands, to carry out all the hard operations which high fruit-culture demands. The science or skill requisite consists in giving explicit directions to the operator as to the proportion of shoots to be removed, and their *character*. This well understood by the operator, the application needs very little more cleverness than is requisite to thin out and weed a bed of seedling vegetables, too thick, wetty, and containing what are called "Rogues," that is to say, varieties not up to the mark, or degenerating.

It is difficult to say, on paper, what proportion precisely should be removed; such, of course, depending on

the degree of shade produced by them, for it is principally a question of light. Most of our readers must have considered that much of the foliage on a wall-tree, in a smothered state, is in a worse condition to receive the broken rays of light than that on an ordinary standard. I have said "broken," because it is only a small portion of the foliage that can receive the immediate and unbroken rays of the sun. The ordinary standard receives a *co-operation* of rays from north to south; for it must not be supposed that the light received from the north side of the tree is unimportant, albeit destitute of sunshine. But those on the wall receive little light in this way; the whole question, indeed, *must not* be made to turn on the mere intensity of the solar rays, it is too narrow a pivot by far; and until this tight view of things is somewhat widened, I much fear that summer pruning will not be sufficiently estimated.

Light, then, and a tolerably equal diffusion of the solar rays, being necessary to the fruiting principle, both as to the present crop and prospective ones, the operator should remove as much spray as will facilitate its division. Any person may judge tolerably well on this head by directing his vision amongst the spray of a crowded tree during sunshine and shade respectively; with a little ordinary penetration he will soon discover how things are going on. Any one who has never done so, and paid little heed to the principles I am endeavouring to expound, will, I venture to say, find himself taken by surprise, and wonder that he never before took the pains to examine for himself; that is to say, if he really feels an interest, and possesses an active and discriminating mind.

But here I must slightly *qualify* the foregoing remarks by a caution. A tree is a real living body, or, if by a little "hair splitting" this should be thought capable of doubt, we may, at least, say that it vegetates. This cannot be said of a chair or a table; we may want to perform an operation on such pieces of furniture, such as shortening the legs, and if so, whether six inches or a foot, it may be done in five minutes, without injury to the furniture, which has no functions to perform but standing where placed; unless the table be one of that most modern and injurious class termed "turners." Not so with a tree, however. My opinion is, that no man can remove, pinch, or mutilate a leaf, or a twig, without having done a positive good or harm; he has done something which will as sure concern the functions of the tree, as that, philosophically speaking, effect must follow cause. And what may be expected from a too heavy disbudding suddenly performed, but at least a temporary derangement of the functions of the tree?

Let the operator, then, perform this at twice, *at least*, say in the beginning of June and in the end. But in doing so, he must *select*; that is to say, he must remove unfruitful-looking spray, and reserve that of opposite character. Long-jointed shoots, pale and watery-looking, and fast ramblers, are known to be of the former class; those of the latter, of course, approach an opposite condition; and the difficulty is, since they merge into each other, to distinguish; this is what puzzles our amateurs so much. Ultimately, this reserve wood is chiefly tied down to the main shoots, at least, such is my practice. After these things are done, I practice "stopping," and this is done at twice; say in the early part of July and again in August—but of this more in due time. Seasons vary so much, that no one precise period can or ought to be assigned for it. One remark I may offer; do it, by all means, in a tolerably dry period; for in periods of much moisture, if the trees are strong they absorb much, and it will *have vent* in foliage. To stop injudiciously a gross Pear-tree during a moist and growing period in July, would be to force much of the valuable natural spurs to lose their position and become barren spray.

R. BRINGTON.

RULES FOR BEDDING-OUT.

To do a thing in a bold, dashing style, whether it be in war, or in politics, or in planting flower-beds, may, or may not, be the best policy, according to the circumstances under which such things are effected. And what are the circumstances, at the present moment, under which the best flower-gardens in the country are being planted? They are, indeed, most favourable; never more so in my time; an almost cloudless sky for the three previous months, to harden, to ripen, and to bring forward abundance of seeds and seedlings, old plants and young ones; to dry, to pulverise, and warm the soil, far beyond the average, for the reception of the healthy stock, and sufficient cold and easterly winds to make people careful of how, and how soon, they exposed their half-hardy things; but those who lost bedding-plants by the sudden change of weather, and the unusual severity of the frost on the 24th April, must belong to the dashing class, notwithstanding all these favourable turns. After bringing forward all our best plants under the most favourable circumstances, such as no one remembers ever to have seen before, a large per centage of our new beginners have so managed their planting, for the last few days, or have made up their minds for this management, as will teach them a lesson, to their own cost, for the rest of their lives.

In the first place, these new comers expect their beds to be full and flourishing all at once; the least hindrance, or the smallest check to their enthusiasm, makes them as fidgety as old gardeners; yet, after all their pains and troubles, they will most certainly be weeks behind, just owing to the style or manner of their planting; many of their best plants will go dead before their eyes, inch by inch, and leaf after leaf. Petunias and Verbenas will die suddenly, no one knows why, but the why is all in the planting. All the tribes of Geraniums begin by shrivelling up the lower leaves, and end in bared stems, brown foliage, and puny trusses of starvation-looking flowers, which no one can account for, and none can mend, but St. Swithin.

All through this style of planting, and so on all over the garden, hardly a tribe escapes the over doing of a good thing, indeed, those plants which had the least trouble taken with them, and had to be huddled out of store pots at the last to make up slight deficiencies, do so much better than the bulk of the stock, that one is apt to be set against so much garden teachings altogether, and trust to chance for the future. Now this often comes of many things as well as of gardening; bold spirits despise small things; but in gardening, at any rate, when you once refuse to comply with the very simplest rule, you are on floating ice, and it is your own fault if *Charley* mistakes you for a Russian.

The very simplest rule that I know of in all gardening is this, and it is the rule which is set at naught by your fast-men: *no plant whatever, from Wellingtonia gigantea, to Pygmaeus minimus, should be planted out of a pot, anywhere, with the whole ball of earth left entire about the roots*; and if there is one secret in gardening, more than another, it hinges on that simple rule. Every writer on gardening of any note, has set his face against the evil practice of planting entire balls with any plant; every reader of this work has read the same tale ten times over, and yet, go where you will *for the next month*, and you will see evidences of the practice being still in full force, save in the hands of scientific gardeners. It is that practice which kills so many bedding-plants outright, which keeps so many of them in doubt whether they will live or die, and so hinder them from spreading out, and from filling up the beds in half the time; and what makes it worse is the fact, that all amateurs, or, at least, all young amateurs, without exception, give six times more *pot room* to their bedding-plants than gar-

deners in first-rate places. There are millions of bedding-plants planted out every year that were never in a pot at all. I myself, as I have often told, used to keep five thousand of *Punch* Geranium in one pit, from the cutting state till they were removed to the flower-garden, without a single pot; and there is hardly a Geranium that is used for beds but I have had in scores, without pots, ready for the beds; and so with other bedders throughout the catalogue; and every other gardener of extensive practice, all over the country, does the like every season. Let us all, therefore, turn over a new leaf this season, and not commit a single plant to the beds from a pot without first loosening the ball considerably. Where the roots are matted round the ball, it is better to shake off every particle of the old soil than to plant the ball entire; but this is an extreme case; and but few balls are so hard matted as to need total separation. If the bottom and the top of the ball, in ordinary cases, are well loosened, and a squeeze is then given to the sides between the fingers, so as to release the end of the outside roots as much as possible, it will be sufficient.

The next point of importance is to see that all the pots or balls have been well watered the evening or morning before turning out; but of all the modes that have yet been hit upon for the safe transplanting of bedding-plants, none is so good as that of having two plants in every pot, then, if the pot was well watered a few hours before the planting, it will not be difficult to make two equal parts of the ball, *not by cutting*, but by a gentle pull, so as not to tear the roots, and if a trowel is used for planting, the back of the half ball will press and fit against the mark of the trowel as it would the side of the pot it was just turned out of, while the torn side, so to speak, is open to a handful of loose soil to be pressed gently against the face of the roots, and when the bed is watered after it is planted, the soil mixes with *one-half* of the roots all over it, as much and as effectually as if the plants were only divided and put into separate pots, and the plants will start away at once; other things being equally favourable, as warmth, moisture, and not much cold, drying winds. Three plants in a pot, say of young Verbenas, or the like, are better and easier managed than one plant having a firm ball, as if there is enough of that kind, the strongest plant of the three may be carefully separated from the rest with a portion of the soil, and the other two may be left in the other portion, but to be laid right and left, as the planting goes on. When a ball is dry at the time of planting, or when it is as hard as a cannon ball, by the pressure of the roots, from a long standing in one pot, the effect produced is this, and any one can prove it in one moment; the next watering after it is planted has no more power on it than so much water thrown on the back of a duck; there is no cup like the top of a pot to hold the water till it finds its way down slowly among the roots, nor is there anything like the sides of the pot to hinder the water from running sideways into the loose soil. A plant with a few good leaves, as a *Tom Thumb*, planted with a hard ball to it, would stand a whole rainy day without the rain making the least impression on the dryness of the ball. I have seen it so repeatedly, and if this hard ball was moist enough at the time of planting, it would only add two or three more days to the comfort of the roots, as, let a hard ball be once placed in loose earth, there is no more chance for it to receive more wet, and it is too near the surface to make much of any moisture which it might suck from below.

After planting according to rules which have been sanctioned by long practice, the next step is to tie or stake, and to guard some things from strong sun and from cold winds. A bed which is more than five feet wide must be trodden upon when you come to train or stake any of the plants, and this treading of the soil is

a bad thing for the plants, and worse still when you have to step over to any particular plants once or twice a week, to see something or do something about the flower, as crossing, budding, watching a new seedling, or any other of the hundred errands which none of us can be exempt from in a flower-garden; besides the bad effects of this treading on beds and borders, there is the wet day and the sloppy weather, in which you cannot make your usual visit without mousing your feet, and catching cold, in addition to the damage to the soil and plants by the treading. There are two or three clumsy ways of getting over all this, but I saw one the other day, in the Crescent near me, which is the best and most useful of all the plans that I have yet seen or heard of for protecting beds, borders, knees, ankles, and thin soles, from all the harm, disagreeableness, and dangers, incident to and inseparable from *our profession*. And what might this be, think you? Just a piece of cork as wide as the crown of a hat, and as thick as the inch "deal board," through which Rob Roy's son could drive the *dirk*; but this thin piece of cork may be of any shape, say a slice fifteen inches long, and five or six wide, to place one foot on while the other foot may rest on the grass or gravel, or two such pieces, where the distance is farther than one single step from the side; with the two pieces you can bud roses just after a shower without soiling your boots; they are, in fact, detached cork soles. A piece as round as a full moon, and ten or twelve inches in diameter, is just the thing to kneel on, or rather to rest one knee on, while you are training shoots along the ground, layering Carnations, and what not, and so on, for every conceivable "position," in the acts of stooping, striding, haunching, heeling, and kneeling; they are carried about by a string fastened to a corner, or side, or middle, and by a loop end to the string; an aged gardener could remove them and take them anywhere with the hook end of his walking-stick, and, moreover, I was told, a piece of thin cork is the best thing in the world to place before a hot bath, to stand on after coming out of the bath, and that if you only just wet it with warm water there is no fear of catching cold from standing on it for ever so long.

A NEW DRAINAGE.

To return to hard balls of earth turned out of pots; and, after giving a final warning against planting them entire, let me tell of a new kind of ball, which I have just seen for the first time, and of which I highly approve—so much so, that I would advise every reader of *THE COTTAGE GARDENER* to have lots of the same kind for next year, and to begin the manufacture of them at once. About this new ball. Does it not seem curious, that a young, active gardener, in full practice at home, should have invented such a ball for pots and pot-plants, just at the time when the soldiers want so many cannon-balls, and when the old rifle-ball is to be thrown aside? Be that as it may; as far as I am able to judge, and firmly believe, this new ball is the most useful invention we have had in gardening for the last twenty years; and I have little fear but they will be made in every potting-shed in the three kingdoms, and as far beyond as *THE COTTAGE GARDENER* travels.

Like many more of the really useful discoveries, this one was hit on by the merest chance, just as the *Epacris* compost was found to suit the *Golden Chain* Geranium by a long fellow who misunderstood my orders for potting them. My young friend, the discoverer of the new ball, ran out of crocks one day last autumn, when he was potting some cuttings of greenhouse Geraniums, and being in a hurry, what does he do but reached across the potting-bench, and took a handful of shreds which he nailed his fruit-trees with, and put them in the bottom of his last pots for drainage.

After a while he forgot all about it; but, before the turn of the new year, he could see that some of his store-pots, or rather the plants in them, were looking so much better than all the rest; and on turning one out, he saw at once that the shreds for drainage made all the difference. I have one of those pots now in my possession, and I am so satisfied with the advantage that may be expected from the use of woollen rags, or shreds, for potted-plants, that I shall use them over crocks, and mixed with the different composts for all my pot-plants. I have often seen how roots increased among broken bones, chips of soft stone, or brick, and in charcoal, but nothing like the quantity and vigour of both root and stem and leaf in this pot with shred drainage did ever I see before.

I would recommend all the old shreds about a garden to be saved as carefully as the best fertilizers, to be at hand for ready use when potting is going on; then to only use one or two crocks over the hole in the pot, and to put over them one or two inches of these shreds for extra drainage, and for feeding the roots, and in all pots above the size of forty-eights, to mix a few of the shreds in the compost, as charcoal or bones are used at present. I am satisfied that their value is already fully proved, and no one need hesitate to use them. It will be a matter of future experiments how far we may go in steeping the shreds in liquid-manures for still farther adding to their usefulness. D. BEATON.

VINES IN GREENHOUSES BECOMING UNFRUITFUL.

MANY complaints of this nature have reached us. It was passingly alluded to the other week. Several cases have come under our own observation, in which amateurs, after having a plentiful crop for years, and even taking away first prizes at exhibitions in the month of September, have been deeply mortified that they could obtain nothing to exhibit. In several of these cases, incidental circumstances pointed to a palliative, if not a complete, remedy. In each the fashionable mode of spur-pruning had been resorted to, and the strongish shoots came next to totally deficient in that for which they were cared for—*bunches*; many of these, after showing, dwindling away, or twisting up into tendril-like matter. In several of these instances, it was found desirable to take up or grow a fresh shoot, in order to increase the space occupied by an esteemed variety; and in each of these circumstances that have come under my notice, whilst the main old stems have been almost barren, these young shoots, reduced to a third or a half of their length, produced shoots from their buds that were well supplied with handsome bunches. This fact would seem to point to the long-rod, or the successive-rod system, as a palliative to an evil which often exists when the spur-pruning mode is carefully followed for some eight or ten years.

For the sake of the uninitiated, allow me to explain, in a few words, the outlines of these various modes of growth, as respects general culture. What is called the spur mode of pruning, is generally best adapted for greenhouses, because, one stem being taken up each rafter, there are spaces wide enough for permitting a fair amount of light to get into the house. The exact time in which such a main stem is permitted to reach the top of the house depends on circumstances and the strength of the vine. Let us suppose that it be three years. In the first winter's pruning after planting the young shoot is cut down within a few feet of the bottom of the rafter. Every bud is supposed to break, and of these the shoots from them are retained right and left, as many as may be deemed necessary; and if they show fruit are stopped at the joint before it, and if they do

not show fruit, they are stopped at about an equal number of joints; the shoot from the terminal bud of last year's shoot being allowed to grow unrestrained, until it gets to the top of the rafter, or even beyond it, when its terminal bud is picked out. At the winter pruning, this leading young shoot is cut down to about half the length of the rafter, less or more, as the circumstances may justify, and the side-shoots of the previous summer are snagged back to an eye or two, or a bud; some people using the one term, and some the other. By the third season, the Vine may thus be furnished with these lateral shoots, and each of these, or as many as may be deemed necessary to retain, when cut back in winter to a single bud, presents you with a Vine grown on the spur system. Into the due management of laterals, &c., from these spurred shoots, I need not now enter; a few from the points of the shoots are always advisable for encouraging root action, to be gradually lessened and removed as the plants approach maturity.

The succession-rod system is equally easily understood. After shortening back the young shoot, in the first winter the terminal-bud left is allowed to grow, just as above; the shoots from the buds below are allowed to expand laterally, and be stopped before the fruit, also as above; but the shoot from the lowest bud of all is allowed to grow until it reaches the point where the first shoot was stopped last year. In the second year, at winter pruning, the whole of the side-shoots are removed, and the main terminal one is shortened, so that now there are two shoots of last season left, instead of spurs; and by the third season the house is furnished, at winter, with three young shoots for bearing in the fourth year; and then, at the winter pruning, the oldest is removed; and this being done every year, the system may go on as long as desirable.

The long-rod system consists in having a young rod the length of the house every year, removing it when it has fruited and substituting it by another. As I have stated, the spur mode is the simplest, and, on the whole, admits most light into the house; but there is not such a great difference in this respect, and for these reasons:—On the spur mode, you must retain lateral shoots, though they have no fruit, because you wish to have a well-ripened bud at their base next year. On the successive and long-rod system, every side-shoot that does not produce fruit may be gradually removed; laterals on those that do fruit allowed to be produced rather sparingly, and the whole strength of the Vine be thrown into the bunches, and into the shoot or shoots designed for bearing the following year. A shortish long-rod system, was part of the basis of the mode so ably advocated for out-door culture by the late Mr. Hoare. If any of these latter modes are adopted, sudden checks to the system should be avoided, and unfruitful side-shoots should only be gradually removed when the young main shoot or shoots for fruiting the following year are growing so vigorously as to monopolise the whole strength of the Vine. On the same principle, the laterals, or all the short-bearing shoots, should be *gradually* removed, but left at one joint on the young succession-rods, getting them off, however, gradually, as the wood browns, or you may have strength of wood at the expense of smallness of buds.

Now, keeping all this in view, and taking our standpoint by the side of this Vine, the main stem of which had been spurred-in from bottom to top, emitting strong shoots from the small buds at the base, but almost totally destitute of fruit; while the nice young shoot, half-way up the house, of last summer's growth, has furnished, not only a shoot, but nice shows of fruit from every bud—an I not warranted, from this *prima facie* evidence, in coming to the conclusion, that in certain

circumstances these young rods are more to be depended on for fruitfulness than shoots from spurs, however strong?

Two reasons, therefore, may be assigned for the unfruitfulness of greenhouse Vines in such circumstances. First, it is the nature of the Vine to produce its smallest, least-perfect buds at the base of the shoots; so much so, that the slightest observation will show, that in pruning away the top of a fine shoot you almost invariably cut away the finest, roundest, plumpest, and—if equally well ripened with those at the base of the shoot—the best organised buds. And, secondly, this evil is often increased by the want of thorough ripeness of the wood in the greenhouses of amateurs, who are as anxious to have their plants safe early in autumn, as they are to have a bunch of Grapes for themselves or their friends. This want of ripeness in the wood proceeds, again, generally, from two causes. The Grapes are often ripened before the wood is thoroughly consolidated, and more especially in a dull autumn. A dry fire-heat would not injure the Grapes, while it would tend to ripen the wood, but bags of various materials are resorted to for keeping out the damp from the bunches; and, besides the expense of the fuel, it would do little good to plants placed in their winter habitations, since they had previously been revelling in a moist atmosphere. Of course, I am alluding to this affair before the leaves have become brown; as after they have lost their green tints, all firing, for the mere purpose of ripening the wood, is so much waste.

Then, again, there is the evil arising from the contest between neatness and utility. I could direct my mind's-eye, any day, on a dozen, or a score, of cases, in which Vines having produced abundantly for a number of years have, without exhibiting much trace of weakness, become gradually unfruitful, and yielding fruit when it comes more distinguished for watery than rich saccharine properties. Although this work, as much as any other, is read by many of the highest professionals in the country, it is not with them that I would venture to get into a fire-side gossiping style, as I at any time feel more inclined to receive instruction from them as authorities in gardening. To our friends, the amateurs, I have often been indebted for sound practical ideas. They, also, know it so well, that a number of them never hesitate to ask for a return in kind; and one of the greatest pleasures in being connected with this work is, that the directions from experience, or the confessions from my own ignorance and inadequacy, instead of being confined to the few, are wafted in the way of thousands. Not unfrequently have I selected one case as an illustration; and such a good hand at being personal have I become, that hints and winks of being "too bad;" "we must take care what we say to you," &c.; have been so thrown in my way, as to show the cap fitted many wearers instead of one; and the best of all is, that in every instance, under a very thin veil of assumed displeasure, there beamed from the countenance the unmistakeable evidence of pure satisfaction that their doings or undoings had been made subservient to the general advantage.

Now let me, as an illustration, fix upon a case, without caring, rather the reverse, how many may apply it to themselves. There is a nice greenhouse, with Vines up the rafters; the border was well made, with a good drainage, and a good slope, from back to front, but no concreting or paving at the bottom. The ground around was occupied with vegetables and flowers; more attention being paid to the useful than the merely tasteful and ornamental. A little manure on this border was, therefore, no eyesore; a drenching of manure-water, or soap-suds, or a slight sprinkling of hono-dust on the surface, was no uncommon thing; and so well did the Vines as well as the plants thrive, that I have seen

specimens of both exhibiting first-rate excellence. The proprietor becomes more refined; he buys, or gets, his vegetables elsewhere; he turns the space that produced them into a neat flower-garden; any litter on the Vine-border becomes henceforth an eyesore; he never dreams that enrichment on the surface can be given without either litter or anything untidy being seen. The manure-water counteracts the delicious fragrance of the flowers, and that is dispensed with; nay, more; the very space of the border, empty, fallen, and desolate, looks out of place beside these gay and rich mossy beds, and forthwith that border, too, must be eropped and made beautiful and gay like the rest. And what is the consequence? The roots of the Vines, prompted formerly to keep near the surface, within reach of an oxygenated air, nearness to which is a prime source of fertility in vegetation, in quest of the moisture and the nourishment they require, have found their way downward, very likely even beyond the drains, and have gorged themselves with watery juices, which the heat and light afforded have been unable to dissipate from the foliage and wood; and the consequence is just what is every day likely to be evinced in every tree and shrub, as well as the Vine, namely, that the extreme of mere wood-growth, and the extreme of fertility in fruits and seeds, are completely antagonistic. If we wish a Pear-tree to become forest timber as quickly as possible, with a sure crop of Pears some generations hence, we would manure and trench the soil to as much depth as possible. Did I want fruit in a few years, I would take Mr. Errington as my guide, and plant shallowly, and not prune, and, if necessary at all, give surface-manning. Mere luxuriance and fecundity will ever be opposites. Moisture at the surface, by mulching or otherwise, manurial agencies there, if required, because in close contact with sun and air, will never oppose fecundity, unless carried to an extreme. Plants with roots in moisture, deeply removed from atmospheric influences, will produce the opposite effect. If the plant is at all tender, the luxuriance will not be healthy.

What, then, is to be done in such a case of unfruitfulness? I do not allude to worn-out Vines, or sodden borders, or want of strength from a deficiency of soil and fertilisers, because these latter may be readily given. I will merely glance at a few remedial measures, when the cause is attributable to unripened buds, and that, principally, from deep roots and too moderate firing. I must merely mention these measures.

1. Endeavour to coax the roots to the surface, by removing some of the old soil, especially near the stem, and by mulching all over there, even should you cover it over with fine soil on the surface, make up your mind to cultivate nothing, or next to nothing on your Vine-border.

2. You cannot think of giving up the spur-system, though you think the deep roots are the cause of the evil. Well, keep only as many short shoots from the spurs as you can expose freely to the light. Whatever laterals you allow to grow at first, remove them all gradually, and before they are all removed, pick out every bud on the axils of their leaves. After Midsummer, take out a few buds from the end of the shoots, and when you see there is no fear of starting the lower buds, go on removing these upper buds gradually with the point of a penknife, until, by the time the wood is ripened, you have only two or three buds left at the base of each shoot. During all this process no leaf on these shoots is touched. The fine, healthy leaves keep up reciprocal action between roots and tops; the removing of the buds from the part of the shoots farthest from the main stem, has a tendency to concentrate more organisable material at the base of the shoot. Some may say, and with truth—Why make ado about increasing the size or force of these small buds,

when many leave no buds, at least, perceptible ones, at all, but prune all as close as if they were cutting a walking-stick? With plants in proper condition, I do not think it matters how you grow, fertile shoots will break out in plenty, but if the Vines are such that fertile shoots will not come from spurs with buds, I should despair of their coming where there were no perceptible buds at all. It will be wise, also, to give the plan a fair trial, to give a little more fire-heat than usual early in autumn. In fact, in proportion to the depth of roots, however grown, pruned, and trained, will, in general, be the quantity of fuel necessary to consolidate the wood.

3. Resort to rod-growing and pruning, either short, long, or mixed. Thus, the buds will have a tendency to be better swelled, and all, except the terminal part of such shoots, if duly exposed, and unshaded by barren lateral shoots, will be better ripened. Do not be deceived, however, in one thing. Shows of fruit from such rods, in general, are finer than those from spurs; but those from spurs often beat them at last, by doing their work better in the end. I have, however, frequently obtained good Grapes from rods of Vines that I know were deep in the earth, when I could not get a bunch on the spurring system. Moderately shallow borders I consider an essential for successful spurring. Even in this case of *rodding*, in these unfavourable circumstances, much will depend upon a sunny autumn, assisted by a dry fire-heat.

4. The last remedy, and what would enable the grower to prune as he liked, at least in a second season, would be carefully to raise the roots within six or nine inches of the surface—just when the Grapes are nearly out, and the leaves showing the first tinge of brownness—and covering the border with warm litter. Roots would be produced before winter in the new soil in contact with air, and so long as kept there, and at all well managed, there will be no deficiency of bunches.

R. FISHER.

JOTTINGS BY THE WAY.

NUNEHAM, NEAR OXFORD, THE SEAT OF THE LATE ARCHBISHOP OF YORK.

IN the course of my journey on business I had to visit Oxford. I called at the Botanic Gardens there; but Mr. Beaton has anticipated me in describing them, and so I shall pass on at once to describe Nuneham, a place celebrated in gardening, under the excellent management of Mr. Bailey.

Nuneham is situated about six miles from Oxford. There is a railway that brings you within two miles of the house, at a station called Abingdon Road. The morning was lowering, but cleared up in the afternoon, and the atmosphere had that soft, breezy appearance which gives the landscape the most agreeable effect. In passing through the well wooded park, I was much pleased with the grouping of the trees. I believe the late Mr. Gilpin had the planting of many of them, or at least he thinned them-out into groups. Here you might notice a cluster of some twenty or thirty ancient-looking Scotch Firs; there a lesser group of Beech trees, with their elegant drooping forms; then, in another direction, you may see a single sturdy Oak, breaking away from the mass, and softening the abrupt termination of a clump, belt, or group, with large breadths of bright green open spaces between. Indeed, the shadow of the trees on the velvet turf, the peculiar light yellowish tint of the foliage, a colour peculiar to spring, rendered the park scenery quite a study either for the painter or the landscape gardener.

The mansion is a plain, substantial building, with broad terraces in front, and many beautiful views in

almost every direction. There are some beautiful geometric flower-gardens on the terraces, which, of course, were bare, but were being prepared for bedding-out plants. The box edging, I was told, had been planted for twenty years, but by dint of constant attention had been kept as neat in appearance as the first year after planting; it was not more than an inch high, and scarcely as much through.

The walks here are extensive, winding amongst fine trees and shrubs, and are in excellent order, *though the family were not at home*. In one secluded spot I noticed a tree, which I shall call an Ivy-tree. The centre was a Scotch Fir, some 70 feet high. Ivy had been planted against it, and had run up nearly to the top, where it hung down in graceful festoons. At the foot of the tree, and about eight feet from it, some six or seven strong posts, seven feet high, had been set firmly in the ground. The space thus inclosed was gravelled, and Ivy was planted against each of these posts. It had grown up to the top, and then was trained horizontally across to the main support—the Scotch Fir. The effect was most unique and excellent.

Near to this Ivy-tree and seat there is a series of rockwork, one part of which was overhung by an enormous double *Corchorus japonica*, in full flower; the golden colour of the blossoms contrasting beautifully with the dark green of the moss-covered rocks beneath. On an eminence, a short distance from the house, there is a beautiful Church, in the Greek style, from the front of which, Oxford, with its domes, spires, and towers, may be seen in the distance. In front, the river Isis winds its way, the waters dancing and sparkling in the glorious sunlight that was shining when we stood and looked admiringly on the beautiful landscape richly spread out before us. On a hill at the other end of the pleasure ground there is another vista-like view of Oxford; and, by just turning half-way round, the spectator has a fine view of the quiet little town of Abingdon, about three miles distant. Indeed, no place I have ever seen has so many beautiful views as Nuneham.

The frost has been here, as well as elsewhere, and has done great mischief in the kitchen-gardens, which are extensive and well managed. I noticed the *Pear* trees covered with thousands of young fruit, apparently quite sound, but in order to try them, we selected some of the seemingly sound ones, cut them in two, and then found a black mark where it ought to have been pure white. Both Mr. Fish (for he was with me), Mr. Bailey, and myself, concluded that they would all, or nearly all, drop off in a very short time. *Apricots* against the walls, great part of them were spotted with white, and appeared contracted. A few of them that were situated under tufts of leaves will escape. *Peaches* and *Nectarines* are in the same plight, but *Morello Cherries* on the north wall will be safe. Mr. B. manages his *Morellos* differently from anybody else that I have ever seen. He is only pruning and nailing now, the border close under them was strewed with branches in full flower. The reasons for this late pruning and nailing are, because, the young shoots having made their appearance, the pruner can see where to cut to, and also many shoots, being at a distance from the wall, are retarded in blooming, and thus escape the ill effects of late frosts, as they had done in this instance; and lastly, as Mr. Bailey humanely observed, it was more comfortable for the men to nail the trees in the warm days of spring, than to have to stand still in the cold bleak days of winter.

The *Pear* trees in the open borders were also trained somewhat different to other gardens. Every alternate tree is trained into the pyramidal weeping form, and the others are trained espalier fashion, horizontally; this method takes off the formal appearance of the espalier. One south wall was entirely devoted to *Figs*;

on these the frost had severe effect. The ends of most of the shoots are blackened, but some of the fruit will escape where it had been sheltered by forward shot leaves. The *May Duke*, and other kinds of sweet *Cherries*, appear to be all destroyed, and all the *Strawberry* blossoms that were open on the frosty night of the 24th of April (the night and morning when so much mischief was done,) are quite black in the centre, and, of course, will come to nothing. Later blossoms appear to be all right.

In vegetables, the *Potatoes* were all killed, but are now springing again. *Beans* and *Peas* were in flower; one row of *Peas* (*The Prince Albert*), sown close to a south wall were in pod. Very nice *Carrots*, the Horn variety, were fit to draw. These had been sown on a slight hotbed covered with glass. In the houses there were fine crops of *Grapes*, one bunch just beginning to change colour. Here are several plant houses, filled with the usual plants, all clean and healthy, and trained in the approved fashion.

Space will not allow me to say more about this interesting place. It is likely Mr. Fish will have something to write about, for I observed him taking notes.

T. APPELBY.

NEW FLORISTS' FLOWERS.

(Continued from page 99.)

ROSES.

THE culture of these flowers is not confined to the experienced florist, but is extended to almost everybody, from the highest in rank, having extensive gardens, to the humblest artisan, who only has, perhaps, a broken pot to grow a single plant in. This universal love of the Rose is peculiar, no other flower being so valued and so generally grown.

The great Rose Nurseries of Messrs. Lano and Sons, at Berkhamstead; Messrs. Paul and Sons, at Cheshunt; Mr. Rivers, at Sawbridgeworth; Mr. Francis, at Hertford; contain such a vast quantity of Rose-trees, that if we could suppose such a being in existence as a man who never saw a Rose growing would perfectly astonish him. So many are raised every year, by budding and by cuttings, that even the practical man catches himself asking the question, "*Wherever do all the Roses go to?*"

I have mentioned the above growers as being the principal, but all nurserymen, or nearly so, grow Roses; some to such an extent as almost to rival Messrs. Paul, and the rest above alluded to. Upon a rough calculation, I believe, that in Great Britain there are raised for sale, every year, a million of Rose-trees, including Standards, Half Standards, and those on their own roots, in pots. Then, again, the number of the varieties perfectly distinct is equally astonishing. Some of the catalogues of the large growers contain more than five hundred names, with the colours of each described, and this great number is annually increasing, though it is a fact that we are indebted to the growers on the continent for by far the greatest number of new varieties of this universally-esteemed flower. I know more than one nurseryman in this country who take a trip annually to the Rose Nurseries across the water, purposely to see the seedlings in flower, and purchase such as are good to propagate for the Rose cultivators in our gardens. I have selected a few of the best batch of new ones, all of which are worthy of adding to a good collection.

MOSS.

Princess Alice; blush, shading to a pink centre; large and full, with the buds well covered with moss. A most beautiful, distinct variety.

HYBRID CHINA.

Vivid; this is a superior Rose, of a glowing crimson colour; it is very showy, and is suitable for covering a pillar or a wall.

HYBRID BOURBON.

President Pierce; a shaded Rose of great beauty; the outer petals are of a clear lilac, but the inside ones are of a rich velvety purple, good form and substance; size large and very double; habit strong, and foliage shining and large.

HYBRID PERPETUALS.

Adam Paul; a very large, superb Rose; full in the centre; colour pink or pale rose.

Alexandrine Backmetiff; an expanded Rose when fully blown; colour deep rose.

Archimede; when this Rose first opens it is pale lilac, but changes in a few hours to a pure white. It is large, and full in the centre, and the petals are regularly imbricated.

Baronne de Heekbren; this new Rose rivals the well-known *Baronne Prerost* in size, and is superior to it in colour, being of a bright pink. It is really a superb variety.

Baronne de Kermont; something like the last in colour, but not so large a flower. It is very double and compact.

Colonel Lorry; this is a Rose of a bright, rich, rosy-red colour, very showy and attractive.

Compte de Nanteuil; very large, and full in the centre; colour deep rose; form and substance excellent. A truly fine variety.

Duchess D'Orleans; the form of this new Rose is very fine, size large, and very double; colour deep rose in the centre, shading off to a light rose at the edge; very beautiful.

Fairy Queen; the colour of this charming variety is unique, being of a soft, glossy lilac; form good, centre full; it is a free bloomer.

James Veitch; colour deep rose; a finer flower than *Noemi*, being more full, and deeper in colour and shade.

Jules Margattin; here we have a splendid Rose, of a glaucous crimson-vernilion; in size above medium; form good.

Lady Shelley; a beautifully-shaded variety; colour rosy-lilac, shaded with carmine; form excellent; remarkable for its surpassing fragrance.

Lady Stuart; pale flesh; shape fine and beautiful.

Madame Harriet Stowe; a delicately-tinted Rose, of large size and powerfully scented.

Souvenir de Leveson Gower; fine dark red, changing to ruby; shape excellent; size large; a superb variety.

Triomphe de Paris; this is a superior Rose to *Geant des Batailles*; indeed, it is considered the finest dark purplish-crimson Perpetual yet introduced; habit vigorous; form excellent.

BOURBON.

Adelaide Bougere; deep crimson-purple, very free, and rich in colour.

Souvenir de l'Arquebure; rich scarlet-crimson; a noble, fine Rose.

TEA-SCENTED.

Canary; bright canary or yellow; very beautiful in every stage, but especially in bud.

Cerise pourpre; purplish-cherry, changing in colour; large and full.

David Pralle; bright rose generally, but sometimes changing to crimson; a large Rose, and well filled in the centre.

Gloire de Dijon; ochre-yellow; a Rose of the very largest size.

Georges de France; a fawn-coloured Rose, shaded with

salmon. This is a globular shaped flower, very beautiful in bud.

Madame le Hardelay; sulphur-yellow; large and full. T. APPLEBY.

(To be continued.)

WOODS AND FORESTS.

THE OAK.

(Continued from page 39.)

RAISING FROM SEED.

THE Oak flowers in April and May, and ripens its acorns in October. As soon as they are ripe they should be gathered, and may be sown immediately, but the more general method is to keep them till about the first week in March; and the best way of keeping them is to mix them in sand and keep them in a cool room till wanted. Mice, as is well known, are exceedingly fond of this seed, and, therefore, that is another reason for sowing them in spring, because the time they are exposed to the ravages of this destructive little beast is shortened.

The seed ground should be duly prepared by autumn-digging, and laying up in ridges, to be improved by winter frosts. When the sowing time arrives, two or three dry days previously the ground should be levelled down with one of Winton Park's five-pronged steel forks. The ground should, if possible, be moderately dry. Most nurserymen sow them broadcast in three-foot beds, but I am quite sure they are better for being sown in drills fifteen inches apart. If the bed plan is adopted, the beds should be set out in the proper width, with fifteen-inch alleys between; I consider one-foot alleys too narrow, and one-and-a-half feet a waste of ground; but where that is of no consequence, then the wider measure may be adopted. The soil should be drawn into the alleys out of the beds one inch deep, and quite straight at the edges. The acorns should then be evenly sown, and not too thick. Each one should have at least an inch-and-a-half to two inches space to grow in, and no more beds should be hollowed out than can be sown and covered the same day. Where hands are plentiful, some should be preparing the beds, others sowing the acorns, and the rest following after with spades to throw the soil out of the alleys over the seed, so as to cover it two inches deep. They should be covered evenly, which a practised hand will easily accomplish. When all are sown, the surface may be levelled with a wide short-toothed rake, the sides of the beds neatly chopped down with the spade, the alleys just levelled with a rake, and then the sowing is finished for that day.

Where the drill system is adopted, the same process of levelling and forking the ground should be done; then draw drills nearly two inches deep, with a triangular hoe, at fifteen inches apart; scatter the acorns evenly in each drill, and cover them in with the garden rake. This is a more simple method, and there is the advantage that when the plants have come up, the space between the drills may be hoed to keep down the weeds.

The Oak, unlike most other forest trees, sends down at the very first what is called a *tap root*; a wise provision of the Great Creator; for the Oak has to battle with the breeze for hundreds of years, and this straight down-growing tap-root enables it to take hold more firmly of the site where it is, if naturally sown, to brave the blasts and the storms of the wind from generation to generation. This peculiarity has induced some of our greatest timber-growers to sow the acorn at once in the place where it is to grow till it becomes the monarch of the forest. I alluded, in a former paper, to the Oak Woods at Welbeck Abbey, belonging to the Duke of Portland, a nobleman who has devoted a long life

to the improvement of his estates, whether occupied in farming or forestry. He has been gathered to his fathers since I wrote that paper, and I may venture to say, a more patriotic man never lived. He was truly and emphatically a noble man.

His Oak plantations are of great extent, and, as I was given to understand, are all, or nearly all, from acorns sown on the spot where the trees, some thirty or forty or more feet high, are now growing. I could see the ground had been thrown up in beds, the seed sown, and gradually thinned as they advanced in growth. The older plantations were just thin enough, and the stems were as straight as possible, promising, in the next generation, to become stately denizens of the forests; thus proving and producing examples of what well-directed efforts, patiently followed up for some three-score years' care, accomplish even in raising the slow-growing Oak.

(To be continued.)

THE RUNNER KIDNEY BEAN.

THE tropical origin of this plant is still manifest in its injury by cold, for the least frost seems to destroy it, and although it will struggle through one of our driest summers, and furnish our table with a profusion of those pods which have long been as common at the table of the poor man as at that of the Prince, still it is only during our brightest seasons that it attains that degree of excellence, in bearing and quality, which make it one of the most profitable crops grown, where sticks or some other means of attaching it to can be commanded. As its utility is unquestionable, a few words on its culture may not be altogether out of place, although in that respect, perhaps, little that is really new can be adduced, yet its peculiarities are not everywhere known.

Unlike its compeer in the kitchen-garden quarters, the tall or running varieties of the Kidney Bean have not received such an accession of fresh names, *alias* kinds, as the Pea has done during the last dozen years or so, but prior to that date some little attention was directed to it in the way of increasing its attractive powers, and by some adroit contrivance the colours of the Scarlet and of the White Runners were blended in that of a sort of hybrid variety, which was named, rather libellously, by-the-by, *The Painted Lady*. This pretty flowering kind was a great favourite with the flower-gardener for a time, and its admirers asserted that its qualification for profit, or table, was equal to that of any other sort. This, however, has not been the case, for it does not bear so well, but it is well worthy a place in the shrubbery-belt, or other back ground, as a tall, flowering climber, in which capacity it is not seen half so often as it deserves. It was also about the time that it made its appearance that some little stir was made in the gardening world, by some one announcing he had discovered a perennial variety, or rather, he had contrived to save a few plants through the winter, which had been in bearing the year before and cut down. This was thought something of a feat at the time, but its practicability seemed doubtful to carry into every-day practice, and except those who might now and then save a few plants for curiosity's sake, there has never been any useful result followed in keeping them over the winter, the plan being at variance with the designs of Nature, whose object is to induce an annual to ripen its seed every autumn to reproduce itself the next year; and though several kinds may, by adopting a particular course of culture, be carried through the winter, it is rarely they exhibit that degree of robust health which seedling plants do. I have saved *French Marigolds* through the winter, and struck cuttings in spring, but

could never get them to flower any earlier; nor, in fact, so early as the same kind sown that spring; the only advantage was the certainty of their being the particular kind I wanted; but this is not the only case wherein an apparent start proves no advantage, for another presents itself in the flower-garden way. *Fuchsias* that have been allowed to stand the winter without cutting-down do not flower one whit sooner than those cut down in the usual way, and have to make rods like basket willows ere they bloom. I have some old plants of *Fuchsia Riccartonii*, which have stood unscathed for several winters, the tips only being killed each season; but they are no earlier than others that are regularly cut down every autumn. I thought the past winter, being severe, might have destroyed them, but I find they are pushing out all the way up their fleecy barked stems; a greater length of the tip ends, may, perhaps, be killed this winter than usual. But as this is a digression from the habits of annuals, I have merely adduced it, to show that an apparent advantage does not always prove so; and I have no doubt but the perennial variety of Kidney Bean, which the enthusiastic cultivator of the day believed was to become a great national boon, proved anything but an acquisition. However, as seed is produced, in a general way, plentifully enough, the object of saving old plants through the winter, on that score, is not worthy of a serious thought. We now come to the practical part of rearing them in the spring.

Like most large seeds, this vegetable germinates freely, but, like many more large ones, it does not keep well over one year. This inability to preserve their living principle seems not to be confined to the seeds of tender exotics, for some of our most common and hardy plants are equally as bad keepers as those from the tropics. The sturdy Oak, the boasted emblem of our national greatness, bears a seed which is, perhaps, one of the worst for retaining its vital powers out of the ground, while even Peas and Beans are less able to endure the "effects of time" than many seeds of very minute proportions.

The Kidney Bean keeps well until the spring, when its proper time to be returned to the earth comes round, but some thirty or forty per cent. will be found defective if kept until another season, and still more, if kept longer than that; consequently, fresh seed must be had every season, and those of our cottage friends who have not the chance to save their own, must take care and have it from some one whom they are sure deals in a good article. The ordinary sowing in the open ground is an easy every-day affair, but when the ground is not exactly suitable, something must be done to assist it that way, in order that it may be able to flourish and bear well. It likes a generous soil, but one too rich rather tends to grossness than fruitfulness; consequently, where a soil of the latter kind has to be put under crop, do not let it have any dung nor other manure, and if the crop be seed-planted on the ground, let no other part of it be dug, save that portion only where the row is to be, and do not let it be loosened any deeper than just sufficient to receive the seed, the rest being trodden as hard as it can be made, and the usual adjuncts to good cultivation in other matters must be set aside here, or rather a directly contrary course adopted. No earth-stirring, nor any of the contrivances, in other respects, so useful. This will, in a general way, check the habit, so as to produce fruitfulness. If, on the other hand, a degree of barrenness arises, in consequence of the soil being too stiff or clayey, or containing matter not agreeable to the Bean's wants, some additional matter must be furnished. Stones of various kinds, and especially brick-and-mortar rubbish, are especially suited to the requirements of this vegetable. The addition of these will be gratefully acknowledged by the increased vigour and fruitfulness of this plant; and, of course, these in-

redients will be equally beneficial to the after-crops on the ground.

In early sowings, the cold weather, to say nothing of the frosts, often decimate the crop very much, and it is only in very dry, warm places, that this production can, with safety, be committed to the ground before the second week in April, while in late or cold ones, the end of it will probably prove quite as successful. The delicate cotyledons, as well as the tender stems that support them, are ill able to endure the chilly blasts of the east wind; it is, therefore, advisable to sow a few in pans or boxes at the same time as those are sown in the open air, so that if the latter suffer a mishap, there may be plenty to make up the deficiency without going the round of sowing them a second time on the same ground; but, as I have repeated, there is not much gained by sowing very early, for no ordinary amount of protection, in the shape of covering, can urge them into a healthy growth until that genial warmth which the spring brings with it comes to their aid; however, if established plants can be saved, so as to be ready to start forward when the weather allows, there will be a decided advantage, and as the planting of them is not attended with much trouble, we advise its being done when it seems advisable to replace a broken plantation, or hasten on a new one.

Although the above observations are intended to give a clear idea of the wants, &c., of the Searlet and other running kinds of Kidney Beans, yet, much that is there said applies equally to the Dwarf varieties; only the latter, being of a less robust character, have never been such favourites with the general mass of cottage gardeners; but as there is a greater diversity amongst these, and as they come into use sooner, and, requiring no sticks, are adapted for situations where these supports cannot well be had, a good breadth of French Beans is a very useful plot of ground; but as the treatment necessary to give them requires more explanation than our limit now allows, I must leave that subject for the present.

J. ROXBOROUGH.

SEA WEEDS.

(Continued from page 103.)

We next come to a very beautiful and delicately-formed order of Sea Plants, the 13th, or,

CERAMIAEÆ.

"Rose-red, or purple Sea Weeds, with a filiform frond, consisting of an articulated, branching filament, composed of a single thread of cells, sometimes coated with a stratum of small cells. Fructification, 1. favellæ berry-like receptacles, with a membranous coat containing numerous angular spores; 2. tetraspores attached to the ramuli, or more or less immersed in the substance of the branches scattered."—Harvey.

This order contains, among many others, the exquisitely beautiful *Ceramium diaphanum*, looking like Mosaic work, with its alternate light and dark cells; *Griffithsea setacea*, which dies immediately on being placed in fresh water, but, dolphin-like, becomes more beautiful in colour. The noble *Ptilota plumosa*, so peculiarly a northern weed, with its rich, brown, graceful, feathery fronds. The lovely *Callithamnion*, in all its delicate varieties; so delicate, indeed, that it is a cause for wonder how these tender plants ever bear to be tossed about as they are by the rough waves of the ocean; or, as Shakspeare poetically calls it,

"The pretty vaulting sea."

And again,

"The murmuring surge
That on the unnumber'd idle pebbles chafes."

1. PTILOTA. Ag.

"Frond inarticulate, linear, compressed, or flat, distichous, pectinato-pinnate, the pinnules sometimes articulate. Fruc-

tification, 1. roundish, clustered favellæ, surrounded by an involucre of short ramuli; 2. tetraspores attached to, or immersed in, the ultimate pinnules. Name from the delicately pinnated frond."—Harvey.

1. *P. PLUMOSA* (Feathery).—This very handsome, feathery



weed, of a rich, deep crimson-brown, is found growing on the thick leathery stalks of *Laminaria digitata*. It is very common in Scotland. I have had my finest specimens from Ireland. Sometimes the fronds are rounded at the tips like the feathers on a hen's back; at others, sharp and narrow, like the hackles of a cock. This plant is not found in the south of England.

2. *P. SERICEA* (Silky).—So called from its soft and silky texture. The frond is so much branched that it is not easy to display it to the best advantage on paper; it is rather a dull, dead brown, grows on rocks, and is found, unlike its more hardy brother, *P. plumosa*, on the southern shores of England. On some specimens, which I had from a friend in Jersey, were little chains of the rare and beautiful zoophyte, *Crisia chelata*, or Bull's-horn coralline; very minute, in "sickle-shaped branches, looking, when magnified, like bull's-horns inverted, each one arising out of the top of another.

2. MICROLADIA. Grv.

"Frond filiform, compressed, distichously branched, traversed by a wide articulated tube, surrounded by numerous, large, coloured, angular, radiating cells, the outer coat formed of minute cells. Fructification, 1. sessile, roundish, involucreted favellæ; 2. tetraspores immersed in the ramuli. Name from two words signifying small and a branch."—Harvey.

M. GLANDULOSA (Glanded). Very rare, and parasitic on other plants, of a fine red colour, and having some resemblance to *Ceramium rubrum*. It has been found by Mrs. Griffith, Miss Warren, Mr. Ralls, and Mrs. Gulson.

2. CERANIUM. Roth.

"Frond filiform, one-tubed, articulated; the dissepiments coated with a stratum of coloured cellulæ, which sometimes extend over the surface of the articulation. Fructification, 1, sessile, roundish favellæ, having a pellucid limbus, containing minute angular spores, and subtended by one or more short involucreted ramuli; 2, tetraspores either immersed in the ramuli, or more or less external. Name from a pitcher."—Harvey.

1. *C. RUBRUM* (Red).—Very common, but a pretty weed, and making elegant specimens for the herbarium when young. It is then a fine, deep pink; but is very variable in colour, being sometimes dark brown, yellow, or even white. It grows on stones and rocks, and is from six to twelve inches long.

2. *C. BOTRYOCARPUM* (Bunch seed-vesseled).—Growing on rocks at low water; a very variable plant. "The stems are hooked, and bent at the base; of a purple-red colour, and fading to green or yellow."

3. *C. DECURRENS* (Running-down).—Harvey says this plant seems almost exactly intermediate between *C. rubrum* and *C. diaphanum*. It is from six to eight inches long, and is a pretty plant; the joints rather beaded; clear in the middle, but with cells at the ends.

4. *C. DESLONGCHAMPIL*.—*Chauv.*—On rocks and algæ between tide-marks; three or four inches high; much branched; with slender smaller branches, forked or simple; "the frond variegated with dark purple, and, to the naked eye, having a blackish look." It is found in England, Scotland, and Ireland. Dr. Laudsborough finds it in rich tufts, in early summer, on the pier at Saltcoats.

5. *C. DIAPHANUM* (Transparent).—A beautiful plant; the markings of the joints are so distinct and clear. It grows on other small algæ; in pools left by the tide; from two to six inches high; as thick as bristles, and tufted.

6. *C. GRACHILINUM* (Most-slender).—Found in the west of Ireland, and south of England. A beautiful little plant, growing on mussel shells, &c.; from two to three inches long, and finer than hair; of a dark red-purple.

7. *C. STRICTUM* (Upright).—On shells in pools. "Filaments as fine as human hair, densely tufted; colour of the tufts dark livid purple."—*Harvey*.

8. *C. NODOSUM* (Knotted) "On sandy shores; often at the roots of *Zostera marina*; from three to six inches long; in bushy tufts; rigid and harsh; does not adhere well to paper."

9. *C. FASTIGIATUM* (Pyramid-shaped).—A very pretty species, but rare; from four to five inches high. "Colour of the tuft pinky-purple." Plymouth; Mrs. Griffiths.

10. *C. FLABELLIGERUM* (Whip-like).—"On the smaller algæ, between tide-marks; frond two to three inches high, as thick as hog's bristles; this plant resembles a small variety of *C. rubrum*, for which it may readily be mistaken, if attention be not directed to the solitary thorn with which the joints are armed."—*Harvey*.

11. *C. ECHINOTUM* (Spine-marked).—Not uncommon growing on rocks and piers, and on small algæ. Much tufted; from two to six inches high, and very dark purple. It has a solitary spine or prickle, which is a distinguishing mark.

12. *C. CILIATUM* (Hair-fringed).—On rocks and corallines in the sea, dense bushy tufts, of paler purple than the last, from which Harvey says it may at once be known by having numerous whorled prickles on each joint; he also adds, that it is a beautiful object under a low power of the microscope.—S. B.

(To be continued.)

THE MISCELLANEOUS FOWLS, AS RECENTLY EXHIBITED.

DISTINCT breeds, or such as lay claim to this character, are those that require our attention under this head. The policy, indeed, by which prizes have been occasionally offered for "barn-door" and other cross-bred fowls, is now generally repudiated, and, in our opinion, most wisely so. We are not in ignorance of the merits for the table possessed by some of these first crosses, though we may even here reasonably doubt whether these surpass the pure breeds; but the proper object of Poultry Societies that justly attribute such great importance to an unstained pedigree authorises their exclusion from the exhibition room. The permanent improvement of the various breeds of domestic poultry is the end proposed by associations of this description, who cannot, in consequence, look favourably upon a process which, however successful in its immediate result, must inevitably, if persevered in, be followed by eventual degeneracy.

Many varieties that we have been accustomed to see in this class have been already alluded to in these papers, such as the Grey Shanghaes, the Black, White, and Buff Polands, and the Andalusian or Blue Spanish. Henceforth, we hope that these may always appear in their proper position with the other members of their respective families, leaving the miscellaneous class for such birds as may have been either recent introductions, or which, though their distinctive characteristics may be admitted, are considered as

not of sufficient importance for a separate class. It is clear, that any bird shown in this "extra" class, of any variety of which special notice has been made in the schedule of prizes, should be at once disqualified; as, for instance, "Golden Spangled Hamburgs," when these appear as "Pheasant fowls;" but of this full warning has been more than once given by Birmingham judges passing over pens thus wrongly entered.

Of those that remain, we may enumerate "Silk Fowls," "Scotch Bakies or Dumpies," the "Ptarmigan" fowl, the "Rumpless," the "Frizzled," and some few others, such as the "Breda," the "Jerusalem," the "Columbian," the "Russian," and the "Brazilian" fowls, of which, although they have been brought forward for some two or three seasons, we are unable to detect any specific distinctions or meritorious qualities in other respects. The Creve-cœur fowl has also had representatives, but in a very different form from what we have been accustomed to regard as the type of that breed, now, as we imagine, all but extinct.

The best "Silk Fowls" of the past year were some shown at Cheltenham, and Form, Feather, and Condition, gave those specimens a just pre-eminence. Peculiarity of plumage being the very recommendation of these birds, saving their merit as mothers, they attract notice by their singular appearance, which, not being backed by economical merits, reduces them to the position of mere fancy fowls. The White variety is decidedly the best.

The stumpy "Bakies" belonging to Mr. Fairlie, of reduced Dorking proportions, are certainly curiosities, but not appearing to lay claim to greater constitutional strength than the latter breed, must be content with a subordinate position in the utilitarian estimate of the present day.

The "Ptarmigan" have had much urged in their favour, and if it be desired to introduce extreme novelty of form, irrespective of mere profitable considerations, these birds will fulfil that character. Sweden and Norway, it is said, were the habitat of the strain that has attracted most attention in the year now past, and this assertion has, probably, been thought favourable to the idea of their in part sharing the nature of the bird whence their name has been assumed. We have objected, on more than one occasion, to the system of nomenclature by which, in other similar cases, the Shaughae has been called the Ostrich fowl, and the Golden Hamburg, the Pheasant fowl; the latter, more especially, has given rise to many as improbable a tale as ever served to confuse the Natural History of our poultry-yards. That the Ptarmigan fowl exhibits any opposition in its choice of food to other domesticated gallinaceous birds, we think most unlikely; and assuredly, the evidence as yet adduced fails to make out this fact. Animal and insect food is always a tempting morsel to the whole family, and obtains a preference over grain; the habit, however, depends, in part, on the character of the bird, whether rambling or otherwise, and the extent to which such food is available. No fowl, indeed, has a more carnivorous taste than the stay-at-home Shaughae, whose relish for the mice disturbed on the moving of a rick, testifies to their appreciation of their flavour. But have we never had birds of this character in England previous to the introduction of the strain that we have just spoken of? At a show at Plymouth, in July 1853, there were two pens labelled "Turkey Fowl," whose importation from the East, some twenty years previously, was mentioned to us. Continuous breeding-in-and-in had somewhat reduced their size, but their figure, the varied form of the comb, their colour, and, in some instances, heavily-feathered legs, betokened close alliance with the recent Ptarmigan. Another similar lot, which we did not see, were said to have been brought from India.

Fit companions with these for the yard of the "curious fancier" are the "Rumpless" and "Frizzled," of both of which we have had excellent specimens of late; those at Birmingham, indeed, were as good as any we had hitherto noticed.

"Russian" fowls seem to claim their denomination from the possession of a feathery beard depending from the higher part of the throat; whiskers, moreover, are a frequent appendage. Any other characteristic distinction we have been unable to recognise in the birds exhibited under this title. The Cinamon Mongrel fowl, being constantly thus decorated, might be permitted to pass muster among

these Mnscovites, but the best of this so-called variety have appeared to us to be simply muffed Dorkings, as the "Cuckoo" fowls are in same way usually Dorkings of that plumage, which is also seen in the Malay, Game, and Shanghae families.

The "Columbian" fowl, in colour, gait, and form, suggests an alliance between the Spanish and Malay, to which latter blood we are also inclined to assign an important share in the parentage of the "Jerusalem," "Breda," "Brazilian," and other fowls of the liko stamp.

If specific distinctions fail to separate them from the common herd of mongrelism, we fear that their chances will be little improved by any enquiry as to their comparative excellence in point of economy.

Various crosses of the Bengal Jungle fowl and that of Sonnerat, with the domesticated breeds, have been carried out, and are useful, from any amount of information that may be thence deduced, as to the probable derivation of the whole race. Loss of size, however, and usually increased ferocity of character, have checked such experiments.

Other names beyond those here alluded to may have appeared in catalogues, and possibly, too, may continue so to appear; for nothing offers a more difficult task than the persuasion of individuals as to the merits and character of petted favourites, whom they had watched over with positive convictions of the correctness of their own estimates, and disregard of the arguments of those who may chance differ from them.

If we find little to praise in the component members of this class, our censure must not be considered as extending to the class itself. So far from this, indeed, that we always regret the omission of the class "*For any other distinct breed,*" as a serious blot in the schedule of any society, affording, as it does, the only channel by which any new variety may be fairly tested. After what we have of late years gained in Shanghaes, it is not too much to expect that the extension of our intercourse with distant regions, and the zeal with which possible acquisitions to our poultry-list are now sought for, may add other names of equal interest and value. We may, and doubtless shall, have much rubbish in this part of our exhibitions, but may be well content to endure these, if but a single prize eventually rewards our patience. Room, however, must be saved, and error checked by a rigid exclusion from this class of all varieties that have been previously mentioned; and there are few societies where the strict enforcement of this rule would not have a beneficial effect.

AUSTRALASIAN BOTANIC AND HORTICULTURAL SOCIETY.

[We have inserted the following report, from the Sydney *Morning Herald*, chiefly to show intending emigrants what is doing in the land of their adoption.]

THE autumn show of 1853 took place Dec. 27th, in the Botanic Gardens, at Sidney, and although the day was inconveniently intermingled with the passing Christmas festivities, as a whole it passed off well, and successfully as regards the pecuniary interests of the Society.

The past year has been distinguished by an effort, somewhat faint and languid, indeed, but which, if persevered in, will still, we believe, succeed to resuscitate the Society from the inertia into which it had fallen, and to place it in a position to carry out some of the objects for which it was designed. The breathless excitement consequent on the announcement of the gold discovery is passing by, and people are beginning to find that they may grow rich without ceasing to botanize. There is, no doubt, an active and stirring desire very considerably diffused throughout the community to obtain eminence in botanic and horticultural pursuits, and with the soil and climate of New South Wales it would be a wonder if this were not the case. The monthly shows, the more cordial activity of a portion of the committee, are favourable symptoms of a recovery from the atrophy into which twelve months ago the society seemed to have fallen; but it is necessary to urge on those who have stimulated the reformatory movement to proceed in their efforts, as there is much of the old leaven remaining, anxious to

neutralise their efforts for good. Since the last flower show a paid secretary, Mr. Catlett, has been added to the institution, a post which he holds in conjunction with other duties connected with the Botanic Gardens. There is now no excuse for all the rules and formulæ of the society not being carried out, and it is to be hoped monthly and general meetings will in future be regularly called and duly advertised; something like secretarial regularity has been long foremost among the wants of the institution.

The day fixed for the Exhibition was most inopportunately chosen. It neither consulted the advantages of the cultivators of flowers, nor the growers of fruit; but its main defect was, that occurring in the very heart of the Christmas holidays many who would have been willing exhibitors were, from the circumstance of those employed by them being absent, unable to send their specimens to the gardens. The arrangement was a bad one, but it was made with good intentions. It was hoped that it would afford the Christmas visitors to the city an opportunity of seeing one of these very popular fêtes, and if it failed in securing a good botanic exhibition, which we always maintain is the chief object, it was successful in securing a very gay attendance, and a handsome return to the treasury.

The weather, which in the early part of the morning had a very gloomy aspect, about noon cleared up, and the rest of the day was as bright and glowing as could be desired.

The Gardens were in excellent order, the trees, parterres, and lawns looking brilliantly out on the assemblage of beauty and fashion congregated together.

The band of the Eleventh was present, or at least was heard at intervals, to play some snatches of well selected music. Is there no way of getting these musical gentry to enter more spiritedly into the enthusiasm of these galas?

The flowers and fruit shown were decidedly below mediocrity, though in both there were many exhibits which deserved attention and rewarded it.

Among the flowers and flowering plants, the first place must be assigned to Mr. Thomas Woolley (Creswick, gardener). The prize for the twelve best miscellaneous plants was closely contested between him and Mr. Smart, (Way, gardener), and although we have followed the Secretary's entry, we are yet uncertain to whom the prize was awarded—Mr. Woolley's collection appears, however, to us to be superior. Amongst its chief attractions were a beautiful *Justicia coccinea*, a *Cyrtoceras reflexa*, and a *Combretum*—misnamed, we think—*purpureum*. Mr. Smart's collection possessed a very beautiful *Streptocarpus Rexii*, *Indigofera decora*, and *Ceropegia elegans*. Mr. Woolley had also a collection of eight Fuchsias, six Balsams, a splendid *Clerodendron fragrans*, a beautiful *Gloxinia* (Napoleon) quite new, a *Clerodendron fallax*, and a fine plant out in flower, to which a prize was awarded (*Combretum grandiflorum*). Mr. Smart (Way, gardener) had a very nice collection of *Gloxinias*, and a sweet plant, *Cuphea miniata*, which commanded much admiration; an *Eucomis punctata*, from the same garden, was also one of the gems of the Exhibition.

We were glad to welcome the contributions from the Darling Nursery to this Exhibition. The collection of coniferous plants sent by Mr. Shepherd was, perhaps, the most attractive and interesting feature of the Exhibition. It comprised the following varieties: *Cryptomeria Japonica*, *Cupressus funebris*, *Cupressus Goveniana*, *Cupressus macrocarpa*, *Taxodium distichum*, *Taxodium virens*, *Taxodium pinnatum*, *Juniperus oxycedrus*, *Taxus baccata*, *Eutassa Cookii*, *Sequoia gigantea*, *Caryotaxus Japonica*, *Araucaria imbricata*, *Biota disticha*, *Cedrus deodara*, *Cedrus Lebani*, *Cunninghamia lanceolata*, and *Leichtardtia Macleaniana*. This last species was first classed by some botanists as an *Araucaria*, young plants of it only having been seen, but Mr. Shepherd, having doubts on the subject, went to Port Macquarie, where it grows freely, and by examination of the seed determined it to be a distinct genus, and named it as above.

A collection of eight pot plants, consisting of *Ceropegia elegans*, *Pentas Carneae*, *Erica Bowiana*, *Clerodendron fragrans*, *Begonia Ingrahamii*, *Gloxinia tubiflora rosea*, and a *Pelargonium*. Mr. Shepherd had also a very beautiful collection of flowering shrubs, consisting of *Magnolia grandiflora*, *Magnolia conspicua*, *Erythrina hybrida*, *Hybiscus* (hybrid), *Iochroma tubulosa*, and *Daubentoria pumicea*. Also a collection of thirteen very beautiful climbing plants

and twenty-two specimens of cut flowers. A cut specimen of *Stenochilus* (sp.), from the Lower Murray, from this garden, took the prize as the best single specimen of a cut flower.

The amount taken at the gates was £166 14s. exclusive of the tickets sold in the town, being the largest amount yet taken at any exhibition of the Society.

THE MERITS OF SHANGHAES.

In a recent agricultural work occurs the following passage:—

“COCHIN-CHINA FOWLS.—An extraordinary mania exists at the present moment about these animals; everybody who keeps poultry is straining every nerve to propagate these large ugly fowls. As they are at present entirely a fancy stock, I cannot give any space for them in this work, but I may remark, that I asked an extensive breeder of chickens his opinion of them, and the reply he gave me was to the effect that no advantage was got by them, and that the present rage for them was due to fashion only.”

The extensive breeder alluded to cannot have bred Shanghaes, or else he is more interested in some other breed. If the above remarks refer to the many “long-legged, bouy, shapeless, distorted things which generally pass under the name of Cochin fowls,” and there are many such in this neighbourhood, I agree entirely with his conclusion; but it is unjust to deny that good bred birds are beautiful, particularly the Buffs; it is true, they are not so symmetrical as the Game or Hamburgs, but their delicate and novel colour in the poultry-yard, their short legs and compact form, make substantial amends for deficiency in that point; the head of a Shanghae is very handsome, while the eye of the hen is “bright and prominent, with an expression tempering the whole of motherly patience and contentment that is met with in no other fowl,” and renders her an especial pet with her owner.

I deny that no advantage is gained by breeding Shanghaes, as they have great advantages *over every other fowl*. Is it nothing that they arrive at maturity, that is, commence laying, some six months earlier than other breeds, and are thereby more prolific, and that they are hardy?

At the commencement of the last season, my stock consisted of a cock and four pullets, and the latter laid every day until they became broody, and as I did not at the first allow them to sit, by changing their house they soon became weaned from their nests and recommenced laying. So soon as I had a seat of eggs I borrowed hens of my neighbours, and by the end of April I had more than two hundred chickens hatched, the produce of my four pullets, and most of them were reared. In July, the early chickens commenced laying, and if I had had room and inclination I could have reared many hundreds more, which would have been fit for the table or breeding before pullets of the other varieties would have commenced laying; and, consequently, I had hundreds of eggs throughout the autumn and winter quarters for domestic purposes. I believe that a Shanghae pullet would lay three times as many eggs as a barn-door fowl would during the first two years of its existence.

I believe them hardy, because no poultry-keeper in this neighbourhood had so many chickens alive at the end of April, last year, as I had from the same number of chickens hatched, and now I have my houses full of thriving birds; whilst most of the farmers have lost their early broods.

I find the Shanghae chicken good at table, and though it does not “truss” so well as the Dorking, its delicacy of flavour, and whiteness of flesh, in spite of its yellow legs, is not surpassed by that fowl. I, of course, am writing of the short legged, well-bred and fed fowl, and not of the lanky scare-crow before alluded to, and which to increase its bulk is fed on offal-flesh or greaves.

No breed in the same period will yield so great a weight of food as the Shanghae in eggs and flesh, which is a strong argument, not only to the breeches-pocket, but also with every one who is concerned or interested in the production of food. They have other advantages in their docility and domestic habits, for, if allowed full liberty, they do not

stray from their bounds to annoy their neighbours, nor do they, if required to be kept in an enclosure, require a fence more than three feet high to restrain them from leaving it. —C. POCKLINGTON, *Boston, Lincolnshire.*

BEE-KEEPING FOR COTTAGERS.

(Continued from page 105.)

GIVING WATER.—Not much need be said as to this, further than that the pans should be kept full, and the floats sound, the moss fresh, and the water be changed three or four times a week. A writer in *THE COTTAGE GARDENER*, volume viii, page 42, describes an ingenious plan of giving water, which may, we think, be advantageously referred to here; he puts two or three inches of loam in the bottom of a large milk-pan, and having planted the pan with water-cresses, fills it with water by means of a butter-firkin filled daily, having a very small hole bored in it, and raised over the milk-pan, so as to be continually dripping into it; he adds, that throughout the summer this arrangement produces him an almost daily supply of cresses.

NARROWING ENTRANCES.—This is effected by means of the small pieces of wood with which the “general purposes” box ought to be well supplied. The width of the entrances should be regulated by the degree of activity in the hive; when the bees crowd in coming out and going in, they should be widened; as the bees cease from work, they should be narrowed.

DESTROYING WASPS, ANTS, AND MOTHS.—The necessity for destroying the large queen wasps which are to be seen in the spring cannot be too frequently insisted upon. When a garden syringe is to be had, they may be “shot,” or knocked down by its means, and then destroyed. Where such an implement cannot be come at, they must be left to the tender mercies of the younger branches of the family.

The only way that we know by which to get rid of ants, is to dig up their nests, and pour scalding water upon the soil whenever and wherever the ants appear or reappear, and they will quickly abandon the locality in disgust.

As to Moths, the best way to prevent their (or, in fact, any other vermin) doing any damage to the hives, is to keep the hives very strong. If they are seen hovering about the entrances at night, the moths must be killed, if possible, and the entrances judiciously contracted. A small moth, called the Wax-moth, is the great enemy of bees; if any of the combs of a hive become infested by them, such combs should be cut out, or the ravages of the moths will rapidly increase. Keeping the hives strong, and everything about them clean, will most effectually prevent damage from vermin.

REMOVING HIVES FROM A DISTANCE.—This should be done at night; if the distance be but three or four miles, the hive and floor-board (the hive entrance having been stopped) should be lifted on to a large sheet or table-cloth, the ends of which should then be tied together over the hive; through these ends a stout pole should be thrust, and everything having been made secure by twisting twine outside the sheet or cloth, and round about the hive, the whole bundle may be carried off by two persons to its new home, and having been there untied, the hive and board may be placed on their new pedestal, or the hive, after having been detached from its floor-board, may be placed upon its new one; if the hive had not in its new home a floor-board movable with it, then it should be detached from its usual floor the night before that on which it is to be removed, and placed upon a temporary floor-board, this will prevent commotion amongst the bees when it is wanted to move them. It has already been stated, that no sticks should be fixed inside the hives under a mistaken idea that they will assist the bees in fixing their combs; notwithstanding this, it will be as well, in removing hives from a distance, to choose hives in which sticks have been fixed, as the jolting of the conveyance by which they are to be carried might otherwise displace the combs; in carrying hives from a distance, the same method of packing as that already mentioned may be adopted, and the hive slung underneath the conveyance. If combs should be loosened by any

means, the bees, if left to themselves, will quickly repair the damage.

PUTTING ON SUPERS.—This is done in the same manner as condensers are removed (see that paragraph), viz., by pushing a piece of metal under the piece of wood (thereby dividing it from the combs), and then removing the wood, putting on the super (with an adapter underneath it), and then withdrawing the metal. In performing this operation, the piece of metal must be invariably used, as it is performed at a time when the hive is becoming very populous, and the bees very lively. In putting on a second super between the first (after it has been three-parts filled) and the stock hive, two pieces of metal should be used; the reason is obvious; both having been pushed under the first super, this super with the uppermost piece is lifted up, and the second super placed under it; whilst the upper piece of metal has kept the bees in the first super, the lower piece has kept the bees in the stock hive.

HIVING SWARMS.—It was stated in Section 1, that as there can be but one method of hiving swarms, the assistance of some experienced bee-keeper should be sought by the beginner. A few words may, perhaps, however, be profitably said on the subject. In all cases it is convenient, before doing any thing else, to spread a large cloth or sheet on the ground under the spot where the bees have alighted. If the swarm alight on a low and flexible bough, the bough may be bent down a little, and the swarm put entirely within its new hive, and a good sized cloth laid over it; a smart shake will then dislodge the bees from the bough; the hive, with its new inhabitants, must be set upon three or four large stones just under the bough for a short time, so that any stragglers may be able to join their companions; and as soon as all is quiet (perhaps in a quarter of an hour), the ends of the large cloth should be gathered up, and the hive quietly removed to, and set upon, its destined floor-boards. Wherever the bees alight, they should be treated in this manner as soon as they are quietly in the hive. If the swarm has chosen a stiff espalier tree, or any unbending matter, as a first resting-place, then the hands must be steadily and carefully used to get as many bees as possible into the hive at first, and if you are so fortunate as to brush in the queen, all the other bees will quickly follow; if they do not follow, the queen is not in, and you must try again. If the swarm has chosen the top of a tree (a situation not easily reached in a bee-dress), the hive may be suspended on a long pole, and the bees shaken into it with the assistance of a second pole, where-with the bough of the tree may be held down to the hive during the shaking; the operator using a pair of steps, or not, according to the height of the bough. Where the swarm chooses a chimney, or other similar place, where neither the hands can be used, nor shaking adopted, then every chink and cranny should be closed up, and smoke be applied at the bottom, which will quickly bring the stupefied bees from their elevated position.

FOUNDING SWARMS.—Where, in accordance with the directions already given, you have determined to join a swarm to some other swarm, or to return one to its parent hive, the swarm to be joined or returned, after having been hived, should be left where it alights until dusk; at dusk, place a spare floor-board, or other flat article, upon a block of wood, or low stool, or large flower-pot, in front and upon a level with the entrance of the hive, to receive the swarm; then place the hive containing the swarm to be joined upon this floor-board, and after having, by a smart blow or shake, thrown all the bees on to the board, and east aside the empty hive, guide a few bees to the entrance of the hive to which it is intended they shall be joined, when all will soon enter it, and one of the queens having been killed, the united bees will go on amicably together. Some writers recommend that the bees should be shaken on to a sheet spread in front of, and one end of which is fixed to, the floor-board of the hive to which they are to be joined, instead of using a spare floor-board, as recommended above: the spare floor-board plan would seem to be the better of the two, though involving a little more trouble.

WHITE SPANISH FOWLS.

LAST spring I was in the southern part of Andalusia, and after a very great deal of difficulty obtained four pure birds, two cocks and two hens. I had plenty brought to me crossed with the *Barbury* fowl.

I brought them home, and lost my largest cock bird; the two hens laid remarkably well, large eggs, and constantly; never wanting to sit. I bred several chickens which were very hardy; one chicken was mottled, he was a cockerel hatched in August, and was a most extraordinarily forward bird. I took no particular notice of him, and was tempted to part with him, with two mottled pullets I had hatched from eggs I brought from Andalusia of the more common mottled or speckled variety, and have heard no more about him.

Finding the birds in every way very hardy through the winter, laying earlier and better than the black Spanish, I wrote to a friend (who I had commissioned in the autumn to look out for some for me) in January, and he has just sent me over some very fine hens. He states, he had great difficulty in getting them, and could find me no male bird.

On the 14th of March, I hatched two chickens (with a brood of Dorkings), a cockerel and pullet, and before the end of March the cockerel had large wattles and comb, and *crowed before* the end of the first week in April, since which time he has shown himself the most precocious cockerel I ever saw. I wrote to several persons who had eggs, asking if they noticed any thing particular; and one lady writes me, "I consider the Andalusians much more hardy than the Spanish, and a much more valuable kind. I hatched five out of the six eggs you sent me, fine and handsome birds; the cocks, now three weeks old, have large combs and wattles; they make a peculiar wild cry on any alarm, but no crowing has been noticed." Now, as I never knew any birds so forward as these I have hatched this year, and those I had last, it occurred to me, that the fact might not be uninteresting to you. I am hoping to get a large cock from a place in Andalusia, as the one I brought, and the only one I bred and kept, are both late birds.

I never saw in Andalusia any of the slate-coloured birds, generally known as Andalusians; the almost universal colour is speckled or mottled, and black with dusky red markings. All the pure birds are easily distinguished by the size and form of the ear-lobe, and set of the tail. And I should think the birds mentioned at page 110 of "The Poultry Book," as imported by Mr. Barker, must have partaken of the *Barbury* fowl, from their absence of ear-lobe. Reading the remarks on the varieties of Spanish fowls induces me to trouble you with this.—WM. SAUNDERS, *Cowes*.

COOKED ENDIVE.

It may not be generally known to your readers that unbleached Endive is most excellent cooked like Spinach.—L. [The common Dandelion may be served up in the same way; and so may the tops of the stinging Nettle; the latter feel curiously dry and unadhesive in the month. The large root of the Dandelion, we are told, is very good when boiled like the Parsnip.]

HEN-FEATHERED HAMBURGHIS.

THERE seem to have been several discussions in the columns of your widely-circulated paper respecting the long saddle-feathered and the hen-feathered *Hamburgh* cocks, which shall have preference. Your correspondents seem to discuss, principally, the Silver-spangled varieties; being myself a breeder and exhibitor of hen-feathered cocks, I hope you will allow me a small space in your paper for a few remarks respecting them.

One of your correspondents, who writes in favour of the long saddle-feathered cocks, states that he would have every feather white tipped with black, but from the great length of the neck and saddle-backles, it is almost impossible to produce that spangled appearance on the back which we see in the female bird. Now in the hen-feathered cocks this

difficulty is entirely removed, he being spangled precisely the same as the female. He also states, that in Yorkshire and Staffordshire, a hen-feathered Silver-spangled Hamburg cock would be disqualified, because it would be said that he was crossed with the Golden-spangled Hamburg cock, in which, I think, he is misinformed; because, to breed a cock with white feathers tipped with black, from one with red feathers tipped with black, is a thing, I think, impossible, as there are hen-feathered cocks in three out of four of the Hamburg varieties, namely, the Golden-spangled, the Silver-spangled, and lastly, the Silver-peucilled, from Hamburg. And as to hen-feathered cocks competing with a long saddle-feathered cock, I quite agree with Mr. Dixon, that in nine cases out of ten the hen-feathered has the preference in Lancashire and Yorkshire. I find them to breed much finer, much better mooned, and quite as well; in fact, consider them far superior and far handsomer than the long hackle-feathered cocks.

I think we cannot do better than follow the plans lately given by Mr. Dixon, whom you know to be one of our oldest and most successful breeders of the Hamburg fowls.—MATTHEW HEDLEY, *Higher Broughton, Manchester.*

ON THE CULTIVATION OF HYACINTHS IN GLASSES.

BY THE REV. W. B. HAWKINS, F.H.S.

THE cultivation of Hyacinths in glasses is so universally practised, and affords so much amusement and gratification to persons who do not otherwise engage in floricultural pursuits, that perhaps a few remarks on a more easy and successful method of producing these very beautiful flowers may not be without interest to the Society.

I have, for several years past, raised these flowers in water-glasses in the manner usually adopted, namely, occasionally changing the temperature by removing the glasses from a cold room; when the weather became more severe, to an apartment with a fire; and at a more advanced period of growth, keeping the plants entirely in a warm room until the flowers fully develop themselves. I found, however, as many persons, I believe, experience, great difficulty in preventing the stem and the leaves from growing too high, and thus diminishing the size of the flower by diverting its proper nutriment, and also in preserving the stem of the plant in an upright position.

I determined, therefore, to try a different plan this last season, and, accordingly, after keeping the bulbs in water-glasses from the middle of October until the latter part of November in a darkened room, in order that they might produce strong roots, after that period I retained them altogether in an apartment in which no fire was ever lighted, placed on a table close to a window. In this situation they remained without any other protection from the external air, even during the night, than the window, as the shutters were never closed, and a linen blind only was drawn down at night to mitigate the extreme cold. On four or five nights only, during the very severe weather of the past winter, when the snow was on the ground, were they removed from this situation, and then only to another table placed between the windows of the room, and at a distance of not more than three or four feet from either window. Notwithstanding, however, this very low temperature to which they were constantly exposed, each bulb produced a remarkably fine flower of considerable size, much larger, indeed, than those grown in what are usually considered the most favourable situations, and equalling in size many of those Hyacinths grown in pots which have been exhibited at different times in the rooms of the Society. The stems and foliage also displayed a particularly healthy and vigorous appearance.

The bulbs which I selected for this experiment were some of the choicest sorts, which are more difficult to raise, and more capricious in their mode of flowering. When the great and unusual severity of the weather during the past winter is recollected, I think this experiment may be considered as affording a good proof that the Hyacinth is a much more hardy flower than is usually imagined, and that it does not want the species of hothouse culture and high temperature which are generally given to it.

What these flowers appear to require, is, as much light as possible, a tolerably pure atmosphere, occasional change of the water in the glasses, which should be effected not by merely filling up the glass, but by pouring off the whole of the water in each, and filling it up entirely with that which is fresh. A frequent change of position also is wanted, so that each part of the plant may be brought in turn to the light, which will not only render it more strong but more upright as well.—(*Journal London Hort. Society.*)

HARDIHOOD OF SHANGHAE CHICKENS.

ON one of the intensely cold and frosty nights, a week since (the end of April), one of my little brood by some unfortunate circumstance got shut out from the rest, and had to encounter the severity of the night without the least protection. This chicken was then about four days old, and to my sorrow, when I went to let them out in the morning, I found it cold and stiff, and to all appearance dead. I carried the little unfortunate in-doors to be mourned over, and then prepared a grave for its remains in the chicken cemetery, which being speedily accomplished, I proceeded to carry out the duty, when my little girl cried out—"Look! oh! look, papa! I am sure it opened its mouth!" Her perception was quicker than my own, for on further examination, and the application of a little fire heat, by degrees the muscles of the legs began to quiver, and to our great astonishment and pleasure, in two hours time the little thing was so far recovered as to be able to return to its mother, and is now the strongest and most healthy of the brood. This circumstance is to me a great proof of the hardness of the race, and I am doubtful if it could be equalled by any other description of poultry.—G. A. SMITH.

QUERIES AND ANSWERS.

GARDENING.

PAWLONIA IMPERIALIS—LILY OF THE VALLEY.

"Can you give me any information regarding the *Pawlonia imperialis*? I wish to know if there is any reasonable hope of its flowering with me, my garden being a sloping bank in a sheltered valley on the Cheshire borders of Wales. Several people have told me they cannot get it to flower; so any hints regarding it would be very acceptable. My *Lilies of the Valley* have flowered very badly; a profusion of leaves, and flowers small and very few—What can be done for them?—M. E. G."

[Your bed of *Lilies of the Valley* seems to be overgrown, and without a new bed your flowers will be less, and the leaves more, in number year by year; but this is the wrong time of the year to set about improved culture or change; at the end of next September we intend to open and discuss the question.

We cannot give you the smallest hopes that that fine tree, *Pawlonia imperialis*, will flower in your favourable garden during the lifetime of any one who is now fit for a soldier; but we are of a strong opinion that some of the soldiers' children, who are now being provided for, may live to see the *Pawlonia imperialis* flower as freely as the old *Catalpa*; therefore, no one should give it up because it is not likely to bloom during his or her lifetime, that is, in a locality so far north as the borders of Cheshire. The best judges believe that when this tree becomes old and stunted, and the annual growth is not more than two or three inches, it will flower in good seasons as freely as the Horse Chesnut, and just in that way, but with large flowers of a light bluish tint, and of the Foxglove shape; it is called "the Foxglove tree."]

ROSES UNDER CANVASS.

"Can Roses be grown for exhibition as well under calico as under glass? Will their colours and bloom generally be so perfect?—X. Y. Z."

[Certainly not; and it is very questionable whether Roses

can be grown well under canvass, even without flowering; and more than that, Roses that are forced under glass, and brought under canvass just as they are coming into bloom, will only keep in bloom half the usual time, and the growth and foliage look *miffy* in a few days; they particularly dislike the darkened light.]

UNFRUITFUL APRICOT TREES.

"My Apricot trees produce an abundance of healthy leaves, but never any blossoms; they are planted against a south wall, and the soil is very good. The trees now are about seven or eight years old. I fear my having moved them to their present situation too early in the autumn of 1849 may have had some influence.—A CONSTANT SUBSCRIBER TO THE COTTAGE GARDENER."

[Your Apricot trees are probably too luxuriant,—if so, root-prune them immediately. In all cases of fruit-culture you should carefully distinguish between luxuriance and disease, and this frequently requires the eye of a practised person. Train rather thinly, and persist in stopping or pinching all shoots not required for leaders, according to repeated advice in THE COTTAGE GARDENER; and exterminate all insects. Your early planting in 1849 has nothing to do with it; it is quite likely your soil is too rich.]

FRUIT OF ELRUGE NECTARINES SHRIVELLING.

"I have two Elruge Nectarine trees; dwarf; against a south wall; about six years old; and every year the fruit has shrivelled, more or less; became tough, and would rot rather than ripen. I cannot account for this, the soil is good loam, not over rich, well drained. I have always well ripened the wood, and thinned the fruit, mulched in dry weather; and I grow Peaches on the same wall. What is the reason? and what must I do?—W. J."

[Your case is odd enough. The Elruge is generally a juicy Nectarine. We should suspect torpidity of root action; and unless they make much wood, we would apply liquid-manure freely in dry weather. We are glad to see that you recognize that fundamental principle in fruit culture—"ripening the wood." What stock are your Nectarines worked upon?]

PLANTS FOR NORTH WALL.

"What would you recommend as being most suitable for covering the brick-work of a span-roofed greenhouse, north aspect, and being much in sight from the drawing-room window; height of brick-work, three feet; length, twenty feet.—J. H. RICHMOND."

[There are not many plants that will answer your purpose. The *Irish Ivy* will be one of the most certain coverings for the wall, but we should prefer the Larger Periwinkle (*Vinca major*). The colour of its evergreen leaves is more cheerful than that of the Ivy; its blue flowers, also, are beautiful, and the wall being no more than three feet, if the border be enriched with a little very old stable manure annually, the branches would extend to that height. They will require to be trained against it, and for this purpose nothing is so good as galvanized iron network, to which and through which they may be fastened.]

TO CORRESPONDENTS.

ERROR.—At page 90, line third of the notice of *Dr. Wallich*, for *Plantes*, read *Plantæ*.

WILLIAM ADAMS.—The receipt of the postage stamps from C. are gratefully acknowledged. The announcement of his death will have been seen already.

ROSE CATERPILLAR (*A Gardener*).—If by this "aggressor" you mean the larva of the *Tortrix Bergmanniana*, or Rose Tortrix, no remedy is known but hand-picking, and cutting down the bushes and burning them. Being within a web, we fear that a dusting with White Hellebore powder would not reach them; but it is worth a trial.

GAME BANTAMS (*F. E.*).—We do not know of any one having eggs of these to sell. Having had more than one application, we think that any one having eggs of this variety for sale will do well to advertise them.

WORK ON SILK-WORMS (*A Constant Subscriber*). We know of no good one. Did you see the series of papers in our tenth volume? Your other query next week.

LILY OF THE VALLEY (*M. M.*).—See what is said to-day in answer to another correspondent. You had better make a new bed, as directed at page 86.

FRUIT-TREE BORDER (*Frank*).—If you mean the border nearest the wall, it should be eight feet, but separated from the wall by a path, eighteen inches wide. The walk being next the wall is convenient for pruning the wall trees, and it is the portion of soil least useful as pasturage for the roots.

KILLING SLUGS (*A Constant Reader*).—These are not organized like Earthworms; cutting them in two destroys them.

PEAR CULTURE (*H. T.*).—"R. Errington begs respectfully to inform this gentleman that he will do the best in his power to comply with his desires concerning Pears, &c., as occasions may offer; and to his worthy and very clever coadjutor, Mr. Fish, he tenders his thanks. It is, however, but an exchange of compliments, as R. E. has several times taken a leaf out of Mr. Fish's book."

SWINDLERS.—"We are much obliged for the notice taken of Cox, the swindler, in THE COTTAGE GARDENER. There are several others in this neighbourhood (Manchester), who obtain malt, hops, poultry, &c., by writing a business-like letter to individuals in places where there are no protective societies. The Editor of THE COTTAGE GARDENER would confer a favour on its readers if special notice was given in it, at the same time advising the parties applied to to write to the Secretary of the Protective Society, or to the chief Superintendent of the Police in the town the application comes from; by this they would save their property.—GEO. POTTER." [This is sound advice, and we hope our readers will remember it when they receive orders from unknown correspondents.]

CAMASSIA ESCULENTA, &c.—"Is *Camassia esculenta* worth cultivating as an esculent; and, if so, how is it to be used? *The New Sweet Carrot*.—Is this of the *Daucus* tribe? Is it wholesome, and how used in cookery? If any of your correspondents can answer the above questions they will oblige.—K. G. B."

POULTRY SHOWS (*More Anon*).—Your communication on this subject is inadmissible. We do not agree with you in thinking the prizes not large enough, nor in the opinion that some of our largest breeders do not shew because those prizes are not more valuable. We shall be glad to see your notes upon Sebright Bantams.

EXHIBITING SPIKES OF HOLLYHOCKS (*J.S.*).—The following is Mr. Paul's opinion, published in *The Scottish Florist*:—"The practice of limiting the length of the spike is, we think, not desirable, for, if the flowers can be maintained in perfection, *the longer the spike the grander the effect*. In judging of the comparative merit of spikes, we should award the palm to those which were longest, broadest, and *best filled*, provided the shape of the individual flowers was equally good, the colours equally clear, and the collection as well varied. In judging, these points require to be considered, first, separately, and then collectively. By the term best 'filled,' we mean to imply that the spike should form a perfect column of colour, free from gaps or interstices, not that it should be so crowded that the guard petals cannot freely unfold, for this we should consider as great a defect as if the spike was imperfectly filled. We should give the preference to spikes in which the flowers were fully expanded from the base to the summit, to those with expanded flowers below and buds above; in other words, a perfect spike should present an even and unbroken mass of colour from top to bottom. Of course the shape of the flowers, *individually*, is of the very first importance, and in our opinion the shape of the centre florets should be a trifle less than half a ball; they should be closely packed, and without 'pockets,' so that no anthers are seen. The centre and guard petals should be free from indentation or notch; the latter smooth, flat, and of good substance. The larger the individual flower the better, provided the shape be good; but if the flower be flimsy or ill-proportioned, great size produces coarseness, and is a disadvantage rather than otherwise. The most perfect flower I have yet seen, taking into consideration proportion, smoothness, substance, colour, and size, is the 'Beauty of Cheshunt,' a variety originated here. In exhibiting spikes various modes have been adopted. We use painted flower-pots, of the size called 48, filled with sand and inverted in pans; the hole is then made large enough to receive the lower end of the spike, which is pressed through into the sand and fixed tight with slips of the stalk."

NAME OF PLANT (*F. W. S., Milton*).—It is *Asperula taurina*, one of the Woodroffs, and native of Italy. It was introduced here in 1739.

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GERANIUMS.

BASS AND BROWN

Having this season a very large stock of GERANIUMS, are enabled to offer the following of strong and very fine plants, in 4-inch pots, ready for immediate re-potting, which will yield an abundant bloom. For descriptive List, see Autumn Catalogue.

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Ambassador	Commissioner	Flavia	Lavinia	May Queen	Rubens
Arethusa	Exquisite	Gem	Maguet	Nepaulese Prince	Shylock
Ajax	Elise	Generalissimo	Mochanna	Ocellatum	Silk Mercer
Alibi	Enchantress	Herald	Monteith	Prince Arthur	Tyrian Queen

Five varieties, our selection, 6s and 12s per dozen.

FANCY GERANIUMS.

The following Six choice new varieties of last season for 18s.

Ambrose's Barrier	Henderson's Lady Downs	Ambrose's Princess Alice	Maude
" Darling	Ambrose's Magnum Bonum	Wilmore's Surprise	
Caliban	The following 12 choice varieties for 18s.	Princess Royal	Singularity
Captivation	Formosissimum	Richard Cobden	Superba
	Gipsy Queen		

Five varieties, our selection, 9s and 12s per dozen.

GLOXINIAS.

The following new varieties are chiefly Continental, and very beautiful. The Collection of Nine for 33s.

Belle Clymene, white, with a large, deep, blue throat, and the entire marbled with blue, very beautiful 3 6	Imperialis, delicate lavender white, with deep purple centre 3 6				
Charles Dickens, the best red grown, white throat, beautifully spotted 3 6	Leonie Van Houtte, beautiful rose, with a pure white throat, very distinct and handsome 5 0				
Duchess de Brabant, a fine, new, Continental variety 5 0	Princess de Lambelle, a fine variety, figured in the "Flora" of L. Van Houtte 3 6				
Dr. Planchon, flowers very erect, rich red, with spotted throat, very handsome 3 6	Wilson, pre-eminently majestic above all others, figured in the "Floricultural Cabinet," July, 1853 5 0				
Fyfiana grandiflora, very fine 5 0	Any 12 of the following fine varieties for 25s, with one plant in addition of Achimenes Marie Van Houtte, our selection, 12s to 20s per dozen.				
Alba grandiflora	Fyfiana	La Perouse	Marginata	Priestleyana	Tricolor
Argyrostigma	General Baudraud	Labiata	Mrs. Addanson	Pulcherrima	Victoria Regina
Carminata splendens	Grandis	Leopold 1st	Passinghami	Spectabilis	Wortleyana
Frederick Lenning	Hogovecn	Marie Van Houtte	Petoiana		

Descriptions, see Spring Catalogue.

ACHIMENES.

CHERITA, fine ultra-marine blue, shaded with red, magnificent 3s. 6d.	
LOUIS VAN HOUTTE, rich rosy purple, white centre 2 6	
MR. APARPAIT, beautiful carmine purple 2 6	
SIR TRECHERNE THOMAS, beautiful rosy carmine, very rich 2 6	

The following 12 beautiful varieties for 10s. (Descriptions, see Spring Catalogue.)

Bœckmani	Hilli (or Kewensis)	Kewensis vera	Magnifica purpurea	Multiflora	Fimbriata
Venusta	Hirsuta œrulca	Longiflora alba	Margaretta	Ghiesbreghtii	Coccinea grandiflora

A FEW NEW PLANTS.

Æschynanthus splendidus each 2s. 6d. to 5s. 0d.	Gastrolobium Drummondii each 7s. 6d.
Æchmea fulgens 5 0 to 7 6	Geniera purpurea macrantha 2s. 6d. to 3 6
Alloplectus Schlimii 15 0	" Leopoldiana 7 6
Aphelandra aurantiaca 1 6 to 2 6	Hexacentris mysorensis 5 0 to 10 6
" micans 3 6 to 5 0	Hoya coriacea 2 6 to 3 6
" grandis 3 6 to 5 0	" campanulata 2 6 to 3 6
" variegata 5 0 to 7 6	" picta 5 0 to 7 6
Berberis Darwini 1 6 to 2 6	" Imperialis 2 6 to 3 6
Begonia miniata 5 0	Ixora Lohbiana 15 0
" Prestoniensis 3 6 to 7 6	Kennedy ovata alba 3 6
Centropogon tovarensis 5 0 to 7 6	Passiflora Comte Nesselrode 2 6
Cissus discolor 5 0 to 7 6	" Kisseleff 2 6
Cyrtanthera magnifica 2 6	" alata superba 2 6
Fitzroya patagonica 5 0 to 7 6	" œrulea grandiflora 2 6
Libocedrus chilensis 3 6 to 7 6	Plectranthus concolor picta 2 6
Saxe-Gothæ conspicua 5 0 to 7 6	Rhodolea Championi 21 0
Deutzia gracilis 1 6 to 3 6	Streptocarpus biflorus 2 6 to 3 6
Dracœna nobilis 10 6 to 21 0	Tritonia aurea, 24s. per doz. 2 6
Echites Harrisii 2 6 to 3 6	Vihurnum suspensum 1 6 to 3 6
Franciscea eximia 2 6 to 3 6	Weigela amabilis 3 6 to 5 0
	" lutea 1 6 to 2 6

GREENHOUSE PLANTS.—List of these and Stove Plants, see Spring Catalogue.

12 fine and select species and vars., 12s; 50 ditto, 45s; or 25 for 24s; 12 extra choice and select ditto, 25s.

STOVE PLANTS.

12 fine and select species and varieties, 18s; 50 ditto, 60s; or 25 for 35s.

HERBACEOUS PLANTS, &c.

Heights and Colours, see Autumn Catalogue.

100 distinct and showy vars. 30s. 0d. or 50 for £0 17s. 6d.	HOLLYHOCKS, choice vars. per doz. 9s. to £1 5s. 0d.
25 ditto ditto 10 6 or 12 for 0 6 0	DWARF ROCK CISTUS, 24 beautiful vars. 0 15 0
100 superior and new vars. 50 0 or 50 for 1 10 0	" 12 ditto 0 7 6
25 ditto ditto 17 6 or 12 for 0 9 0	AZALEA INDICA, 25 superb vars., bushy plants 1 15 0
25 fine vars. best adapted for Rockwork 12 0 or 12 for 0 7 6	" 12 ditto ditto 0 18 0

CHOICE FLOWER SEEDS.—For best assortments of these, see our advertisements in THE COTTAGE GARDENER of April 6th and 13th.

The Autumn and Spring Catalogues free by post for three penny stamps each.

GOODS CARRIAGE FREE (not under 20s) to all the London Termini, and all Stations on the London and Norwich Colchester line. Plants added gratis with orders of 40s and upwards.

Post-office Orders payable to BASS and BROWN, or STEPHEN BROWN, Sudbury Post-office.

SEED AND HORTICULTURAL ESTABLISHMENT, SUDBURY, SUFFOLK.

WEEKLY CALENDAR.

M D	D W	MAY 25—31, 1854.	WEATHER NEAR LONDON IN 1853.					Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.							
25	TH	ASCEN. HOLY TH. PRS. HELENA	29.735—29.576	72—40	E.	—	57 a 3	56 a 7	3 26	28	3 24	145	
26	F	[B. 1846.]	29.576—29.526	76—48	E.	—	56	57	sets.	☾	3 18	146	
27	S	KING OF HANOVER B. 1819.	29.642—29.583	73—46	N.	18	55	59	8 a 58	1	3 11	147	
28	SUN	SUNDAY AFTER ASCENSION.	29.703—29.669	63—43	S.W.	02	54	VIII	10 2	2	3 4	148	
29	M	KING CHAS. II. REST., 1660.	29.861—29.817	66—41	N.E.	08	53	1	10 56	3	2 57	149	
30	TU	Colymbetes collaris.	29.974—29.940	65—48	N.E.	—	52	2	11 38	4	2 49	150	
31	W	Colymbetes conspersus.	30.014—29.909	55—50	N.	02	51	3	morn.	5	2 41	151	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 67.5° and 44.1° respectively. The greatest heat, 91°, occurred on the 28th in 1847; and the lowest cold, 29°, on the 25th in 1839. During the period 117 days were fine, and on 72 rain fell.

ONE of the many wonders of the world is the yearly, we might say daily, discovery of new Plants. From the days of Solomon, not only have there been multitudes of writers about plants, but travellers and searchers after them;—Botanists who have devoted their lives to examining the earth's surface to discover species unknown before, and thousands of volumes record the results of their enquiries. All of these explorers have discovered something new, and yet, when we are ready to conclude that the Flora of any last-examined district must be exhausted, we are startled by an announcement, that some other "culler of simples" has gone over the same ground, and made discoveries more wonderful than any of his predecessors.

We remember expressing surprise to a Mahomedan at finding a lost article in a place which he had repeatedly examined in his search for it, and his reply—"God is great—it was not to be found by your servant"—often rises before us when we read of these wonderful discoveries. "There is a time for all things;" and this is impressed upon us the more forcibly by the fact, that the plants left to be discovered in these days are not some microscopic Moss, or cave-hidden Fungus, but some of the giants of the vegetable world—the *Victoria regia* among aquties, and the *Wellingtonia gigantea* among our mountain trees—wonders of the vegetable world, which even the most careless passenger must have paused to look upon with surprise when first presented to his view.

It is of the *Wellingtonia gigantea* that we have to offer a few notes, but before doing so, let us draw attention to the fact, that important discoveries of novelties are not confined to those who tread the paths of the vegetable kingdom; they occur also to the Zoologist and the Mineralogist, as is testified by the notice of the Shanghai fowl being first announced within these few years, and the discovery of gold in Australia being still more recent.

When first we read the description of this gigantic tree, we remembered this passage in Sir W. Hooker's "Companion to the Botanical Magazine," being an extract from a letter written by one of the martyrs of science, Mr. Douglas—"The great beauty of Californian vegetation is a species of *Taxodium*, which gives the mountains a most peculiar, I was almost going to say awful; appearance; something which plainly tells us we are not in Europe. I have repeatedly measured

specimens of this tree 270 feet long and 32 feet round, at three feet from the ground. Some few I saw upwards of 300 feet high, but none in which the thickness was greater than those I have instanced." (ii., 150.) We suspected that these and the trees discovered by Mr. Lobb were of the same species, but a note published by the latter, in the *Gardeners' Chronicle*, seems to refute that suspicion. He says:—

"Douglas's journeys seldom exceeded thirty miles from the coast, and if he visited the grounds in latitude 38° 15' N., the only Coniferous tree he could have seen for twenty miles from the coast was *Taxodium sempervirens*, some scattered specimens of *Abies Douglasi*, and *Pinus Edgariana*. From twenty miles from the coast eastward to an elevation of 1000 feet on the Sierra Nevada, scarcely a coniferous tree of any kind exists. Hartweg travelled over Douglas's tract from south to north, and never saw *Wellingtonia*, from which I venture to say that that plant was never found except in the locality which is more than 160 miles from the coast, and full 120 miles from Douglas's track. The tree alluded to by Douglas is unquestionably the *Taxodium sempervirens* of Lambert, or *Sequoia* of Endlicher, which Douglas must have seen in great abundance, both on the mountains of Santa Cruz and of Santa Lucia. From my own knowledge of this tree, it abounds along the coast from latitude 35° 30', to Humboldt in latitude 41° north, which may be its northern limits. It occupies the deep, gloomy ravines of the western slopes of the mountains, rarely on the east sides, and seldom beyond the elevation of 2000 feet above the level of the sea. *Taxodium sempervirens* is the largest tree I saw in California before the discovery of *Wellingtonia*; it presents to the eye all the beauty and grandeur that Douglas has described. I have often seen trees 300 feet high, and from ten feet to fifteen feet in diameter."

This size, however, is not the extreme to which the *Taxodium* attains, or else Mr. Hartweg had seen one specimen of the *Wellingtonia*; for Messrs. Knight and Perry, in their "Synopsis of Coniferous Plants," quoting him as an authority, state that—"One tree, which was called by the American settlers 'the Giant of the Forest,' measured 270 feet in height, and had a trunk fifty-five feet in circumference at six feet from the ground." This, even, is small compared with a specimen of *Taxodium distichum* measured by Mr. Hartweg, in Mexico. "This tree," he says, "stands in the village of Santa Maria del Ule, about seven leagues south-east of Oaxaca; it measures, at six feet from the ground, ninety-eight feet in circumference, and is, I believe, the largest tree of its kind on record. At the height of forty feet, the branches, each of which are good sized trees, of several feet diameter, separate. The top, enormous although it appears, is not in proportion to the stem, both together measuring barely 100 feet in



height. The tree grows in dry, burning soil, it is surrounded by houses, and is in perfect health. The village in which this tree stands derives the apposition 'Ulo' from the tree. When we consider, that at the conquest of Mexico (in 1521), the Spaniards allowed the name of this tree to be affixed to the patron saint of the village, even at that period the tree must have been of considerable size."

This section, therefore, may be named the Giants of the Cone-bearers, and the monarch of these giants is the *Wellingtonia gigantea*. The name is a happy suggestion by Dr. Lindley, for, as he justly observes—"Wellington stands as high above his contemporaries as the Californian tree above all the surrounding foresters. Emperors and kings have their plants, and we must not forget to place in the highest rank among them our own great warrior."

The fortunate discoverer of this magnificent tree is Mr. William Lobb, the admirable plant collector employed by Messrs. Veitch. He sent home seeds, dried specimens, and a drawing, in 1853. The seeds have vegetated, and plants raised from them are now selling by Messrs. Veitch. To that drawing, published by those gentlemen, we are indebted for our present illustration; and the following history of the tree, by Mr. Lobb, was published in the *Gardeners' Chronicle*:—

"This magnificent evergreen tree, from its extraordinary height and large dimensions, may be termed the monarch of the Californian forest. It inhabits a solitary district on the elevated slopes of the Sierra Nevada, near the head waters of the Stanislaus and San Antonio rivers in lat. 38° N., long. 120° 10' W., at an elevation of 5000 feet from the level of the sea. From eighty to ninety trees exist, all within the circuit of a mile, and these varying from 250 feet to 320 feet in height, and from ten to twenty feet in diameter. Their manner of growth is much like *Sequoia* (*Taxodium*) *sempervirens*, some are solitary, some are in pairs, while some, and not unfrequently, stand three and four together. A tree recently felled measured about 300 feet in length, with a diameter, including bark, twenty-nine feet two inches, at five feet from the ground; at eighteen feet from the ground it was fourteen feet six inches through; at 100 feet from the ground, fourteen feet; and at 200 feet from the ground, five feet five inches. The bark is of a pale cinnamon-brown, and from twelve to fifteen inches in thickness. The branchlets are round, somewhat pendent, and resembling a Cypress or Juniper. The leaves are pale grass-green; those of the young trees are spreading, with a sharp acuminate point. The cones are about two-and-a-half inches long, and two inches across at the thickest part. The trunk of the tree in question was perfectly solid, from the sapwood to the centre; and judging from the number of concentric rings, its age has been estimated at 3000 years. The wood is light, soft, and of a reddish colour, like redwood or *Taxodium sempervirens*. Of this vegetable monster, twenty-one feet of the bark, from the lower part of the trunk, have been put in the natural form in San Francisco for exhibition; it there forms a spacious carpeted room, and contains a piano, with seats for forty persons. On one occasion 140 children were admitted without inconvenience."

The botanical description given of this tree by Sir W. Hooker (*Botanical Magazine* t. 4778), is as follows:—*

"Extremities or terminal *branchlets* somewhat two-ranked, pinnated, drooping, slender, thread-shaped. *Leaves* small, alternate, leathery, palish green, spirally as it were arranged, three completing the circuit of the trunk, all of them erect

* For our illustrations we are indebted to a lithograph published by Messrs. Veitch, and to the *Bot. Mag.*

and imbricated, so that the branches, in conjunction with the leaves, are nearly cylindrical. The leaves of the young



plants are oblong, somewhat awl-shaped and spine pointed; half stem-clasping at the base, keeled at the back, plane within, but with a slightly elevated central ridge: those of the older branches are smaller, shorter, more compact, and crowded, ovato-lanceolate, acute. *Male flowers* unknown. Of the *cones* we are only acquainted with fully ripe ones, from which the seeds had been removed; they are nearly two inches long, by one-and-three-quarters inch broad in the widest part, egg-shaped, blunt, stalkless? woody, composed of a central axis (or apophysis), of a stoutish cylindrical form, bearing a number of rather large, thick, spreading scales, of the same substance and texture as the apophysis, and forming one with it, by means of the thickened base; the thickness of the scale is increased by the entire union of the *bractea* with the scale: its apex dilated, convex, transversely rhomboideal, with a transverse, elevated ridge or keel, and in the centre a depression with a round protuberance in its middle. Beneath each scale, according to Dr. Lindley, are lodged seven seeds, exactly as in *Sciadopitys*; and these seeds of the same shape, too, as in that genus, that is, nearly orbicular, compressed, small, less than one line long, scarcely winged at the margins."

EARLY attainment of size is so desirable a quality in chickens for the table, as well as for exhibition, that we have made some enquiries upon the subject, and now publish the results.

It would be of much service if the keepers of superior specimens of any breed, from Turkeys down to Bantams, would oblige us by a statement of the weights of the young ones at one month, two months, and three months old.

We have now before us the weights of two *Shanghai* Pullets and Cockerels, exactly nine weeks old, and they appear as follows. They were hatched on the 15th of March, and they were weighed on the 17th of May. There is no error in the statement, and we can vouch for entire accuracy:—

- 1 Buff Cockerel 3 lbs.
- 1 Buff Cockerel 2 lbs.-10 oz.
- 1 Buff Pullet 2 lbs. 8 oz.
- 1 Dark Cinnamon Pullet ... 2 lbs. 9 oz.

Captain Hornby has also furnished us with some facts on the same subject, and we cannot do better than publish them in his own words:—

“The remarks made in one of the numbers of THE COTTAGE GARDENER, as to the weights of chickens of this year, sent you by Captain Snell, induced me to weigh some of my own chickens of 1854. I had never before tried the weights of such very young birds, but I now enclose the results, which you are welcome to make use of in any way you like.

“You will see that my chickens are older than Captain Snell's, and the warm weather may have been much in their favour, but still these weights seem to me to bear out the statements of the ‘Amateur,’ whose correctness Captain Snell seemed to doubt, when he said he had chickens of 1854 weighing 2½ lbs. each.

“I believe the age of those quoted by Captain Snell, on March 28th, as hatched January 8th, would be eleven weeks and two days. I weighed May 13th.

	Age.		Weight.
	Weeks.	Days.	
<i>Shanghai</i> Cockerel, hatched February 3rd, 1854	14	1	4 8
<i>Shanghai</i> Pullet, hatched February 22nd, 1854	11	3	2 9
<i>Dorking</i> Cockerel, hatched February 21st, 1854	11	4	3 1

“I have, also, this morning (May 16th) killed two cockerels hatched February 7th, 1854, whose joint weight was eight pounds six ounces, or four pounds three ounces each. Judging from these weights, I see no reason to doubt the assertion of the (to me) unknown amateur, that at that time, March 28th, he had chickens of 1854 weighing two-and-a-half pounds each. Much may be done, by early attention and good feeding, in putting weight on early chickens, as I have before told you.

“Of course, I am not aware to whom Captain Snell alludes, but my experience tells me, that to make mere weight a test as to whether the chicken is an early spring bird or not must generally prove fallacious.

“One feeder will make half as much again of a bird as another. I believe, also, that the same bird which, hatched in February, attains, at the age of fourteen weeks, the weight of four pounds eight ounces (which is pretty good), would, under the same judicious treatment, have attained a still greater weight if hatched in April; and, I believe, in nine cases out of ten, an April-hatched bird, would, under the same treatment, beat its ‘fellow bird,’ in all points, by the end of December. I think, in short, that very early birds are not, eventually, the best, though, of course, it is an object to have early chickens for the early shows.”

INSECTS IN THE FRUIT-GARDEN.

EXTENSIVE, indeed, is the catalogue of evils to which fruit-trees are subject; but notwithstanding the grave charges brought against the pernicious influences of untoward seasons &c., still, in my opinion, the injuries sustained through the depredations of insects are more serious by far.

Extermination, or a close approach to it, must be the good gardeners maxim; and this requires an amount of assiduity that not every one cares to put in practice,

or, indeed, has the means of doing, for it necessarily involves a considerable amount of labour. However, there is an old saying, “Whatever is worth doing, is worth doing well,” and this is as true now as when first coined; nay, more so, inasmuch as the spirit of competition is so much increased.

My chief aim in this paper is to impress on the minds of the readers of this work the real necessity for paying the very highest regard to the importance of freedom from insects in all fruits; more especially the Peach, Apricot, Cherry, and Plum. Let not, however, the matter be despised as to other fruits.

I will now run over some of them, and endeavour to show how things should stand in the end of May.

APRICOTS.—These are likely to prove a capital crop in these parts; at least, so I am informed, although, of all the fruits we have here, and which are generally much admired, Apricots are the least successful. However careful we may be to destroy the eggs of the Red Bar Moth, still caterpillars will be found, and the trees must be hand-picked. The caterpillar is coiled up in those patchy clusters of foliage which every body must have noticed, and that should be unfolded, and the caterpillar crushed. Ours have been done a long time, and we have scarcely any damage. The worst of these proceedings is, that the ordinary clumsy labourers consume so much time over the operation, and in these days of strikes it requires some nerve to dare attempt good gardening. With the gardeners of our aristocracy, especially, great difficulties exist; if the employers, through old attachments, desire to keep their old retainers through many years, these old squires, especially, in “striking” times, become so independent, that a fair day's work is not easily obtained; the very knowledge of the humane desire acting on an under current spoils all: such is human nature.

However, to set the labour question aside, high principles of culture, if their essence or relative degree of importance has to be set forth in print, would lead to induce retrogression. But, as to picking, it may be observed that it is not uncommon for careless fellows to rummage about a tree for an hour or two, and, after all, not to destroy a score of these caterpillars. It is of little use unfolding the leaves and tumbling the creature on the ground, from whence it will assuredly ascend the tree again; it must be crushed. The unfolding the leaves is, of course, essential to the well-being of the tree in general, but more especially to the spurs from whence the next year's crop must proceed.

The Aphides, too, must be looked after on the Apricot. There is a greenish-purple kind, which is very apt to infest them, and is probably the same which sometimes infests the Plum. This may be looked for on the young shoots, especially during a very dry period. It is almost needless to say, that this insect is very prejudicial to the free extension of the shoots of the tree, to say nothing of the perversion of its juices; and that it does more damage still to young trees in course of training; such are sometimes completely stagnated, and make little way for a year or two if neglected. *Tobacco-water* is here the best remedy; if the tree is generally attacked, the application may be general; if only a few points, the best way is to put the liquor in a bowl, and to dip them. Six ounces of good shag tobacco to a gallon of water will settle the affair; but these insects have such a greasy coat, that much precaution is requisite. My plan is, to operate on a fine evening, safe from rain. On such an occasion, we syringe the trees with a fine rose, about four o'clock, p.m., with clear water, this is followed, by dipping in the mixture about six, and a second dipping, if possible, at seven, or, in default of that, on the succeeding evening. Do what we will, we may account one dipping incomplete, and the satisfaction is great (although the

time occupied is considerable), if we find, in a day or two after that, we have thrown our enemy prostrate, never more to trouble us.

PEACHES AND NECTARINES.—Here we have an additional antagonist, in the shape of what gardeners term *Red Spiders*. It is scarcely possible to say which does the most mischief to them, this or the *Peach Aphis*, alias Gum fly. The difference, if there be much, is this: the depredations of the Aphis are more sudden and apparent; those of the Red Spider more insidious. I have repeatedly urged the application of sulphur, in the character of a paint, as soon as the trees are trained; ours were done in April this year, and I cannot, at present, perceive any appearance of this pest. Those who have omitted it, and are threatened, may at once apply some clay paint, and for the mode of mixing they may consult back numbers, or our very useful **COTTAGE GARDENERS' DICTIONARY**, which our readers will do well to keep by them, containing, as it does, the best practice of our best gardeners. The Peach Aphis will now be inclined to pursue its ravages, and must be destroyed; the same practice as detailed here for the Apricot will succeed. There is a *blister*, too, which affects the foliage of Peaches, which must be picked clean away; this, however, is understood not to be produced by insects. The *mildew*, also, generally the consequence of stagnation or ebeck at root; for this, hand-picking and sulphur must be resorted to.

PLUMS.—The Plum Aphis is most to be dreaded, and here tobacco-water comes again to our aid, applied as to the Apricots. Sometimes caterpillars will be found coiled up in the Plum foliage, and must be picked by hand.

CHERRIES.—The Cherry Aphis is sure to appear at this period, and requires a very careful application of the tobacco-water; Cherries suffer exceedingly, on walls especially, through this pest. As, however, the shoots of Cherries are generally not so thick as some other fruits, through the size of the foliage, dipping in tobacco-water becomes the most expedient and economical.

GOOSEBERRIES.—The caterpillar is this year very numerous with us; and I find nothing like hand-shaking the bushes, spreading a cloth below the tree. The tree should be struck by very sudden and sharp jerks repeated. This will bring most of them off, and the cloth may then be emptied in a vessel. It may be necessary, however, to repeat the operation.

APPLES.—The *American blight* is a most terrible pest, and if it once gets ahead it is almost impossible to extirpate it. During the rest season, very strong applications of brine, strong dunghill water, or rather the running from the stables, may be used, and this scrubbed all over the tree will, in general, all but extirpate the enemy. It is necessary, however, to follow this through the succeeding summer with spirits of turpentine applied by a small brush; if this is neglected, the odds are that the trees will be bad as ever by the end of summer to extirpate caterpillars. Hand-picking must be had recourse to with all the superior apples, at least; and, in many cases, a repetition is necessary, in order to catch those hatchod at a later period.

BLACK CURRANTS.—The Aphis should be destroyed on these if possible. The worst of it is, so much tobacco is requisite to go over all fruits. We have used a small amount of tobacco to a good deal of ordinary soap-suds, with capital effect. If Black Currants, however, are well supplied with moisture at the root, and the soil is good, these pests seldom do much damage. It is with ill-used bushes, on dry and loose soils, they do most mischief, and such bushes may have weeds, or any half-rotten rubbish piled over their roots nine inches in depth, and then receive a thorough soaking of water.

R. ERRINGTON.

HORTICULTURAL SOCIETY'S SHOW.

MAY 14TH.

THERE never was a better day for a May show than Saturday the 14th inst., nor a finer day for making up parties than the Friday before. A great deal of the success of an exhibition, near London, depends on the weather for the last two or three days before it comes off. The first part of the week was full of April showers and smiles, but on Thursday we had a change to the first summer weather, and the bees for the first swarms might be seen clustering outside the hives in cottage gardens all round London, while the moths and butterflies were busy enough in town, gnawing through whole webs of legislative tissue, or flying about in the movements of the court. Mrs. Lawrence, who, in the middle of the "peace period," took "material guarantees," to drive Mrs. Marryot out of our *Principalities* and dominions, no sooner heard of the declaration of war by the Western Powers, than she sold out her high commission, retiring upon her well-earned laurels with honour and success, such as no other general, in or out of plants, had ever attained to in the same field. The "Prussian policy" was never more perplexing than this step on the part of the great lady, and all wondered how it would all end and affect the shows. But we must not lose sight of the fact, that while our great *Autocrat* put forth the whole strength of her heavy purse-strings to improve our craft, for the last quarter-of-a-century, and did improve it, almost beyond admiration, the Admiralty had been snoozing all the time, and had so neglected our defences, that Napoleon the Third was well nigh coming over them dry shod; and, now, to get the right spirit into the thing, the Queen and the Prince, and the older bairns, are going out into every port and passage to cheer the soldiers, the navies, and to get the vessels afloat. One of these had to be "let go" into the water on the 14th, and, of course, the Queen must go to encourage them, and when the Queen goes out in May, the bees follow her; the whole swarm was out that day, and our beautiful garden was all but deserted. We had the three best bands, the finest day of the season, and the most gorgeous Roses and Azaleas, together with the most *profitable* and *appropriate* specimens of stove and greenhouse plants, Orchids, and Geraniums, that were seen these twenty years back, and those who took the opportunity never had a better chance of seeing under favourable circumstances. Now, as I had helped on the rise and progress to this state of things—as well by my pen as by my head and obstinacy—I claim the privilege of advising the Society as to the size of specimen plants competing for our medals. But, first of all, let me tell how my obstinacy helped on the great impulo of the last twenty years—there were only two more out of fifteen of us who *would cancel the medals* when the plants did not deserve them. You may take what society you please, out of all the agriculturals, and other culturals, and you may give them as much money as they can carry, and as many medals as would fill a house, but unless their judges are perfectly independent of all the *influences* which are involved in the struggle, and of independent minds as well, together with skins thick enough to hold out against all fears or favours, against flattery, as well as against the most withering criticism and abuse, they—the said societies—will never be able to improve their craft so fast and so successfully as they of the Horticultural Society have done.

There is no doubt but many medals, honours, and titles, will be given to good judges and bad generals before this war is over, but I am quite sure that not one of them will be better deserved than to the first man who proposed to force, grow, and exhibit *Roses in pots*; and I happen to know, personally,

that the strongest opposition, and a great deal of raillery was raised against the subject, both in the councils of the Society, and out-of-doors, yet it has now been proved, to demonstration, that there is not a race of plants known to us which is capable of so much improvement, by pot cultivation, as the Tea Roses, the Bourbons, and the hybrid Perpetuals. The Roses this season have been as far in advance of those shown last May as the latter were on the exhibitions of 1847 and 1848. No doubt the fine spring was a great cause of this effect, still, the growers deserve all praise and encouragement; I would not lose the sight for all the launches of all the vessels afloat. Such a sight may never be seen again; ten days of hot, dry weather, is worse for forced Roses, than war and pestilence are to us. Mr. Lane took the best prize for Roses, Mr. Frances and Mr. Paul coming after him. I had the good fortune to find Mr. Lane and Mr. Paul in a good talkative mood. I do not happen to know Mr. Frances, and I got out of them the whole art and mystery of forcing Roses to this perfection; and here they are, and almost in the very words of Mr. Lane, before two witnesses, as good growers nearly as himself. First. To take all Roses, whatsoever, *on their own roots*. This is the greatest secret of all, but I have all along insisted on it. Secondly. To give them the very best compost of rotten turf, and rotten cow or pig dung; the turf to be from the best yellow loam of meadow, moor, or common; to give them good pot-room; not to force them at all for the first three years, or very slightly, and never but very gently; for *every plant* you mean to exhibit you ought to put *ten plants* in progress; not that nine of them are going to fail, for there is hardly one in a hundred expected to fail; but that there are ten chances to one against a plant being out in full bloom and in perfection on a given day. Never to allow them to want water for two hours in succession; never to give them too much water. Always to allow them as much light as the sun and the best glass will allow, except it be in the middle of very bright sunny days, when a little shade favours and refreshes them. Never to close all the ventilators till the mercury falls below zero; to allow as much air as they can breathe, night and day, unless the night is very cold indeed. To ripen them thoroughly in the autumn; to rest them completely in the winter; to prune them when they are one-quarter, one half, or three-parts rested, according to the times of forcing, or of exhibition; not to prune them close, and, of course, not to throw away the cuttings. To make a point of looking at them the last thing in the evening, and the first thing next morning, all the time they are under glass, and not less than twice a week while they are at rest. On my expressing a wish that I was young again, to try all these necessary points, and also to try and beat the great grower himself, he candidly confessed that the whole secret was in a nut-shell: "Keep them on their own roots, and you may defy the Russians; none of my plants before you are worked but *Paul Ricaut*." And why him? Because he was too valuable at the time to be made into cuttings; but young *Paul Ricauts* are getting up on their own legs, to fight the battles of the exhibitions.

Mr. Paul is the only man of weight, or authority, who stood out against all England, Ireland, and Scotland, in throwing cold water on the *Manettii* for dwarf stocks. In his beautiful book on Roses he writes against the *Manettii*; and in the last supplement to it, and, indeed, in all his writing and conversations, you can perceive his dislike for it. Now, I thought all along that there must be some real grounds, which none of us understood, on which one man could venture his credit and his fame against a whole kingdom; and knowing that many good writers hesitate to put things in black and white, which they know to be right and true,

for fear of criticism, I was most anxious to pump out of Mr. Lane what his *real private* opinion of this *Manettii* stock is, now that he has so successfully proved that no pot Rose should have any other stock but its own. He told me, candidly, and he knows I cannot keep a secret, that, unfortunately, it is but too true about all that Mr. Paul ever said against this stock; and he was going to relate about how he had worked five thousand *Manettii* one season—their fate, fickleness, or failures, I know not which, for a noble lord called him away just at that point in the story, to speak about buying Roses. After that, I saw a crowd of great ladies round all the growers, some who came back from the launch, and I could get no more Rose information of the first class that day.

And now for my own report of the prize plants as they stood on Mr. Lane's part of the tables. The first was a magnificent large plant of a Tea Rose, called *Madame de St. Joseph*, a new one to the exhibitions, with immense large pink and salmon flowers, not so bronzy as *Bougere*, but in that style of flower; it had fifteen full, open blooms, and a number of flower-buds coming on: this is a vigorous, strong grower, and is as sweet as a tea-caddy. *Auberon*, a hybrid perpetual of old standing, with fifteen large pink and red roses open, and twenty more flowers in different stages: this plant was five feet high and four feet across the bottom. *Chenedole*, an old hybrid China, with sixteen full open blooms, bright crimson: this, also, was five feet high and four feet across the pot. *Vicountess de Cazes*, a yellow Tea Rose, three feet by three feet, and fourteen bright yellow blooms, which were more regular in form than I ever saw it before. *Noisette Lanark*, six to seven feet high and three feet across, with twenty-one splendid white roses, and a great number of rose-buds coming. *Paul Ricaut*, a hybrid China, with twenty-nine full-blown roses, all of a bright, rosy-crimson; and the next best Rose we have, after *Geant des Batailles*; but it is only a summer Rose, it was a worked plant, four feet high, and four feet across the bottom shoots; besides the twenty-nine blown flowers, there were twenty-two ready to open shortly, and many later buds. *Duchess of Sutherland*, a favourite hybrid perpetual, with twenty of its pale rose blooms, the bush being five feet high, and four feet in diameter. *Paul Peras*, a hybrid China, with as many blooms as *Paul Ricaut*, six feet high and five feet across; splendid light rosy blooms. *Souvenir d'un Ami*, the most splendid, and one of the most vigorous of all the Tea-scented Roses; not unlike the *Malmaison* Rose, but more rosy in the middle. It was a seven-foot-high pillar, with twenty flowers open, and only nine buds besides; the diameter of this magnificent pillar was three feet, and the centro stem was stout enough for a Standard Rose; it should never be budded on any stock. The *Queen, or La Reine*, another magnificent bush, five feet by five feet, and twenty-seven full-blown roses, with ten flower buds ready to open, and such buds as no other is seen with, with about forty buds in different stages of development, a perfect sight in itself. Mr. Bircham, near Bungay, is the only other grower of Roses with whom I had seen such magnificence in *La Reine*, and that was at a bazaar near Ipswich. *Coupe de Hebe*, every lady's favourite Rose, but, unfortunately, only a summer Rose, being a hybrid China. This plant stood six feet high and five feet across; it had twenty-seven open flowers, and eighty in different stages! and *Comte de Paris* Tea Rose, in the way of the *Malmaison* Rose, but of a more fleshy or blush tint; it was four feet high and two feet across, and had eighteen full-blown roses besides. Now, count all these open roses on twelve plants, and consider the room required for a full view of all parts of the plants, and say if ever such a sight was seen before. The next twelve plants were within a

shade of being just as good as the above; but the judges told me that all the Rose exhibitors were agreed as to the decision. Mr. Francis's Roses stood thus: *Juno*, a hybrid China, blush-rose; *Coupe de Hebe*, bright pink; *Adam*, Tea and blush-buff, *La Reine, Blairii, Pauline, Plantier*, Tea and canary-yellow blooms; *Chenedole, Paul Perras, Bougere* Tea, the oldest and sweetest of that class of Teas, with bronzy-pinkish flowers. We have no names for the tints of this and similar Roses. *Augustine Mouchelet*, a hybrid perpetual, doing much better in pots than I ever saw it in borders. *Baron Prevost*, the largest plant in the show; and the *Souvenir de la Malmaison*, four feet high, and three feet across, with twenty-two full open blooms, and nearly twice the usual size they come to in the open air. Mr. Paul's group was nearly as good, of much the same kind; but he had the *Geant des Batailles* in most glorious style. A mottled Damask Rose, called *Sextus Popinius*, whoever he was, and a *Madame Campble de Islay*, to show how the French can caricature one of our royal clanships from beyond Rob Roy's "native heath;" with a now seedling hybrid perpetual, called *Helen*; but whether of Troy, or of the Mac Gregors, the tally did not say—the flower is after *Baron Prevost*, and the Baron is after and the nearest to the old Cabbage Rose, in shape, colour, size, and smell, of all hybrid perpetuals that I know anything of. *Devoniensis, Madame Laffray, Charles Duval, Solfaterre*, and a few others, were in the collections of the private growers, and anybody who chooses to make out a list of these names from my report will have the best and surest of all the Roses known to us at the present day for gentle forcing, for rooms, conservatories, and exhibitions. If to this we add, that the selection should be of plants on their own Roots, our present knowledge cannot extend far beyond.

I must put off the bulk of my notes till next week, but must mention a collection of the new continental *Tree Carnations*, which I had often recommended, but which are yet very little known in country places; there were eight kinds of them from the Messrs. Henderson, of St. John's Wood Nursery: *La California*, yellow, edged with red; *Etoile de Vaise*, cream, and pink edges; *Capivation*, a fine rose-coloured self; *Annette Rapé*, French-white; *Penelope*, very like a mottled old Picotee, and an excellent tree Carnation, so to speak; *Le Grenadier*, a large scarlet; *Augustine*, white, edged with purple; and *Paon*, a light mottled Picotee. Many of this new class of tree Carnations are said to bloom all the winter with a little extra management; at all events, they ought to get into all hands to try them, as, for generations, we had only one kind of tree Carnation.

I must also report that Mr. Lane has succeeded at last to manage *Cantua dependens*, the most lovely-looking flower of all Mr. Veitch's introduction; a long hanging tube, like some most extraordinary Fuchsia, and an open limb at the bottom nearly as wide as a shilling, and all of the purest and most delicate rosy tints. Almost everybody who passed mistook it for a new plant, worth a guinea at least; it has been offered, however, at less than nine-pence a-piece; but no one could do it right. At a hap-hazard, I once suggested, in this COTTAGE GARDENER, the very means by which Mr. Lane succeeded with it. Forcing a Peach tree is the nearest practice to which I could liken the management of this charming plant; force it gently in the spring, in a moist and very airy place, stop the young shoots, here and there, as you would a Peach, for it flowers on the last year's growth; early in the summer turn it into a cool dung frame, and keep it close to the front, so as to be out of the sun; never pot it or give it the least encouragement to growth after the end of July; the Red Spider takes to it before then, but keep him off as well as you can, and as long as possible; starve it all through the autumn, and let it

cast its leaves; just save it from the frost, in a half-dry state, and in the spring up come the flowers; then water, and soon after repot, and you will soon be rewarded.

D. BEATON.

NORTHAMPTON SHOW.—MAY 4TH.

THE month of May is, to us, one of the most cheering and perplexing. It continually reminds us of the associations we used to attach to those fair ladies honoured by that sweet name; lively, buoyant, cheerful, kind; and yet, withal, possessing a spice of sly humour, sportive raillery, and gentle flirtation, quite enough to tease, and yet insufficient greatly to wound or disturb. It is beyond our philosophy to discriminate how names frequently affect, and give marking and tone to character. That they do so more than is generally imagined, will require but a slight investigation, though there should be no agreement as to the cause, such as belonging to the mere derivation, or sound of a word, or the popular associations connected with it; there is much in a name; and even our florists are now, like the Messrs. Lee, finding that they can give their novelties a better "attraction," than uncouth Latin jargon.

Be this as it will, the words, "*sweet May*," have rung in our ears since childhood. Frosts and storms we knew were to be expected; but who would remember them, when bathing in May dew; bright sunshine, and warm, sparkling showers, were the sunny recollections. Then, a gardener might have been as gay as one of our ribboned friends dancing round the May-pole. His main crops were in; his flower-borders raked smooth, and dressy; his lawn like a carpet; he had a duplicate, or a triplicate of much-stored tender plants; and what was to hinder him from participating in the feelings of a holiday? The massing of flower-beds was never thought of then. The where to store and grow hundreds and thousands of one thing, without extra means, and watch and ward over them until the day of safe planting-out has come, has made this sweet month one of the most perplexing of the season. From the first to the last day of the year there is now no time for ease. If the hands are not employed, the brain must be at work. The physical machine, just like any other, will soon be exhausted if always firmly wound up. "All work and no play makes Jack a dull boy." The body becomes wearied, the brain becomes languid, when effort and concentration are constantly directed to similar operations, and in one locality. From the dispersion at the Tower of Babel, it has always been good for man to have a little change. Gardeners are no exception;—quite the reverse. They live so much alone, mix so little with the world, get so interested in their own doings, that if there is not an absolute danger of getting metamorphosed into a *vegetable*, as well as a vegetarian, there is every likelihood that they will get stereotyped in their notions and ideas, and become dull, confused, or self-satisfied. The visiting of gardens, and the inspecting of Horticultural and Floral Shows, when kept in proper moderation, are some of the best things for ministering to the advantage of employers and their gardeners; and since this subject has been broached in these pages, I have had frequent evidence that employers are much more ready to reward the exertions of their gardeners in this particular direction. A man crammed with conceit will not long continue to do great things; and one of the best means for driving this conceit out of us, as well as for stirring up a spirit of honourable emulation, is just to let us see that other people do as well, or rather much better, than we do. A great gardener thus accosted me at a London exhibition; "Ah! man, I thought I could crow pretty loudly, but I shall now go home and learn to creep and chirp."

With a mixture of the feelings hinted at, I started at

an early hour, to have a long ride to the train by which a friend and I purposed going to Northampton. The crops everywhere were looking beautiful after the rains, and many a pretty gem of a garden by the way-side, told most emphatically that happiness and peace would reign in these homes, where so much industry, associated with the useful, the orderly, and the beautiful, were manifest without. From the people I saw employed before six in the morning, and the traces of fresh labour existing, it was evident that many had been doing a little to their gardens before they went to their usual avocations. I have met with several employers of labour who objected to their work people having large gardens on this very account, because they wasted their physical energies on their own ground, and were unable to work properly for them. No doubt, when labourers obtain large allotments, more than they and their families can cultivate in their own time, there may, at certain seasons, be some reason for this complaint. So far as my own experience is concerned, I have never met with an instance. I knew what even a wearied man is capable of doing, when, after a little rest and refreshment, he is conscious he is working *wholly* for the benefit of himself and family. The man most diligent in his garden at home is just the man I would place the greatest dependence upon in every emergency, and for general trustworthiness. Judging from the past, I knew that many at Northampton would be astir at an early hour that morning. Having "fere-gathered" with our friend, Mr. Appleby, and other gardeners, we were enabled to compare notes on passing events, and chiefly on the late disastrous frosts.

It is not my purpose to enter into the minutiae of the exhibition, or to give those details of objects and prizes which are generally fully chronicled in the local papers, but merely to mention a few salient points, interspersed with remarks likely to be generally useful.

The Show, as a whole, was a good one. If there were but few articles that were wondrously superior, there was scarcely an object in the place that was not worthy of standing on an exhibition table. I was sorry to find that some of the largest and oldest exhibitors were not present, but glad to perceive several new ones coming out in great force, such as Mr. Brown, gardener to Sir C. Knightley. The prizes seemed to be more than usually well divided, and that made exhibitors better satisfied. This was nothing owing to the discrimination of the judges, but to the salutary practice of exhibiting in *quality* rather than quantity. A man who would be first or nothing, now sees there is more honour in being first in a four or an eight, than nowhere in a twelve or sixteen pot. The consequence is, that the prizes, and the satisfaction they bring, are more equally divided.

PLANTS.—Among a nice lot of plants, exhibited by Mr. Jeyes, nurseryman, were two compact specimens of *Medinilla magnifica*, which I understood were not destined to return to their former quarters. It is seldom that country nurserymen can afford room to grow specimens for exhibition. If a certain number of plants are shown, judges must treat them according to their real and relative merit. The success of country exhibitions is, however, greatly dependant on the efforts of nurserymen, and gaps in an exhibition could be easily filled up from their resources. In this close-cutting age, nurserymen cannot be expected to continue such a practice if it terminates in all trouble and no gain. Societies should see that their kindness be repaid in something more substantial than small prizes.

Among private growers, the chief contest was between Messrs. Mackie, Gardiner, and Brown, who were in turns victor and vanquished. Many of the *Azaleas*, such as *variegata* of Mr. Mackie, and *lateritia* and *variegata* of Mr. Gardiner, were beautiful specimens. Climbers and twiners were arranged in trellises, where a monotonous

outline was broken, and the frame-work hid from view. With one or two exceptions, there was not a plant in the room that showed that the cultivator had any faith in the beauty of a forest of sticks, however white and nicely whittled.

In *Cinerarius*, Messrs. Gardiner and Mackey were again alone. The plants were compact and well-grown. Some said they were superb; to our fancy, they wanted the brilliant massive effect this tribe presented two or three years ago. Perhaps distance has lent to my eye a magnifying glass, as well as "enchantment to the view;" or, it may be, that since then, other folks have reached the Northampton standard. At that period, the finest shewn about London were but pigmies in proportion. The prettiest things exhibited were *Bessy*, *Rosalind*, *Loveliness*, *Fair Ellen*, *Estella*, *Marianne*, and *Prince Arthur*. The latter is a beautiful self, but producing its blooms too briefly for a good exhibition flower. Altogether, I do not think the *Cineraria* is getting improved for decorative purposes. What is gained in new varieties in symmetry of petal, seems often counterbalanced by a diminution in general massiveness and robustness.

A similar remark applies to *Calceolarias*. I used to grow and raise well-formed flowers. I can now get nothing up to the old standard. Mr. Kinghorn seems to have reached the heights of perfection in this flower. Even from seeds saved from beautiful kinds it is very common to obtain seedlings on which a florist's eye would not for a moment linger. After a certain refinement, there seems either a tendency to revert to the original type, or a debility becomes the attendant of that refinement. On the present occasion, three groups were shewn, none of them, in point of form, up to the old standard. Mr. Brown, however, exhibited a pretty collection, distinguished for large, beautifully-marked and spotted flowers—dwarf, robust, and compact in habit, with foliage as healthy as that of an outdoor Cabbage. With patience and perseverance, superiority in form may be added to the other desirable qualities; but, just as they are, such pretty, marked, large blooms, joined to a robust, compact habit of plant, will ever be desirable acquisitions for the greenhouse, where not one in twenty ever steps to examine a flower critically with a florist's eye.

There was one peculiar feature among plants that created great zest here among exhibitors and visitors, namely, the three best pots of *Mignonette in bloom*. Among a number of competitors, the chief contest was between Messrs. Mackie and Gardiner; the latter gentleman being something like a week behind his rival, though grown equally well. Do not imagine that the ladies linger over pots some six inches in diameter; these pots are above, or somewhere about, a foot in diameter; and the mass of bloom high in proportion to its width, was, in some of the pots, more than thirty inches across. In fact, each pot plunged would have made a nice little bed of that general favourite. It requires no little care to produce such specimens in the beginning of May. If desired, I have no doubt but either of these gentlemen would, as heretofore, transmit the outlines of their treatment for this work. I have understood, that the seed is sown in small pots in August; and then several of these are transferred to a large one in March. To those who did not know all about it, so symmetrical was the whole, that each mass might be taken for a single plant. I am doubtful if, upon the whole, this massing system, however effective, such as that now generally practised with *Achimenes*, &c., shows the relative claims of superior culture so well, as where not more than one plant of any thing is exhibited in a single pot.

Perhaps, two of the most beautiful plants in the room were two *Azaleas*, dwarf and compact, looking like

Triumphans, and *Rosea elegans*, sent, but not for competition, by Mr. Smith, a tradesman in the town. The beauty of these plants was mingled with a saddening influence. Mr. Smith, Jun., had been one of the chief promoters of the Society, and, by his happy temperament, seemed to carry sunshine with him wherever he went. Some three years ago, after acting his part at one of these gatherings, he was suddenly removed. Not a meeting now takes place in which the want of his benevolent, happy tact, is not mentioned with regret and sorrow. Would that we could all act so as to be *missel* when gone! No embalming recollections attend the memory of the man who lived for himself.

The FRUIT was more distinguished for quality than quantity. Apples appeared in first-rate condition. Mr. Newman exhibited what had been a magnificent Pine, but too far gone, and also a dish of splendid *Kean's* Strawberries. Mr. Brown showed a splendid dish of the same kind, with scarcely a line to draw between them, though a few thumpers turned the scale in the former gardener's favour. *Queens* were also shown in fair condition, but had been grown too much in the shade. Splendid black Grapes came from Mr. Mackie; and good, ripe, yellow Muscats, were supplied by another gentleman; a rather uncommon thing in the first days of May.

For VEGETABLES, Northampton has always been distinguished. The roots were fine on the present occasion. The frost had prevented the usual supply of Asparagus. What did appear was in excellent condition. A bundle, shown by Mr. Watts, market-gardener, was very fine, and his white spring Brocoli has been for many years unrivalled; it was very fine on the present occasion—as firm and fully half the height of a large-sized sugar-loaf, with stems as thick as my wrist. I heard Mr. Appleby quizzing about some seed, but they could not get legs to travel. It is believed that Mr. Watts uses extraordinary care in saving his seed.

The frost had told against the exhibition by *Cottagers*; but yet there was a great turn out. That there were fewer competitors than for the summer exhibitions, made it easier work for the judges. So keen has been the competition, so difficult at times has been the task to find a flaw, that I could compare the task of deciding to nothing more fitly than having a handful of new sixpences from the mint put before you, with so many minutes to make up your mind as to which was best.

There is never a good, but there might be better. Most of the articles exhibited commanded admiration, when individually examined, and yet the effect, as a whole, was not particularly striking. After musing on the matter, it seemed to me that the large room of the Corn Exchange, with its lofty domed roof, was too large for the quantity and size of the objects exhibited. I heard several gentlemen say that the plants would have told more in the large but low ceiling-roofed room at the George. Another raised a laugh by speaking of having a canvass or gauze tent pitched inside of the Exchange, and beneath that arranging the objects for exhibition. A joke that tells has generally a spark of truth in it. Plants and flowers always look best when there is some opaque object against which to reflect their beauties. The lofty arched roof of the room is opaque, and light is admitted by tiers of windows on the sides. If the lower tiers of these were rendered opaque by blinds or curtains, the plants placed against them would have more of a back ground than when placed on tables in the centre of the room. At any-rate, a plant a few feet in height would not be crushed down by the overhanging vault to something of so many inches. We could think of an *Araucaria*, 100 feet high, standing in the court of such a place as beneath the dome of St. Paul's. A plant a few feet in height, however beautiful, would be something like a scare-crow, more especially if light

were admitted solely by the sides. The central division in the exhibition tents at the Metropolitan societies, covered with green baize, served another purpose beside convenience. Let those in the habit of decorating rooms contrast the effect produced by setting down a plant here and there, whatever the colour of the wall, &c., and giving the same plants an evergreen back ground, as practised by Mr. Fleming, and described in a previous volume. Well, then, taking these hints for what they are worth, and as the roof cannot be lowered, what is to be done to render such exhibitions more attractive, not in the way of cultural skill so much, as in the mere matter of agreeable display—a display that will please, though not one in twenty will ever ask how the pleasure is produced? The answer is a simple *enc*. The place must be better filled, and loftier plants must be introduced.

I think a little suavity of manners, and a yielding here and there in trifles, would conquer the first difficulty. I perceive, by the advertisements, that there is a floral society in Northampton besides the one I have had the great pleasure of attending. I have witnessed first-rate floral displays at some shows, but with the exception of some good pans of Heartsease, and a thing or two in the shape of Auriculas, not a florist's flower, properly speaking, was present. I expected to see some fine Tulips, Hyacinths, Polyanthus, and Auriculas. We know the old adage about the strength of unity and the weakness of division. Would not a display of *these* and other things have greatly enhanced the interest and the variety of the exhibition? And if gentlemen's gardeners cannot find time to attend to these beauties properly, is that any reason why they should not duly honour and respect those who see something more beautiful in a fine laced Polyanthus than they can see in a magnificent Azalea?

Then, though I would not, on the principles previously advocated, wish any of my brethren to exhibit for a prize one plant with which they themselves were not satisfied, they keep many beautiful things at home that would delight visitors, when exhibited in miscellaneous groups, and not for competition. I know that I am treading on difficult ground here; but if employers, committees, and exhibitors, were coming to an understanding in this respect, the interest of these meetings would be greatly increased.

Then, finally, supposing the present arrangement to be continued, the lowness of the plants will not afterwards be so much felt, as *Fuchsias*, &c., are generally exhibited in gigantic size. Let me not be misunderstood. It is quite amazing what some of the gardeners in this neighbourhood produce with the means at their disposal, and the daily demands upon their resources. It would be next to impossible for them to bring tall plants, as so many breaks to the level uniformity, owing to the difficulty of carriage alone. The nurserymen, Messrs. Jeyes and Perkins, might, in this respect, do much, even by bringing some of their choicest evergreens and Conifers in pots. Both, I am sorry to say, have had much to think of this spring, besides the exhibition, which they have by no means forgotten, having suffered severely by the night of the 24th ultimo. There can be no question, that even masses of evergreens, especially the choice of them, would be a good feature in such large places.

It may be asked, what encouragement would there be? I answer, even greater than that which now exists; and those who witnessed the company assembled in the afternoon, when most of the gentry of the neighbourhood were present, and those who stood at the closing of the doors, and saw numbers at the reduced price refused admittance, as the things could not be kept longer, will be apt to come to the conclusion, that the great in rank will patronise such exhibitions so long as they are

worth patronising, and that a growing taste for such matters is being fostered among our hard-working brethren, which it behoves us to make some little sacrifice to promote and foster.

R. FISU.

STOVE FERNS.

(Continued from page 78.)

NOTHOCHLÆNA.

WE have now arrived at a genus of Ferns possessing as much delicate beauty as any I have already noticed. The only drawback on their general cultivation is the difficulty of keeping them in a state of health amongst other Ferns that require a moist atmosphere. The leaves of most of the species are covered with a fine down, or woolley scales. These retain moisture, and, in long-continued dark weather, in consequence of the wet being retained on the fronds, they perish, and the plants perish also. To guard against this evil, it is necessary to place the plants in the driest and least shady part of the house, and *never to wet the leaves, either with the watering-pot or the syringe.* With these few warning remarks on their culture, I shall briefly notice a few of the most interesting species, though every one of the genus is worthy of cultivation.

N. ARGENTEA (Silvery).—A Fern, from South America, of the greatest beauty, growing only about six inches high. Fronds bipinnate, the lowest leaflets spreading out the longest, and gradually shortening to the apex, and covered with a silvery-white powder. Stems, both of the pinnae and main stem, shining black. Increased slowly by dividing the creeping rhizoma.

N. CRASSIFOLIA (Thick-leaved).—This fine Fern is also from South America. Fronds pinnate, that is, once divided, about a foot long; leaflets covered beneath with overlapping, fringed white scales, turning brown with age. On the upper surface it has very short hairs set in circles or stars. The seed-cases are placed on the margins of the leaflets, and form a black border round them. This is a very well-defined and beautiful species, and increases freely by dividing the white scaly root-stock.

N. ECKLONIANA (Ecklon's).—Though from the Cape of Good Hope, this elegant Fern requires a moderate stove, but the conditions of culture mentioned above must be strictly complied with. Fronds tripinnate, growing a foot high, leaflets oblong and blunt at the extremities, deeply cut, and the edges rising; they are covered with narrow scales of a white colour, giving it a woolley character. I once got up a fine batch of seedlings of this elegant Fern by sowing the seeds on some pieces of rough peat, placing the pot containing them in a pan of water, and covering the whole with a large bell-glass. The moisture arising from the water kept the soil moist enough for the seeds to germinate, which, as soon as I observed, I propped up the bell-glass with a small stone, gradually increasing the aperture till the plants made their third leaf, then the glass was entirely removed, and after a few days the plants were potted off, placed in a shady spot, and inured by degrees to bear the full light. I am pretty certain most Ferns would grow (if the seed was good), treated in a similar manner. It may, however, be propagated by dividing the creeping rhizoma.

N. SQUAMATA (Scaly).—A Mexican, dwarf Fern, of great beauty. Fronds pinnate, growing only about six inches high; leaflets dark green on the upper side, and white beneath. I once had a nice plant of this rare species, but one day, during my absence, it was parted with for a trifle. It is, I believe, at present only in the collection at Kew.

The rest of the stove species are—*N. nivea* (white);

N. tenera (slender); *N. trichomanoides*; *N. rufa* (rusty); *N. sinuata* (sinuated); and *N. tomentosa* (woolly).

OLFERSIA CERVINA.

The only species in cultivation. The first, or generic, name is commemorative of Olfers, a German. The second means stag-horned, in allusion to the appearance of the fertile fronds. Both sterile and fertile fronds are pinnated; the former is beautifully veined, and the latter are covered with seed-cases. It is a fine Fern, and grows about two feet long. I have increased it readily by dividing the creeping rhizoma, preserving a leaf and incipient bud to each division.

ONYCHIUM.

O. LUCIDUM (Shining).—The only species in cultivation. A very elegant Fern, from Nepal. It is a stove Fern, and will grow in shady places. It has existed with me in a warm greenhouse, but the fronds turned brown at the edges. It may be described as a branching Fern, for the fronds are frequently divided four or five times. They are of two kinds, barren, and seed-bearing; the sterile being shorter than the other. It is a beautiful shining green Fern, and is rather common, being easily increased by its freely creeping rhizoma.

PHLEBODIUM.

A genus of Ferns, divided from *Polypodium*, by the late Mr. R. Brown. They may be distinguished by the situation of the seed-vessels, which are placed distinctly in rows, between the midrib and the margin, and by the veins being irregularly branched and very conspicuous.

P. AUREUM (Golden).—This is the well-known *Polypodium aureum*, and a noble, beautiful Fern it is. Fronds pinnate, and drooping, growing three feet high; seed-vessels very prominent, and of a golden colour; hence its specific name; easily increased by dividing off segments with leaves attached of the thick creeping root-stock.

P. LYCOPODIODES (Lycopodium-like).—A small, creeping, West Indian Fern, worthy of cultivating in tiny ornamental baskets, or on rockwork in the stove. Fronds simple, three inches long, wavy, blunt at the point, and slender at the base. Readily increased by division.

P. NITIDUM (Shining).—Another small Fern from Honduras, remarkable for its shining, small, simple fronds, which are also thick and leathery; increased by division.

The rest of the species are—*P. decumanum*, *P. glaucum*, *P. percussum*, *P. sporadocarpum* (a beautiful species), *P. squamulosum*, and *P. venosum*.

T. APPLEBY.

(To be continued.)

FLORISTS' FLOWERS.

(Continued from page 119.)

THE STOCK.

THERE are few flowers that ornament the parterre more than the Stock in all its varieties, yet it is not a fashionable flower. We generally see the finest blooms in some cottage-garden by the way-side. When I was a young man, it was thought worthy of prizes at Flower Shows, and many a beautiful stand of scarlet, purple, and white Stocks, have I seen exhibited, and much admired by the visitors. What can be the cause of this flower being banished almost from the flower-gardens of the wealthy? I suppose it must be because they bloom at a time when the gentry are from home, in London, or at the watering places; and, perhaps, another reason is the passion for novelties in the shape of new

Verbenas and other bedding-out plants. Again, now-a-days, our beds, or, at least, many of them, are filled with greenhouse plants, especially Scarlet Geraniums, which, no doubt, have partially banished such a common thing as the Stock. Yet, I think, this is not wise; for a bed of good double Stocks is, when well grown, as beautiful and fragrant as any other flower; indeed, in the quality of perfume it far surpasses many of the inhabitants of the more modern flower-gardens. For such patrons of flowers as reside at home during the pleasant months of May and June, the biennial varieties blooming thus early must be highly acceptable; and I am certain gardeners would do well to have a bed of each colour of these varieties to gratify their flower-loving employers. I was much pleased with a few plants of the white *Queen Stock* that I saw a few days ago in the gardens at Wrest Park, belonging to the Earl de Grey, and so well managed by my esteemed friend, Mr. Snow. I made some jottings of the place which shall appear shortly. So well were the Stocks bloomed, that I made up my mind, there and then, to write a paper or two on their culture, and, if possible, bring them out of the comparative oblivion they appear to have been consigned to. The seedsmen on the Continent have paid great attention to these flowers, and that attention has been repaid by a great improvement in the form and colour of the flowers. The varieties in colour have been greatly increased, so much so, that we have annually sent over to us packets containing (in separate parcels) as many as from twenty to thirty shades of colour, certainly more than enough to satisfy the most fastidious epicure in colours. Our English seed raisers would do well to imitate their example.

Properties of a first-rate Stock.—1. The stem should be stout and elastic, so as to bear up the flowers above the foliage. 2. The bloom should be perfectly double, round in form, and thickly placed on the stem. Each petal should be smooth at the edges, and overlap its neighbour just enough to leave a portion visible. Each bloom should not be less than one-and-a-half inch in diameter. 3. The colour should be clear and bright; variegated flowers are objectionable, and would disqualify a stand at an exhibition.

Propagation: By Seed.—Ten-week Stocks (so called, I suppose, because they flower about that time, after sowing in spring or summer) may be sown either in broad, shallow pans placed on a shelf in a warm greenhouse, or in rows on a gentle hotbed, placing labels to each variety. The soil for seedlings should be light and sandy. Press it firm and level previously to sowing the seed, giving a gentle watering, and allowing the surface to become rather dry. Then sow the seed, and cover it with some finely-sifted light soil, a quarter-of-an-inch deep; water very gently again, and shade from the hot sun till the plants are of a size large enough to stand the full light, carefully supplying them with water as they require it.

When the seedlings have attained four or five leaves to each it will be time to prepare a bed, or beds, where they are to flower. The situation should be open, yet sheltered from the heavy prevailing winds. The subsoil should be dry, and, if not so naturally, should be thoroughly drained. In low, damp situations, I have found it advisable to raise the bed six or eight inches above the general level, placing a layer of dry brick-rubbish a foot deep under the soil. The Stock loves a calcareous soil, and, therefore, a slight admixture of old lime-rubbish amongst the compost, where it is deficient of that ingredient, will be desirable and useful. This compost should be formed of good sound loam, three parts, well-decomposed hotbed dung, one part, and one part leaf-mould about half decayed. In this compost, with the lime-rubbish added, the stock will grow and flower well. If the beds are made up near the

time of planting-out, the soil should be left two or three inches higher to allow for settling. Should rain fall any day near the time, take advantage of it to plant out the seedlings; but if dry weather continues, water the surface the evening before, and plant out the morning following, shading them during the day, for a few days, till the plants are fairly established. Allow six inches apart from plant to plant, and as some of them may be single, it will be advisable to pot a few off singly in three-inch pots, to fill up the places of these single ones as soon as the buds are discernable. The double ones may easily be distinguished as soon as that takes place. The double ones are short, round, and thick; whilst the single ones are long and thin. If carefully turned out of the pots, they will be quite as forward as those planted out of the seed-bed or pans. If the weather continues dry, soft water must be applied to the plants almost every morning until rain falls. After this, they will require no further care, excepting they grow so luxuriant as to need short sticks to prevent the winds twisting them about; I say short sticks, because the flower-stems do not need support, only the body of the plant should be kept still and quiet. The management in pots, and the culture of the biennial varieties, must be deferred to another opportunity.

T. APPLEBY.

(To be continued.)

PROPER APPLICATION OF WASTE MATERIALS.

ALTHOUGH philosophers tell us "that there is no waste," but that all substances, after passing through the various states of solid, fluid, and aeriform, return again after a lapse of time into their original position, to be again transformed as before,—yet, in the humble sphere of practical duty to which many of us are called, it becomes expedient either to accelerate or retreat, as the case may be, this ever-moving change which nature is making; and, consequently, though the philosopher may, in accordance with the laws he lays down for himself, discard the word "waste" from his vocabulary, there are still many minor purposes to which it has a significant meaning; and in horticultural affairs we recognize it in many instances with all its force; for we not unfrequently see the misappropriation of many of the means at the disposal of the operator, but very many not used at all. This state of things, doubtless, arises, in many instances, from the want of the means necessary to accomplish all the mind conceives; but this is not always the case; and as of late a laudable desire has been manifested to become acquainted with common things, a few words on what may appear the very commonest of the common may not be altogether in vain.

In all gardens, or in some obscure place outside of them, there is always "a rubbish heap," or place to which the refuse matters of a garden are carried, from time to time, as they are produced. This repository of what is deemed unfit for anywhere else, is, of course, not the fashionable quarter where company delight to linger; but it is not unlikely it may contain what they once admired, in the shape of some overgrown hard-wooded plant, well-trained tree, or other attractive object, but which, after performing the duty allotted to it, is cast away no one cares whither. Now, though it would be hard to persuade a skilful cultivator that a fine specimen *Boronia* which had graced his stage for many years, until no longer the stubby orderly plant it once was, and was cast away, would rise again from its ashes a better plant than before, this doctrine, though he would by no means entirely discredit it, yet he has sufficient discernment to comprehend the immense time required to perform this routine, and, consequently, he puts his wits to

work to discover if some part of the process cannot be turned to profitable account; this is, therefore, done in all those cases where the rubbish and other waste materials are made into some such manure as to impart something useful to whatever it is applied to. This state of things is what our great agricultural friends have been aiming at for years; "to husband their resources," and allow nothing to be lost; and in some of the best tilled districts of the kingdom, the care and pains taken to secure all waste scrapings from the roads, or ditches, all rubbish left in other quarters, and more especially the liquid substances in the yards and other places which of yore were considered only nuisances, these matters have now taken such a turn that they are no longer called "small;" and, although in gardening affairs it would be unjust to give it so important a feature as it assumes on the farm, yet it deserves more attention than it often receives.

To make the case better understood we must descend into particulars, and shall begin by supposing the heap on which all kinds of cast-away materials are deposited is in some out-of-the-way corner. Now the first thing to consider is, what more auxiliary matter can be got together at the cheapest rate. If the situation be a stiff loam, or a clayey one, it affords of itself one of the most useful elements of successful culture for the woody matter, with, probably, the addition of some that could be obtained for the purpose, will furnish a sort of fuel sufficient to burn this obstinate compound into one of the most friable and useful ingredients that can be applied to stiff ground. The way this is obtained requires some little care and time; but the process is simple. A situation having been selected for the fire, let the bottom be made smooth, and let two small ditches about four inches wide and as much deep, be cut intersecting each other in the manner of a cross, and let these be covered over with bricks or flat stones, but not tight-jointed, and at the centre, where they cross each other, raise a heap of stones or brickbats, say a couple of barrow loads, and on this pile some rough, dry wood, &c., which, being lighted, coarser pieces may be added, and amongst these some rough pieces of clay or loam may be placed, observing to apply it at first by hand, so that none of the finer particles be likely to exterminate the fire; rough, woody roots, or other combustible materials, may be added alternately with the clay, taking care that at the first start the proportion of clay ought not to be large; by-and-by, however, it may increase, for the process may be carried on for weeks, taking care to supply it occasionally with loose wood and clay, but on no account to disturb any part of the burning mass until you be satisfied with the quantity that is done. This process is called clay-burning, and is successfully practised in some places; in others it is not attended to, but the merits of the article for heavy land are, doubtless, of the first order.

It is necessary, now, to look to the other portion of the heap, which, in addition to the roots and stalks consumed as above, contains, doubtless, the decayed weeds and flowering-stems of the flower-garden, with a tolerable proportion of stones, as the case may be. This is likewise a useful adjunct to stiff, clayey lands, and cannot, therefore, be better employed than by being well mixed up until all parts of it be decomposed, and then carried out on the tillage lands. And as there are few things, stone excepted, but which will either burn or decay, the waste substances of the rubbish-heap may again be appropriated to replace the loss the ground underwent by its removal. Cultivation is also much benefited by an interchange of ingredients. Witness the advantage of trenching; the subsoil brought to the top, mixing with what was there, a compound is created better calculated to sustain vegetable life, than, to all

appearance, a richer soil is capable of doing alone. But there are some things to which a sort of use is put during their preparatory time; of this class, tree-leaves are, doubtless, the most pre-eminent; but as these are so well known, it is needless to say more on their head. Grass from the lawn, is, however, less usefully employed, but it may be made to work the frame, and, doubtless, is an excellent adjunct to the hot dung sent there, but being more violent and less lasting in its heating powers, some care must be taken in using it. But it may be rendered very useful if there be any old, dry leaves at hand to mix it with; these, by absorbing part of its fermenting juices, modify and mitigate its obnoxious qualities, and a little time taken in preparing it, by repeated turnings, &c., is well rewarded by the mild, regular heat it gives afterwards. Short grass, however, to become useful, ought not to lie and heat, and cake into lumps first, for by so doing its best and most active juices are thrown off. Short grass may also be usefully employed in shading or protecting the ground from the effects of a too hot sun, and such things as beds of American plants, newly laid turf, newly planted trees or shrubs, and many other things, will be all benefited by a slight covering of short grass, which, preventing evaporation, is of great service to the crops to which it is applied.

In the class of "waste materials," many things may also, doubtless, be added, which have only a local position; in other words, certain places or districts afford useful substances for improving the quality of the ground or crop which are not to be found everywhere. And it often happens that nature has been so kind as to furnish each district with what is best suited to its particular wants; some of our lightest lands containing the richest marls beneath their surface, while our clay lands forming in themselves the materials of which drain tiles are made; industry is only wanted to turn their stubborn but not ungrateful nature to good account. This, however, is stepping out of the department of the "waste heap;" but if we go back and see what useful refuse a brick-yard contains, and how often it is allowed to lie and waste, a peep into the court-yard of premises undergoing repair will also often show quantities of mortar rubbish and other substances thrown into some hole, to fill up a space, which a less valuable material would have done as well. Stones themselves are not without their uses on land; and I have seen a piece of stiff, retentive clay land much improved by a good dressing of the waste from a sand-stone quarry. Road dirt is also useful; for, apart from the value which the dung from animals gives it, the grindings of the stone is also of great service. Many other things might also be adduced, but the above is sufficient to call the attention of cottage gardeners to the "small matters" connected with the "compost heap." Manures of the more prominent kinds it is needless here to mention, because it is expected that they are duly cared for in the proper way.

I might also add, that liquids ought also to be properly attended to, for it not unfrequently happens that some of them are allowed to waste. Perhaps, as useful a way to dispose of small quantities, is to pour them over the compost mixture, which may consist of a variety of materials all blended together, and which may be all used to advantage when the proper season comes round for digging the various plots; always taking care to preserve some of the richest and best manure for certain crops, as Celery, where the space only allows a small quantity of it at a time.

J. ROBSON.

ALLOTMENT FARMING.—JUNE.

WE have now arrived at what may be termed the prime of the year—that period when most hearts are exulting over

future prospects, as concerns garden work. Nature now wears her richest finery; every hill, dale, glade, ditch, and hedgeside teems with exuberant foliage, and is dotted with flowers, and the mind of man fairly forgets the horrors of the past winter. The industrious allotment man or cottage gardener comes in for a full share of the exultation, and casts many an anxious eye over his luxuriant Cabbages, Lettuces, early Potatoes, and rising crops. Let then, we say, such pleasurable feelings lead us to an increased measure of gratitude to Almighty God, and move us to increased perseverance.

The extirpation of *weeds* is one of the most pressing matters of the period, and the attention to this must be unremitting; every spare moment must be thus employed. When it is showery, the hand-weeding may be performed, reserving all hoeing processes, if possible, until the soil is dusty on the surface. When the weather is of neither extreme, it will be found good policy to "dig in" weeds, remembering not to dig too close to growing crops, the weeds from which may be pulled or hoed away previously to digging. The young root-crops will now require much attention in hand-weeding, singling out, hand-hoeing, &c. The weeds should be hoed between the rows betimes, then the rows hand-weeded, then the plants singled out, that is to say thinned, so that no two touch; this done, the hand-hoe should be worked between the plants in dry weather. A pause may now take place for two or three weeks, when the plants will require "setting out" at their final distance, or else at half distance; the latter I prefer. I have been speaking more of Mangold, Swedes, Parsnips, Carrots, &c.

POTATOES.—The early crops may still require a little weeding; of course all other operations have ceased. The later crops will require good hoeing and hand-weeding, and a little earth drawn to them where shallow.

CABBAGEWORTS.—Continue to sow Cabbages monthly to supply gaps, &c. Run the hoe through those getting forward, and continue to collect waste leaves, &c., for cows or pigs. Brocolis will soon require pricking-out, and the early part of this month is a good time to sow Cauliflowers for the autumn. Green Kale, Savoys, &c.; too, are all the better for pricking-out; at any rate, let them be clean weeded, and if too thick they may be slightly thinned. Towards the end of the month, some chances may occur of getting some of the Cabbageworts planted out finally.

ONIONS.—This is an important crop, and one that requires much attention in June. Of course, all weeds will be extirpated, and the common practice is to hoe well through them, though we do not practice this; they must also be thinned where too thick, say, from three to five inches apart. This, however, had better not be done at once, for fear of the grub, but merely singling them out at first.

PEAS.—All staked, of course; let the drills be edged up with soil on light and hot lands to retain rain. When the Peas are above the stakes their tops should be pinched or dubbed; this continues them longer in bearing if late kinds.

BEANS.—The Broad Beans will now require topping; this is necessary.

TURNIPS.—The common may be sown for a full autumn crop towards the end of the month; the *Dutch* and *Stone* are the best for small plots.

SWEDES.—Those who have seed-beds of this useful root should run a scythe over them as soon as they are four or five inches high, just topping them a little. This makes the plants stiff to handle at planting time, and they will endure sunshine the better. They must, of course, be kept totally free from weeds. Whether as mixed crops, or singly, they should be transplanted, if possible, by the beginning of July. They succeed best if they have roots as large as a pullet's egg.

LETTUCES.—A few may be sown at the very end of the month for good autumn crops; such as the *Bath Adys*, or *Crystal Cos*, or the *Drumhead*, or *Cabbage Lettuce*.

WATERING.—Let watering, when necessary, be done in the evening; and wherever applied let the crop be soaked thoroughly. Light waterings may do for spring and autumn, but not for summer; they simply hurry without sustaining.

PLANTING.—There is little got by planting in dry weather; better wait until the ground is moist, if possible. There are few crops but will gain by the choice, even if thrown a fort-

night behind their period. It certainly is important to observe certain periods with certain crops, but it is even more important to see that the soil is in high condition both as regards cultural principles and aptitude for permanently establishing the young plant.

SHADING.—When very trying periods of drought occur, it is worth while occasionally to shade delicate things. We practise this a good deal, for although, at first sight, it may appear a good deal of trouble, yet it is frequently less in the end, inasmuch as it saves the water-pot. A few ordinary boughs from the hedge-row will suffice, pointed and stuck in thickly.

There are many little affairs bearing on the subject, pertaining to this period; but they cannot all be handled in detail, neither is it necessary; for, in fact, almost every holder of a small plot of land is pretty well informed on the subject of *Kidney Beans*, *Rhubarb*, and other nick-nacks; our main business, I conceive, is to point to the main features, and to show forth such a policy as will be not only agreeable but profitable.

In these war-times it will scarcely do to indulge in whims or hobbies, profit is the thing. It is not simply what *can* be done, or what *has* been done, but what *ought* to be done under existing circumstances. We are now placed in a somewhat false position through the pending war, and as ever has been the case, in such things, every member of society will be made to feel it, and to take his share of the burden. Grumbling is of little avail, neither is it befitting our position as a nation. We know, or ought to know, that whatever faults still exist, however awkward things appear, we, by the goodness of God, live under a constitution which is the envy of many nations. It is, indeed, almost literally true, that every man in this long-favoured island may "sit under his own vine, and his own fig-tree," and that our course is bound to be one of progression; that kind of progression which must have a constant tendency to raise the character, and to better the condition of society at large.

R. ERRINGTON.

PRIDE AND SELF WILL.

By the Authoress of "My Flowers."

AMONG the many classes into which our population is divided, there is one which very particularly calls for our interest and sympathy. It is that of domestic servants. Closely as they belong to our comforts; necessary as they are to our convenience; near as they are to our person; and important as they are in every branch of household arrangement, few classes receive less benefit from the public at large, or the families they serve. Less is done for the moral and religious culture of both male and female servants than for any other branch of the community. Probably it is because, as members of households, they are supposed to share in all the benefits and blessings of family privileges; or because they cannot easily be got at; or because they are forgotten among the masses for whom our interest is sought and claimed. Any way, they are a neglected population; and the sin mainly lies at the door of those who employ them. If all was done for children and servants that might be accomplished, instead of time and money being squandered upon that which profiteth not, what an amount of moral, spiritual, and social good would be quietly and imperceptibly spreading itself through the land! Parents, too! how they turn raw and unfledged boys and girls into servitude, among men and women of all ages and characters, over whom no eyes can watch, except at stated times, and where they are exposed to severe temptation, evil influences, unbridled tempers, cruelty, and oppression. Too often they are encouraged at home in follies and vanities, which lead to their eventual ruin. Oh! how the young should be clothed with the armour of God before they enter unprotected an ensnaring world!

The following narrative from a pen now well known to the readers of THE COTTAGE GARDENER will, we trust, be a warning to young women, and to parents who foster the love of sin in their poor children.

"Jane Markham was the eldest of the five daughters of a small manufacturer in a provincial town. She received the ordinary education of girls in her position; she could read fluently, write tolerably, and, I believe, was a very fair semp-

tress; but in other respects she had been brought up foolishly. Have my readers ever remarked that one of the most prominent features of the fallen state of man is the pride of heart? How marvellously it pervades all classes! and I am persuaded that it is a principle as powerfully at work in the bosom of the beggar as in the highly educated and aristocratic. A large share of this silly as well as sinful pride existed in the family of the Markhams, and especially in the mother, whose care it ought to have been to have watched its symptoms in her daughters, and to have checked, as far as possible, the first beginnings of the insidious mental disease. But alas! it was far otherwise; she rather induced her daughters to think much of their personal appearance, and encouraged them to dress in a manner unbefitting their humble situation, and to imitate the style of those in a higher walk of life. Jane, however, was compelled by necessity to seek the situation of a servant girl, and was taken as housemaid into a respectable family. Her mistress not allowing her to assume an unbecoming mode of dress, she was obliged to be content to throw aside her finery, and to wear the ordinary apparel of a servant. Jane was naturally a clever, quick girl, and her mistress had very little trouble in teaching her the duties of her situation; she seemed, indeed, to have a natural idea of doing her work well; no amount of labour seemed a trouble to her; tables and chairs that had hitherto looked grim and dull, now were bright and cleanly; and every thing with which she had to do, showed that her mind as well as body were engaged in the work. But notwithstanding all this, Jane was not a satisfactory girl; her fellow-servants had much to put up with, and the cook had frequently to complain to her mistress of her conduct. She was also inclined to be "flighty," and when the positive duties of the day were over, she was always seeking an excuse for a walk to town, instead of employing herself with her needle, to the use of which she appeared to have a most decided and deep-rooted objection. Rubbing and scrubbing was her element, but the more refined employment of her fingers she could not away with; this, for a high-spirited and proud girl, was extraordinary, but so it was. After living with the family nearly two years, there was a prospective necessity for engaging another servant, and sundry changes in the domestic arrangements were consequently to be made, which were duly explained to Jane. These changes involved a little more labour for her, to which she objected, not because she really cared for the work, which, indeed, was almost nominal, but because her pride was wounded at the thought that the care of a room should fall upon her which she considered ought strictly to be confined to the new servant. It was, therefore, decided that she should seek another situation, which she was not long in finding; and it was, I believe, with a very full heart and many tears that poor Jane bid farewell to her master and mistress, to whom she was really greatly attached.

The story of Jane Markham cannot be concluded in one paper, and therefore I will break off here, that I may impress upon young people in service the extreme folly and evil consequences of quitting respectable families, where they are watched over, and kindly treated, because of some trifling reason, which either touches their foolish, wicked pride, or offends their temper. Many young girls have bitterly mourned their ignorant obstinacy in persisting to leave a good place for no better reasons, or a love of change, which is always dangerous to indulge. Parents, unhappily, sometimes encourage or uphold their children in doing so; or, if they are sorry for the step, they yet do not use their proper authority and advice, as they ought to do, to keep them in a good place; and it is untold the misery that too often arises from these headstrong ways of the young and inexperienced. I would sincerely entreat young women in service to put up with any little disagreeables, or even great ones, to keep in a really good family. Let them never find fault with *over* strictness, as they may think it, *over* restraint, or *over* work. While in youth, the more work the better; the more strictness the better; the more confinement the better, depend upon it. Many an old steady servant has said, she thanked *now* the strict parent and the severe mistress, whom she used to rebel against; it was a blessing to her that they were strict and severe; she had felt the good of it, since she came to know one thing from another.

St. Paul gives excellent advice to servants in some of his epistles: so does St. Peter; and he enjoins them to be "subject with all fear, not only to the good and gentle, but also to the froward;" "for what glory is it, if, when ye be buffeted for your faults, ye shall take it patiently? but if ye do well and suffer for it, ye take it patiently, this is acceptable to God." So that we have the best possible warrant for bearing trials in service patiently, and the highest possible reward for doing so. May the story of poor Jane Markham have a due effect upon some of my readers.

APIARIAN'S CALENDAR.—JUNE.

By J. H. Payne, Esq., Author of "The Bee-Keeper's Guide," &c.

Swarms.—The time has now arrived when swarms may be expected, and I should imagine, that from the extraordinary losses caused by the late disastrous season, that most persons will wish their bees to swarm rather than to store honey in glasses or boxes; however, should the present season prove a favourable one, some very good glasses of honey may be obtained from the early swarms.

Swarming.—It is now an ascertained fact that the old queen accompanies the first swarm; the period which usually transpires between the first and second swarms is from nine to thirteen days; between the second and third the time is much shorter. If second swarms come by the middle of June, and stocks are required, it will be well to preserve them, for after-swarms have *always* young queens, which is a great advantage. Should second swarms not come till July, let them be returned to the parent hive, or put two of them together.

Symptoms of Swarming.—The symptoms preceding a *first* swarm are the rapid increase in numbers clustering, or hanging out, and drones becoming numerous and unusually active. Those of an after-swarm are much more certain, for nine or ten days after the departure of the first swarm, a singular noise called *PIPING* may be heard in the stock. The first note, says Mr. Golding, is long and plaintive, and is uttered by the princess already at liberty; she traverses the hive, and stops upon, or near, the royal cells which still contain brood, and emits her long plaintive note. This, when the other young queens are sufficiently forward, generally in about two days, is answered by them from *within* their cells, in a quick, short, hoarse note; after these last have been heard for about two days the swarm may be expected to come off. Third swarms should either be returned to the parent hive, or to a second swarm, for by themselves they are totally valueless. Sometimes an early first swarm, when additional room is not supplied at the time required, will send out another swarm; this generally occurs in about a month, but it is a thing by no means to be desired, and should carefully be prevented, by giving timely room.

Hiving.—Whatever system is adopted, let everything be in readiness for the reception of swarms, for even where the depriving system is followed, from some oversight on the part of the Apiarian a swarm will occasionally occur. Watch the swarm in silence, and after it has once collected lose no time in housing it into a *new*, clean, and dry hive (its weight with the floor-board being first taken and marked upon it), and let it be placed where it is to remain within ten or fifteen minutes after the time of its being hived; it will not be necessary even to wait till the bees clustered in front or on the sides of the hive are reunited to their companions inside, as they are never long in being so.

Hives with Comb in them.—I have said already that hives of comb in which swarms of the last year have died, and which, I fear, are everywhere to be met with, should be carefully preserved for hiving swarms into them; it gives a swarm treated in this manner full three weeks advantage over another put at the same time into an empty hive.

HARDHOOD OF PLANTS NEAR THE SEA.

BEING a constant reader of your most useful and valuable publication, THE COTTAGE GARDENER, which finds its way even to the remotest corners of the Scottish Highlands; and

seeing, from time to time, accounts of how plants stood our last winter in England, I hope I am not intruding in writing to let you know how plants endure it in this, I may say, out-of-the-way place. My small garden is on a rock over-hanging the Atlantic, and is mostly forced soil. None of my plants were covered. I used to cover them, but generally found they did well enough without it, only I remove the more tender ones under shelter.

The *Hydrangea*, *Myrtle*, *Eliza Sauvage*—*Tea Rose*, *Yucca gloriosa*, and *Weigelia Rosca* prove quite hardy. *Aloysia citriodora*, *Aster argophyllus*, *Clanthus puniceus*, *Veronica Lindleyana*, and *Acacia affinis*, used to stand the winter, but were by the last nipped to within a few inches of the ground. However, except the *Veronica* and *Acacia* they are all putting up strong new shoots.

Fuschias, such as *Carolina*, *Epsii*, *Dr. Jephson*, and *Enchantress*, are shooting up strongly in the borders. *Carolina*, trained to a rock facing south, is uninjured to the top. *F. Riccartonii* is quite hardy, and grows to a large size. *Salvia patens*, *Cuphea strigulosa*, *Plumbago Larpena*, and *Zauschneria Californica*, are also coming up vigorously.

I have not many tender bulbs, the different kinds of *Gladiolus* being the most tender in my possession, and they all stood the winter well. I had *Tom Thumb Geranium* and the *Myrtle* in flower in the open air a few days before Christmas.—A HIGHLANDER, *Ledaig*, near *Oban*, *Argyleshire*.

LENGTH OF TIME AN EGG CONTINUES FERTILE.

HAVING two eggs from a favourite bird laid on the 16th and 17th of January last, over and above what I required for a sitting, I resolved to keep them, in expectation of a hen becoming broody in a week or so; the eggs were kept upright on a board with holes in it, and were regularly turned daily until the first week in March, when all hopes of their proving productive were given up; still, they were kept but not turned. A friend applied for some eggs on the 17th of March; I much wished him to try the two eggs, now two calendar months old; he took them amongst others, distinctly marking them with ink, and put them under a hen on the 18th; on the 8th and 9th of April the hatching took place, and on examining the eggs, one of the two named was found perfectly hatched, the other with a chicken fully developed, but dead in the shell, not having been able to force its way out; a chicken was also found dead in the nest, which may have been the one from the other egg; still, it is proof what a length of time may elapse before eggs ought to be given up as worthless. No doubt, were trouble taken, and weakly chicken assisted from the shell, some might be saved even from eggs of a longer date.—II. OAKLEY.

HARDY BORDER PLANTS.

THE CRANESBILL, OR GERANIACEÆ.

THERE are many species and varieties of the family of Geraniums, more or less beautiful border plants, both of native and exotic species. In most cases they are of low growth, forming suitable front-row plants in our borders; also many of them are very snitable plants for the rockery. Usually, they have strong, long, fleshy roots, and flourish in any common border soil. They are of compact habit, and, therefore, may remain for years in the same spots where first planted, and are readily increased by root division any day in the whole year. It may be said justly that all our English perennial kinds are worth growing as border plants; but neither of the annual kinds do we think worth cultivating. The *G. Robertianum* is the best of the annuals, and might be considered pretty in some gloomy corner of a rockery.

GERANIUM LANCASTRIENSE.

The Lancashire Cranesbill is a pretty little plant, by some authors considered only a variety of the *G. sanguineum*, and called by them *G. sanguineum* var. *prostrata*. Other authorities consider it a distinct species, and with these we coin-

cide. It is called after the county in which it is found growing wild, namely, on a bank in the Isle of Walney in Lancashire. Our readers might naturally say, this would form an excellent plant for the rockery, as the soil there could be made a little better than common, so as to suit the plant in that situation; but the plant will flourish in any good common garden soil, and forms one of the prettiest little tufty, rather procumbent bunches we could have in the borders, and from its compact growth it might remain undisturbed in the same spot for one's lifetime. This plant is very much smaller than the *G. sanguineum* in every respect, except in its blossoms, which will vie pretty much with it as to size. The flowers in this species are nearly white, or white with red streaks. The leaves are five or seven-lobed, and the lobes have three deeply-cut segments entire.

GERANIUM SANGUINEUM.

This is commonly called the Blood-coloured Cranesbill. Its blossoms are of a deep purplish-red colour; also the herbage of the whole plant is of a very dark green, whilst the herbage of the little *Lancastriense* is of a much more pallid green. The leaves in both are very similar in shape. The *sanguineum* is altogether a much larger growing plant than the *Lancastriense*, and forms a compact tufty bunch, rising a foot in height, and flowering, more or less, from the end of May to the end of September. This is quite a suitable plant for the rockery, or for a front place in the open, dry borders; indeed, it will flourish in any situation, and forms a very ornamental plant all the summer.

GERANIUM PYRENAICUM.

This is called the Mountain Cranesbill, therefore one might readily conclude that it should be a rock plant, too. It may be so; and a very pretty front border plant it makes. Its blossoms are not so large as those of the two preceding species; they are of light purple colour, and continue flowering for a considerable length of time, namely, from May to July. Its leaves are kidney-shaped, and seven or nine-lobed; the lobes being oblong, bluntly three-cut, and saw-toothed at the end.

GERANIUM NODOSUM.

The Knotty Cranesbill. This is quite worth a place in the flower-border as a front-row plant, or on the rockery, where it is really an ornament. Its leaves are three or five-lobed; the lobes are ovate-pointed and saw-toothed. The flowers are of a pale purple colour. It is from twelve to fifteen inches high.

GERANIUM PHŒUM.

This, the Dusky Cranesbill, is a very curious-looking plant, and one which attracts the attention of everyone who has never seen it before. When grown in a shady border, where it most enjoys itself, the blossoms are almost as black as a rook. It is a very profuse bloomer, and a free-growing plant altogether. Its time of best flowering is during May and June, but it continues, more or less, to the end of September. Altogether, it is a most desirable species to possess a plant or two of. Its stems rise from twelve to fifteen inches in height, rendering it suitable either for a front or second-row plant in the borders, according to the size of beds or borders and of the other plants that may be near it. Its leaves are five-lobed, the lobes sharp pointed, cut, and saw-toothed. It is a very free-grower altogether, and very worthy of a place in every flower-garden; but it is a very rare plant to find in a wild state.

GERANIUM SYLVATICUM.

This, the Wood Cranesbill, is another very rare plant to find in a wild state. It is much like *G. pratense* in its manner of growth, but not so large, nor is it anything like so large in its blossoms. The *sylvaticum* is in full bloom during May, and its flowers not nearly so large as in the *pratense*. It is a profuse bloomer, and the flowers are of a pretty light purple colour. It is a very strikingly cheerful-looking plant at this season, rising from one foot to a foot-and-a-half in height, making a neat front or second-row plant in the borders. Its leaves are seven-lobed, hand-shaped, and the lobes cut and saw-toothed.

GERANIUM PRATENSE.

The Crowfoot-leaved Cranesbill. This may be said to be the commonest of the English perennial Cranesbills, and even this forms a very ornamental plant in the borders, is a very suitable second-row plant, and flowers from June to July. The flowers are large and of bright blue colour.

This species has two or three varieties which are still more desirable as border plants than the species. In the first place, there is a single white variety, which is pleasing and pretty; the double white still more so; and the double blue or purple. These are extremely desirable plants, the habit of all of them being neat and compact; and in our richly kept borders, or near to trees, they will oftentimes be seen to rise in height from one-and-a-half to nearly three feet, blooming profusely. The leaves are nearly round in their outline, they are many lobed, and the lobes cut and saw-toothed. This is one of the strongest-growing kinds.

T. W.

CHILLED EGGS PRODUCTIVE.

On the 8th of April last I received from England, *via* Bristol, a box containing thirteen Spanish fowls eggs, and knowing them to be from a first-rate strain, I was exceedingly particular respecting them, so much so, that I would not confide so large a number to one hen, but divided them between two, adding six more, which I procured from another quarter, placing ten under one hen and nine under the other; to prevent any mistake as to identity, I marked the eggs from England G, with a pencil, and those procured here, D, with ink; both hens were placed in a compartment of a fowl house, at a distance from my other fowls, and both sat very steadily until the 15th day, when I was informed that several times during that day they had left their nests and fought; to guard against a recurrence of the kind, I covered one hen up in her nest, and, as I supposed, securely, but which, however, proved not to have been the case, for, upon paying them a visit in the evening, I was surprised at finding *both* hens upon *one* nest, and the eggs in the deserted nest *perfectly cold to the touch*, and, what was more mortifying, the deserted eggs were exclusively those from England. Upon carefully examining each egg in both nests, I found that the six procured here, and marked D, were addled, as well as six of the eggs received from England; the number left was now seven, four of which were "stone cold;" however, I resolved to give them a chance with the three that were under the hen which had not deserted her nest, and accordingly placed them under her, the result was, that at the expiration of the 21st day one chick had made its exit from the shell; during the 22nd day, and following night, two more were hatched; and on the 23rd day three more, one of which I was obliged to assist in liberating, the lining membrane of the shell becoming glued to it; in the seventh egg was a dead bird, and which I presume perished during the time the nest was deserted, which could not have been less than for nine hours, *viz.*, from ten A.M. to seven P.M. I have three chickens from the four *deserted* eggs, and they are as strong and lively as the others. I should add, that the eggs travelled a distance of 300 miles, 220 of which was by sea, and were detained a full week in Bristol.—A CONSTANT READER, *Dublin*.

ANIMALIZED CHARCOAL.

In reply to your correspondent's enquiries respecting Animalized Charcoal, permit me to state, that I believe it to be the refuse after calcining hoofs and horns in a retort for chemical purposes. I have used it for an old lawn, and its effects are wonderful in giving to the turf a fine dark green colour.

I also use it mixed with Guano for meadow land, with great success. It fixes the ammonia, and prevents its flying off in a dry season. It is also an excellent material for mixing with the contents of cesspools and stable liquid. The cost is now 30s. a ton.—NORTH CHESHIRE.

QUERIES AND ANSWERS.

GARDENING.

CUCUMBER AND MELON PIT.

"I wish to erect a small house for Cucumbers and Melons, six feet wide, by twelve feet long. I wish to know the way you would advise me to build it, heat it, &c.; to say the size, shape of boiler, pipes, &c. Cheapness and convenience would be the chief things I should want.—G. K. K."

[You will find much to suit you in a late article by Mr. Fish. It is difficult to get any iron man to make a small-enough boiler for such a place as yours, twelve feet by six. A good kettle with a lid to it, that would hold three or four gallons, with flanges fixed on for a flow and return pipe would heat such a place admirably. By having a small conical boiler, costing about £2, you could place your boiler a couple of feet or so beneath your pipes or tank, and the circulation would be quicker and better. A wooden tank, covered with slate, would most likely be cheapest, and if so, after proceeding a foot or so from the boiler; lead pipes will do as well as any other, taking one into the flow division of the tank, and the other into the return. We have given reasons why we cannot do more than approximate prices. A good bricklayer would tell you more about setting your boiler than we could tell you in several pages. Any person could build a pit or house from diagrams published. Working drawings are expensive, and if we give them to you, every person that wanted such a thing would demand them as a right. A draught of a pit has just come, a twelve feet by seven feet six inches, purposed to be heated by a boiler and an old cooler, an answer to which will shortly appear, and which may suit your ease.]

AQUILEGIA GLANDULOSA.

"Amongst all my favourites there is no flower stands so high in my estimation as the *Aquilegia glandulosa*. I have purchased five plants, and placed them in all portions of my garden, and for six years have failed to obtain a blossom; this season, I find two sending out flower-stems. If through your journal any information as to the successful treatment of this plant can be obtained, I should feel greatly obliged.—J. H. PAYNE"

[Here is one of those problems which "the circle of the sciences," together with the philosophy of practical skill, if there is such, has failed to make plain and easy to us; certain plants affect certain soils, or rather, are affected by soil, and no one can imitate that very soil in a different locality. One garden produces Carnations, and all their tribe, without care or trouble; in another, the greatest skill and patience cannot keep any of them alive for two winters running. Your favourite, *Aquilegia glandulosa*, grows like a weed all over the county of Murray, beyond the Grampians, and to see it in perfection you ought to spend a summer in Forres, and go over to Brodie now and then. We are not aware that any one in England does it worth looking at.

Sandy loam, very deep, and some very rotten cow-dung mixed with it the year before, and turned over in the winter two or three times, in a place not very low, or much exposed to the sun, *in England*; the seedlings to be planted at the end of February, and not allowed to bloom or seed the first summer, would be among the most likely things to succeed with it; but the truth is better than gold, and there is not a man in all England, or ayont the Tweed, who can positively say the right way to manage this Scotch variety of *Glandulosa* in the south; for a variety it only is after all; and where it does well in England, it is only from letting it alone entirely, and not from any particular management at all. Why do they not try and grow the *Cotton-plant of Scotland*? surely it is as gay, rich, and singular, as any from Mexico or Peru? and why not the *Cloudberry*, a rival to the Keen's Seedling Strawberry, or might be? And why not the *Banshee berries*, if only to charm away the fairies; and a dozen more from the Scottish Flora? Why, to be sure, but that they are all clanish plants, and will not live in a country where clans are beyond the might of majesty to make, to alter, or to amend; else, what ither can be the reasons? —D. B.]

AGE AT WHICH FLOWER-SEEDS WILL GROW.

"Are such flower-seeds as Aster, Tagetes, &c., good the second year?"

"Allow me, also, to suggest to your advertising florists, who stipulate for pre-payment, the advisability of remembering the obligations they thus incur. I have been unfortunate enough, of late, to experience the truth of the axiom, that he who pays before hand is only one degree better than he who never pays at all.—AMATEUR."

[Nobody knows the precise time which these and a thousand other seeds will keep; our own German and China Asters used to come up as thick as grass after lying three or four years in the seed-room; and our *Tagetes tenuifolia* kept three years certain; so have those called French and African Marigolds—*Tagetes* in their way—but how long they would keep we cannot say; but we know of a truth that all the flower-seeds which are grown in England will and ought to be good the second year; and we can give you a still better advice than the adage about the injustice you complain of. Make it a condition that 80 per cent. of their seeds must vegetate before you pay for them; or *else*, that you will be at liberty to give publicity to their full names and addresses in the same works in which you read of their sales, so that the rest of the world are not taken in. But the truth is, half the world is mad for cheap things of all sorts; and it would be a very great hardship if dealers in seed could not be found to gull them every season of their lives in that particular article. Indeed, the world has become so accommodating, that regular establishments are set up on purpose to manufacture cheap seeds. The farmers cannot sell us their wheat and other corn so cheap after a bad season, as we are all knowing; and how could the dealers in flower-seeds, if they sold them pure; and if they did, none but the few wise men among us would ever give them an order.]

MAKING A PEACH-BORDER.

"I should be glad of a little information as to how I should proceed in making a Peach-border, and the most suitable soil for it; with the names of a few of the best Peaches and Nectarines.—TROUBLESOME."

[Mark out stations or positions for your Peaches at eighteen feet apart, if the wall be an ordinary one. Let the soil be excavated about half a yard or two feet throughout four feet on every side the centre of your station next the wall. Provide good, loamy material from some field, with turf, grass, and all, and chop it well; the loam rather adhesive. To this, add one-third of any decaying vegetable matter, blend them well, and fill the holes to six inches above the ground level. If you have no fresh loam, get the next best soil you can to represent it. Good Peaches are Royal George, Bellegarde, Walburton Admirable; good Nectarines, Elruge, Murray, Newington: these are named in the order of their ripening.]

POULTRY.

DORKING AND SPANISH EGGS.

I have five Spanish hens and a Spanish cock, and keep three Cochins-China hens for rearing the Spanish eggs; but I find that the Cochins-fowls are rather bad mothers; and what I want to know is, whether I can tell the difference between Dorking eggs and Spanish, as I think of getting rid of my Cochins and keeping Dorkings to bring up the young Spanish, if you can tell me how I can tell the difference, as they are both white. Please also tell me a plain and simple remedy for the Roup.—H. J. B."

[The points of distinction between Dorking and Spanish eggs would be found in form, colour, and weight. In form the Spanish are more elongated, in colour a clearer white, while in weight they would be usually found to exceed those of the Dorking by one-half or three-quarters-of-an-ounce.

"A plain and simple remedy for the roup," is a desideratum not yet supplied; a reference, however, to the pages of THE COTTAGE GARDENER will give numerous recipes from correspondents of experience.—W.]

FOWLS FOR THE FARM-YARD.

"Which are the better in a farm-yard (now Cochins have got so elevated and aristocratic), the *Cochins* in a farm-

yard, about fifty, to get their own living (like most other farm fowls do by scratching), and *fifty Dorkings*? and what difference in weight of eggs supposed in nine months?—A CONSTANT SUBSCRIBER."

[In the alternative of fifty Shanghaes, or fifty Dorkings, as the occupants of a farm-yard, "to get their own living like most other farm fowls do by scratching," the latter would have the best chance of existence, for profit could not be looked for from any under such a system.

The comparative weight of eggs laid by fifty hens of either breed thus managed could not be anticipated with any accuracy. In the same number, again, of either of these varieties, there would be an important difference in their relative number of eggs, in the circumstance whether the three winter months were included, or otherwise. In a well-kept poultry-yard, we have no doubt the Shanghaes would produce most eggs, and that their excess would be still greater if the winter months formed a portion of the testing period.—W.]

ULCERATED THROAT.

"What must I give a Shanghae cock for an ulcerated throat? I have given doses of soot and butter, and had a lotion to wash the throat, but the evil seems out of reach, all down his throat; he cannot eat, though he seems to wish it, and is getting rapidly weaker. I have poured a little weak port wine and water, and also raw egg, down, and it gurgles a long time in his throat. It is a complaint among fowls here, numbers having been affected the same way.—D. F."

[In a severe case of ulcerated sore throat, which would not yield to milder remedies, I should certainly try the effect of five grains of nitrate of silver dissolved in one ounce-and-a-half of rain water, this to be applied by tying a little piece of soft rag *securely* to the end of a small piece of stick, dipping it into the solution, and passing it down the throat to touch the diseased part.

N. B.—The solution stains the fingers or linen if touched.—W. B. T.]

BEES.

PREVENTING SWARMS.

"I have one hive which appears very strong and full; would you advise me to put on a glass at the top, or let them into a box at the side?"

"The objection I have to opening the top, is, that I think it will decrease the heat of the hive, and thereby delay the breeding of young bees.

"The plan I am trying this year, which is a contrivance of my own, is—I have a common straw hive with a hole in the top, and a passage cut in the foot-board, to connect to another hive on the left-hand side. Then I thought of stopping up the old entrance, in case they would not take to it at first, till they got used to it. I shall feel obliged by your giving me your opinion about it. Please inform me if I had better keep them to the old entrance, in consequence of their practice of storing the honey as far as possible from the entrance? and when would you advise me to give them more room? as I wish to prevent their swarming.—C. T."

[By all means put a glass on the top: you need not regard decreasing the heat; at this time of year it is desirable to do so. The plan you mention is called *doubling*, as is given in most of the bee-books, but never answers well. You had better put a glass or small hive on the top, but it must be done immediately, for swarms are coming fast. Some were as early as Saturday the 13th instant.]

THE GARDENS OF SYDNEY.

THERE are comparatively few people in the city, even amongst its older residents, who are at all aware of the attractions which its suburbs present, and the facilities which are in almost every direction offered for the increase of these attractions. Every agreeable ride from the city and its environs, every agreeable sail through the waters of its beautiful harbour, afford glimpses, nay, full views, of the

picturesque and beautiful, which amply reward the excursion of the tourist. But, unfortunately, it would seem, these beauties (principally natural ones) do not seem to inspire that taste for pure and even simple artistic decoration which evinces the love of the beautiful in a community which bears testimony to its refined tastes, and is the guarantee of its advancement on the path of social and intellectual progression.

The soil and the climate of the colony, combined with the romantic beauty of the harbour, together with the hitherto unabated verdure of its wooded though rocky banks, have been sufficient for the conceptions of the picturesque, in the minds of the citizens of Sydney. It should, however, be remembered, that with the progress of population, these natural beauties will give way before the step of the occupier and clearer of the land; and that artistic adornment must take the place of the wild loveliness which Nature originally implanted.

It is, therefore, with much pleasure we notice that in almost every suburb of the city beautiful gardens are, and have been, rising up, in which floriculture and horticulture have been attended to, and encouraged on no mean scale. Of course these gardens for the most part surround the private residences of those whose lucrative avocations enable them and their families, after the turmoil of the day is done, "to live at home at ease," and are intended for the private and select recreation of themselves and their friends.

Still, wherever patrons of floriculture exist, there will be found the unpretending, though perhaps not less scientific, and more industrious purveyors to their wants, in the shape of nurserymen and landscape gardeners; and it is matter of great congratulation in a soil and climate capable of being modulated to almost every degree and variety of culture as that of New South Wales, that in and about Sydney these purveyors are to be found possessed of great practical ability and skill. If, as it is to be hoped they may be, the monthly exhibitions of the Australasian Botanic Society should continue, and thus give an opportunity to judges of comparing the merits of various plants and flowers, as they come into season, we shall soon have an opportunity of testing the abilities and skill of the various growers, and of establishing their reputation on a firm and proper basis. There can be no doubt that under such a regulation, emulation and competition would be very keenly excited; and provided a fair, proper, and discriminating encouragement be afforded to exhibitors, and proper rules be framed for the regulation of exhibitions, it will tend more rapidly than any thing else could do to advance the floriculture and horticulture of the colony. It will make gentlemen more particular as to the quality of the plants they introduce into their gardens, and it will heighten the interest which scientific men in foreign countries feel in all that relates to the botany of this singular and interesting continent. In anticipation of this result it may not be uninteresting, particularly to new arrivals, to give some account of the gardens in the neighbourhood of the city, which are open to their inspection, premising at the same time, that it is not the intention to enter into any minute description of them, or to indulge in any scientific enumeration of the plants they contain. This may be very well left for the exhibitions already alluded to, at which scientific productions may be scientifically discussed, with propriety, and to public advantage. It is necessary to make a start somewhere, and we make no invidious selection, nor do we confer any precedence in regard to comparative superiority on the garden selected for the first notice.

It is that of Mr. Guilfoyle, nurseryman and seedsman grower of exotic plants, and landscape gardener. To the whole of these professions Mr. Guilfoyle seems to have full claim. Mr. Guilfoyle, shortly after his arrival in the colony, became the gardener of Thomas S. Mort, Esq., whose beautiful grounds, and still more beautiful garden, green-houses, and hot houses, owe much of the celebrity they have acquired to the judicious care and superintendence of Mr. Guilfoyle. When he commenced on his own account, he took a piece of land at the foot of Mr. Mort's beautiful grounds, and adjoining the government reserve at the head of Double Bay. The nursery is on a fertile and well watered flat, and was perfectly free from cultivation a few years back; but at present, almost every yard of it presents

one accumulated wealth of verdure and flowers. The unsightliness of new buildings, of rough sheds, of tool houses, and wells, is veiled beneath a profusion of creeping vines, native and exotic, which grow with a luxuriance and a rapidity which will astonish the European visitor.

The garden and nursery, which have little of the picturesque in themselves, except that arising from their luxuriant cultivation, derive this desirable attribute from the fine bold view which they have of the numerous bays of the harbour to the North Head; and also of the elegantly laid out grounds of Mr. Mort, with their ornamented terraces, rising one above the other. And when the splendid mansion now in progress of building is completed, little will be left wanting to fill up the beauty of the effect.

Mr. Guilfoyle's garden is essentially a nurseryman's garden; it has no pretension to landscape beauty, or artistic decoration. Every foot, aye, every inch of it, is appropriated to its useful destiny. Amidst the elaborate details of cultivation, and the rich luxuriance arising from it, the wonder is that order can be maintained, and that much that is prized and valued is not either forgotten or trodden down as worthless. The attraction of the garden at present, or, as it is more proper to say, at the time of the writer's visit, was its splendid collection of Roses, of upwards of 100 varieties—its display of Pinks, Picotees, and Carnations, not yet at its perfection,—the variety of Verbenas, and Pansies, and the glory of what is the weakness of the proprietor's heart—his beautiful specimens of *Gladiolus* and *Ixia*. In the nursery, corresponding care and attention are exhibited, and plants from all portions of the globe are thriving.

There were Pines and Tea trees from China, the Sycamore, and the green Holly from the fresh groves and verdant hedge rows of old England, and representatives of all the intervening varieties of climate and soil had a local habitation and a name in this thickly habited conservatory.

This collection of Pines and of Camellias was particularly fine, and Mr. Guilfoyle exhibited with some laudable pride several thriving specimens of the "Dammara," from the South Sea Islands, first introduced into the colony by Charles Moore, Esq., of the Botanic Gardens, Sydney, on his return from his trip to those islands some three years ago.—*Sydney Morning Herald*.

SIGHTS IN SWEDEN.

THERE is nothing that strikes a stranger more forcibly, if he visits Sweden at the season of the year when the days are the longest, than the absence of the night. Our countryman, Dr. Baird, tells us that he had no conception of the effect produced, before his arrival at Stockholm, five hundred miles distant from Gottenburg. He arrived in the morning, and in the afternoon went to see some friends. He had not taken notes of time, and returned about night; it was as light as it is here half an hour before sun-down. You see distinctly. But all was quiet in the streets; it seemed as if the inhabitants had gone away, or were dead. No signs of life; the stores closed.

The sun in June goes down in Stockholm at a little before ten o'clock. There is a great illumination all night, as the sun passes round the earth toward the North Pole; and the refraction of its rays is such that you can see to read at midnight without artificial light. There is a mountain at the head of the Bothnia, where, on the 21st of June, the sun does not go down at all. Travellers go there to see it. A steamboat goes up from Stockholm for the purpose of carrying those who are curious to witness this great phenomenon. It occurs only one night. When the sun goes down to the horizon, you can see the whole face of it, and in five minutes it begins to rise.

At the North Cape, latitude 72°, the sun does not go down for several weeks. In June it would be about 25° above the horizon at midnight. The way the people there know that it is midnight, is—they see the sun rise. The changes in these latitudes, from summer to winter, are so great, that we can have no conception of them at all. In the winter time the sun disappears, and is not seen for weeks. Then it comes and shows its face. Afterward, it remains for ten, fifteen or twenty minutes, and then descends; and finally it does not set at all, but makes almost a circle

around the heavens. Dr. Baird was asked how they managed in regard to hired persons, and what they considered a day. He could not say, but supposed they worked by the hour, and twelve hours would be considered a day's work.

Birds and animals take their accustomed rest at the usual hours. The Doctor did not know how they learned the time, but they had; and go to rest whether the sun goes down or not. The hens take to the trees about seven P.M., and stay till the sun is well up in the morning; and the people get into the habit of late rising, too. The first morning Dr. Baird awoke in Stockholm, he was surprised to see the sun shining into his room. He looked at his watch, and found it was only three o'clock! the next time he awoke it was five o'clock; but there were no persons in the street. The Swedes in the cities are not very industrious, owing, probably, to the climate.—*The Northern Farmer.*

TO CORRESPONDENTS.

*** We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed "To the Editor of The Cottage Gardener, 2, Amen Corner, Paternoster Row, London."

SMALL GREENHOUSE (J. S. L.).—In such a house you may grow all kinds of Camellias, Heaths, Azaleas, and Geraniums, if you merely winter them; in fact, anything you like that does not require stove treatment. If you told us what plants you wished to cultivate, and what temperature you could keep up when the external air was from 10° to 20° below the freezing point, we should be in no difficulty on the matter. It is seldom that plants are long exposed to a very low temperature, even in winter, when the frost is thoroughly excluded. Plants that would be injured by a fortnight or three weeks at 33°, will suffer little from a heat of 32°, or 30°, for short intervals, when the thermometer frequently rises to 40° and 45°. Try *Payne's Cottagers' Hive.*

STANDS FOR CUT ROSES AND HOLLYHOCKS (H. J. O.).—Our correspondent disapproves of those at present used, and would be obliged by any one suggesting a more convenient stand.

LIQUID-MANURE OF PIGEONS' DUNG (A Young Florist).—All liquid-manures must be very weak, or they injure the plants to which they are applied. One pound of dry pigeons' dung is enough for ten gallons of water. Stir them together repeatedly for a day; let the undissolved part settle, and then pour off the clear liquid for use. We know of no better directions for *Pansy culture* than that given in our No. 117, and in *The Cottage Gardeners' Dictionary.*

WEIGHT OF SHANGHAI CHICKENS (D. C.).—See what is said editorially to-day. At four months old cockerels should weigh about 5 lbs. and pullets about 4 lbs.

BLISTERED VINE LEAVES (M. B.).—We should not call the leaves "blistered;" they seem over-luxuriant, probably from the air of theinery being kept too moist.

SALT TO ASPARAGUS BEDS (Arborist).—The roots of the Asparagus having decayed during the winter, arose, probably, from the severe temperature, as we have known several beds in low, damp situations so destroyed. Salt should be applied only whilst the plants are growing, from April to September. Two pounds to every thirty square yards, once a month, during that time, is a good application.

SEEDLING CINCERARIA (N. R. J.).—Not so good as many very similarly coloured. The petals do not imbricate enough to render it a show flower.

LAND IN BRITISH AMERICA (J. Williams).—It is quite impossible to advise you, for we know nothing as to soil, or climate, or locality.

NON-RECEIPT OF SEEDS (Q. in a corner).—We have forwarded your note to the parties. It must have been an oversight, we think.

INSECT DESTROYING KIDNEY BEANS AND PEAS (J. G. Worne).—The insects you inclosed, and which you find in the seed sown of Kidney Beans and Peas, is one of the *Snake Millipedes*, and is called *Jatus pulchellus*. Lime mixed with the soil is said to drive them away. You will find a drawing and all that we know about them in our 38th number.

WEEKS AND Co. (W.).—You will see by an advertisement to-day, that J. Weeks and Co., have no connection with E. and A. Weeks, though both carrying on business at Chelsea.

NAMES OF PLANTS (F. W. S.).—No. 1. *Scrophularia vernalis*. No. 2. *Saxifraga sarmentosa*, or "Thread of Life." (N. A. M.).—*Lonicera xylosteum*, or Fly Honey-suckle.

CALENDAR FOR JUNE.

ORCHID HOUSE.

ARRIDES, SACCOLABIUMS, VANDAS, and other allied Indian plants, will now be growing freely, and will require abundance of water both at the roots and over the tops. Any on blocks that are growing freely should have some moss tied round the block to retain moisture a longer time. Air should now be liberally given almost every day, unless cold, wet days should intervene. The air openings should be so constructed as not to allow a rush of cold wind over the tops of the plants. **BASKETS:** the plants in them will be making their new growths, and will require to be dipped in tepid water at least once a week, or even oftener in very hot weather. **BLOCKS:** syringe twice a day, in the morning by seven o'clock, and in the afternoon about four. **CATESETUMS, CYRTOPONIUMS, CYNOCHEAS,** and their like, give plenty of water at the root, taking care that none lodges amongst the young leaves for any length of time.

DENDROBIUMS: many of this fine family will, towards the end of the month, have finished their growth. They should then be placed in a cooler house, and less water given to them. **HEAT:** the natural heat of the atmosphere out-of-doors renders less fire necessary. During the day, unless in cold wet weather, none will be needed, a little every night will yet be useful, especially in the Indian-house. **INSECTS** will breed rapidly during this warm season; every means must be resorted to to keep them under. **MORISTURE:** the air of the house should be kept full of moisture during this month. Many of the roots will be dangling in the air, sucking up, as it were, the moisture in it. Moss on the outside of the pots, and on the leaves, will accumulate greatly with the heat and the moisture; the pots must be washed, and the leaves sponged frequently, to open the breathing-pores of the latter. **OFFSETS** on the stems of *Dendrobiums* should be all taken off, to encourage growth from the bottom; they may be made plants of if required. **PLANTS IN FLOWER** will last much longer if removed into a cooler house. **SYRINGE:** this instrument will, during the month, be in constant requisition. In using it, let the water from it fall gently upon the plants, imitating a gentle shower of rain. **SHADE** must be applied during bright burning sunshine. **WATER,** apply liberally to all growing plants, but be sure and use soft or rain water. A slate tank is the best thing to contain it; iron vessels should by all means be avoided. **WEEDS,** destroy constantly; but such plants as Ferns, Heaths, except creeping species, that come up amongst the rough peat, may be allowed to grow, they will shade the roots, and serve as indicator, when they flag, to show that the compost is dry and requires water. T. APPELBY.

PLANT STOVE.

ACHIMENES: those early potted will now be in flower; supply them freely with water; replot the last batch to flower late. *A. picta* put thickly into wide shallow pans, and grow on to flower at Christmas. **AMARYLLIS,** going out of bloom, and their bulbs ripening, place in a cold frame, and give no water to induce them to rest. **AIR,** give liberally all day, and in hot, close nights leave a little on. **APHELANDRA AUREANTIACA,** grow on in a hot pit to bloom in winter. **BASKETS,** where used, keep moist by dipping and syringing frequently. **BARK-NENS,** renew, if the heat declines. **CUTTINGS,** put in if required; pot off such as have struck root. **CLIMBERS,** on the rafters, train, and keep within bounds. In pots, train round the trellisses; attend to them constantly, or they will soon get out of order. **FRANCISCRAS** done flowering, place in a cold frame to rest. **GARDENIA,** treat in a similar way. **GESNERAS,** repot young plants, put in cuttings of **GLOXINIAS,** the same; every leaf will make plants if put in as cuttings. **HEAT,** keep under, no fire heat is required now. **INSECTS** of all kinds, destroy diligently, especially the red spider and mealy bug. **IXORAS,** the large specimens will now be in flower; keep them moist at the root, but refrain from syringing over the bloom; young plants repot, and tie out young specimens. **MOISTURE** in the air, keep up by flooding the walks daily. **PLANTS IN FLOWER,** keep cool, and shade them, this will prolong the bloom. **POTTING,** do whenever it is necessary. **SEEDS** of many stove plants may yet be sown; transplant seedlings when just out of the seed-leaf. **SYRINGE,** use daily. **WATER,** apply liberally, but not so as to sodden the soil. **TOP-DRESS** the whole stock of plants during the month, it refreshes and gives them a neat, clean appearance; wash the pots if mossy, **WEEDS,** constantly eradicate. **WOAMS** in pots, destroy with lime water. T. APPELBY.

FLORISTS' FLOWERS.

AURICULAS and **POLYANTHUSES,** place on ashes behind a north wall, in the shade; keep clear of weeds, and constantly supplied with water. Seedlings prick out in shallow pans or boxes. **CARNATIONS** and **PICOTEES,** place on the stage; put stakes to, and water freely. **CHRYSANTHEMUMS,** pot; plant out some old plants to layer and form dwarf plants. **DAHLIAS,** finish planting; put stakes to early; put in cuttings of new or scarce kinds. **FUCHSIAS,** pot off cuttings; train specimens, and water occasionally with liquid-manure. Sow seed of **HOLLYHOCK;** put stakes to; prick out seedlings. **HYACINTHS** out of bloom, take up and store. **INSECTS,** destroy. **PANSIES,** water freely in dry weather; put in cuttings of; sow seed, and transplant; layer long, straggling shoots; shade from hot sun. **PINKS,** tie to sticks; place Indian-rubber rings round the buds when more than half-grown; transplant seedlings; put in pipings. **RANUNCULUSES,** keep very moist; place shades over them as the blooms expand. **ROSES,** look to the buds, and destroy by crushing the worm in the bud. Put such as are in pots, and have done blooming, in a cold pit, or in the open air in a shady place. **TULIPS,** cut off all seed-vessels, and take up the bulbs as soon as the leaves decay. **VERENAS,** in the border, shade from sun; peg down the long branches in pots; tie out, keep moist, and shade. **WATER,** give to all in pots freely. T. APPELBY.

FLOWER-GARDEN.

ANEMONES, take up as leaves wither; dry and store. **ANNUALS** (Hardy and some Tender), plant out to remain, in showery weather best; sow for late crops; some (hardy) may be sown, b. **AURICULAS,** continue shading; plant offsets; prick out seedlings. **BASKETS** or clumps, form of greenhouse plants. **BENS,** attend diligently to recent planted; water and stir them in dry weather. **BIENNIALS** and **PERENNIALS,** sow, if omitted, b. Box edgings clip. **BULBOUS ROOTS** (Tulips, Jonquils, &c.), not florists' flowers, remove offsets from; dry and store; may transplant some, or keep until autumn; autumn-flowering, as *Coleheims*, &c., take up as leaves decay, separate offsets, and replant, or not until end of July. **CARNATIONS** in bloom, attend; aid the bud-pod to split with a pair of narrow sharp-pointed scissors; bandage buds, to prevent bursting, with Indian-rubber rings, or tape; water every second day; tie to supporters, &c.; prick out seedlings; make layers. **CHRYSANTHEMUMS,** plant out to layer next month. **CYCLAMENS,** transplant, **DAHLIAS,** finish planting out, b. **DRESS** the borders assiduously; neatness now stamps a gardener's character. **FIBROUS-ROOTED** Perennials, propagate by cuttings; shade and water. **FLOWERING PLANTS,** generally, require training and support. **GRASS,** mow, roll, and trim edges. **GRAVEL,** weed, sweep, and roll. **HENCES,** clip, e. **LEAVES** and stems decaying, remove as they appear. **LIQUID MANURE,** apply occasionally to all choice flowers. **MIGNONETTE,** sow for late bloom, b. **MIMULUSES,** plant out. **PEONIES** (Chinese), water freely with liquid

manure, or they will not flower finely. PINK SEEDLINGS, prick out; make layers. PIPINGS (or cuttings) of Carnations and Pinks may be planted. POTTEN FLOWERS, dress, stir earth, and water regularly. RANUNCULUSES, take up as leaves wither, dry and store. ROSES, bud, lay, and inarch; fumigate with tobacco to destroy the aphid or green fly; Roses out-of-doors, wash with tobacco or ammonia water. SALVIA PATENS, pinch down centre stem to make it bushy. SEEDLINGS of Perennials and Biennials transplant. SEEDS (ripe), gather in dry weather. SEED VESSELS, remove, to prolong flowering. WATER, give freely and frequently to all newly-moved plants, and to others in dry weather; early in the morning or late in the evening is the best time. *Brompton Stocks* and *Moss's Intermediate* should be sown on a north border. Sow another succession of the *low annuals* to flower late, b. Peg down *Salvias*, and for a time, until the layers are rooted, cut off the flowers. VERBENAS, peg down to cover the beds sooner. TULIPS, continue to shade to prolong the bloom, b.; towards e. expose them to full sun to ripen the bulbs; take off seed-vessels for the same purpose. SLIPS of Double Wallflowers, Sweet Williams, and Rockets, put in either under hand-glass or under a north wall or low hedge. D. BEATON.

ORCHARD.

ARTHINES, destroy on all trained-trees. APRICOTS, thin for tarts, destroy caterpillars. APPLES, search for caterpillars and dress for American blight. CURRANTS, stop watery wood. CURRANTS (black), water if dry; cleanse from fly. CHRERIES, free from aphides. DISBUD all trained trees. FIGS, thin the young wood, and stop. FRUIT of all kinds thin where too thick. GOOSEBERRIES, free from caterpillars. INSECTS in general try to extirpate. MULCHING, practice where necessary. NECTARINES: see Peaches. NUTS, dress away suckers. PEACHES, thin both wood and fruit, and stop gross shoots. PLUMS, cleanse from aphides, and disbud. PEANS, disbud and stop. RASPBERRIES thin suckers. STRAWBERRIES, water if dry, clean runners, and put something to keep fruit clean; beware of mice. STRAWBERRY (ALPINE), clear runners from, and water. STOPPING, practice constantly, where necessary. THINNING, practice with both fruit and wood. TRAINING, commence and continue. TOP-DRESSING, attend to. VEEMIN, destroy. VINES, thin shoots, and stop. WATERING, attend to. WASPS, destroy. R. ERRINGTON.

FORCING STOVE.

ATMOSPHERIC MOISTURE, secure liberally, and continue to increase. CUCUMBERS, keep thinned and stopped; give plenty of atmospheric moisture to. CHERRIES, water liberally, and cleanse from aphides; ventilate very freely. CAPSICUMS, shift finally and place in a warm situation. FIRE-HEAT, dispense with as much as possible. GRAPES, thin, stop, and tie shoulders of the late ones. GRAPES ripening, remove a few laterals. LIQUID MANURE, apply where size and strength are required. MELONS, attend to setting, water freely, but not frequently, when swelling; thin the vines very frequently, and attend to linings; use dressing and fumigations to avert the attacks of insects. NECTARINES, treat as Peaches. PEACHES, disbud, and stop gross shoots; apply liquid manure, and thin fruit. PEACHES RIPENING, remove those leaves or portions which shade the fruit. PINES, shade for a few hours if the sun is intense; shift liberally the succession; water all when necessary, and keep a jealous eye on bottom-heats. STRAWBERRIES, turn out healthy plants from forcing-house; they will fruit in September. SHADING, practice with delicate things, during intense sunshine. VINES, attend to disbudding and stopping. VENTILATE freely. WATERING, neglect not. R. ERRINGTON.

GREENHOUSE.

AIR, admit freely to all the hardier plants, such as Cinerarias, Calceolarias, &c., as the cooler they are kept the longer will they bloom, and the freer will they be from insects. The HARDIER PLANTS should now be placed out-of-doors, in a sheltered place, to make room for fresh importations from the pits; and here arises the great difficulty in the case of those who have only one house, as the plants removed, intended to be kept for another year, would have been all the better to have been kept in until the fresh wood was made. Many winter-flowering things, such as *Daphnes*, *Cytisus*, *Heaths*, &c., may now be set in a sheltered place out-of-doors, and safely kept; but they will neither bloom so fine nor yet so early as they would have done had they been kept longer in the house. Another difficulty arises from the wish to make this single greenhouse suitable for plants in bloom requiring a cool atmosphere; and plants done blooming, such as early *Camellias* and *Azuleas*, that require a high temperature, and a moist atmosphere, to enable them to make their wood and set their buds early. Any greenhouse may now be used admirably for this purpose, merely by shutting it up early in the afternoon; syringing the plants at the same time, and give but little air during the day; but then this would soon ruin the health and appearance of such things as Calceolarias, &c., in bloom; though it would answer well for bringing on large Fuchsias and Geraniums for succession. Hence the importance of screens, &c., for securing different temperatures. PLANTS, placed at first in a sheltered place, must in general be fully exposed before autumn, to perfect their wood. Altogether, after the few days shading at first, the pots, or rather the roots in the pots, suffer more from complete exposure than the branches. The great thing is to avoid sudden extremes. Caeti will now want watering freely, and full exposure to sun, to have the flowers fine, or perfect the wood of the early kinds. CUTTINGS insert, and pot off when struck; many of the first struck will make fine plants for autumn and the beginning of winter. CLIMBERS—many tender annuals, such as *Thunbergia* and *Iponcea*, may now be introduced, either upon pillars or trellises. Nothing suits annual kinds better than a young tree, or the branch of a tree, well stored with twigs. *Kennedias* and *Zichyas* fasten to pillars and trellises, so that the flowering shoots may hang gracefully and negligently. The same may be said of *Passifloras*, &c. CLEANLINESS must be particularly attended to. No plants can be healthy with yellow or dust-encrusted leaves; and the sight of such is always a speaking reproach. The system of picking off every yellow leaf that presented itself as you went round with the watering-pot would prevent the woe-begone aspect which yellow-leaved plants always wear. It always shows a want of system when a set period must

be appointed for picking the dead leaves from plants. GRAFTING may still be done, in the case of Myrtles, Oranges, Daphnes, Camellias, &c.; but, as it is getting late, you must try and obtain scions from retarded plants, and then place them in a gentle hotbed, and keep them close until the union is effected. ORANGES and LEMONS should have the blossom thinned and impregnated where fruit is wanted. SEEDLINGS of all kinds prick off. See what was lately said about *Achimenes*, *Gloxinias*, *Gesneras*. Every one with a cucumber-box, and a cupboard in his kitchen, may stock his greenhouse with them in summer. SUIT every-thing that requires it, for all vital action is now rapidly progressing. SOILS procure, and husband in a dry state; for top-spit turf, nothing is better than stacking it in narrow ridges, and thatching it to keep it dry. This kept a twelvemonth will be fitter for use than mould regularly turned and chopped ever so often during the season. TONENIA ASIATICA is now a fine object in a greenhouse; it looks most elegant in a vase, elevated a foot or eighteen inches with sprigs, and the most of the shoots allowed to dangle over the sides of the vase. WATERING will be required oftener; and, in small pots, sometimes twice a day. Manure-water may be given liberally, to promote luxuriant growth when wanted. Let it be weak, however, and given often. Young hands often make great blunders in using it too strong, especially when plants are young. R. FISH.

-KITCHEN-GARDEN.

ALEXANDERS, earth-stir and earth-up. ANGELICA, earth-stir, or earth-up, as the case may require, and promote strong growth with liquid-manure water. ASPARAGUS seedlings, keep clear of weeds, and earth-stir to promote growth; beds in cutting sprinkle with salt once a week during the cutting season, and earth-stir often with some pointed implements; discontinue cutting about the 20th. BASIL, plant out in rich warm borders in full crop, and water well previously to planting, should the weather be dry. BROAN-BEANS, plant out for late crops in cool situations, in a rich soil, and water well at the time of planting in dry weather. BERTS, thin out, and fill up any vacant spaces; do this of a dull evening, with care, and water well at the time. BORAGE, thin ten inches apart, and save seed from autumn-sown. BORECOLES, prick out of all kinds, four to six inches apart every way. BRUSSELS SPROUTS the same. BECOLIS the same, and plant out finally of early kinds, such as the *Cape* and *Walcheren*. CABBAGES, prick or plant out finally. CAEROTS, thin out main crops five to seven inches apart, and use the hoe freely among them. CARDOONS, thin out and attend to. CAULIFLOWERS, prick out, or plant out in succession; basin up the early crop, and water well, and with manured water at least once a-week, and look over and invert a few leaves down over the heads of those that are turning in, to preserve them of a white colour. CELERY, prick out, and plant out finally, and water well at the same time. CUCUMBERS, plant out under hand-glasses on a little bottom-heat; keep the glasses close until the plants are established, after which inure them to the open air by tilting, &c. Those in a forwarder state, let the earth round the bills or ridges be well forked up for the roots to run out; stop and train out their stems; those in pits and frames should be weekly attended to, as to stopping and thinning, and all decayed leaves removed, and a top-dressing given if required. CAPSICUMS, plant out in warm borders. ENDIVI, make a little sowing of both kinds, *Batavian* and *Green Curled*, for early use. GARLIC, SHALLOTS, and UNDEGROUND ONIONS will be fit to take up towards the end of the month, and should be dried off well before being stored away for use. HERBS of all kinds should be cut when in flower for drying or distilling. JERUSALEM ARTICHOKEs, keep clear of weeds. KIDNEY-BEANS, dwarfs and runners, sow for late and last crops, and should the ground be very wet at the time of sowing, give a thorough soaking of water, which will cause them to vegetate quickly; attend to sticking and earth-stirring among advancing crops. JEEKS, thin out and transplant. LETTUCEs, sow often, and thin out early; they should be sown where they are to remain, to mature their growth; place strong sticks to those intended for seed to tie them to, and tie in a few weekly for use, according to consumption. MELONS, lose no time in planting out for late and last crops; look daily to those setting their fruit; attend to this setting and stopping about eleven o'clock in the forenoon, and to top-dressing and earthing-up, &c., about three in the afternoon of a fine calm day, after which sprinkle with water, and shut up early; giving an abundance of air to those ripening off their fruit, and be sparing of water among them. MINT, keep clear of weeds. SWEET or KNOTTEN MARJONAM, plant out in rich, warm borders. ONIONS, pay particular attention to early thinning-out, and surface earth-stirring, or fill up any vacant spaces, by transplanting. PARSLEY, sow or thin out, and transplant. HAMBURGH PARSLEY, thin out. PARSNIPS, finally thin out eight to ten inches apart, and use the hoe freely among them. PEAS, any of the tall *Knight's Marrow* kind may be sown the first of this month, the earth being thoroughly soaked with water, should the weather be dry; but towards the end sow any of the dwarf early kinds, such as *Early Warwick*, &c.; attend to hoeing and sticking advancing crops. POTATOES, attend to earth-stirring or earthing-up without injury to the young fibre. RANISHES, sow often in cool situations, in rich soil. SAVOYS, prick and plant out finally. SPINACH, sow in succession, and thin out. SEA-KALE, attend to surface-stirring and thinning-out old crowns, if not already done; seedlings thin out; cut away any flower-stems unless seed is required. SCORZONERA, SALSIFY, and SKIRRETS, thin out from four to six inches apart; use the hoe freely to encourage growth. TURNIPS, sow, and thin out young crops. VEGETABLE MARROWS, lose no time in planting out. THYME, plant out seedlings, b. Use the hoe freely in dry weather; attend to all kinds of *pricking* or *planting-out* in rainy weather, or during evenings, as very much may be done in this way at that time of the day during very dry and hot weather; for *pricking-out*, let the beds or borders be dug up, made neat, and lined out, and thoroughly well watered an hour or two before hand, and again after planting. T. WEAVER.

WEEKLY CALENDAR.

		WEATHER NEAR LONDON IN 1853.										
M	D	JUNE 1-7, 1854.										
D	W	Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Agc.	Clock af. Sun.	Day of Year.	
1	TH	Atypus Sulzeri.	29.967-29.934	57-48	N.	—	51 a 3	6 a 8	0 m 11	6	2 32	152
2	F	Thomisus citreus.	30.091-30.061	60-46	N.	—	50	5	0 37	7	2 23	153
3	S	Oxford Term ends.	30.127-30.080	64-37	N.E.	—	49	6	0 57	8	2 13	154
4	SUN	WHIT SUNDAY.	30.040-29.911	64-39	N.E.	—	48	7	1 13	8	2 3	155
5	M	WHIT MONDAY.	29.896-29.848	69-39	S.E.	—	48	8	1 23	10	1 53	156
6	TU	WHIT TUESDAY.	29.883-29.836	74-39	S.W.	—	47	9	1 42	11	1 43	157
7	W	EMBER WEEK. Oxford Term b.	30.000-29.942	75-44	N.W.	—	47	10	1 57	12	1 32	158

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 70.1° and 47° respectively. The greatest heat, 85°, occurred on the 3rd in 1846; and the lowest cold, 35°, on the 1st in 1853. During the period 107 days were fine, and on 82 rain fell.

NEW PLANTS.

HEINTZIA TIGRINA (*Tiger-spotted Heintzia*).



This is the only member of a new genus founded by M. Karsten. The species before us is a stove plant, native of Caraccas. It belongs to the Natural Order of Gesnerworts, and to Didynamia Angiospermia of Linnæus. Sir W. Hooker thinks it cannot be far removed from *Drymonia* and *Besleria*. It was given to Kew Gardens by Mr. Lowe, of Clapton Nursery. The stem rises from three to five feet; leaves coarse, saw-toothed, dark green above and pale beneath, leaf-stalks red; flowers single between the leaf-stalks and the stem; calyx yellowish, tipped with purplish-crimson; corolla funnel-shaped, white, and its five lobes spotted with purplish-crimson.—(*Botanical Magazine*, t. 4774.)

PINUS ROYLEANA (*Royles Fir*).

It is a native of Nepal, growing at an altitude of from

eight to ten thousand feet, and when full grown is a noble tree. It is the first Indian Pine with but two leaves in a sheath and very small cones. Seedlings are at Chiswick from seeds sent home by Dr. Jamieson, in 1853.—(*Horticultural Society's Journal*, ix. 52.)

NYCTERINIA SELAGINOIDES (*Selago-like Nycterinia*).

Flowers white, with yellow eye, and both they and the foliage remind one of Candytuft, but the flowers have a very long tube. It is a greenhouse annual, and is considered "one of the prettiest introduced for some years." It belongs to the Natural Order of Figworts (*Scrophulariaceæ*).—(*Ibid.* 53.)

LINUM GRANDIFLORUM (*Large-flowered Flax*).

"This pretty annual was figured in the *Revue Horticole* of November 1, 1848. The plant bears a profusion of crimson flowers which remain long in bloom; it is consequently one which is greatly to be recommended. Since the above date it has been lost in most gardens, and notwithstanding its splendid colour and other valuable qualities, it still is only in the hands of a small number of amateurs. Messrs. Courtois-Gérard and Vilmorin imagine that they have discovered the cause of the disappearance of a plant which was very favourably received at first. It was generally believed that it should be cultivated in pure peat, or at least in peat mixed with a little vegetable mould, or common garden earth. This soil appears to be too unsubstantial for a plant which, like other *Linums*, requires much vegetable nourishment; and this nourishment not being supplied in sufficient quantity, the plants did not ripen their seeds and eventually perished. Messrs. Courtois-Gérard and Vilmorin made the experiment of pricking some plants into the open ground, in a border of light but tolerably rich soil, containing much more nourishment than peat earth, either pure or mixed. This experiment succeeded perfectly. Although sown and pricked out somewhat late, the plants are, at the present time (August 2nd), covered with flowers having well-formed ovaries full of seeds, the perfect ripening of which does not appear doubtful, judging from the good state of the plants. It is probable that the cultivation of *Linum grandiflorum* failed from the excess of precautions taken to ensure its success; if the plant had been treated the same as other hardy annuals which are sown in beds or under glass, and pricked out into the borders, it would have perpetuated itself without difficulty. Now that it is in a manner re-introduced, it will be the duty of amateurs not to allow it to disappear again from the flower-garden, to which it is undoubtedly a valuable acquisition."—(*Revue Horticole*, Sept. 16, 1853.—*Horticultural Society's Journal* xi. 55.)

ONE of the vegetable products most highly valued by the Israelites was BALM, known among them as *Tsari*. When Jacob wished to propitiate the ruler of Egypt, he directed that a present should be made to him "of the best fruits, or products, of the land," and among these was "a little Balm" (*Gen.* xliii. 11). That it was esteemed equally in Egypt is evident from the fact, that that ruler of Egypt, Joseph, had been sold by his brethren

to merchants who "came from Gilead with their camels bearing spicery, *Balm*, and Myrrh, going to carry it down into Egypt" (*Ibid.* xxxvii. 25). By Gilead was intended all the country east of the river Jordan, and it supplied not only *Balm* to Egypt but to Tyre, and thence to still more distant regions. The merchants of Judah and Israel attended the Tyrian fairs with "honey, and oil, and *balm*" (*Ezekiel* xxvii. 17).

The questions naturally suggested by these facts are, What was this *Tsari*, or Balm, and how was it obtained?

It is evident that it was supposed to be gifted with powerful restorative qualities, for when God points out to certain nations their need of a spiritual healing, he refers them to it under the simile of this *Balm*. He bids the Egyptians "Go up into Gilead, and take *Balm*;" for Babylon, He says, "take *Balm* for her pain, if so be she may be healed;" and when mourning over Israel's not being saved, the same prophet exclaims in the words of warning, as well as of condemnation, "Is there no balm in Gilead?" (*Jeremiah* viii. 22; xlv. 11; li. 8.)

Josephus and all other authorities agree that this *Tsari*, or Balm, was a resinous product of a tree, and there seems no reason for doubting that the name is derived from a word, or root, signifying "To flow as a vein or wound, with blood." The tree producing this highly valued Balm, or Balsam, seems to be the *Balsamodendron Gileadense*, or Balsam Tree of Gilead, as it has been named by some modern Botanists, though others have called it *Amyris Gileadensis*, and *Amyris Opobalsamum*.

We have little or no doubt that this tree produces all those resinous products known by the various names of Balsam of Gilead, (*Balsamum Judaicum*), Balsam of Mecca (*Syriceum de Mecca*), and *Opobalsamum*. It is a native of Arabia, and was, probably, transplanted into the neighbouring country of Gilead at a very early period. At all events, it grows still in Arabia. It belongs to the natural order of *Amyris*, and to *Octandria Monogynia* in the Linnæan System, and the following relative particulars are given by Mr. Don:—

"Gerlach relates that the tree which produces the *Opobalsamum*, or *Balsam of Mecca*, grows near Bederhumin, a village between Mecca and Medina, in a sandy rocky soil, confined to a tract about a mile in length. In the beginning of April the trees drop their juice, from gashes which are made in the smaller branches, into vessels set under them to receive it. A tree will not yield more than ten to fifteen drachms in one season. The inhabitants use it as a sudorific, particularly in rheumatism, but it is adulterated upon the spot. Lady Mary Wortley Montague says that the *Balm of Mecca* of the best quality is not easy to be got at, even at Constantinople; that on applying some of it to her face it became swelled and red during three days, but that her complexion was much mended by the operation; and that the ladies all use it in Constantinople, and have the loveliest bloom in the world. An inferior sort of balsam is prepared from boiling the twigs in a quantity of water, and the balsamic matter rises to the surface and is skimmed off. After they have thus procured all they can, it is said that they push the fire, and a large quantity of thicker balsam, like turpentine, rises, which is preserved by itself, and is that principally which we have in Europe. The other can only be obtained by presents; and that which naturally distils from the trees hardly supplying the seraglio and great officers, there is none of it sent out of the country. Hasselquist describes the *Balsam of Mecca* as being yellow and pellucid, with a most fragrant resinous balsamic smell, as being very tenacious, and drawing out into long threads; that it is taken to the quantity of three grains to strengthen a weak stomach, and that it is a most excellent remedy for wounds. To know whether it is adulterated, drop some in a glass, and if it remains still on the surface it is of little or no use, but if it extends itself over the surface it is then of the best kind. The drugs used to adulterate this balsam are oil of sesamma, Cyprus turpentine, and ostrich fat. According to Bruce, the tree is five or six feet high, branch-

ing much, with the aspect of a standard cherry tree, having red branches and white flowers. The young shoots were formerly cut off and tied up in faggots, and sent to Venice to make the *Theriaca* or *Venice treacle*, when bruised or drawn by fire.

"The first plantation that succeeded seems to have been at Petra, the ancient metropolis of Arabia, now called Beder or Beder Humein. Afterwards being transplanted into Palestine, it obtained the name of *Balsamum Judaicum* and *Balm of Gilead*, and became an article of commerce there. There were three productions obtained from the tree much esteemed among the ancients, the first was called *Opobalsamum*, or juice of balsam, which was the finest kind, composed of the greenish liquor found in the kernel of the fruit; the next was *Carpobalsamum*, made by the expression of the fruit when at maturity; the third was *Xylobalsamum*, worst of all; it was an expression or decoction of the young twigs, of a reddish colour. But the principal quantity of balsam at all times was produced by incision, as at the present day. The wound is made by an axe when the juice is in its strongest circulation, in July and August. It is then received into small earthen bottles, and every day's produce is poured into a larger, which is kept closely corked. The *Balsam of Judea* appears to be the same balsam adulterated."

No more decisive evidence can be quoted of the high value still placed upon the true *Balm*, or *Opobalsamum*, than that a small quantity was sent from the East to Napoleon the First, for the use of his Empress, Maria Louise. Chemists had now an opportunity of examining a pure specimen of this precious Balsam, or fluid Resin. A portion of it was placed in the hands of M. Bonastre, and the following is the result of his examination.

By distilling it with water he obtained 10 per cent. of volatile oil. Its specific gravity was 0.876, it was quite transparent, had an agreeable turpentine smell, and a strong, sharp, aromatic taste. It dissolves in 12 times its weight of cold alcohol. Ether dissolves any quantity whatever. Acetic acid dissolves very little of it. Nitric acid, cold, has little action on it. Sulphuric acid gives it a red colour. It does not become solid though cooled down to 10½°. It does not combine with the alkalies.

The water had dissolved 4 per cent. of a brown, bitter extract, partly soluble in alcohol, and communicating to it a bitter taste.

The resin was dissolved in alcohol. The alcohol being driven off the resin remained viscid, and never acquired the solidity of resin from turpentine. It combines but imperfectly with the alkalies. It is but little acted on by nitric acid, even at a boiling heat, and no crystallizable substance is formed.

To the portion of resin insoluble in alcohol, Bonastre has given the name of *Burserin*. It is solid, tasteless, and without smell. Its colour is greenish-white. It softens when heated, and cannot easily be reduced to powder. Very little soluble in boiling alcohol, and separates in white flocks as the solution cools. It dissolves readily in ether, but the solution does not yield crystals. It resembles very much the insoluble portion of the balsam from the *Bursera gummi-fera*. This is the reason why Bonastre has called it *Burserin*.

The following table shows the proportions of these constituents, obtained from 100 parts of *Opobalsamum* by Bonastre:—

Soluble viscid resin	70
Burserin	12
Volatile oil	10
Bitter extract	4
Acid matter?	3
Impurities	1

100

THROUGHOUT the series of papers on which we have for some time been engaged, we have, as stated at the outset, continued to treat of the different varieties of PEAS

in the rotation in which they arrive at maturity. Pursuing the same course as hitherto, we come now to speak of that very old and patriarchal variety, the *Charlton*, which is the parent of all the early white Peas.

THE CHARLTON PEA.

It is a hard matter to say what the *Charlton* Pea is now-a-days. The old variety, which was so long known under that and a dozen other names, having disappeared, the *Charlton* Pea, as a variety, exists only in name. For very many years it was the most extensively-cultivated, and the most highly-esteemed of all the varieties then known. It was the earliest and the best, and the care bestowed on the growth and selection of the stock was as great as is now exercised on that of *Emperors* or *Number Ones*. The same propensity for the multiplication of the names of a good thing seems to have been as great in former ages as in this; and hence we find *Charltons* and *Hotspurs* with designations almost as numerous as the names of the persons who grew them.

The original name of the *Charlton* Pea was *Hotspur*, still used by some, and, by contraction, *Hots*; or, rather, it may be that *Hots* is the original, for I somewhere saw, in an old author, lately, the word "hot" made use of in the same sense as we do "early." I do not know at what period this variety first became known; but I can trace it as far back as the year 1670, and from that period, till about 1770, or as near as possible for one century, it continued to stand first in the lists as the earliest Pea, until it was supplanted by the *Early Frame*, about 1770. The various names by which it was known during the last century were *Reading Hotspur*, *Master's* or *Flander's Hotspur*, *Golden Hotspur*, *Brompton Hotspur*, *Essex Hotspur*, *Omerod's Hotspur*, *Early Nichols's Hotspur*, *Charlton Hotspur*, and, finally, *Early Charlton*. The last name became general about 1750. There can be no doubt that these names were applied much in the same way as we have described under *Early Frame*, and that the varieties were distinguishable according to the care with which the growers selected them. *Master's Hotspur*, which is still retained in some catalogues of the present day, was so called from a person of that name, who, it is said, selected it, and who was a nurseryman at Strand-on-the-Green, near Brentford, 130 years ago. It has also been called, *Hastings*, *Marquis of Hastings*, and *Essex Readings*.

It is not in our power to furnish a description and a figure of this variety, as we have done with the others; for, as we have already said, there is in reality no such thing as the *Charlton* Pea in existence. That which is sold for *Charltons*, is any degenerated stock of *Early Frames*, or any stock of *Frames* which cannot be warranted or depended upon, but which are, nevertheless, of such a character as to admit of their being grown as garden varieties. Let writers on gardening, therefore, be careful, in future, when called on for a list of Peas, not to give, as is often done, the *Charlton* as "the best second early." There is no distinct variety grown for *Charltons* by the seed growers.

AUVERGNE.

Synonyme, *White Sabre*, *White Cimetar*. If the *Charlton* had not already been defunct, this variety would certainly very soon have rendered it so. The *Auvergne* Pea was introduced from France, some years ago, by the London Horticultural Society, but, although it very far surpassed every other variety of White Pea then in cultivation, except the *Frames*, it never became widely known or generally cultivated. It is a most characteristic variety, and always easily distinguishable by its long and curved pod.

The plant is of a moderately-strong habit of growth, producing a single stem from four to five feet high, according to the soil in which it is grown, and bears from twelve to fifteen pods on each. The pods are generally small, but sometimes in pairs; when fully grown, four inches-and-a-half long, and over half-an-inch broad; tapering towards the point, and very much curved; they contain from nine to twelve Peas, which are very closely compressed, and are the size of the *Early Frames*. Even the small pods contain as many as from seven to nine Peas in each. The ripe seed is white.

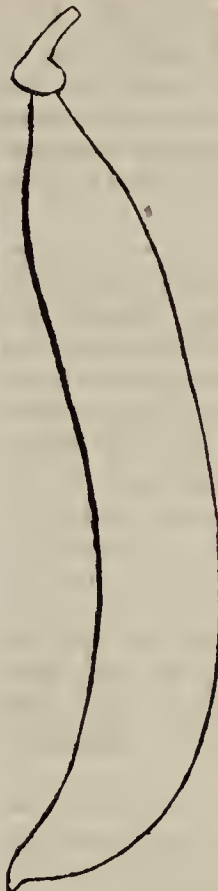
The seed was sown on the 5th of April, the plants bloomed on the 15th of June, slatted on the 22nd, and the pods were ready to gather on the 12th of July.

R. H.

(To be continued.)

ABOUT a year-and-a-half since, a gentleman very favourably known as a writer and cultivator of fruits thus expressed himself in our columns:—

"There is, perhaps, no country in the world where the study and, consequently, the cultivation of fruits is more neglected than our own. In America, they have in various states Pomological "Societies" and "Institutes," which meet as regularly as our Royal and Linnæan Societies, and discuss pomological subjects. Several excellent works on the subject have issued from the press of that country, and are justly popular; and it is to America that we are indebted for some of the finest varieties of fruits. Of these, we have the *Seckel*, and many other Pears; the *Jefferson*, *Washington*, *Lawrence*, and numerous first-rate Plums; many very excellent Cherries; and numerous other subjects which are not known in this country, simply because there is no taste for, and no encouragement given to, the science. In Germany, too, it is a very popular study, as the



numerous pomological societies and publications furnish ample evidence of. In France, it has a great measure of support, although, perhaps, not so great as in those countries already mentioned; but certainly far greater than in our own. And in Belgium it is found not unworthy of government patronage and support. Need it be wondered, then, that so little is known, when so little interest is manifested on the subject in this country? We trust the time is coming when the same vitality and energy will be exhibited as there was at the time when Mr. Knight and Mr. Sabine devoted so much of their attention to it."

This hope, we believe, will be realised very shortly; for we have received the prospectus of an Association to be entitled, *The British Pomological Society*; the President of which is to be Sir Joseph Paxton, and the Secretary (provisionally), Mr. Spencer, gardener to the Marquis of Lansdown. It has for its objects "comparing and classifying the fruits of Great Britain, America, and the Continent; and likewise for examining and reporting on newly-introduced or seedling varieties." The meetings are to be in London, and prizes given as soon as the Society's funds will allow such expenditure.

A Society having so especially for its object the improvement, and better knowledge of hardy fruit, commands our best wishes for its success. The annual subscription is only ten shillings, and we commend it to the patronage of our readers.

Whilst on the subject of fruits, we may record, that ripe Strawberries were gathered from open ground beds, at Winchester, on the 20th of May. They were borne by young plants of Cuthill's *Black Prince*.

[FROM A CORRESPONDENT.]

We have received the prospectus of "*The British Pomological Society*," to be under the presidency of *Sir Joseph Paxton*, with others, as office bearers, who rank high in the horticultural world. We need hardly say how cordially we give our assent to such a movement, since on several occasions we have, in the pages of this Journal, regretted the non-existence of such an institution, and suggested how desirable it would be to disseminate a taste for, and communicate information on, such an important subject. We have shown, also, how even in an economical point of view an extended cultivation of fruits would conduce towards the good of the country. When the Horticultural Society was in the zenith of its glory, the subject of Pomology formed one, if not the most prominent, of its features. When T. A. Knight was at work, and giving to the world the result of his experiments and practice; and when Joseph Sabine and Robert Thompson were, note-book in hand, peering from tree to tree, in the Society's Gardens, making those minute observations which resulted in "*The Catalogue of Fruits, &c.*," there was something doing in and for Pomology; then we could get information upon new and old varieties alike; but for the last twelve or fourteen years, what has been done? Nothing, except that some three acres of the Society's orchard

have been converted into a yard, where vans stand three days in the year, on the Chiswick show days; but as regards the procuring of newly-introduced or seedling varieties of fruits, there has been but little done—very little; although there is the same Robert Thomson, as able as ever to make the observations, if he had the opportunity. No man can work without tools, and as the Society does not furnish Mr. Thomson with tools, he is deprived of the power to employ his skill advantageously.

As an illustration, take the "*Supplement to the Catalogue of Fruit-trees*," price one shilling, and let us turn to the Pears. There has been a great addition to the varieties of Pears of late years. The Belgian nurserymen urge and tempt us to buy these new sorts, and many of our own nurserymen are not far behind them in this respect; but what do we know about them? How do they succeed, and what are their qualities in this climate? If we refer to the "*Supplement*" for information, we find R. C. where the information ought to be; and what, reader, do you suppose this R. C. to signify? Neither more nor less than "*reputed character*," all of which, and a great deal more, we could get from any continental nursery catalogue for nothing. Now, this R. C. is not an occasional, but a general occurrence, and it certainly says very little for the Horticultural Society, that after ten years they had nothing better to offer by way of "*Supplement*," but the lean and meagre production recently issued. But why should this be when there are such resources at command, and those in the establishment who are so well able to undertake such work? It is not from any want of ability on the part of those to whom these matters are entrusted for carrying out the practical details, but from an evident carelessness and lethargy on the part of the management, whose sole object appears to be a subserviency of the use of the gardens for personal purposes, and whose self-sufficiency is so great that nobody dare "*show their noses*," or express an opinion.

If, as was the case in former years, the Society made a point of procuring both at home and from abroad the new varieties of fruits as they appear, and proving their adaptability, or non-adaptability, to the climate of this country, instead of idly waiting till somebody sends them "*one or two new things*," we should have had a very different "*Supplement*" to that now published. But there is no trouble taken in the matter, everything being conducted as if all that could be done for horticulture had been done long ago, and as if there were no plants worth cultivating but Orchids, and as if there were no world outside the walls of Chiswick Gardens. A Pomological Society will correct these errors, and supply these deficiencies, and we wish the new Society all success. Its subject is a popular one, and we do not doubt but that under good management, and with the excellent collections of fruits now in the country to work upon, it will be eminently useful.

PEACHES AND NECTARINES IN JUNE.

An all-important month to these fruits is this; for, according to my ideas of successful culture, the whole growth really necessary for the ensuing year should be complete, as to extension, by or before Midsummer. In order to accomplish this, the trees must have been kept free from insects, must have been kept in good root order, and should have received as much protection in the foliage as would prevent those strange vicissitudes, which so frequently occur in April, from injuring the foliage. I find, by reports, that much damage has accrued to this crop, in some parts, from the unusual April frosts we experienced; and from a remark in a contemporary gardening paper of some standing, that they have suffered much where not protected, I suppose we may infer that protection to the blossom is at last recognised. I have a capital crop, and the wood looking quite as well as ever I knew it; they were uncovered on the 16th of May.

Let me advise those who have neglected their trees to take them in hand immediately. Insects must first be destroyed—better late than never. I need scarcely urge the importance of tobacco-water as to the Aphides, and of sulphur as to the Red Spider. Some persons use tobacco-smoke under a close covering of some kind, but this is not so good practice as the liquid; it is difficult to confine. As to sulphur, it may be either applied by a powder-puff or by hand; the latter I prefer. It is necessary, however, to choose a very quiet state of atmosphere for its application, or one-half will be lost; the air should be quiet and rather dry, and the sulphur should have been kept dry for the purpose, in order to render it subtle.

Disbudding, if neglected, must at once be attended to, and an awkward office it is when the trees have been neglected until June, especially if they are growing strong. However, there is no time for ceremonies, off the shoot must come, or the tree will be seriously injured for a year or two to come.

Thinning the fruit is the next important consideration; that is to say, if your trees have been fortunate. No tree suffers more from an unwarrantable amount of fruit than the Peach or Nectarine; the former especially. I have known many trees irreparably injured, and have, indeed, injured several myself in my day by being too greedy, especially if the tree was not well-established in its situation.

Strangers to Peach-culture would here very naturally ask, how far the fruit should be left apart; and it is not easy to convey a definite idea, so much depends on the character of the tree as to its real powers. On one tree the fruit may be left at from four to six inches; on another, they should not be nearer than nine: this, however, has reference to the final thinning. But this must be done cautiously. In the first thinning, which generally takes place towards the end of April, or when the fruits are large as horse-beans, they may just be prevented touching. In a week, they may have a second thinning, still proceeding cautiously; and by the time "stoning" commences, they may stand, on an average, at about two to three inches.

Under all circumstances, many drop during the stoning process; for the fact is, that with these fruits impregnation is absolutely essential to their well-being; and the formation of the vital powers of the seed constitutes a crisis in the life of the young fruit. One thing may be noticed here; no fruit may be permitted to remain on shoots which do not possess some foliage, beyond the fruits to attract the sap. The tree will frequently appear to set its fruit best in such quarters, and to swell them most freely, but it is all deception, down they go when the hour of trial arrives. Indeed, there should be a freely-growing shoot or shoots beyond the fruits; if there

be not, only tufts of foliage, the odds are that such shoots become barren, or die away in the succeeding year.

I have frequently recommended mulching, or top-dressing, to these trees, if in proper soil, and I must here repeat such advice. As to those on stagnant soils, why, it is almost immaterial whether we mulch or no; they will do badly anyhow. I have trees here which would convince the most sceptical as to the value of mulching, or top-dressing. The whole surface is a network of fibres, and, it may be readily supposed, that this it is which, by rendering fruit-trees so susceptible to atmospheric action, brings them at any time under easy control, as to bearing properties; for to neglect an annual or biennial application of a slight dressing, after this condition is once induced, is to force the whole tree into a blossoming condition; whilst to give an application of the kind is to rouse the active, or growing principle; need I observe, that in a due counterbalance of these consists the real welfare of fruit-trees.

Now, it is not to be supposed that this top-dressing is an expensive procedure; little manure is requisite. Any half-rotten vegetable substance, which will necessarily become a kind of humus before a year has passed, will suffice. As I am situated in the midst of a well-wooded park, I use tree leaves, and these have, in general, had a very little manure mixed with them, having been used as linings to dung-beds. But, had I some suburban garden to manage, I would save all my weeds and the shrubbery rakings for the purpose; these mixed, and highly-fermented, by the addition of a little rank manure fresh from the stable-door, in order to destroy weeds, would prove a very eligible material. Indeed, anything which has once been a living vegetable will answer this purpose.

So much for the manurial expenses; and as to labour, since two or three barrowfuls will suffice for any ordinary-sized wall-tree, why the labour matter cannot be heavy. Besides, what are more expensive things than mismanaged or neglected wall-trees, to say nothing of other fruits? Let any one look fairly at the cost of a wall in building—a wall to be something more than a mere boundary—and say if it is not obvious that no reasonable pains should be spared to make every brick yield its fruit, if possible; both profit and convenience demand it.

Mulching, too, affords a capital opportunity for administering water to the roots, which, applied on the naked or baked soil, does little good.

As to watering, I hold it essential to the production of superior fruits that liberal waterings be applied, especially in June and July; and for this purpose, once in each month a good saturation is far beyond any dribbling mode. This may be considered a trouble or expense by some; but if it be, it is by far superior to the expense incurred by drainage where stagnation exists; and, moreover, involves more chances of success. If the trees are over borne, guano, or daughill-water, should be applied.

The stopping or pinching of robbers, or gross shoots, should be commenced in the end of May or beginning of June, and may be persisted in through the season with all trees in a bearing state; the chief exception being young trees or bending shoots required to cover walks for fences as speedily as may be.

Young trees may be allowed to ramble a good deal, after once pinching a few of the ramblers in the early part of June, but this pinching should be resumed in the middle of August, if they continue to grow very strong.

It was a practice, in my apprentice days, to ply the engine or syringe every afternoon; it was considered indispensable. I have not used an engine for years; and yet have had enough of success to attract the notice of good judges. I do not, however, entirely repudiate its

use; but I would not use it until the beginning of June, and then only during great dryness of air, and as early as four o'clock, P.M. As for the argument of keeping down insects, it is all fudge. Talk of expense, indeed; only compare the number of hours labour thus expended, with the expense of one sulphur or two tobacco-water applications applied in April. Well might gardens in those days be ankle deep in weeds. In these times, we have twice the amount of business in gardening, with, in general, a diminished amount of labour. This has sharpened the wits of many a blue apron, and caused a great degree of simplification in many gardening processes.

R. ERRINGTON.

MEETING OF THE HORTICULTURAL SOCIETY.—MAY 15th.

(Continued from page 135.)

THE usual remarks at these great exhibitions, for the last few years, were chiefly about the general sameness, and the monstrous size of all the plants which were staged for the first prizes; the same dishes over and over again, and so out of proportion to what the great bulk of competitors could aspire, that the expense, in medals, seemed all but lost; and those who looked for variety, and for plants which could be managed in our ordinary stoves and greenhouses, might as well go to a launch any day, as expect to learn anything new at these great Metropolitan gatherings. Two or three large growers had managed, or rather mis-managed, to run off with all the first and best prizes. They contracted the number of distinct species to the utmost limit, and got the few they made use of so old and so enormously large, that they would be of little value to any one who did not receive extra remuneration, in the shape of medals, to repay the increased house-room which such cumbersome bushes require more and more every year. The agriculturals fell into exactly the same error, by offering their medals so liberally for fat and blubber, at their Smithfield competitions, that breeders of useful and ordinary stock had no chance before them. But the stomach revolted, and the press interfered, and, between them, the native dish has been saved to the spit from the dripping-pan; and now that Mrs. Lawrence no longer leads the fashion in growing specimens, let us hope we have seen the last of such plants, as no one else would think of giving up house-room for. All the stove and greenhouse plants, at the present show, and most of the Orchids and Azaleas, were just up to the limits at which I would cease to give prizes to pot-plants. Instead of more size, I would insist on a greater variety of individual plants, that all might participate in the prizes, or, at least, might reasonably venture on trying their luck, instead of being kept back, under a cloud, as they have been by the recent practice. Then, if any one's taste lead him to grow a *Pimelia*, or a *Boronia*, or any other of that stamp, to the size of an apple-tree—why, I would admit all such, by all means, but I would not give a prize to any of them. I would consider it quite enough to permit the owner to let the rest of the world see what a good gardener he must have been, and this would reserve the medals to encourage the host which have not the smallest chance at present, or under the recent trials. I was so struck with the change for the better, in the absence of Mrs. Lawrence's plants and these of her usual competitors, that I numbered the Roses open and the number of flowers or flower-spikes on some of the Orchids, on purpose to show that moderate plants, when properly managed, are mere showy, and ten times more generally useful, than huge plants so many yards round. Thus, in the first collection of NURSERY ORCHIDS which

were staged by the Messrs. Rollinson, of Tooting, *Oncidium sphacelatum* had eighteen long-branched flower-spikes, full of yellow-and-brown flowers; *Brassia maculata*, eleven spikes; *Cattleya Mossiae*, thirteen full-blown flowers; *Epidendrum crassifolium*, seventeen spikes; *Aerides virens*, seven ditto; *Dendrobium fimbriatum oculatum*, which was lately exhibited in Regent-street, and is an excellent new variety with a dark blotch in the eye (the old *fimbriatum* is all yellow) had seven flower-spikes; and so on with *Vanda teres*, *Phalanopsis grandiflora*, *Dendrobium nobile*; *D. Dalhousianum*, with its large creamy flowers, and two dark eyes in each; *Sobralia macrantha*, *Odontoglossum niveum*, with crisped and speckled flowers; *Cattleya Aucklandi*, a large plant, considering the species; this had four of the largest blooms yet exhibited.

Mr. Williams, gardener to C. B. Warner, Esq., had the best prize for ORCHIDS among private growers. Among his best were the following:—*Burlingtonia fragrans*, two flower-spikes; *Epidendrum aurantiacum*, with seven spikes; this is very seldom seen from home; *Cypripedium Lowii*, carrying two flowers on each stalk; *Chysis bractescens*, *Cattleya Skinnerii*, as full of bloom as any of Mr. Dobson's Geraniums; *Phalanopsis grandiflora*, five-branched, long spikes, full of bloom; *Oncidium ampliatum*, six spikes; *Aerides virens*, four ditto; *Trichopilia coccinea*, eight single blooms, lying flat on the moss at regular distances all round the pot—these flowers are not *coccinea*, or scarlet, but quite brown; *Saccolabium retusum*, four spikes; *Dendrobium macrophyllum*, eight long spikes—this plant scented the whole place; *Phaius Wallichii*, nine strong spikes; *Cattleya intermedia*, eight spikes, and from three to six flowers on each; *Cypripedium barbatum*, eighteen slippers; *Calanthe veratrifolia*, nineteen spikes—this is one of the oldest, one of the very best, and one of the easiest to manage, of all ground Orchids; there might be a thousand flowers on this plant, but who could number them!—they are as white as snow. *Vanda tricolor* and *Dendrobium nobile superba*, with ten flowers, close this beautiful group.

The second large gold medal was given to Mr. Blake, gardener to J. H. Schroder, Esq., and judging as an old judge, I should judge that the present judges had nearly a tie of it here between Mr. Blake and Mr. Williams. There was one plant here of *Trichopilia tortilis*, two feet in diameter, and literally smothered with flowers. *Dendrobium densiflorum album*, which I never saw before, is a creamy white, and is as softly fringed as the old yellow. *Lelia cinnabarina*, with six long shoots—a beauty. An immense mass of the "Cow's-horns Orchid," of Honduras, called *Schomburgkia tibicinis*; the flower-spike of this plant was seven feet long, with quantities of flowers towards the end, six of which were full open. *Dendrobium Pierardi*, the strongest I ever saw, five flower spikes, and each of them thirty inches long, covered with bloom. I counted twenty-six open blooms on one of the spikes. *Dendrobium densiflorum*, twenty flower spikes; and eight butterflies on one *Oncidium papilio*.

After this, the first gold Knightian medal was won by Mr. Wooley, gardener to H. B. Ker, Esq., with a collection of twenty species, and specimens as large as nine-tenths of country gardeners would like their own to be. Out of his twenty, the following were not in those above him:—*Dendrobium Paxtonii*, *Warrea tricolor*, *Brassia verrucosa*, *Odontoglossum citrosinum*, and *Zygotetrum rostratum* and *erinitum*.

Mr. Carson, gardener to W. F. G. Farmer, Esq., had the next gold Knightian medal for a score of beautiful plants, as above, and with the following addition:—*Epidendrum longipetalum*, with ten long-branched spikes, each having from thirty to forty of its starry brown-and-yellow flowers open; *Camarotis purpurea*, full of purple spikes; and *Epidendrum aloefolium*, with its large

white flowers, having creamy sepals. This plant, also, is seldom seen at shows, although an old plant.

The silver-gilt medal for Orchids was awarded to Mr. Clark, gardener to Mrs. Webb, of Hoddesdon, Herts, for ten species. The kinds were as above, with the addition, *Oncidium luridum guttatum*, spotted all over like a brown-and-yellow spotted *Calecolaria*.

A gold Banksian medal was carried off by Mr. Dods, a chip of the old block, and gardener to Sir J. Cathcart, Bart. *Brassia caudata*, I believe, being the only kind not already mentioned in the other collections.

There was another collection from Mr. Green, gardener to Sir E. Antrobus, Bart., with very good specimens; but, I believe, not different from the above kinds, except *Dendrobium calceolare* and *Maxillaria Harrisonia*.

PELARGONIUMS.—There were two collections of fancy Geraniums, and two collections of old greenish Geraniums. The plants in both kinds were well grown, and were as large as I would ever think of growing for private use, and that I hold to be the best criterion of all show plants. The fancies were from Mr. Mokitt, gardener to J. Alnut, Esq., and from Mr. Gains, of Battersea; but there was nothing new among them worthy of particular notice, except, perhaps, that one or two of the black ones came out again; but, as the ladies went to the launch, they could not call them "horrid," this time. Mr. Dobson took the prize with *Beck's purpurea*, *Rosamond*, *Ambassador*, *Vulcan*, *Gulielma*, *Leah*, *Glowworm*, *Delicatum*—a fine, large, white one; *Arctusa*, a buff-salmonish tint, with a dark back; and *Harriot* (Dobson's), which looks as if it was a seedling from *Arctusa*, and an improvement on it. This *Harriot* is my own favourite of all of them, and it was the best bloomed Geranium of the old strains that I ever saw.

From the Wellington Nursery, Messrs. Henderson and Son sent a collection of *Bebling Geraniums*, beginning with *Lady Plymouth*, alias Variegated Oak-leaf, and alias *Graveolens variegata*; *Bridal Bouquet*, with scarlet flower, and leaf like "Flower of the Day;" *Attraction*, the variegated with the purple shade in the leaf; *Golden Chain*, in excellent condition; *Model*, with flowers like those of *Rouge-et-Noir*, and a leaf somewhat like that of *Unique*; if it flower freely, it will match *Rouge-et-Noir* in a pair-bed; *Rose Attraction*, a fine, soft, variegated leaf, but no flowers; *Brilliant*, a scarlet kind, with slight variegation in the leaves, and looks as if it were a cross between the Scarlets and the Ivy-leaves. *Ramona*, in the way of *Richard Cobden*; *Maria Van Houtte*, a very delicate dwarf of the *Yemeniana* breed; *Glancum grandiflorum* in a poor state, which was a pity, as it is really a new acquisition for fancy little beds. I recommended it to Mr. Davidson, my successor, as the best white dwarf with that kind of leaf, and he approved of it very much, and I believe he will try it this season at Shrubland Park—one of the best emporiums, if not the very best in England, for fancy beds and kinds of bedders; one called *Lady of the Lake* is too faint to be a favourite. Most ladies have a particular aversion to all faint colours; give them as many tints as you can find, and in as many distinct shades as possible, and they will call them charming, but faint colours, and faint-hearted gardening, they cannot abide.

The same firm sent a collection of yellow and buff *Rhododendrons*, and a miscellaneous collection of variegated plants, and some rare and extremely pretty foliaged plants not in bloom, including several species of *Jacランダ* and *Rhopalas*, *R. magnifica*, one of the finest-leaved of all Proteads, notwithstanding the great diversity of that large order of plants, and *Mallea filicifolia* looked as if a fine *Mimosa* had been changed into a Fern.

Mr. Jackson, of Kingston, sent two now seedling *Clematisses*, of continental origin, and both apparently

from the Japan ones, called *Azurea grandiflora* and *Sieboldii*. One is called *Sophie*, in the way of *Azurea grandiflora*, but a large flower, and with an intermediate petal between each of the two petals all round, those extra petals being so many stamens converted—this will become a great favourite. The second is a cross, certainly, from *Sieboldii*, called *Monstrosa*, probably on account of the very large, white, ivory-like flowers.

Among these new plants was a nice *Clerodendron Bungea*, from Messrs. Henderson and Son, with a flower-head something in the way of a Greek Valerian, and a growth like *C. fragrans*, but not so stout.

A new bulb of the Amaryllid family, called *Eucharis candida*, I never saw before. It is a pure white flower, of medium size, and belongs to the *Pancretium* section. It comes very near *Calostemma*, the filaments being united (*decurrent*) to the little coronet all the way up. A bulb under this name was described last year in the *Flore des Serres*, but a very different thing if the descriptions were correct. It is there stated to have leaves like a *Griffinia*, that is broad leaves, with leaf-stalks (petiolated) like a *Funkia* leaf; the leaf of this exhibition plant is quite of a different form, being like a *Ulippeaster* leaf. The coronet of the Belgian plant is said to have been of "brilliant yellow antheriferous scales;" nothing of the sort was in this flower; the coronet is fringed all round with thick, fleshy, arrow-headed anthers, as white as pure ivory, the stamens being united to the cup, or coronet, as in some *Pancretiums*. The bulb was out of the soil, which did not seem to be agreeable to it; it is a very nice bulb; also *Boronia Drummondii*, with very small leaves and rosy flowers.

Messrs. Garraway and May, of Bristol, sent a large plant of *Geuetyllis tulipifera* of gardens, but *Hedaroma* of botanists, quite a new plant to gardens, belonging to the *Fringe Myrtles* of New Holland, scarcely one of which is much known to our best gardeners. This plant looked like a *Pimelia decussata*, or between that and the old *Diosma uniflora*. The flowers are whitish, and not unlike a white *Canterbury Bell*, but not so bell-shaped. I think it was introduced by seeds, some years since, by Mr. Low, of the Clapton Nursery.

Mr. Veitch sent a new Indian *Rhododendron*, with strong waxy flowers, and of quite a new tint all over, for which the English language does not supply a name, cream-colour comes the nearest, but it is richer than that; that pale yellow in some *Dendrobiums*, and in no other flowers, is the tint; the leaf is smooth and peculiar. This and *R. javanicum* crossed will give *Rhododendrons* quite another turn, and we shall have crosses with all that brilliancy which is now peculiar to the Ghent Azaleas, and to the Indian *Dendrobies*.

Cypripedium villosum, a new plant, and now colour in this genus, yellow and brown, was also in Mr. Veitch's novelties, together with a new *Hexacentris luteum*, not so gay as *H. mysorensis*, but a good addition to pot climbers.

From Isaac Anderson, Esq., of Edinburgh, was a nice French-white cross *Rhododendron*, between *Gibsonii* and *hirsutum*. Mr. Green had *Bossiaea cordata*, a very slender kind, among "new or very rare plants."

AZALEAS.—These were the May blaze, but I have often named almost every one of them. Smith's *Coronata* was the best colour, according to my taste, and *Delecta* the next best; but here are all their names. *Holdfordii*, small and half-double; *Knight's Broughtonii*, peculiar light rose colour; *Smith's Broughtonii*, orange and scarlet; *Iveryana*, large, white, with carnation blotches; *Murrayana*, good red colour, and no bad shape; *Vulcan*, nearly scarlet; *Leeana*, a very large white, touched, here and there, with a dash of purple—a fine kind; *Perryana*, orange-scarlet; *Triumphans*, superb, nearly scarlet, and revolute on the edges; *Conspicua purpurea*,

very large; *Exquisita*, variegated; *Alba magna*, very large; *Grandis*, light purple, next shade after *Conspicua*; *Rawsonii*, being the third purple shade; *Symmetry*, a large orange, and good shape; *Sinensis*, the old yellow, and never finer; *Gladstenesii*, white, and blotched; *Lateritia*, orange, and the parent of all the best orange tints, which are now too numerous by one-half; *Reine des Belges*, inclined to run half-double, but the colour is excellent, near that of *Delecta*, between rose and crimson. We want more of these delicate tints, but those half-double Azaleas are perfect frights, and all the colours in the rainbow will never turn the ladies' aversion from such abortions.

Now, about the stove and greenhouse plants, and the Heaths, I have them all booked, and they were just to my own fancy, for size and symmetry, but it goes against the grain to write them over again without any remarks, and I have no more to offer; but as some might like even a list of such plants as are ready for May shows, here is a bare list of all the greenhouse and stove plants which were competed for by twelve or fifteen growers. They are among the very commonest and the very easiest to grow and to keep of all other plants.

Adenandra speciosa (old Diosma).

Aphelaxis macrantha purpurea.

„ *humilis*, *rosea*, and *sesamoides*, with slight varieties.

Boronia spathulata, tetandra.

Chorozema varium nanum, Hendersoni, Lawrenceana.

Coleonema pulchra, rubra.

Daviesia latifolia.

Dillwynia ericifolia.

Dracocephalum gracile.

Epacris grandiflora, *miniata*, *paludosa*.

Eriostemon intermedium, *myoporoides*, *neriifolium*, and *scabrum*.

Gompholobium barbigerum, and *grandiflorum*.

Leschenaultia Baxteri, *formosa*.

Oxylobium Pultenææ.

Pimelæa decussata, Hendersoni, *linifolia*, *spectabilis*.

Polygala acuminata, *cordifolia*, *Dalmatiana*.

„ *oppositifolia*.

Rhincospermum jasminoides; one huge plant.

Statice Holdfordi.

Totratheca verticillata.

STOVE PLANTS.

Alamanda cathartica, *neriifolia*.

Clerodendron Kœmpferi.

Cyrtoceras reflexum.

Franciscea acuminata, *angusta*, *confertiflora*.

Gardenia Fortunii; splendid plants of it.

Hoya imperialis, Paxtonii.

Ixora coccinea, *crocata*.

Medinilla magnifica, Sieboldi.

Stephanotis floribunda, and two *Vincas*, *rosea*, and *oculata*; the white with red eye.

TALL CACTI.—There was one collection of these from Mr. Green, in which *Epiphyllum crenatum* was most splendidly flowered. I counted 30 flower-buds, besides all that were open, and anybody with a window can grow it. *Epiphyllum Greenii*, eight inches across, and a finer flower than *Speciosissimum*, but in that way.

MIMULUS.—There were 25 immense cut blooms in one stand, and Mr. Twigg, gardener to Thomas Lenox, Esq., had a collection of them in pot plants, of which *Rubens*, with a deep dark border, and *Fascination*, a speckled border, were my two favourites; but these Mimuluses are very useful plants to flower early in pots, and later in the borders; they are also getting very fashionable.

POMPONE CHRYSANTHEMUMS.—There were four nice little kinds of them from the Wellington Nursery, as good as others of them were last November.

The FRUIT was splendid, more numerous than usual,

and quite ripe, at last, for a wonder. Among the competitors were the Duchess of Sutherland, Duke of Bedford, Duke of Marlborough, Duke of Northumberland, Duke of Norfolk, Marquis of Lansdowne, Marchioness of Londonderry, Earls Abergavenny, Zetland, Derby, &c., but her Majesty did not compete this time.

D. BEATON.

OXFORD AND NUNEHAM.

BEING seldom from home, I had prepared an outline of a few ideas likely to be useful, suggested from a visit to the Oxford Botanic Garden, and to the beautiful grounds of Nuneham, which, from their elevation and undulating character, must ever be a conspicuous and telling object in the midst of the flat country around Oxford. I find, however, that the sails have been cut from my windmill, by referring to a previous description, by Mr. Beaton, of the Botanic Gardens, and to an outline of Nuneham, in the last COTTAGE GARDENER, by Mr. Appleby. Instead, therefore, of repeating the same ideas in other words, I will try and allude to a few matters not previously mentioned.

I had long felt a wish to be personally introduced to Mr. Baxter, and was more than delighted with his most kind and obliging courtesy. A vast number of plants are kept in the houses, but chiefly in a small state. There are scarcely any duplicates of anything, in-doors or out. The plants are kept in this small condition by annual repottings and partial disrootings, and by a constant rearing of young plants from cuttings. A few fine specimens, beautifully grown, were here and there set in prominent positions, demonstrating how fine this garden might become in specimens of luxuriant growth. did the proprietors of the garden give suitable encouragement in the way of house-room. Several new houses have been erected within a few years, and in these—chiefly devoted to tropical plants—everything seemed in luxuriant health. What struck us as the most conspicuous and numerous in the groups of plants were the *Ferns* and the *Succulents*. Had time permitted, I would have selected a list of the best of the last-named of these for small greenhouses. Many were blooming with the greatest profusion, and Mr. Baxter well remarked, no plants required less care. To many amateurs, who can only attend to their miniature greenhouses morning and evening, such a class of plants are invaluable, as, independently of their beautiful flowers, there is something quite grotesque, singular, and interesting in the many shapes and forms they assume; while the neglect, not of one day, but of several days, will not injure them. All intending cultivators would find an inspection of these succulents pleasing and profitable.

Another fact struck us forcibly, that here, in the classic garden of Oxford, as well as elsewhere, the love of the science of vegetation in the abstract was beginning to wane before the love of the simply beautiful. Few public, or subscription Botanic Gardens, have been able to support themselves merely as repositories illustrative of science. The growing of plants for ornament, if not for commerce, and the allotments of the beauties of a modern flower-garden, have been introduced, not merely as measures of a prudent yielding to the times, but as the stern demands of necessity to maintain an existence. Incorporated and national gardens, though not subjected to the same necessity, have not considered it beneath them to yield to the popular taste. Hence, notwithstanding the scientific arrangements at Kew, which is in every worthy sense now a national garden, and of which every Briton may be proud, instead of ashamed, as a part of his own property—"our garden"—the massing of colours, and the grouping style of flower-gardens has been introduced to gratify the millions in summer. No doubt, influenced by a similar

desire, Mr. Baxter has introduced beds and groups for bedding-plants, by the sides of the principal walks; and though it would be next to impossible to do more in this direction without curtailing and disturbing the very nice botanical arrangements, there can be no question, that a combination of interest and beauty, that speaks at once to the eye and the understanding, will be much more gratifying to ninety-nine out of every hundred visitors, than one which spoke chiefly to the intellect alone. I know nothing of the average number of botanical students at Oxford; I know nothing of the incorporation of the garden; nor whether it be designed to add to the pleasure and improvement of a more extended class than those connected with the colleges; but I strongly feel that this combination of beautiful masses of gay flowers with the more dry details of a scientific arrangement, will not only add greatly to the interest of the place in summer, but prompt many to study the science of botany that otherwise would never have thought of it; and I ground this belief on two opposite facts that have come several times under my observation. The first is, that several who were *forced* to go through a course of scientific botany, have not only forgotten all about botany in their future career, but have actually been destitute of the slightest taste for floral beauty—looking with interest, it is true, on a Goliath of a turnip, or a thumping cow cabbage, but finding no better appellation for our most cherished flowers, than “weedy things,” of no use whatever; while, on the other hand, several, in whom the love of the beautiful was next to a passion, who almost idolized their flowers, instead of being satisfied with contemplating their beauties, were led on, step by step, in admiring and investigating their forms and the functions of the various parts, until they became successful students in vegetable physiology and systematic botany.

Turning back to pages 117 and 118, I engross all that Mr. Appleby has said of Nuneham. There are two reasons why I should not grumble that he has taken the matter out of my hands. The first is, the old proverb, “that what a friend gets is no loss;” the second is, the escaping from a gentle hint from our captain, that these pages were not intended for poetry, even though shrouded in the lines of prose. In such an afternoon as the 5th of May, amid such glimpses of scenery and gleams of sunshine, I envy not the man whose feelings and aspirations did not soar and bound, even in association, far beyond the ground on which he trod. On the formation of the railroad, a large tract of land was purchased between the entrance-gates and Abingdon-road Station. On entering the gates, the signs of good keeping were at once apparent; at first sight, it looked as if hay-making had commenced. A number of men and women were collecting the dry tufts of grass that had previously been cut, so that the park had all the greenness of a lawn. I had adopted a similar plan in winter with a grazed park for adding to leaves, and thus increasing, with fine effect, my fermenting manure-heap; but though mowers liked the affair, and said that there was a heavier and easier-managed crop in consequence, the parties chiefly interested thought differently, and I was thus deprived of a fine addition for the litter and manure heaps, as such material came in admirably for all kinds of protection.

Though possessing abundance of fine timber, the park is not so much distinguished for that as for the excellent manner in which the trees are grouped; the repose, as it were, with which you contemplate them from the fine open breadths, throwing the whole into a delightful picture of light and shade. I have already stated that the position of Nuneham is elevated, standing on what southerners would call a *hill*, and what northerners would term a mound. The pleasure-grounds, stocked well with the finer kinds of timber and evergreens, are, therefore,

exceedingly varied, and the walks that traverse them are beautifully undulated, not merely with graceful, sweeping lines, but in an easy, up-hill-and-down-hill direction, and sometimes rather abrupt.

The difficulty of managing such walks during torrents of rain has been obviated by a thorough and complete system of drainage. From numerous points of these walks, as well as from the parts more particularly indicated by Mr. Appleby, the most beautiful peeps of scenery are to be seen. Though I got no information on this point, I could not but observe that many of these *vistas* had been opened up, by the removal of a tree in one place, or the mere shortening-in of part of the head in another, directed by the eye of one who has a keen relish for the beauties of scenery. The views of the classic Oxford, with its spires and turrets, are endless. Now Abingdon, with its spire and town, are before you; now the Isis shines beneath you like a polished mirror; anon, horses and cattle in the meadows enliven the foreground; now the roofs of thatched cottages burst into the view, conjuring up poetical ideas of innocence and peace—alas! that ever they should be broken by that knowledge of society that tells us that vice and its concomitant ills are confined to no exclusive section of humanity; and there, again, near the steward's mansion, you have all the charms of the romantic tangled dell, with just the appearance of a house, high on the opposite bank, which you are told is the parsonage, but which, untold, you would take to be a castellated keep of ancient times; or, if the romantic, as well as the picturesque, obtains a footing in your composition, you could easily, from the little you see of it, conjure up into such a ruin as that in which the benighted Brown, in “*Guy Mannering*,” forgathered with the queen gipsy, Meg Merrilles.

But leaving these tempting walks and pleasure grounds, I will proceed at once to the terraces and flower-gardens. In these I own I was agreeably disappointed. The rage for bedding-plants is threatening, ere long, to be a very *bore* to every gardener. I had heard glowing accounts of the extent of the flower-beds at Nuneham. I did not find them nearly so large nor so numerous as I expected, though, perhaps, they are even more numerous than I recollect, from being scattered in several places. I have no doubt that Mr. Baillie thinks he has enough of them, and the fine quantity of plants that were hardening off, showed that they would all be planted in first-rate style—that is, not a plant here and there, telling of poverty and starvation until the autumn has waned—but buds that would be well-filled in June and onwards.

In one of these open spaces stands the ivy-treed arbour that rivetted Mr. Appleby's attention. I know he will excuse me alluding to it again, as in my humble opinion he has not noticed its distinguishing characteristic beauty. Turn back to his accurate description, and add to it the fact, that over the deep green of the ivy, in many places the more sombre tinted branches of the Scotch Fir hang in a graceful pendent position. The man who would remove one of those pendent branches I would hold guilty of little less than sacrilege. With that peculiarly bright sunshine we so often have between showers, these pendent branches of the main pillar, the Scotch Fir-tree, lent to the whole an indescribable charm. Did I want to find something like a palpable idea of what I meant by this indescribable charm, I would say to a northern, like Mr. Beaton, that it was something akin to a cloud resting on Ben Nevis, which led a stranger to suppose the mountain was higher than it really was, or seemed when standing out clear in the open atmosphere. Did I wish to convey the same idea to a lady, then I would resemble it to a veil of the finest hue thrown over a young woman distinguished for beauty and gracefulness.

The terrace gardens are laid out in beds, with box

and gravel, and, like all such places most effective in massing of colour, are distinguished for the simplicity of their outline. The smallest of those delighted me most; very likely, because there was something unique and uncommon about it. The place has an irregular outline, but the chief part of the plan is regular, commencing with an oval in the centre, with four circles round it, and the spaces between filled with four figures of unique, rounded-sided parallelograms, to chime in with the lines of the oval and the circles. The other clumps follow each other regularly, until getting into the unequal-sided corners, the character of the ground gives form to the clump. It was among the first attempts I had seen to make the oval the centre of a group, as I saw this some days before the delivery of THE COTTAGE GARDENER of the 11th. What delighted me most, however, was, that in the centre of this oval, and in the centre of the four circles round it, a somewhat shallow vase was placed, elevated some four feet or so on a pedestal. These vases were to be filled with plants. Now, however they were filled, whether of the same colour as that of the bed, or of a shaded or contrasted colour; and whether these five vases had the colours shaded or contrasted with each other, two effects would be produced by them thus filled, whether the garden was looked upon from the gravel walks' level, or from the balcony which enabled you to look down upon them; namely, the garden would seemingly be contracted in size, and all the colours of the different beds would be brought nearer the eye; and, secondly, these elevated vases would be so many *points* that would break in upon the level uniformity of the beds, and thus impart to them massiveness and dignity. Let any one fix a standard shrub among a bed of low plants, and mark the effect on his own perceptions and feelings.

ROSARY.—There is a good lesson to be derived in this department, so far as ornament is concerned. As far as I recollect, the beds are arranged in a concentric circular fashion. The tallest Roses are placed in the centre, fastened to poles. As you recede from the centre, the Roses became dwarfer, until the dwarf, free-blooming kinds occupy the outer ring appropriated to Roses. But beyond these there is an outer ring of massive beds appropriated to bedding-plants, and to be arranged all round, to show the contrasting of colour. This will, therefore, always be a beautiful spot, from the Roses commencing to bloom, until the frost removes the bedding-plants. I have seen several attempts, and my own among the rest, to combine the beauty of the Rose and the interest of bedding-plants in the same place; but the result, whether the Roses and soft-wooded plants were in the same bed, or in beds immediately contiguous, and forming part of the same group, was more or less of a failure; chiefly because, by the end of August and September the leaves of the Roses will be losing their green summer tints, while those of the bedding-plants will be in the highest state of luxuriance. This massive ring of beds, and especially with a few summer climbers on poles, would so take possession of the eye, that as autumn got on there would be little disposition for the promenader to wander beyond them, or sustain any shock to the unity of expression, by a brown or blackened Rose-leaf breaking in unwelcomely on the scene.

The main range of glass extends for some 350 feet in length. In these, in addition to nice, compact specimens of plants in the plant-houses, three things struck me particularly. The first was a peculiar mode of training many of the *Ceraniums*. Few of these were in bloom; as that was not wanted until somewhat later, many of the pots were next to completely concealed by the branches, and the foliage seemed as healthy as on those shoots that were permitted to rise in a more upright direction. Each of these plants, when in perfection, must have formed nearly a round ball of bloom.

Secondly, the crops in the houses were fine and abundant, and the *Grapes* were beautifully thinned. Many readers of this work, and we gardeners, too, err often in this respect; there is such a *timidity* in cutting away berries from a bunch. Now, to give you an idea of the Nuneham plan. Take a bunch in your hand—your greenhouse vines will soon be crying for the scissors—in that bunch there is a central stem, or axis, from which all round the branches holding the berries radiate and diverge. Now, I need not ask you how many berries you leave on these branchlets; but, at Nuneham, it struck me as a very general thing that there was only one berry left to each branchlet. No doubt, Mr Bailey finds his account in this. Large berries must be preceded by free thinning. The third thing that struck me forcibly was a magnificent *Fig-tree*, of the brown Isehia kind, occupying the whole of the back-wall of a house, fifty feet in length, and from twelve to fifteen feet in height, and well supplied with fruit from top to bottom. There is nothing else of a stationary character grown in the house. A temporary bed for French Beans, &c., was then in its centre. This huge Fig-tree has repeatedly had its roots cut clean down, all round, to within two feet of its stem, but it was quite luxuriant, and fruitful enough. Another thing that struck me forcibly was a row of remarkably fine specimens of *Humea elegans*, that even then were receiving something like hot-house treatment. I can well conceive how splendid they would look out-of-doors in July.

Besides the main range of houses, there was a fine range of pits and frames, with forward crops of Melons, &c. On the north aspect were one or two cool glass houses, for retarding plants, and rusticiating them a little after blooming; and on the same aspect there was frame-work neatly put together, on which canvass or cloth might be rolled, to keep all things the least tender from the frost, and valuable plants from drenching rains in autumn; a contrivance of great use in hardening off plants for the open air. The main stock of bedding-plants were hardening off in wooden boxes in a sheltered place, over which a tarpaulin could easily be thrown. Though last, not the least important, is a range of very narrow lean-to houses, to be followed by others, for the growth of Peaches, Figs, &c., against the back wall. There is a broad, horizontal shelf, where the glass joins the wall plate, and a suspended iron bracket affords space for another broad shelf higher up, both being quite under the eye, allowing of thorough passage, but no waste as to room. These shelves would hold an immense number of bedding or other plants in winter, and Strawberries, or French Beans in spring. Whether such houses, or the upright-front ones at Trentham, will ultimately be the most economical and successful, I am not learned enough in the matter to say. It is high time, however, if such seasons as we have had lately are likely to continue, that the open wall should be given up for our best fruit. This season, previous to the 24th ult., the show of fruit on my own Peach-trees was as thick as could be, and the shoots green and healthy. A few days afterwards, the shoots were browned and blackened, and attacked by pests of insects; and so many fruit have already fallen black in the heart from the frost, that, independently of injury to the trees, the crop will be rather thin. These, too, were defended with thin Nottingham-thread netting. So severe was the frost, that the leaves of the Gooseberry fully exposed to it were quite blackened. When some thirty or forty feet in length, under glass, yield as much fruit as for the time a family knows what to do with, true economy would point to the necessity of several small houses, where certainty, instead of uncertainty, could be relied on.

The walks and odgings of the kitchen-garden are as well kept as those of the pleasure-ground. The soil is a

deep sandy loam, made to produce heavy crops by a regular system of trenching. Its earliness may be demonstrated by the fact, that on the 5th of May, garden Beans were in full blossom, and Peas in pod.

Before reluctantly leaving this place, there is one lesson which all, and especially those conversant with gardening literature, may learn, and which I am sure Mr. Bailey will forgive me for alluding to, namely, that each place has rules of action peculiarly its own; in other words, that modes of operation well suited for one locality would be most unsuitable for another. Let me give in illustration two well-known facts. Mr. Bailey is no friend to mowing-machines for lawns, whether of hand or horse power. Many who can stand their clattering noise during the day find them useful and economical. They could be of *no* use on the fine undulating grounds of Nuneham. Again, Mr. Bailey has not promoted the use of a machine for throwing scalding salt water over weeds on walks. Many, where there are large breadths of gravel, such as at Trentham, Woburn, Luton Hoo, &c., have found such a mode advantageous, after calculating the prices of salt, the fuel, the labour, and the annoyance of the encrustation of salt for a time, and the cloud of smoke pouring from the funnel.

The walks at Nuneham are distinguished more for commodious narrowness than amplitude in width; and, leaving out of view the up-and-down-hill character of the pleasure-grounds, which of itself would be an insuperable drawback to such a machine, the care requisite in securing such beautiful edgings of grass or box from injury would more than neutralize any other advantages.

Having in this hurried visit derived pleasure and profit, I could not keep them to myself. The recollections of it will ever be a sunny spot on which memory will delight to linger.

R. FISU.

WOODS AND FORESTS.

THE OAK.

(Continued from page 120.)

PLANTING.—In my last paper on this subject I described the nurseryman's method of sowing the acorns. The after-management generally adopted is transplanting them two or three times previously to disposing of them to the planter to place them in the forest. I mentioned that the Oak forms a tap-root, or a root that descends deep downwards into the soil. Now, every time the Oak is removed this tap-root is necessarily shortened, and lateral or side-roots produced. In the case of fruit-trees, our friend, Mr. Errington, would say, that circumstance is not only desirable, but absolutely necessary, because surface-roots are more productive of fruit, ripe wood, &c.; but in Oak culture the case is widely different. The grand object is to induce rapid growth, and, therefore, the less the roots are mutilated the better. It follows, therefore, that frequent transplantings are injurious. The first year after the acorns have been sown the plants should be transplanted into nursery rows, with the tap-root as entire as possible. The rows should be at least fifteen inches apart, and plants nine inches apart from each other in the rows. They should be planted with the spade. A trench should be opened across the piece of ground, a line stretched, and the edge chopped straight, and even deep enough to allow the roots to be covered up to the collar where the top commences, and be put in without bending the lowest point of the root. Care must be taken not to expose the roots to the air any longer than is absolutely necessary; hence, too many should not be taken up at once. Proceed by digging a sufficient width for the next row, and so on, till the

whole are finished. This work should be begun as soon as the leaves turn yellow, and ought to be finished before the new year sets in. After that they will require keeping clear of weeds, and digging between the rows in the autumn. If the nursery ground has been well trenched, and is in good heart, the young trees will grow rapidly, especially the second year, and will then be fit to plant in their final home; that is, if a new plantation is intended to be made. If they are wanted to fill up old woods, they had better remain in the nursery rows a third season, in order to be sufficiently tall to be above the wood weeds which always abound in old plantations.

FINAL PLANTING.—Having thus prepared the young trees, this all-important operation must be prepared for. I have, in former papers, insisted upon the necessity and economy of properly preparing the ground for their reception, by draining it well, and trenching it effectually. This may, at first, appear a tedious, expensive operation, but in the end it will be found the most economical. Better prepare one acre well, and plant it properly, than ten otherwise. Proprietors of large estates, intending to plant this valuable timber-tree, should spare no labour and expense in doing it well. We all know corn and vegetables will not produce a good crop if the land is not rich and in good order, and the argument is equally good applied to the culture of timber. Nearly forty years ago, my father was employed, by a gentleman in Yorkshire, to plant a large plot of ground with timber-trees. The ground was drained and trenched the summer previously, and the trees planted in the autumn. I was an assistant in the business, and saw how well it was done. Last summer, for the first time, I visited the estate, and found Oak-trees in the wood as thick as my body, and fifty feet high. The gentleman assured me the thinning done had not only repaid the outlay, but had realised a fair rent on the land, and the standing trees were all clear profit, though he intended to leave them to grow for the benefit of his successors. I mention this, to show that the earth is grateful (certainly grateful, no doubt about that), just in proportion to the pains bestowed upon it.

To return to the planting. The ground having been prepared properly, as soon as the leaves are yellow (they do not fall off the Oak till late) take up the trees, as many as can be planted in one day, and plant them, as quickly as possible, at a yard apart every way. An acre will take, at that distance, nearly 5,000 trees. If the Oak is intended to be the principal crop, I would plant them every fourth tree, filling between with what nurserymen and foresters call nurse plants. These are intended to shelter and draw up straight the Oak, which, otherwise, has a tendency to produce side-branches, and grow crooked. Nurse trees may be such kinds as Firs, of sorts, Hazels, Birch, and a few Beech-trees. Elms and Ashes are objectionable, because of their spreading, impoverishing roots. So are Horse Chestnuts, Poplars, and Sycamores, because of their large leaves. In rather elevated positions, the Larch may be largely used as a nurse tree for the Oak.

In the operation of planting, great care should be taken that the holes are made large and deep enough, so that the roots may be properly covered, and loose, fine soil, should be thrown in to fill up the holes. If my directions as to the size of the plants are attended to the plants will require no staking, but during the winter and spring the strong wind may have blown some sideways. In the spring, when the surface is tolerably dry, these side-blown trees should be set upright, and the soil firmly trodden down close to each.

The management of sowing the acorns in the wood, instead of planting trees raised in the nursery, I must attend to in my next.

T. APPLEBY.

(To be continued.)

FLORISTS' FLOWERS.

(Continued from page 139.)

THE AURICULA.

NEW VARIETIES.

An eminent florist, Mr. Holland, in the neighbourhood of Manchester, writes me, in reply to an inquiry—
 “*Cheetham's Lancashire Hero* Auricula stands pre-eminent in this neighbourhood, having taken all the first prizes, and is decidedly the finest Auricula ever raised. At the Botanical Gardens here it was in the first pan, and was first in its class (grey-edged) at Rochdale and Middleton, surpassing all others.

“*Findlayson's John Bright*, a new green-edged variety, will, I think, be first in its class; the green being excellent, paste and tube good, and a large flower; its only fault is, as it has come with me, it is a little flushed in the body colour.

“*Spalding's Blackbird*, a self, has been extra fine here last spring, and will make a desirable addition to this class; and I think, when more plentiful, will run a tight race with the old good variety, *Netherwood's Othello*.”

To amateurs, growers of Auricula, the above information will be welcome. I know Mr. Holland well, and can assure our readers that his judgment and integrity may be safely relied upon.

In addition to the above, I can recommend the following, though not exactly new, but scarce, good varieties:—

GREEN-EDGED AURICULAS.

Beeston's *Apollo*; a fine, bold flower; always winning in its class when in good condition.

Dickson's *Duke of Wellington*, raised by the late Mr. Dickson, of Acre Lane; a good variety, with every good property.

Lightbody's *Lord Lynedoch*; new and excellent.

GREY-EDGED.

Headley's *Stapleford Hero*; a beautiful variety, with the edge broad and beautifully covered with a grey powder; has won many prizes.

WHITE-EDGED.

This is my favourite class. The edge, or border, is of a pure clean white surrounding a dark body ground, giving the flower a very beautiful appearance.

Ashton's *Bonny Lass*; a clean, well-defined flower, medium size, and a good grower.

Heap's *Smiling Beauty*; very excellent, flowers large, with every good property. I think it the best of its class.

Lightbody's *Fair Maid*; also very good in its class; edge very pure, body colour excellent, form good.

SELFS.

Kay's *Jupiter*; a noble, dark flower, but sometimes rather thin in substance; requires plenty of air to overcome that slight defect.

Lightbody's *Admiral of the Blue*; a bold flower, stout in substance, and fine in colour. The best of the blue selfs.

Lowe's *Ivanhoe*; a dark self; large blooms, and excellent form and substance.

A SELECTION OF THE BEST OLDER VARIETIES.

GREEN-EDGED.

Booth's *Freedom*; very excellent in form and substance, but scarce.

Dickson's *Matilda*; a good variety.

Heath's *Emerald*; clear green edge, bold in outline, and good in form and substance.

Leigh's *Colonel Taylor*; a well-known, excellent variety, but is still scarce in the trade.

Page's *Champion*; also well-known amongst growers as an excellent variety.

GREY-EDGED.

Buckley's *Surprise*; a good, stout flower, of good properties.

Fletcher's *Ne Plus Ultra*; form good, colours distinct, paste and tube excellent.

Grime's *Privateer*; a good old variety; requires to be kept rather warm, to bring up the bloom to perfection.

Page's *Waterloo*; as good a variety as any in its class.

Warris's *Union*; a good old variety.

WHITE-EDGED.

Buckley's *Miss Ann*; form good, colours well defined; a fine variety.

Cheetham's *Countess of Wilton*. This raiser has been very successful in obtaining first-rate varieties, and this is one of his best of its class.

Campbell's *Robert Burns*; a good variety.

Taylor's *Favourite*; a fine, bold flower, but rather uncertain.

SELFS.

A self Auricula is one that has the petals of one clear colour, the stamens and eye only being yellow. The prevailing colours are blue and dark maroon.

Berry's *Lord Primate*.

Barker's *Nonsuch*.

Clegg's *Blue Bonnet*.

Dickson's *Apollo*.

Grime's *Flora's Flag*.

Kenyon's *Freedom*.

Netherwood's *Othello*.

Redman's *Metropolitan*.

Womersley's *Desdemona*.

ALPINES.

This class is distinct from all the rest. The colours, instead of breaking off at a given line, shade beautifully into each other in a most pleasing manner. They are great favourites with some growers, and are very hardy. There are no new varieties. The following are the best at present known:

Crompton's *Blue Bang-up*.

Captain *Fraser*.

Fletcher's *Fair Helen*.

Mellor's *Jenny Lind*.

Queen *Victoria*.

Willison's *Dan O'Connell*.

——— *Climax*.

T. APPLERY.

(To be continued.)

THE BLACK CURRANT, AND ITS FAILURES THIS SEASON.

THAT the Black Currant should be affected by a somewhat similar disease as that which has proved so fatal to the fruit crops (so nearly related to it) in the sunny islands of the Mediterranean, need afford no great surprise, since the Potato disease seems as widely known; but I am in hopes the Black Currant is not suffering severely, yet, as most other fruits seem very abundant this season, and promise very well so far, it is somewhat remarkable that one esteemed the hardiest of the lot should be the first to shew disease; but such is the case, and that in too general a manner to have been affected by some mere local or accidental cause. The bunches of fruit which, in an ordinary way, ought to have from seven to twelve berries on them, have rarely more than three, and many of them look as if they would drop, being so uneven in

size, and in other respects not at all promising. Now, as there are many acres of Black Currants grown in this neighbourhood (Linton, in Kent) to supply the London market, it is needless to remark, that a good crop is of very great value to the occupiers, and few people reckon on a failure with this fruit; and I may add, that last year the crop was pretty good though not a heavy one; but the year before, 1852, there was a partial failure, similar to the present one, which was certainly the first of the kind that had been observed here. Now, as we cannot lay the blame to those universal scape-goats, the east winds and spring frosts, which are too often erroneously charged with the destruction of blossom that was never perfect, it would be better to look to other quarters for a cause, as the blooming of this fruit taking place when that of others were doing so likewise, ought to exempt spring frosts from the charge of being the cause of its loss. Neither have insects seemingly had any hand in it; for though some of the top leaves swarm with Aphides, still, these did not make their appearance until after the fruit had set, or, in fact, did not seem to have any connection with it, and are not in any respects more numerous than in other seasons, when we have had abundant crops; other causes must, therefore, be sought for.

When we take into consideration the dull, cold, and almost sunless season we experienced last year, we need not be surprised that much of our fruit blossom was imperfectly formed, or deficient of some important part necessary to success; in fact, I am surprised that so much of it has been formed good; still, it seems remarkable for this one to fail and others succeed. The crop of 1852 was much the same, although fruits were by no means so plentiful that season as they give promise to be this; but the Black Currant was not so much affected, and the remaining berries swelled out very well. Now, as it is of importance to compare notes with friends in the distance, I should like to know how the crop is affected in other districts. I have heard from some that no particular loss seems perceptible; but the time at which I write, the 20th of May, is, perhaps, too early to determine the case in the late districts. I, however, hope the loss is only partial, as I am always sorry to hear of diseases of a general character—they are always difficult to overcome—that I hope this may not be repeated. I may add, that the plants seem healthy when not attacked with Aphides, as above stated, and these attacks are by no means extraordinary, that I hope the plant will throw off its tendency to such mishaps, and once more, as of yore, enable us to reckon with a certainty of having this fruit to count upon, if many others fall a prey to the elements.

I cannot close this paper without adverting to the same causes to which I considered the absence of fruitfulness in the Peach might be traced, namely, the want of fresh varieties; for, however good the present ones may have been, there is a period beyond which it is in vain to expect a healthy and fruitful issue; and as the Black Currant has never been regarded as one of the fashionable fruits for table, it has received very little from the hands of the patient improver of fruits, consequently, the kinds planted by our great grandfathers are very often planted now, and not unlikely some of those germs of disease which exhibit themselves in some more conspicuous form in other trees, are here displayed in reducing the blossoms capable of bearing fruit. It is needless to observe that fresh blood is wanted to renovate the worn-out constitution of a faithful and useful old servant, and as I cannot affirm that any other kind has suffered, save the old variety, few growing any other kind, and I have none myself in that bearing state calculated to judge upon, I should like to know if the *Large Black Naples*, and other new kinds, have been equally affected; and if

disease has shown any other features elsewhere; or, in fact, if it has shown any disease at all; for though I adopt that term, it is merely by habit; for, unless we admit the inability of a plant to bear fruit under adverse circumstances to be disease, it would not be right to call this failure by that name. However, I have said enough to call attention to the fruit in other places, and now beg to add, that any further development of the cause which may present itself will be equally useful and interesting.

Although I may shortly be writing some particulars of the fruit crop and the season in this county, I will add, that, I believe, on the whole we (in Kent) have sustained less damage than others in the Midland district, or even those immediately bordering on the Metropolis, from some of which I hear sad complaints of the blackened shoots of trees bursting into leaf, and the consequent loss of fruit crops, while with us the damage done by frost has never yet amounted to the injury of a potato top; other causes have, certainly, blighted the prospects of some things. The caterpillar has been very busy amongst the *Gooseberries*, and *Plums* show symptoms of dropping off to a greater extent than they gave promise at one time, yet it is too early to speak with confidence as to the final result; but I will report the same at some early opportunity.

J. ROBSON.

NOTES ON THE BROCOLI.

THE time-honoured maxim, that there is "a particular time for everything," seems hardly applicable to this, in so far as regards the sowing and planting, and still less so in the produce, for we find it recommended to sow a few of these in all and each of the growing months of the year, and, of course, planting is performed at the same periods likewise; and some cultivators have gone the length to say that they have contrived to have heads of Brocoli every day in the year from one kind alone; be this as it may, it would not be prudent for the young cultivator to depend on one kind alone supplying all his wants, for emergencies may occur wherein the best contrived places may fail producing the desired effect, and as one of these may, in the chapter of chances, come round just at the very time when it is least acceptable, it is important to be prepared for it; however, as the article Brocoli includes one of the most useful of our winter vegetables, and is, besides, of great service to the most humble class of cultivators, it is, perhaps, desirable to enter rather freely into its cultivation and other features.

Like most of its family, it continues its growth all the winter, when mild, and, of course, it arrives at maturity sooner or later, according to the mildness or severity of the season it has passed through. Still, its good keeping qualities render it available at most times for the table; and I have, for a period of upwards of three years together, had it, or Cauliflower, fit for table every week during that time, but an extraordinary period at length put a stop to the regularity of the supply, but as unusual periods of drought or severity may not be expected every year, it is not right to abandon a plan which, generally, is successful. A few words on the sowing and planting of this vegetable will, therefore, be not out of place here.

Contrary to many things else, some of the varieties which continue in use until a very late period in spring require to be sown much earlier than those intended for autumn and early winter supply. Of this class the *Wilcore* is very good, when true; it is no better than an older variety with leaves much more undulated, called *Bowles's Sulphur*, this variety, when true, seems to stand the winter best, and being dwarf occupies but little space; but it differs widely from *Dwarf Russian* or *Miller's*

Dwarf, both of which come into use all at once, while *Bowles's* are more in the character of the general spring Brocoli, which come on irregularly, as the weather and other circumstances influence them. But as many cultivators have "a kind of their own," which is often better than the named trade varieties, it is needless here advising them to retain it, for it will probably turn out to be of more use than any other kind they can grow; and in my individual case, I find the home-saved variety produce the best heads, and then coming into use at the latest periods. However, I may say, that *Bowles's* is the most certain variety, when true, to produce a nice lot of uniform, useful heads, not so large, certainly, as the Southampton, Portsmouth, and some others, which come into use a little sooner, but it is more hardy than these, and on that account more certain to become useful. However, as it is not advisable to depend on one kind alone, although I by no means advise a formidable array of names, still, as there is some uncertainty hanging over this article, it is not prudent to depend on any kind for the sole supply; and the fact of a kind having been good one season is no reason for insuring it being so, unless the seed be from the same parcel, for the liability it has to be contaminated by what may be in contact with it is such as to render it unsafe to be depended upon alone.

The seed of this vegetable, like many things else, differs a little in the variety, the same as Turnips do, but cannot be distinguished from Turnips or Cabbage, whose seed resembles it; and, like these, its seed is not capable of retaining vitality many years, like the cereals and many other seeds, whence arises the necessity for having it fresh. Neither are the plants raised from seed of a great age endowed with that vigour necessary to enable them to overcome the many enemies they have to encounter in their progress while young; it is, therefore, highly necessary to have new seed, and it is equally so to sow it on ground that is in a nice-mellow state to receive it; rough, hard, or tough, cloddy lumps, that will not break without much force, are to be avoided, and a piece which has been lying some time exposed to the air, and become mellow, ought to be divided into as many beds as wanted, and the seeds sown, each kind by itself, notifying the same on a stick, or tally, sufficiently long to reach above the heads of the plants when they are large enough to plant out, covering the seeds lightly with the same description of soil, and over that laying some loose boughs, netting, or other shading material, if the weather be hot and dry, but these must be removed immediately the seeds vegetate, the object being to prevent the rays of the sun scorching the ground too much. The varieties of Brocoli intended for late spring supply ought to be sown as early in the spring as the state of the ground out-of-doors will allow, other things being taken into consideration as well. Earlier varieties, as the *Cape*, *Walcheren*, and *Snow's Winter*, to be sown later, some as late as the second week in June, but the bulk before that time; while the beginning of May is a very good time for such as *Chappels*, *Grange's*, and many others, whose names being more modern need not be mentioned, as they are often little else than repetitions, and our seed-lists are prolific enough that way.

Like all the members of the Cabbageworts, the young plants of this species are much subjected to the attacks of the Turnip-fly, which, in some seasons, destroys them wholesale; the remedy is to employ vigorous good seed, and the ground being good also, the plants, or rather the ground, must be strewed over every morning with lime, wood-ashes, or soot, so as completely to cover the young seed-leaves; this will check the depredations of this pest until the plant has time to make its third leaf, after which it is not likely to suffer so much from

this plague. The slug, wire-worm, and other enemies, are also less likely to do mischief in the presence of this caustic substance. Weeding, and other routine work, we suppose needless mentioning; so that the next important duty is the selection of a suitable site for its final planting-out, which, however, cannot always be done, for many a square intended to be Brocoli is, at this period, under crop with something else that it is prudent not to meddle with; and as stern necessity induces us to make the most of our ground, Brocoli is so accommodating as to be able to shift for itself with but indifferent treatment for a time, and after all, to make considerable amends for the lost time, when justice is at length done it; but as the many "make-shifts" to which it is subjected to form an important feature in the management of a kitchen-garden, I will leave to another week what I have not space allowed me to explain in this; desiring, however, our young friends, who may have beds of seedlings crowding and spoiling each other, to have a quantity pricked-out on some open piece of good ground at once, and they will easily see, hereafter, of what use these may be put to; and the sooner after a plant becomes fit size to handle that this pricking-out takes place, the better, in order that they may attain that sturdy habit so essential to their after-success.

J. ROBSON.

EXETER POULTRY EXHIBITION.

THIS annual show of Poultry took place on Thursday and Friday, the 18th and 19th of May, and quite fulfilled the hopes of its promoters; nearly three hundred pens of poultry were exhibited; and the attendance included almost every family of distinction in the immediate neighbourhood. The local advantages of the southern counties for the production of poultry is generally acknowledged; and the situation of Northernhay (the spot on which the exhibition is held) is all the most ardent lover of rural scenery could desire. The annoyances that by possibility may arise from unfavourable weather, *here*, however, were too manifest, for the daybreak of Thursday ushered in continuous and heavy rain, to the terrible discomfiture of the committee, the judges, and also the imprisoned poultry. For several hours were the judges fulfilling their arduous duties, (for the competition in some of the classes was very good,) exposed to the pitiless, and, apparently, never-ending shower; the exceedingly wetted state of most of the fowls greatly increasing the difficulties of their allotted task; more especially as, here and there, a few pens, shadowed by some lofty over-hanging elm, enjoyed many advantages of which the majority were deprived. This leads to the conviction, that exhibitions conducted within doors are always the most to be depended upon, as to the general receipts, and also the comforts of all parties interested in their well-doing; we may truly add, the fowls themselves, under such arrangement, do not incur anything like the same danger from mishaps, for, should any escape, they are easily retaken, and it is universally known, that fowls, if *compelled* to remain *inactive*, exposed to heavy rains, are always, more or less, the sufferers.

Most unexpectedly, however, about mid day, the weather altered, the heavy and dreary-looking clouds were soon dispelled, the sun shone most brightly, the poultry, exhilarated by the happy change, preened lustily at their feathers, and by the time of opening to the public, the refreshed gardens were all that could be desired; still, the committee were aware that "their escape, at the *last moment*, from severe loss was really miraculous." The poultry were exhibited on three terraces—the larger varieties on the lower one; the Hamburgs and Polands on the second; whilst the upper one afforded good accommodation for the Lilliput Bantams, Pigeons, and extra class. On the extensive green beneath these terraces, the regimental band from the adjacent barracks occupied a most prominent position, and, by well-executed martial and other airs, much enlivened the proceedings of the day, being so far removed from the poultry, as to prevent the annoyances sometimes complained

of where the accommodation is less extensive. Public attention seemed, generally, to lean in favour rather of the *utile* than the strictly speaking "fancy varieties;" their absolute utility for table-purposes, taking (most justly) precedence of mere external beauty; hence it was, the kinds most notorious for the production of eggs, or suitability for "the roast," found the most admirers, and ready sale at very remunerative prices. It is desirable such should be the case, and no doubt poultry shows will prove much more generally beneficial, and more permanent in themselves, now public taste has thus taken its *legitimate* direction. The prize *Spanish* of Mr. Plummer, of Brislington, were most creditable specimens, purely white faced, and in a first-rate condition; the commended ones were contrariwise shown sadly out of condition, and appeared to far less advantage than on former occasions. The *coloured Dorkings*, as a class, were excellent; they are evidently becoming general favourites, and on this occasion fully maintained their position as really useful domestic poultry. The *White Dorkings*, likewise, mustered some excellent specimens; in the first-prize pen was one of the best hens we have yet seen exhibited; but in the third prize pen, the slight tinge of blue in the legs of one of the hens was most objectionable. The *Grey Dorking chickens* were very superior, and proved, that at so early a period of the season, by management, great size may be readily attained; but the exhibition of six male birds prevents the extension of the breed to other amateurs, who, had the sexes been equalised, would have been ready and willing purchasers. It would be well if the prize-lists were compulsory in enforcing an equal number of each sex in the pens of chickens for competition. The great deterioration in the *Cochin* classes from those of former days was sadly apparent; public caprice having lately so firmly fixed itself in favour rather of colour than conformation; a grievous error, and from which we may justly attribute the stilty, weedy description of (so called) *Cochins*, that now, too generally, occupy our exhibition pens. The prize pen of four chickens, however, were a most pleasing variation from this general rule; they were perfect in colour, and for breadth of body, and shortness of legs, are rarely surpassed. The *Malays* were a very excellent example of their much neglected race, and attracted much attention. All four classes of *Hamburgs* were well represented. The *Polands* neither numerous nor first-rate. Many of the *Bantams* were excellent specimens, as were the whole class of *Aylesbury Ducks*; but the *Rouen Ducks* were so sadly inferior as to prevent a first prize being awarded. In the class for extra stock, and also that for single specimens, many excellent birds were exhibited, and obtained commendations.

The general care and supervision bestowed by the managing committee on the poultry during the time it was entrusted to them, is worthy of the highest commendation; and the great attendance of the public proves that though the fictitious value obtained in former days is no longer to be realized, the interest in really useful varieties of poultry is not in any way abated, and that willing buyers are not wanting, at really remunerative prices.

The judges of the poultry were Doctor Scott, of Exeter; Mr. Edward Hewitt, of Spark Brook, Birmingham; and Mr. C. Baker, of Chelsea.

SPANISH.—Cock and two Hens.—9. First prize, Mr. Wm. Plummer, Brislington, near Bristol. Age, cock twelve months, hens twenty-three months. 12. Second prize, Mr. J. Babbage, Paris-street, Exeter. Age, about twelve months. 13. Third prize, W. Wevill Rowe, Esq., Milton Abbot, Tavistock. Age, cock eleven months; hens twelve months. *Commended*.—1. John Marshall, Esq., Belmont, Taunton. Age, cock eight months; hen ten months.

DORKING (Coloured).—Cock and two Hens.—18. First prize, C. Harvard, Esq., Hayne House, Plymtree. Age, eleven months. 19. Second prize, J. F. Pearce, Esq., Lower Slewton, Whimple. Age, twenty-two months. 17. Third prize, R. Stanwell, Esq., Holsworth. Age, thirteen months. *Commended*.—24. Wm. Wevill Rowe, Esq., Milton Abbot, Tavistock. Age, cock nine months; hens twelve months.

DORKING (White).—Cock and two Hens.—25. First prize, F. J. Coleridge, Esq., The Cottage, Ottery St. Mary. Age, cock and one hen twelve months, and one hen two years. 30. Second prize, Joseph Clift, Esq., Dorking. Age, about two-and-a-half years. 26. Third prize, Chas. Edwards, Esq., Brislington, near Bristol. Age, exceeding one year.

DORKING CHICKEN.—Pen of Six.—35. Prize, C. Harvard, Esq., Hayne House, Plymtree. Age, three months. *Commended*.—32. J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Hatched March 1st.

DORKING CHICKEN.—Pen of Four.—37. Prize, Mr. H. Drew, Peamore, near Exeter. Hatched 6th of March.

COCHIN-CHINA (Cinnamon or Buff).—Cock and two Hens.—41. First prize, Richd. Daw, Esq., Mount Radford, Exeter. Age, cock fifteen months; hens eight months. 40. Second prize, Miss Dyott, 2, Torwood Mount, Torquay. Age, cock unknown; hens one year. 43. Third prize, Capt. H. M. Ellicombe, R.N., Culverland Cottage, St. Sidwell's, Exeter. Age, cock thirteen months; hens twelve months.

CHINA (Brown or Partridge-coloured).—Cock and two Hens.—60. First prize, Mrs. Brutton J. Ford, Ide, near Exeter. Age, twelve months. 58. Second prize, The Rev. G. F. Hodson, Banwell, Somerset. Age, cock one year; hens eleven months. 59. Third prize, The Rev. G. F. Hodson, Banwell, Somerset. Age, cock unknown; hens fourteen months.

CHINA (White).—Cock and two Hens.—First prize withheld. 66. Second prize, Jas. Turner, Esq., Northbrook, Exeter. Age, twelve months. 67. Third prize, R. Branwell, Esq., Holsworthy. Age, cock twenty months; hens thirteen and fourteen months.

CHINA CHICKEN.—Pen of Six.—70. Prize, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Hatched 16th of January.

CHINA CHICKEN.—Pen of Four.—76. Prize, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Hatched 1st of March. *Commended*.—80. J. P. Stone, Esq., Oddicombe, near Kingsbridge. Hatched in January.

GAME (Black-breasted and other Reds).—Cock and two Hens.—89. First prize, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Age, two years. 92. Second prize, Mr. H. Sheild, Taunton. Age, cock one year; hens two years.

GAME (Duckwings, &c.).—Cock and two Hens.—95. First prize, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. Age, two years. 99. Second prize, Mrs. Quicke, Newton St. Cyres, Exeter. Age, eleven months.

GAME (Piles and Whites).—Cock and two Hens.—Prizes withheld.

MALAYS.—Cock and two Hens.—110. First prize, Mr. Chas. Ballance, 5, Mount Terrace, Taunton. Age, thirteen months. 103. Second prize, C. Ballance, Esq., 5, Mount Terrace, Taunton. Age, unknown. 105. Third prize, Henry Adney, Esq., Lympstone. Age, cock one year; one hen two years, and one hen three years.

HAMBURGHS (Golden-pencilled).—Cock and two Hens.—112. First prize, Miss F. Patteson, Feniton Court, near Honiton. Age unknown. 115. Second prize, Dr. Rogers, Honiton. Age unknown. 114. Third prize, Mrs. Brutton J. Ford, Ide, near Exeter. Age, cock nearly two years; hens twelve months.

HAMBURGHS (Golden-spangled).—Cock and two Hens.—116. First prize, Mr. J. P. Hine, Thickthorn, near Ilminster. Age, eighteen months. 117. Second prize, C. Edwards, Esq., Brislington, near Bristol. Hatched in 1853. 120. Third prize, S. H. Warren, Esq., Dulverton, Somerset. Age, one year.

HAMBURGHS (Silver-pencilled).—Cock and two Hens.—122. First prize, Thos. Michelmore, Jun., Esq., Berry, Totnes. Age, ten months. 131. Second prize, W. Wevill Rowe, Esq., Milton Abbot, Tavistock. Age, twelve months. 128. Third prize, Miss F. Patteson, Feniton Court, near Honiton. Age, one year.

HAMBURGHS (Silver-spangled).—Cock and two Hens.—136. First prize, Chas. Edwards, Esq., Brislington, near Bristol. Age, exceeding one year. 135. Second prize, Chas. Edwards, Esq., Brislington, near Bristol. Age, exceeding one year. 141. Third prize, Dr. Rogers, Honiton. Age unknown.

POLANDS (Black with White Crests).—Cock and two Hens.—142. First prize, Mr. J. P. Hine, Thickthorn, near Ilminster. Age, cock one year; hens two years. 143. Second prize, C. Edwards, Esq., Brislington, near Bristol. Age, unknown. 145. Third prize, Rev. G. F. Hodson, Banwell, Somerset. Age, ten months.

POLANDS (Golden).—Cock and two Hens.—147. First prize, R. H. Bush, Esq., Litfield House, Clifton, near Bristol. Age, unknown.

POLANDS (Silver).—Cock and two Hens.—149. First prize, W. Wevill Rowe, Esq., Milton Abbot, Tavistock. Age, one year. Second and Third prizes withheld.

BAEN DOOR, OR ANY OTHER VARIETY.—Cock and two Hens.—158. First prize, Mr. W. Connett, 270, High-street, Exeter. (Silky Japans.) Age, unknown. 154. Second prize, Miss Selina H. Northcote, Upton Pyne. (White Minorcas.) Age, one hen ten months, and one hen unknown. 153. Third prize, J. R. Rodbard, Esq., Aldwick Court, Langford, near Bristol. (Black Cochins-China.) Age, cock and one hen ten months, and one hen twelve months.

BANTAMS (Gold-laced).—Cock and two Hens.—159. First prize, Rev. G. F. Hodson, Banwell, Somerset. Age, eighteen months. 164. Equal first prize, Mr. J. G. Gully, City Prison, Exeter. Age, unknown. 162. Second prize, Mr. W. Connett, 270, High-street, Exeter. Age, unknown.

BANTAMS (Silver-laced).—Cock and two Hens.—165. First prize, Rev. G. F. Hodson, Banwell, Somerset. Age, one year. 167. Second prize, Mr. W. Connett, 270, High-street, Exeter. Age, unknown.

BANTAMS (Any other variety).—Cock and two Hens.—170. First prize, Rev. G. F. Hodson, Banwell, Somerset. (White.) Age, two years and eight months. 176. Second prize, Mr. W. Connett, 270, High-street, Exeter. (Black.) Age, unknown.

TURKEYS.—Cock and one Hen.—173. First prize, Chas. Edwards, Esq., Brislington, near Bristol. Hatched in 1853. 183. Second prize, W. Wevill Rowe, Esq., Milton Abbot, Tavistock. Age, cock twenty months; hen eleven months. 179. Third prize, C. Shirreff, Esq., Beacon House, Pinhoe. Age, cock two years; hen one year.

GEES.—Gander and two Geese.—185. First prize, Mrs. Anne Hole, Plymtree. Age, unknown. 186. Second prize, W. Wevill Rowe, Esq., Milton Abbot, Tavistock. Age, two years. 187. Third prize, C. Shirreff, Esq., Beacon House, Pinhoe. Age, one year.

Ducks (Aylesbury).—Drake and two Ducks.—190. First prize, Mrs. Brutton J. Ford, Ide, near Exeter. Age, twelve months. 191. Second prize, Mrs. Brutton J. Ford, Ide, near Exeter. Age, twelve months. 193. Third prize, C. Shirreff, Esq., Beacon House, Pinhoe. Age, one year.

Ducks (Rouen).—Drake and two Ducks.—First prize withheld. 197. Second prize, W. Wevill Rowe, Esq., Milton Abbot, Tavistock. Age, drake two years, and ducks seven and twelve months. 195. Third prize, T. J. Bremridge, Esq., Penrose Villa, Heavitree. Age, twelve months.

PIGEONS.—Pair of Carriers.—201. First prize, Master Archibald J. Mackey, Fairhill, St. Leonards, near Exeter. Age, unknown.

PAIR ALMOND OR ERMINE TUMBLERS.—203. First prize, Dr. Rogers, Houlton. Age, unknown. *Commended.*—202. C. Bluet, Esq., Taunton. Age, unknown.

PAIR FANTAILS.—206. First prize, Miss Selina H. Northcote, Upton Pync. Age, unknown.

PAIR JACOBINS.—209. First prize, Dr. Rogers, Houlton. Age, unknown.

SINGLE SPECIMENS.—*Commended.*—216. F. J. Coleridge, Esq., Ottery St. Mary. (White Cochinchina Cock.) Age, two years. 217. Mr. Leonard Berry, Brook Cottage, Clist St. George. (Malay Cock.) Age, twelve months. 218. Mr. Leonard Berry, Brook Cottage, Clist St. George. (Malay Hen.) Age, twelve months. 223. H. Adney, Esq., Lymptone. (Malay Hen.) Age, two years. 228. Dr. Rogers, Houlton. (Dorking Hen.) Age, unknown. 229. Mr. S. Gillard, Heavitree, near Exeter. (Cochinchina Cock.) Age, eleven months.

SEA WEEDS.

(Continued from page 122.)

4. SPYRIDIA. *Harv.*

"FROND filiform, cylindrical, much branched, ramuli bristle-like, simple, jointed. Fructification, 1. stalked, lobed favellæ surrounded by short ramuli; 2. external tetraspores, attached to the ramuli. Name signifying a basket, in allusion to the appearance of the receptacles."

1. *SPYRIDIA FILAMENTOSA* (Thready).—Tufted-branched; the branches having short bristly ramuli; colour dull red. South of England, and by Mr. Ralls at Holyhead.

5. GRIFFITHSIA.—*Ay.*

"FROND rose-red, filamentous, filaments articulated throughout; mostly dichotomous; ramuli single-tubed, often whorled; dissepiments hyaline. Fructification double 1, roundish, gelatinous, involucreted receptacles (favellæ) including minute granules; 2, tetraspores affixed to whorled ramuli. Name in honour of Mrs. Griffiths."—*Harvey.*

1. *GRIFFITHSIA Equisetifolia* (Equisetum-leaved) Stems from three to eight inches high; much branched, but not regularly, the entire frond having short hairy ramuli, giving something the appearance of Chenille; the colour a fine deep red, often brown. Frequent in England and Ireland, but rare in Scotland.

2. *G. SIMPLICIFLUM*.—"Stems slender, irregularly branched, whorled with imbricated, straight, onee-forked, ramuli."—*Harvey.*

Much like the preceding, but a brighter colour, and the branches more slender. On rocks in the sea; very rare. *Harvey* fears that it is only an attenuated variety of the preceding, *G. equisetifolia*.

3. *G. BARBATA* (Bearded).—Very rare, and thrown up from the sea; it has been found, by Miss Turner, growing on algæ in rock-pools in Jersey. The frond from two to three inches high, gelatinous, many times forked.

4. *G. DEVONIENSIS* (Devonshire).—In deep water where the shores are muddy; two to three inches high; much tufted; of a fine rosy-red; a slender plant, somewhat resembling the smaller specimens of *G. setacea*, but the fruit distinguishes them.

5. *G. CORALLINA* (Coral-like). (*Lim.*)—"On rocks at low water-mark, or in pools; on all our coasts, but rather rare. One of our prettiest sea-plants; from two to four inches high;" the joints are swelled like those of a coralline and filled with a red liquor, staining the paper on which the plant is preserved, a fine red colour."—*Miss Gifford.*

6. *G. SECUNDIFLORA*.—Very rare; a handsome plant, discovered near Plymouth, by the Rev. W. S. Hore, 1846. It is densely tufted; from four to eight inches high; the filaments thicker than hog's bristles, of a fine red.

7. *G. SETACEA* (Bristly).—Growing on mud-covered rocks, and common in England and Ireland, though less so in some parts of Scotland. Very plentiful and fine on the

Cumberland coast, whence I have had specimens rich in fruit, which gives the plant a very curious spotted appearance. It is harsh when freshly gathered, but on being placed in fresh water, the membrane which contains the fine crimson colouring matter bursts with a crackling sound. Professor Harvey says that this plant stands confinement well; that a tuft placed in a closed bottle of sea-water, at the end of more than two years confinement was as fresh and healthy as when taken from the sea.

6. WRANGELIA. *Ay.*

"FROND purplish or rose-red, filamentous, jointed, filaments single-tubed. Fructification, 1. gelatinous receptacles (favellæ) terminating the branches, surrounded by an involucre and containing several clusters of pear-shaped spores compacted together; 2. tetraspores affixed to the ramuli, scattered. Name in honour of Baron von Wrangel, a Swedish naturalist."—*Harvey.*

1. *WRANGELIA MULTIFIDA* (Many-cleft).—On rocks; often found in the south of England and in Ireland, but rare in Scotland; from four to six inches long; colour a fine rosy-red, soon fading in the air, or in fresh water; the branches whorled with ramuli, which gives the plant a singular and very pretty aspect.

7. SEIROSPORA. *Harv.*

"FROND rosy, filamentous stems articulated, one-tubed, the articulations traversed by jointed filaments; branches jointed. Fructification, 1. favellæ (unknown); 2. oval tetraspores disposed in terminal moniliform strings. Name from a chain and a seed."—*Harvey.*

1. *SEIROSPORA GRIFFITHSIANA* (Griffiths)—A very rare and pretty plant, not unlike *Calithamnion corymbosum* in appearance, but the fructification is different. It has been found in the south of England and in Arran.

We next come to the consideration of the *Calithamnion* order, so called from words which signify a beautiful little shrub, and justly so named, for these plants are truly lovely, some of them so delicate and bushy, that it is impossible to display them advantageously on paper; the colour, too, of most of them, adding not a little to their attractive appearance. They form a numerous family, as there are thirty-one British species.

8. CALITHAMNION. *Lygb.*

"FROND rosy or brownish-red, filamentous; stem either opaque and cellular, or translucent and jointed; branches jointed, one-tubed, mostly pinnate (rarely dichotomous or irregular), dissepiments hyaline. Fructification, 1. roundish or lobed berry-like receptacles (favellæ) seated on the main branches, and containing numerous angular spores; 2, external tetraspores, scattered along the ultimate branchlets, or borne on little stalks.

1. *CALITHAMNION PLUMULA* (Feathery).—On all our shores, but not common on any one. It is a pretty little plant, from two to four inches long; colour a deep rose-red; a very soft and flaccid texture, feathery and delicate; lovely when in water.

2. *C. CRUCIATUM* (Cross-like).—Growing on rocks covered with mud; rare; one to two inches high; brownish-red, and easily distinguished from others by the close tufts of little branches at the tips of the fronds. "By the aid of a lens, the tetraspores at the base of the branches appear divided like a cross."—*Rev. Dr. Landsborough.*

3. *C. FLOCCOSUM* (Flock-like).—Very rare; Orkney Islands, by the Rev. J. H. Pollexfen, and Aberdeen, by Dr. Dickie. "A most beautiful and distinctly-characterised plant, of very rare occurrence, and seemingly confined to the northern parts of Britain."—*Harvey.*

4. *C. TURNERI* (Turner's).—Growing on other algæ in little tufts from an inch to an inch-and-a-half high; common; colour fine red.

5. *C. BARBATUM* (Bearded).—Another very rare plant, found only by Mr. Ralls, and the Rev. M. J. Berkeley; densely tufted; one or two inches high; colour brownish-red; rather rigid, and not adhering well to paper.

6. *C. PLUMA*.—Growing on the stems of *Laminaria digitata*; a small rosy-red plant; rare.

7. *C. ARBUSCULA* (Bushy).—On rocks and stones; common

in the west of Scotland and Ireland; from three to eight inches high; colour a dark vinous-red.

8. *C. BRODIEI* (Brodie's).—On marine plants; of a brown-red colour; rare; found on the coast of Northumberland. "The general outline of the frond is ovate."

9. *C. TETRAGONIUM* (Four-sided).—"Near low water-mark, on the larger algae; frequent;" colour a full red. I have had fine specimens of this plant from the Isle of Man.

10. *C. BRACHIATUM*.—Very like *tetragonum*, and, like it, I have had specimens of great beauty from Miss Heslop, Isle of Man. When in perfection it is a lovely rosy-pink, but dark when old. The best specimens ever sent to me were, unfortunately, stopped at the Post-office, Liverpool; some of the juice had oozed out and stained the paper; so, instead of my beautiful and much-wished-for plants, I had a printed letter from Col. Maberly, saying that it was not allowable to send *liquids* by the post. I lost fine fresh specimens of *Delesseria sanguineum* in the same way last summer.—S. B.

(To be continued.)

ARTIFICIAL MOTHER FOR CHICKENS.

I SEND you the following facts, from my poultry-yard, in case they may be of use to any of your readers, under similar circumstances.

On the 31st of last March, a pullet hatched six Dorking chickens, which were taken from her, but getting tired of sitting on the rest of the eggs, she forsook them, and would not take to the chickens, and I had no other hen that would. I remembered seeing, in one of your numbers, that winter chickens might be reared under a cucumber frame, and I determined to try the plan with my orphan chickens. They were kept under the frame all day, the frame being upon the *dry* ground in the garden, with no heat whatever from manure, a mat put over part of the glass when the sun was hot, and the top open two or three inches. They had no *nest* of any kind, but at night were put into a basket, and set in the kitchen, and the frame quite closed up, to be kept dry in case there was rain in the night. They are now seven weeks old, all alive, and as strong and fine chickens as any in the yard; the last week or ten days they have been turned out with the rest, and roost in the chicken house. The weather has been in their favour most of the time, but during the wet days the soil under the frame was always dry, and the chickens were perfectly well. We gave them groats and barleymeal, a few small earth worms, and a bit of parsley or green food every day.—W. A. E.

BENEFITS OF SHALLOW HIVES.

As the swarming season is closely at hand, I beg to submit, for the information of your Apiarian readers, the following fact, verified in my own experience. On the 5th June, 1853, I drove (*a la* "Country Curate,") a swarm into one of Payne's Improved Cottage Hives, fourteen inches by seven, inside measure, placing the newly-driven swarm, until night-fall, upon the stool previously occupied by the parent stock, removing the latter, for the time, to a new situation, when I removed the swarm to Aigburth, (a distance of eight miles from where the parent hive stood), where it remained until the 9th of February, without any extra covering, and with very little artificial food in the autumn, and it is now in a very forward and promising state; inasmuch, that I am daily looking for its throwing off a swarm, drones being seen on the 14th inst.

The conclusion I draw from the foregoing remarks, and to which I wish to draw particular attention, is two-fold; firstly, that broad and shallow hives are more conducive to the prosperity of bees than deep narrow ones; and, secondly, that exchanging places at the time of swarming is judicious, because it prevents casts or second swarms.

This hive being the first of this size I have tried, I hasten to acquaint your readers with the fact, that they may be encouraged to try it, as well as the plan of changing positions, for themselves during the forthcoming season; feeling convinced that they will be benefited as well as satisfied with the result.—CHRISTOPHER WADE, *Preeson's Road, Liverpool.*

QUERIES AND ANSWERS.

GARDENING.

CUTTINGS OF THE RED-FLOWERED THORN.

"In March last, I planted some cuttings of the red-flowering Thorn, (*Crataegus*) under a hand-glass, and they are now (May 19th,) out in full leaf, apparently healthy and flourishing, having also several *buds* upon them ready to burst into bloom. Can you oblige me with your advice how best to manage them; and if I should nip off the incipient bloom or not? I fear taking off the glass and exposing them to sun or air would be too much for their present delicate growth.—T. M. W."

[Notwithstanding their favourable appearance just now, it is questionable if they will ever form roots; at any rate, it is unusual for any of the race to root from cuttings. By all means, nip off the flower-buds at once; it cannot hurt them in the least to remove the glass for so short a time. If you succeed in rooting them, pray let us know, that others may be benefited by your experiment.]

STOPPING VINE-SHOOTS.

"Last March twelve months, I put out into a Vine-border nine Vines, grown from eyes two years previous. The Vinery is twenty-five feet long, and sixteen feet inside, and heated with water. The border outside of the house is thirty feet long, eighteen feet wide, and three feet deep, at the farther end from the house, and two feet six inches nearest the house; the bottom of the Vine-border is paved and drained; over the paving is one foot of rubble and broken stones; on the top of that, old turf was placed to prevent the soil stopping up the drainage, and then old turf chopped and mixed with mortar-rubbish, in which the Vines were placed. Last November, 1853, the border was covered with long horse-mannure, to keep out frost and nourish the Vines; and the first fire was lighted on February 1st, 1854. The Vines are doing well; they were pruned in January, 1854, to three eyes, the two side-shoots have been stopped, and the leader is about eight feet long. The question I wish to ask is this.—Should the leader be stopped in the summer-pruning; or should it be allowed to grow as much as it will all the summer? The spur system is to be adopted, and we purpose, in the winter-pruning, to reduce the leader to five eyes.—AN AMATEUR."

[It must take two years, at least, to establish your Vines on the spur system, if you wish for long-continued success and a durable constitution. Some would take three years, for the sooner you greedily tax their powers, the sooner will they break down. We should, therefore, let the leader ramble about three-fourths the length of the rafter this season, and then stop it, say about Midsummer. This will cause side-eyes to be developed, and these may be pinched progressively, beginning at the bottom, leaving a few leaves to each lateral. Do not hurry this pinching process; let them "rolliek" a bit.]

MOVING BULBS WHILST THEIR LEAVES ARE GREEN.

"Which is the best plan to manage with *Crocuses*, which have been grown in great abundance, round beds and baskets on a lawn, and are now so very long and unsightly; and where *Nemophila* and *Mignonette* are coming up round beds intended for *Geranium Tom Thumb*? Also, the best plan for treating *Tulips* in the same beds which will not be withered in time for the *Tom Thumbs*?—E. H. HAMSTEAD."

[This question about spring bulbs was answered at the beginning of May, and is entirely a question of good gardening. There are some clever gardeners who can transplant all kinds of hardy spring bulbs as soon as they have done flowering, with no loss to the bulbs; and there are some who cannot remove a common *Crocus* without hurting it. That they can safely be removed, therefore, is beyond a doubt; and that there is great danger attending the operation, generally, is equally certain; but it is better to remove them three times than to cut off their leaves once. Anything rather than touch the leaf of a bulb.]

POULTRY.

AGES OF CHICKENS WHEN EXHIBITED.

"In your notice of the Poultry Show in connection with the West of England Agricultural Show at Bath, I do not see any comment made upon a rule that appears to me somewhat stringent: 'All birds competing for any chicken's prize must have their EXACT AGES entered thereon.'

"This appears to me a somewhat difficult task to perform faithfully. How frequently do chicken of the same sitting hatch on different days; and how, possibly, with these, can the exact age be given?"

"I presume that this year this will be far more difficult. Few have been very successful in the early broods; and many have placed the produce of several broods under one mother. Here, I fancy, the matter will be impossible. 'If possible' is added to the old birds; surely it might be extended to the junior branches.—H. B. S., *Monmouthshire*."

[Our opinion having been constantly given, that the requisition of the precise age of chickens serves no practical good, will account for our not more particularly attending to the demand for their "exact ages," required at the approaching Exhibition of the "Bath and West of England Society." Little, if any, assistance is thus rendered to the Judges; and false representations have so often occurred, that the honest exhibitor is thus frequently placed at great disadvantage. "Above one year," and "under one year," are, probably, the wisest distinctions.—W.]

DELICACY OF DORKING CHICKENS.

"Do you ever hear that the Grey Dorking, when young, is very delicate? A. P. finds that when they are about three weeks old they droop their wings; drink excessively of water; the discharge from them is very frequent and milky. A. P. had a fine brood of seven, and has lost four in the same manner as he has mentioned, and fears he will lose them all. They have been fed on barley and Indian meal, boiled eggs, and a little mutton chopped fine and mixed with some onion, as was recommended for young chicken, in the COTTAGE GARDENER, Number 288. They had a good run in a sunny situation in the garden.—A. P."

[Dorking chickens enter on a critical period of their existence when some ten days or a fortnight old; the process of feathering then appearing to create a severe drain upon their strength. This is a circumstance upon which so many similar complaints are reiterated, that we cannot but ascribe a greater degree of constitutional delicacy to the Dorking at this age than is usually to be observed in fowls of any other breed. The discharge you allude to would indicate roup, a disease often consequent on an unhealthy state in other respects. Oatmeal is a valuable change of diet for all chickens; especially should we recommend it where they are not prosperous on other food.—W.]

FOWLS WITH DISEASED LUNGS.

"I have just lost the best of my Cochins, a cock. The symptoms were, six weeks ago, a rattling as of phlegm in the throat, and an inability to crow. He went through the operation, but no sound came forth. There was no loss of appetite, no lividity of eye, no discharge from the nostril, until a day or two ago; it was then 'an appearance of moisture'—no actual discharge.

"I thought this must be *Croup*, and gave him daily doses of tartar emetic and hippo powder. That having no salutary effect, I tried the prescription in "Richardson's Hand-Book;" viz., gentian, Epsom salts, sulphur, hippo powder, as therein mentioned; no use. I then tried cod's liver oil; and finally, as a last resource, acting as on a child with *Croup*, I gave him a teaspoonful and a half of ipecacuanha wine for an emetic, in order to remove the phlegm; but I suppose, from the construction of a fowl, an emetic is incapable of acting as such.

"The last fortnight I have left him alone, and though fed every day on the most nourishing food he has died.

"I have a valuable Hen in the same way; the rattling in the throat, heavy breathing, panting evident under the rump to the legs; after this grunting sort of noise she sneezes, endeavouring to bring up the phlegm.

"No fowls can be kept in a drier, or a warmer situation;

their roosting-house being a stable (with loft over) inside a coach-house; a wide gravel-walk, with the run of a field. I immediately removed the birds to a room with a wooden floor; letting them out, in the middle of the day, in the sun.

"As to putting a tube in the nostril, and injecting solution of zinc, &c., &c., it is far too nice an operation, and, in my humble opinion, useless. Surely there must be something that would detach the phlegm.

"I shall try squills, unless you give me better advice, which, pray do.—A Roup, or CROUP, SUFFERER, *Exeter*."

[The symptoms described are evidently those of inflammation of the lungs, which disease has been very prevalent lately, owing to the rapid alternation of warm weather with cold northerly winds. This disease is always dangerous, and success must not be looked for in all cases. The best treatment is, calomel with ipecacuan or tartar emetic, say one grain of calomel with two of ipecacuan, given at night, for two evenings successively. Tartar emetic given daily, as practiced, would seriously endanger any fowl; and, as there were no symptoms of roup, the dropping of any solution into the nostrils was not required.—W. B. T.]

HOUSEKEEPING.

MAKING BRAUN.

The following is in answer to several correspondents:—

The mode of making Braun, in Cheshire, is in this manner:—The chowl or cheeks are separated from the head of the pig, and salted with the bacon. The remainder, or bony portions of the head, with a few fragmentary pieces, scraps, &c., are then well cleansed, well boiled for four or five hours, and every piece of bone extracted. Seasoning is now added according to fancy; such as pepper and salt, mace, cayenne, &c., or any thing else the maker may fancy. It is then moulded; and for this purpose a special tin is used, containing holes, colandar-fashion, to let the liquid escape on pressure by a weight at top.

MOUNT VERNON, AND THE MEMORY OF WASHINGTON.

WHEN Washington died, Mount Vernon was a beautiful spot. The house—the lawn sloping down to the river—the gardens—the roads—the gateways—the old trees—everything indicated care and taste. For years afterwards when visitors came there, they were shown the chair in which he used to sit, and the marble mantle-piece and the key to the Bastille, sent to him from France by Lafayette—and a hundred other relics, preserved with jealous care by the family. And until recently they found there a grey haired negro, a faithful and attached servant of Washington, who kept the key to the enclosure where his master's tomb was situated. It was his greatest pride and pleasure to talk by the hour of "Massa Washington," and to relate the incidents of his life and death. Then he would take you down to the vault itself, on whose steps he had so long sat sentinel, and as he approached, his voice would sink to a reverential whisper.

There was an air of quiet neatness everywhere.—The tolling of some steamboat bell was the only sound that broke the solemn stillness. There was something everywhere to remind you of the respect due to the grave where Washington lay buried.

Go to mount Vernon now. After toiling up the long, sandy road from Alexandria, you come to the shady entrance. There was a gate once, but it has fallen down, and you drive over it. The lodge that stands near it is delapidated and empty. The avenue to the house is overgrown with grass and weeds. A crumbling brick wall on one side shuts off the neglected flower garden. The house looks old and decaying. One of the posts of the veranda has fallen out, and the roof is cracked and bent, over it. Moss grows on the door step. There is no guide to show you on the way, but there is a low range of hovels on one side, from which two or three ragged negro boys run out, to offer you a hickory stick, as a relic of Mount Vernon—for a sixpence. You follow a winding footpath down towards the river side.

An unsightly red brick structure stands before you. It is long since it was painted, and the masonry is decaying and broken. You trample down the long grass to get up to it, and look through the rusty grating. Inside there is a plain marble slab, covered with dust and discoloured with mildew. On it you may read the carved inscription that time and exposure leave legible:

GEORGE WASHINGTON.

And that is the grave of the first in the hearts of his countrymen!

We do not wish to be understood as desiring to blame the present owner of the estate—Mr. John A. Washington. Not rich, surrounded by needy dependents, and subjected to a constant stream of visitors, who certainly have no claim to his hospitality, whatever title they may fancy they have to look at his grounds—it would be impossible for any one to keep the extensive estate in suitable order, or even in repair. The fault is not his, but America's, who ought to have made Mount Vernon a National Monument, owned and kept by the government, and open to every American citizen.

The State of New York has set an example for Congress, in its purchase and presentation of the old head quarters of Newburgh.

It is said that Mr. Washington, being no longer able to maintain Mount Vernon, has sold it to a company, with the reservation that Congress shall first have an opportunity of buying it if they will. We know nothing of the company. They may be patriotic men, who have determined to take upon themselves the duty that Congress has neglected; or they may be a set of speculators, who intend to make it a show and place of amusement for their own profit. But in either case, Congress should avail itself of the opportunity now offered. Washington's home and his grave should pass only from the guardianship of his family to that of his country.—*Albany Evening Journal.*

SOME ACCOUNT OF THE HORTICULTURE OF TACNA IN PERU.

BY JOHN REID, ESQ.

THE cultivation of Tacna, as well as that of all other parts of the coast of Peru, is carried on by irrigation. The small stream, dignified by the name of river, has its rise in the neighbouring mountains: and the "chaeras" or farms extend on either side from where the water leaves the ravine to about two miles below the town, beyond which point the moisture rarely or never reaches. The whole length of the cultivated track is about twelve miles, but its breadth is extremely unequal, caused by inequalities of the surface in some place, and the stony and uncultivable nature of the soil in others; in no part, however, does it exceed a few hundred yards, and 3000 acres may be taken as a fair approximation to the area of the whole cultivated land. When the Spaniards first took possession of Peru, they parcelled out the ground along the rivers on the coast amongst the Indians, allotting to each division its proportion of water, and fixing the hours at which it was to be taken; this original regulation is still followed. The valley (all cultivated tracts in Peru are called valleys) is divided into seven districts, to each of which the river belongs exclusively, on one certain day of the week, and is subdivided among the farms of that part, under the superintendence of a "principal," named yearly for the purpose. The whole body of water in ordinary times occupies only a channel about four feet in width, by sixteen inches deep, and runs with a very moderate current, so that it is astonishing to see the effects it is made to produce; three hours weekly of the twentieth part of this streamlet is called a "particion," and is barely sufficient for about two acres, which seems to have been the extent of the original divisions.

Where water is so precious, of course great care is taken in applying it in the most economical manner; the ground is divided into a series of squares, of six or eight yards on the side, by ridges of earth thrown up between them, sufficiently thick to resist the water, and to serve as foot-paths or alleys; these communicate with each other, and are successively filled with water to the depth considered

necessary; or ridges are thrown up in parallel lines, through which the water flows in a zig-zag direction, until all is sufficiently moistened.

The staple productions of the valley are "Alfalfa" or Lucerne, and "Mais" or Indian Corn; the first for the support of the large gangs of mules, and the last forming an important item in the food of the people.

When Alfalfa is to be sown, the preparation made for it is scratching the soil to about the depth of six inches, with a plough formed of the trunk of a crooked tree, and drawn by a pair of oxen; the ground is then divided into "eras," or squares, by the "lampa," a heavy, ill-formed, concave shovel, made in the country, and the only implement besides the plough they ever use; the surface of the beds is then levelled, they are watered on next watering day, and sown, as thickly as we sow Cresses at home, in a few days after, the seed being covered in by dragging a branch over the surface. In the course of two months the Lucerne is fit for cutting; an operation ingeniously and elegantly performed by means of a "cuchuna" or the blade of a common table knife, tied at right angles into the end of a slit piece of wood, the operator meanwhile being on his knees. Shortly after cutting the ground is again irrigated, and thus alternately cutting and watering the plant retains its vigour for years, giving, when well attended to, eight or nine crops annually, and this without manure of any kind except a slight powdering of guano every second year.

After the Lucerne, in point of importance, comes the Indian Corn. For this crop the ground is formed into ridges with the lampa, and the seeds flung into holes, six or eight in each, at the distance of fifteen inches, and covered in with the foot, the usual watering then follows, and in a fortnight after the braird is several inches high. The general crop is sown about the end of June, and reaped in December, the return being from 300 to 500 fold, although even this might be greatly increased, were the plants grown at a greater distance from each other, for more than one-half of them are literally smothered. This grain is a most exhausting crop, and its success depends entirely on the application of guano, a substance I shall now attempt to describe.

Guano, or huano, is a reddish-brown earth of a disagreeable smell, found on several parts of the coast and the small rocky island adjoining; it is supposed by some to be the decomposed excrement of sea-birds, millions of which still frequent the neighbourhood of the places where it is found, whilst others contend that it is a fossil earth of a peculiar kind. The strongest arguments are on the side of the former opinion; the upper stratum of the beds is always white, and evidently the recent deposition of birds; it is found gradually darkening in colour, as it deepens, and for several feet under the surface the bones and feathers of birds are plentifully discovered in it; nor is this all, it has been examined by French chemists of eminence, who pronounce it as of animal origin. Opposed to these mighty facts, is the difficulty of conceiving it possible that any number of birds, even in a period of time as remote as the wildest tradition of Chinese chronology, could have sufficed to produce the guano in the immense quantities in which it exists. It seems, indeed, inexhaustible; there are large hills of it hundreds of feet in height still untouched, and the supply in our time is still drawn from the very same deposits that furnished the Indians with manure anterior to the conquest. Numbers of small vessels are employed in carrying it to the different ports, where it is sold at the rate of from 10 to 12 reals (5s to 6s) per finega, nominal weighing 150 lbs., and is conveyed on jackasses to all parts of the country within 50 leagues of the sea.

Before using the guano it is mixed with three or four times its bulk of dry horse-dung, broken down to chaff, not for the purpose of adding any new or increased virtue to it, but to make it more easily managed, and to increase the volume of the substance to be handled, and thus facilitate its economical distribution. When the Maize is a few inches high, owing to the poverty of the exhausted soil, it always assumes the appearance of, what at home is technically called, "setting up;" it gets yellow, hard, and sickly looking, and this is the signal for the first application of guano. One man, with a "lampa," makes a small hole at the root of every clump of plants; another follows with the guano

in a bag, who, dropping a little of the compound in the hole, covers it with his foot; irrigation follows, and within a few days the appearance of the braird is totally altered: it is now green, succulent, and healthy, and grows with a rapidity and vigour hardly credible. Just before the plants cover the whole surface, the process is repeated and the ears of the husbandmen are at an end till, in due time, he gathers in his abundant harvest. Now, when it is considered that three bushels of this manure is sufficient for an acre of corn, growing to the height of eight or ten feet, and that each clump of five or six such plants does not get more of it in all than about half an ounce in weight, its nutritive qualities must be allowed to be most wonderful, and far to exceed bone-dust, or any of the agriculto-chemical discoveries in England.

POTATOES are grown in considerable quantities, but they are never good, either the climate or the water disagreeing with them; they produce abundantly, but do not seem to ripen, and are always watery and insipid, whilst those grown by the Indians on the skirts of the Cordillera, from 6000 to 8000 feet above the sea, and brought here for sale, are excellent. They are planted like the Maize in ridges, at all seasons indifferently, but the principal crop is put into the earth in June, and gathered in September, in an abundance proportioned to the guano and water it has received.

CAPSICUM, OR AJI.—This pungent seed-pod is here reckoned an indispensable necessary of life; it is used, in some form, in all sorts of food, is eaten alone, with bread or Potatoes; beaten into a paste, betwixt two stones, a plateful is on every dinner-table; whilst soup, stew, and salad all witness separately to its presence. Various kinds are cultivated, but the sort of most value, and the most productive of all, yields a long, coarse-looking, and almost black pod. The plants are raised on a seed-bed sown in July, and planted out on previously well-watered ridges in October and November. When freely irrigated, for Aji requires more water than any other crop, and supplied with the necessary guano, the growth is extremely rapid; in April the first pods are ripe, and there is a constant succession till the end of August; they are gathered as they mature, dried in the sun, and then packed up in sedge bags, holding an arroba or 25 lbs. each, for sale. The valley of Tacna produces but little more Capsicum than what is necessary for home consumption, the interior being supplied by the neighbouring valleys of Sama, Asapa, and Lluta; some thirty years ago, the value of this crop in the province of Arica was reckoned at 600,000 dollars annually! it can now be but a small fraction of this large sum, the scarcity of water in Asapa, the ruin brought on many estates by the devastations of the revolutionary war, the almost total broaking up of slavery, and the general poverty of the country, are the causes which have brought about the diminution.

The utter ignorance of the people here of the very first principles of vegetable economy, is in nothing more conspicuous than in the management of this, their most valuable crop. The seed is sown as thick as it can lie on the surface, and the plants, of course, deprived of air, become drawn and weak; nothing would be easier than to prick them out on a succession bed, where they would soon acquire strength in both root and stem, but this simple plan is never thought of, and those to whom I have recommended it are too idle, or too prejudiced, to adopt the practice. When the seedlings are "drawn" to the height of a foot or fourteen inches, they are considered sufficiently *long* (not *strong*) to plant out; and as it is evident that a great part of plants so raised must die under the heat of a tropical sun, recourse is had to the ingenious device of sticking two or three into the same hole! the consequences are self-evident: if one plant survives, it is still only a comparatively weak single-stemmed thing, with a bush of branches at the top, liable to be broken over by a puff of wind, or the passing friction of any animal; should two or more happen to live, their energies are spent in a struggle with each other—they are jointly and severally deprived of the necessary air, the original process of drawing is followed by that of smothering, and a corresponding diminution in the produce is the necessary consequence.

ONIONS.—This bulb is used in great quantities, it being a principal ingredient in the "chupe," or stew of the country.

I have never seen it raised from seed; in fact, the process would be considered too tedious a one by our "chacareros:" the only kind grown is what is called at home, I believe, the Tree Onion, which produces its succession in a bunch of small bulbs on the top of what in other plants would be called the flower-stalk. These bulbs are sown in ridges, four or five always adhering together, and, with guano and water, soon swell to a large size; but they are not considered in perfection until they have "shot." Previous to this time they are called "hembras," or females, and looked upon as immature and insipid; when, however, the seed-stem has fully developed itself, and "a rung" as hard and as dry as a Bamboo cane occupies the heart of every bulb, they are dignified with the title of "Zebollas machos" (male Onions), and thought worthy of all acceptance. Nothing appears more ridiculous to an eye accustomed to the gardens of Scotland than a large bed of Onions in Peru; in the vigour of its growth, it appears as a mere jumble of immense, irregular clumps of green stems running into seed at a high pressure power; and when the water is withheld, for the purpose of ripening the crop, within a month it has all the resemblance possible to a field of half-burnt, sun-dried Canes. The clumps are seldom divided; they are generally in size larger than a man's hat, and the tops being cut off, they are sent to market in their primitive state. The plant is grown at all seasons, but the superfine hard-hearted ones are raised in greatest perfection from June till December. Of course, anything like a round or civilised-shaped Onion is never seen here, that being quite incompatible with the presence of the "rung." I hope I have spoken on this subject with no undue asperity. I am and always have been fond of this vegetable; and it is no joko to have my teeth—the few the toothache has left me—continually exposed to lesion when I choose to venture on an Onion.

CABBAGE.—Of Cabbage, only one kind is grown here; and if a specific name was wanting for it, I can think of none more *apropos* than the "Coarse Everlasting;" its heart, although not quite so hard as the walking-stick, is sufficiently so to justify the former epithet, and, as it does not run to seed, but is propagated by offsets from the old stem, roughly torn off, and as roughly stuck into the soil, the latter seems not misapplied. This plant affords one of the many instances of the power of a long-continued habit, over natural tendency. There cannot be a doubt that, like all other species of its tribe, it originally ran to seed in its second year, but the continual interference of man, in checking this propensity, by breaking off its branches, has at length, in the course of time, almost eradicated the principle, and it would now be no easy operation to force it into flower.

(To be continued.)

TO CORRESPONDENTS.

** We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed "To the Editor of The Cottage Gardener, 2, Amen Corner, Paternoster Row, London."

DESTROYING CATERPILLARS. (*Constantia*).—Any caterpillars that are not enveloped in a web may be destroyed with white hellebore powder. It is quite fatal to the Gooseberry Caterpillar. Caterpillars do not lay eggs, they are the larvæ, or young of Butterflies and Moths. These lay the eggs. Putting gas lime over the nests of *Ants*, and frequently stirring the nests, will drive them away. We are sure that they do not eat seeds.

PHEASANT MALAY FOWL. (*S. K.*)—Mr. A. Orton, 84, Bath Row, Birmingham, probably can aid you.

BOOK. (*A-would-be-Gardener*).—THE COTTAGE GARDENERS' DICTIONARY will suit you exactly. Price 8s. 6d.

CATERPILLAR. (*A Reader near Stamford*).—All that we can say at present is, that the Caterpillar found on the Rose-tree is one of the *Geometridæ*. It went into cocoon before we examined it. When the moth is produced we can tell more about it.

NAMES OF PLANTS. (*J. K.*)—The yellow flower is *Cheiranthus Marshalii*; and the four-leaved plant is *Paris quadrifolia*, a rare native of Britain.

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WEEKLY CALENDAR.

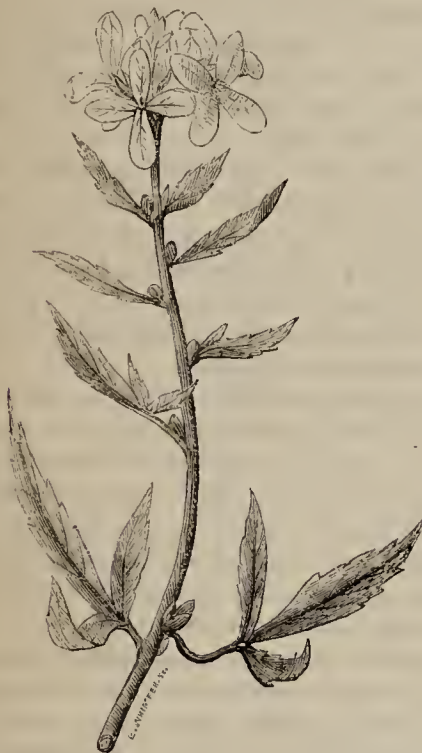
		WEATHER NEAR LONDON IN 1853.										
M	D	JUNE 8—14, 1854.										
		Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.	
8	TH	Carabus arvensis.	30.078—30.014	80—54	S.W.	02	46 a 3	11 a 8	2 14	13	1 21	159
9	F	Calosoma sycophanta.	30.047—29.973	69—50	S.W.	01	46	12 2 35	14	1 10	160	
10	S	Calosoma inquisitor.	29.949—29.813	83—57	S.E.	02	45	13 rises.	☺	0 58	161	
11	SUN	TRINITY SUNDAY. ST. BARNABAS.	29.743—29.690	80—53	E.	1	45	14 9 a 34	16	0 46	162	
12	M		29.723—29.707	65—51	W.	2	45	14 10 35	17	0 34	163	
13	TU	Harpalus aulicus.	29.753—29.702	55—51	W.	77	44	15 11 21	18	0 22	164	
14	W	Harpalus Germanus.	29.937—29.881	71—48	S.	36	44	15 11 54	19	0 10	165	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 71.5° and 49° respectively. The greatest heat, 90°, occurred on the 12th in 1842; and the lowest cold, 35°, on the 8th in 1838. During the period 112 days were fine, and on 77 rain fell.

BRITISH WILD FLOWERS

(Continued from page 51.)

DENTARIA.—CORALWORT.



GENERIC CHARACTER.—Calyx equal at the base, erect; leaves oblong-egg-shaped, converging lengthwise, blunt, deciduous. Petals reversed-egg-shaped, blunt, horizontal, with erect elaws shorter than the calyx. Filaments awl-shaped, simple, distinct. Anthers arrow-shaped, erect. Germen oblong. Style short and thick. Stigma obtuse, scarcely notched. Pod stalkless, lanceolate, compressed

laterally, tapering upwards; valves flat, without ribs, narrower than the partition, bursting elastically from the base, and mostly curling back. Seeds egg-shaped, not bordered, inserted alternately in a single row; their stalks flattened and winged; cotyledons accumbent, rather thick.

DENTARIA BULBIFERA: Bulb bearing Coralwort, or Toothwort.

Description.—It is a perennial. Root whitish, toothed, creeping horizontally, branched and sub-divided. Stems from the terminal buds of the preceding year, solitary, erect, leafy, from one-and-a-half to two feet high. Leaves alternate, bright green; several of the lowermost pinnate, of five leaflets; others three-leafleted; upper ones simple; all lanceolate, acute, variously saw-toothed, accompanied for the most part with egg-shaped, dark purple, scaly bulbs, produced between the leaf-stalk and the stem, by which bulbs the plant is propagated. Flowers in clusters, large and handsome, without smell, hardly ever perfecting pods or seed, the bulbs furnishing an ample increase. Petals purple. There is a gland between each shorter stamen and the calyx, and a smaller gland, partly cut in the middle, between the larger stamens and the calyx. Sometimes this smaller gland is cleft in three, and the middle portion the largest.

Time of flowering.—April and May.

Places where found.—It is a rare plant, and occurs only in moist, shaded places.

History.—The genus received its name from this species having a toothed root, the Latin name for a tooth being *Dens*. In the days when a belief in signatures prevailed in medicine; that is, when everything which in form resembled a part of the human body was believed to possess curative powers for the diseases of that part, the root of *Dentaria* was thought specific in cases of tooth-ache. Gerarde was not aware that it is a native of England, but says, this kind "I have in my garden. They may be called in English Toothed-Violets, or Coral-worts." Parkinson seems to have been the first to ascertain that it is one of our native plants. He says—"It has been found in our land at Mayfield, in Sussex, in a wood called Highreede, and in another wood there, called Foxholes, both of them belonging to one Mr. Stephen Parkhurst at the writing hereof."—(Smith. *Martyr*. Gerarde. Parkinson.)

We think the just definition of a WEED is—a plant growing in a wrong place; and, if so, then, to the Marine Algæ, or Fuci, Sea-weeds is a misleading and unjust misnomer. This will have been apparent to our readers from much that has been said relative to these plants in the series of papers now about concluding in our columns; but they have not exhausted the subject.

Let us take for our chief example, not a solitary one, that which is almost the commonest of Fuci—the Bladder Wrack (*Fucus vesiculosus*), and we find that he who was most intimate with it, Dr. Lightfoot, thus speaks of it in his *Flora Scotica*:—

"It is well known to be an excellent manure for land, to which purpose it is often applied in the maritime

parts of Scotland and other countries. In the islands of Jura and Skye it frequently serves as a winter food for cattle, which regularly come down to the shores at the recess of the tides to seek for it. And, sometimes, even the stags have been observed, after a storm, to descend from the mountains to the sea-sides, to feed upon this plant. Linnæus informs us, that the inhabitants of Gothland, in Sweden, boil this Fucus in water, and, mixing therewith a little coarse meal or flour, feed their hogs with it; for which reason they call the plant, Sweitung. And in Scania, he says, the poor people cover their cottages with it, and sometimes use it for fuel. In Jura, and some other of the Hebrides, the inhabitants dry their cheeses without salt, by covering

them with the ashes of this plant, which abounds with such quantity of salts, that from five ounces of the ashes may be procured two ounces and a half of fixed alkaline salts, that is, half of their whole weight. But the most beneficial use to which the *F. vesiculosus* is applied, in the way of economy, is in making pot-ash or kelp, a work much practised in the Western isles. The manner of doing it is this:—the plant is collected and dried carefully upon the shore in small heaps. When thoroughly dry, a pit is dug in sandy ground, about seven feet wide, and three deep, lined with stones. In this pit a fire is kindled with small sticks, and the dried Fuens is laid upon it by little and little, and burnt. When a sufficient quantity is consumed for the purpose, and burnt to a certain degree, it appears in the pit like red-hot ashes. The operator then, to prevent its being reduced entirely to ashes, with an iron rake stirs about briskly this hot matter from one side of the pit to the other, mixing it well together, till at length it begins to congeal and vitrify. The salts being now all melted, the matter is left to cool in the bottom of the pit, where, as in a mould, it concretes into a solid mass, called Kelp, which, when cold, is broken out of the pit, and carried to market for the use of the soap and glass makers. There is great difference in the goodness and price of this commodity, and much care and skill required in properly making it. That is esteemed the best which is hardest, finest grained, and free from sand or earth. So great a value is set upon this Fucus by the inhabitants of that place, that they have sometimes thought it worth their while to roll fragments of rocks and huge stones into the sea, in order to invite the growth of it. Its virtues in the medical way have been much celebrated by Dr. Russell, in his “Dissertation concerning the Use of Sea-Water in the Diseases of the Glands.” He found the saponaceous liquor or mucus in the vesicles of this plant to be an excellent resolvent, extremely serviceable in dispersing all scorbutic and serophulous swellings of the glands. He recommends the patient to rub the tumour with these vesicles bruised in his hand, till the mucus has thoroughly penetrated the part, and afterwards to wash with sea-water. Or otherwise, to gather two pounds of the tumid vesicles, in the month of July, when they are full of mucus, and infuse them in a quart of sea-water, in a glass-vessel, for the space of fifteen days, when the liquor will have acquired nearly the consistency of honey. Then strain it off through a linen cloth, and rub this liquor with the hand, as before, three or four times a day, upon any hard or serophulous swellings, washing the parts afterwards with sea-water, and nothing can be more efficacious to disperse them. Even schirrosities, he says, in women’s breasts have been dispelled by this treatment. The same author, by calcining the plant in the open air, made a very black salt powder, which he called Vegetable Æthiops, a medicine much in use as a resolvent and deobstruent, and recommended also as an excellent dentifrice, to correct the scorbutic laxity of the gums, and take off the foulness of the teeth.”

Fucus esculentus and *F. saccharinus* are eaten when

boiled; but the leaves of *F. lanceolatus*, *F. holosetaceus*, and *F. pinnatifidus* being crisp, are eaten as a salad uncooked. The Gulf Weed, *F. natans*, is made into a pickle with vinegar, and is eaten as a salad between the tropics, when compounded with lemon-juice, Capsicums, and other stimulants. As long since as from the time of Queen Elizabeth, as is related by old Gerard, “they use the Grass Wrack in Italy and other hot countries, to pack up glasses with, to keep them from breaking;” and he adds, as if the result of a perilous journey, “Going, in company with divers London Apothecaries to find simples, as far as Margate, in the Isle of Thanet,” he found two Sea Weeds; “they there call them Sea Girdles, which name well befits the single one; and the divided one they may call Sea Hangers (*Laminaria digitata*), for if you do hang the tops downwards they do reasonably well resemble the old-fashioned Sword-hangers. They are of a glutinous substance, and a little saltish taste, and divers have told me they are good meat, being boiled tender, and so eaten with butter, vinegar, and pepper.” The Red Leathery fucus (*Halymenia edulis*) is eaten, after being pinched with a hot iron, then tasting like roasted oysters. The stalks of *Chordaria filum*, or Sea Laees, are skinned when half dry, and twisted by the Highlanders, and can then be made into baskets, and used for other purposes, where a strong fibre is required.

We might enumerate abundance of uses to which many other of the species are applied, but we will only add one more quality possessed by them in common, showing that not one of these marine plants is in its wrong place, for one and all give out oxygen during the whole period of their growth, and thus infuse that gas throughout the ocean waters, without which gas no animal could live beneath their surface.

These prefatory notes are more lengthy than our text needed, for it is no more than this inquiry from the coast of Sussex:—“I have lately acquired the property, here, and find large quantities of Sea-weeds all along my portion of the sea wall; what can I best do with them?” The simple reply is—Use them as a manure; but as many of our other readers may be as uninformed of the best mode of employing this portion of the sea’s riches, as is our clerical friend in Sussex, we will jot down the results of some actual experience of the value of Sea Weeds as a manure.

We knew a garden, near Southampton, that for several years produced abundant crops of excellent vegetables without having any other manure than Sea-weeds. This is no subject for surprise, because they contain much nitrogen, carbon (charcoal), and salts, not only useful to plants but absorbing moisture from the air, and destructive of vermin. M. Sprengel states, “The Bladder Fucus (*Fucus vesiculosus*) contains only sixteen per cent. of water, and 1000 lbs. of it when dry contain 32 lbs. of chlorates of lime, soda, and magnesia; 64 lbs. of gypsum (sulphate of lime), and 30 lbs. of phosphate of lime. It contains, also, a great quantity of nitrogen, all explaining fully its high manuring properties.”

Let it be remembered, as a general rule in applying Sea Weeds as a manure, that they cannot be applied too fresh. The best mode is to collect them into small heaps whilst in a growing state, allowing these to drain for one day, and then to dig the weeds in. If there is no crop requiring immediate planting, or sowing, dig them in on any vacant space. The reason for this is that they decompose more rapidly than most plants, and in decomposing lose the whole of their nitrogene, or ammoniacal constituent, unless this is retained by the soil.

No manure more promotes the growth of fine crops of *Brocoli*, and, indeed, of all the Cabbage-worts, than do Sea Weeds. They should be applied at the rate of about one barrow-load to twenty square yards; and the best time for turning them into the ground is just before planting.

They are the best of dressings for *Asparagus* and *Sea-kale* beds; the surface to the depth of two inches being first drawn off with a hoe, the Sea-weeds put on about the same depth, and then the surface earth re-spread over them. The finest *Asparagus* we ever saw had this dressing at the end of autumn, and liquid-manure during the spring and summer twice a-week.

As a mulching over the roots of fruit-trees, whether standards or against a wall, Sea-weeds are most beneficial. The surface earth should be removed as from the *Asparagus* beds, the mulching applied two inches thick, and covered over with the earth previously removed. Two such mulchings are not too much, one applied in February and the other in July.

As a manure for *Potatoes*, Sea-weeds have long been used very extensively both in Scotland and Ireland; and we have abundant testimony in their favour both for that crop, for Wheat, and as an early top-dressing for Grass. The consumption of them in Ireland, now that steamboats and railways facilitate carriage, is annually on the increase, even in the inland districts. This year the demand is more than usually great, as may be judged from the following information relative to only one district:—"The great demand for Sea-weed manure, the high prices it brought, and the great breadth of ground devoted to potato-planting this spring, may be inferred from the fact, that it is computed by those who have had the best opportunities of forming an accurate estimate, that the very large sum of £10,000 has been paid for Sea-weed this season at the Galway docks alone. If we take into account the quantities which have been disposed of at Oranmore, Kinvarra, Ballyvaughan, Barnas, and the other creeks and landing-places within the bay, the cutting of Sea-weed this season must have realised upwards of £13,000. It has been conveyed to a considerable distance, by boats along the lakes, by carts on the road, and even by railway. Perhaps, in no former year has the use of it been more general, or the price paid for it so high, as in the present season."

MANAGEMENT OF YOUNG FRUIT-TREES.

As many amateurs and others appear desirous of knowing how to proceed in the *rearing* and *training* of young trees, it will be well to devote a chapter, occasionally, to their guidance. It is impossible, in a periodical work of this kind, to stick close to one subject long, for however well it may suit one class of readers, others very speedily importune for information of another description; however, we must try to please all by turns.

Young fruit-trees, the second or third year after planting, are apt to become too gross, whilst during the first year, especially if spring-planted, they make but slow advances; both these cases are capable of correction, and require it. It becomes necessary, also, to establish a *course of training* betimes, and this involves some disbudding, stopping, &c. I will endeavour, briefly, to point to each of these, as specially concerns young trees, first premising, that as modes of training are so various, I must, at present, point to cultural principles, rather than modes in detail.

As to young trees recently planted, I should hope that mulching has been attended to, if not, and they are not growing rapidly, let it by all means be done immediately. Our readers must consider that such trees are in a somewhat defenceless state, as compared to established trees; they are more susceptible of droughts, from the circumstance of their shallow roots; that is to say, if they have been planted near the surface, as they ought to have been. The mulching for these should be good, and may be spread nearly three inches in thickness, and if water is requisite, by all means let it be applied immediately; if of the temperature of ninety degrees, all the better. It should be applied from the rose of a watering-pot.

In order to give young trees a bold start, it matters not of what kind, there must be a perfect immunity from insects. If this be requisite with older trees, it is doubly so here, for on the first two years growth of young trees depends their ultimate aptitude for training, and their symmetry of appearance, and, we may add, their speedy enlargement or extension. As to the latter, it consists rather in a free and continuous growth than in a luxuriant one; although I have no great objection to the latter, providing the pinching system is resorted to in a judicious way.

Insects are so easily subdued in young trees, appliances of any kind being of so economic a character, that no possible excuse can exist for neglect on this head. Any caterpillars may be hand-picked, and killed, and as for the aphides, red spider, &c., why tobacco-water may be used to dip the points of the shoots in. Three ounces of shag tobacco, or about nine-pennyworth, will make half-a-gallon of such liquor as will render them incapable of further mischief. A sulphur puff may be used to the young shoots, or hand-shaking, taking care that the sulphur is finely divided.

And now, as to the "pinching" or "stopping" system. Those of our readers who have not whistled at the spade, will very naturally feel desirous to know which shoots should be pinched; where the pinching must stop; and when, and the reasons for it. As I do not wish to keep any secrets, as friend Donald Beaton says, neither being tame enough to try half a question, I feel bound to state here how these matters stand. The first thing to be understood with regard to stopping is this: What is *over* luxuriance; and what are its evil tendencies?

We will take the case of a young and gross Apricot, such as may be frequently seen in nurseries, when the budded-stock in high vigour pushes forth a shoot in June, speedily inclined to burst into side spray. And why not, somebody will say? And I readily echo, Why

not? Now, it must be remembered, that in the native climes of the Apricot walls are not necessary adjuncts in their culture. A standard, or ordinary tree, under such glowing and sunny skies, will, of course, develop its parts in all directions, unfettered by such artistical proceeding as the needs of our climate call forth, and growth, at whatever period, will necessarily acquire a degree of solidification almost unknown in our northern climes.

To return to our pet Apricot, I said—"inclined to burst into side spray." Such a case, then, left to itself, generally ends in a very late growth, and by consequence a degree of immaturity, which very frequently induces weakness of constitution, or positive disease, paves the way to abortive blossoms, which do not "set well," and that through incompleteness in their organism. Now, if such gross and rampant young shoots are guillotined in June, the consequence is, that the development of side-growth is much accelerated; for if they *must* or *ought* to be developed, the sooner it takes place, and the more rapid such side-growths extend, the better, inasmuch, as I shall have to recommend their being pinched in their turn, in the course of the month of August, as a preparatory step to the solidification of the parts already produced.

So those of our readers who feel that much interest, will surely see how the case stands; a moment's reflection, and a real interest in such interesting proceedings, will soon make it manifest: as for those who do not choose to devote their time to such considerations, and yet desire to possess a good garden, why they must even be content to waive all consideration of principles, and to avail themselves of the ordinary routine, be it what it may.

I have here simply put the case of an Apricot, but the same remarks will apply with equal or greater force to the Peach or the Plum; as for Pears, they are scarcely in such a hurry for side development, under ordinary circumstances; and the same may be said of the Cherry in general.

It will, however, sometimes happen, that a young tree will shoot very unequally; it may produce one rampant shoot of this character towards the centre of the tree, whilst the other portions are but weakly. Now, this is a "ticklish case;" and a slight departure from ordinary practice becomes necessary.

And now I could wish that the veteran Beaton held the pen instead of myself; and that somebody pulled him by the sleeve, and asked him what he would do with a tree Rose, or, indeed, any tree under such circumstances; for he certainly has the knack of "pumping" Dame Nature out of all her secrets; he is a regular "slyboots" this way. As my worthy friend is not at hand, I must now undertake this awkward piece of navigation in my little cock-boat.

There is an old saying, "give a sprat to catch a herring;" and, although a trite saying, I seize it for its aptitude. It so happens, then, that if we pinch a tree under such infirm conditions the year it is planted (simply because it makes the unequal and equivocal effort of producing one gross shoot amongst a few lean ones), we throw away a power which would have called into being, by reciprocity of action, a host of new fibres of immense importance to the future welfare of the tree. "Leaves make roots, and roots make leaves," is an axiom in horticulture that few men who combine science with practice venture to dispute. I must really beg pardon of those of my readers who do not care to pursue this subject so very minutely, for these niceties of gardening, but I would respectfully remind them, that there are those, and good men too, who enjoy such minutiae; and our maxim is, to endeavour to please all our good friends in their turn.

In the case alluded to, then, I say, let the roguish

shoot play his vagaries freely the first year, but slyly make up your mind to reduce his braggart character in the next summer, in order that his more modest and delicate compeers may share in his easily-obtained wealth, which their delicacy of nerve prevented them from attaining. Let, then, as a general rule, those gross shoots be pinched when they are six to eight inches in length, which will generally be by the early part of June; they will then push forth their laterals freely, and these may be trained in on all sides, now and then removing one when too crowded. If all goes well, they will, in many cases, require pinching again in a month or so; but of this more in a future paper.

As for training, let me advise our readers who wish to be in the ascending scale in gardening, to take care that their young trees be trained betimes. It certainly is poor policy to purchase expensive trees, to indulge in fond prospective hopes of a prosperous garden, and to neglect the very first steps in the production of such a boon to man. And it is not merely the utility and profit of such a thing—there is somewhat in appearance. Who will not confess to pleasurable sensations on looking over a fruit or other garden, noted not only for successful fruit culture, but for the systematic appearance of the whole?

About modes of training, I do hope shortly to have the pleasure of saying more in detail.

R. ERRINGTON.

NOTES ON ROSE-CULTURE.

As soon as the different kinds of the *Banksian Rose* have done flowering is the right time of the year to give them their annual pruning; that time is just at hand, and there are no two opinions on that subject by men in practice; but there are many plants which ought never to be touched by the knife, or hook, except at this very season, or, at least, some time through the summer, and at no other period. About them, however, there are differences of opinion among practical men—while many a good gardener, in other respects, would think himself outraged if he were told, or commanded, to give the yearly pruning to his evergreen *Berberis*, his *Laurustinus*, his *Deutzias*, *Wiegalias*, and similarly-habited shrubs, just at the end of May, or very early in June.

THE COTTAGE GARDENER is not much given to theoretical talk; but all theory is on the side of the summer-pruning of such plants, instead of in the winter, as is usual with deciduous shrubs; and when you speak of evergreens, you are met with the positive assertion, that they, at any rate, ought not to have their annual pruning, except in April, or in July, and the early part of August. As a general rule, these assertions are safe guides to any one who has a good smattering of gardening already; but to him who knows no more of the philosophy than he does of the man in the moon, they are as dangerous as steering without a compass at all. Suppose, for instance, that he pruned his evergreen *Berberis* in April, he would have no flowers from it that season; or, if he put off the pruning of it till July or August, he would be no better off the year following—he would have no flowers either way. It is the same with the *Banksian* Roses: if they are pruned in the winter, early or late, they give no flowers the following summer; and if they are pruned as late as July, or any time through the autumn, they are equally barren. Now, THE COTTAGE GARDENER, reasoning from these well-known facts, or from analogy, as they say, took it into his head, that *all* the very strong summer-flowering Roses ought to have *their* annual pruning just when they were done flowering—say in July—and at no other period; but many would not believe such an unheard-

of doctrine, and others shook their heads or shrugged their shoulders, as much as to say—"So much learning has made thee daft." It was not so, however; for when I was at the Rose tents at Chiswick, the other day; I took a copy of the catalogues of all the growers, and in one of them, that of Mr. Francis, of Hertford, who was within an ace of winning the very first prize for Roses, this new way of dealing with old Roses is recommended; but what makes me refer to his catalogue more particularly is another recommendation which he makes, and which is acted on every year by some of our best practical gardeners, when they are called in to doctor such and such plants.

He says—"With the exception of Teas and Chinas, December and January are considered the best months for pruning. Many sorts, such as the Hybrid Chinas, Hybrid Bourbons, and some of the strongest-growing Noisettes and Bourbons, require very little pruning. About every third year they should be pruned in close, so as to make them produce new wood, and to prevent the plants getting too old and ugly in appearance." I never saw or heard of this in print, but nothing is more common in practice. An amateur gets his Roses, or his Oranges, or his Myrtles, or, perhaps, his Vines, out of all order, and the more he prunes them himself, the farther they get from his purpose; at last he gets advice from "one of our first-rate men," but, unfortunately, this *practical man* belongs to the plausible or flattering class, and they have a knack of first finding out your own private opinion upon the case in point, and then, to please you, and to get the name of being so very clever, they give their advice so as to square with your own notions, without, perhaps, giving the thing a single thought. It is in human nature, that we should, all of us, think our own opinion to be the best on many things, and when we are thus flattered by an echo of our own ideas, we think *echo* is a god or goddess of wisdom, and time only tells when we are led astray, in accordance to our ill-judgment, and the Roses, Oranges, or whatever they may be, are, after all, getting worse and worse. How different from the man of nerve, who cares not a straw whether he pleases you or not for the moment, if he can but put you on the right path.

Show him your Roses, and he will tell you to your very face they are past hope, unless you will consent to do as Mr. Francis advises in his Rose Catalogue—*cut them right in*, and take your chance of flowers or no flowers the next season. If Mr. Errington were to be set to some Grape-walls which I could mention, the owner would take him, Mr. Errington, to be all but mad, and himself and his pruned Vines more than ruined; but time would tell. So with Mr. Fish, again; if all your Myrtles are very bad in looks, naked below, thin among the leaves, lean, lank, and leathery, the bark dry, in scales, in fissures, and a host of suckers offering to come up from the collar, what would he do to them? Why, he would cut them into the bone, and before he had done with them, you never would have seen such frightful objects in your life—nothing but bare sticks; but time makes them what he intended,—model specimens of health and beauty. And May, or very early in June, is the right time for "*cutting-in*;" and May is the right time to *close prune*, and *thinning prune*, and *prune to renew*—either one or other—almost all the shrubs that flower with us in April and May, whether in pots, or in the flower-garden, or pleasure-ground.

About the strong summer Roses, I think Mr. Francis is the only authority we have in the trade for cutting them close in July. "Another excellent plan," he writes, "for standard Chinas, many of the pillar Roses, and standard climbers, is to prune-in quite close just after they have done flowering; they will then produce new shoots the same summer, and flower abundantly the next season." Of course, they and those who prune

such Roses in the dead of winter are fighting against the air. THE COTTAGE GARDENER, however, did not contemplate, I believe, this entire "*cutting-in*." If I recollect rightly, he only went so far as to give a good general thinning, and a moderate pruning, to all the wood that was left, after cutting out the *whole* of the wood which had just flowered.

MANETTI STOCKS.—From my own experience, I cannot say anything against this Rose for a stock; but I could write enough in its praise—still, I must recollect the disappointment I and others met with from the *Boursault* stock, which I once praised more than anyone. It requires four years, at least, and an indifferent soil, to prove any new Rose-stock. Roses will do well almost on any stock for the first two or three years. A gentleman near me, who is particularly well versed in Roses, and who manages a large collection of his own, says that *Pius the Ninth*, is, or will make, the best stock of any that has yet been tried. He is not fond of the *Manetti*, but cannot say much against it. I know, also, a fine bed of *Geant des Batailles*, edged by the *Malmaison* Rose, all on the *Manetti* stock, and about four years old. The situation is good, and the soil is not less so, but this spring several plants in this bed have died outright, and the rest are as fine plants as one could wish to see; the stock was the first part which died. Now, I should very much like to hear from all parts of the country how this question stands in the opinion and experience of *private* growers generally. Mr. Rivers, who introduced this stock, and who first recommended it, has never yet found fault with it, nor said so in public, but he has been, all along, very firm the other way. Mr. Paul has always stood out against it; and now, Mr. Lane is decidedly not very favourable to it. Mr. Jackson, my next-door friend, does not say much against it; still, I can easily perceive that he would not risk a fortune on its merits. I have been going to set up in the Rose way myself, ever since I saw the splendid pillar Roses at Bank Grove, near Kingston, and I have stocks of *Manetti* to provide me in stocks; but after what Mr. Lane told me at the May Show, I shall not bud a single Rose on the *Manetti* this season, nor till we can learn the *pros* and the *cons* from different parts of the country.

I have heard great complaints of the *Manetti* for throwing up suckers, but all the Rose-stocks in the world are just as liable to that as the *Manetti*; and it is the fault of the propagator if any Rose in existence, or any other plant, which we grow from cuttings, ever makes a shoot or sucker, from below, till you come to the main roots; but no one can prevent root-suckers by any known mode of propagation. If all the eyes are properly extracted from cuttings of one-year-old wood, except the one or two at the top for growth, even the Willow can never renew them, or produce others on the same part for ever. That took me seven long years to prove, and I am quite sure of the point, therefore I cannot entertain any complaints against this or that stock, on the score of suckers; they are only evidences of so much scamping work, if they do not proceed immediately from the older roots; and if they do come from the roots, we can keep them in check, but we can never hinder their coming.

ROSES ON THEIR OWN ROOTS.—This is a subject on which my own mind has been made up for years. I never found out, nor could understand, how a Rose could be improved on roots foreign to its particular nature. It is only a matter of convenience from first to last. Roses bud so freely that it is the easiest and cheapest way to increase them, and there is the beginning and end of the story; but see how many gold medals, worth from fifteen to twenty-five pounds a piece, which Mr. Lane pocketed from his knowing that no roots are equal to its own for any variety of Rose. I believe he has

never been beaten by any one yet; and although he sells thousands of worked Roses every year, he is too cautious a man to venture on a public competition with worked Roses; at all events, no one with worked Roses has been able to surpass him with unworked ones. But the first grand refutation of Rose-stocks which came under my own eye, was when listening to a gardener and a private grower, in a dispute as to whether a pillar Moss Rose before us was ten or twelve feet high; it was neither; for on measuring it with a twelve foot rod, it proved to be just over eleven feet, and it was four feet across at the surface of the ground, and in full bloom down to the grass. And the very last assurance I had that stocks are worse than useless for some Roses, if not to Moss Roses, was on seeing the *Souvenir d'un Ami* in Mr. Lane's collection at the show, when I could not believe him, or my own eyes, but what the plant was worked all the way up on side-branches of the Dog Rose, and then trained as a Pyramid, like a Pear on the Quince; and I had to scramble up on the stage, to get hold of the shoots before I could be convinced that the plant was growing on its own roots. If all the world were to make up its mind not to buy more worked Roses from this day, such united strength could not carry out that resolution. Hard cash is a stronger agent than all the strongest minds put together. Here is how the thing would go; all the worked Roses now on sale would be a dead loss to the dealers, and by the time they could get up a fresh supply on the Roses' own roots, what with time and war taxes, they could not sell them under double the price now charged.

We must work our way into unworked Roses by degrees. I began the system, last spring, for the first time, by asking Mr. Jackson to get me two particular Roses, for a gentleman, on their own roots, that they must be established in 32-pots, and not less than three years old; the gentleman being quite willing to give 5s. each for such two Roses. Well, Mr. Jackson could not find them among all the trades with whom he dealt. I then got hold of Mr. Lane's Rose-grower and manager, at one of the meetings in Regent-street, and he told me that five guineas might get such two plants, but he could not be certain. They were to be *Devoniensis* and *Souvenir d'un Ami*, and they were for the gentleman who thinks so well of *Pius the Ninth*, for upholding the ancient practice of budded Roses.

In every order for dwarf Roses, let so many of them be asked for on their own roots, and we shall soon hear from the advertisements, and from the Rose catalogues, where to go to shop. This is better than forcing on a resolution all at once.

SUMMER ROSE-CUTTINGS.—The summer is the best of all seasons for out-door cuttings of all Roses. That kind of cutting which Mr. Fish so earnestly recommended is by far the best—"little stubby shoots," or side-shoots from the main branches, almost four inches long, and with a heel. For summer work, I like the joint between the last and this year's growth, as much, or better than a hard heel. The old authors seldom speak of cuttings without mentioning "a joint of the last year's wood;" so that my preference comes in between the old and the new practice of merely cutting under a joint. The cuttings must be trimmed and planted two inches deep, in very sandy compost, and with a little sand on the top, for tidiness. They must be put in very firm, and be well watered at once, and in a few hours after that cover them with the glasses, and they do not require very much water for a long time, although they may appear dry on the top. It is good practice to give them very slight waterings about twice a-week, to keep the air moist about them, and the sun must be kept from them very carefully; but I do not like a perfectly shaded place for Rose-cuttings; it is better to use paper capes for the glasses at first. D. BEATON.

A FEW THINGS TO BE NOW THOUGHT ABOUT.

AZALEAS.

"My Azaleas have finished blooming; what should I now do with them? I have no pit nor forcing-house." The first thing is rather a tedious job. You must bring activity and patience alike into exercise. Get a man regularly initiated into the love of doing the *necessary* among plants, and, however sanguine his temperament, a patient perseverance will, ere long, become an article of his creed. The plants, no doubt, have flowered in dense profusion, and from each of these flowers there will be, if not previously removed, the jutting-out parts of fructification, unless you wish to save a few seeds—which, however, as a general rule, you had better leave to nurserymen, and the raiser of new kinds—every one of these must be closely removed from their base, so as to leave no portion of a withered leaf, and as little as possible of the flower-stem. A sharp-pointed pen-knife, or a small-pointed pair of scissors, such as is used for thinning Grapes, will answer admirably for this purpose; then every withered and decaying leaf should be removed. Little of the syringe should be given to the plants whilst in bloom, as, if the water was not particularly limpid and pure, however gently the bloom was dewed, a discolouring of the delicate colour would be apt to take place. Now, each plant should be lashed by the syringe without stint. Do not, however, soak the roots, but lay the head in a reclining position, so that the water may run off, turning the pot round and round, that not a part of leaf, or stem, escape the washing. Then, if your plants are thoroughly healthy and clean, you may use for this purpose the cleanest water you can procure.

The thrip is the great enemy of the Azalea, and if there is the slightest trace of its appearance—seen at once by a glazed whitish look on parts of the under side of the leaf—I would recommend a lashing, frequently repeated, of clear soot and lime-water, which you can easily brew, by putting a quart of soot and a quart of new lime into a barrel, adding to it a gallon of water, working all into a paste with an old scrubby broom, and then adding from twenty to thirty gallons of water to the decoction, and waiting a day or so, when, after removing the scum at the top, the whole would be as clear as the most beautiful triple X, or the nicest sherry. To err on the safe side—if there was no sign of thrip, I would advise using this several times, as a measure of prevention, performing the syringing in the evening, and to be followed with clear water the following morning, unless the plants were kept in the shade. If the thrip should have unmistakably made its appearance, or if there was the smallest appearance of the red spider, then I would advise a stronger application, such as recommended some time ago for the Vine mildew, but to be used with caution. By referring to a previous volume, the minutiae of preparation will be found. For the sake of fresh readers, I will here simplify its main features. Take a pound of flowers of sulphur, and a pound of quick lime powdered, add them together, with sufficient water to make a paste, add a gallon of water, put the whole in an iron kettle, and boil twenty minutes, stirring all the time. Then take the pot off the fire, and allow the contents to settle, and pour off the clear liquid into a bottle, *alias* "greybeard,"—and mark it, that no one may mistake it, in a hurry, for brandy or rum. Boil the residuum again, if you like, with a similar amount of water; but the second decoction will be less strong than the first. About half a gill or quarter will be sufficient to place in a pot with three gallons of water, and at this strength it becomes a valuable wash for all plants troubled with thrip, spider, and other insects; and, if not given

stronger, will do no harm to plants in general. When tender, or the young shoots growing, or likely to be exposed to a fierce sun early next day, the half of that strength would be sufficient. Even for brushing hot-water pipes, or plates, for sulphur fumes, this decoction, thus reduced, is more economical than sulphur alone—a question likely to be of interest to the cultivator, now that sulphur is likely to be so greatly used in a more mournful war than the gardener is forced to wage with insects.

Then, as you have no pit, or forcing-house, the best thing you can do is to place all your Azaleas at one end of the house. Keep that end closer and moister than usual, by giving little or no air there, and using the syringe freely morning and evening, and even at mid-day, especially over floor, stage, and shelves. Ere long the young shoots will be pushing. If a few should threaten to be so strong as to be robbers of the general strength, pinch the point out when between one and two inches in length, and this will give you two or three shoots that will be of an average strength with the general crop of young shoots on the tree. Encourage growth by these means until the shoots are from one to two inches long; then harden by more air gradually, and less water, and full exposure to light. In August, the plants would be better out-of-doors, first a little shaded, and then with the pots shaded and the tops full in the sun. Place all under shelter by the first days in October.

In many of my neighbours' greenhouse vineries I have seen the forward Azaleas growing nicely. The shade from the Vines, and the closeness and moisture as they neared the blooming and setting period, were just the conditions in which Azaleas delight when commencing fresh growth. Having once been very severely caught myself, I feel bound to throw out a *beware* here. If there are any thrip on your Azaleas, you will require to be extremely watchful over them, or you may have to regret the day over they were allowed, at such a time, to remain beside your Vines. The thrip likes the tender foliage of the Vine the best of the two, and the state of the leaves and shoots before autumn may lead you to wish the Azaleas had got any where but there. Let this be an additional reason for friends possessing only one house, and that with Vines in it, for having their Azaleas clean.

CALCEOLARIAS.

"The beauty of the most of my forward plants is over; they are chiefly herbaceous and semi-shrubby kinds. There seems to be no such a thing as a cutting to be got, and I wish to save the kinds; and I fear, from the appearance of the leaves, that insects are resolved to contend for the mastery." You say nothing of seeds, and most likely the seed-pods, in such circumstances, have come to nothing. I have previously recommended that where seed, hybridised or otherwise, is to be saved by a private grower, one to three pods are enough to save on a plant. Discarding, therefore, all attempts at seed, remove at once the whole of the flower stems, but leave a pod or two, if you like. Collect your plants, then, on a north border, and place them under a close frame, or under a hoop to be covered with a thick cloth, and there give them several fumigations with tobacco, erring on the side of not making it too strong at a time, and allowing a day or two to intervene between the doses of the narcotic. Now, as this last season we have had reference to frequent instances of the danger of carrying things to extremes in the way of fumigations, &c., I will just state how I would do, and have done, in such circumstances. The plants are collected into a moderate two-light frame, in other words, into a space of eight feet by five, averaging one foot in depth. I should give such a space about one ounce of the strongest shag tobacco, covering the glass

all over, and damping the covering outside. However the tobacco was burned, *slowness* of ignition, and freedom from flame, by a covering of damp moss, would be indispensable. Next day, I should give no air; but if the sun struck the glass at all I would shade instead. The second day air would be given, just to allow the fumes to escape; and towards evening I would take out and syringe the plants individually, with the clear soot and lime water, or the decoction of sulphur and lime, mentioned above, setting them back again, after being thus syringed. If no insects afterwards appeared, a syringing with clear water would finish all this cleansing affair. It is more likely, however, that all the insects alive were not thoroughly killed, or that a fresh brood has been hatched from a plentiful store of eggs since then. In that case, the process should be repeated, only that the doses should in general be weaker in each successive infestation, as the foliage, from want of air, will be less robust. It is of great importance to take all these preventive measures in time.

Amateurs, and young gardeners, set to and smoke their plants too often as a *desperation* movement. The time to do it is when the first insect appears. If you wait until the energies of the plant are paralyzed by aphids and thrip sucking out its heart's blood, you might save your own trouble and the expense of the tobacco, as the doom of the plant is already most likely sealed. A plant covered with insects before attempts are made to dislodge them always speaks of inattention; though that inattention, in these days, is not always the result of carelessness; the *impossible* to get at them in time entering often into palliating considerations.

The plants, cleaned by these means, may be moved to a shady spot, be turned out of their pots, and planted in light, rich soil, and be watered when it is wanted with the coolest soft water that can be got, drenching the tops frequently with similar water from the syringe; and generally, by September, there will be nice healthy cuttings to strike off the semi-shrubby kinds, and good strong suckers or fresh root plants to take up and repot from the herbaceous kinds.

CINERARIAS.

"I have sown seed of these frequently at this season, that I might get early-flowering plants, and I never get any plants." Well, that is strange; but we know it happens sometimes from two causes. First, that chaff is sown instead of the seeds; and, secondly, when good seeds are sown they are first buried and then rotted. Though the seed is by no means small, when compared with other seeds that are really small, it will not stand a heavy amount of covering, especially if that is excessively dry at one time and excessively wet at another. Hence the readiness with which this plant, if it has any chance, sows itself; and this fact will, as we shall presently see, solve the dilemma of another inquirer.

"I am extremely anxious to save seed from some fine Cinerarias, that proper judges pronounce first-rate; but I am not at home during the day, and when I try a head, I find nothing but floss in it; when I attempt another, the seed does not seem ripe; but when I return after a breezy sunny day, it has become the sport of the winds, having become mature and dispersed during my absence. Now, what am I to do to secure seedlings? It is so tiresome to be beaten!" Aye, so it is; but there is no help for it, at times; and, all things considered, it is no doubt well. It is questionable if the fashionable dispensing in all cases of the schoolmaster's cane be an unmitigated good. Relieve us from mental drubbings, let all be patent and smooth, and whatever may become of the charms of gardening, it requires no *seer's* mantle to foretell that the glory of our country has departed, on the principle that what a man gets easily he values but little. I have some little doubts of the propriety of telling of an easy way to

get seedlings of the best *Cinerarias*, with little or no trouble, just because a simple and an efficient remedy for a disease is neglected or despised; while attention, anxiety, and money, are all alike absorbed upon remedies less efficient, if joined with the abstruse, the mysterious, and the unintelligible. Well, if you can command a light of a frame or pit, use either; if not having either of these appendages, select a warm, rather shady spot out-of-doors, and in either of these places plunge the favourite *Cinerarias*, all together, from which you expect seed, and after so plunging the pots, cover the ground with light, rich soil, and rather fine, and just make it a little damp. If in the frame, keep the glass on, with air back and front. If in the open air, a piece of thin calico, or gauze netting, suspended over them, would prevent the soil being drenched with heavy rains. By taking these precautions, if there are seeds in your flowers, you will soon have abundance of seedlings to prick out and pot, and by placing together only the best kinds, you will let them hybridize as they like. When the flower-stems fade, cut them over, and before autumn each of these plants will present you with a fine batch of young ones, rising all round somewhat in sucker-style; and each of these little bits will make a better plant for the succeeding year than any coddling and potting you could have given the old plant by keeping it in a pot.

This last paragraph will be a sufficient reply to the inquiry, What shall I do with *Cinerarias* now finished blooming? namely, cut them down, and plant them out in a rather shady place, with a little fresh, light, rich soil round each ball; water during summer, as required, and by the beginning of autumn there will be no lack of nice, healthy, young shoots to take up and pot.

R. FISH.

STOVE FERNS.

(Continued from page 138.)

PLATYCERIUM.

A SINGULAR, yet beautiful genus of Ferns, of an epiphytal habit; that is, growing on trees. It is separated from *Acrostichum* on that account, besides its peculiar fructification. The seed-vessels are produced in thick masses, in irregular patches towards the upper end of the fertile fronds, and have a great similarity to a piece of rough brown cloth. The name *Platyceirium* is derived from *platys*, broad, and *keras*, a horn; the fertile fronds being broad and flat, like the elk's horns.

P. ALCICORNE (Elk's-horn).—This curious Fern is from the warmer parts of Australia, growing there on stumps of trees and shady rocks. The barren fronds are without stems, round, or nearly so, spreading horizontally, close to the soil, tree, or rock where they grow, or when the plant is old, spreading over the decaying barren fronds of the previous year. The fertile fronds rise up from the centre of the creeping, barren ones, growing, sometimes, two feet high, gradually expanding as they advance in height. Such parts of the fronds as have no seed-vessels on them are thickly covered with star-like clusters of short hairs, so fine as to require a magnifying glass to observe their beautiful arrangement. Seed-vessels, in patches, cover the upper part of the frond; they are of a brownish colour, contrasting beautifully with the white colour on the under side of the rest of the frond. This Fern, when old, produces young plants on parts of the barren fronds. These may be taken off, potted, kept in the shade for a week or two, and then treated like the old-established plants.

P. GRANDE (Noble).—This most singular of all Ferns is also from Australia, and has been detected, also, in the woods of the Malay Islands. The barren fronds,

unlike those of the preceding species, are first spreading flat, and then rising gradually upwards, and when the plants acquire age and strength they will reach the height of two or three feet, spreading out towards the upper part into several deeply-cut lobes, forming, then, some resemblance to the spreading, erect tail of some bird. The fertile fronds are entire at the base, but deeply divided upwards. When of some size they droop downwards, assuming a pendulous form. The seed-cases are placed near the place where the division of the frond begins, and are thickly placed in a kind of three-cornered mass.

The culture of this curiously-beautiful Fern is different to any other Fern I know. Some years ago, I received one from a friend; it was no larger than a pennypiece, and was as flat as a pancake, growing on a small piece of wall. Having heard that it grew against the boles of trees, I nailed the piece of bark with the plant closely adhering to it, to a flat piece of elm wood, about a foot-and-a-half square, and then hung it up, like a shoulder of mutton, against a damp wall in the Orchid house. It was syringed two or three times every day, and quickly threw out a large, barren, flat, kidney-shaped frond, which gradually crept over and destroyed the one that was on the plant when I received it. The same liberal appliance of moisture was followed up, and soon after a third frond began to show itself just at the heart of the other. This also advanced, creeping over the last made one, until it covered it over, and, of course, destroyed it; but this third frond began to spread its wings, as I may say, upwards, and continued growing till the autumn. The plant produced no more fresh fronds that season, but in the spring, as the warmth and moisture gradually increased, the last-made frond spread still higher, so that it seemed to have taken possession of its position, and was determined to keep it. It continued to expand till it was fully a foot high, and continued to advance in size, year by year, till at last a fertile frond was produced. As soon as the seed was perfected, this dropped off, and the barren gentleman again advanced in growth, till he was really a magnificent fellow, and was parted with for a large price. Now, any one receiving a small plant of this truly noble Fern should follow exactly the same mode of growing it. It should, however, be affixed to the block, or board, whilst in a young state, otherwise it would be a difficult matter to fasten it without injuring it. After it is once fixed, its roots, which are produced freely under the spreading barren frond, will cling to the wood, and hold it in its position as firm as a sponge plant on a rock. It is increased by seed sown on small stones mixed with earth, and covered with a bell-glass. The seed-pot should stand in water. Everybody possessing a warm stove ought to grow this most curious and singular of all Ferns.

PLATYLOMA.

A genus of Ferns, with a very significant name, derived from *platys*, broad, and *loma*, a margin, the seed-vessels being placed in a broad line on the margin of the leaves. By this character the genus may be known from *Pteris* and other allied genera. The species are mostly from the temperate parts of the world; hence, with the exception of two or three species, indicated below, they will all grow in the greenhouse.

P. CALOMELANOS (Beautiful-black).—Though from the Cape, this dwarf, beautiful Fern requires the heat of a moderate stove. The fronds grow about a foot long, are bipinnate, with the leaflets of a triangular shape; these are leathery, bluish-green, and heart-shaped at the base, with a thick fleshy margin; seed vessels long and narrow, continuing round each fertile leaf. Increased by dividing the creeping rhizoma.

P. TERNIFOLIA (Three-leaflet).—A drooping, Mexican

Fern, of great beauty; easily known by its habit; suitable for basket culture. Increased by division.

P. FLEXUOSA (Twining).—Is a stove Fern, from Peru, that loses its leaves annually. It is a twiner, growing from four to six feet high, and is very ornamental. Increased by division. T. APPLEBY.

(To be continued.)

FLORISTS' FLOWERS.

(Continued from page 160.)

THE STOCK.

THE botanical name of the genus to which the Stock belongs is *Matthiolus*, and the species I have to do with in this paper are,

- M. annua*, Ten-week Stock.
- „ *densiflora*, Dwarf German annual Stock.
- „ *cheirifolia*, Wallflower-leaved Stock.
- „ *intermedia*, Intermediate Stock.
- „ *simplicicaulis*, Simple-stemmed, or Brompton Stock.
- „ *ineana*, Hoary, or Queen Stock.

These are subdivided again into varieties, according to the colours of the flowers.

In a former paper, I described the culture of the first species and varieties in the open air, and intimated that I should hereafter describe the culture of the annuals in pots, and the biennials in the borders, &c., I must now fulfil that intimation.

The kind, or variety, chiefly cultivated in pots near London, is the Intermediate Stock. I believe it is grown because that variety produces the greatest number of double flowers. Some nurserymen and florists near the metropolis grow thousands of pots of this valuable Stock, using it both as a pot plant and to put it into the Mignonette boxes for the windows and balconies of town residences, and villas in the neighbourhood. It is equally valuable to plant out in masses, or in patches, in the flower-garden. And, to within a year or two back, this variety was confined to one colour, the red or scarlet, but now seedsmen have in their lists, white, blue, and rose-coloured Intermediate Stocks, all equally free in producing double flowers. These varieties are, by a practiced eye, easily distinguished from the Ten-week Stocks. They are known by their habit, which is more Dwarf; and by their flower spikes branching off at right angles, or nearly so; and by such a large proportion of double flowers produced by a given number of plants, I may venture to assert that, in general, every hundred plants will produce eighty double ones.

Culture in Pots.—The London florists sow their main crops in July or the first week in August. They sow them in boxes or pans, or even in a prepared bed or border, using a light, rich soil; and as soon as they have made three or four leaves they are carefully taken up and potted singly into three-inch pots, in a rather strong soil, placing them closely in rows upon a bed of coal ashes, then, being duly watered, as they require it, they remain till October or November, and then they are removed under shelter for the winter months. Some cultivators that have plenty of glass frames place them under them, plunging them up to the rims in coal ashes; others content themselves with placing them in cradles, which are, in fact, a frame-work of beds inclosed with boards six or eight inches deep, and hooped over with hazel rods, or long laths, nailed to a kind of roof tree, and covered with mats in severe weather. The glass frames are, however, the best protection, because the glass throws off better the heavy rains and snows of winter, they being the most destructive enemies these Stocks have to contend with. I have, however, seen very good Stocks grown under the cradles.

There they remain in these pots till the blooms just appear, so as to be able to distinguish the double flowers, they are then potted into five-inch pots, using a richer compost, to encourage free growth and fine blooms. Part of the crop is placed in frames kept close, to bring them earlier into bloom, and the rest are put into their old quarters to keep them back. A succession of bloom is often secured by sowing two or three different times in succession. Sometimes a few are put into a gentle heat to bring them earlier into flower, but, generally speaking, the stock does not bear forcing well.

The general management of these fine early flowers consists in just keeping them moist at the root; during frosty weather almost no water will be required. Full exposure to the sun and open air must be constantly given on all favourable occasions; but during the winter not a drop of water must be allowed to fall upon the leaves, or they will soon get mouldy and damp off. Dry frost will not hurt them unless very severe. Mice, in severe weather, if they can get into the frames, will devour them for want of better food. These must be watched for and destroyed; slugs, too, will feed upon them; but the watchful cultivator will soon see their slimy marks, search for these nasty enemies, and prevent their ravages by destroying them. Worms, when the bed of ashes is not thick enough, will find their way into the pots and do mischief by disarranging the soil. These may be got rid of by observing their casts on the surface, turning such pots upside down, shaking the ball carefully out of the pots, and then picking out the worms. Or they may be killed by watering with lime-water. By attending to these instructions, the gardener, or amateur, may grow as fine Intermediate Stocks as may be seen in and about London. T. APPLEBY.

(To be continued.)

PRIDE AND SELF-WILL.

By the Authoress of "*My Flowers*."

(Concluded from page 142.)

THE conclusion of Jane Markham's history is a loud warning, and valuable lesson to young women, who, in the thoughtlessness and wilfulness and wickedness of unrestrained and corrupt nature, plunge into a sin that leads to another and another, and draws them into depths of which they had no notion when the first step was taken. Sin, like water that runneth apace, needs strong and mighty barriers to keep it from breaking bounds. The least outlet—nay, but a soft, yielding spot through which it can slowly soak—will soon give it room to rush as a furious torrent, bearing down everything before it, and flooding the land. It is needful to watch and bank up diligently the first appearance of the first and faintest temptation to sin; for it is scarcely possible—it is all but impossible—to stop when the foot is in the stirrup; and we know, by Adam's experience, as well as by that of every one of his children, that death entered into the world by sin. The death of the body too often follows sin, in these our days, as well as death of the soul.

"Jane Markham's new situation was with a large family, a mile or two away in the country, and although at first she seemed very low spirited and unhappy, yet in a few weeks she recovered her cheerfulness and usual good spirits, and delighted her employers by her ready perception and cleanly habits. She had, however, only been with them about seven or eight weeks, when she was requested by a younger sister, who had often given her parents much trouble, to act as bridesmaid at her approaching wedding. Her new master and mistress kindly gave their consent, and she left early one morning with the strict understanding that she was to return the following evening. That evening, however, passed away, and no Jane Markham made her appearance. The next day's sun also set, and Jane was still absent. About noon, on the third day, her master received a note, signed 'Miss Markham,' excusing her absence on account of illness,

and intimating her intention of returning that afternoon. Her master strictly interrogated the messenger, and ascertained, to his great mortification, that she was really well. Indignant at the discovery, he sent a message which most probably had the effect of alarming poor Jane; for in the evening her mistress was greatly astonished at the arrival of a cab containing Jane and her sister, and was still more astounded by their peremptorily demanding Jane's boxes. Her mistress inquired what all this meant (the husband not being at home), and Jane, alas! was too ready to tell an untruth to obtain her ends. She replied, that a sister lay dangerously ill; that she could not leave her; that her life was of more consequence than her situation; and that she must leave at once. The truth was, she feared that her master would have taken very decided steps against her, and she dreaded to meet his face. Her boxes were placed in the cab, and away she drove, never again to see her mistress's face. This departure took place one Saturday evening.

"It is but justice to her parents to state, that they did not hear of her absence from her situation after the allotted time (for she had taken up her abode with her sister, instead of seeking her father's home) until too late to interfere; and her father then wrote her a very faithful letter, pointing out the injury she was doing to herself, as well as bringing disgrace upon the whole family. The wedding, it appeared, had not taken place, for some reason or other, and Jane remained with her sister until the following Tuesday, when her mother was surprised to see her walk into the house. Jane complained of being ill; but her mother, vexed and angry, took but slight notice of her, until she again complained of being very ill. As most mothers would do, her heart then softened, and she gave her some simple medicine and sent her to bed. The next morning she was still poorly, but not sufficiently so to justify the attendance of a doctor until the middle of the day, when she complained of a sore throat, and really seemed so very unwell that medical advice was sent for. A little delay took place, and, as the doctor entered the door, poor Jane's spirit fled! This was only just one week after leaving her situation in the full exuberance of health and strength, filled with delight at the idea of the approaching wedding! The peculiar circumstances of the case became known, and reports were whispered about that she had taken poison. Her friends, indignant at the slan-

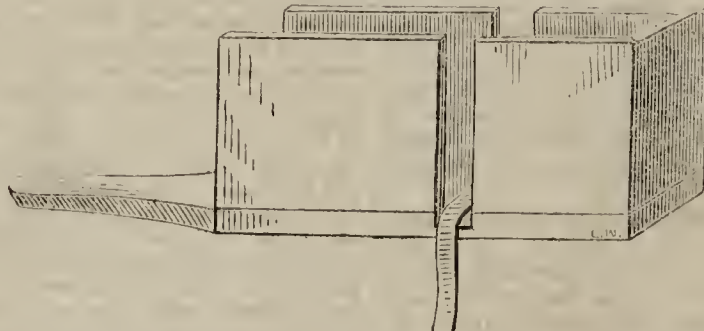
der, took no means to contradict it. The funeral was fixed, and was on the point of leaving the house, when an officer, armed with authority from the coroner, whose ears the report had reached, forbid the interment until an inquest had been held. The distress and anguish of the parents may readily be conceived; but the funeral, of course, was postponed until a post-mortem examination had been made, when the medical man discovered that poor Jane had died of scarlet fever and bronchitis (a complaint of the throat), and that the latter disease had affected the throat so materially, that the probable cause of her sudden and unexpected death was suffocation."

Readers!—this is a simple statement of plain facts; but I fear some of them take place but too often in the lives of young, unsteady women in service. If any such should read this narrative, let them bless and adore the undeserved mercy of God which has hitherto spared *them*. And let those who have as yet been preserved from such outward sin, "take heed, lest they fall."

Jane Markham's sin found her out. The very lie was returned into her bosom; for the illness she falsely pleaded came in reality upon her; and she had neither time to repent, nor suspicion that her end was so near. Disobedience, oh! what evil follows in its train! From the fall of Adam it has carried a curse with it. A falsehood must screen it; lie upon lie follows; and we see, as in this striking narrative, that death sometimes closes the scene. Had Jane Markham obeyed her master and mistress, kept her pledged word, and returned at the appointed time, we have every reason to believe her life would not have been endangered. Fever might never have attacked her; and even, if in the providence of God, it had done so, she would have been under the eye of care and caution, and proper steps would have been taken before it was too late. As it was, her own sin destroyed her.

I would earnestly press this striking narrative upon all young people, but especially upon the class to which poor Jane belonged. It may point their attention to the Eye that watches all they do, and to the Word which says, "Vengeance is mine, I will repay." And let us *all* remember, that if disobedience to *earthly* parents and masters is so heavily punished, what will be the recompense for disobeying the least command and precept of our Father and Master in heaven? Yea, let us remember this.

ASPARAGUS HOLDER.



I SEND you a sketch of a little contrivance I was led to make, in order to avoid the trouble of collecting several small bunches of Asparagus into one large one; and the difficulty that sometimes attends the tying them together, if they happen to be short; and also the frequent nuisance that arises from the heads being scattered about on the ground if the bass is not good, and, as it often does, breaks.

It is possible the same plan may have occurred to others, or a better plan; but not having seen one of any kind, I send you this, which you can notice in your valuable journal if you think it worth while.

It is, as you will see by the sketch, an oblong box, stopped at one end, against which, inside, the heads of the Asparagus rest, and therefore the bunches are always level.

The bass lies in the groove at the bottom of the box, the ends hanging down each side; the groove is made so that if the bass breaks a fresh piece may be inserted without removing the heads.

By using this, much trouble would be avoided in numbering the heads by the market gardeners, as they might be thus sold by girth instead, as boxes made of the same size must contain an equal quantity of vegetable.—G. MONTAGUE, *Saffham, Norfolk*.

DISEASES OF POULTRY.

INFLAMMATION OF THE LUNGS.

THE rapid alternation of cold northerly with warm southerly winds, has recently given rise to an unusual number of cases of inflammation of the lungs; and I have had many very valuable birds, from some of our most celebrated breeders, under my inspection.

The symptoms of the disease are, in the first instance, the evident drooping of the patient, followed by a difficulty and rapidity of breathing; the only disease with which it is

liable to be confounded is Croup, or inflammation of the windpipe, which, however, in addition to the symptoms mentioned, is distinguished by the loud and peculiar noise made in breathing.

As the two diseases yield to the same treatment, their being confounded together is not a matter of very great moment. I have always found that, if taken in time, the administration of one grain of calomel and two grains of ipecacuanha; or, in severe cases, one grain of calomel and one-twelfth of a grain of tartar emetic, rapidly reduces the inflammatory action. Warm, dry housing, and unstimulating food, such as boiled rice, or mashed potato, with plenty of green food, being given at the same time.

I have seen several birds this year that have been sacrificed by giving them Rue, and other stimulating nostrums, when labouring under this complaint.

As I know that some of the medical readers of THE COTTAGE GARDENER are interested in this matter, I may mention that the disease is usually pneumonia, not bronchitis.—W. B. TEGETMEIER, *Willesden, Middlesex.*

SEA WEEDS.

(Continued from page 165.)

CALITHAMNION.

12. *C. TETRICUM*.—Growing in the sea on rocks, common in England and Ireland, but not in Scotland. Fronds from two to eight inches long; "a rigid, shaggy plant, of a dull brownish-red colour. It is one of the coarsest of this family."—*Rev. Dr. Landsborough.*

13. *C. HOOKERI* (Hooker's).—On other algæ and on rocks, of a brown or red colour, from one to three inches high; may be found from Orkney to Cornwall; very fine in Arran, and on the Ayrshire coast.

14. *C. ROSEUM* (Rose-coloured).—On rocks which are covered with mud; from three to four inches high, much branched, the tips of the branches crowded with plumules; not uncommon; colour a reddish-purple.

15. *C. BYSSODEUM* (Byssus-like).—This is not a very uncommon plant; it grows upon other algæ. Stems extremely tender and gelatinous, much divided from the base, either with several principal branches thicker than the rest, which bear a great number of lesser branches, or wholly composed of slender byssoid branches, inextricably entangled together."—*Harvey.*

16. *C. POLYSPERMUM* (Many-seeded).—Dull red tufts of a round form, and from one to three inches across; not uncommon, and very abundant in Scotland, on rocks in the sea and piers.

17. *C. PURPURASCENS* (Purplish).—"Gathered on the beach, at Brighton, by Mr. W. Borrer."

18. *C. FASCICULATUM* (Tufted).—This, Dr. Harvey says, he fears, must be looked on as a very doubtful species.

19. *C. BORRERI* (Borrer's).—Rather rare, growing on rocks; colour pale rose.

20. *C. AFFINE*.—"A doubtful species." Shores of Bute, on Fuci.—*Dr. Greville.*

21.—*C. TRIPINNATUM* (Thrice-pinnated).—On perpendicular rocks at low-water mark; very rare, having been found in Ireland only, by Mr. McCalla; at Roundstone Bay, and at Plymouth, by Mr. Rohloff; very beautiful.

22. *C. GRACILLIMUM* (Most-graceful).—On mud-covered rocks; one to four inches high, very much branched, and slender; colour rosy-red.

Dr. Landsborough, speaking of this elegant plant, says, "In looking at these beautiful works of God's hands one would require an additional stock of epithets of admiration." Hear what Professor Harvey says respecting it: "This extremely elegant plant, perhaps truly the most graceful of the very beautiful genus to which it belongs, was first gathered on the shores of France, by M. Grateloup, who communicated specimens to the elder Agardh, by whom it was published in 1828. Shortly afterwards the indefatigable Mrs. Griffiths discovered magnificent specimens growing along the mud-covered base of the harbour pier at Torquay, in which locality it may be found in more or less plenty every summer. From Mrs. Griffiths it received the very

appropriate name of "Fern-leaf," aptly expressing the finely pinnated character of the branches, which do, indeed, resemble fairy ferns, so delicate that is impossible in a figure to do them justice.

23. *C. THUGOIDEUM*.—This tiny and beautiful plant is rare. It has been found at Yarmouth, Torquay, Wicklow, &c. It is a fine red colour, one or two inches high, and of a soft and flaccid substance.

24. *C. CORYMBOSUM*.—A very pretty plant; I found it in autumn floating in the sea at Ardrossan; it is very gelatinous, from one to three inches high, rose-colour, and adhering well to paper, so glossy, too, that it makes very pretty specimens. "The plant is well marked to the naked eye by the peculiar level-topped or corymbose appearance of the smaller branches, joined to their slender byssoid aspect."—*Harvey.*

25. *C. SPONGIOSUM* (Sponge-like).—On rocks and algæ; dark-coloured, and very much matted, from two to four inches high; south of England and Ireland.

26. *C. PEDICELLATUM* (Leaf-stalked).—Not uncommon on rocks in the sea; rather soft, with long branches, colour a fine red, which soon changes in fresh water.

27. *C. ROTII* (Roth's). This little plant is like peices of velvet upon rocks, of a deep purple-colour.

28. *C. FLORIDULUM* (Small-flower).—Very common; Orkney and the Land's End; it is in little tufts about an inch high.

29. *C. MESOCARPUM* (Middle-seeded).—Forming a purple crust on rocks at low-water mark.

30. *C. SPARSUM* (Spreading).—"On old stems of *Laminaria saccharina*; scarcely a line high, forming minute scattered tufts."—*Harvey.*

31. *C. DAVIESII* (Davies's).—Another minute but beautiful little parasite, of a deep red, often on *Ceranium rubrum*. "Filaments two or three lines high, forming elegant pencilled tufts."—*Harvey.*

This little plant brings us to the end of the second great order of marine Algæ, Rhodospereæ. We shall hope next to have the green ones, so refreshing to the eye, and especially so when they have their "new foliage on," if I may so call it. The plants of the ocean, as well as those of the earth, are awaking from the long sleep of winter, and beginning to appear in fresh beauty. The pretty pink fronds of *Dacrydium sanguinea* are already waving about in their rocky garden in the sea. *Cladophora arcta*, of a brilliant green, is in tufts of beauty, a living emerald. The broad leaves of *Ulva latissima*, with their many folds adding to the beauty of the plant by causing deeper shades of colour; the very delicate and pale green *Ulva lactuca* is growing upon its mussel shells and rocks (March). The long purple streamers of *Dumontia filiformis* are spreading in the waters, moving as they move. Very soon we may say, "the time of the singing of birds is come. The voice of the turtle is heard in our land." Everything knows its appointed time; the swallow is now here. Many sweet flowers have already come and are gone again! Even the tiny weed which concludes this paper has its appointed time!—S. B.

(To be continued.)

WEIGHTS AND EARLY PRODUCTIVENESS OF DORKING CHICKENS.

Your periodical of May 25th has just reached me, in which I have read the interesting communication of Capt. Hornby upon the weight of chickens of 1854. I can corroborate his statements from my own experience. I have this morning (May 30) weighed, with great accuracy, in the presence of several witnesses, several chickens of this year; but, for private reasons, I will furnish you with the weights of two only.

Dorking cockerel, hatched Jan. 15th, 1854, weighed, May 30th, 5lbs 12ozs., avoirdupois. Dorking pullet, hatched at the same date, weighed at the same time 5lbs 9ozs.

The pullet weighed this weight three weeks ago; but as she has been laying three eggs a week since that date, she has not increased in size at the rate she did previously to that event. It has been to me a source of annoyance, that my earliest chickens have commenced laying at an earlier age

than I ever knew Dorking fowls to do; my experience in this breed has extended over some years, although it has not embraced large numbers, and for Dorking pullets to lay eggs at four months old, although running with a cock of their own age only, appears to me precocious. I think I can trace it to a special kind of feeding, but not yet possessing facts sufficient for a safe induction, I shall not hazard a statement.—JOHN HITCHMAN, M.D., *Mickleover*.

DESTRUCTION OF THE GREEN-FLY

HAVING been a subscriber from the commencement of your excellent periodical, and often seen enquiries as to the best method of destroying that troublesome pest, the Green-fly, which infests the *Calecolaria*, *Cineraria*, *Rose*, and other plants; if the remedy, which has been applied by me with perfect success, is worthy of a corner, pray insert it. It was communicated to me by a working man, an amateur of such plants, and when giving me the information, he said, "Come and see my plants which have been covered with the Green-fly;" and certainly they were quite free, and very healthy. His instructions were:—Get some fine snuff, any kind will do, dry it thoroughly before the fire; have a tin pepper-box made about two inches diameter, pierced with holes, *finely* and *thickly*; let the plants be dry, dust them carefully whenever the insects are to be seen, and let it remain a few hours, or until the following day, when the plants may be syringed to wash off the snuff and dead insects. If the first application is not effectual, a repetition will be necessary. By this simple means you avoid the unpleasant smell of tobacco-smoke, which is often resorted to without the desired effect, and which other plants not affected are obliged to endure, and which offends every lover of the sweet perfumes of a conservatory. If this should be acceptable, any other piece of useful information shall be communicated. One word more; syringing is necessary within a reasonable time; twenty-four hours is quite long enough; as with *Mimulus*, if left on for a week it will scorch the leaves. The effect of the snuff is immediate.—G. T. S.

BEE-KEEPING FOR COTTAGERS.

Removing Supers.—The following is the plan generally recommended for removing a super:—Having ascertained that it is ready to be taken, that is, that it is full of comb, and that the cells are entirely, or for the most part, sealed over, choose the middle of a fine day, and divide it from the hive by passing a thin knife or a bit of wire between it and the hive; then pass two pieces of zinc between the super and the hive, lift the super upon one piece of zinc, and carry it about 30 or 40 yards from the hive, there set it upon two or three flower-pots placed together so as to form a sort of stool, and if the queen be not in it, and there be no brood in any of the cells, the bees will, in the course of a quarter of an hour or twenty minutes, begin to leave it, and it will be soon empty; but if the queen happens to be in the super, or there is any brood in the cells, the bees will not leave it, and it must be returned to the stock-hive, and the operation repeated in four or five days: great gentleness is required in performing this operation, and all noise should be avoided. The super should be watched whilst it stands upon the pots, lest strange bees should scent it out and begin to plunder it; these strange bees may be known by their entering the super whilst the other bees are leaving it, and when they are observed, the super should be removed to some other spot at a little distance. Having put the super carefully away, return to the stock-hive in which the bees have been kept all this time by the second piece of zinc: if the season be not too far advanced, another super may be placed upon it, and the zinc then removed; otherwise, a piece of wood must be placed over the centre hole in the stock, the zinc removed, the wood tied in its place, and the hive left to gather strength till the coming of the honey-harvest. If there be two supers upon the stock-hive, the mode of operation will be, of course, the same; the knife and zinc being passed between the two supers instead of the super and stock-hive.

There is, however, considerable trouble attending the above plan; therefore, try the following, which with us has been invariably successful. The super being ready to be taken, pursue the plan already pointed out, using one piece of zinc instead of two, and performing the operation at night instead of noon-day; and, instead of removing the super to a distance, tilt up the super with its adapter at one edge, and prop it up about two inches, with a stone, and the bees in the super being cut off from their queen and companions in the lower hive by the piece of metal which is lying over the centre hole, will (supposing the queen not to be there, and that there is no brood in the cells), by the early morn, have left the super and entered the hive by the ordinary entrance, and the super can be carried away in triumph. If the bees have not left the super, either from the queen being in it, or from there being brood in the cells, then it and its adapter must be let down again, the piece of zinc removed, and the process tried again in three or four days.

Joining Stocks in the Autumn may be done in two ways: by driving and fumigating; some succeed better in one way, some in the other. We will describe both methods, so that on failing in one the other may be tried.

And first of *Driving*:—The night before it is intended to operate, carefully close the top centre hole of the hive to be driven; detach it from its floor-board, and raise it about a quarter-of-an-inch by means of small pieces of wood; the air passing over the floor-board will drive the bees from it up into the combs; on the next evening, as soon as the bees are in the hive, take an empty hive the same diameter as the hive to be driven, a long strip of rag, about three yards long and four inches wide, some twine, and two stout sticks, each about a-foot long, and an empty bucket, to the scene of operation; place the bucket in front of the hive, and quickly, but gently, lift the full hive upon the reversed empty hive; bind the rag firmly round the junction of the two hives, and fix the rag in its place by twisting the twine round about it; then gently turn the two hives upside-down, thus bringing the empty one to the top, and commence to beat the lower and full hive, gently, but regularly, with the two sticks, one being held in each hand. A violent buzzing will be soon heard within the hive, which is generally followed by the ascent of the queen and bees into the upper and empty hive; in about ten minutes, or a quarter-of-an-hour, the bees will have ascended, and the hive, now filled with bees, may be placed upon an adapter where the old hive lately stood, and the old hive itself with its contents (the few remaining bees in it having been destroyed by sulphur or stupefied by smoke), may be stowed carefully away. And now, to return to the bees in the combless hives. It has been ascertained, that if the difference in the smell of two hives of bees be removed, the bees themselves will unite harmoniously together and work as one hive. This difference in smell may be overcome as follows:—Having removed the covering of the centre hole from the adjoining hive to which the driven bees are to be joined, and placed a piece of perforated zinc over the hole, place the hive containing the driven-bees and its adapter (having first twisted and fastened some strips of rag round the junction of the hive and its adapter, in order to prevent the escape of any bees otherwise than by the hole in the adapter) over the zinc, and the smell of the bees in the lower hive rising through the zinc, will produce a unity of smell between the bees in the two hives. Early the next morning, remove the piece of perforated zinc, and introduce some smoke at the hive entrance—this, mixing amongst the bees, will effectually destroy any remaining difference in smell, and one of the queens having been destroyed, the doubled population will unite and work harmoniously together. In a day or two, all the bees will have descended from the upper hive, which may then be removed, and the centre hole of the lower one re-stopped.

And now, as to *Fumigating*:—Proceed exactly as before, (having first introduced the nozzle of the fumigator, which it will be convenient to have made moveable, through the straw of the empty hive) but do not turn the two hives, when joined, upside-down; then introduce the smoke so long as any buzzing is heard inside, giving the upper and full hive sharp blows, from time to time, so as to shake the stupefied bees, which, before they become senseless, will most likely have run up as far as possible between the combs down into the empty hive; then, with a long feather,

sweep out any bees that may not have been dislodged, and stow away the full hive as before. Find and destroy the queen, if you can, (unless you know that she is a very young and strong one). As soon as the bees begin to recover, place an adapter over them, and then place the hive, bees, and adapter over the adjoining hive, and treat them exactly as before. We, ourselves, much prefer the plan by fumigating; but, as we said before, if one should fail, try the other. In the same way, the population of another hive may be added to the already-doubled population, should it be wished to do so.

Feeding in Autumn and Spring.—In section 3, under the head of October, we described the food we use ourselves, and recommend to others; and in section 1, under the head "Feeders," we explained the method of using that which was described; and nothing more need be said about autumn-feeding, here, further than once more impressing on our readers the necessity of getting it over quickly. In spring, food, if necessary (and it is a great pity that it ever should be necessary), may, and, perhaps, had better, be given in the same manner as in the autumn, as soon as ever the bees will take it. We have always found that those hives do the best which require no spring-feeding, and which are not disturbed after the condensers have been once removed.

Putting on Condensers.—Nothing need be said about this, further than to refer our readers to the title "Putting on Supers," in this section, with which it is identical.

Painting.—Stone-colour would seem to be as good a colour as any for painting hives; it has not the glare of white, and does not condense the heat as any darker colour does. We must again caution our readers only to paint when the hives are quite dry, and on fine dry days.

SECTION 5.—*A System of Management.*—It was stated, in section 1, that swarming might be generally prevented, and we there pointed out the manner in which, and the reasons why, such prevention should be attempted; it was also stated in that section, that hives should not be allowed to stand for more than four years, that is, five summers; and directions in accordance with these statements were given in section 3.

From this, it will be sufficiently obvious that the bee-master should have some system to adopt, by which he will be enabled properly to dispose of his swarms if they should rise, and to renew his old hives from time to time.

In speaking of Pedestals, in section 2, and of setting up swarms and second swarms, in section 3, the system of management which we are about to propose was kept in mind, and if our directions have been followed, each stock-hive will have fixed on one side of it a pedestal, and on the other there will be left a space for fixing another pedestal, if necessary. Instead of pedestals, it would be more convenient to have a stout, oblong frame, four stout legs fixed firmly into and standing about 15 inches above the ground, just long enough to set three hives and boards upon, if necessary: it will be seen that a hive may be pushed from one end of such a frame as this to the other without trouble—a matter of some consequence in joining hives.

Supposing that it has been determined not to keep hives after they are four years old, that is, for more than five summers, the bee-master must arrange his hives (mentally, at least) in sets of four. We will take one of these sets as an example for the whole, and call the four hives in it *a*, *b*, *c*, *d*, and we will suppose that they are respectively swarms of 1850, 1851, 1852, and 1853. In 1854, or in the hive *a*'s fifth summer, *a* is to be taken up; and whilst room is being given to the hives *b*, *c*, and *d*, the centre-hole in *a* is kept carefully closed, and *a* (unless the summer has been very bad) will swarm; its first swarm, and also its second swarm, (if it be not too late in the season) must be set up as directed in section 3. Of the hives *b*, *c*, and *d*, some will most likely swarm, and their swarms must be set up in the usual way. We will suppose that *a* and *b* have both swarmed twice, and that *c* and *d* have not swarmed at all. In the autumn *c* and *d* will require no attention (except weighing, and, if necessary, feeding), and *b*'s first and second swarms must be joined to *b* itself; but *a*, and *a*'s second swarm, must be joined to *a*'s first swarm, and this doubled or rather trebled first swarm may be called *e*. In 1855, *b* will have to be treated in the same manner as *a* was treated in 1854; *c* and *d*'s turns will come in 1856 and 1857,

and *e*'s in 1858, or in its fifth year. In this manner the hives in the Apiary may be kept quite strong (the grand element of success) and regularly renewed.

If any of the hives not intended to be taken up *do* swarm, it will be some consolation to remember, that as to those hives, no more watching will be necessary, and that, at all events, the stocks will have young queens.—R.

ON THE MERITS OF SOME CROSS-BRED FOWLS.

HAVING two hens of the (so-called, I believe,) Prince Albert breed, I was induced to try a cross with a true, short-legged Poultry cock, and the result has been beyond my expectations. Out of seven chickens reared last season, six proved pullets of a rich, golden-brown laced plumage, in size somewhat larger than the mother, and of a remarkably compact form. One of these I retained. She commenced laying at Christmas, being just *six months* old, and laid usually five eggs weekly, until she became broody, when she was set on eleven eggs, and brought out eleven strong chickens. These she tended with the greatest care, being placed in a netted enclosure, with a barrel for shelter. One day, when the chickens were just *four weeks old*, I heard a great disturbance among them, and on going out found all of them in the greatest consternation (if the sky had tumbled down on them I verily believe they would not have been more so), and the hen issuing from the barrel. On looking in, I found she had laid an egg, which had evidently been the cause of their alarm; and to-day (May 30th), although performing her maternal duties in a most exemplary manner, she has laid her tenth egg in *as many days*. The eggs, too, I should say, have each weighed *over two ounces*. From these few facts I think I may say that *some* cross-bred fowls are most desirable as layers, sitters, and in an ornamental point of view.—R. O., *Edinburgh*.

[This is not an example of cross-breeding, for the "Prince Alberts" are Shanghaes, and so are Mr. Poultry's. However, we insert the facts as another illustration of the good qualities of Shanghaes.]

QUERIES AND ANSWERS.

GARDENING.

INTRODUCING A VINE FROM AN OUT-BORDER INTO A VINERY.

"I have a vinery with a front wall three feet high, and upright sashes about the same height, to which I have made a new border; the bottom of it being level with the bottom of the wall (also the bottom of the door), and the surface level with the sill of the sashes.

"The query is, whether it is better for the Vines to go through the sashes, or the wall? The sashes have holes which have been used for others; but, of course, the part of the Vine that goes over the sill cannot be protected, except by hay-bands, or something of the sort, which appears anything but comfortable.—O. P. Q."

[There can be no doubt that the best mode of getting a Vine into a greenhouse is that which leaves none of that stem exposed to the outer air; therefore, whichever plan you may adopt as to introducing the stem of your Vine, pray let no portion be exposed outwardly. Surely, no person who would bestow five minutes' common-sense consideration of this subject would hesitate. Who would desire a temperature in the collar of the Vine differing from the rest of its system? We can understand how a root may be fitfully a few degrees cooler; but, take the average, and see how the case stands. The root will not so readily be affected by a temperature in the air suddenly depressed; but if the collar be exposed, the branches, it may be, in an air-heat of 75°, and the collar freezing, why, surely, as our parliament-men say, "the supplies must be cut off."]

MANAGEMENT OF RUSSIAN VIOLETS—PUTTING GLASSES ON A HIVE.

"Will you kindly tell me when I ought to divide Russian

Violets. I replanted some plants in April, and am afraid they are all dead.—I had a swarm of bees on the 19th of May, one of the largest I ever saw. Ought I to put a glass on immediately? The swarm is in a hive of Nutt's.—HONEY BEE."

[The proper treatment of *Russian Violets* is to let the side-runners grow in April, sifting among them some rich sandy loam, and watering them freely to induce them to root. At the end of May, make a rich bed in a spot shaded from the mid-day sun; fork up the Violets, old and young together, and plant them out singly, a foot apart. Keep them watered in dry weather, and the surface often stirred gently. They will be fit for taking up for flowering in October.—Put the glass upon your Nutt's hive in which you put a swarm on the 19th, on, or a day or two after, the 9th of June.]

CHEIRANTHUS MARSHALLII.

"S. H. G. wishes to know if the *Cheiranthus Marshallii* (Marshall's Wallflower) has ever stood the winter in an open border, or would be likely to do so in the neighbourhood of Liverpool?"

[It is as hardy as a Crocus, but the damp, or very wet ground might kill it during a long winter. We have a nice plant of it in a dry border, close by the side of *Indigofera decora*. The latter was killed down to the ground last winter, but is now up again, and looking better than before. Not a leaf of our *Cheiranthus Marshallii* was browned; and what a lovely thing it is just at this season! Like many other plants of similar growth, as Rockets, Catch flies, Dianthus, and Lychnis, this *Cheiranthus* does not improve by age, and is never so good as it is the third year from the cutting; therefore, we recommend a few cuttings of it to be made every spring, to fill up the places of old plants as they wear out. Cuttings of it, however, will grow all the summer under a glass with or without bottom heat, except that from the natural heat of the sun.]

FLORA'S CLOCK.

"I am a reader of your valuable periodical, and, as I am a schoolmaster, would feel much obliged if you would tell me with what flowers I could form a *Floral Clock*, of all outdoor border flowers, for I have neither glass, nor means of having a hotbed. My nucleus is a Goat'sbeard, or, as the children call it, 'Jack go to bed at noon.' This interests them very much; and I have a great wish to feed their curiosity, and to teach them what to observe. I have, also, a south wall of about 100 feet, and have planted, to nail to it, some climbing Roses, Cochorus Japonica, Yellow Jasmine, Buddlea Globosa, Wistaria Sinensis, White Jasmine, Passiflora Azurea, Pyrus Japonica, Pyracantha, common Monthly Rose, Cotoneaster Erythocarpa, Gun Cistus, and Ceanothus Azurea, which Mr. Beaton so strongly recommends. Can you recommend me any other nice trees to nail to my wall, besides what I already have? If so, you will greatly oblige me. I want variety, to interest the children, and to give them some idea of the Flora of other lands. I find it has a good effect on my school children. There is never any danger of their damaging any plant, and it leads to much enquiry to know the derivation of the names, &c. (for I label all of them); and, as I have the valuable *Cottage Gardeners' Dictionary*, I can usually satisfy their many inquiries. With thanks to the conductors of THE COTTAGE GARDENER for the pleasing information I have derived from the perusal of their pages, I am, &c.—W. E. A. N. S."

[Our correspondent, who we well remember in his pupilage, is just one of the characters we are well-pleased to aid; and not the less so, because we find that he agrees with Mrs. Hemans in thinking,

"'Twas a lovely thought to mark the hours
As they floated in light away,
By the opening and the folding flowers
That laugh to the summer's day."

We have no doubt he also joins in its closing aspiration—

"Oh! may we live, so that flower by flower,
Shutting in turn, may leave
A lingerer still for the sunset hour,
A charm for the shaded eye."

Linnaeus gives the following list of plants, with the hours

of their opening and closing; and they are flowers, with but few exceptions, which are native of the British Islands:—

	Opens.	Shuts.
<i>Tragopogon luteum</i> (Yellow Goatsbeard) ..	3 A.M.	9 A.M.
<i>Crepis tectorum</i> (Smooth Succory Hawkweed) 4	10	
<i>Sonchus oleraceus</i> (Common Sowthistle) ..	5	11
<i>Sonchus arvensis</i> (Corn Sowthistle)	6	12
<i>Lactuca sativa</i> (Common Lettuce)	7	10
<i>Hieracium pilosella</i> (Creeping Mouse ear) ..	8	2 P.M.
<i>Calendula arvensis</i> (Field Marigold)	9	3
<i>Mesembryanthemum pomeridianum</i> (Afternoon Fig-Marigold)	10	3
<i>Ornithogalum umbellatum</i> (Common Star of Bethlehem)	11	3
<i>Mesembryanthemum</i> in general	12	
<i>Scilla pomeridiana</i> (Afternoon Squill) .. .	3 P.M.	
<i>Silene noctiflora</i> (Night-flowering Catchfly) ..	6	
<i>Cereus grandiflorus</i> (Night-flowering Cereus)	7 or 8	
<i>Convolvulus purpureus</i> (Purple Bindweed) ..	9 or 10	

A Floral Clock, or Horologe, composed of the above and a few others, was exhibited, some years ago, in the *Jardin des Plantes*, at Paris.

Another poetess has thus alluded to some of them:—

"In every copse and shelter'd dell,
Unveil'd to the observant eye,
Arc faithful monitors, who tell
How pass the hours and seasons by.

The green-robed children of the Spring
Will mark the periods as they pass,
Mingle with leaves Time's feathered wing,
And bind with flowers his silent glass.

Mark where transparent waters glide,
Soft flowing o'er their tranquil hed;
There, cradled on the dimpling tide,
Nymphæa rests her lovely head.

But conscious of the earliest beam,
She rises from her humid nest,
And sees reflected on the stream
The virgin whiteness of her breast.

Till the bright day-star to the west
Declines, in Ocean's surge to lave;
Then, folded in her modest vest,
She slumbers on the rocking wave.

See *Hieracium's* various tribe,
Of plummy seed and radiate flowers,
The course of time their blooms describe,
And wake or sleep appointed hours.

Broad o'er its imbricated cup
The *Goatsbeard* spreads its golden rays,
But shuts its cautious petals up,
Retreating from the noontide blaze.

Pale as a pensive cloistered nun,
The *Bethlem Star* her face unveils,
When o'er the mountain peers the sun,
But shades it from the vesper gales.

Among the loose and arid sands
The humble *Arenaria* creeps;
Slowly the purple star expands,
But soon within its calyx sleeps.

And those small bells so lightly rayed
With young Aurora's rosy hue,
Arc to the noontide sun displayed,
But shut their plaits against the dew.

On upland slopes the shepherds mark
The hour, when, as the dial true,
Cichorium to the towering lark
Lifts her soft eyes serenely blue.

And thou, 'Wee crimson tipped flower,'
Gatherest thy fringed mantle round
Thy bosom, at the closing hour,
When night-drops hath the turfy ground.

Unlike *Silene*, who declines
The garish noontide's blazing light;
But, when the evening escent shines,
Gives all her sweetness to the night.

Thus in each flower and simple bell,
That in our path betridden lie,
Arc sweet remembrancers who tell
How fast their winged moments fly."

HARDY HERBACEOUS PLANTS WHICH FLOWER IN APRIL OR MAY.

"Miss V— will feel obliged to the Editor of THE COTTAGE GARDENER, if he will give, in his next number, a list of spring-flowering plants, such as would blossom out-of-doors the whole of May, before the tender plants will bear

being put out. The flower-garden presents such a bare appearance just now, and has the whole of this month, Miss V— will also feel greatly obliged if the Editor will insert a list of pretty, *hardy* Perennials, to plant in borders and shrubberies, as there seems to be a great want of such amongst the old Perennials. The Penstemons do not make much show; and Alstromerias, and all such, are too delicate for our climate."

[The following list are such as may, probably, supply the plants that will meet your wishes:—

Hesperis Matronalis (Dames Violet), or, which is more commonly called *Rocket*. There are several colours of these, both of single and double flowers, and all of them meriting attention as flower-garden plants, from their being so showy and sweet-scented. They should be taken up every year after flowering, divided, and planted out again in fresh places. The soil cannot be made too rich for them.

Barbarea vulgaris pleno. This double variety is commonly called, the Double Yellow Rocket, and it is a neat companion for the other Rockets, flowering at the same time. A few dozen bunches of these Rockets, of the different colours, *yellow, white, and purple*, and then the *single, white and pale purple*, would alone make a garden, however great or small, look very gay in the month of May, if a proper distribution be made of them.

Aquilegias, or Columbines, are an endless race, for they may be collected with flowers various in form and of all shades of colour, and from pretty single to the most double.

Ranunculus acontifolius plenus, white, is a beautiful plant for a cool situation.

R. bulbosus plenus; yellow; and

R. gramineus; creamy-white.

Caltha palustris plenus; yellow.

Cheiranthus Marshallii; deep orange.

C. alpina; yellow.

Viscaria grandiflora; yellow.

Aubrietia purpurea; purple.

A. deltoidea; purple.

Alyssum saxatile; yellow.

Iberis saxatilis, white.

I. sempervirens; white.

Arabis alpina; white.

A. grandiflora; white.

A. grandiflora variegata; white.

Centaurea montana; purple.

Symphytum Bohemicum, or *coccinea*; red, or scarlet.

Melittis grandiflora; white and violet.

M. melissophyllum; purplish-white.

Lamium maculatum; purple.

Dodecatheon media; light purple.

D. gigantea; light purple.

D. elegans; purple.

Campamula speciosa; blue.

Geum chilense; scarlet.

G. chilense grandiflora; scarlet.

Salvia sibirica; purple.

Polemonium caeruleum, caeruleum album, and caeruleum grandiflorum.

Polemonium reptans; blue.

Lithospermum purpureo-caeruleum; blueish-purple.

Trollius Asiaticus; orange-yellow.

T. Europæus; yellow.

Smilacina trifolia; white.

Convallaria majalis; white.

Polygonatum multiflorum; white.

Aster alpina; light purple.

Phyteuma hispanica; deep blue.

Saxifraga cordata; light purple.

S. crassifolia; light purple.

Penstemon spicatum, or procerus; purple.

Phlox procumbens; purple.

P. subulata; flesh-coloured.

P. suaveolens; white.

P. suaveolens variegata; white.

Viola montana; light purple.

V. calcarata; purple.

Saxifraga granulata pleno; white.

S. umbrosa; reddish-white.

Djelytra formosa; crimson.

Pancretium Illyricum; white.

Geranium striatum; striped.

G. ibiricum; deep blue. See many others already mentioned in this volume.

Cardamine pratensis pleno; pinkish-white.

Achemilla vulgaris; green.

A. Alpina; whitish-green.

Lupinus polyphyllus; blue.

L. grandifolius; reddish-blue.

Veronica pallida; whitish-blue.

V. gentianoides; whitish-blue.

Even a few bunches of each kind mentioned in the above list would make a cheerful appearance in the open borders during May. Many others might be mentioned.

Then, there are the *Pæonies*—nearly all May-flowerers; and few are more showy than they are.

To the foregoing may be added:—

Arabis verna; reddish-pink.

Anemone appennina; light blue.

A. ranunculoides; yellow.

A. nemerosa pleno; white.

A. hortensis, and its varieties.

A. coronaria, and its varieties.

A. pulsatilla, and its varieties.

A. sylvestris; white.

Many *annuals*, either from self-sown seed, or purposely sown in some by-place for transplanting out in the borders in the early spring months, to flower in May, are very desirable, and very showy; such as the different kinds of *Candytufts, Clarkias, Collinsias, Godetias, Erysimums, Silenes, Ltuarias, Geltas*, and very many others; indeed, it is seldom one sees a fine specimen in bloom of an annual plant except from such as are autumn self-sown, for we are apt to sow them too thick ever to make fine plants. Self-sown, solitary plants, which have escaped the hoe, if lifted with care into proper places in the borders, after being dressed off in early spring, generally become very superior plants. Of course, the surest plan is to sow *very thinly* for the purpose of planting-out in the borders in the spring.]

AGRICULTURAL.

EDIBLE-ROOTED RAPE.

"Will you oblige me by mentioning if there is any distinction between Edible Rape and Common Rape. I could not procure the *former* from my London seedsman, neither were the Horticultural Society aware of it as a *decided variety*. Please mention, also, any good method of preserving eggs for winter use.—T. P. M."

[You probably mean the Edible-rooted Rape. It has a carrot-shaped root which is in flavour like a very mild Turnip. It is scraped like a carrot when cooked, the skin being too thin to admit of peeling. It is certainly a variety of the common Rape. The London Horticultural Society should have known more about it than you state, for it was one of their own Vice-Presidents, Mr. Dickson, who first brought it to notice. He states, "in France and Germany few great dinners are served up without it, in one shape or other." It was noticed by Gaspar Baulin as long since as 1671; and is *Le Navet* of the French; *Teltow Ruben* of the Germans; and the *French Turnip* of our gardens. Mr. Dickson adds, writing in 1805, "For above twelve years I have seen this plant brought to market in Covent Garden, but only by one person; and I believe it has been sold chiefly to foreigners, though when once known, it will be a very acceptable root in most families." You will get seed of it at Paris. The principal crop should be sown in the two last weeks of July.]

POULTRY.

HONESTY IN EXHIBITING.

"It is satisfactory to find the subject of maintaining a character for justice and honesty in conducting poultry shows is brought into notice in the pages of THE COTTAGE GARDENER. It is much to be feared, that unless rules are enforced, and false statements investigated, discredit will be thrown on poultry shows in general; and it would be disappointing to find, that after the passing of the excitement of novelty, which has raised them to so great im-

portance, they should sink into insignificance. May I be allowed to offer one or two remarks. One rule of many exhibitions is, that the fowls are to be *bonâ fide* the property of the exhibitor. Now, it happens, that an exhibitor could greatly improve his pen by substituting a bird borrowed from a friend for one of his own, but he will not transgress the rules of the society by doing so; while another, less scrupulous, makes up a superior lot, and the honest competitor is thus placed at a disadvantage. In such cases, it is surely not too much to expect that committees should have the courage to enforce their rules, by exacting the penalties which they have themselves imposed; otherwise, with what security can the honourable-minded exhibitor compete? He can have no more confidence in the justice by which the fate of his adult birds is decided, than the exhibitor of chickens can rely on his birds occupying their due position, when competing with others on unequal terms, in consequence of the statements of age being falsely entered.—A.

[All that our correspondent says is true, and the committee of any poultry exhibition would be obliged by his standing forward as an approver, whenever he knows that the frauds which he complains of have been perpetrated. There would be no difficulty in obtaining justice, if evidence could be produced. This is the obstacle.]

GOOD POINTS IN SILVER-PENCILLED HAMBURGHS.

"I have observed, at many exhibitions, that prizes have been awarded to Silver-pencilled Hamburgh cocks, with some of the scimitar feathers edged (if not more) with white, whilst others with pure black tail have been passed over. It appeared to me that it was because the first-mentioned birds had two scimitar feathers, like a Gold-pencilled Hamburgh, whilst the others I referred to had shorter scimitars, and a more compact tail. I always imagined that the compact tail was the peculiarity of the Silvers, whilst the two *long*, bronze scimitars were the peculiarity of the Gold. Will you set me right on this?"

"I also imagined, that a *pure black* tail, without a shade of white, was a *sine quâ non* to the Silver-pencilled Hamburgh; but at the Exeter exhibition, first, second, and third prizes were all awarded to birds, as I considered, having the defect of a whitish tail.

"Not exhibiting myself, I was an uninterested spectator as to who gained them.—B. J. FORD."

[The cause of the preference to which you allude, was, doubtless, the "Silvered" tail. In both varieties of Pencilled Hamburghs, an ample, yet compact, sickle tail should be present; in the Gold this must be black bronzed over; in the Silver black silvered over. This silvering should commence with a very minute line of white at the edge of the feather, the remaining portion of which exhibits a bright silver hue when reflected in a good light. The intermixture of white in any quantity, as in the tail of the Silver-spangled Hamburgh, would, of course, be objectionable. The bronzing of the tail of the Golden-pencilled cock is similar in its proportion of colours, merely substituting bronze for silver.—W.]

HOUSEKEEPING.

GERMAN YEAST.

"You have had several articles on Bread in THE COTTAGE GARDENER, which are valuable to all who bake at home. I am, therefore, induced to address a few lines to you on an indispensable article for making it good—*Yeast*. This, in all country towns and villages, as well as in detached houses, is universally scarce; and that from the brewers generally bad and very bitter. Except to the few who brew at home, it is almost impossible to pronounce it good, or even tolerable.

"Now, the 'German Yeast' is always excellent, and can be had cheaply at several places in London. But it will not keep any time; it is, therefore, essential to have it fresh, and in small quantities. It is said to be imported; but it must certainly be made by those who sell it, I imagine; because, the fact of its very soon spoiling when bought, seems to be quite against its being sent from Germany in the larger quantities which could make it answer, unless it

came in dry cakes, and was then manufactured into the moist-balls by those who sell it in England.

"I do not know whether this subject may be at all within your department. If you think so, and can procure a receipt for the German Yeast, or if it is imported in a dry state that will keep, how to manage it, and where to get it, I think it would be of great service to many, especially the poor. And it might procure a little branch of trade to anyone who could make and sell it at a moderate price.

"It is sold at 1s. per pound, at present, by Williams and Pugh, 4, Spread Eagle Court, Threadneedle-street, London.

"From London we are obliged to pay 1s. for all parcels, however small, which makes the yeast very expensive.—H. A. S."

[The German Yeast sold by the firm mentioned by our correspondent is said to be formed of the remains of the corn, &c., after distilling the genuine Hollands spirit. This yeast melts and decomposes in very hot weather. A solid yeast is made by the Hungarians, as well as by the Dutch and Germans, but it all passes under the name of "German Yeast." The Hungarians are said to make it as follows:—Boil a quarter of a pound of bean meal, in six quarts of water, for half an hour; pour it into a vessel capable of holding twelve quarts, and add three pounds and a half of wheat flour, mix them thoroughly, and when cooled to 55°, add two quarts of beer yeast. Mix them thoroughly, and keep the mixture at the temperature of about 55°. In twenty-four hours after this mixture has begun fermenting, add seven pounds of barley-meal, make the whole into a thoroughly kneaded dough, roll it out as thin as a dollar, cut it into cakes by pressing through it the rim of a wine-glass, place the cakes so cut on sieves or laths of wood to dry in the sun, and keep them in a thoroughly dry place. When required for use, some of these cakes are to be broken into pieces, put into warm water, and kept at the temperature of about 55° for twelve hours. They form a soft mass which answers all the purposes of yeast.]

SOME ACCOUNT OF THE HORTICULTURE OF TACNA IN PERU.

BY JOHN REID, ESQ.

(Concluded from page 168.)

CAULIFLOWER.—This excellent vegetable is plentiful in Chili and Lima, but has only lately been brought to Tacna. About three years ago some hundreds of plants were raised in one of the "chacras" in the vicinity; in due time they were planted out, and produced very fair heads; the propagation, as of Cabbage, by offsets, was tried, but this member of the Brassica family would by no means consent to it, and the result has been that the sprouts from the original stems are cut off as they appear, and sold for "Coliflores;" while the parent stems are gradually approaching that ligneous state, when neither leaves nor flowers can be produced by them, and unless a new generation from seed be speedily obtained, the Cauliflower, as formerly, will become unknown.

LETTUCE.—Of all European vegetables this is the one which is produced here in the greatest abundance and perfection; there is but one sort, and it appears a hybrid between our long green Coss and Cabbage kinds; little care is taken of this plant, it is generally self-sown from the numbers that are allowed to run to seed, which is sold for bird's-meat at 1s. the pound, and thus produces heads as large, and nearly as heavy, as our best dwarf Cabbage in Scotland. It is in season all the year round and it is in universal use.

I have now mentioned the principal vegetables of European extraction in cultivation here, and although a few others are now and then met with, they are hardly worthy of a separate notice. We have occasionally, as a paper of seed may chance to arrive, a few Carrots, and they are good of their kind, and seem to agree well with the climate and soil. Radishes I have once or twice seen, but as the growers did not think they had arrived at perfection until they were adorned with a flower several feet in height, it was found

that even boiling could not reduce the root to a fit state for mastication, and it was voted into oblivion forthwith. Beet-root, of the Turnip-rooted kind, is to be found in one or two places; it is boiled and eaten cold with oil and vinegar as a salad. I took into my head, some months ago, to make a bottle or two of Beet-root pickle, and applied to an old clergyman, a friend of mine, who prides himself on having *all foreign* plants in his garden, for two roots, for that purpose; he answered me that they were yet too young, but that he would not forget me at the proper season, and I thought nothing more about the matter. About a fortnight ago he sent his servant, bearing on his shoulder four roots, each with a seed-stalk as thick as my arm, and above four feet long, assuring me that he had now the immense pleasure of complying with my request; but I very ungratefully returned them to him, with a written recommendation that he should cut them down into gumsticks, and make his penitents chew them soft, before he gave them absolution. I went down next day to see my friend the "Padre," and I found that he had cut each root into four pieces, and replanted them again, so that, as he said, they might not be lost! We have a small long-pod Bean grown here in considerable quantities, but it is never topped, and this produces only a few pods in perfection at the upper extremity. I ventured one day to suggest this simple operation to the Padre, but he treated the very idea with contempt, scientifically illustrating his opposition, by asking me if it would conduce to my health to be made a head shorter? The logic was unanswerable, the old man had made out his "reductio ad absurdum," and I had nothing more to say for myself.

Parsley is a much esteemed plant, but seems always, I know not from what cause, extremely scarce. Celery is unknown in a cultivated state, but grows wild in the ravines of the neighbourhood.

Mint, Chervil, Dill, Basil, and Marjoram, are grown and used, but Sage and Thyme are unknown. The leaves of Prince's Feather and Love Lies Bleeding, both wild and indigenous plants, are boiled, and eaten as we do Spinach, and are tolerably good. The Tomato, or Love Apple, is produced in abundance, and enters, boiled and raw, into the composition of many dishes. Turnips have been frequently sown, and at proper seasons I have no doubt will do well, but in the experiments hitherto made, were never thinned out, and of course came to nothing.

I have stated above that the Potato of Tacna is not good, but this in a great degree is compensated for by the excellence of the Camote, or Sweet Batata, a *Convolvulus* producing large, nutritive, and well-tasted roots; the Arracacha, something like our Parsnip; and several varieties of Pumpions, which are truly excellent; and all these valuable plants require no further care than an occasional watering.

Of fruits in this valley we have hardly one species peculiar to the latitude or the country, but an abundant supply of tropical kinds is brought from the warmer places nearest to us; the few we have are as follows:—

Figs, of excellent quality and in great abundance; the trees grow to upwards of forty feet in height, and no care is taken of them whatever; the first crop is ripe in December, and the second or main one in March and April.

Grapes, of several kinds in plenty, but not nearly so fine in quality as those brought from Locumba, twenty leagues to the north, where immense quantities of wine are made from them; Tacna had at one time extensive Vineyards, but some prejudicial change took place in the quality of the water, and they were given up.

Olives are abundant, and those who like them say they are superior; the demand for the table is so great that hardly any oil is made near Tacna: they are eaten here when quite ripe, black, and full of oil. A full crop of Olives is only obtained every third or fourth year, and the reason, I have no doubt, is to be found in the clumsy and destructive way in which the fruit is gathered, the branches being beaten with canes until the Olives fall on mats placed under the trees to receive them, and this rough work cannot fail to destroy many of the fruit-buds on the long, tender, and wiry branches.

Peaches of three or four sorts are abundant, and the people are very fond of them, looking on this as the healthiest of all fruits; it may be so, but those grown in

Tacna have nothing else to recommend them; they, with the exception of one kind, are hard and flavourless, never ripen properly, and in fact do not agree with the locality; they are in season in January and February.

Pears are of two kinds, a small one in shape and size resembling the "Green Chisel," in immense quantities, and another, a small Bergamot, not so plentiful; neither sort will keep above a few days, and it is astonishing how so many can be consumed during the very short time they remain in season; they ripen in December.

Apples: We have but one kind, something like a "Keswick Codlin." The trees are stunted and cankering, and do not thrive; they are first raised from cuttings, and afterwards ingeniously grafted from the same tree! In Lima there are several good sorts, and this fruit, wrought on proper stocks, would be sure to do well here.

Pomegranates: All the hedges are of this plant, and they bear fruit in abundance, but no use is made of this most beautiful Apple.

Mulberries are plentiful and fine. Any other nation than the Spaniards would have introduced the silkworm in Peru.

Strawberries are sometimes seen as a curiosity, but of an indifferent sort; the necessity of irrigation excludes the fruit.

Plums of one kind, like the Black Jack, are mostly brought from the higher valleys on the borders of the Cordillera.

Melons, both musk and water, are grown in the greatest abundance, and are very large and fine; the seed is sown in ridges, in October and November, gets a little guano afterwards, and the produce is reaped in thousands from January till May.

Oranges, Lemons, Limes, Guavas, Pacays, Plantains, and Granadillas (the egg-shaped fruit of a Passion flower, with a pulp exactly like a gooseberry), are all grown in small quantities in Tacna, but the principal supply of them, and other tropical fruits, is derived from the warmer valleys in the province.

POSTSCRIPT.—In the above hasty sketch, I find no notice has been taken of two important productions, viz. Cotton and the Sugar-Cane. Cotton is grown in considerable quantities; it is of the perennial kind, and forms a dwarf tree of eight or ten feet high. The plants are raised from seed, and begin to bear when two years old; 100lbs of the Cotton, as taken from the plant, weigh only 40lbs. when separated from the seed. The Sugar-cane grown in Tacna is sold to and eaten by the lower class of people, and is never manufactured.

The climate of Tacna is one of the finest in the world; although 6° within the southern tropic the extremes of heat common to the same latitude, in other parts of the world, are here unknown. The fervid rays of a vertical sun are tempered by the daily trade-wind sweeping over the bosom of the Pacific ocean on the west; while to the east, and at the distance of only about forty miles, rise the mighty snow-covered turrets of the Andes, whose pure atmosphere of everlasting frost also lends its influence in tempering the solar rays. But much of the moderation of the climate depends on the open nature of the country in the immediate neighbourhood; in other vallies, only a few leagues off, which are shut in by high hills on either side, the free circulation of air is impeded, the direct rays of the sun are strengthened by the reflected heat from the inclosing hills, and the temperature at certain seasons is insufferably warm. Every modification of climate is to be met with in Peru: in open situations, at 2000 feet above the level of the sea, we have the genial temperature of Tacna; at double that height, the region where Wheat begins to be cultivable; at 6000 feet a region of perpetual spring; at 8000 feet the Fig-tree becomes stunted and dwarfish, but Wheat is in its native climate; and at 10,000 feet we are on the high plains of the Cordillera, in the region of Condors and Guanacors and Vicenas; where the Indians rear their flocks of llamas and sheep on the scanty vegetation, and extort from the unwilling soil a miserable half-ripened crop of Barley and Quinoa for their own subsistence. But even here other climates are still observable; these immense plains, hundreds of miles in breadth, are but the base for other mountains as high above their surface as they themselves are above the sea! and along the side of which is

distinctly visible that definite and unerring line where all vegetation ceases! a narrow barren zone is then observable; and this is succeeded by eternal snow, the inferior limit of which, in this latitude, seems to be about 15,000 feet above the level of the ocean.—(*Horticultural Society's Journal*.)

DUBLIN NATURAL HISTORY SOCIETY.

THE members of this society held their monthly meeting on Friday evening, the 12th of May, at their rooms, 212, Great Brunswick-street, Doctor CROKER, M.R.I.A., in the chair.

Mr. R. P. Williams presented to the museum specimens of *game fowl* from Ceylon, for the first time exhibited in Ireland. The cock was a bird imported direct; the hen bred from him and a hen, also an imported bird. Mr. W. begged to call attention to the peculiarity of this breed, which differs in the carriage of the tail from all the known varieties of domesticated poultry. In the varieties with which we are acquainted the planes of the tail are brought together, and carried erect over the back, the sickle feathers covering them on each side; while in the Cingalese the tail is carried on a level with the back, as in the wild species, the long feathers of the tail drooping so as to sweep the ground when the bird stands erect, the feathers of which are much narrower and more abundant than those we are accustomed to, and turn outwards at the extremities. The breed is also peculiar from having no wattles, and the throat naked for about one-fourth of its length; the comb is very small and indented, resembling the Malay. Mr. W. alluded to the many theories as to the varieties derived from domestication of the wild breeds, and if disposed to speculate on that question, might be inclined to refer the Ceylon fowl to the *Gallus Fucatus*, which is wild in Ceylon, and to which it bears some resemblance in the points referred to, but particularly in the carriage and formation of the tail. He also presented, beautifully preserved in a case, the skeleton of the long-eared bat—*Plecotus auritus*.

By R. J. Montgomery, Esq., was presented the nest and eggs of the long-tailed Titmouse, *Parus Caudatus*, and the eggs of the little Grebe, *Podiceps Minor*. Mr. Montgomery exhibited the nest of the Cole-titmouse, *Parus Ater*. This beautifully formed nest, he met with at the foot of a tree, but it was placed so far in from the aperture, that he had to excavate $3\frac{1}{2}$ feet before he reached it—with regard to the nest of the little Grebe, he mentioned that at Beaulieu, in the county of Louth, the bird had been for several years in the habit of breeding under the bank at the edge of the water, but the nest having been frequently destroyed by rats, the bird had formed it at a distance of thirty yards from the bank, attached to the stems of aquatic plants. It had, however, broken adrift, and he found the nest with the eggs floating about the pond.

Dr. Kinahan begged to present a specimen of the common Shrew, *Sorex rusticus* (Jen.), found dead at Donnybrook, county Dublin; at the same time he called the attention of the society to two bats presented by him, one obtained in the county Clare in 1852, presented on the 10th February, 1853, and referred in doubt to *V. Daubentonii*; the other obtained in the county Kildare in 1853, and presented at the December meeting of the same year as *V. Natiereri*, though at the same time pointed out as differing in some respects from the description of that bat. He now called the attention of the society to them for the purpose of correcting an error of nomenclature into which he was led, and which he has been enabled to correct through the kindness of Professor Bell, who carefully examined the specimens, and states that the bat captured in Clare is *Vesp. mystacinus* (Leisl.), a species new to Ireland, and a species the resemblance of which to Dr. Kinahan's specimen he had himself before called attention to. The other bats Professor Bell refers to *V. Daubentonii*, a species captured some years ago in Londonderry, but no Irish specimens of which were until now extant. Dr. Kinahan has carefully compared, as far as possible, his specimen with those in the British Museum, and entirely coincided with Professor Bell's judgment, and begged to congratulate the society on possessing such a fine series of Irish bats, as their

collection now included *V. Natiereri*, *V. Mystacinus*, and *V. Daubentonii*, of which the first two were as yet unique as Irish.

Dr. Farran then gave his paper on *Helix pisana* and its localities. He said,—“I consider a favourable opportunity occurs in presenting a few specimens for the acceptance of the society, of bringing forward a notice of the beautiful and extremely local shell *Helix pisani*, or, as it was formerly designated, “Cingenda.” I am particularly anxious that this record should be identified with the proceedings of our society, and that the vagueness of its recognition as an Irish shell should be reduced to a certainty. I am led to this, by having lately read in Mr. Gray's edition of “*Turton's Manual of Land and Fresh Water Shells of the British Islands*” the following observations relative to *Helix pisana*:—“It is one of the most beautiful of our snails, and extremely local; it is common in the South of Europe and Northern Africa, but is not found in the northern countries; Wales may be considered its northern limit. According to Montague, no mean authority, it is one of our most rare species; he only found it in one place—on the land west of Tenby, where it is confined to a small space; and Mr. Rackett has found it at St. Ives, in Cornwall;” Mr. Gray concludes by observing, “It has also been said to be found near Dublin”—if from fifteen to twenty miles he meant as near Dublin, I can answer, with perfect safety, that such is the case. In early life I frequently visited the strand of Knockangin, about a mile and a half north of Balbriggan, in pursuit of wild fowl, which were abundant there at certain seasons. On one of those visits, fatigued with watching for the flight of game, I sat down on the grassy bank bounding the tide; my attention was soon attracted by the appearance of numbers of a beautiful snail. Being an inexperienced conchologist at the time, I thought the best thing to be done was to bring them under the notice of those better acquainted with the subject. Accordingly, filling my pockets with them, I presented them to my lamented friend, the late James Tardy, an enthusiastic naturalist, to whom we are all indebted as giving the first impulse to natural history in Dublin. Mr. Tardy subsequently brought the shell under Dr. Turton's notice, and I had the pleasure, in a short time afterwards, of pointing out the locality to Mr. Tardy. I regret to say, that on visiting Knockangin on Monday, the 3rd of April last, I found that the cuttings of the Drogheda Railroad had completely obliterated the favoured locality of this shell, and when, before this occurred, I could have obtained them in any number, a couple of dozen of rather inferior specimens were my only reward; however, I should say they may be procured “*longo intervallo*” at Leytown, Bettystown, and up to Drogheda; those places being continuous with Knockangin may be considered as one locality—and except, this we have no authentic record of any other in Ireland. The late Mr. McAlla informed me he had seen the shell in Bunowen, one of the extreme points of Connemara, but he did not exhibit a specimen; and my friend, Mr. Andrews, has lately informed me that he has had the shell from Kerry. Reasoning by analogy, both those localities would be very likely to produce it, as they contain many species of plants, molluscs and shells, found on the southern shores of Europe. Connected with this shell, I should allude to a singular fact—the impossibility that exists of preserving the animal when taken from its native soil, at least so far as the experiment has been tried. I collected twenty dozen of the finest and most vigorous specimens for the late Butler Bryan, Esq.; half of those he distributed on his property in the county Meath, and the remainder in the demesne lands of Ferns, county Wexford, the scene of his appalling murder. Mr. Bryan distributed them himself, assimilating the soil as closely as possible to their own, but without success—he wrote me that the experiment was a total failure, but he was determined to give it a more extended trial on a future occasion. I tried the experiment at Feltrim, near Malahide, with the same results, although I succeeded in rearing *Helix pomatia*, or edible snail, in a degree. I most carefully watched them, but within a month or two they invariably declined and melted away. The last locality I placed them in was Portmarnock, one in every respect similar to their own. Here failure again occurred. Whether they were picked up by the

naturalists who frequented this interesting spot, or that the locale was unfavourable, I cannot say, but I could not again find them; that they never increased is quite evident. In referring once again to Knockaunin, I should observe, that it was on this strand where *Scalaria Turtoni* was first noticed, and which was named after Dr. Turton, who had done so much to elucidate the science of Conchology."

Dr. Kinahan presented to the society a number of specimens of *II. pisana*, which he had, in company with Mr. Montgomery, collected on this coast early in March last. Dr. Kinahan corroborated Dr. Farran's statement of their extremely local occurrence, and of the narrow slips they were confined to in those localities. Dr. Kinahan's specimens presented great variability of character—some pure white, destitute of bands. The young shells were carinated, and some were extremely large, equalling the specimens he had seen in the British Museum, obtained from Corsica.

Dr. Kinahan then gave his paper "*On the abnormal forms of Ferns*"—concluded. "Since I last had the honour of addressing you, I have, through the kindness of its owner, had the opportunity of examining a most extensive collection both of growing plants and dried specimens in the possession of G. B. Wollaston, Esq.; this has enabled me to add several species and even genera to the two divisions treated of at our last meeting. The genera are *Cystopteris* and *Adiantum*, additional to the Subvar. *Multifidum*, including under them three species which, with *Hymenophyllum Wilsoni* also added by him, makes up the number still further. To the number of species in the variety *Ramosum*, I have not obtained any additions, but in his collection may be found a most perfect series of forms illustrative of this monstrosity, and well worthy of study, exemplifying in a beautiful manner every gradation of it in almost all the organs of the plant, from the mere simple renate division of the frond in the form called *Brierniforme*, up to the extreme forms of division recorded on the last day. Thus much for these types. To night I propose to conclude the subject, by considering the analogies of the remaining Abnormal forms of Filices.

"Since first I attempted this, so many additional species of these have been brought forward, that without any difficulty we can accomplish a division only hinted at then, viz.—separate them into four classes, *i. e.* two varieties, and two subvarieties instead of one of each. For these I suggest to employ names other from those used on that occasion, as there were many objections to the names then used. The first, comprised under my old named *Cambrium*, I mean to call *Dissectum*, the Subvariety I call *Simiatum* still, but limit its definition: *Dissectum* variety; Frond generally more developed than normal; edged both primary and secondary erenately or irregularly lobed and unsymmetrical; segments rounded at ends; their edges curled and crisped and confluent, generally barren. Nervures terminating within leafy expansion and distinct throughout their whole course. Examples—As *Trichomanes* var. *incisum* *Cten. vulgaris* var. *Cambrium* (Linn). (This division includes so much of my variety *Cambrium* as had the parts of the plant in excess.) *Linnatum*, Subvar. Frond mostly more luxuriant than Normal. Segments irregularly lobed and serrated, pointed, and distinct; generally unsymmetrical. Outline pointed and distinct; fruitful. Nervures terminating within leafy expansion. Examples—As *Trichomanes*, subvar. *Simiatum* (Mei) *Cten. vulgare* var. *Hibernicum* *Mackaii* (Auct.). These forms are essentially modifications of a secondary axis (generally the vents and venales which we find multiplied and divided but not symmetrically as a whole), and consists in the excessive unsymmetrical development of some one or other. It is often difficult to separate this variety from the variety *Ramosum*, especially in simple fronds; but we have a valuable guide in one character which prevails almost through the entire—the barrenness of the frond, a character so universal in the class it might almost be adopted as distinctive. In some species this may be explained by the modification the veins undergo, the vein, which should be merely forked and bear the spore case, becoming branched and barren, as is seen in *Ctenoptevs vulgare*. The number of species in which it is found is rather limited, though, doubtless, if investigation be made, others will turn up.

The sub-variety is fertile, the same modification not taking place in the venation. There is a great latitude of modifications in the forms composed under *Simiatum*, from the simple irregularly erenate frond up to divisions almost as well marked as those with which you are familiar in the *Polypodium cambrium* of Linnæus. Under this group we find an illustration of a previous observation, that a sub-variety and a variety are sometimes found in accidental combination, with this limit, that, as far as I know, the parallel sub-groups are never found so. For example, you will find variety *Dissectum* in combination with sub-variety *Multifidum*, but never *Dissectum* in combination with *Simiatum*, or *Ramosum* in combination with *Multifidum*. How far varieties combine with one another I am not prepared to state. The next sub-group comprises the latter portion of my old *Cambrium*, or that in which the parts of the original type are found contracted. For this and its sub-variety it is proposed to use the names *Laciniatum* and *Truncatum*—both names suggested to me by Mr. Wollaston. They consist essentially in the absence of some organ or part of the plant, and bear the following definition:—*Laciniatum* variety, frond less developed than normal, often reduced to a mere midrib. Pinnæ and pinnules contracted, often reduced to a mere line, or absent epidermis, normal or puckered, sinuated and thickened at its margins, often ending in a hem within the edge of the frond. Edges of the frond generally waved and cut. Nervures generally produced beyond, or else terminating abruptly in the margin of the leafy expansion; outline linear not curled or crisped. Veins often very irregular in their distribution, often crossing one another in their course. Generally fruitful. Examples—*Pol. Angulare* (var. *strictum*—K); *Phyl. scolopendium*, var. *marginatum*, (Wol) *Truncatum*, sub-variety—frond contracted; segments either lobed or reduced to a mere midrib; generally symmetrical; the apices of the pinnæ and pinnules often truncated, and these unsymmetrical; nervures as in *laciniatum*; generally barren. Examples—*Am. ruta murari* sub var. *truncata* (K.) These groups, especially the variety, present a most extraordinary variety of forms, agreeing all in the one character of absence of some nominal part of the fern. They appear to be divided into several groups according to the element affected, but unfortunately we do not always find the same element affected two successive years. The general type of the class is always adhered to, one year the deficiency occurring in one set of elements, and the next perhaps in another; however, when the substance of the frond is present, we find it cut and lobed, though sometimes it is entirely wanting. The following, or in fact any of the elemental parts of the fern, may be wanting. The green coloring matter, the frond, variegated and lobed on the edges, as *Ph. Scol. our subvariegatum* (Wol) *Aspm. A. N.* var. *variegatum* (W.) The substance of frond either in part; the frond lobed in various ways; or entirely their pinnæ and pinnules or frond itself reduced to mere lines, as *Pol. Ang.* var. *strictum* (Nill). The epidermis deficient in some way. Its edges scalloped and tucked, often pitted and thickened. The apices ending in a spur of fibres as in the forms *marginatum*, &c., of *Phyl. Scol.* and *Lomaria*, spicant var. *marginatum* (W.) In fact every conceivable variety of deficiency occurs, and renders the study of numerous examples of this class necessary for the comprehension of the whole. This variety is much less permanent under cultivation than either of the others, but still sufficiently so to be distinguished from the sub-variety. Some of its forms are most beautifully symmetrical, in so much that they have been mistaken for species, as the *Polystichum*, found at Kew, with angularly linear leaflets, which bears the name of *Angustatum*, and has the habit of producing bulbillæ in the axils of its leaves, a habit also of a beautiful example of this group exhibited by me before your society in 1850, in a plant of *Pol. angulare*. The Kew plant, or at least those plants shown me as such, I believe to belong to *Pol. aculeatum*, an opinion I know at variance with the generally received one. The preceding remarks also in a great measure apply to the sub-variety, in which we find the same irregularities of form—the same occasional symmetrical arrangement of parts—the same tendency to a viviparous reproduction. The sub-variety in this group is, however, much seldomer fertile than the variety; it is also

very often uniform, but never permanently so. The lacinate sub-group varies more under cultivation than any other, but always keeps sufficiently near to the type to be recognized easily from any other except the subvariety *Truncatum*, between which and it some confusion exists at present, principally arising from the groups not having (owing to its ugliness) been as much studied as the *Ramosa* or *lustrata* type, but doubtless, after a little more examination, it will be found as well defined as that group. I have prepared a list of all the forms that appear to belong to the groups mentioned to-night, but can look on them as to a certain extent imperfect, as, doubtless, forms belonging to other groups are mixed up with them, owing to want of specimens and information about the plants. Indeed, I think the class themselves are to a certain extent only provisional, containing within them probably the nucleus of other classes. My object has been to collect together all the abnormal forms, and as far as possible group them; how far or how natural this has been done it must remain for others to judge. A few words about a point of nomenclature. When a variety and subvariety are found in conjunction, it is proposed to call the form by the name of the variety, merely adding after it, "in combination with subvar. &c.;" when two varieties or subvarieties are conjoined, either to name it after that best marked, or make a similar addition to that above, or to call it after both, as we speak at present of red and white roses, &c. To the names used some may, and doubtless will, object. If the scientific world in general, or even the majority of them, choose to adopt others, I am content, provided that there be unanimity as to the names chosen, and to the definitions of these names thus chosen. Thus, gentlemen, I have ended the task proposed by myself of collecting and grouping these abnormal forms; how far I have succeeded it is not for me to judge: Doubtless, improvements and alterations can be suggested, but I doubt that few of importance as regards these six groups will be made. Forms may be removed from groups into which they are at present unwillingly placed (as *Am. R. M. var. dissectum*) which is fruitful, and evidently belongs to some form of *Ramosum*. The forms, with confused venation, at present included under *Laciniatum*, but which probably belong to the same form of *Ramosum*, into others to which they should belong, but, as I stated before, I believe the types should remain intact. On physiology I have scarcely touched, my sole object having been the collecting and grouping of those strange and varied forms whose study is of almost equal importance with that of the limitation and definition of species, since by it I am convinced much light can be thrown on the other. Any further information or explanation concerning this subject I have in my power I will gladly impart to those desiring it, and thankfully receive additional information, either regarding the forms enumerated, or any others unknown to me at present." Dr. Kinahan illustrated these remarks by numerous specimens of the forms mentioned, and by plants of the following unrecorded forms:—*Phyl. scolopendrinum*, var. *Laciniatum*, apex of frond formal, basal half of frond contracted and serrated unsymmetrically; fruitful venation in apical portion of frond confused—neighbourhood of Drogheda, Co. Louth, March, 1854; *Phyl. scolopendrium*, var. *Laciniatum* (?) frond irregularly lobed, venation very much confused, barren—Donnybrook, Co. Dublin, December, 1853; *Am. Ruta Muraria*, var. *Laciniatum* (?) fronds symmetrical, contracted, fruitful—King William's Glen, Co. Louth, April, 1854; *Am. Ruta Muraria*, sub-var. *Truncatum*, fronds irregularly contracted, leaflet reduced to a mere midrib—Marlay, Co. Dublin, 1853.

Mr. Andrews said that the specimens exhibited and the forms illustrated by Dr. Kinahan exemplified the numerous varieties of the fronds, and their departures from the original type that occurred even among the ferns of this country. In England, some botanists had so multiplied these sub-forms that it was difficult to arrange and to reconcile such alterations of species. Dr. Kinahan has proposed a classification for all these forms (among which some are really beautiful), and, as he has so industriously shown the multitudinous forms of several of the genera of the ferns of this country, Mr. Andrews considered an arrangement of the kind desirable, in order to place those departures from the original type into such divisions as

their several gradations seemed to authorize. It is shown that, when ferns exhibit extremes of monstrosity of growth, the variations become changed and confused, the character of the frond greatly altered, and a barren state sometimes consequent, which is seen in one of the forms this night exhibited, the *Polypodium cambrium*, in some instances the absence of fructification is supplied by bulbillæ, and the development of young plants continued. In others, as in *Asplenium* or *Camptosorus rhizophyllum* (walking fern), a viviparous action of the apex takes root, and produces young plants. In *Adiantum capillus veneris*, Doctor Ball pointed out a singular vegetating principle affecting the termination of the pinnules; and in *Woodwardia radicans* young plants are produced from the backs of the fronds, and extend their range of growth similar to the *Asplenium rhizophyllum*. It is characteristic of these forms that most retain those deviations under entivation. In the phænogamous plants such rules likewise occur as are instanced in the *Saxifrages*, that present such variations both in foliage and inflorescence, and which they retain in garden culture. Some that have imperfect fructification, bulbillæ form in the axils of the branches, as in the case of *Saxifraga leucanthemifolia*, and which led Dr. Robert Brown to name an Arctic species *Saxifraga foliolosa*.

(To be continued.)

TO CORRESPONDENTS.

** We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed "To the Editor of The Cottage Gardener, 2, Amen Corner, Paternoster Row, London."

ROYAL BOTANIC SOCIETY'S SNOW (F.).—We are obliged by your asking us the question. The sole reason of our not giving a report was, that our usual Reporter, unknown to us, was laid up by illness at the time.

PANSEY SOIL (W. Bankes).—The soil may be of any light loam, though that from an old pasture is best. To three barrow-loads of loam add one of thoroughly decayed stable manure, such as the remains of old hotheds. Make the bed twelve inches deep of this soil, in a situation protected from winds and shaded from the mid-day sun. There is no need to beat the bottom of the bed solid.

RHUBARB GROWING (J. W.).—There is no separate work on this subject. You will find full particulars in *The Cottage Gardeners' Dictionary*, with a drawing, but too long to extract.

GOLDEN PHEASANT (H. H.).—There is a work published "On the Breeding, Rearing, and Management of this Bird." We shall be much obliged by any reader who keeps them sending us information on these points.

SALT FOR ASPARAGUS (An Old Subscriber).—You will have seen the answer to another inquirer, and if that is not sufficient, please to say what further information you require.

ERANICATING COLTS' FOOT (T. A.).—Forking out the roots and draining the soil are the best remedies.

MORTALITY AMONG YOUNG CHICKENS (C. C. Mossop).—We suppose yours are Dorkings, which are proverbially delicate during chickenhood. Keep them in a dry, thickly-sanded shed; give them an egg boiled hard and chopped fine, mixed with moistened meal. One egg to every six chicks daily. Give them a daily supply of green food, and let them run out all day if it be fine, but keeping the hen under a coop.

ROSE BUGS (Rosetta).—We have received your note, but no "bugs."

NAMES OF PLANTS (Dubitans).—We believe it to be *Cratægus pentagyna*. (R. P.).—*Isatis tinctoria*, or Dyer's Wood; an English plant, but rather rare. (C. and H.).—The white-leaved plant, *Cerastium tomentosum*; the other is like *Collomia giloides*, but we cannot tell unless we see the bloom. (G. A.).—The Fuchsia is *F. bacillaris*, which is often called *reflexa*. The yellow Composite flower is *Neja gracilis*, a little half-hardy bedding plant from Mexico. The leaf may be that of some *Ruellia* (not *Roellia*), but among so many plants which are often ill-defined and very difficult to make out, even when seen in flower, it is very difficult, and seldom safe, to trust to a single leaf for determination. Under this head we can hold out no great expectations of any clear or right decisions from seeing a leaf, or few leaves; the flowers, and as much of the history of the plants as is known, ought to accompany specimens. It lessens our labour and the consumption of our time.

WEEKLY CALENDAR.

M D	D W	JUNE 15-21, 1854.	WEATHER NEAR LONDON IN 1853.					Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.							
15	TH	<i>Epomis cincta.</i>	30.007-29.961	70-55	S.W.	—	44 a 3	16 a 8	morn.	20	bef. 3	166	
16	F	<i>Calathus littoralis.</i>	30.037-29.985	82-48	S.	—	44	17	0 17	21	0 16	167	
17	S	<i>Poëcillus lepidus.</i>	30.052-30.006	75-49	W.	—	44	17	0 34	22	0 28	168	
18	SUN	1 SUNDAY AFTER TRINITY.	30.001-29.869	71-53	S.W.	—	44	17	0 50	23	0 41	169	
19	M	<i>Lebia erux minor.</i>	29.728-29.553	64-41	S.W.	32	44	18	1 3	24	0 54	170	
20	TU	QUEEN VICTORIA ACC.	29.556-29.531	68-44	N.E.	02	44	18	1 19	25	1 7	171	
21	W	QUEEN VICTORIA PROCLAIMED.	29.677-29.586	60-43	N.	04	44	18	1 34	26	1 20	172	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 73° and 51.3° respectively. The greatest heat, 95°, occurred on the 19th in 1846; and the lowest cold, 40°, on the 15th in 1850. During the period 102 days were fine, and on 87 rain fell.

We return to our observations on the PEAS; and next in order of maturity we come to

BISHOP'S EARLY DWARF.

Some five-and-thirty years ago, when this variety was first introduced, it was esteemed as a very valuable acquisition, being very dwarf, and only a week or so later than the *Early Frame*, with a larger seed than that variety. It was selected by Mr. David Bishop, of New Scone, Perthshire, from the *Spanish Dwarfs*, and for several years was extensively cultivated in small gardens, on account of the limited space it occupied. It was never a prolific variety, and hence its cultivation is now all but discontinued; indeed, it is not worth growing.

The plant attains from nine inches to a foot high, and the stem is branching. Pods single, or in pairs, about two inches long, and half-an-inch broad, containing from four to five Peas, which are of an irregular shape, and about a quarter-of-an-inch in their greatest diameter. The ripe seed is of a creamy-white colour.

BISHOP'S LONG-PODDED.

Synonyme—Improved Bishop's.

This is a very superior variety to the preceding in every respect, and is one of the very best, if not the best, of all the dwarf varieties.

The plant attains two feet high, and produces numerous side-branches, containing from eighteen to twenty pods on one plant. The pods are single, or in pairs, about three inches long, and half-an-inch broad, slightly curved, and terminating abruptly towards the point; they contain from seven to nine Peas in each. The ripe seed is creamy-white.

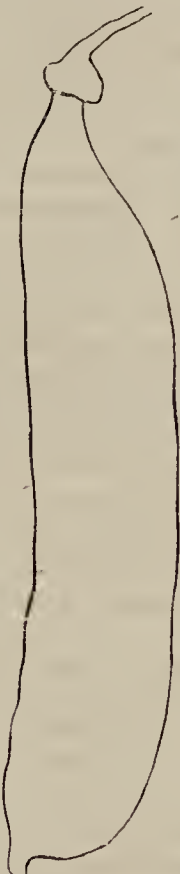
The seed was sown on the 5th of April, and the plants bloomed on the 10th of June; on the 12th of July they were fully podded.

NE PLUS ULTRA.

This is a new variety, introduced by Messrs. Noble, Cooper, and Bolton, of Fleet Street, London; and, when we say it belongs to the class of wrinkled, or *Knight's Marrows*, is as early as *Bellamy's Early Green Marrow*, and possesses, both in pod and Pea, the fine deep olive-green colour of that variety, we need say no more in praise of it.

The plant is of a strong and robust habit of growth, six to seven feet high, with a branching stem. It begins

to produce pods at a distance of two or two-and-a-half feet from the ground, and the number in all is from twelve or eighteen on each plant. The pods are almost always in pairs, very rarely single, and from three inches to three inches-and-a-half long, three-quarters-of-an-inch wide, very plump and full, almost round, slightly curved, and terminating abruptly at the end. Their colour is deep bright green, and the surface smooth; they contain seven very large Peas, each of which is half-an-inch long, nine-twentieth's broad, and eight-twentieth's thick; and, although they are not so closely packed as to compress each other very much, still they fill the pods well.



The seed was sown on the 5th of April, and the plants came into bloom on the 22nd of June; on the 12th of July they were quite filled, and fit to gather.

For market purposes, I do not know a more valuable Pea.

R. H.

(To be continued.)

NEXT in the alphabetical order of Scripture plants occurs BARLEY, the *Shorah* of the Old Testament. This Hebrew name is derived from a word signifying to stand erect, as the hair of an affrighted animal. The Latin name, *Hordeum*, is likewise derived from *horreo*, to stand erect as the hair. Both names are allusive to the stiff bristles, or awns of this grain.

Pliny states that Barley is the most ancient food of man (*Antiquissimum in cibis hordeum*—Nat. Hist. lxxiii. e. 7); and it is one of the earliest mentioned as a cultivated crop by Moses. When "the hail smote every herb of the field" in Egypt, it is added, "and the Barley was smitten, for the Barley was in the ear; but the Wheat and the Rye were not smitten, for they were not grown up" (Exodus ix. 31, 32). It has been inquired how this can be, since we know in England that the

Wheat is as early in the harvest as the Barley? The answer is quite satisfactory. In Egypt, Palestine, and the neighbouring regions, the Barley and the Wheat are sown at the same time in October, and the former being of the quickest growth is harvested at the present day in March; whereas, the Wheat harvest is during April, in Upper Egypt, and during May, in Lower Egypt. If, therefore, the hail descended during February, it would be when the green ears of Barley were fully out, but whilst the Wheat was only in leaf, and the grain stalks "not grown up." That the hail did occur during that month we are justified in concluding, because the Israelites were allowed by Pharaoh to depart in their month Abib, which corresponds nearly to our March; and between the descent of the hail and their departure three other plagues were inflicted. A modern traveller, Dr. Richardson, confirms this explanation; for writing from Egypt early in March, he says, "The *Barley* and the *Flax* are now far advanced; the former is in the ear, and the latter is balled (has thrown up the stalk), and it seems to be about this season of the year that God brought the plague of thunder and hail upon the Egyptians."—(*Travels*, ii 163).

It was considered by the Israelites as an inferior kind of food; for although it sometimes yielded "in the same year an hundredfold"—(*Genesis* xxvi. 12)*—yet its permanent lowness of price arose in reality from the want of demand as an article of superior consumption. Thus, we learn its value in Samaria, in comparison with the flour of Wheat about 2,700 years ago, from this passage:—"a measure of fine flour was sold for a shekel, and two measures of *Barley* for a shekel" (*2 Kings* vii. 16); a proportion agreeing tolerably with the relative value of Wheat and Barley in our markets.

Barley was chiefly cultivated for making bread for servants and workmen, and as provender for horses. Thus, together with Wheat and other food, the King of Tyre gave to King Solomon's "hewers, that cut timber," "twenty thousand measures of Barley" (*2 Chron.* ii. 10). Nor was it without an emphatic meaning that it is recorded that the prophet Elisha was reduced to no better fare than "loaves of barley" bestowed on him in charity (*2 Kings* iv. 12), and that our Saviour had no better provision wherewith to feed the multitude than that miraculously extended from "five *Barley* loaves" (*John* vi. 9). If Elisha and Jesus murmured not at such humble provision, ought not we, whatever our lot, learn therewith to be content?

That *Barley* was the usual food for horses in Judea, and elsewhere in that part of Asia, appears from many authorities; but it will be sufficient to quote this one—"Solomon had forty thousand stalls of horses for his chariots, and twelve thousand horsemen. And those officers (the twelve Governors of Israel) provided victual for King Solomon: Barley also and straw for the horses and dromedaries" (*1 Kings* iv. 26-28). The straw was not as bedding for the horses, because the natives use

only the animals' dung dried for such purpose, but the straw was chopped or broken small, like our cut chaff, and was mingled with the Barley. That Barley was used similarly as provender by the Greeks, we have the testimony of Homer (*Iliad* v. 196); and the Arabs still employ it as their horses food.

The meal and the bran of Barley, from the earliest ages, have, also, taken a part in sacrifices and incantations. Thus, in that earliest form of trial by ordeal, when the jealous Hebrew husband brought his suspected wife to the Priest "to drink the bitter water that causeth the curse," it was ordained that "he shall bring her offering for her, the tenth part of an ephah of *Barley meal*; he shall pour no oil upon it, nor put frankincense thereon; for it is an offering of jealousy, an offering of memorial, bringing iniquity to remembrance" (*Numbers* v. 15).

It is not difficult to trace from that solemnity the Barley bran used by the Greeks to excite or to rekindle affection in those they loved. Either it was scattered dry upon the flames, or it was made into a paste and cast into the fire (*Theocritus* v. 33). The Greeks may have seen in the jealousy offering of the Jews nothing more than an incantation.

THE *Pomological Society*, we are very glad to hear, is making good progress. Robert Hanbury, Esq., Thomas Ingram, Esq., and Henry Bellender Ker, Esq., will be proposed as Vice-Presidents, and we have no doubt that a Meeting of the Society will soon be announced.

WE heard from Devonshire, as long since as the 24th of May, that the *Potato Murrain* had there made its appearance, and some leaves, which accompanied the communication, confirmed the statement. Such appearances have been usual for several years past, but if we have a dry, warm summer, the early disease of the leaves will be of little consequence, for in such weather it will not spread extensively to the tubers.

TRAINING FRUITS IN PARTICULAR FORMS.

IN my last paper, it will be remembered I explained those principles which mainly refer to the health and enlargement of the tree. I will now offer advice about particular forms of training; and as a greater variety of shapes are practised with Pears than with any other fruit-tree, I will take them to illustrate the subject. I cannot undertake in one chapter to handle every mode; but must content myself with some of the principal, which, indeed, with very trifling modifications, will fairly represent the whole.

- 1st. The Pyramidal mode as standards.
- 2nd. The Table Trellis.
- 3rd. The Umbrella mode.
- 4th. The old Trellised Espalier.
- 5th. Fan training.
- 6th. Horizontal training.

These six may be fairly stated as the only modes worthy of recognition as containing a principle; most others are the dictates of mere fancy, to which I can have no objection whatever.

* In our translations of the Bible it is rendered simply, "Isaac sowed in that land and received in the same year an hundredfold," but there is no doubt but that in the original it is "an hundredfold of *Barley*."—See Dr. Parkhurst, the Septuagint, &c.

PYRAMIDAL STANDARDS.—These, our readers know, are generally purchased from our nurseries with the framework of a pyramid already commenced; that is to say, one perpendicular shoot and a few developed side-branches; the lower extending from six to eight inches, and another series or two narrowing gradually to the point. Such trees, after planting and commencing growth, must have some attention immediately. It will be found, that when luxuriating freely, more shoots will be produced in some portions of the tree than it is expedient to retain ultimately; and as for leaving crowded spray for winter pruning, it is nonsense. It is not calculated to attain the end in view, which is, of course, to reduce the habits of the tree, as far as possible, to the character of a machine—one under complete control. Those who cannot take so high an aim, assuredly should not attempt this high kind of culture; a course of practice both interesting to those who love a garden, and withal profitable, if pursued with judgment. However, the cultivator of pyramidal Pears must, from the first, keep in view the chief objects sought to be attained by this mode, which may, I think, be stated as follows:—

1st. To grow a complete collection of Pears in a narrow compass.

2nd. To reduce them to thorough control.

3rd. To ensure liberal crops.

4th. By uniformity in appearance, and general management, to render them as ornamental as useful, and to convey an idea of system, and the triumphs of gardening skill.

Such are my ideas of the mark to be aimed at. If I am correct, let me endeavour to show how it may be consistently carried out, without an alarming amount of what the world calls trouble:—The one great principle on which the pyramidal mode turns as to practical routine, is that the culture shall be so conducted, as that the advancing tier of branches shall not be permitted to overhang, shade, and render barren, the lower tier. In this respect, our ingenious readers will at once perceive that there is an identity of purpose between pyramidal Pear-training and the best mode of rearing permanent hedges. Why does the good hedge-manager clip them into what is termed "hog-man" fashion, or make the outline form one side of a pyramid? Why, because he knows that in overhanging hedges the under shoots are starved through being deprived of the free influence of light, &c.: so thus it is principally a question of light, after all. In order to carry out such a plan, the shoots should be watched during their most active growth, and the month of June is, of all others, the most important period for controlling irregularities. Of course, the practitioner will desire to extend the base of his pyramid as much as is consistent with fruitful habits; but a limit must be assigned to the extension of rapid-growing shoots, although at the base. As a general rule, we may observe, that as soon as any shoot has extended from eight to ten inches the point may be removed. This is done for a double reason: first, in checking the most powerful, to throw power into weaker, shoots, and thereby contribute ultimately to the symmetry of the tree, and also to induce a degree of maturity or solidification betimes, subserving that great principle termed "Ripening the wood." Besides limiting the extension of the lateral and permanent branches, there will, occasionally, spring a host of inferior spray in various parts of the tree; and this, if not required to carry out the trainer's object, must be pinched back as soon as three or four eyes in length; and the probability is, that embryo buds will be engendered towards the base, which will ultimately tend to stud the branches with blossom-buds in clusters close to the chief branches, and, of course, from the character and form of the trees, give the most complete control as concerns protecting matters, whether against frost, or the depredations of birds, &c.

Thus much, for the present, about Pyramidal Pears; but, of course, our readers will have made up their minds as to what height they intend them to go; for when they have attained that height the leader may be pinched. It will be understood that the side developments are progressing in character; it takes four or five years to establish a good pyramid, and the order observed in establishing the lower tier of branches must be pursued in turn all the way up the stem; so that in a pyramid of some three or four years' planting matters will stand thus:—A lower horizontal tier or two extending some two or three feet from the central stem, still preserving a point for extension, and studded all its length with spurs, or the germs of future spurs; another tier or two above that treading in the steps of its predecessors; and upwards, other series, some developed last year, and shortened at winter-pruning according to pyramidal principles; and finally, the leader of last year just developing a new series; and so on. I may not dwell longer on the pyramids, but must proceed to other Pear-training; for to explain all the minutiae would be to make a book, and which, to many, would be tedious.

THE TABLE TRELLIS.—This is a favourite mode with me. I have Pears in most forms, but I do think I have had more success by this mode than any other. It is not, however, the thing for those who like to see their fruit staring them in the face, for the Table Trellis is noted for its modest pretensions in this respect; be there ever so abundant a crop, an ordinary observer would think lightly of them, as not one Pear in a score can be seen, unless the inspector go down on his knees. If this mode is confined to the margins of the garden borders, I recommend, above all things, the north margin of a border running east and west. Here the leaders may be trained north and south, in parallel lines, at about a foot apart, and all fruitful-looking spray tied down neatly on the leaders, so that the whole stem become regularly studded with spurs. I do hold it essential that the lines of main branches run north and south, and that their distances be so regulated as that the sun may fairly shine on the soil beneath them for an hour or two on sunny days. I do not say that they will not succeed by other plans; but that this possesses vast advantages, and is, as to many kinds, equal to a wall, and with some, superior. In order to carry out such objects, it is requisite to allow a liberal space between the leading shoots, and to pinch and train betimes. In pursuance of such principles, a main shoot may be carried right and left from the main stem, east and west; and from such, if it is desired to carry out the plan in a systematic way, the parallel lines of what I will term second-class shoots should emanate. The tree thus established becomes a permanent or living trellis; for on these are annually tied down a succession of wood of a fruitful character. Such a course necessarily involves a removal, periodically, of old or barren shoots; but I find no necessity to do so annually: about once in two or three years suffices; and then I find it expedient to place them under a thorough revision.

A young tree, in course of training, say, planted last autumn, should now be in a tolerably vigorous state, and should, for this Table Trellis plan, have been selected with two good shoots proceeding, in an equal way, from the main stem; of course, their height from the soil determined by the height it is desired to establish the table above the ground level. During the first season, it is probable that they will need no pinching, for luxuriance cannot be expected of them; but in the second year, if the soil and appliances have been of an encouraging character, the growth of many will be rather rampant, and now a chance may occur which must not be lost. It being desirable, of course, to not only carry out the leading shoots to their full extent as soon as possible, but also to obtain and lay down as many of

the second-class shoots as may be, pinching, under the above circumstances, may be resorted to. Thus—a strong growth in the chief leader being pinched before Midsummer, and after considerable growth, may be made to develop several side-shoots, and these may be secured as second-class branches, by leading them out on the north and south lines of the table. It is not necessary that they spring from a given point by measurement, an inch or two is quite immaterial here; we cannot afford to be so extremely nice, such nicety warring against quick return, which really must not be lost sight of. If a second-class shoot springs a few inches short of the point, or beyond it, where we wish to carry it permanently, we simply tie it down on the primary east or west main leader, until it reaches the desired point, when, of course, it is at once conducted north and south.

It certainly is not easy to convey an off-hand and correct idea of the procedure to one not well versed in gardening practices; but I advise those desirous of carrying out such a system, to well distinguish, before setting out, between primary and secondary branches. This done, all the subsequent operations are confined to the mere spray, which is tied down on the branches, and which, as before observed, require a severe cross-examination once in two or three years.

I find, now, that I cannot do full justice to the headings I selected, in order to illustrate the training matter, and I must, therefore, waive Nos. 4, 5, and 6, until my next paper; in the mean time, I will offer a few general remarks, which will tend to simplify and to generalise the subject to those who prefer such to the minutiae of detail.

It will be remembered, doubtless, that I have generally been an advocator for a soil of very moderate richness for the Pear; but our readers must learn to distinguish carefully here. A tree PLANTED ON A "STATION," may be so situated, as that although the chief volume of the soil is what some people call poor, or, in other words, a simple loam or compost totally devoid of manure—yet, that in the act of planting, the operator may have so managed matters as to use a highly-enriching or stimulating medium in the immediate vicinity of the early-formed fibres. This is the course I recommend in all cases, where, by pursuing a highly systematic course of training, more time is of necessity lost than in leaving a tree to Nature. Under such circumstances, a tree may, by pinching, be made to furnish double the amount of trellis that it would under ordinary circumstances; and the object once attained of getting a good deal of trellis covered in as little time as possible, the tree will have exhausted this temporary stimulus, and the slight check thereby induced will assuredly tend to a fructifying habit. To this end, liquid-manure may be put in requisition, and, as observed in former papers, top-dressings, or mulching.

Had Pear-culture been as good a commercial spec as handling cottons, all these things would have been, long before this, as luminous as the sun at noontide; but how a question "drags its slow length along" when divested of the pounds-shillings-and-pence-consideration; or of the impulse given to such things by the mania fashion. Hence it is, that with the utmost amount of simplification that a practical man may introduce into a subject with which he is perfectly familiar (a question which is a mere hobby, here and there), although simple enough in its nature, appears abstruse, so few caring to study principles unless well paid for their labours. It will, however, be no fault of THE COTTAGE GARDENER if any mist still hangs about any gardening question. This much-favoured periodical is a bad keeper of secrets.

R. ERRINGTON.

(To be continued.)

HORTICULTURAL SOCIETY'S SHOW.—JUNE 3.

As near as I can recollect, the first bed of "bedding-plants" was planted at the end of May, 1825, by Alexander Temple, under the immediate directions of Lady Cumming Gordon, of Attyre, near Forres, beyond the Grampians, and from that day, or year, to this, I do not think we had a better May for planting out bedding-plants than this last May; neither do I recollect a better May show-day for the Horticultural Society, as far as the weather went, than the fourteenth of that pleasant May; a regular Queen's day, in fact. Her Majesty, however, spoiled the show for company, by taking away the great people to see the launch. But the worst cut of all was in Her Majesty "having been graciously pleased to name Saturday, June 10, as the day on which Her Majesty will open the Crystal Palace," although this day was pre-occupied by the Horticultural Society six or eight months before. Why this happened, I could not learn from the gardeners and nurserymen who supplied the tables; but each and all of them complained loudly against this seeming opposition, although I did not hear of any intentions of mustering out the clans, or of calling up the Campbells or Mac Grigors to settle the disputes between the florists, the botanists, and the mere practical gardeners; and the upshot of it was, that the Horticultural shifted their day from the 10th to the 3rd inst. The weather changed, too:—May went out like a "May morn;" and June opened with a north-east wind from over the Baltic fleet, driving so much of the Finland fogs before it as made a regular Scotch mist all over England on the 2nd, or day before the show. The morning of the show itself was "lowery;" but the *Norland* fogs passed over, and the north-east wind freshened up as the day advanced, and cleared away all clouds and doubts about the weather, so, that with warm under garments, no one might fear to venture down to Chiswick in a summer dress; and once there, what with the flowers, the running after the different bands, and the bustle inseparable from the large masses of people going to and fro, there was little chance of catching a cold, or feeling chilly in the least. I left the Garden at five o'clock, and, from a rough guess, I should think there were between five and six thousand visitors then, and I met some going in. I never yet wrote a word for any of the magazines of fashion; but I have enjoyed the dresses for years, just as much, if not more so, than the flowers, and I look at them as critically as if I were a "cutter" from a west-end house of business in that line. The greatest peculiarity on this occasion was in the extreme simplicity and numerical strength of silk checks, or silk tartans, as they would say in Scotland. A thousand of them without a single stitch in the skirts, except what were necessary to keep them together; while fancy dresses were never seen more elaborately finished, or more deeply flounced at the bottom; but to follow or describe one of them, through every stitch, tuck, and turn, would fill a page, and be out of place, after all was done; still, I have no sympathy, or anything in common, with the man who affects not to admire a beautiful dress, for he must be very dull and stupid if he can help admiring them; and his saying anything to the contrary only serves to make the greatest fool of him.

The first question that was put to me, on entering the tents, was, "Did you see that *Verbena*?" I did not see it then;—(and here I must tell, that reporters are instructed by their admission tickets not to speak to the judges, not for fear of influencing their awards, but not to take up their valuable time with idle gossip; a very proper rule). Well, I did see this *Verbena*, and I knew it at the first glance; I saw a bed of it last autumn, and was so pleased that a *real purple Verbena* was got at last, that I wrote to Lady Middleton to say that our

old difficulty of *shading* the purples might be got over by the use of this new seedling. *Emma* is too dark a purple, and *Auréli* is too red, and there is only the old (*Charwoodii*) to help the third shade; but now this one, which is called *King of Purples*, is really a perfect purple, and will cut out *Emma*, and all other purplish Verbenas, from the first flower-gardens. There were eight little pots of it, from Mr. Reeves, Florist, Notting Hill, near London.

ROSES.—Mr. Lane was first hand with them this time also, and Mr. Paul did not try his hand against him and Mr. Francis a second time, having been only third best at the May show. Mr. Lane had a Premier plant, in addition to the collection of twelve distinct Roses; this was a splendid new hybrid perpetual, called *Louise Peronny*, a large rosy-pink flower, of great substance, and opening like *La Reine*, and like his *Madame de St. Joseph* at the May show; no collection should be without it. Taking the collection as the plants stood, *Adam* was first—a fine Tea Rose, with immense large blooms of a blush-salmon colour; all the plants being from three to five feet high, and about as much across the pot. Except two sorts, they were all on their own roots, and it is now as clear as crystal, that budded Roses can never compete with Roses grown on their own roots. *Miss Glegg* was second; this is a Noisette, very like *Amie Libert*; it was five feet across the pot, and literally covered with bunches of small white flowers; it is the very best white bedding Rose; and *Fabier*, a dwarf China, is the right kind to make an edging to such a bed. *Countesse Mole*, a hybrid Bourbon, was third; this is a fine rosy-pink flower, of very large size; the fourth was my real favourite, *Auguste Mie*, and nothing can be more exquisitely delicate than its rosy-blush tints; the fifth was *Caroline de Sansal*, another hybrid perpetual, of most delicate blush, or rosy-blush; the sixth was *Great Western*, a hybrid Bourbon, and one of our best Pillar Roses, with reddish-crimson blooms; *Juno* was the seventh, a very large blush Roso of the hybrid China class; the rest were kinds which he exhibited last May, such as *Chenedole*, five feet high, and thirty-five open blooms; *Coupe d'Hebe*, ditto, and thirty-eight full-blown flowers—a picture worth framing, certainly; *Duchess of Sutherland*, as blooming as ever; *Paul Perras*, and with the exception of *Paul Ricaut*, the best of the hybrid Bourbons, and both adapted for Pillar Roses; and *La Reine*; there was hardly a shade of difference in the merits of all of them from those which he staged in May.

His competitor, Mr. Francis, had the finest bloom on *Eliza Sauvage*—not Savage, as some country gardeners say—the word sounds as if written Sauvaisish. This is one of the finest of Tea-scented Roses, and is nearly yellow; the plant was five feet high, equally thick, and had twenty-one full open flowers on. *Blairii No. 2*, full of bloom; *Duc d'Amate*, hybrid perpetual; *Madame Plantier*, a white hybrid China; *Paul Perras*, *La Reine*, *Baronne Prevost*, *Belle Marie*, a deep pink hybrid China; *Maharison*, rose; *Anandine*, a light pink hybrid perpetual; *Coupe d'Hebe*, and *Mrs. Elliot*.

After these was a collection of newly-worked Roses in small pots, and only one or two Roses on each, but they were all murdered by being placed side by side with the best collection, and of course none but real Rose-fanciers could look at them. They were sent by C. G. Wilkinson, of Ealing Common, and they were the only misplaced plants at the above Show. There was a similar collection, and as badly placed at the May Show, from some one, and I forgot to mention the unpardonable error. Indeed, "following the rest like the sheep," I should not have looked at them on this occasion had it not been for a fine new Rose which caught my eye as something new to it—a Rose which I highly recommend on my own authority, at first acquaintance. It is a

beauty, a hybrid Perpetual, and is called *Comte de Nanteuil*, a delicate rosy-pink, with lighter shades, and much after *Louise Peronny*, as shown by Mr. Lane.

After this decision in my own favour, I learned (reporters get secrets by key-holes) that *Louise Peronny* is a better grower than *Comte de Nanteuil*; but I never saw a better Rose, when half open, than this new *Comte*; and I am glad of having made his Countship's acquaintance, as luck would have it, but I was within an ace of missing him altogether.

But, in the name of all that is sensible, why did Mr. Wilkinson not get a spare corner for his Roses, which he could not mean to be entered in competition, but to exhibit a distinct and useful branch of practice, and a system, too, not new, and by which all new Roses might be shown the very first season; that is, you buy a Rose in the spring, bud it near the surface of the ground, or near the top of a pot; about the end of August put it into the Rose-house, or with the early Strawberries at the end of February, force it on gently, and allow only one Rose to blow, just to see how it turns out; surely, all that is of as much interest to a private amateur, as the five-by-five feet bushes are to such practicals as Mr. Lane or Mr. Francis.

There was a private collection of pot Roses from Alexander Rowland, Esq., as sweet as his own Kalydors, or Macassars, but the shoots were trained as wide as his own celebrity. The plants were in the utmost health, however, and *Paul Ricaut*, with *Countesse Mole*, were much on a par with the best plants from the great nurserymen.

The *Fancy Geraniums* were never placed better here, or elsewhere, than they were on this occasion. They were in three different parts of the same tent. You could not see any of the three sets from one place, and in each set there were two competitors only; and if there had been three competitors for each division, it would not affect the excellency of the arrangement. Mr. Turner, of Slough, and Mr. Gains, of Battersea, were opposed to each other, and no one near them in that race, which was the very closest contest I ever remember to have seen in Geraniums. Two good private growers of these Fancies had it all to themselves in another place. Mr. Barter, gardener to G. Basset, Esq., Stamford Hill; and Mr. Roser, gardener to J. Bradbury, Esq.; and Messrs. Henderson and Son, of the Wellington Nursery, had a third stand against one of the private growers.

Mr. Turner carried the day by half a nose only, and such bushes no one ever saw before. The best trained of his plants was called *Perfection*, and it was really perfect, take it any way you choose—shape, size, style of flowering, individual flower, and the relationship between the number of flowers, and the extent of leaves seen through them; that is the right way to judge a fancy, or any other kind of Geranium, let florists say what they like about *longum, latum, et profundum, rubrum, nigrum, and rotundum*, but it must come to what I say, and that very soon, because the ladies will have it so, and they never yet missed in carrying the day about flowers. The second was called *Miss Shepherd*, a white and red one, and so covered with bloom that not a single leaf all over the plant, or part of a leaf, could be seen through them; I never saw the like before; and I had no idea that the entire exclusion of the leaves damaged the value of a plant so much. I am so old on the turf, that I make no apology for asking the first ladies in the land to help me out in such cases, when any of them whom I happen to know is within reach of me; so that I always have the fullest confidence in what I say about these things; my own opinion is a mere feather in the wind to one-half of what I often write about flowers—fashion in these things is like a "burn;" and a burn is a running rivulet made up of "rills," running from pure springs, which rise at such varied heights in the

mountains, that no one can tell which of them is the source of the burn; but being all of the same temperature, any one of them will be most grateful to the weary traveller when he happens to pass that way in the dog-days; but not more so than a hint from a pure spring of fashion is to the old gardener when the wind cuts over the Baltic. *Madame Rosalie*, white and red; and *Delicatum*, nearly white; *Madame Sontag*, red and white; and *Triumphans*, a rich crimson, light eye and feathery front, make up the group from Mr. Turner; and against them Mr. Gains set up *Fairy Queen*, *Odorata Magnifica*, *Delicatum*, *Princess Maria*, *Hero of Surrey*, and *Signora Caroloni*—the latter much in the way of *Reine des Francais*.

In Mr. Henderson's group were *Eady Hume Campbell*, perhaps the richest and highest coloured of all the fancy Geraniums; at any rate, the palm is between her ladyship and *Miss Shepherd*; in Mr. Turner's lot *Criterion* is next to *Lady Hume*, but lighter; *Annette* is a large white flower, with a scarlet blotch and a few faint streaks—a fine flower; *Queen of France* (but not the same as *Reine des Francais*), *Electra*, and *Princess Alice Maul*.

The only good fancy seedling was from Messrs. Henderson and Son—it is named *Bridal Beauty*; a light one, with back spots of scarlet or crimson, but is not so good as many more of them. The private growers sent more known sorts.

NEW PLANTS.—There were several new plants, but few that can become generally useful. The yellow *Leptosiphon*, and a *Phlox* called *General Radetzki*, in the way of *Mayii*, were much admired by every-day growers. A cut shoot of a *Dipladenia*, in the way of *Crassinoda*, but the flower so drooped that I could not well judge it. A most beautiful *Hoya*, with the flowers looking quite woolly, and the plant like an *Alsechyanthus*, from Pine-Apple Place; also a yellow *Gompholobium*, with a soft flower and growth, like *Leschenaultia*, and others. Two or three *Gloxinias*; a *Cesnera*, with leaves like *Discolor*, and flowers like *Penstemon Gentianoides*, from the Wellington Nursery. A white, tall *Didiscus pilosus*, of no beauty, from some one. A white seedling *Rhododendron*, and two very large Pitchers on a dwarf *Pitcher plant*, both from Mr. Veitch; a variegated *Azalea*; a low *Bromelia*-looking plant called *Nidularia fulgens*, from the Messrs. Rollinson, is a very striking thing, from the centre leaves coming up in a spreading mass of bright crimson; also *Gaultheria pulchra*, with rose-blossoms; and the new *Europedium Lindeni*, the most singularly curious of all the ground orchids known to cultivation. The whole plant looks like *Cypripedium caudatum*, which has two long tails hanging down from either side; now you have only to spin out the pouch of this plant, and make a third tail of it to hang down between the first two, and you have *Europedium Lindeni* to a hair's breadth. This genus wants the slipper, or pouch, of the *Cypripeds*, and the species called after Mr. Linden has three tails, ten inches long; in all other respects it looks the tailed *Cypriped*.

D. BEATON.

(To be continued.)

THINGS TO BE THOUGHT ABOUT.

CAMELLIAS DONE BLOOMING.

"Mr. A. tells me to place my Camellias out-of-doors now, as they have been proved to be as hardy as a Laurel in most parts of the country. Mr. B. says, if I do so, I may sing in vain for Camellias at Christmas." Mr. B. is most likely right. The comparative hardiness of a plant is one thing; the getting it to bloom at a definite and a desirable period is another, and often a very different affair. Camellias that bloomed early last

winter, that were cleared of their blooms, and placed in a forcing house early this spring, to make their young wood, will now have clusters of bloom-buds forming at their points, and may be removed to some intermediate temperature to harden, and ere long be placed in a shady place out-of-doors. Were you satisfied with obtaining flowers in March, April, and May, you might turn your plants out now that have just finished their blooming; first in a shady place; and then rather more in the sun in the course of six weeks, using the syringe over them morning and evening, when no rain is falling. But if you wish to see blooms from such late-flowering plants in winter, when, of all other times, they are the most delightful, then, if you have a greenhouse-vinery, the plants will be benefited by a warm standing place for six weeks to come, under the Vines; and if there is merely a greenhouse, then, for a similar period, you may act towards them as suggested for Azaleas the other week. During the period that the young wood is progressing, a shady, close atmosphere will be desirable, with plenty of moisture at root and branches; but when the shoots are from three to six inches long, less moisture and more air will cause the formation of flower-buds; and gradual and fuller exposure to light, until the plants stand out-of-doors before housing for the season, will give the buds fulness and ripeness, which will continue swelling and opening during the winter and spring.

HEATHS WITH SOFT-WOODED PLANTS.

"I find it extremely difficult to keep up a collection of these in company with a showy collection of soft-wooded plants." This is merely a common complaint. The thing may be, and is, often done; but requires a great amount of enthusiasm, joined to an intelligent carefulness. I have previously alluded to the kinds of Heaths best fitted for this purpose, and to the mode of keeping them in a part of the house by themselves. I say nothing now of the style of mixing plants in greenhouses, that the plants in flower may be equally mingled; most minds would prefer to see beauty in masses. Good growing plants, not in bloom, would give, as it were, a resting-place between separate blazes of colour. Be this as it may; a very hardy Heath will not long possess its hardiness and health when choked partly up with the neighbourhood of Geraniums and Cinerarias. The atmosphere requires to be much more airy, and the water must be purer. I have known fine hard-wooded plants sent to their last home, just because the strong manure solution that did no harm to a Fuchsia or a Calceolaria, was as good as a dose of poison to them; and the mechanical wielder of the water-spout never thought of making the slightest distinction. "What is good for the one must be good for the others"—soliloquises water-pot holder. A pig and an ox thrive on oil-cake—a Fuchsia rejoices in a fair amount of guano; ditto, so must a Heath? Ah, no! there is no soliloquising. This would augur an amount of philosophy dangling at the end of the spout of the water-can, which, if it exists at all, scarcely gets farther from the brain than a drowsy perception, ever ready to tell you of its clever existence, except when it is actually needed. I shall never forget two statements, made by my second preceptor, the late Mr. Stewart, of Balleyfield. The first was a sound proposition:—"Attention to trifles is the foundation of good gardening." The second, was a stern rebuke to a fair number of young blue-aproners:—"I have no doubt you are wondrously clever when you are inside your rooms in an evening; unfortunately for me, you seem to keep the whole of it there." Need we wonder, that when TRIFLES become too trifling for thought, and when intelligence and consideration are brought to bear on a subject, at every and any opportunity except when it is wanted to be reduced to practice,

that plants requiring a little peculiarity of treatment should so often be ill-used, and testify, by their appearance, their keen sense of the abuse? Not to speak of young professionals, nor yet to enter into the inquiry, how far Mr. Stewart's statement may, or may not, be applicable to numbers *now*; there can be no question, that amateurs find considerable difficulty in indoctrinating these necessary assistants with right practical ideas; or working out these ideas at all times themselves; and until these habits of attention, in opposition to mere rote, are acquired, it would not be desirable to cultivate many Heaths in the same house *with*—unless you could keep them somewhat separate *from*—your Geraniums and Fuchsias.

“But there are the Heaths, and, of course, I wish to do the best with them, though some of them look very queer, and yet are treated somewhat differently.” Well, let us look at them. *These* seem as hide-bound, and the foliage as scere, and wiry, and brown, as if they had passed through the draft of a long continued *simoom*, in an atmosphere in which you might search and search again to find the semblance of a dew point. “You see, standing mostly by themselves, they have not wanted for air.” Admitted. “Then, as to your parched atmosphere, that is impossible; for, as they stand contiguous to, and intermingled with, plants in small pots, they have been watered once or twice every sunny day.” So much for the worse for the dribbling attempt, for they have not been watered at all; the weight, the sharp ring when the sides of the pot are struck with the knuckles, tell all this unmistakably. “Cannot think so.” Turn out a plant, then, and there, though some three-quarters-of-an-inch of the top of a hard ball *was* moistish, the mass of the roots were dried up from drought. Your only chance, and that is a slender one, is to stick the pot, and roots in it, in a pail of water for an hour, and then allow it to drain, and afterwards to water when the plant is dry; and then give as much as will moisten every fibre. Much of the trouble of drainage, much of the rough material, in the shape of charcoal, broken crocks, sandstone, &c., and hard pieces of fibry loam and peat, would be less a *primè* matter of necessity, could there be more dependance upon the considerate working of the water-pail.

Those in that corner are quite different, because they have been differently treated. They have not suffered from drought, because the watering and syringing around them and upon them has given to them a too moist and close atmosphere. The stems appear whitish, and the foliage in many places ditto; in fact, they are unmistakably the victims of mildew, from which a more free and abundant circulation of air would have saved them. *Now* the prospects of restoration to health are but meagre; but whilst there is life there is hope. Take the plants to a shed with a north aspect, lay the plants down on a clean close cloth, and there, with your hand, or a puff, cover the whole of the head with a thin incrustation of flowers of sulphur, keeping the sulphur as much as possible out of the soil of the pot. Allow the plant to remain in this condition, and in a shady place, for two or three days, shaking it gently, in the meantime, at intervals, and, if necessary, adding a little more sulphur, that the fine powder may find its way to every cranny of a leaf or joint. Then shake, or brush as much of the sulphur as you can from the plant, and then removing it from the shed, lay it on its broadside, and give the whole head of the plant a complete drenching from the syringe. After this, place the plant where it will have plenty of air, sunshine night and morning, but be shaded during the most of the day; repeat the syringings frequently at noon, so that the foliage may be dry before night; and if in the course of four or six days you see no appearance of the mildew, you may consider yourself for-

unate. If, however, there are yet unmistakable signs, then the powdering process must be repeated, and not unlikely this will go on until you become tired of the process and your plant together, having gained nothing but a little experience from all your trouble and labour.

But there is a third group, just finished blooming, chiefly free, strong-growing kinds, that appear as they should do, and which it is desirable to keep so, though large plants cannot be grown. Well, prune the long shoots back pretty freely, carefully remove all decayed flowers, and any withered small leaves; for it is as natural for an evergreen to part with its foliage as it is for a deciduous plant, only it does it less regularly, and, on the whole, less seasonably. Syringe the plants well after such a dressing, which will help still more to clean them thoroughly. Keep the roots moist but not soaked, as the diminution of the perspiring organs will render less liquid necessary, and a surplussage would paralyse instead of promote healthy root action. Then the *position* becomes a matter of importance, attention to it often constituting three-fourths of the elements of success. Just a few days before pruning, and a few days afterwards, it is good to subject the plants to no great stimulus to vital action. Let the plants have a rest by keeping them cool and airy, just on the principle that you would relish a good sleep after an extra amount of labour and fatigue. By-and-by, in a few days, inure the plants gradually to a closer and moister atmosphere during the day, to encourage fresh growth; but to a cooler and airy atmosphere at night, to keep the growth stubby, and free from even the presentiments of mildew. A pit-or a frame will be best for this: but one part of a greenhouse, with a little care as to air and shading, may easily be made to yield the necessary conditions. When growing freely, re-potting must be attended to, if necessary; and for this copious directions have been given, bearing just in mind here, that when a Heath becomes thoroughly pot-bound, from not being re-potted for several years, it is generally the soundest policy to make the most of it, by an annual top-dressing of fresh compost, after picking off some of the surface matter: as re-potting, in such circumstances, often is the prelude to a disappointment that cannot be remedied. From this, too, draw a rule in purchasing:—Prefer the little, young thing, whose roots are just feeling the sides of the pot: and pass by the much larger and finer-looking plant, where you have every reason to believe that the pot is crammed with roots.

Then, again, as to standing position during the hottest days in August and the end of July; the plants would enjoy a north-east, or north west aspect under glass, just under such roofs as those mentioned the other week as so serviceable at Nuneham; but if that cannot be given, a slight shading in the middle of the day will be serviceable. All the care in these points will, however, be reduced to a minimum, if the plants are healthy, and the pots are defended from a scorching sun, either by plunging them, or by placing the pots inside of larger ones, and filling the space between with moss—a plan of much use in summer for all hairy-rooted plants that are exposed to the sun. In their native wilds, a great proportion of our Heaths, common and exotic, are exposed to a bright sunshine, but the roots are kept comparatively cool by their own foliage and the moss or herbage; and even should these latter dry up, the roots can pump up moisture for themselves from the contiguous ground and underlying strata. If in our artificial systems we would treat branches as Nature would do, let us not be above her hints and teachings as respects the roots. If the double-pot system was deemed too troublesome, or by our young go-aheads was deemed to savour of quackery, then a light stone-coloured pot, either made so, or painted and sanded of that colour, would

absorb less solar heat than a flaming or even a dull brick red, like the common earthenware pots. Provided the pots are scoured, and the plants are protected from heavy autumn rains, the plants would enjoy full exposure during the day before they were permanently housed in the end of autumn.

EPACRISES WITH SOFT-WOODED PLANTS.

My space is exhausted; but, having presented no strong inducement to our one-house supporters to attempt much with *Heaths* in their mixed collections, I can unreservedly recommend *Epacris*, the *Heaths* of Australasia, to their notice—whether their house be a greenhouse-vinery, or a greenhouse proper, and chiefly, because they will be able to give them the treatment they require, and be troubled with no mildew, and few other ailments; and, also, because great numbers of varieties have been advertised in these columns, at such a price, even in these times, as to place them within the reach of all who have any sort of a house. Another inducement is, that the whole of them may be made to bloom in winter or early spring. The treatment has been previously given; allow me to recapitulate the principal points.

The bloom is most beautiful on the most of them when produced thickly on longish young shoots. This furnishes the key-note for this culture. Prune well back when the plants have done flowering, after giving them a week or two to rest; keep in the warmest, closest part of a greenhouse, in a vinery, or even stove-heat will not hurt them, until the young shoots are growing freely; then, when growing freely, shift into larger pots if required, using Heath soil, silver sand, and a fair amount of broken charcoal, lumps of free stone, or broken crocks, from which the dust is excluded. Keep close and a little shady, until fresh growth is again rapidly progressing, then begin to give a drier atmosphere and more air. By the middle of September, shield from heavy rains and cold nights, but expose the plants as much as possible to the sun during the day, as that will ripen the wood, and set the flower-buds; lessen water at the roots as the days shorten, and by the middle of October make preparations for setting them again in-doors. R. FISH.

FLORISTS' FLOWERS.

(Continued from page 177.)

THE STOCK.

IN my last paper on this flower, which, when well grown, every body admires, I endeavoured to describe the culture of the *Intermediate Stocks* in pots. Our readers must not draw the inference that because that variety is a desirable one for that purpose, the other annuals of the *Stock* are not fit for the same purpose. The scarlet, white, and purple, *Ten-week Stock*, as well as the *German*, *Russian*, and *Wallflower-leaved* varieties, are equally handsome grown in pots. The only objection is, that these varieties do not produce so many double flowers; but that objection may be got over by growing a sufficient number, and allowing them to produce their buds previously to their final potting in their blooming-pots. When the buds have made so much progress as to show whether they are double or not, then select out the double ones, and either throw the single ones away, or plant them in the shrubby borders; potting the others singly into five-inch pots, and treating them exactly like the *Intermediates*.

CULTURE OF THE BIENNIAL STOCKS.—These are the red, or scarlet and purple *Brompton*, and the white and purple *Queen*. The former generally produce only single flower-stems: hence their Botanical specific name, is *simplicicaulis*, simple-stemmed. I saw, a few days

ago, in a cottage-garden of very humble pretensions, a fine example of this single-stemmed *Stock*. It was the scarlet variety, and was growing in a very narrow border close to the wall under the window. It was two-and-a-half feet high; the spike of flowers measured fourteen inches, thickly set with blooms, each almost as large as a *Provence Rose*, and quite perfect, from the bottom of the spike to the top. The colour was also perfect, not the least trace of variegation being visible. We praise specimens of *Heaths*, *Pimelias*, and other plants, at the Grand Metropolitan Exhibitions, and rightly, too; but this poor cottager's *Stock* gave me quite as much pleasure, and, in its way, was quite as fine a specimen of good culture and appearance. I understood it came up from self-sown seed, and had never been disturbed. Near it was a single-flowered one, which was intended for seed. The cottager had the old-fashioned notion, that the proximity of a double flower was necessary in order to have a progeny producing double flowers.

Biennial *Stocks* should be sown about the end of June. If sown earlier, they become so large and full of sap that the frost is almost sure to destroy them; and if sown much later they do not acquire strength enough to bloom well. Sow them on a prepared bed of light, rich earth, covering the seed but slightly. If the weather is moist they will soon come up, and when they are large enough, they must be transplanted. If allowed to stand too long in the seed-bed they become weak and spindly, and never flower well; but if transplanted early they form nice, stiff, bushy plants. In this nursery-bed they may remain till September. Sometime previously to that the blooming bed should be prepared. A south border is the best situation. The ground, if not dry, should be well drained. The best way to accomplish this is to throw out the soil of the intended bed two feet deep, and then put in six inches thick of brick-rubbish, covering it with a thin layer of littery straw from the stable. The *Stock* loves a loamy soil not too much enriched with manure. For this thickness of eighteen inches, a layer of well-decomposed hotbed manure, two inches thick, will be quite sufficient. If the natural soil of the border has been under cultivation for several years, at least one-half of it ought to be removed, and replaced with fresh loam, that has been laid on a heap in the compost-yard for twelve months. The upper, exhausted soil is the part that ought to be removed. When the bed has been thus prepared, and the manure, the fresh loam, and the subsoil, well mixed and incorporated for about a month, it will be fit to receive the plants.

Choose, if possible, a moist time for the operation of planting. Take up the plants with a hollow garden-trowel, one by one, keeping the balls as entire as possible. Plant them with the same implement at nine inches apart every way, pressing the soil firmly to each plant. Should the weather be dry and parching, give them a good watering, and shade them with hoops and mats for a few days, till they are able to bear the full light of the sun; and then, excepting keeping clear of weeds, they will require no farther care till they bloom, unless the winter should be very wet, succeeded by severe frost; in such a case, in order to make sure of the plants being preserved, it will be advisable to replace the hoops, and protect them with mats, or, what is better, with some prepared cloth made water-proof. Great care, however, must be taken that these shelters are not kept on in mild weather; for if they are, the leaves are almost certain to become mildewed and decay. Remove the shelter entirely as soon as the severe part of the winter has passed away, for a moderate late frost will not hurt them.

All this care and attention may appear too much to bestow upon such a common thing as the *Stock*, but

when it blooms in such a grand style as my cottager's Stock, above described, the trouble will be thought little of, and they will be the cultivator's pride and reward for these extra pains.

I see, in many gardens, these Stocks grown in the ordinary careless way, more than half of them dead, the greater part of those that are left alive with hollow, decayed stems, the flowers all variegated, small, and puny. No wonder they are unsatisfactory; and, generally, the blame is laid upon the seedsman, saying, he had sent a bad sort; whereas, it was bad culture, in every point, that had led to such a poor lot of plants and flowers.

Fine double Stocks are sometimes increased by cuttings, but I never saw plants so increased that produced good blooms; neither is there any necessity to resort to such a practice, for seedlings generally produce a sufficient number of double flowers.

I, when a boy, had my bit of garden, and grew, amongst other things, my favourite Stocks; and even to this day I remember how successful I was in having a large proportion of double flowers. I ascribed my success to keeping my seed a year before sowing it, that is, seed saved this year, 1854, would not be sown till 1856. Whether there is anything certainly true in that notion I cannot say; but one thing I am certain of, that I had more than usual amount of double flowers in the same number of plants.

T. APPLEBY.

(To be continued.)

STOVE FERNS.

(Continued from page 176.)

POLYBOTRYA.

POLYBOTRYA CYLINDRICA. (Round).—This is a climbing Fern, from the moist woods of Jamaica, where it runs up the trunks of trees to the height of twenty or thirty feet. The climbing Ferns, of which I have already described some species that have the same habit, and shall have one or two more to mention, are not only curious and interesting, but are also useful as a shade to the plants below, whether low-growing Ferns, Orchids, or Stove Plants. I have had *Lygodium scandens* covering the entire roof of a small Orchid-house, and, seen between the eye and the light of the roof, the seed-vessels were perfectly visible and very beautiful. Climbing Ferns are desirable, also, because they take up so little room; they may either be planted in large pots, or square boxes, or planted out in a border made for the purpose. As they grow up, they should be tied to an upright pillar, and when they reach the roof may be trained any way the fancy of the cultivator may incline. It is a strong growing Fern, bearing fertile and barren fronds. The former are doubly thrice-divided, or bi-tripinnate; contracted and round, growing erect. Seed-vessels on every pinnate of the fertile fronds. Barren fronds grow only two or three feet high: it is the seed-bearing ones that climb. Easily increased by dividing the creeping rhizoma. There are several species in South America, but only this one is cultivated in Britain.

POLYPODIUM.

A large assemblage of Ferns, of which many are natives of this country. It is an ancient genus, having been formed by the celebrated Linnæus. The name alludes to the root-stock, *polys* many, *pous* a foot—the rhizoma having many divisions. The genus has been much reduced in number of species, being now confined to such as have naked seed-vessels with pinnate, forked, or simple veins. As the genus is well-known, I shall notice a few of the most interesting or beautiful.

P. EFFUSUM (Spread).—This is a most elegant Jamaica

Fern; the fronds are so finely divided as to give them the appearance of elegant feathers. The fronds are so branched, that it is difficult to say how many times they are divided; but, generally, they are four times pinnated, forming almost a perfect triangle in form. I have grown fronds of this fine Fern six feet long and one-and-a-half foot broad at the base. It was a noble, beautiful object. It is easily increased by dividing the creeping root-stock.

P. LACHNOPODIUM (Woolly-footed).—Another Jamaica Polypody, remarkable for its stem being covered with narrow woolly-like scales. Every part of the plant is of a soft, delicate texture. Fronds doubly thrice-cut, growing two feet long, standing upon an upright tree-like stem, or rhizome. A lovely Fern; slow to increase, excepting by seed.

P. PLUMULA (Feathered).—A West Indian Fern, and one of the least of the Stove species, growing only about a foot high; of a delicate, lovely green, with stems quite black, pinnated; the leaflets are lance-shaped, and thickly placed on the stem; seed-cases in one row, on each side of the midrib, on the upper end of the frond. Increases freely by division.

P. PARADISE (Paradise).—Remarkable for the short stems of the fronds. A lovely Brazilian Fern, growing three feet high. Fronds very slender and drooping, covered with short hairs. They are lance-shaped and pinnate; the leaflets long and narrow; seed-vessels in one row on each side of the midrib, covering nearly the entire leaf. A handsome Fern, easily increased by division.

P. PECTINATUM (Comb-like).—Alluding to the arrangement of the leaflets which are set on the midrib in the manner of the teeth of a comb. A West Indian Fern, of great beauty. Fronds pinnate; leaflets long and narrow, placed horizontally in parallel lines. It attains the height of eighteen inches, the stems are shining black. Seed-vessels most elegantly placed in a row on each side of the midrib. I think this the most lovely of all the stove Polypods, and ought to be in every collection. Easily increased by division.

P. TRIENODES (Three-footed).—This rare species is from the East Indies; remarkable for having its stems covered with a fine yellowish-brown powder. Fronds doubly thrice-cut, very weak, of a delicate green, and hairy, growing three feet high; leaflet narrow, lance-shaped; seed-vessels round, yellow, and medial. Root-stock thick and creeping, by which it may be increased by division.

PTERIS.

Like *Polypodium*, this is a large genus, and was established by the Swedish Botanist Linnæus. The name is derived from *pteron*, a wing, the pinnated fronds having that appearance. Our well-known common *Bracken* is a *Pteris*. Formerly, this was an unweildy genus, containing nearly two hundred species; but the skill and tact of modern botanists have reduced the number greatly, confining the true *Pteridæ* to all such species as have veins regularly disposed in lines not netted across each other. Generally speaking, the plants of this genus are rampant, coarse growers, seeding and coming up thickly wherever there is moisture. Yet there are a few that are able to vie in beauty with any other genera of Ferns. These few I shall confine myself to in describing.

P. HETROPHYLLA (Various-leaved).—A beautiful Jamaica Fern. Fronds doubly thrice-cut; the lowest leaflet the longest, and gradually shortening upwards, forming an almost triangular shape. Sterile or barren fronds have the leaflet of an oval shape; but in the fertile ones they are bluntly oblong, giving the appearance of two or various kinds of leaves on the same plant; hence its specific name. As it only grows about a foot high, it is a desirable species for small collections.

P. HIRSUTA (Hairy).—Another desirable Fern, native of that Island prolific in Ferns, Jamaica. Fronds bipinnate, growing in a triangular form from four to five feet high, a peculiar light green, and hairy in every part. The stem on the back of the leaf has appendages like wings; seed-vessels narrow, continued on the margin of the leaf. This character of the seed-cases is prevalent through the whole genus.

P. LATA (Broad).—A Brazilian Fern, of great beauty, growing two feet high. Fronds triangular, and thrice-branched; branches pinnate, and drooping; leaflets deeply cut, and of a narrow lance-shape. A handsome, broadly-formed Fern, easily increased by dividing the creeping rhizoma.

P. LONGIFOLIA (Long-leaved).—A Fern widely spread over the warmer parts of the world. It has been found in the West India Islands, in Nepaul, and the Phillipino Islands. The terminate leaf is often twice the length of the rest, hence its specific name. Fronds two feet long, pinnate, dark green, and lance-shaped; seed-vessels continuons, mixed with hairs. A remarkable species, well defined, and easily known. Increased by division.

T. APPLEBY.

(To be continued.)

WHY DO NOT GARDENERS ATTEND MORE TO BOTANY?

It is certainly a pity that botany, as a science, should not be more studied by gardeners in general. Unfortunately, the study among them is on the decline, partly in consequence of public taste being directed to the production of certain classes of plants having greater floral attractions than others, in preference to extensive collections which stamped the character of those gardens where any quantity of plants were cultivated some forty or fifty years ago.

At that time the botanical character of a flower carried as much weight with it as the colour of its petals; but now-a-days, we are all for glare and show; and it is rare, indeed, that a cultivator of flowers looks at it botanically. The young man aspiring after horticultural fame cares but little now for the natural order or family to which a plant belongs, and still less does he care for the Linnæan class, and so forth, in which it is included. This latter neglect arises, in a great measure, from the fact of the leading botanists of the day setting themselves against the Linnæan system, and condemning it in terms that fall little short of prejudice; while at the same time they have contrived to fence in the system, which they are pleased to call "the natural one," with such a formidable hedge, or rather maze, of technicalities, that the student not possessed of extraordinary powers of application gives up the task in dismay. The consequence is, that where one cultivator of the present day is to be found having a knowledge of this science there were twenty in the last generation who understood a something of the Linnæan system, and many were to be found who could boast of a tolerable correct knowledge of it. Now, this state of things has been brought about, partly in consequence of the science becoming less fashionable, and partly, as I have said, in consequence of those to whom the young naturally look to as leaders quashing the easy and beautiful system of the learned Swedo; and partly, no doubt, because that a knowledge of botany is not likely to lead to any of those startling results to which the mass of mankind have been accustomed to look the last twenty years or more. It is useless, here, to find fault with that taste, since the spirit of utilitarianism pervades all classes of the community. However, it would be worth while to pause and inquire if a knowledge of the science of classical botany would

not be serviceable to the gardener of the present day, as enabling him to comprehend the relationship existing between certain plants, which, to a casual observer, have nothing in common; and, as a little knowledge of it may be obtained by any one having a little industry, its revival is, I hope, not far distant; for, independent of the use it may be to the aristocratic part of the profession, who, deeply engrossed in the secrets and mysteries of exotic plant-growing and propagating, will find it of great service, it is also equally useful to the more humble portion, whose duties are not screened from men, nor yet from the heavenly bodies, by a canopy of glass. In other words, the cultivator of out-door plants or fruits requires a knowledge of the science fully as much as the curator of the hothouse; for the close analogy many plants highly esteemed for their beauty or utility have to others which meet our view in every walk we take in the country, ought to make many young men blush that they have not become acquainted with them before.

It is an acknowledged fact, that the origin of many of our most esteemed fruits and flowers are indigenous to this country, although well-directed cultivation has materially altered the character and general appearance very much, and, it is needless to say, has much improved the utility of each. This has not been obtained without some sacrifice, which often manifests itself in the constitutional hardihood being diminished in the otherwise improved offspring.

This has been treated of before, so I need say no more here, but proceed to call the attention of that class of cultivators who affect most to despise our British Flora, "the flower gardeners" of the present day, to take a look at the face of Nature, and see if their own so-called system of mixing, or massing, be not already exemplified in Nature on that grand scale to which their mimicing beds afford a poor parallel.

In the massing way, look at our native *Heaths*, which, in some places, for hundreds of acres present the same verdant hue in June, and the same gorgeous display in August. Then, again, look at the glittering show of the *Purse*, or Broombrake, presenting a mass of golden purity, which no cultivated pet of the present day can excel. Then our meadows are scarcely less rich with the gay *Buttercup*; while large tracts may be seen glittering with the little modest, but much-despised *Daisy*; and our chalky downs present large breadths of the purple or common wild *Thyme*; while our marshes likewise present considerable masses of plants, all of one kind, blooming in profusion. I have seen many a spectator struck with the gay appearance the *Lythrum Salicaria* (Purple Loosestrife) has while fringing the edge of some stream or water-course; and have many a time had the plant brought to me as an acquisition.

It is possible to multiply the instances in which nature has pointed out that the claims of the massing system have their origin with her. It is also equally clear that the "mixing system" is also exemplified on the same grand scale of operation, inasmuch as every wood, or coppice, not too much encumbered by trees, presents abundant examples in that way. But it is not my purpose here to discuss the merits of the two systems, for to a certain extent I adopt both; but I want to call the attention of our young friends to that knowledge of British plants which will enable them to form a tolerable knowledge of what floral beauties we really possess; for it is a lamentable fact, that an exotic plant, or one from the Antipodes, receives more attention than others, really more beautiful, that are to be found at home. How many cultivated plants are really more beautiful than the *Menyanthes trifoliata*, or Buckbean? Then, again, the *Parnassia palustris* (Grass of Parnassus) is equally pretty, and growing in about the same marshy spots which also produced the Butterwort

(*Pinguicula vulgaris*); the Sun-dew (*Drosera rotundifolia*), and the *Hydrocotyle vulgaris*, or Pennywort, all interesting, if not so showy as the Butter-cup, Broom, and Heath, noted above. The botanist disregards that "glare" which it has been the fashion of late to attend to, and plants of humble growth, and sometimes uninviting exterior, are regarded by him as prizes; and I well remember the long journeys that used to be undertaken in quest of anything of which the immediate neighbourhood was destitute. The ardour and application of youth is required here; and it is to the young that I more especially devote this article, feeling assured, that if a part of their spare hours was spent in the attainment of a knowledge of British plants, they would be led to wonder why an acquaintance with them was not sooner urged on them, and would not be unlikely to exclaim, that no place of like extent is more rich in floral beauty than their fatherland.

There are some persons who cannot be prevailed on to give anything their study which does not carry in its face the stamp of sheer utility; but, if we are to cut everything down to this standard, what is to become of our flowers, and even some of our fruits, and I know not what else? But as there are senses of other kinds as well as those of the mere animal or sensual kind, I hope to see the day in which botany, as a science, will again take the place it held at the beginning of the present century; and the first indication of it will be that search for British plants, the knowledge of which at the present day is almost exclusively confined to books, the produce of the industry of a former age; and as the knowledge of our wild plants forms the A B C of botany, I hope the dry hills, marshes, and other waste places will be again explored by ardent pedestrians, who will derive a more healthy knowledge of the science by the discovery of a plant with which they were before unacquainted, than they would by sitting in their cushioned arm-chair at home, reading the adventures of some enterprising collector in the torrid zone; or, they might read these with more zest, because, as they became acquainted with the science, their admiration of it would increase, inasmuch as one of the most eminent men of the day (Lord Brougham) observes, "No one can see the beauty of a science unless he be acquainted with it."

J. ROBSON.

THINNING PEARS.

QUALITY AND QUANTITY *versus* NUMBERS.

"WHATSOEVER ARE YOU DOING?" was the ejaculatory question of one friend to another, on entering his garden, and finding him busily engaged in thinning the fruit on his Pear-trees.

"Why, thinning the fruit, to be sure; so as to improve the quality as well as the quantity of it."

"Do you think you will really do so?" was the rejoinder.

"Oh, yes! for the last four or five years I have followed this practice, and with the most satisfactory results. My fruit has been finer, beautifully smooth-skinned, and very much improved in flavour."

That such a subject should be a matter of conversation between two amateur horticulturists at this time, surprises us not a little; as well-founded theory and long-continued practice both tend to substantiate the fact, "that the more fruit is thinned in reason, the finer it will necessarily be."

That the practice is particularly applicable to Pear culture, I shall feel much pleasure, if not occupying too much of the valuable space in the columns of THE COTTAGE GARDENER, to prove; with a few accompanying hints respecting the cultivation of this useful and remunerative horticultural crop.

There is but little soil which will not grow Pear-trees. The driest of soil will grow them on the Pear or free stock, and the generality of loams will grow them on Quince. This is the fundamental question on which practice must rest for success if practioners desire to succeed; for, if a

soil is not naturally adapted to the growth of a tree, I have no "great faith" in any man's means of preparing it for the purpose; and it is necessary, when plants require a mellow soil, to be able to make a *sub*, as well as a surface-soil, so as to maintain the mellowness and moisture necessary for the tree's maintenance and support, which is not to be done by any artificial preparation of a remunerative character. Constant surface-watering would not pay, nor would it answer the purpose; and I do not know that any effectual means could be applied.

The ground selected for growing Pear-trees being well trenched in the autumn, and the trees carefully planted—the roots being spread out without the mixing of manure amongst the roots, according to custom, but by its application as a surface-dressing, little more, beyond shortening the leading shoots and removing the others with a sharp knife, needs to be done the first season, that is, supposing the trees to be young and vigorous.

The succeeding two or three years should be devoted to the cultivation of the trees, not the fruit; and the trees having been made to extend their branches and laterals in the directions desired, according to the proposed plan of training, attention must then be paid to the spurring of the laterals in such a manner as to cause them to form fruit-spurs; that is, by enting them diagonally across within a couple of eyes of the branch from which they shot. By such practice, multitudes of fruit-spurs are formed on all the strong branches, which, blossoming abundantly, and producing large quantities of embryo fruit, leave an easy task to be performed in thinning them, so as to obtain a larger quantity of fruit and of a much superior quality than can possibly be procured by the present careless and heedless system of allowing them all to grow and do the best they can for themselves, too generally adopted by a very large class of persons in the cultivation of this very useful and prolific horticultural crop, the absurdity of which cannot be too forcibly condemned. Root-pruning I can only consider to be desirable and useful where trees grow outrageously strong, and require to be checked. Much nonsense has been published respecting this practice; but I have good reason to question whether the adherents of the theory ever made their practice answer the desired purpose to such an extent as they have endeavoured to persuade their readers.

The lady's rejoinder, "That the gentleman using the phrase, 'Facts are stubborn things,' must have been a very great fact himself," because he used the phrase in support of an argument where right and reason bowed to him, did not disprove the power of his argument, nor the influence it had made on his opponent in the course of their conversation, any more, I hope, than the practice of the present day will disprove what I now advance in reference to the cultivation of Pear-trees and their fruit: but there are, I am sorry to say, so many determined sticklers for antiquated practices, that the truth needs to be many times told respecting any innovation before it is once believed, and long believed before it is given a fair trial to; and such being the mode of progression in all matters of science, persons must only be amused, not alarmed, because such persons become "exceedingly aggrieved" to think that any person should desire to remove their prejudices, and place them on a more comfortable, rational, and reasonable footing, both with themselves and their practises.

Every generation must, does, and will, bring to light its quota of facts; and this is the grand secret of, and connected with, the practice of our most successful Pear-growers. They allow none but good, healthy wood to grow in their Pear-trees; and they allow but two fruit to grow where six would be produced, if they were not removed by artificial means; proving the additional fact, that "art may assist nature, but cannot control her;" it must work in harmony, and cheerfully submit to take the helper's part: the moment it attempts to assume the higher ground, it becomes like a restive horse with its legs over the traces—no longer in a position to act an useful part, but requiring re-adjustment before it can proceed.

The most unfavourable circumstances which attend Pear-cultivation are late frosts and cold eastern winds in spring; and this is proved by the present season's experience; for, whilst our London friends have suffered very severely from

the ill effects of the April frosts, we, who were, and have since been, in the enjoyment of fair weather, have most abundant crops; so much so, indeed, that we have been obliged to apply the foregoing-recommended practice to our own circumstances, and still find it necessary, in some cases, to repeat the dose.—C. B. S., *Jersey*.

CONFUSION IN THE NOMENCLATURE OF POULTRY.

If any one circumstance more than others is liable to cause annoyance to amateurs, it is a carelessness with regard to the names of new varieties. Recently, I forwarded a paper on *Guelderlands*, as they are termed in America, from having been obtained in that province of Holland, from whence I also derived my specimens.

These I stated to be un-topknotted black Polands; and I mentioned that I had seen, at a dealer's, some un-topknotted, golden-spangled, bearded Polands.

No sooner has this article appeared, than an advertisement follows (from, I presume, the purchaser of the set I saw, as the numbers correspond), stating that they are for sale, under the title of *Guelderlands*, or *Corsican* fowls. Here is a pretty specimen of confusion! Unless they are black birds, they are not the common breed known as *Guelderlands* in America. If they are *Guelderlands*, how, in the name of all that is geographical, can they be *Corsican*, considering that one is a province in Holland, the other an island in the Mediterranean? Again, the term "*Corsican*" has been applied with equal looseness and inaccuracy to another breed, namely, the Pencilled *Hamburgh*, or *Chitteprat*, as may be seen by referring to the schedule of the *Yorkshire Agricultural Society's Show*. And lastly, the birds in question, I believe, did not come from *Corsica*.

Our present system of nomenclature is bad enough; for example, our *Cochins* do not come from *Cochin-China*, nor our *Spangled Hamburgs* from that city; but it is tolerably well fixed, and I do hope, therefore, that all parties—writers and readers, buyers and sellers, judges and exhibitors—will do all in their power to prevent any fresh confusion; for at present, if we except the *Irish shows*, there is an almost perfect uniformity of nomenclature.

I may mention one fact which has recently come under my notice. It is usually stated, that our *Polish fowls* are unknown in the country from whence they take their name. I have inquired, recently, of several *Polish gentlemen*, and they informed me, that they are by no means uncommon in their unhappy country.—W. B. TEGENRIER, *Willesden*.

SEA WEEDS.

(Continued from page 179.)

We come now to the third great order,

CHLOROSPERMEÆ,

which includes the green plants of the ocean. Some of them are a sort of purple, but only few. The fruit is scattered throughout the frond, and is of two kinds. Many of the plants are found in fresh-water streams, ditches, &c. They may be known by their green, or brown, or purple colour. Dr. Harvey says, that "A comparatively small number are found in the waters of the sea. A far larger proportion inhabit fresh-water rivers, lakes, and ponds, ditches, bog-holes, &c.; in fact, anywhere that fresh or *unfresh* water may lie. They answer many a good purpose in the household of Nature, and are specially useful in purifying the water in which they live."

ORDER 14.—SIPHONÆÆ.

1. CODIUM. *Stachouse*.

"Frond green, sponge-like (globular, cylindrical, or flat, simple, or branched), composed of tubular, interwoven, inarticulate filaments. Fructification opaque vesicles attached

to the filaments. The name is from a Greek word, signifying the skiu of an animal."—*Greville*.

1. C. BURSA (Purse).—On rocks in the sea; frond round and hollow; very rare.

2. C. ADLERENS (Sticking).—On rocks, incrusting them with its soft substance; very rare. The only specimen I have had was from *Cornwall*, kindly sent to me by *Miss Warren*.

3. C. AMPHIBIUM (Amphibious).—"On turf banks near high-water mark. The colour herbaceous-green, and the substance soft."—*Harvey*.

4. C. TOMENTOSUM (Woolly).—Not uncommon; on rocks in the sea. Frond from six to twelve inches long, forked. *Dr. Landsborough* does not think it is common in *Scotland*; he found it in *Arran*, in a rock-pool, and says it is more like a sponge than an *Alga*.

2. BRYOPSIS. *Lamour*.

"Frond membranaceous, filiform, tubular, cylindrical, glistening, branched; the branches imbricated, or distichous and pinnated, filled with a fine, green, minutely granular fluid. Name signifying the appearance of a moss."—*Greville*.

1. B. PLUMOSA (Feathery).—In the sea, on stones and rocks. A very lovely plant, bright and shining, and very like a bunch of green feathers.

2. B. HYPOIDES (Hypnum-like).—In rock-pools near low-water mark; rather rare. More slender than the last, and of a yellow-green. "Very abundant in the west of *Ireland*, growing on *Laminaria saccharina*."

3. VAUCHERIA. *De Candolle*.

"Fronds aggregated, tubular, continuous, capillary, coloured by an internal green, pulverulent mass. Fructification dark green, homogeneous sporangia (coniscystæ) attached to the frond."—*Greville*.

"Name in honour of *M. Vaucher*, a distinguished writer on fresh-water *Confervæ*."

1. V. SUBMARINA (Under-sea).

2. V. MARINA (Sea).

3. V. VELUTINA (Velvety).

The other British species are fresh-water *Algæ*.

ORDER 15.—CONFERVACEÆ.

"Green, marine, or fresh-water *Algæ*, composed of articulated threads or filaments, simple or branched, free or surrounded by gelatine cells, cylindrical, truncated."—*Harvey*.

SUB-ORDER.—1. CONFERVÆÆ.

1. CLADOPHORA. *Kützing*.

"Filaments green, jointed, attached, uniform, branched. Fruit, aggregated granules, or zoospores, contained in the joints, having, at some periods, a proper ciliary motion. The name signifies branch-bearing."

1. C. BROWNII (Brown's).—"On wet rocks in a cave near *Dunree*, north of *Ireland*. Forms exceedingly dense, very rigid tufts of a black-green colour when growing, but on having the water expressed, and being held to the light, exhibits a beautiful yellow-green tint."—*Harvey*.

2. C. REPENS (Creeping).—"Very rare; thrown on shore after a gale."—*Miss Turner*, *Jersey*. "Tufts an inch or two in diameter, and about half-an-inch thick."

3. C. PELLUCIDA (Transparent).—From four to six inches high, very rigid, and much forked; of a fine glossy green, which is, however, very liable to fade when dried in the herbarium. I have had it from the *Isle of Man*. It is found fine in *Belfast Lough*, but not in *Scotland*.

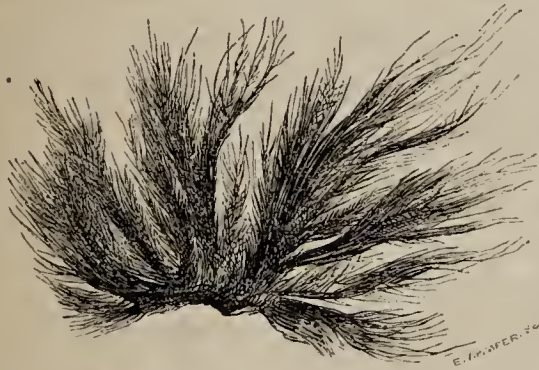
4. C. RECTANGULARIS (Right-angled).—Bristly and rigid, not adhering well to paper; very rare.

5. C. MACALLANA.—Growing on sand at the bottom of the sea. "Filaments forming crisped, loose bundles, six to twenty inches long, bristling when removed from the water; of a rich grass-green. One of the most beautiful and distinct, as it is the rarest, of the genus."—*Harvey*.

6. C. HUTCHINSLÆ.—Rather rare; near low-water mark; of a deep glaucous-green.

7. C. DIFFUSA (Spreading).—From six to ten inches long. Sometimes bristling, and at others soft. "Grass-green or dark green."

8. *C. NUDA* (Naked).—"A doubtful species."
 9. *C. RUPESTRIS* (Rock).—Very bushy, tufted; dark green; the branches upright, and much crowded. On rocks in the sea; very common.
 10. *C. LUTEVIRENS* (Bright-green).—Bushy, forming tufts of a very pretty bright green, which, however, turns to a dull greyish-green in drying; common.
 11. *C. FLEXUOSA* (Zig-zag).—"In the sea; not uncommon; four to eight inches long."
 12. *C. GRACILIS* (Graceful).—"On rocks and Alga; colour yellow-green, with a silky gloss when dry."
 13. *C. RUDOLPHIANA*.—Growing on *zostera*, marine, and other plants; "from six to twenty inches long, exceedingly slender and soft, forming beautiful, silky, bright green, subgelatinous tufts."—*Harvey*.
 14. *C. REFRACTA* (Broken).—In rock-pools near low-water mark. A beautiful plant, of a bright yellow-green colour. Filaments from three to four inches long. The specimens I have are from the Isle of Man.
 15. *C. ALBIDA* (Whitish).—"Filaments slender, and flaccid, two to six inches long; pale green, fading in drying, and without gloss."
 16. *C. LANOSA* (Woolly).—In the sea, on rocks; common. "Small, entangled, woolly tufts; pale green."
 17. *C. UNCIALIS*.—Very short tufts, of an inch high, and dark green.
 18. *C. ARCTA* (Close).—On rocks in the sea, in thick tufts.



Colour a very fine green, early in the spring, but much more dingy as it becomes older. The tips of the filaments shine as if dipped in isinglass, which adds much to the beauty of the specimens. When old it loses this appearance, and is coarse, not adhering well to paper.

19. *C. GLAUDESCENS* (Milky-green).—Tufts two or three inches high, rather level at the top, and of a glaucous-green; on rocks near low-water mark; not unusual.
 20. *C. FALCATA* (Curved).—Tufted, and of a dark green colour; the filaments thicker than hair. "The branches curved and twisted; the lesser divisions and ramuli frequently incurved, arching, or strongly hooked inwards."—*Harvey*. A very elegant plant. Miss Heslop finds it in the Isle of Man, near Douglas.
 21. *C. FLAVESCENS* (Yellowish).—Not unusual in ditches of brackish water; light yellow, and with a silky appearance when dry. It does not adhere to paper.
 22. *C. FRACTA* (Broken).—Much entangled, and common in ditches and lakes; of a dull green colour.

2. RHYZOCLONIUM. *Fritz*.

1. *R. RIPARIA* (Shore).—"On sand-covered rocks, near high-water mark; not uncommon. Filaments very slender, with a few root-like branches below. Colour bright green."—*Harvey*.

(To be continued.)

VITALITY OF EGGS.

As you are anxious for facts on this subject, I may just state, that many years ago, I placed a hen on some eggs, intending to open them at different seasons, and examine the formation of the chick. I think it was at the end of the first week that one was opened in the morning before ten

o'clock; as I wished, before destroying the egg, to show it in situ to another person, I placed the egg, after opening it, by the window; the heart was then beating well. Late in the afternoon, 5 p. m., in taking it up, the little creature distinctly drew itself together, in fact, it was quite alive, though the egg was cold.—H. P. S., *Mounmouthshire*.

DUBLIN NATURAL HISTORY SOCIETY.

(Continued from page 188.)

Mr. Andrews then exhibited specimens of *Elymus Europæus* of Linnæus, *Hordeum Sylvaticum* of Hudson, which had been sent to him by Mr. Bain, of the Botanic Gardens, Trinity College. Mr. Bain discovered this grass in the woods at Mount Merrion, the seat of the Right Hon. Sydney Herbert, and he at once detected it as new to the flora of the country. It grew in some abundance, and being of no value as an agricultural grass, it is not likely to have been introduced. It is pleasing to observe, that among the onerous duties devolving on Mr. Bain in the College Gardens, he has directed his attention to the grasses of the country, and thoroughly to understand their character and practical value to the agriculturist. Mr. Andrews also brought to notice and exhibited specimens of *Trichomanes speciosum* and *Ophrys muscifera*, which were sent to him by Mr. Thomas Chandler, of Cork, who promised to be a most assiduous botanist. Mr. Chandler had already drawn up a Flora of the Phanogamous and Cryptogamous plants of Fermoy. Mr. Chandler observes, that he was in company with Mr. Isaac Carroll, of Cork, when the *Trichomanes* was discovered in a locality north of the county of Cork. The hill on which it grows is situated on the confines of Cork and Limerick, and is composed of conglomerate. It displays a curious formation, as if the whole hill had been split, and one-half sunk considerably below the other. The perpendicular face of the rock thus exposed is much disintegrated, and shows many horizontal fissures, in one of which, on pulling aside a turf of withered ferns, the *Trichomanes* was discovered in considerable luxuriance. A remarkable feature was the dryness of the spot. The altitude of the mountain was about 1,000 feet. The *Ophrys muscifera* was found in a bog between Ballitore and Athy, Co. Kildare.

Mr. Williams then addressed the chairman, and said, with reference to the proceedings of the last meeting, and the discussion which took place relative to the observations made by Mr. Ffennell on the habits of salmon, he (Mr. Williams) had received two communications from parties who had noticed the report of those proceedings in *Saunders's News-Letter*, and which did not agree with the views that Mr. Ffennell had put forward. One was from a gentleman who had devoted much attention to the subject of the fisheries, and who possessed sound practical knowledge and experience of the habits of the salmon, especially with reference to the Bandon river, and that part of Ireland. He would, with the permission of the chairman, read the remarks that had been communicated to him.

The Chairman said he was afraid that so much business had been before the meeting that the lateness of the hour could not permit any discussion; but, perhaps, it would be better to record the statement that had been communicated.

Mr. Williams then read the following:—

"I consider Mr. Ffennell is mistaken in his theory, that the male salmon first ascend the rivers on the approach of the spawning time, as, from close observation of the habits of the fish for eight or nine years, at least, I am convinced that on the approach of the spawning season both male and female salmon arrive at the pitting ground together, or nearly so. In the 'Bandon' the greater part of the large breeding fish do not make their appearance until the middle or latter end of November, and we never see a spawning-bed on that river much before the 25th December. I have seen male fish killed in January and February in company with pea-fish, and both were full of sea-lice, had not spawned, and had all the appearance of having only just come up from the sea. With respect to another part of Mr. Ffennell's theory, that 'the male salmon, after having their desires accomplished, desert the females on the beds to complete the operation of spawning, it seems to me that he means the fish

actually copulate, and that the male fish impregnates the immense body of ova contained in the female (and reaching in a compact mass from the vent to the gills), in the ordinary way adopted by land animals, viz., by copulation. This I take to be an impossibility; besides, if it was so, why should so much care be taken by artificial breeders of salmon to use the milt of the male fish with which to impregnate the ova of the female, after having pressed it from her. I have hundreds of times seen the pea-fish for a considerable time on the pit, upon which she remained quite motionless; at intervals she would rise twelve or sixteen inches from the bottom, throw herself on her side, and 'rig' in a curious way, which I consider to be the means to facilitate the expulsion of the ova. After being for some time occupied in this way, I have seen the male fish, who all the time closely attended (and seemed intent on driving off the number of trout who were on the watch to snap up the pea), come and take the place of the female, and remain on the pit for five or six minutes, and I have not the slightest doubt but that he, during that time, ejected a portion of his milt on the ova already deposited. As for the males leaving the rivers together, I know they do not, any more than the females; and both drop down the river slowly, and at intervals—a flood greatly hurries their journey back to the sea. Mr. Fennell remarks, that the clean fish which occur in the Caragher, in the month of January, spawned the following November. Now, I would like to know when they spawned, previous to the time of their appearance as clean or spring fish in the month of January? If November was the time, then they had but two months to spawn, go to the sea, and return spring fish. I think it would not be very easy to pass for a clean run fish, one that was full of ova two months before. It would also seem, by Mr. Fennell's theory, that the fish which remained all the summer in the lake and river must have been all females, as according to his idea the males do not arrive until after the summer had passed and the swarming time had come. Now it is notorious, that during the summer, fish (both peale and salmon) of both sexes are continually ascending the rivers, and can it be possible that after the close season commences, all the males turn back and remain in the sea or estuaries until the time for continuing their species arrives? I perfectly agree with Mr. Andrews, that fish remaining all the summer in fresh water are not in a healthy state for spawning; every angler knows that even the spring fish, after being in the river for any length of time become discoloured, and the longer they remain in the fresh water, the more they deteriorate both in appearance and quality. But as for the males leaving the river *en masse*, I do not credit it at all; I know they do not in the Bandon river, as I every year take them quite as late in the spring as the spent pea-fish, both having the appearance resulting from a lengthened stay in the fresh water. Mr. Andrews was quite correct in styling the Bandon a late river, and that fish were in good condition late in the season. It would, I think, vastly contribute to the increase of salmon in that river, if the season continued for at least fifteen days longer and at the same time I think the open season might with the greatest safety be continued until the middle of October. I killed two salmon on the 29th September last, and I never saw or eat better fish—one was a male and the other a female; the pea in the latter was not larger than snipe shot. I am, therefore, of opinion that it is not fair to close the Bandon and other late rivers, nor open them at the same time as rivers in which the fish spawn earlier; in fact, the principal spawning time in the Bandon is from the 12th of January to the end of February."

Mr. Andrews said that he was fully prepared to make any comments on the valuable statement that Mr. Williams had just submitted, as well as upon any discussion that might arise; but he agreed with the chairman that the time of the evening did not admit discussion, notwithstanding the vast importance of the subject. He regretted the absence of Mr. Fennell, who, he was sure, would clear up any of the points in discussion. Mr. Andrews did not consider that the society had anything to do with the legal question of the periods of the close or open seasons; it was the natural history and habits of the salmon it had to deal with. Mr. Andrews always placed great importance on the knowledge of practical men, and where science could be combined with

such knowledge, there were no difficulties of the subject that could not be unravelled. There was, however, one class Mr. Andrews did not consider useful—non-practical philosophers; their names gave weight to their opinions, but he had seen some writings upon subjects where, through the want of that practical knowledge, scientific errors had been culled and perpetuated to the injustice of the subject. In early days, Mr. Andrews had been a devoted fly-fisher, and had been well trained on the Slaney, under the guidance of Old Foley of Newtownbarry, who had not his equal as a salmon-fisher; and in our western rivers he had long experience with his companion, James O'Gorman, a first-rate salmon fisher, and son of the famous O'Gorman who wrote the "Practice of Angling in Ireland."

The meeting was then adjourned to the month of June.

POULTRY-YARD REPORT.

May, 1854.

SPANISH v. SHANGHAE.

WEIGHT favours the Spanish this month, and doubtless number of eggs would have been in their favour also, had I not tried an experiment. In justice to the Shanghaes, I must state they suffered equally, but without affecting them, as they could scarcely have laid another dozen without laying two in the day. The experiment was simply reducing the amount of food to the standard spoken of in your numbers for March; they have not a large run, and the experiment told wofully on the Spanish: sometimes the nests were quite empty, and frequently only contained a solitary egg.

The report is as follows:—

SHANGHAES.		MINORCAS.	
Total Number laid	71	Total number laid	64
	lbs. oz. drs.		lbs. oz. drs.
Ditto weight	8 8 1	Ditto Weight	7 12 7
Highest weight of single egg	0 2 4	Highest weight of single egg	0 2 4
double-yoked, and laid by same hen as last report.			

The invalid Shanghae, in spite of cod-liver oil, &c., &c., died—the lungs loaded with tubercles. The performances of the others are briefly these. The two that commenced laying again on the 19th and 20th of April sat on the 25th and 16th of May respectively; to the latter I soon gave, for a few days, some older chicken, and have turned her back into the yard. The mother with chickens laid again on the 8th, while on the 20th and 26th the two others laid, in each case, within three weeks of hatching time.

The Minorca pullet has improved, but the latest report stated no eggs; the hen that commenced laying in January is now sitting since the 30th of this month (May).

H. B. S., Monmouthshire.

HOLMFIRTH SPRING POULTRY SHOW.

THE idea of a spring poultry show, on the Holmfirth Feast Monday (May 29th), originated with the leading members of the Pig and Poultry Association, and was a praiseworthy effort to place within the reach of the working men of the district a source of innocent and rational recreation at this festive season, which does the promoters of the show much credit; and though in a pecuniary point of view they are likely to be losers to some inconsiderable extent, yet the committee, we believe, are well satisfied to make up the loss, as they have been the means of collecting together some of the very best specimens of poultry that have ever yet been exhibited in Yorkshire at this season of the year. Though this pleasing sight was not appreciated to the extent they anticipated by the working-classes, yet, as a first experiment, the attendance towards the close of the day was far from discouraging, and such, indeed, as we trust will induce the committee to make the experiment another year. Turning from the general features of the show to

more specific points of excellence, we were first struck on entrance by the Buff Cochin chickens exhibited by Mr. Wigney, of the George Hotel, in this town, one of the judges, which, though shown by permission, and not for competition, were the best specimens for size, colour, and early plumage, we have seen this season. The show of Black Spanish fowls was also excellent, and certainly the leading feature in an exhibition composed of many attractions; for the degree of excellence was so well contested that the judges must have been sorely puzzled in arriving at their decisions. We were sorry to find that the Dorking breed were at a discount, in this show, though those shown in the first prize by Mr. Dransfield were good specimens. In Cochins, as usual, lay the numerical and general force of the exhibition, and the birds shown by the Rev. George Hustler, of Appleton, and C. S. Floyd, Esq., of Sands, were among the best we have yet seen; the former reigning triumphant in the Buff and Cinnamon classes, which Mr. Floyd seems to be giving up, and cultivating with success the Black and White specimens of these attractive birds. In both these latter classes Mr. Floyd carried off the prizes, with some of the best bred birds in the exhibition. In Cochin chickens of the present year he divided the honours with the Rev. George Hustler. The Brahma Pootra and Game fowls were represented by some good specimens, though the number shown was small. Of Golden-pencilled Hamburgs, a class which we believe has not been hitherto exhibited at Huddersfield or Holmfirth, there were some excellent specimens, and as they are remarkable layers, we may expect them to form attractive features in all future poultry exhibitions. There were also good specimens of Silver-pencilled, Golden and Silver-spangled Hamburgs; while Mr. Rushworth's Polands were beyond doubt the best among a great number of excellent specimens of this interesting breed. We have not space to further particularise where there was such general signs of excellence, though the first prize cock belonging to Mr. Brook, of Bridge-mill, struck us as a model of fine plumage and condition; the second prize being one of Mr. Floyd's White Cochins. Some of the proud little Bantams were good; and some few worthy the name of excellent. In Geese the show lacked vigour, and though the specimens shown were good, we missed the breed of Mr. Hebblethwaite, of Mirfield, from this show. Of Ducks there were some good specimens, and the entries were pretty numerous. Of Turkeys, though few in number, some of the specimens were excellent; the Guinea Fowls looked interesting; the Pigeons, though few in number, and not equal to the other parts of the exhibition in quality, attracted a good deal of attention, though the "loving pair of Turtle Doves" belonging to Mr. Robert Floyd, placed with mischievous prominence in the centre of the marquee, seemed to absorb the sympathies of the "budding maidenhood" of the fair sex. Passing over some good specimens of Rabbits, a number of excellent Eggs (which we did not test by taste—though feast time)—and the attractions of an excellent band, the show went off with great satisfaction to all parties who witnessed it, and we doubt not that if conducted with spirit these spring exhibitions will ultimately rank among the chief of the kind in the kingdom. The judges were—for Poultry, Messrs. William Smith, Kent-house, Halifax; Thomas Pearson, York Square, Leeds; and T. J. Wigney, George Hotel, Huddersfield; for Pigeons, Rabbits, and Eggs, Mr. Henry Brook, Bridge-mill. Their decisions appeared to give the greatest satisfaction.

LIST OF PRIZES AWARDED.—POULTRY.

Class 1.—SPANISH.—Best cock and two hens.—First prize, John M. Thompson, Dewsbury. Second prize, John S. Henry, Woodlands, Crumpsall, Manchester.

Class 2.—SPANISH.—Best six chickens of 1854.—First prize, Rev. George Hustler, Appleton, Tadcaster. Second prize, M. H. Broadhead, Stubbin.

Class 3.—DORKING.—Best cock and two hens (coloured).—First prize, John Dransfield, Penistone.

Class 6.—COCHIN-CHINA.—Best cock and two hens (Cinnamon and Buff).—First prize, Rev. George Hustler. Second prize, J. Richardson, 43, Clarence-street, York.

Class 8.—COCHIN-CHINA.—Best cock and two hens (White).—First and second prize, C. S. Floyd, Sands.

Class 9.—COCHIN-CHINA.—Best cock and two hens (Black).—First and second prize, C. S. Floyd.

Class 10.—COCHIN-CHINA.—Best six chickens of 1854 (any variety).—First and second prize, Rev. Geo. Hustler. Commended.—C. S. Floyd.

Class 11.—BRAHMA POOTRA.—Best cock and two hens.—First prize, Rev. George Hustler. Second prize, C. S. Floyd.

Class 12.—MALAY.—Best cock and two hens.—Alfred Beaumont, Steps, Hornley.

Class 13.—GAME FOWL.—Best cock and two hens (White and Piles).—First prize, Henry Brooke, Bridge Mill. Second prize, Alfred Rushworth, Buxton Road, Huddersfield.

Class 14.—GAME FOWL.—Best cock and two hens (Black-breasted and other Reds).—First prize, Henry Brooke. Second prize, H. Exton, Paddock, Huddersfield.

Class 15.—GAME FOWL.—Best cock and two hens (Black and Brass-winged, except Greys).—First prize, Wm. Drake, Lockwood. Second prize, Alfred Beaumont.

Class 16.—GAME FOWL.—Best cock and two hens (Duckwings and other Greys and Blues).—Alfred Beaumont.

Class 17.—GAME FOWL.—Best six chickens of 1854 (any variety).—First prize, Joe Barber, Hollinbrigg. Second prize, Henry Brooke.

Class 18.—GOLDEN-PENCILLED HAMBURGHS.—Best cock and two hens.—First prize, J. Richardson. Second prize, C. S. Floyd.

Class 19.—SILVER-PENCILLED HAMBURGHS.—Best cock and two hens.—First prize, James Dixon, Bradford. Second prize, Thomas Brierly, Holme.

Class 20.—GOLDEN-SPANGLED HAMBURGHS.—Best cock and two hens.—First prize, George Brooke, dyer, Huddersfield. Second prize, James Dixon.

Class 21.—SILVER-SPANGLED HAMBURGHS.—Best Cock and two hens.—First and second prize, James Dixon. Commended.—Henry Carter, Uppertong.

Class 22.—HAMBURGHS.—Best six chickens of 1854 (any of the above-named varieties).—First prize, Joe Barber. Second prize, M. H. Broadhead, Stubbin.

Class 23.—POLAND FOWL.—Best cock and two hens (Black and White crest).—First prize, Thomas Battye, Brownhill Mill. Second prize, Alfred Rushworth.

Class 24.—POLAND FOWL.—Best cock and two hens (Golden).—First prize, Joseph Conyers, Jun., 24, Boar Lane, Leeds. Second prize, Joshua Lockwood, Denby Dale.

Class 26.—POLAND FOWL.—Best cock and two hens (White).—First and second prize, Alfred Rushworth.

Class 27.—POLAND FOWL.—Best six chickens of 1854 (any variety).—First prize, Thomas Battye. Second prize, Alfred Rushworth.

Class 28.—CUCKOO FOWL.—Best cock and two hens.—First prize, Joseph Whittaker, Denby Dale. Second prize, Thomas Beardsell, Hagg.

Class 29.—ANY BREED OR CROSS.—Best cock and two hens.—First prize, Alfred Rushworth. Second prize, C. S. Floyd.

Class 30.—ANY BREED OR CROSS.—Best cock.—First prize, James Brooke. Second prize, C. S. Floyd.

Class 31.—ANY BREED OR CROSS.—Best hen.—First prize, W. Fenton Kenny, Saville Lodge, Halifax. Second prize, J. Richardson.

Class 32.—ANY BREED OR CROSS.—Best six chickens of 1854.—First and second prize, C. S. Floyd.

Class 33.—BANTAMS.—Best Gold-laced (one cock and two hens).—First prize, John S. Henry. Second prize, George Brooke.

Class 35.—BANTAMS.—Best White.—First prize, James Dixon. Second prize, Joe Barber.

Class 36.—BANTAMS.—Best Black.—First prize, Joseph Conyers, Jun. Second prize, Matthew Ridgway. Commended.—Henry Brooke.

Class 38.—GEESE.—Best gander and one goose.—First prize, Joseph Barber, Hinchliff Mill. Second prize, James Howard, Wood-hey-laith, Holme.

Class 39.—GEESE.—Best three goslings.—First and second prize, James Howard.

Class 40.—DUCKS.—Best drake and two ducks (White Aylesbury).—First prize, James Batley, Lippel Bank. Second prize, Geo. Thewlis, Jun., Rock House, Scholes.

Class 41.—DUCKS.—Best drake and two ducks (Rouen).—First prize, James Dixon. Second prize, C. S. Floyd.

Class 42.—DUCKS.—Best drake and two ducks (Muscovy).—First prize, C. S. Floyd.

Class 43.—DUCKS.—Best drake and two ducks (any other variety).—First prize, James Dixon. Second prize, Joe Barber.

Class 44.—DUCKS.—Best four ducklings (any variety).—First prize, James Dixon. Second prize, G. H. Hinchliff, The Nabb.

Class 45.—TURKEYS.—Best cock and two hens.—First prize, C. S. Floyd. Second prize, Joe Barber.

Class 46.—TURKEYS.—Best cock.—First prize, Joseph Conyers, Jun. Second prize, C. S. Floyd.

Class 47.—GUINEA FOWL.—Best pair.—First prize, Henry Carter, Uppertong. Second prize, William Hoyle, Hill.

PIGEONS.—Best pair of *Carriers*, Richard Battye, Newtown. Best pair of *Almond Tumblers*, Henry Carter. Best pair of *Nuns*, Alfred Rushworth. Best pair of *Turbits*, Henry Beldon, 99, Fitzgerald-street, Bradford. Best pair of *Jacobins*, Henry Beldon. Best pair of *Fantails*, Alfred Beaumont, Steps, Honley. Best pair of *Trumpeters*, Alfred

Rushworth. Best pair of *Pouters* or *Crappers*, Richard Battye, Holmfirth. Best pair of *Turtle Doves*, Robert A. Floyd, Sands. Best pair of *Blue Rocks*, Joe Barber. Best pair of *Common Pigeons*, Joe Barber.

RABBITS.—Best pair of fancy Rabbits, Robert A. Floyd. Best pair of common Rabbits, Robert A. Floyd.

EGGS.—Best twelve hen eggs.—First prize, Alfred Rushworth. Second prize, Richard Tolson, Holmfirth. Best twelve duck eggs.—First prize, Henry Carter. Second prize, Joe Barber. Commended, John Harpin, Birks House.

QUERIES AND ANSWERS.

GARDENING.

VINE-LEAVES SCALDING, AND GRAPES SHANKING.

"I have the management of two Vineries, each thirty feet by fifteen feet; the early one was shut up at Christmas, and kept at a heat of 45° to 55°, till the buds began to burst, when the heat was allowed to rise a few degrees, and air given on the top a few inches, every morning, the first thing, and on bright days the floor was well damped, but the Vines have never been wetted since they opened their buds.

"I forgot to mention that the houses are glazed with the sixteen-ounce sheet glass, in pieces three feet long by seven inches wide, and stand full south, where the sun was so very powerful during March and April, the thermometer ranging between 90° and 100°, with all top sashes open quite a foot, and the front one a few inches. Now, the leaves are much scalded, the berries rusted, and some of the bunches very much shanked, but I have a fine crop, about fourteen or fifteen bunches to sixteen feet of rafter, and very fine berries, and well coloured. The Vines are planted outside the house, the borders two feet six inches deep, raised nearly above the surface of the garden, and have been covered with felt covers since September, with about a foot thick of tree-leaves under the covers. The Vines have been planted six years, and have scalded, rusted, and shanked, more or less, every season since they commenced bearing. Do you think shading with some very thin article in early spring would be a good plan?—A. A. W."

[We are of opinion that the scalding of the leaves of your Vines arises from the air of your house being too damp, and the leaves not dried sufficiently early, by ventilating well before sunrise. The leaves being overcharged with moisture renders them much more liable to suffer from exposure to powerful sunshine than when they are drier. The shanking arises, most probably, from the roots being outside the Vinery. You will have seen what was said on this subject last week. Shanking will occur when there is a considerable difference between the temperature in which the leaves and roots are growing. That is, if the roots are much the coldest. It was good practice to cover the borders in September, but it is bad practice to keep them covered during sunny days in spring and summer. Besides, we conclude, from your silence, that the stems and collars of the Vines were uncovered through the winter. If so, the sap could not be supplied to sustain rapid growth.]

WALL-TREE BRANCHES LOSING THE TERMINAL LEAVES.

"Although my garden is far from being extensive, yet the knowledge gained through your pages has been brought to bear on some fruit-trees which I possess of various sorts; but my Apricots and Peaches greatly perplex me. I have closely followed the directions given in your work, both in 'protecting,' 'disbudding,' and 'stopping,' and last year succeeded in laying in a good stock of 'perfect bearing shoots,' and this spring had the pleasure of seeing, for the first time, Apricots set well all over the trees. Great, however, was my disappointment; for, when only about the size of peas they began to fall off, leaving, at last, about half-a-dozen on a tree: these are very fine, and are just enough to make me determine still to persevere, closely consulting my good friend, THE COTTAGE GARDENER. I must also state, that it seemed to me, that about the same time the trees themselves received a sort of shock, as the points of nearly all the shoots seemed to die, the terminal leaf turning

yellow, and falling off. Since then, however, they have broken again, and are, I should say, growing vigorously. The place, however, I refer to, is very distinctly seen marked out by three or four very small, ill-shaped leaves; the leaves below are of a large size, and deep green colour; those above, large, and of a pale green, and the shoot itself as red as a cherry. I may be wrong, but I cannot help thinking, that the falling off of the fruit, and the stopping of the growth of the shoots, is traceable to the same cause, whatever that may be. Will you favour me with your valuable opinion?

"The fine shoots of the Peach and Nectarine trees flowered beautifully, but have failed very considerably to set their fruit; nevertheless, I have more this year than I ever had before; so that considerable success has crowned my efforts. The trees were well planted about seven years ago, and seem to be in excellent health; but, whether I disbudded too much, or too soon, or whether the days were too hot, and the nights too cold, for it was about the time of that 'weather of extreme character.' The screens were generally let down in the forenoon, and drawn up in the afternoon, hanging at about four inches from the wall, a piece of wood reaching from the top of the wall to the bottom, over which the screens were tightly drawn, preventing any cold current of air. It may be, and that I have mostly feared, that the atmosphere of a town is unfriendly to the requirements of these trees; although my situation is by no means a close one, lying in the way from the Royal Arsenal to the Barrack Field; and I produce beautiful Grapes, Cherries, and Apples, and some Pears. The aspects are S.S.E. and S.S.W.; the walls high and clean; and the trees free from insects. A deep well is close in their vicinity, so that the soil is well drained; a little bottom-heat also, must, I think, be communicated from a large brick-oven, as I have observed the snow never lies long in the winter.—A LOCAL MINISTER, *Woolwich*."

[It is probable that the cause of your Wall-fruit falling were the severe frosts and mgenial weather in April and May. The young branches becoming bared of leaves at their end is a very common occurrence, and the ends which so lose their leaves usually die during the winter following. The loss of leaves arises, we think, from a deficient supply of sap; the roots have not become active in due proportion to the activity of the branches and leaves, the earth warming up very slowly from heat applied to its surface. We are confirmed in this opinion from the fact, that Peaches forced, and their roots within the house, are not liable to such a loss of leaf.]

CLIPPING IVY.—SALSAFY.—WOODLICE.—DWARFING LOBELIAS.

"I shall feel much obliged by answers to the following questions:—

"1. The best time to clip Ivy.

"2. The best way to use Salsafy.

"3. The best way to get rid of Woodlice from a Cucumber-bed.

"4. And especially, the best plan for keeping the late-growing Lobelias, &c., dwarf. I am told that by nipping off the top of the flower-shoot this may be done; but I fear nipping off too much, and spoiling the bloom. A word on this subject will much oblige.

"In this subject we have never had so much blight on the wall-trees (Peaches, Nectarines, Plums, &c.), or so many caterpillars on the Roses, as this year.—S. JOHNS."

[We have clipped *Ivy* at all times, but prefer Midsummer, because then the cuttings soon heal, and we can remove the young growth without making a break in the green outline. We are no great epicures, but we have had the young tops from old roots of *Salsafy* cooked like Asparagus, when several inches long; and we have enjoyed the roots, scraped and boiled like Carrots, with a little of such gravy added, as is said to distil wondrous fine broth even from clean pebble stones.

To get rid of *Woodlice* from a Cucumber-bed we have tried especially four ways, and all of them are best according to circumstances and the patience and perseverance employed. First, Lay some clean hay or dry moss by the side of the bed, after having previously watered it in the after-

noon. Next morning have some boiling-water ready, and a small pot with a rose to it; commence at one end; lift the dry litter gently but quickly, so as to shake the rascals out of it, and bring immediately the water over their hard hides, which will effectually do for them; continue the process until all are parboiled. Second. Take some small pots, put a slice of Potato, Turnip, or fresh, crisp Lettuce-leaf in their bottom, and then a little tuft of dry hay or moss, place them by the sides of the bed, and in the morning empty the hosts into a pail of hot-water. Third. Take a few small bell-glasses, clean-washed inside, with such a bait as the above in its centre, and plunge it in the bed, so that its edges are level with, or rather below, the surface of the soil. They can get in easily enough, but, like Sterne's Starling, they cannot get out again; their feet can do nothing in the upright, clean glass, and such glasses I have frequently had half filled. All these processes must be repeated. The fourth is both a remedy and a preventive, though not a particularly delicate one. Keep several toads in the bed, and that they may be comfortable in their prisoned solitude, supply them with a saucer of water, and see that it is not long empty. If you have many Woodlice, they will soon get as fat as a show pig. If you are fond of the wondrously dexterous, and what Brother Jonathan would call "cutely clever," try if your eye is sharp enough to detect the toad putting out of sight one of those huge fellows they call slaters in Scotland.

Dwarfing tall-growing *Lobelias*, by stopping the flower-shoots, may be done; but what benefit will accrue? We have had these strong and above six feet in height. We have stopped the shoots when six inches high, and had then a number of flowering-shoots, some two feet in height. We have stopped that series when several inches high, and had flowering-shoots somewhere about a foot in height, more numerous than was desirable, and the blooms numerous and small in proportion. By this stopping, we have made such kinds as *Lobelia fulgens* and *splendens* more massive and uniform as a bed in a group; but then they lost all the grandeur and beauty of plants, with, perhaps, a central stem five or six feet high; three or four, from three to four feet, and several still dwarfer and shorter than that. We should prefer growing some naturally dwarfer plant of the desirable colour, to systematically depriving these tall *Lobelias* of their natural dignity and elegance.

We are sorry to say that your accounts of insects are too common. Mr. Appleby's address is, Victoria Nursery, Uxbridge.]

POTTING AZALEAS.—MELONS.

"Not being able to have any peat for three weeks to come, will that be too late to pot my Azaleas, which are now in a Vinery (a late one) growing nicely? Shall I keep them there till they have formed their flower-buds?"

"I have two stout *Melon* plants, but have nowhere to put them, except a cold-pit, where I can use dung for bottom-heat only. Shall I do any good if I put them out?—PETER PINDAR."

[It will be late enough for forward *Azaleas*, but from your description, it will do well enough for yours. Let the plants remain where they are, and if for a week or two after shifting, so much the better. Beware of giving a large shift, or you may find young shoots coming vigorously next season instead of flower-buds. When the points of your shoots begin to plump up, the more sun and air your plants have the better will they bloom.

Your *Melons* will do admirably in the cold-pit, if you can give from a foot to eighteen inches of dung below them. In fact, in a warm summer they would do without the dung, but they will succeed better with it. Allow about fifteen inches of soil, and allow the heat to be getting into it before planting out.]

FUCHSIA FULGENS SHEDDING ITS FLOWER-BUDS.

"I shall be very glad if you can inform me respecting the treatment of *Fuchsia fulgens*. I have been growing it for two seasons in compost consisting of loam, rotten dung, and road drift, in equal parts, with a little silver sand. I grow them in a greenhouse, and can produce fine plants with

large trusses of buds, but they drop before they bloom.—J. C. K. AMATEUR."

[With the dung you incorporate we would use no manure-water until near the end of the season. Do you give your plants plenty of air, and a sufficiency of water? We can think of nothing else causing your flower-buds to drop, unless it be the other extreme—using too much water, with a rather rich compost. As this kind of *Fuchsia* has large, fleshy roots, water should not be given too freely, until the pots are stored with fresh fibres.]

POULTRY.

CO-PARTNERSHIP IN A BROOD.

"A neighbour gives me a sitting of Spanish eggs, and tells me the law among poultry breeders is—'That the one who supplies the eggs is to have the pick of the chickens, and half the produce.' Another neighbour also gives me Spanish eggs, and says the rule is—'That the one who supplies the eggs is to have a pair of chickens.' My question is—Is there any standing approved rule on this head?—S. W."

[We know of no rule for such a co-partnership. In the only instance within our experience, where one party found the eggs, and the other party the brood hen and keep of the chickens until left by their mother, the brood was divided equally between the parties. They made their selection in turns—the party who found the eggs having first choice. This is somewhat on the same terms that we have known Potatoes grown. The farmer found the soil and manure, and the other party finding the seed Potatoes and labour; the produce being divided equally.]

USE OF GYPSUM IN POTATO CULTURE.

Our correspondent, Levi Durand, Esq., after alluding to the alarm excited by the extensive prevalence of the potato disease in this and other countries, and the failure to discover its cause or a remedy, gives us his method of culture, &c., as follows:

Our system, like many others, in cultivating potatoes, has changed materially in the last twenty years, and we think for the better. Formerly we used to lay the ground into ridges, and then plant the potatoes deep in the soil, plowing the ground but one way for hoeing, and finally finish off cultivating the crop by "hilling up" the potatoes to the size of a half-bushel basket. But we have found, of late years, that this hilling up system is all useless, and worse than time thrown away, either in cultivating potatoes or corn, as in case of a great drouth, which we often have, great injury is done to the crop.

Our plan now is, to plow the ground flat, raking it down smooth with the harrow and roller; then mark out the rows two feet and a half each way, with the "corn marker" drawn by a horse. Then drop the potatoes on the angles of the rows, which will bring the rows right in digging; no more hill than what the "marker" will make passing at right angles of the field. After this, put on about a gill of ground plaster, then cover with two or three good hoefuls of soil, and the work of planting is done.

As to the kind of seed to be used, a variety of opinions exist among cultivators. Some use whole seed or a whole potato of large size, while others cut them and put two or three pieces in a hill. So far as we can remember, our experience has proved that when the large potatoes were cut for seed, that more even, sizeable potatoes would be produced than when one large potato was put in a hill, as then a few large seed ones and a good many small ones was more generally the product. But still other cultivator's experience may have proved directly to the contrary of all this. Formerly we always saved the large table potatoes for seed, cutting them into a suitable size, and then dropping two and three in a hill, always thinking that in order to get a good crop we must select the largest potatoes for seed. After the price of potatoes went up to seventy-five cents and a dollar a bushel, as a matter of economy, we tried the smaller sized ones for seed, which were not large enough for market, and after a few trials with the small

seed, are now well satisfied that seed potatoes from the size of pigeon eggs to the size of butternuts were equally as likely to produce a good crop as well as large potatoes, while a great saving was made in using the smaller ones, as well as the expense of cutting.

For the last twenty-five years we have used plaster ground fine upon our potatoes when we could get it, about a gill to a hill, put into the hills on the seed. We found, upon long trial, that the plaster increased the size of the potatoes, and made them dry and mealy.—(*The American Country Gentleman.*)

THE NEW-YORK STATE POULTRY SOCIETY.

THE exhibition commenced on Tuesday, the 7th of Feb. Van Vechten Hall, the place of holding the show, presented a rare collection of fowls of every possible form and hue, such as has never before been gathered in this country at one time and place. The different varieties of the *Asiatics* figured most largely in the display, but representatives of almost every known class of domesticated birds were present. The aristocratic Game Fowl looked proud defiance at the larger proportions of the quiet and corpulent Shanghae; the noble bearing and glossy plumage of the Black Spanish showed in fine contrast with the uneasy air and dull feathers of the Hamburgs; the Golden and Silver Spangled Polands stood side by side with the trim and well-built Dorkings; the wee Bantam was there in his beauty, looking wonderingly at his distant relatives, the Chinamen. The gobble of the Turkey was heard, strangely out of tune with the squeak of the Guinea Fowl, and the shrill tenor of the crow of the smaller cocks did not chord well with the cracked bass of the long necked Cochin-Chinas. Then there were Aylesbury, Black Cayuga, Muscovy and Top-knot Ducks; Bremen, Chinese, African and Wild Geese; fan-tail, ruffle-necked, carrier, tumbler, spot and Malta Pigeons; Chinese and English Pheasants; Prairie Hens and Quails; a pair of American Eagles, and a long row of Black and Tan and Rat Terrier Dogs, that constituted a sort of special police, charged with the guardianship of the assembled convention of poultry.

There were in all something more than fifty exhibitors, and the number of fowls on exhibition is estimated at from twelve to fifteen hundred. Among the more prominent exhibitors from this section may be mentioned W. H. Southwick, of New Baltimore, who showed over thirty coops of varieties; J. W. Platt, of Rhinebeck, who had nearly the same number; E. E. Platt, Albany, who exhibited more than twenty coops; G. M. Van Alstyne, Greenbush, ten coops; Geo. Anderson, Albany, ten coops; C. W. Goddard, Albany, five; and numerous other smaller exhibitors.

Among exhibitors from a distance, D. P. Newell, of Rochester, made a very extensive show. The first premium was awarded him for that variety of Shanghaes known as Bralima Pootras, and these fowls were certainly very fine. They did not show the coarseness and slovenliness of some of the large fowls, and are bred very true to colour. They were more compactly built and of more beautiful proportion than any others of the same variety we ever saw.

Mr. McGowen, of Philadelphia, exhibited one cock and two hens of the Buff Shanghae, imported by Mr. Rudman of Philadelphia, which were very much admired. They were symmetrical in form and their plumage was faultless. The owner refused 150 dol. for the trio.

Mr. J. P. Childs, Woonsocket, R. I., showed some choice specimens. Among these we noticed four superior cocks and four hens of the Chittagong variety, one cock and two hens of the Black Spanish, which were most perfect specimens of the breed, and a trio of inimitable little Sebright Bantams.

The whole affair passed off to general satisfaction, and every one is willing to acknowledge that the rearing of poultry at present prices is a great business. It commends itself, however, to those who keep fowls for ornament and as a pastime, rather than to those who raise poultry for market and for the eggs. Still the advocates of the Shanghaes insist that they are intrinsically worth from one-third to one-half more than the ordinary fowls for producing eggs and dressing for market

On Wednesday evening, David Taggart, of Northumberland, Pa., delivered an address before the Society, in which he eulogized the genus *gallus* in classic phrase,—spoke of some of the peculiarities and excellencies of the various breeds of fowls, and maintained that the Cochin-Chinas, Brahma Pootras, &c., were all derived from the Shanghaes, and only differed in colour and other unessential particulars which were determined by breeding with care.—(*The American Country Gentleman.*)

THE GEN. HAND PLUM AND ITS ORIGIN

THIS plum has been noticed repeatedly, and a correct description of the fruit, as well as its *origin*, has been fully given, and yet there seems to be a lack of knowledge in regard to the same, or else a disposition to throw into obscurity its true history, and to accord to others the credit not due to them in originating this plum. My attention has been drawn to this plum lately, by looking over the number of the "Country Gentleman," dated Sept. 22, 1853, which contains a notice of the Gen. Hand plum, "ascribing its origin somewhere in the state of Maryland, and which has received the above name." In 1848, a few specimens of the fruit were sent to Mr. A. J. Downing, by Mr. Eli Parry, of Lancaster, Pa., and Mr. Downing noticed them very briefly, in the then current number of the "Horticulturist." During the same year a description of this plum was written by myself, based upon the observation of its fruiting for eight years, upon the grounds of Mr. Samuel Carpenter, of Lancaster, Ohio, at which place I resided at the time. (See Hort. vol. 3, page 332.) In Hort. vol. 6, page 21, under the heading of, "*Descriptions of new and rare fruits,*" Mr. Downing has described this plum, by saying, "it is the largest yellow plum known, certainly the largest native variety;" then states its history to be obscure, and says "it was sent out by Messrs. Sinclair, of Baltimore," and adds, "the only accurate account published of this fruit, by any reliable cultivator, is contained in a note from Mr. Fahenstock, of Lancaster, Ohio, in Hort. vol. 3, page 332." In 1851, after the publication above alluded to, *ascribing the origin in Maryland*, the "Fruit Garden," edited by P. Barry, Rochester, N. Y., made its appearance, and the error here alluded to was endorsed by Mr. Barry, who says it is "one of the largest American varieties, introduced by Messrs. Sinclair and Corse, of Baltimore, Md." This I regretted very much, from the fact that now it had gone forth to the world with authority, as it were, because Mr. Barry being a practical Pomologist of many years study and experience, would necessarily add weight and give tone to anything he might say, and much more so, when he gives a mature and studied declaration in a work which he was then sending forth to the people of the United States, and which by many has been, and is still, looked upon as a text book. Mr. C. G. Siewers, of Cincinnati, having seen the articles ascribing the origin to Messrs. Sinclair, of Baltimore, gave a true and reliable history of this plum and its origin in the Hort. vol. 6, page 187. He says "that the original tree grew on the farm of Gen. Hand," (from whom it took its name,) "about one mile from Lancaster, Pa. That in 1831, Mr. E. W. Carpenter, nurseryman of Lancaster, Pa., procured specimens of the fruit, budded a number of trees, and sent grafts to his brother, S. Carpenter of Lancaster, Ohio, and Robt. Sinclair of Baltimore, Maryland, and thus introduced it into notice." I will here remark that my notice of this fruit was penned from the knowledge I obtained from Mr. S. Carpenter of Lancaster, Ohio, as well as from the fruiting, year after year, of one of the trees raised from the grafts sent him by his brother in Lancaster, Pa., and which was almost daily under my observation. On page 294, same vol., you will find the confirmation of the above. Thus it will be seen that the Gen. Hand Plum originated on the farm of Gen. Hand, near Lancaster, Pa., and that it took its name from him. That Mr. E. W. Carpenter of the same place, a nurseryman, in 1831, budded many trees, and forwarded grafts to his brother of Lancaster, Ohio, and Mr. Sinclair of Baltimore. A. FAHENSTOCK.—(*The American Country Gentleman.*)

A GARDEN OVERRUN WITH WEEDS.

"FATHER, I don't like to go to school," said Harry Williams, one morning. "I wish you would let me always stay at home. Charles Parker's father don't make him go to school."

Mr. Williams took his little boy by the hand, and said kindly to him, "Come, my son, I want to show you something in the garden."

Harry walked into the garden with his father, who led him along until they came to a bed in which peas were growing, the vines supported by thin branches that had been placed in the ground. Not a weed was to be seen about their roots, nor even disfiguring the walk around the bed in which they had been planted.

"See, how beautifully these peas are growing, my son," said Mr. Williams. "How clean and healthy the vines look! We shall have an abundant crop. Now let me show you the vines in Mr. Parker's garden. We can look at them through a great hole in the fence."

Mr. Williams then led Harry through the garden-gate and across the road, to look at Mr. Parker's pea-vines through a hole in the fence. The bed in which they were growing was near to the road; so they had no difficulty in seeing it. After looking into the garden for a few moments, Mr. Williams said—

"Well, my son, what do you think of Mr. Parker's pea-vines?"

"Oh, father!" replied the little boy, "I never saw such poor looking peas in my life! There are no sticks for them to run upon, and the weeds are nearly as high as the peas themselves. There won't be half a crop!"

"Why are they so much worse than ours, Harry?"

"Because they have been left to grow as they pleased. I suppose Mr. Parker just planted them, and never took any care of them afterward. He has neither taken out the weeds, nor helped them to grow right."

"Yes, that is just the truth, my son. A garden will soon be overrun with weeds and briars, if it is not cultivated with the greatest care. And just so it is with the human garden. This precious garden must be trained and watered, and kept free from weeds, or it will run to waste. Children's minds are like garden-beds; and they must be as carefully tended, and even more carefully, than the choicest plants. If you, my son, were never to go to school, nor have good seeds of knowledge planted in your mind, it would, when you become a man, resemble the weed-covered, neglected bed we have just been looking at, instead of the beautiful one in my garden. Would you think me right to neglect my garden as Mr. Parker neglects his?"

"Oh, no, father; your garden is a good garden, but Mr. Parker's is all overrun with weeds and briars. It won't yield half as much as yours will."

"Or, my son, do you think I would be right, if I neglected my son as Mr. Parker neglects his son, allowing him to run wild, and his mind uncultivated, to be overgrown with weeds?"

Little Harry made no reply; but he understood pretty clearly what his father meant.

"I send you to school," Mr. Williams continued, "in order that the garden of your mind may have good seeds sown in it, and that these seeds may spring up and grow, and produce plentifully. Now, which would you prefer, to stay at home from school, and so let the garden of your mind be overrun with weeds, or go to school, and have this garden cultivated?"

"I would rather go to school," said Harry. "But, father, is Charles Parker's mind overrun with weeds?"

"I am afraid that it is. If not, it certainly will be, if his father does not send him to school. For a little boy not to be sent to school, is a great misfortune, and I hope you will think the privilege of going to school a very great one indeed."

Harry Williams listened to all his father said, and, what was better, thought about it, too. He never again asked to stay home from school.—(*The American Country Gentleman.*)

WOODMAN, SPARE THAT TREE.

THIS delightful ballad is one of the happy poetical efforts of Gen. George P. Morris. In a collection of poems lately published, the author gives the following interesting account of the origin of this song:—

"Riding out of town a few days since, in company with a friend, who was once the expectant heir of the largest estate in America, but over whose worldly prospects a blight has recently come, he invited me to turn down a little romantic woodland pass not far from Bloomingdale.

"Your object?" inquired I. "Merely to look once more at an old tree planted by my grandfather, near a cottage that was my father's." "The place is yours, then!" said I. "No, my poor mother sold it;" and I observed a slight quiver of the lip at the recollection of that circumstance. "Dear mother!" resumed my companion, "we passed many happy, happy days in that old cottage; but it is nothing to me now—father, mother, sisters, cottage—all are gone!"—and a paleness overspread his fine countenance, and a moisture came to his eyes as he spoke. After a moment's pause, he added: "Don't think me foolish. I don't know how it is, I never ride out but I turn down this lane to look at that old tree. I have a thousand recollections about it, and I always greet it as a familiar and well-remembered friend. In the by-gone summer time it was a friend indeed. Under its branches I often listened to the good counsel of my parents, and had such gambols with my sisters. Its leaves are all off now; so you won't see it to advantage, for it is a glorious old fellow in summer, but I like it full as well in winter time."

"These words were scarcely uttered, when my companion cried out, "There it is!" Near the tree stood an old man with his coat off, sharpening an axe. He was the occupant of the cottage. "What do you intend doing?" asked my friend with great anxiety. "What is that to you?" was the blunt reply, "You are not going to cut that tree down, surely?" "Yes, but I am though," said the woodman. "What for?" inquired my companion, almost choked with emotion. "What for! Why because I think proper to do so. What for? I like that. Well, I'll tell you what for. This tree makes my dwelling unhealthy: it stands too near the house: prevents the moisture from exhaling, and renders us liable to fever and ague." "Who told you that?" "Dr. S——." "Have you any other reason for wishing to cut it down?" "Yes, I am getting old; the woods are a great way off, and this tree is of some value to me to burn." He was soon convinced, however, that the story about the fever and ague was a mere fiction, for there never had been a case of that disease in the neighbourhood; and then was asked what that tree was worth for firewood. "Why when it is down, about ten dollars." "Suppose I make you a present of that amount, will you let it stand?" "Yes." "You are sure of that?" "Positive." "Then give me a bond to that effect." I drew it up; it was witnessed by his daughter; the money was paid, and we left the place with an assurance from the young girl, who looked as smiling and beautiful as a Hebe, that the tree should stand as long as she lived. We returned to the road and pursued our ride. These circumstances made a strong impression upon my mind, and furnished me with materials for the song I send you."

WOODMAN, SPARE THAT TREE!

Woodman, spare that tree!
Touch not a single bough!
In youth it sheltered me,
And I'll protect it now.
'Twas my forefather's hand
That placed it near his cot:
There woodman, let it stand,
Thy axe shall harm it not!

That old familiar tree,
Whose glory and renown
Are spread o'er land and sea—
And would'st thou hew it down?
Woodman, forbear thy stroke!
Cut not its earth-bound ties;
Oh spare that aged oak,
Now towering to the skies!

When but an idle boy,
I sought its grateful shade;
In all their gushing joy,
Here, too, my sisters played.

My mother kissed me here:
My father pressed my hand—
Forgive this foolish tear,
But let that old oak stand!

My heart-strings round thee cling,
Close as thy bark, old friend!
Here shall the wild-bird sing;
And still thy branches bend.
Old tree! the storm shall brave!
And, woodman, leave the spot;
While I've a hand to save,
Thy axe shall harm it not!

BONES DISSOLVED BY WOOD-ASHES.

A FRIEND of ours, in whom we have entire confidence, informs us that seven years ago he fell into the practice of reducing bones by means of ashes, by a sort of fortunate blunder. Being at the head of a very large family, in which fresh meat was largely consumed, he found that his Irish cook was in the habit of throwing all the bones out of the back window. This drew such a bevy of dogs, with voices, bass, tenor, and treble, about the house, that it was impossible to sleep quietly. In order to withdraw temptation from the dogs, and to preserve the bones for the use of his land, to be prepared in some way then unknown, he ordered the bones to be carried and put into an old sugar hogshead, placed in a grove at a little distance from the house, and the ashes from the kitchen to be thrown on them, the hogshead to be uncovered that the rain might fall into it. Whenever an offensive smell arose from the bones, which was only in dry times, he found that a little water thrown on prevented it. As soon as the first hogshead was full, another was placed by it and filled, and then another. His intention was to use the ashes and bones on Indian corn, supposing that by the next spring the bones would be somewhat softened, so much so that they might be pounded to pieces with a sledge hammer on a flat stone. The hammer and the stone were actually procured for the purpose. But no bones were found, except near the top of the hogshead last filled. Instead of the bones, were found soft sponaceous masses, retaining the form and size of the original bones, but none of their hardness. They were easily cut through with a shovel and mixed with the ashes; and when so mixed and applied to corn at the rate of half a pint to the hill, they proved an excellent manure for corn. The experiment has been repeated every year since with good effect, not only producing great crops of corn, but manifestly leaving the ground in good order for a succeeding crop, with but very little yard manure, not more than a quarter of what would be regarded as a fair dressing, say from three to four loads to the acre. The land is a light loam, and has been under the plow incessantly for more than twenty years, bearing for the last eight years hoed crops every year, generally corn and potatoes alternately, but some of the time corn two years in succession. As yet this land shows no diminution of crops, but rather an increase. In 1851 a comparison was instituted between bone earth procured in market at 2½ cents per pound, the best Peruvian guano, and this mixture of bones and ashes. The quantity of the bone earth and of the guano applied to the hill was just half that of the bones reduced by ashes. The effect of the bone earth procured in market was barely perceptible as compared with rows that were unmanured; the effect of the guano and of the house-made bone earth (the bones reduced by ashes) was very striking, that of the guano being more manifest in June and July, but that of the bones with ashes giving decidedly the best crop in October.

The friend who has communicated the foregoing facts, gives the following, as what he believes the true theory of the action of moistened ashes on bones, and of the influence of the mixture thus formed on crops.

Bones are about one-third organic, and about two-thirds inorganic matter, the former consisting of oil and glue; the latter mostly of phosphate of lime, with a very little carbonate of lime. It is a well-known fact, that if you put a bone into a strong ley and let it remain a few weeks, the potash of the ley will combine with the organic part of the bone, forming with it soap; the earthy part, principally phosphate of lime, will retain essentially the form and

appearance of the original bone; but if examined closely, will be found to have lost its texture; and if mixed with any dry substance, as clay, loam, or peat, may be easily crumbled with it into a powdery mass. This is very similar to the process of reducing bones by ashes. Were the bones to be put into dry ashes, they would heat, as in Mr. Pusey's experiments, would crumble to pieces, and the organic part would escape in the form of ammonia and other gases. But if water be added, enough to keep the ashes moist, and to exclude in a great measure the entrance of air, then the organic part of the bones will combine with potash and water, forming soap, and will leave the inorganic part (the phosphate and carbonate of lime) in a state to be easily mixed with any dry substance in the form of an impalpably fine powder; and although the phosphate may not have become as soluble as when changed to a super-phosphate by sulphuric acid, yet owing to the minuteness of its division, it seems to be sufficiently soluble. The manure thus formed, containing all the ingredients of wood-ashes and bones, is found to influence the growth of the crop sufficiently early in the season, though not quite as promptly as guano, and to hold out and mature the seed perfectly. When composed of five or six parts by weight of hard wood-ashes to one of bones, and kept in a cool place and sufficiently moist to prevent the escape of ammonia, it cannot be worth much if any less than half the price of Peruvian guano, as a manure for Indian corn.—(*The American Country Gentleman.*)

(The potash in the wood-ashes not only dissolves the organic constituents of the bones, but decomposes the phosphate of lime, forming phosphate of potash.)

TO CORRESPONDENTS.

*** We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed "To the Editor of *The Cottage Gardener*, 2, Amen Corner, Paternoster Row, London."

PRINULA STUARTII (*Primula*).—This flower may, perhaps, be heard of at Kew; we are not aware whether it is in the trade. It is a native of Nepal, was named by the late Dr. Wallich, and is figured in plate 4,356 of *The Botanical Magazine*.

ALOE AS A DESTROYER OF PLANT-LICE (*Philo*).—All that we know about the subject is the following:—"The 'Agriculture' publishes a letter from M. Raspail, giving an account of a plan for destroying vermin on animals, and also trees and plants. The process he recommends is to make a solution of Aloes (one gramme of that gum to a litre of water), and, by means of a long brush, to wash over the trunks and branches of trees with this solution, which will speedily, he says, destroy all the vermin on them, and effectually prevent others from approaching. In order to clean sheep and other animals with long hair, they must either be bathed with this solution, or be well washed with it. The writer mentions several trials which he had made of the solution with the most complete success, and very strongly recommends it to general use.—*Paris Correspondent of Morning Advertiser.*" If, therefore, *Philo* tries the experiment, he will not be far from the above proportions if he dissolves seventeen grains of powdered Aloes in a quart of water.

ANTS (*Amateur*).—Frequently disturbing their nests, and mixing up with them a little ammoniacal liquor from the gas works, will probably expel them. Do not put in much of the liquor at a time, or you may injure the plants in your frame.

NEW ZEALAND (*J. W. C. W.*).—If you pay the money to our publishers, they will take care that THE COTTAGE GARDENER is sent to you regularly in any part of the world. Any *Seeds* that succeed when sown in the open ground in England will succeed in New Zealand. If you buy our No. 212, you will find there full directions for *Packing Trees and Plants* for the Antipodes. We do not know whether the seeds of grocers' fruits will vegetate, some probably would, but we are quite sure that they are not worth the trial. We know of no means of *preserving the vitality of Eggs* during a four months' voyage. You will find full directions for *Writing on Zinc* labels in our No. 237.

STRAWBERRY PLANTS (*Tyro*).—Those planted last September which have not blossomed will probably do so next year. You may take runners from either one or two-year old plants. We know of no difference in their bearing powers. For *early fruiting*, we should plant Keen's Seedling, Hooper's Seedling, and Black Prince. For *main crop*, Thom's Seedling, Compté de Paris, and British Queen. For *late fruiting*, the Elton.

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WEEKLY CALENDAR.

D M	D W	JUNE 22-28, 1854.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
22	TH	Sun's declination, 23° 27' N.	29.780—29.694	64—50	N.	01	45 a 3	19 a 8	1 51	27	1 33	173
23	F	Hydroporus flavipes.	29.790—29.745	73—47	N.	—	45	19	2 14	28	1 47	174
24	S	MIDS. DAY. NAT. JN. BAP.	29.820—29.751	81—56	S.W.	06	45	19	2 41	29	2 0	175
25	SUN	2 SUNDAY AFTER TRINITY.	29.748—29.603	69—55	S.W.	18	45	19	sets.	☉	2 12	176
26	M	Colymbetes colconotus.	29.656—29.528	67—53	W.	36	46	19	9 a 37	1	2 25	177
27	TU	Colymbetes oblongus.	29.616—29.573	69—59	S.W.	01	46	19	10 13	2	2 38	178
28	W	QUEEN VICTORIA'S COR. 1838.	29.677—29.576	71—53	S.W.	—	47	19	10 40	3	2 50	179

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 73° and 51° respectively. The greatest heat, 93°, occurred on the 22nd in 1846; and the lowest cold, 35°, on the 23rd in 1851. During the period 110 days were fine, and on 79 rain fell.

It would be a rash prophecy to pronounce that such a spectacle as that of the opening of THE CRYSTAL PALACE, on the 10th instant, will never be witnessed again by the present generation; but it is not too much to say that no spectacle will ever be looked upon embracing more examples of all that is ostimable, all that should be loved and clung to, whether within the circle of home, or the wider field of social life.

On the central platform there then stood a royal family unequalled by any of its contemporaries, whether regarded as an illustration of English domestic happiness, or as an example of a monarch wisely careful to promote the home improvements and pleasures of her subjects, whilst as discreetly directing their energies in the waging of one of the most wide-world wars that ever impended over Europe. That groupe told by its example, that however high the public duties, however difficult and weighty the cares which our nature may be called upon to sustain, that there are sympathies within the home circle that sustain, and encourage and aid—upon which the heart, as well as the mind, can lean with a certainty of being strengthened—far greater than that heart and mind can gather from counsellors withoutside that circle, however transcendent their ability, and however faithful and zealous. That groupe further gave evidence that those possessed of power, almost without limit, to command all that is rare and vivid of enjoyment, still felt that this enjoyment would be purchased too dear if it excluded the quieter pleasures of home; and that the enjoyment would be scarcely worthy of the name, if it could not be shared by all the members of the circle. Three generations were in that groupe, and no one could look upon it without the beneficial conviction, that husband and wife, child and parent, were examples of reciprocal affection and confidence. It spoke out in every action, from the Queen's mother putting the shawl over the Queen's shoulders, down to the whispers between the young princes and their father.

Such are the best examples a people can have placed before them by their monarch; nor were the thousands assembled that day examples of subjects unworthy of such a sovereign. Never was there a more orderly or more loyal assembly; and the fact of so large a gathering being there to afford "All honour to labour,"—to promote the welfare of that only abiding source of the wealth of nations,—is the best evidence of our people's wisdom.

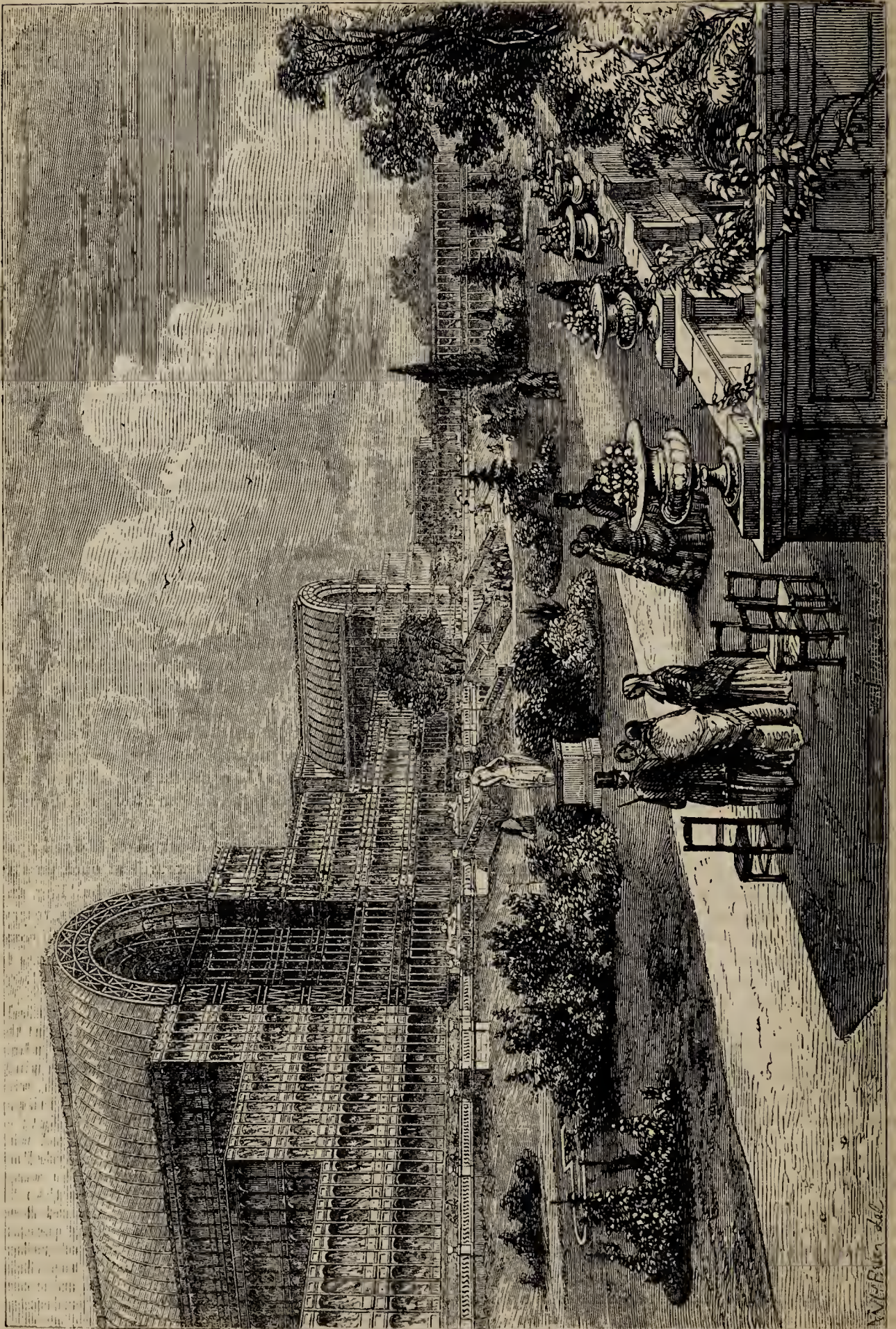
We hope such lessons could not be thus practically enforced without a salutary influence upon the representatives of the world who were there also assembled; and if they felt that neither the kings, nor the inhabitants of their own native lands, were elevated by comparison with the examples of that day in our Crystal Palace, let us hope that such examples will stimulate them to emulation, and not to envy.

Let us not forget, in our admiration of our sovereign and the people gathered around her—let us not forget the objects of the institution they met to inaugurate. That object is, indeed, worthy of such an august ceremonial, for it is the fostering and improving the good tastes and good habits of the least wealthy classes.

How important it is esteemed by the well-informed for the enlargement of the understanding to have an opportunity to examine the products of other nations, and to look with our own eyes upon the results of their industry and skill, had a marked witness, on that day, in the King of Portugal and his brother. In the prime of youth they have left the throne for awhile to learn wisdom from other nations. Wealth and power enables them to visit those nations, but as these agents are denied to our millions of people, the Crystal Palace has been instituted to bring the wisdom of other nations to those millions.

It is within no department of our pages to dwell upon the inaugural ceremonies, and we will at once pass to detail some few particulars concerning the building, and the arrangements of the plants within its space, reserving our notes upon the garden withoutside, until some future occasion, as well as the remarks we shall have to offer upon some departments within the palace.

"The building above the level of the floor is entirely of iron and glass, with the exception of a portion at the north front, which is panelled with wood. The whole length of the main building is 1608 feet, and the wings 574 feet each, making a length of 2756 feet, which, with the 720 feet in the colonnade, leading from the railway station to the wings, gives a total length of 3476 feet; or nearly three-quarters of a mile of ground covered with a transparent roof of glass. The length of the Hyde Park building was 1848 feet, so that, including the wings and colonnade, the present structure is larger than its predecessor by 1628 feet; the area of the ground floor, including the wings, amounts to the astonishing quantity of 598,396 superficial feet; and the area of gallery flooring of building and wings to 245,260 superficial feet, altogether 843,656 superficial feet. In cubic contents the Palace at Sydenham exceeds its predecessor by nearly one-half. The width of the nave, or main



EXTERIOR VIEW OF THE CRYSTAL PALACE FROM THE SECOND TERRACE.

avenue, is 72 feet, which is also the width of the north and south transepts; and the height of all three from the floor to the springing or base of the arch, is 68 feet; the height from the flooring to the crown or top of the arch being 104 feet, just the height of the transept at the old building. The length of the north and south transepts is 336 feet respectively. The length of the central transept is 384 feet; its width 120 feet; its height from the floor to the top of the louvre, or ventilator, 168 feet; from the floor to the springing of the arch 108 feet; and from the garden front to the top of the louvre, 208 feet, or 6 feet higher than the Monument.

"The floor consists of boarding one inch-and-a-half thick, laid as in the old building, with half-inch openings between them, and resting on joists, placed two feet apart, seven inches by two-and-a-half inches thick. These joists are carried on sleepers and props eight feet apart. The girders which support the galleries and the roof-work, and carry the brick arches over the basement floor, are of cast-iron, and are 24 feet in length. The connexions between the girders and columns are applied in the same manner as in the building of 1851. The principle of connexion was originally condemned by some men of standing in the scientific world; but experience has proved it to be sound and admirable in every respect. The mode of connexion is not merely that of resting the girders on the columns in order to support the roofs and galleries, but the top and bottom of each girder are firmly secured to each of the columns, so that the girder preserves the perpendicularity of the column, and secures lateral stiffness to the entire edifice. Throughout the building the visitor will notice, at certain intervals, diagonally placed, rods connected at the crossing, and uniting column with column. These are the diagonal bracings, or the rods provided to resist the action of the wind: they are strong enough to bear any strain that can be brought to bear against them, and are fitted with serewed connexions and couplings, so that they can be adjusted with the greatest accuracy. The roof, from end to end, is on the Paxton ridge-and-furrow system, and the glass employed in the roof is one-thirteenth of an inch in thickness (21 oz. per foot). The discharge of the rain-water is effected by gutters, from which the water is conveyed down the inside of the columns, at the base of which are the necessary outlets leading to the main drains of the building. The first gallery is gained from the ground-floor by means of a flight of stairs about 23 feet high; eight such flights being distributed over the building. This gallery is 24 feet wide, and devoted to the exhibition of articles of industry. The upper gallery is 8 feet wide, extending, like the other, round the building; it is gained from the lower gallery, by spiral stair-cases, of which there are ten: each stair-case being divided into two flights, and each flight being 20 feet high. Round this upper gallery, at the very summit of the nave and transepts, as well as round the ground-floor of the building, are placed louvres, or ventilators, made of galvanized iron. By the opening or closing of these louvres—a service readily performed—the temperature of the Crystal Palace is so regulated that on the hottest day of summer, the dry parching heat mounts to the roof to be dismissed, whilst a pure and invigorating supply is introduced at the floor in its place, giving new life to the thirsty plant and fresh vigour to man. The coolness thus obtained within the Palace will be sought in vain on such a summer's day outside the edifice.

"The total length of columns employed in the construction of the main buildings and wings would extend, if laid in a straight line, to a distance of sixteen miles and a quarter. The total weight of iron used in the main building and wings amounts to 9,611 tons, 17

ewts., 1 quarter. The superficial quantity of glass used is 25 acres; and, if the panes were laid side by side, they would extend to a distance of 48 miles; if end to end, to the almost incredible length of 242 miles. To complete our statistics, we have further to add that the quantity of bolts and rivets distributed over the main structure and wings weighs 175 tons, 1 cwt., 1 quarter; that the nails hammered into the Palace increase its weight by 103 tons, 6 cwt., and that the amount of brick-work in the main building and wings is 15,391, cubic yards.

"From the end of the south wing to the Crystal Palace Railway-station, as above indicated, is a colonnade 720 feet long, 17 feet wide, and 18 feet high. It possesses a superficial area of 15,500 feet, and the quantity of iron employed in this covered passage is 60 tons; of glass 30,000 superficial feet.

"The simple plan of heating by hot water is that which Sir Joseph Paxton has adopted for the Crystal Palace. But simple as the method undoubtedly is, its adaptation to the purposes of the Palace has cost infinite labour and anxious consideration: for, hitherto, it has remained an unsolved problem how far, and in what quantity, water could be made to travel through pipes—flowing and returning by means of the propulsion of heat from the boilers. At Chatsworth, the seat of the Duke of Devonshire, the principle has been carried out on a large scale, and the experiment there tried has yielded data and proof: but in the present building, a greater extent of piping has been attached to the boilers than was ever before known or even contemplated. In order to give the visitor some idea of the magnitude of the operation in question, it will be sufficient to state that the pipes for the conveyance of the hot water, laid under the floor of the main building, and around the wings, would, if placed in a straight line, and taken at an average circumference of 12 inches, stretch to a distance of more than 50 miles, and that the water in flowing from and returning to the boilers, travels one mile and three-quarters. But even with these extraordinary results obtained, the question as to the distance to which water can be propelled by means of heat is far from being definitely settled. Indeed, Sir Joseph Paxton and Mr. Henderson have invented an ingenious contrivance, by means of which, should it ever be required, a much larger heating surface may be called forth at any time in any particular portion of the building.

"The general arrangement of the Heating Apparatus may be described as follows:—Nearly twenty-four feet below the surface of the flooring of the main building, and leading out of "Sir Joseph Paxton's tunnel" (the name given to the roadway in the basement story, extending the whole length of the building on the side nearest the Gardens), are placed, at certain intervals, boiler-houses, each containing two boilers capable of holding 11,000 gallons of water. The boilers are twenty-two in number, and are set in pairs. In addition to these, a boiler is placed at the north end of the building, on account of the increased heat there required for the tropical plants. There are also two boilers set in the lower stories of each wing, and two small boilers are appropriated to the water in the fountain basins at each end of the building, which contain *Victoria Regias* and other aquatic plants of tropical climes. Four pipes are immediately connected with each boiler; two of such pipes convey the water from the boiler, and the other two bring it back; they are called the main pipes, and are nine inches in diameter.

"Of the two pipes that convey the water from the boiler, one crosses the building transversely—from the garden-front to the opposite side. Connected with this pipe, at certain distances, and in allotted numbers, are smaller pipes, five inches in diameter, laid horizontally, and immediately beneath the flooring of the building.

These convey the water from the main pipe to certain required distances, and then bring it back to the *return* main pipe, through which it flows into the boiler. The second main pipe conveys the water for heating the front of the building next to the Garden; and connected with this, as with the other main pipe, are smaller pipes through which the water ramifies, and then, in like manner, is returned to the boiler. Thus, then, by the mere propulsion of heat, a vast quantity of water is kept in constant motion throughout the Palace, continually flowing and returning, and giving out warmth that makes its way upwards, and disseminates a genial atmosphere in every part.

"To ensure pure circulation throughout the winter, ventilators have been introduced direct from the main building into each furnace, where the air, so brought, being consumed by the fire, the atmosphere in the Palace is continually renewed.

"The south end of the Palace and the south transept contain a selection of plants, consisting chiefly of Rhododendrons, Camellias, Azaleas, and other choice conservatory plants, most carefully selected; in the south transept, especially, are arranged the finest specimens of these plants that can be seen. Opposite the Pompeian Court are placed two fine specimens of aloes, and, conspicuous opposite the Birmingham Industrial Court, are two Norfolk Island pines. Opposite the Stationery Court are two specimens of Morton Bay pine, as well as several specimens of *Telopea speciosissima* from Australia. Under the first transept may be noticed two remarkably fine Norfolk Island pines, presented by his Grace the Duke of Devonshire.

"The garden facing the Egyptian Court is principally filled with palms; on either side of its entrance are two curious plants (resembling blocks of wood) called "Elephant's Foot;" they are the largest specimens ever brought to Europe, and were imported from the Cape of Good Hope by the Crystal Palace Company. This plant is one of the longest lived of any vegetable product, the two specimens before the visitor being supposed to be three thousand years old. Before this Court will be noticed also two fine India-rubber plants—a plant that has latterly acquired considerable interest and value, on account of the variety and importance of the uses to which its sap is applied. Here will also be noticed an old conservatory favourite, though not often met with, the *Sparmannia Africana*. Amongst the palms will be remarked many of very elegant and beautiful foliage, including the *Seaforthia elegans*, one of the most handsome plants of New Holland, and the *Chamcedorea elegans* of Mexico. On the left of the entrance to the Egyptian Court will be seen perhaps the largest specimen in Europe of the *Rhipidodendron plicatile* from the Cape of Good Hope. Opposite the central entrance to the Greek Court, and in front of the beds, are two variegated American aloes. The beds are filled with a variety of conservatory plants, and have a border of olive plants. In front of the Roman Court will be observed, first, on either side of the second opening, two large Norfolk Island pines, presented by Her Most Gracious Majesty and His Royal Highness Prince Albert. The beds, like those before the Greek Court, are principally filled with Camellias, Rhododendrons, and Orange-trees, and are also bordered by several small specimens of the olive plant. Between the two foremost statues, at the angles of the pathway leading to the second opening, are placed two specimens of the very rare and small plant, which produces the Winter bark of commerce, and which is called *Drymus Winterii*. The garden in front of the Alhambra is devoted to fine specimens of the pomegranates. Having passed the Alhambra, we find the garden of the whole of this end of the building devoted to tropical plants, including a most magnificent collection of different varieties of palms.

Between the sphinxes are placed sixteen Egyptian date-palms (*Phoenix dactylifera*), recently imported from Egypt, and which owe their present unflourishing appearance to the delay that took place in their transmission, on account of the steamer in which they were conveyed having been engaged, on her homeward passage, for the transport of troops. Amongst the different varieties of palms, the following may be noted, either for their large growth or beautiful foliage: an immense specimen of the *Sabal palmetta* from Florida, and a fine *Sabal Blackburniana*; also several fine specimens of the cocos, amongst which is the *Cocos plumosa*, reaching the height of thirty-five feet; numerous specimens of the wax palm (*Ceroxylon andricola*), natives of Columbia, and the curious *Calamus maximus*, which, in the damp forests of Java, grows along the ground to an immense length, and forms with its sharp prickles an almost impenetrable underwood, are also here. The *Sagueras saccharifera* of India, noted for its saccharine properties, and the vegetable ivory palm (*Phytelphas macrocarpa*), deserve attention. The specimen of *Pandanus odoratissimus*, from Tahiti, is also remarkable, on account of its sweet smell.

"Opposite the Byzantine Court, the garden is filled with different varieties of palms brought from South America, Australia, and the Isle of Bourbon. Before the Mediæval Court may be noticed two Norfolk Island pines, and close to the monuments at the entrance of the English Mediæval Court, are two funereal cypresses, brought from the Vale of Tombs, in North China. Close to the Norfolk Island pine, on the right, facing the Court, is a small specimen of the graceful and beautiful Moreton Bay pine. The garden in front of the Renaissance Court is filled with conservatory plants, consisting of camellias, azaleas, &c. On either side of the entrance to the Italian Court are two very fine American aloes, the beds here being filled with orange trees, olives, and other greenhouse plants. In the garden, in front of the Foreign Industrial Court, will be noticed two fine Norfolk Island pines."

For these particulars we are indebted to "The Crystal Palace Guide," and we will only add, at present, our testimony as to the healthful appearance of the plants. Those grouped and suspended in fancy baskets in the archways along each side of the nave are unexceptionably graceful, and we heartily hope that the difficulty of access to them will not induce neglect in their supply of water, and other cultural care. Any symptoms of fading would sadly mar the fairy beauty they now produce.

For our drawing, we are indebted to one of the best of our contemporaries, *The Home Companion*, and the structure of the Crystal Palace, as it appears in that drawing, is thus noticed in the pages from which it is derived.

"The structure itself, in the modifications of form and site it has received at the hands of its new directors, is an emblem of the enlarged intellectual basis on which it stands. Crowning the ridge of a lofty and picturesque hill, running nearly north and south, its huge bulk glittering in the sunshine, or looming heavily against a cloudy sky, is visible for miles in every direction, and forms a strange and sudden feature in the undulating landscape. On the west, or London side, a strip of table land allows the passage of a splendid road, one hundred feet wide, along its entire length. On the east, or country side, the terraced park slopes gently down towards the London and Brighton Railway, and melts away almost imperceptibly into the wooded plain of Kent. Views of great beauty and extent open on

every side. London and its southern environs lying maplike to the north and west; the tall masts of the shipping, and the smoke from the steamers on the bosom of the distant Thames, visible north-eastward on a clear day; while to the south, beyond Croydon and the Epsom downs, the far view is closed by the long, wavy range of the Surrey Hills. So material a change of site made necessary alterations no less important in the form of the Palace itself. Accordingly, the arched roof suggested by Sir Charles Barry was substituted for the flat one of the old building, increasing the height by 44 feet, while the disproportionate length was reduced by 240 feet. Instead of a single transept there are now three—one at each end of the nave, of the same dimensions as that of the old building—and a central one of the majestic height of 194 feet and 120 feet span. The latter crosses the roof of the nave, rising high above it; the north and south ones meet it only with low square towers at the intersections. Owing to the slope of the ground, the Palace has an addition or basement story on the park side, forming a curious sort of tunnel in its interior (occupied by the warming apparatus), and giving a most imposing elevation to the façade. From the north and south ends advance, on the park side, glass wings, terminated by oblong towers; the southern one communicating with the new station of the Brighton Railway within the grounds. On this side also, which is in fact the front, the arched ends of the transepts are recessed to the depth of twenty-four feet; leaving an open arcade, covered only overhead, under each, which has a most picturesque effect, throwing the glazed ends into deep shadow. Viewed, therefore, from the park, the Crystal Palace forms three sides of a parallelogram, the longest of which only is visible from the road at the rear."

YOUNG PEAR TRAINING.

(Continued from page 192.)

In my last paper I concluded the Pyramid and Table-trellis forms. I now proceed with the next in order,—

THE UMBRELLA MODE.—I have coined this title to express that form which consists of one straight stem with the shoots trained downwards from a centre. This mode of training is tolerably well adapted to some kinds—principally those with slender and supple shoots; those of a gross and stiff habit, and inclined to perpendicular growth, are rather inapt; they are constantly at war with this principle. However, we must try and deal with them. A tree of this kind, when selected, should have a clean, strong, self-supporting stem, of about three to five feet in height, according to the taste and designs of the cultivators, and should possess from four to six or more shoots at the summit; but these shoots should be of the last year's wood, or such as will readily bend. Of course, some kind of trellis will be requisite, at least for half-a-dozen years at first. I have known many fine trees trained on supple sticks out of a coppice—such as Oak or Hazel; but it is far better, and looks by far more artistic, to use an umbrella-form of wire, such as we have all seen applied to the training of Tree-Roses, but, of course, in shape and size adapted to the Pear.

The training rods may radiate from the centre, and in outline may be the segment of a circle. It would, doubtless, however, be an improvement on the old plan to adopt two circles of wire at the top, from the outer of which the radiating lines might proceed. Thus, one circle might be established at four inches from the apex, and another (parallel) at about five inches from that; and from the latter may radiate the downward curving wires. This will, in a measure, obviate the crowding which is

sure to take place near the top, owing to the acute angle from which the radiating wires proceed when they start immediately from the apex. The wires may start at about eight inches distance from the outer circles, and by the time they reach the ground, or nearly so, they will be about one foot apart. It is best to let them all terminate on a horizontal rod, at about four inches or so above the ground level; this gives strength and consistency to the whole, and keeps the shoots and Pears from being splashed.

On such wires, then, or bended sticks in a similar form, the first leaders must be carefully trained as soon as they can be handled, getting one on each as soon as possible; but this is not always accomplished in the first year. If there be but a limited number of shoots—say, four—they should be divided equally around.

The first training will, of course, take place during the winter pruning; and if the head is deficient of shoots, one, two, or more if necessary, of the very strongest shoots must be pruned back to about four or five inches, in order to multiply the leaders for the next year. If the wire circles are established, they may be pruned back to the outer circle. Throughout the summer the growing shoots must have attention, more especially during June and July; and in another year or two they will need disbudbing, pinching, &c., as other trained Pears—of which I will speak when dealing with more mature trees.

THE OLD TRELLISED ESPALIER.—This form is now well nigh out of date in the Pear way; at least, in our principal gardens; but I really cannot say why, except that newer and more fanciful modes have thrust it aside, for there is much merit in the form, if well carried out, as to certain kinds. I suppose that the frightful amount of breast-wood, and the consequent barrenness of the old trees of former times, which proved so unprofitable in many old gardens, gave people an idea that the fault was in the system. Not so, however; bad management, and ill-selected kinds, have cast a prejudice on this mode of training, which fairly deserves a revival. I have an intention, some day, to convey my ideas, in this work, on what a kitchen-garden should be in first-rate style; and when I do, I will endeavour to work in this espalier mode in part.

I may just remind our readers, that such trellises were, for the most part, composed of wood, and sometimes rough sticks, which were constantly falling into decay; that they were generally placed at the back of a marginal border, of some three or four feet, and that they were from about five to six feet in height. They consisted of upright posts, at about six feet distances, and horizontal bars or rails, at about eight inches apart, in parallel lines. The whole of the branches were, of course, intended to be trained horizontally, but such a systematic course of procedure was but too often departed from as the trees advanced in age, and hence confusion and a disrelish of the practice. Now I do not desire, for a moment, to insinuate anything against the gardeners of that day; I am well aware that many clever and first-rate men had espalier lines of this character. The fact is, that they were ignorant of the causes which led to such confusion and loss; they did not, at that period, fully recognise the necessity of placing the roots of their fruit-trees under control, more especially of the Pear. A deep and rich border must be made; everybody did it; and this long passed as a justification of a practice having a far greater tendency to produce wood than fruit. I well remember a joke that passed about, in my younger days, in the neighbourhood of London. A certain gentleman, who was exceedingly desirous of going-ahead, unloosed his purse-strings with much latitude, and employed a deep and rich border-man to establish him a fruit-garden. It was done; and two or three years passing away without produce of any character, the gen-

tleman waxed impatient; for "hope deferred maketh the heart sick." He wrote to his gardener to know what sort of a crop the returning summer had at last produced, when he received for an answer that the crop had failed, but that the trees were "making splendid wood." The worthy gentleman, who felt anxious for a good dessert, laconically reminded him that he could not eat "splendid wood."

As these espaliers are now not very common, I will remark but briefly on them, and pass on to the others. A young tree should be selected for such purpose, with a good stem, and, if possible, a pair or two of side-branches at distances suitable to the lines of the trellis. Such being planted about twelve to fifteen feet apart, a leader must be preserved until the height of the trellis is reached, when, of course, it must be stopped. The whole business is to get every horizontal rod, or rail, covered with a main branch as soon as possible; and to this end, high culture, by a little extra appliance, may be pursued for a couple of years or so, in order to force developments as speedily as possible; for by such practice it is possible to lay on three tiers of shoots in one summer. This may be accomplished in the way before described; that is to say, by securing a very luxuriant leader, and by pinching it once, or even twice. The propriety of such a course will be manifest to our readers; by it we gain time, for, as before observed, there is, of necessity, time lost in the course necessary to secure, ultimately, a systematic appearance in the tree; and the difference between establishing a trellis in four or five years, instead of seven or eight, is most important.

FAN TRAINING.—This practice is so general over the kingdom, on walls and fences of every denomination, that a long description is perfectly unnecessary. However, I must just glance at it as concerns the Pear. I am not aware that many persons train the Pear on a trellis in the fan manner, neither do I recommend it; I may merely observe that it may be done. Its disadvantages are considerable as compared with many other modes. The Pear is by nature so much inclined to become a timber tree, that every means has to be taken to arrest the tendency which the sap has to preponderate in the stronger branches, which, left to themselves, speedily assume too much of the timber character; after which it is vain to expect much fruit from them in a limited compass.

As some of our ingenious readers may wish to know why it is so, I may just observe, that the sap-vessels in such run-away branches are necessarily so capacious, that once established they make unceasing efforts to attain that expenditure, and consequent elaboration of the sap, which could only accrue by allowing them to possess an almost unlimited amount of foliage.

I am aware that this is a view of the subject by no means common; in fact, hitherto almost entirely undiscussed. It will, nevertheless, be found correct; and hence the propriety of carrying out such a course of culture as shall, at all times, tend to equalise the flow of sap; and this applies, in a greater or less degree, to all artistic training.

This, then, is one of the chief objections to the Fan mode, as applied to Pears; we seldom see them, but two or three of these timber-looking shoots occupy the centre of the tree, monopolising the chief power, and destroying that symmetry which is at once the delight of those who take a pride in training, and is a tolerably sure harbinger of success. By the Fan mode, therefore, the pinching system must be well resorted to during the first four years training; afterwards, the branches seldom acquire that even character just described.

HORIZONTAL TRAINING.—This heading was meant to apply to walls; the old Trellis mode, however, is so very similar, that little need be said about it. Most of the

wall Pears, in the first-rate gardens of our old aristocracy, were trained by this mode in former days; and, as before observed, if it has fallen somewhat into disuse, the fault is not in the principle. A main leader is constantly secured until it reach the top of the wall, and the production of side-branches at given distances is accelerated by all possible means. These side-branches should be nine inches, or three courses of bricks apart, and in some cases, where the foliage is exuberant and large, and much tying down is resorted to, one foot will be better.

SADDLE TRAINING.—Those who desire to become familiar with this mode may just visit the noble kitchen-gardens at Frogmore, where it is extensively carried out. It is a very systematic and excellent mode; but I do not like its application when running east and west: this, of course, gives a north side, and this is an insuperable objection. If such a line *must* be observed, why not plant the north side with Morellos, late Currants, late Gooseberries, baking or stewing Pears, the late *Duke* Cherry, &c. It is some time since I saw the Frogmore Gardens, and I really forget what system of training they had adopted; but, if I were going to establish them, I should prefer the horizontal mode from a straight central leader; in which case, the same principles must be called into requisition as in the case of the old Trellised Espalier and the Horizontal training.

These saddles should, I think, be about four feet high at the apex, and should be as near the segment of a circle as possible. I would by no means have them higher than four feet, and I am not assured that three feet would not be preferable.

I must now take leave of Young Pears for a little while; for really there are some other pets of the dessert table that I should like to spend a few hours with; and next week I will endeavour to take fresh ground.

Let me advise fruit cultivators to be on the alert; it is nonsense being daunted by the sad reverses of the past and some previous springs. Such things are by no means unusual in Britain; our forefathers had to deal with them, and yet they bequeathed to us good fruit-gardens. The fact is, extra pains must be taken; and whilst we adhere to the good old maxim, "NEVER DESPAIR," let each succeeding spring find us in the spirit of old Charley's motto, "READY! AYE, READY!"

R. ERRINGTON.

HORTICULTURAL SOCIETY'S SHOW.

JUNE 3RD.

(Concluded from page 194.)

GERANIUMS.—I did not take the names of the different growers who exhibited the greenhouse, or old strains, but there were a very great number of them, all by themselves, and away from the Fancies altogether, which was a great improvement on the old way of placing the two classes side by side. In crimsons, *Magnet* had no competitor, and plants of it were in all the collections. In orange-scarlet, the best and newest was *Colonel of the Buff's* (Hoyle's). This is a splendid flower, but is rather too dark for the orange scarlets; one called *Peerless* will soon be in Covent Garden with *Gauntlet*, for it is of that stamp; but if it blooms so early and as late as *Gauntlet*, it will soon throw down the gauntlet to *Gauntlet* itself. But they tell me that *Magnet* will drive all other Geraniums out of Covent Garden as soon as it is so strong in numbers as to venture on a real contest. Still, I can never believe that any *crimson* can put down the *scarlet-and-rose* sorts, either at home or in the market. *Magnificent* is another of the rose-scarlets; as is *Rising Sun*, with rather more dark in the back petals than is desirable for a distinct strain; nevertheless, it is magnificent, take it how you will.

PURPLISH GERANIUMS.—*Ajax*, *Governor*, and *Purpurea*, are three splendid kinds of this rich strain, and the only ones of it on this occasion. *Ajax* is my own favourite, but that may be from my schoolboy's admiration of the Greek hero himself; *Governor* is nearly as showy, and some might prefer *Purpurea* to the other two.

WHITE GERANIUMS.—Dobson's *Delicatum* is a most welcome addition; it is as large as *Pearl*, a better flower, quite as strong, and with a small feathery scarlet blotch in the back petals. *Exactum* is only three-parts white, but it is more catchable to the eye than *Virgin Queen*, which is the nearest to it. Another one, called *Esther* (Turner's), is a very good and welcome addition to the light Geraniums, or Pelargoniums; all the rest were like flocks of sheep; though different in aspect, they were so much alike as to tire one's patience. The only one which you could point to, out of fifty, at six yards off, as being different, was one called *Painter Improved*: but, when you come close to it you must form your own judgment of it.

NOVELTY IN GERANIUMS.—There was a grand novelty, at last, among the Geranium strains, but not by Englishers, nor by any Britishers; they came from France. You may say just as you please about French florists, but they do not spin round in a circle like those of our islands. They do not seem even to put much stress on *circularity* among the petals. What they want are what we call *striking* flowers; and our high-born ladies agree with them. Yet, with all our skill, we allow *circularity* and *sameness* to throw our best flowers, one after the other, out of the market year after year. We do more, we institute public societies, on purpose to sacrifice all the best colours we have to the mere *whim* of forms with no colours to speak of. I make this introduction to the *novelty*, because I know some of my own personal and best friends will call me hard names for seeing any beauty in these "shapeless flowers" from France. I am accustomed to bantering, however; and as to criticism, I am too old on the turf to be influenced by anything they can put in black and white; and so I hold it to be of more use, and to be more useful to the lovers of best flowers and to the trade, to be able to originate a novel strain, than to double all the "points" in a florist's flower.

I hope Mr. Gains, the great florist of Battersea, will make a fortune out of the new strain Geraniums which he introduced, a year or two ago, from France, and which he exhibited at this show for the first time. I heard all about them, this time four years, from Mr. F. Rauch, of Vienna, when he was last here in London. I have crossed Geraniums, and have watched all the crosses ever since 1826, and in that time we had no cross so different from the common run as *Madame de Lamoriciere*, which has a light orange-scarlet ground, the petals being of the same shape and size all round, and the five petals are marked exactly alike, with a round, dark blotch—not where the dark blotches are in English Geraniums, but lower down, near the eye. If that seedling had been raised down at Birmingham, we should first hear of it as a true bigeneric cross, between such a Geranium and such an Hibiscus! The second most marked of these French seedlings is called *Triomphe de la Tour*, a very streaked flower, with dark blotches on the front and back petals. *Gloire de Bellevue* has the five petals blotched like the back petals of English seedlings, the ground colour being red, and the edges light all round. *Gustave Olier*, crimson and orange-yellow ground, violet eye, and all the petals marked alike with darker blotches. *Jaques Duval*, a very streaked, reddish flower, and *Colonel Fossy*, much in the same way. All these were much admired and talked about for their very novel and striking appearance; and all of them put together do not exhibit a

single point of those so much prized by our florists, and by none else.

ORCHIDS.—They were never exhibited more uniformly alike as to size. They showed a close competition throughout, just such as one would like to see at all shows whether in London or in the provinces. Mr. Veitch and the Messrs. Rollinson competed, each with fifteen plants, the Tooting ones coming off second best. Mr. Williams, gardener to C. B. Warner, Esq., and Mr. Wooly, his next-door neighbour and gardener to H. B. Ker, Esq., took the places of Mrs. Lawrence and Mr. Rucker, and sustained the parts most completely, with twenty plants a-piece. Mr. Williams took the lead; Mr. Green, Mr. Clark, Mr. Carson, and Mr. Dods—all well-known names for air plants—had each a collection of tens. Mr. Clark, gardener to Mrs. Webb, of Hoddesdon, taking the best medal. Mr. Veitch had *Angulosa Ruckeri*, with two orange-and-brown flowers; *Cattleya Aclandii*, two flowers; *Epidendrum vitellinum*, one long spike with sixteen yolk-of-egg-coloured flowers; *Cattleya Mossie*, nineteen flowers; *Aërides odoratum purpureum*, seven long spikes; *Aërides affine*, a medium sized specimen, with eight spikes; the larger variety of *Oncidium ampliatum*, with four long spikes, much branched, and full of its large, clear yellow flowers, an exquisite plant; *Dendrobium Devonianum*, fifteen drooping spikes of light orange-and-purple blossoms; *D. Nobile*, full of flowers, too many for counting; *Sobralia macrantha*, sixteen splendid blossoms on a moderate plant; *Cattleya superba*, five flowers on one spike, these were past the stage for exhibiting; a fine large plant of *Phalenopsis grandiflora*; a *Vanda Batemanii*, which throws up one spike only in a season; *Cypripedium barbatum*, twelve flowers; *Sarcopodium Lobbi*, with a new tint in Orchids: this is rather a new plant to country gardeners; but it has been shown two or three years under another name, namely, *Bolbophyllum Henshallii*—the flowers come singly on stalks six inches long, and the colour is orange-brown and cream all over; the shape of the parts is peculiar—it is a very nice thing when well grown.

In the next collection, by the Messrs. Rollinson, were a *Cattleya superba*, having three flowers in the most exquisite style, all purple-and-crimson; *Cypripedium caudatum*, with two greenish-yellow flowers, with a tail ten inches long, hanging down from each side of the pouch or slipper; a most curious thing, and only exceeded by its first cousin, the *Europodium Lindeni*, which I described last week; *Cattleya citrina*, with one large citron-coloured flower; this and *C. Aclandii* have been many years in cultivation, but we have not yet succeeded in growing them to sizeable plants. Large *Brassia verrucosa*, with seventeen long spikes; *Stanhopea bucephalus* (Bullock's Head), the first time I ever saw it at an exhibition; it is a noble kind, in the way of *Occulata*, with larger eyes and more of them, a great, bellowing, open mouth, and strong, spreading horns; with fine *Succalobiums*, *Dendrobiums*, and *Aërides* of sorts.

Among the other collections I noted *Calanthe bicolor*, by Mr. Williams, which I never saw before in so good a bloom; it is a dwarf kind, very pretty, but not gaudy; the flowers are on short upright spikes, six inches high, and each spike carrying from ten to fifteen flowers, of which the sepals, or back parts, are clear chocolate and the rest white; *Barkeria spectabilis* in real good order at last. I think it is now twelve or fifteen years since Mr. Brewster sent up one of them from Mrs. Wray, at Cheltenham, in grand style, and this is the next that has been worth looking at, Mr. Wooly having got the knack of growing it; his plant and his flowers were not so fine as those from Mr. Brewster, who had his plant in a crow's-nest-like-basket of small sticks, not one of which was thicker than a pen-holder; the present plant

had more of a block under it. Mr. Wooly bids fair to be at the top of the tree very soon; his *Sarcopodium Lobbiai* had thirteen full-blown flowers on; his *Cattleyas*, also, were in the very first style of good gardening, as were *Skinneria intermedia* and *Mossia*. There were three or four moderate plants of *Oncidium lanceanum*, which was well nigh lost to the exhibitions a few years back. *Lycaste macrophylla* and *Ceelogyne Lowii* owe more to the family name than to their own individual merits.

In collections of STOVE AND GREENHOUSE PLANTS the specimens were just as one would wish for size, except, perhaps, three or four plants, which were *a la Lawrence*. Nothing new; but two or three of the most difficult plants in the world to manage were here subdued to elegant domesticity; as, for instances, the blue *Leschenaultia*, *Dracophyllum gracile*, and *Rondeletia speciosa*. In this class what can be more easy to manage than the *Madagascar Periwinkle*, or *Vinca rosea* and *alba*? *Polygala cordifolia*, *acuminata*, and *Dalmatiana*, all good in their way, ought certainly to count but as one plant in a first-rate collection competing for a twenty-guinea medal. The four *Eriostemons* should also tell but as one; for what is the difference between one and the rest of them for competition? I have seen four far more unlike come out of one seed-pod. What, again, can be more perfectly childish than the *Alamandas* telling as four distinct species for competition; *Cathartica*, *grandiflora*, and *Schottii*, are the merest variations of one thing, and *Neriifolia*, a marked variety, and all as easy to grow as Sweet Peas. I should be ashamed to take the Society's medals, or eash, for such easy work. The only use that I can see in these collections of stove and greenhouse plants is to point out to amateurs, just on the point of trying their hands, what are the most easily-managed plants to begin with. Among all of them there were only about half-a-dozen that are not named in the list for the May Show at page 156. A new *Pimelia* being one of them, and a pretty white flowering thing it is, and called *Niepperghiana*, after *spectabilis*, *Dipladenia crassinoda* and *Iwora javanica*, with the *Alamandas* and *Stephanotis*, being the principal additions.

VARIEGATED PLANTS.—These were far more select than they were this time two years; beginning with three distinct kinds of variegated Pine-Apples, and ending with two collections of *Anactochili* from the Messrs. Veitch and Rollinson; two kinds of *Sonerilla* were quite new to me, and very prettily marked; three kinds of *Crotons*; an *Aspidistra lurida*, the handsomest leaf of all orchids; and many others.

TALL CACTI.—Two good collections of them; one from Mr. Green, and one from Mr. Gillham, a new exhibitor since my time.

AZALEAS.—With the exception of some very good plants which made up the collections of stove and greenhouse plants, and which never should be allowed to form parts of a "collection," no separate remark is needed.

HEATHS.—One called *Ventricosa magnifica* was the newest; *Cavendishii* and *depressa*, two yellow kinds; *Albertus*, a creamy-flowered variety, and a regular wild-looking bush of the old *Bergiana*, were the most marked kinds. Heathis are like florists' Pelargoniums; when they dress many of them for a public view they soon tire us by their sameness of growth, of training, flowering, colours, and shape; too much of a good thing, in fact. *Albertus*, by Mr Wells, is the best hit in crossing Heathis these twenty years past. *Ventricosa superba*, by the late Mr. — the next best; and, probably, this third best, the above *Ventricosa magnifica*, is one of his numerous crosses also. At his sale, the original plant of *Ventricosa superba* was contested for by two spirited nurserymen up to £16 16s, and the one who "gave in,"

did so by arranging with his opponent that he should have the offer of the first plant that was propagated from *superba*. One of the parties told me the tale. If it were possible to allow Heathis to grow out, and in all ways, as they do in the wilderness, and still to have flowers and leaves down to the pot, just as *Bergiana* was shown here by Mr. Peed, their family ease would not become tiresome so soon, and they might rise in public estimation. A thousand acres of Heathis in bloom at one view is a great sight to an English sportsman the first day he "goes out" in the highlands; but on the third or fourth day I have seen his big toe out through a thin boot brushing the *bracs*, and he as tired of "blooming heather" as ever any of us were at the shows.

FRUIT.—*Pine apples*, from 3lb to 5lb. *Grapes*, as black as sloes, of which three bunches of the *Black Prince* were the best that were exhibited in my time; they were from Mr. Hill, gardener to R. Sneyd Esq., Keel Hall, Staffordshire; the very gentleman who named the celebrated "shot silk bed." Mr. Fleming, next door to Keel Hall, took the leading prize in fruit, on this, the most trying competition which was yet contested at Chiswick. There were white and black Grapes, in pots, from Sion House; the plants looking as healthy as the *Alamandas* in the opposito tent. This is a very old difficulty got over at last, and a great trial of skill; but by far the best trial of skill in fruit was effected by Mr. Lane, the great Rose grower. At one time of the day, I had five of the very best fruit-growers in her Majesty's dominions round me, but we could not come to a vote as to how Mr. Lane managed four pots of *Mayduke Cherries*, which stood on a corner of the fruit stand. The four plants looked as healthy in leaf and wood as any of the "stove and greenhouse plants;" every fruit was as black and shining as a *Mayduke Cherry*; the pots were flat 16's, that is, No. 16 nearly upright, and the soil a rich, yellow, strong loam. Some said these Cherry-trees were potted after the fruit was set; others, that the plants were long established in the same pots. Some said one thing, and some another; but none of us hit on the exact mode. I got hold of the very man who managed them for Mr. Lane, and he said these pot Cherries were ticklish things, but that all of them were potted last autumn, as soon as the fall of the leaf. They were wintered in deep cold-pits, and well covered; they flowered there, and set their fruit, and then were removed to a more sunny place, or greenhouse for Roses, but they never had more heat, from first to last, than that of the sun. D. BEATON.

CACTI NOT BLOOMING.

"THESE grow freely with me, but except some of the broad-leaved kinds, I hardly ever get a bloom from them." This is the result, generally, of two causes, which, combined, act in antagonism to the natural circumstances in which the plants flourish, namely, not giving the shoots sufficient sunlight in summer, and giving them too much water in winter. Most of them, in their natural dwelling-places, are found dangling over rocks and stones, where, during the dry season, the shoots are exposed to a semi-roasting process. The rainy season succeeds, and swells out the integuments of root and stems, and, ere long, the flower-buds appear and expand. Now we cannot exactly do this in England, because our summers are too short to enable us to give the plants the full benefit of a growing and a roasting period; but our success will be dependent upon the nearness with which we are able in this respect to imitate nature.

Let us take this variety of *speciosissima* as an example. The few flowers are just faded, the plant altogether has become very thick; let us remove, with a sharp knife, a

few of these older shoots, more especially as there are younger ones to supply their places. In this operation, guard, at least, the cutting hand with a thick glove. The spines, though of little moment to some people, are very dangerous to others, being perfect poison to the blood in certain circumstances. I have seen very alarming symptoms from one getting into a finger. This, and very prickly Roses and Briars, are some of the cases in which gloves are allowable to blue aproners; in general, gloves are as much in place, with gardeners, as boots on the feet of a cat. Well, having pruned and tied your plant, so as to allow a little room between the shoots for the air and rays of the sun to act freely upon them, put the plants in the best place you can command for heat and light. It will not be easy to give them for a couple of months too much of either, if the former does not often in the day-time exceed 90°. You say, you cannot give any such temperature in your plant-house. That is no reason why you should not act on the principle, instead of when your plant finished blooming, setting it to rusticate comfortably on the sunless side of a wall, and watering it there, too, in due course, filling its stems with limpid juice, and expecting these stems to be covered with flower-buds next spring or summer. The warmest, sunniest part of a greenhouse is a good substitute for a light hothouse; close to a south wall, after the middle of June, is better than a shady house; that south wall, with a moveable glass sash put over the plants, would answer admirably until the middle of August. In either of these places, the plants should be frequently turned, so that all parts may enjoy a fair amount of sunlight. I have said nothing of potting; as in the case of plants of any size that is seldom necessary. If resolved upon, it should be done shortly after pruning, when the blooming is over; one part sandy loam, one part turfy peat, and one other part, consisting of equal parts of broken bricks and lime rubbish, and dried cow-dung, will grow all the *Cereus* tribe admirably. I have seen fine plants continue in the same pots for many years, by merely giving them yearly rich top-dressings.

The plants have been receiving water pretty freely when in flower, and this must now be continued; and if manure waterings are frequently given, so much the better. The frequency of watering will depend upon the heat and the brightness of the sun. In the course of a month the young shoots may have their points pinched, that that which is left may be more consolidated. It will be observed, that the object, at present, is to secure healthy, robust growth; the force of the sun's rays being the chief thing on which we can rely for the formation of flower-buds. To encourage this latter desirable process, the waterings should be diminished by the end of August, so that the juices in the stems may be deprived of their more watery parts by evaporation, the sun having full access to them. In September, the water must be still further diminished, and little more given than will prevent the stems from shrivelling. By the middle of the month, a place against a south wall or paling, where every ray of the sun shall strike them, and though no glass is in front of them, rains shall be prevented falling on them, will all have the tendency to make the flowers more numerous; no water will be wanted in October, and hardly any in September; the plants will absorb enough moisture from the damp atmosphere. After the middle of that month, the plants should be housed and kept coolish and dry; and when, as the days lengthen in spring, you first swell out the stems with frequent syringings, and also ere long give waterings at the roots, you will soon have flower-buds making their appearance, when the average temperature is from 50° to 60°. When the plants are thus matured, and kept as dry during winter as will keep them from shrivelling greatly, they are not at all

particular as to a habitation in the dark months, provided that frost is excluded, or the temperature seldom falls below 38°. I have frequently kept them in a warm shed, where they had scarcely any light, though a greenhouse would be better.

FUCHSIAS.

"I have got nice little plants, some eighteen inches high, of some of the best kinds, such as Voltigeur, Banks's Glory, England's Glory, Duchess of Lancaster, Diadem of Flora, &c. I want to see flowers on them all summer; but I also want the plants to be as large and as full of bloom as possible by the middle of September. Now, what am I to do? Mr. A. tells me, that a Fuchsia is never robust, and bushy, and attractive at all times, unless it is grown slowly and with plenty of air. While Mr. B. says, that to gain such fine plants in September, from such striplings now, I must give them next to hotbed treatment for six or eight weeks to come."

We imagined that Fuchsia culture was well nigh exhausted. Both A. and B. are right. You will have no difficulty in following out the advice of either. You will want considerable skill to gain the advantages pointed out by both, without encountering the drawbacks attendant on either. Here the law of extremes will scarcely meet in the desired medium. A striking, desirable, ultimate result, must generally be procured at a real, or a seeming, present sacrifice. If Aunt Harriet had thought so much as some people do of the stray flowers and green foliage of her Geraniums, and forbore the use of the pruning knife, she would not have had leafless stumps to gaze at, it is true; but then, instead of nice bushy plants next season, the beautiful flowers of which she could easily examine and look down upon, she would have required stays and braces to support them, and, ere long, a ladder to get at a truss of bloom! How thickly studded in life are the myriads displaying the very opposite of the prudent, intelligent forethought of the worthy old lady! No high-toned, elevated enjoyments have ever been reached, simply because enjoy-life-while-we-can has been the principle of action. Jack Easy recklessly becomes a householder, without a stored-up stiver to furnish it; and then he frets and envies at the better circumstances—the *good luck*—of his neighbour, Jacob Careful, who resolutely refrained from occupying that position, until, by many little present sacrifices of pleasure, which Jack scorned to submit to, Jacob secured the means of furnishing a home comfortably and respectably. The same principle holds equally true in plant-culture. Many will yield stray blooms almost continuously; but, without regular periods of pruning, potting, &c., no very splendid appearance, in general, can be expected at any one time. No plant is more pliant in our hands than the Fuchsia. Many will stand the winter out-of-doors with a little protection over their roots. Almost all will flourish when planted out in June. All will be quite at home, from first to last, in a greenhouse. When growing, and making wood, they will flourish in hothouse, or hotbed, as well as any tender tropical exotic. But free-blooming must ever be attended with free exposure to light and air, and a merely average temperature as to heat.

From such nice young plants as are here referred to, bloom may be obtained until the end of autumn, by giving the plants plenty of light and air, more pot-room when requisite, manure waterings frequently repeated, and top-dressings now and then applied, such as super-phosphate of lime, which nourishes Fuchsias admirably, giving to an eight-inch pot as much as you can take between the thumb and two fingers, provided these digits are not wondrous in size. But though such plants will always be respectable under such

treatment, they will not for long periods present a dense blaze of bloom. Were that blaze wanted in September, I would adopt the advice of Mr. B.—I would instantly cut away every bloom. I would train the main shoot upright, so as to give the plants the appearance of a cone. I would shorten and arrange the side-shoots, so that the longest should be next the pot, expecting two or three or more shoots from each of these so shortened. Some of these kinds mentioned are apt to run up without throwing out side-shoots in plenty; and in such a case, the leader must be shortened, to force it to send these side-shoots out, adopting one of the new shoots from it as leader; and even shortening that again if necessary. A position in a hothouse, slightly shaded, would now be the place for them; and a closish, moist atmosphere their delight. The close, warm end of a greenhouse would be a good substitute. Plunging the pots in a mild, sweet bottom-heat, in a plant stove, or pit, would be the best of all. If the plants are in small pots, shifting into larger will be requisite; and whenever extra heat and a closish atmosphere can be thus given, only one shift should be resolved on; say, from a five-inch pot to a nine or a twelve-inch one, using rough loam and old cow-dung as a staple, with a sufficiency of charcoal and sand to keep the whole loose and open, and keeping in mind, particularly, in watering never to saturate the soil farther than you have reason to believe that the roots have penetrated. Here growth will proceed rapidly; strongish shoots will probably want first or second stopping to obtain more of them; and this is particularly necessary in all kinds that make strong wood, such as *Diadem of Flora*, *Don Giovanni*, and bloom chiefly on the points of shoots; and is less imperatively required in such kinds as *Banks's Glory*, and especially in *Voltigeur*, which break up into masses of twiggy branches almost naturally. No stopping should take place after the first of August. In the beginning of that month, more air should be given; by the middle, the plants should be turned out of their plunging material; and in the third and fourth week be set in the greenhouse; and by the middle of September they may be expected to be in full bloom. By adopting such a mode, I have had cuttings in March, fine, large, symmetrical, flowering plants in September; but then, let it be remarked, that the plants were allowed to present little to admire but their foliage before that time. Of course, when a fair sized skeleton is secured, such as these plants will present next season, this extra stimulus to growth, so as to gain size, will not be required; nay, would be more likely to be hurtful. In the case before us, it will help to produce a definite result, size and bloom, at a desired period. As previously remarked, though without this care and depriving the plants of bloom, the plants, assisted by shifting and top dressing, and moderate stopping of strong shoots, may look passably interesting all the summer; a blaze in September could not so well be calculated on.

Having, at one time, paid considerable attention to securing good masses of bloom on Fuchsias, from the middle of May to the end of October, by three successions of plants, instead of taking up any other subject, it may interest some beginners to know what course I found the best, and the least troublesome. Premising, then, that the plants were pretty well ripened in autumn from standing in an open, sunny place, until the most of the leaves were shed, the largest and oldest plants received a rough pruning, say at the end of October, by whipping off the points on the least ripened part of the young shoots; the younger plants were pruned less freely, the chief object being the ability to cram the whole into as little room as possible—into a shed where frost could be excluded. One of these places contained a furnace, always used in severe weather; so that by

merely shutting the shed door little frost could penetrate. In another place, where no fire was present, hay was thrown over the plants in severe weather. In this latter place, the plants were strangers to water during the winter, the moisture of the air, and from the dampish floor, being quite sufficient. In the stock-hole shed, the plants required watering several times, and syringing over head in frosty weather, when the use of the furnace tended to dry the air in the shed. By the end of February and the first weeks in March, some of the oldest and best-formed plants began to bud. These were turned out, and pruned a little more, but not much, as the object with these plants was not to grow them, but to bloom them, and, therefore, a mass of shoots, a few inches in length, was nearly all the growth required. The soil, being rather dry, was easily shaken from the roots; these roots were then, after a slight pruning, dipped, and allowed to remain a few minutes in a tub of water, at a temperature of from 70° to 80°. When the water had drained from them, they were transferred to similar sized pots as those from whence they came; the roots packed in nice, turfy, fibry compost with a fair proportion of sand, and the whole in that condition neither wet nor dry. The plants were then moved to the warm end of a greenhouse; but if come-at-able, a peach-house, or a vinery at work, would be preferable, where a slight shading could be given, and an average temperature of from 50° to 60° with a rise from sunshine. In either case, the advantage of dipping the roots would soon be seen, as there would be no necessity for saturating the fresh soil until roots were working freely into it; a slight syringing over head to lessen evaporation being all that was requisite until both head and roots were progressing freely. Such plants coming at once into bloom, and receiving no stopping-of-shoots to speak of, would be in full bloom by the middle of May and onwards.

A second lot, shifted a month later and more pruned-in, with a little stopping, and less care as to extra heat, would furnish good specimens in July and August.

A third lot, cut back even more closely, their strongest shoots stopped again, set out-of-doors in a sheltered place in April, stopped and trained during summer, would make fine plants in autumn.

A fourth lot of these old plants would come into competition with these, and, likewise, involve less trouble than the next to be named; namely, old plants that did not break regularly. These were cut down close to the surface of the soil, or rather below it, moisture given, one shoot selected out of several that appeared, that encouraged, stopped, and trained out as if it were a young plant, the potting taking place after the shoot was from five to six inches in length. With common greenhouse treatment, such plants will make a fine show in autumn. A fifth lot may consist of late autumn, or early spring, cuttings, treated in hotbed fashion, as previously described, which will require more care and labour, but which will so far repay it by their general symmetry and healthy aspect. As has been seen, such plants will bloom in summer if required; in fact, one great pleasure in Fuchsia culture is, that a small plant in a four-inch pot may be as beautiful, for its size and the position it occupies, as a huge plant in a pot twelve or fifteen inches in diameter; but, as a general rule, plants that bloom profusely and early cannot be expected to do so continuously for the season, and retain a fine healthy foliage. In fact, the browning of the foliage is a general test that the plant has done enough in the flowering way for that season. A few of the earlier, more twiggy, and compact kinds, such as *Globosa*, and the first of all, *Coccinea* and its varieties (it may be interesting to some to know that the *Coccinea* is still to be found at the Oxford Botanic Gardens), will keep on blooming for a long time, if well sup-

plied with rich top-dressings and manure-waterings when required. A few of these, treated as I have mentioned for the first lot, have thus kept good all the season. In potting these old plants, it is well to use rather sandy, or light compost, and to leave room for frequent top-dressings.

After all we have said and done, however, the principle still holds good,—that for a great future display, we must sacrifice a little present gratification.

R. FISH.

FLORISTS' FLOWERS.

THE PRIMROSE.

I HAVE often been surprised that this lovely spring flower has been comparatively neglected. As long as I can remember, it was always a favourite with me, and in my *own* small garden, I collected together all the varieties I could muster; and now, when more than half a century's springs have passed over my head, the remembrance of my Primroses, as well as Stocks, is a source of pleasurable recollection. Yet this charming flower is not generally a favourite with florists, and hence there have been few attempts to improve it. I do believe there are no more varieties now than there were fifty years ago. The reason may be because only double flowers are esteemed for gardens, and double flowers are very rarely produced from seed. Perhaps this peculiarity may arise from the fact, that nobody thinks of sowing Primrose seed; I never did, and I never knew any one else that did. To obtain new and improved double Primroses would be a work of many generations. I have cultivated the common single yellow, wild Primroses in shrubby borders, and they shed their seeds and come up in abundance, and flowered the following year, but all single, though often some would sport slightly in colour. It is these sports that seed should have been saved from, which would be step No. 1. in the right direction. That seed would most probably be further removed from the original wildings, and the next generation would, in many instances, be still further improved, until at last some good new variety would surprise and reward the persevering florist. It is very likely there might, in the transition from the wild flower to the new double one, be many curious and novel single seedlings, perhaps striped ones, or edged ones. These novelties ought to be taken care of and propagated, for there is no reason why we should not add the Primrose to our spring exhibitions, and so increase our innocent pleasures at these heart-improving meetings in the spring time of the year. It is true, even now, prizes might be offered for the best collection of double Primroses, or single prizes for the best of every colour; but on account of the fewness of varieties in colour, the exhibition, in two or three seasons, would become "flat, stale, and unprofitable."

Let us see how many sorts we can muster. There are the double white, double blush, double lilac, double yellow, double red, and double crimson; and I have seen a double flesh-colour, and a double sulphur—seven or eight varieties in all—and these were all in existence when I first began gardening. This state of the culture of the garden Primrose is far from creditable to the florists of Great Britain, and I do trust some young, enterprising, zealous, and persevering man, will take this neglected flower in hand, and improve it. I am certain, even as a matter of £ s d, that it would repay a seven year's attention; I cannot promise success, to any extent, in less than that time. Then, again, whoever was so happy as to raise single flowers so superior in form, in colour, and substance, as to render them worthy of being propagated by division, and in such number of varieties as to be sufficient to form a class; I say, such a success-

ful man would confer a great benefit upon the floral world. What he should aim at would be, 1st. A stout stem, long enough to bear the flower above the foliage. 2nd. A perfectly round, flat flower, with entire edging, or margin. 3rd. A clear ground colour; whether white or black, or any of the intermediate colours, with distinct lacings of a different colour to the body one. 4th. The eye to be well filled, and circular. In fact, the same properties in every point (excepting that of bearing one flower on each stem, instead of several) as the Polyanthus, would serve for the new class of single Primroses. In one respect this flower would be superior to the Polyanthus. The blooms might be more numerous, and would form quite a bush of flowers resting upon a bed of green foliage, which would set off the colours to the greatest advantage. Let us hope, then, in a very few years, to see prizes offered for Primroses, in something like this style:

PRIMROSES—SINGLE VARIETIES.

1st. Prize, for a pan of six, of dissimilar varieties, grown in pots; not less than six blooms on each plant.

Classes—1st. Best white, with dark edge.

2nd. Do. dark, with white edge.

3rd. Do. red, with yellow edge.

4th. Do. purple, with yellow edge, &c.

Then the *double varieties* would claim the attention of the framers of the schedule of prizes; a prize should be offered for a collection of six of the best.

CULTURE OF DOUBLE PRIMROSE.

Five single Primroses, distinctly marked, only exist at present in my imagination, therefore, I need not say a word more about them, excepting expressing a hearty wish that they may be soon called into existence, as it were, by the magic power of some florist. Double varieties we do possess, and in some gardens they flourish, and flower well; but in others they only exist, and bloom badly. The difference in these two cases is caused, generally, by the nature of the soil, and the elevation of the place. Some soils suit the Primrose so well that they grow like Cabbages, with large leaves and large tufts of plant. In such soils they are often used as edgings, which, when in flower, are exceedingly beautiful and effective. This is all very pleasant, but in a soil and situation not so favourable these very lovely flowers languish and perish. In such a case, the art of the florist is put forth to assist them. Now the Primrose likes a moderately dry loam, but some varieties require particular care. The most scarce is the rich coloured double crimson. This variety should have a good pure loam mixed with about a sixth of well decayed leaf-mould. Take the plants up as soon as they have done blooming, divide them, retaining as many roots as possible to each division, and plant them in the above mixture or compost, in a shady part of the garden, shady, but not under the drip of trees. I have my Primroses planted on a bed near to an east wall, the sun never shines on them after eleven o'clock, and they thrive very well with me in this position.

Should the weather prove dry they should be watered three or four times till well established, and then kept clear of weeds. In this bed they may remain two or three years, after which they should be taken up and replanted. This treatment, also, answers well for the double white variety, and, indeed, for any or all of them, only the lilac and hardy Scotch will do with less care. These commoner kinds, in loose friable loams, are very suitable for the front of a mixed perennial border or the shrubbery. I think a very interesting border, with a sunny aspect, would be one furnished with early spring flowers, such as the Primrose, the Hepatica, the Squills, Adonis, and Alpine Anemones, Winter Aconites, and many others. I will some day, soon,

givo a list of these harbingers of summer, but my space is now full.

T. APFLEBY.

(To be continued.)

WOODS AND FORESTS.

THE OAK.

(Continued from page 159.)

Sowing the Acorns.—The only objection to this mode of forming an Oak wood is the expense, and this resolves itself into two points; the expense of preparing the ground and sowing the seed; and the loss (consequent on devoting that portion of the estate to this purpose) in the shape of rent or crop. I will candidly confess, it requires a large portion of disinterested spirit to induce any individual, however high his position, or great his wealth, to incur this expense and loss for the benefit of his posterity. Yet there are many such noble-minded, unselfish men amongst us, who will, and do, devote part of their income and ground to forestry. May they receive a due reward, and may their numbers increase. I am reminded, however, that this planting or sowing of the Oak is not left entirely to private gentlemen. We have, it is said, our national Woods and Forests, and our officers yelected Commissioners of the Woods and Forests, and it is their duty to read, mark, and learn the culture of timber trees, and see that the best mode of doing so is carried out for the benefit of the people, who, through their representatives, have placed them in that office for that specific purpose. I may ask, have they, or are they doing that duty? Let the state the woods are in now, and the report in the Blue Book give the answer.

I mentioned, at the beginning of this paper, that the expenso of preparing the ground for sowing the acorns is considerable, and so it is; but not more than is necessary even for planting young trees. It should be trenched at least two spits deep, and all perennial weeds, such as docks, nettles, and thistles, carefully picked out. This work should be done during the summer and autumn months, or even through the winter, if the weather is moderately dry. I ought to have mentioned first about the drainage; but I have so often insisted on the absolute necessity of this important point of culture, whether the Fir, the Oak, or Florist's Flowers are to be the crop, that I need not repeat it here.

The acorns will, of course, be duly looked to, and kept through the winter in a dry, cool room. Some recommend mixing them with sand; but that is not necessary, only they should not be laid up on too large a heap so as to heat. And it will be desirable to turn them over occasionally, to prevent those on the under side of the heap from moulding or sprouting prematurely.

In or about the middle of February, the ground should be examined, and if in a tolerably dry and friable condition, it should be thrown up in beds, or ridges, about three feet wide; the ditches thus formed may be used as walks, and the beds are to receive the acorns. This being done, and the soil levelled, the ground may lay for a week or a fortnight to dry. When that is so, then prepare to sow, by drawing drills lengthwise on each bed. Some sow but one row, others, two or three; I, for my part, prefer the last number, because then, when the trees are advanced so far as to require thinning, the rows will not stand so far apart, and each tree will be a shelter for its neighbour. As it is always desirable to do work of this kind quickly, and acting upon the principle of division of labour, there should be mon to draw drills, others to sow the seed, and a third set to cover it in. By this division of the work each part is rapidly

performed, and the whole accomplished in much less time, in proportion to the number of hands, than if any other modo was attempted. There is a sowing-machine that might be used with advantage, but a man could quickly pass down the line, and drop the seed as he went on, and practice would soon enable him to sow it quite regularly. If the seed is good, it may, of course, be sown thin, about six or eight inches apart; but if doubtful, sow it then as thick again. It is easier to pull up when too thick, than to plant when too thin. The acorns may be covered three inches deep, by way of preventing mice, rooks, or squirrels, from getting to them. If the country around where this sowing of the acorn is being done abounds with these vermin, then it may be worth while to protect the acorns from them; and the method I have followed is as follows:—I have some of the common whin, or gorse, cut up and brought home, and chopped moderately small; then, when the drills are drawn, and the acorns sown, this chopped whin is placed upon them just thick enough to allow of its being covered with the soil thrown up by drawing the drill. The person who puts in the whin will require a pair of thick leather gloves to protect his hand. This I have found a pretty certain preventive of the attacks of mice, &c., on the seed, not only of the Oak, but also the Beech, Walnut, and even garden Peas. Frequently I have observed holes bored down to the whin, but there I suppose the sharp prickles wounded their tender noses, and so they desisted trying to penetrate through this sharp fence.

All these points having been attended to, and the sowing finished, the only care requisite through the summer will be careful weeding. This work is often done by females, but they should be shown what are weeds, and which are young trees; for very lately I had the greater part of a crop of Portugal Laurels plucked up as weeds.

As the trees stand in rows, a careful man might be employed to hoe between them; this would destroy the young weeds and stir the surface—both beneficial points of culture for the young Oaks. Yet it would not be desirable to allow the hoe to come too near to the young trees, for often the hoe then comes in contact with them, and the tender bark is removed off, which is very injurious to such young trees. Let, therefore, all weeds growing near to, or in, the row of trees be carefully drawn out by hand.

T. APFLEBY.

(To be continued.)

CELERY, AND ITS CULTURE.

It is somewhat to be regretted that the persevering energy which has exhibited itself in the present day in searching out works of art and other remains of bygone days, should not likewise devote some part of its inquiries into the means that had been adopted to alter, improve, and, to a certain extent, re-model those objects in the vegetable world, which, by a happy arrangement, have been brought to such a condition as to minister so much to our necessities, as well as our gratification; for while the ponderous ruins of some city, which have laid for centuries untouched, or the no less impressive works of art, which, by the barbarous act of some ruthless invaders, had been buried in obscurity for countless ages, is again resuscitated by some enthusiastic adventurer, the applause of mankind is not withheld from the individual by whose aid this was done: but, if an inquiry be set on foot with a view to ascertain the native country and original character of any of the non-essential plants to our existence, it is often met with indifference, if not with direct contempt. Now this ought not to be so. What can be more interesting than to know "from what country did the Wheat have its

origin, and what was its features when found?" It is, doubtless, a much altered plant from what it was then; yet we are at a loss to ascertain how this alteration was effected; whether it was done by one of those accidental causes by which we now and then see great results accomplished; or whether it was effected by a long and patient cultivation, in which a praiseworthy desire to improve a given object manifested itself, so as to produce, in time, the article to which we justly attach the significant title of "the staff of life." Now, wherever the native country of this plant may be found, it is certain that nothing exactly like it exists now in a wild state; and, doubtless, it has been so altered from the original as to leave but few traces of its identity; and it seems incredible that the wild offspring of its original parent should have ceased to exist, although this belief is maintained by some; while amongst others, embracing some of the best botanists of the day, a difference of opinion exists as to the identical species of plant to which the cultivated Wheat really does belong; and while such difference does exist, it would be superfluous to hazard an opinion, especially as so much has already been said about the matter by others well qualified to give a correct one. However, as there are many other plants, as well as Wheat, whose history it would be difficult, if not impossible, to trace, it would be better to let them alone, and direct attention to their culture as experience has established it at the present day. But as the one to which it is intended to devote the present chapter has not been so long in the improved condition of a cultivated plant as the Cereals, and some other plants, it becomes a much easier matter to trace it to its source, or rather its original birth-place, and from thence we may possibly gain a little which may enable us to comprehend more fully the wants and requirements of the plant in question, which is no other than the much-improved article *Celery*.

At whatever period this vegetable was first cultivated to the extent, and made subservient to the purposes to which we now put it, we need not here stop to inquire, for it cannot claim the antiquity that some other garden plants do; one thing, however, is known, that its qualities have much improved during the last half century, and if improvement continues to go on, much of the original rankness of the wild plant will have left it. But, as it will be necessary to mention its original home, it need afford no surprise by being told that it is indigenous with us, and that wild Celery is found in our ditches and other wet places in great abundance, and more especially in what is called the salt marshes; *i.e.*, those wet, marshy spots to which salt water has now and then access. In such places we may see it flourishing in all its native luxuriance, while its foliage has that strong smell which the cultivated varieties have in a much diminished force. One thing, however, is certain; the moist situation to which the wild plant owes its luxuriance is also best adapted to the growth of the more cultivated form; but then there are other considerations besides mere growth which ought to regulate the qualification of Celery in its now altered state. A rapid growth is not always consistent with good keeping qualities; and as this produce is expected to remain in use for at least eight months out of the twelve, it necessarily becomes important that it should be attended to in that particular. The process, however, is not difficult, and late Celery, of a good quality, is often found in places which have not the character of producing it in first-rate condition at an earlier period; for it so happens, that the means taken to ensure a rapid and luxuriant growth are not always compatible with good keeping qualities. Nevertheless, both ends may be attained, to a certain degree, by attending to a few simple rules, which it is here intended to lay down.

The usable portion of this vegetable being the leaf-stalks when in a blanched state, and crowded together in such a firm compact body as to have received the name of "a head," which also possesses a centre or heart, containing, in like manner, some of those said leaf-stalks in embryo, but which are, nevertheless, expected to remain in that inactive state which retains them as they are. In that condition, the tight clasping of the larger ones around them, and the latter being surrounded by earth or other substance, they necessarily undergo that process of bleaching, or blanching, which divests them of that green colour and much of the rankness which the wild plant possesses; but after this process of blanching is effected, and the future progress of the plant checked, it naturally either falls into a state of decay, otherwise the growth takes another turn, and the intention of nature is now directed to the production of seed; consequently, the central portion of the plant is elongated, and a sticky portion from the middle (having the seed or flowering-buds in embryo) rises in the centre, which new portion is of a kind quite unfit for use, and speedily rendering the other portion useless also, completes the destruction of what once might have been good Celery. Now, as it is advisable to defer this state of things to the latest period, as well as to prolong the season of useful Celery, it is of importance that the ground on which Celery is planted should be duly considered before it is fairly committed to the earth.

There cannot be a greater mistake than to suppose that the conditions which bring Celery to the best possible state in September are the best for March likewise; for the former requires all the assistance that a rich manure can give it; the latter is not so gross a liver, its food being more solid than rich; consequently, it will easily present itself to the horticultural student, that for late use, Celery ought to be planted on rather dry ground, and that not too rich; for the too rapid growth of a plant in early autumn, and its suddenly ceasing to do so, is incompatible with its existing long in a sound, useful condition, Celery not being exactly like those root-crops which remain, to a great extent, inactive for several weeks together. On the other hand, Celery must either be growing or decaying. Now, in order to maintain a winter's growth in this plant, cold, wet soils are not the best to plant it in; but dry, sound ground, and that of a kind which does not harbour too many slugs to the injury, if not destruction, of this crop. However, as its growth and general treatment deserves to be more fully entered into than the limits of this chapter admits, I must leave the remainder until a future occasion, and desire that due care be taken of those plants which were pricked out in some generous soil in May, and that their need of plenty of water and other wants have been supplied. And be sure, in preparing the Celery trenches for the present year, take care and select some on the driest parts of the grounds on which to plant the later crop; on which it would be well also to limit the quantity of dung or other good things, so as to avoid that grossness so hurtful to the conservative powers of this plant. I will resume this subject at an early opportunity.

J. ROBSON.

FANNY BELL.

By the Authoress of "My Flowers."

In my last paper I concluded the melancholy history of Jane Markham,—a warning to the young, especially those who are necessarily sent out into service at an early age, before their principles are settled, or before they have sense enough to guide themselves aright. Very strict rules and regulations are needed for young people as barriers against evil, until they have either gained worldly experience, or sound, religious,

Bible principle; and even with these, we cannot always keep them in strait paths. "Precept upon precept, precept upon precept; line upon line, line upon line;" is declared by God's own Word to be needful even to all generations; how much more to those whose tender minds may receive impressions before they are seared by continuance in sin. The history of Fanny Bell is, perhaps, more solemn in its lesson than that of Jane Markham.

Fanny was the eldest child of honest and respectable parents. Her mother had been brought up steadily and well, and had never gone wrong; an excellent thing to say in these our days. Fanny's grandmother took her from her birth, and brought her up as strictly and carefully as she had done by her own daughter; and when she was about sixteen she was taken into a neighbouring family, and placed under an old servant of experience, on whom the greatest reliance had always been placed. For a time Fanny went on well, considering the natural giddiness of youth, which is more evident in some than others. Her parents and grandmother were very anxious about her, and desirous that she should keep her place; and many little vexatious things were overlooked for their sakes. Much allowance must be made for heedless and headstrong youth, when no symptom of actual crime is perpetrated; but at last Fanny's mistress began in a round-about way to suspect her of not being honest. Little things were missed; odd circumstances occurred which could not be comfortably accounted for; but Fanny's look and manner were so unconcerned, that for some time nothing could be more than suspected; there was no ground for a charge, only enough to cause watchfulness and doubt.

It is wonderful,—that is to say it *would* be wonderful if there was no God,—to mark the way in which guilt is discovered; in which it makes a way for its own discovery, however carefully it may be disguised and hidden.

Those who do wrong are *sure*, sooner or later, to be found out; and it is only another proof of the depravity of the heart, that people doing wrong can bear the alarm, and expectation of detection, which must be ever disturbing their peace. They prefer even this to putting away the darling sin, which, in the end, brings them to disgrace and shame.

There was a certain bag of biscuits kept in a deep drawer in the sitting room, which seemed to go faster than was right. Questions were asked among the members of the family, but no satisfaction could be given. This, at first, passed unheeded, because the drawer was always unlocked, and one and another would take a biscuit, as they chanced to feel inclined; but at last every one began to wonder at the rapid way bag after bag disappeared, and it struck them that they would count the biscuits, and abstain themselves from taking any for a day or two. The next day two or three were missing, and the day after more still were gone. It was therefore evident that they were unfairly taken; and on speaking to the old servant on the subject, she said she remembered, on more than one occasion, finding crumbs of biscuit on the kitchen floor; that on speaking of it to Fanny, her remark was, "Oh yes; the ladies were in the kitchen just now, eating biscuits;" and that she thought no more about it. Of course this confirmed the awakened suspicion; the charge was made, flatly denied, and Fanny was sent home to her parents. Children in the village subsequently said that Fanny had frequently offered them biscuits, when sent on an errand, and that her pocket seemed at all times well supplied with them. This was, of course, grief and shame to her parents and grandmother, but it could not be denied; and they dared not apply for a character of her, because such an offence could not be passed over in silence; so after trying her in one or two little neighbouring situations, from each of which she was quickly sent home, they removed her altogether to London, to some relatives who promised to look after her. Here she obtained a situation, and as nothing was heard of her for a year or two, it was supposed she was doing pretty well; but at length her parents received a letter from an authority at one of the London Penitentiaries, requesting them to come and see their daughter, who was dying in great distress of mind and body, and wished to see her father and mother once more. Poor things! their horror and grief was overwhelming; but they could not go. They had no money to spend in journies, for they were labourers,

and very poor; and they dared not horror, because they could never pay again. So Fanny died among strangers, after crime and sorrow that brought her very soon, and in the earliest youth, to a wretched end!

Who can tell the consequences of a first crime? Who can count the cost of a single sin? "The heart is deceitful and desperately wicked, who can know it?" Fanny's parents had never shown her the example of lightness of conduct, or of dishonesty, yet she was guilty of both. It is the want of *religious* education that causes these evils. Young people may be scolded and beaten, and kept out of harm's way; but there is that within, which the grace of God only can cast out; and unless His word is engrafted in the heart, and His fear implanted there, nothing that man can do, or not do, will prevent the wicked spirit from working death. We do sometimes see strange inconsistencies; some young people grow up steady and quiet characters; but if they have no *Scriptural* foundation, their quietness is that of a sleeping lion—they may be less open to temptation, but not a whit less vile within, when real temptation comes.

Let me earnestly press upon young women these last examples of what *has* been, and what *may* be. May they be enabled to take them closely home to their own hearts, and profit by them; and if they are still innocent of these great offences, may they say, as good John Bradford said, when a criminal passed him on the way to execution, "But for the grace of God, there goes John Bradford." May they seek that grace; it shall be granted to all who ask for it through the name of Jesus Christ; and may they trust in *Him only* for protection, remembering, that "whoso trusteth his own heart is a fool."

PEARS ON QUINCE STOCKS.—MANETTI ROSE STOCKS.

SOME time since I observed, in your pages, an article from Mr. Errington, describing his failure in the cultivation of some few varieties of Pears on Quince Stocks which I had sent him. I will confess that I was surprised, for I thought him so energetic as never to be beaten by any tree or plant that would grow in the open air; and I think I remember reading a description of a very fine *Beurre d'Arenberg* Pear on a Quince Stock growing in the garden under his care. I could not account for his failure, and so I referred to my books to see what varieties I had sent him. Among them I find the following: 1. *Urbaniste*, 2. *Josephine de Malines*, 3. *Orpheline d'Englien*, 4. *Beurre Langlier*, 5. *Beurre Diez*, 6. *Louise Bonne of Jersey*, 7. *Susette de Bavay*. No. 3 is the same as the *Beurre d'Arenberg* in its fruit; but the latter I at one time thought different, from the trees being always very full of thorns. No. 5 and 6 are most *vigorous* growers on the Quince, as far as I have seen, in all soils; and the remaining are all *good* growers here in a stiff clay, and also in a soil consisting of siliceous sand. Mr. Errington describes his soil (I write from memory) as light and sandy, and I am quite sure he gave them good culture. Why, then, should they fail? for when at Folkstone, last year, I saw a plantation of pyramidal Pears on Quince Stocks, including, among others, the above varieties, growing with the greatest luxuriance in a soil so light that it might be almost called a blowing sand. And on crossing over to Boulogne, I saw, in the gardens of a market-gardener, a large plantation of three or four acres growing most vigorously, and bearing large quantities of fruit, and the soil of the same light sandy nature as that at Folkstone. The trees were planted five feet apart, from row to row, and three feet apart in the rows. I think I never beheld such perfection in fruit-culture; so that Pears on Quince Stocks *will* grow well in light sandy soils.

Mr. Errington's failure was not, therefore, owing to the surface soil they were planted in, so let us look deeper. The *subsoil*, both at Folkstone and Boulogne, was a tender loamy clay; and so I apprehend that a light sandy soil resting on gravel or chalk would be fatal to Pears on Quince Stocks. But to shew how difficult it is to form conclusions, I have at this moment a wooden fence on the top of a steep, dry sand-bank (the sand here is all calcareous), which is covered with Pears on Quince Stocks trained to it, and growing with a healthy vigour.

Among all our numerous hardy trees and shrubs, there are none that require more attention as to soil than *Roses* and *Pears* on the Quince Stocks. Both luxuriate in a deep, rich, cool loam, not too light and friable; but they may both be made amenable to culture, even in the most unfavourable soils. It is, perhaps, something more than twenty years since I became a cultivator and lover of pyramidal Pears on Quince Stocks, and soon observing that they were rather difficult of cultivation, and almost refused to grow in some descriptions of soils, I resolved to try and conquer them. I therefore selected a narrow slip of ground in which a strong white clay full of chalk stones cropped out. I was attracted to this spot by observing some Pear-trees on Pear stocks, after existing a few years, literally killed by its unfavourable nature, their leaves turning to a bright yellow; and in four or five years, the trees becoming unkind and dead. Now, this offered a good field for operations; about fifteen years ago I, therefore, made a plantation on it of pyramidal Pears on Quince and Pear Stocks, opening a hole for each tree, and filling it with about a wheelbarrowful of light compost (rotten-leaves manure and light sandy loam); the trees grew well for three or four years, and then their leaves commenced to turn yellow; I then root-pruned them, and gave them a surface-dressing in the autumn of strong manure; this assisted them to some extent, and they made healthy young shoots, and bore fine fruit; but the colour of their leaves continued yellowish, and they did not seem quite happy. I, therefore, determined to have them all lifted, and replanted in some fresh compost. I think it was about this time that I saw, in some gardens in the suburbs of Valenciennes, some truly magnificent pyramidal Pear and Apple-trees growing in a black unctuous soil, like our moor earth. I found something like this soil at home in a rushy, marshy meadow near the river; but as I knew, from experience, that no tree or shrub, but a willow or alder, would grow in this black spongy mass, I determined to have it dug and laid up with lime in a ridge, putting two bushels of unslacked lime to twenty of moor earth. In three months, during which time it was turned twice, it was fit for use; I added to it some burnt earth from my refuse heap, and planted some Pear-trees, both on Pear and Quince Stocks, in it in November, giving to each tree a barrowful of compost; its effect was remarkable—the yellow trees at once became green, healthy, and fertile. At the end of two years I removed some of the trees, and found their roots, like those of *Rhododendrons*, forming a complete fibrous mass. They were lifted and replanted, adding to each about two bushels of the moor-earth compost. They did not appear to feel their removal, and grew and bore well the following summer. The trees in the same plantation, and growing in the same compost, but *not lifted*, turned yellow, and shewed symptoms of not being quite at their ease; so they were also lifted the following year, and became green and *healthily* vigorous. I mean, that their shoots were not long and luxuriant, but short and well ripened, which I call being healthily vigorous.

You may judge that I was well pleased on being able to conquer my Pear-killing soil; and the result has been, that I now remove all my specimen trees biennially; and I fully believe, that in whatever part of England, Scotland, or Ireland, there is solar heat enough to ripen Pears on pyramids or dwarf bushes, they may be grown, in despite of unfavourable soils, by biennially removing them, and giving them a light compost to grow in. In chalky, gravelly soils, I should grow them in moor-earth, treated as above; in stiff, cold soils, I should use leaf-mould, or manure thoroughly decomposed and mixed with sand, or light sandy loam, or peat. In those deep-rich soils in which Pears on Quince Stocks grow with so much vigour, I should still remove them biennially; but owing to our cloudy, moist climate, the vigorous shoots of pyramidal or dwarf Pear-trees are seldom properly ripened. This biennial removal (it should take place in November) is not at all a formidable operation. After two removals, the fibrous roots become so matted as to require but little labour; it is merely digging a trench round the tree, lifting it, and giving some compost or not, according to its wants. An active labourer can lift from forty to fifty in a day.

With regard to the form of garden Pear-trees, there can be nothing more ornamental or agreeable than the pyramidal; but from some recent experience, I am inclined to

patronise the dwarf bush, either for exposed places, or for those who have neither time nor inclination to train and prune pyramids. I stumbled on this form for Pear-trees on the Quince Stock merely by accident; but I am so much pleased with the facility with which a net is thrown over a bush, either to protect it from spring-frosts, or the fruit from birds in the autumn, that I feel assured they will soon come into favour. A bush as large as a full-sized gooseberry bush will give enough Pears, of one sort, for a small family, with the biennial removal. Scarcely any pruning is required; all that is necessary, is to shorten the young shoots to six or eight inches in August; thin them out when they become at all crowded, so that air and light are admitted to all parts of the tree.

Plums and Apples, with biennial removal, may be grown in this bush-like form with equal facility. This is, perhaps, the most simple of all modes of fruit-culture, and can be carried out in the smallest gardens, and by the most inexperienced gardeners.

It is, in my opinion, the duty of all us grey-heads to simplify, in all possible ways, the various branches of gardening, so as to make plenty of real cottage gardeners.

A well-cultivated cottage garden is, in my opinion, a more gratifying sight than the finest ducal garden in England.

I have two or three articles in my gardening creed which I adhere to with "pretty considerable" firmness, in spite of all that has been said or written. The first is, that Pears on Quince Stocks are the most fertile and interesting of all garden fruit-trees. The second, that biennial removal for fruit-trees and Roses will, on the whole (unless in the most favourable soils), be found to give the most satisfactory and favourable results. The third, that the Manetti Rose is the best of all Rose Stocks for light and warm soils.

Let those who differ from me in the third article go and look at a bed of Roses on the Manetti stock, growing on a gravelly bill in the nursery of Mr Francis, of Hertford. I have possessed this stock twenty years (it was sent to me from Como, in 1834), and am more than ever convinced of its good qualities. It gives no suckers from its roots, and is so favourable for some varieties of Roses, that I can point out some bushes, several years old, on which the Roses budded on it have overpowered the shoots from the stock, in this way; I found some budded Roses which had been forgotten, and the suckers on the stem of the stock not removed; I was prompted by curiosity to allow the suckers to remain, and see which was victorious, the stock or the bud. The latter has triumphed. The budded Roses, now six years old, are growing with the utmost vigour, and the suckers have gradually dwindled away so as not to interfere with the growth of the bud. In all my experience, I have never seen a case like this with the Dog-rose; for if every sucker is not removed from it when the bud is growing, it will be sure to overpower and destroy it in a few weeks. Let Mr. Beaton bud his stocks (they should be two years old, and budded near the ground) with *Baronne Prevost*, *Pius Ninth*, *Duchess of Sutherland*, or any other vigorous-growing autumnal Roses, and he will soon have the finest pillar Roses ever beheld.—T. RIVERS, *Sawbridgeworth Nurseries*.

BATH POULTRY EXHIBITION.

The city of Bath presented, on Wednesday, the 7th inst., and two following days, a more lively appearance than can, perhaps, be remembered "by the oldest inhabitant now there living." Many circumstances tended to produce this general holiday. The Agricultural Society held their annual meeting; the Bath Poultry Show then took place; the Horticultural Society also had their usual *fête*; besides which, cricket matches, an assembly ball, and boating, all (and each) drew together so many admiring multitudes, that it was only by dint of obstinate perseverance strangers could obtain accommodation, the inns being filled to repletion. Still, as the weather was all that could be possibly desired, and to the attractions just detailed, the originators of the Society for obtaining public subscriptions for the "Widows and Orphans of our Soldiers and Sailors," held a "Fancy Fair" in their behalf, it ceases to produce surprise, when we say, that no exhibition of poultry was ever so successful, in a pecuniary point of view, as the one just held in

Bath, nor has any, perchance, ever drawn together so many of the aristocracy. Although such numerous other attractions were taking place all around, still it was the subject of universal remark, that the popularity of a Poultry Show "had not by any means decreased;" both the tents being thronged to excess during the whole time the exhibition was open to the public. The band of the Coldstream Guards enlivened the whole proceedings, and the fashionable groups that continually encircled them proved how much their services were appreciated. On entering this ancient city, we were not a little surprised to find whole avenues of Fir-trees (that had been cut from the neighbouring woods) planted temporarily, for this occasion, in the public streets; whilst scarcely a single house was to be seen that did not sport its wreaths of laurels, and banners of "all kinds and descriptions" waved merrily in the breeze. Most of these bore reference to agricultural success; many to the existing war; whilst one party, who evidently kept the "main chance" constantly in view, displayed this significant motto, "You are all most welcome, and we hope to see you again." At night the illumination was general, the streets being crammed with sight-seers. But to return to our especial subject—the show of poultry.

On visiting this exhibition about an hour after it had opened, great was our surprise to find many hundreds of gaily attired individuals, all still intent on obtaining admission, nor in spite of the unwearied efforts of the "money takers" could the rush for some hours be materially lessened. As a necessary consequence, the interior was incredibly crowded, though the best of humour prevailed, though tried, in many instances, by some unlooked-for injury to dress, the result of the pressure to enter at the doors. The plans of the managing committee were very excellent; everything showed itself to be the consequence of mature reflection and good taste; the fowls were well attended, and showed as a whole in far better condition than was anticipated. The Black Spanish class must have entailed no little trouble on the judges, for but very rarely has so meritorious a class (on the whole) competed. The Grey Dorkings were the most perfect, as a whole, we remember to have seen; indeed, it is quite evident they are becoming (and very justly) favorites with the public. Culture and general care, has much improved them; hence, we now see much finer birds of this class than formerly. The first and second prize birds happening to be consecutive numbers, drew so many observers, that it was only with great difficulty that any one could pass down the avenue, and, no doubt, many an anxious fair one gave up the attempt in sheer hopelessness. The White Dorkings showed that improvement has extended itself in this direction also. The first prize pen were very large; the second, in the highest possible condition; but the third prize fowls were shown in worse feather, and the most out-of-condition, we remember to have yet seen; had it been otherwise, no doubt their position would have been better on the prize list. Deterioration, in every respect, marked the Buff Cochins classes; and we could only reflect with sorrow on the sadly deficient character of the bulk of them; even the prize pens were not like those of by-gone days. The first prize pen of Partridge, contrariwise, were excellent. In the chickens of the latter class, no doubt the Rev. G. F. Hodson lost every chance of success from the fact that too many fowls appeared in his pen; for which reason alone they were "disqualified." A little attention to the "rules" would be of much benefit to exhibitors generally. The White Cochins classes were well filled, and the fowls were of good character. In the class for Blacks, but few appeared, and these of no especial merit. In the so-called Brahma class, there were but three entries, for three prizes, one of which was WITHHELD. In the Game classes, the inattention of the exhibitors to properly matching their pens lost many otherwise excellent birds every chance of success. The Golden-pencilled Hamburgs were mostly in bad condition, as were the Polands generally. The Ducks were excellent, of the Aylesburys; but the Rouens were not well represented, the birds shown being vastly inferior in size to those of former years. The Geese were excellent; as were also the Turkeys. The Bantam classes were well filled, and contained some very first-rate birds. The Pigeons, as a whole, were very superior, and the competition, therefore,

unusually severe. To ensure satisfactory awards, the services of G. Andrews, Esq., of Dorchester; William Symonds, Esq., of Weymouth; and Edward Hewitt, Esq., of Birmingham, were obtained, and to these gentlemen the Committee expressed their personal thanks for the care and the discrimination with which they had fulfilled their arduous duties. We subjoin the prize list of successful exhibitors, and feel assured, it will be very long before the recent exhibition will be forgotten by the numerous amateurs by which it was attended; and from the great influx of strangers, no doubt the benefits to most of the tradesmen were eminently satisfactory.

Class 1.—SPANISH.—5. First prize, Mr. H. D. Davies, Spring Grove House, Hounslow, Middlesex. Age not known. 13. Second prize, Mr. Joseph G. Rakc, Bristol. Age, one year. 8. Third prize, Mr. William Plummer, Brislington, near Bristol. Age, cock about fourteen months; hens twenty-two months. *Commended*.—10. Mr. Matthew W. Rellett, 24, Nelson-street, Birmingham. Age, hens, 1852; cock, 1853.

Class 2.—SPANISH CHICKENS.—24. First prize, Mr. William Plummer, Brislington, near Bristol. Hatched January 17, 1854. 25. Second prize, Mr. William Plummer, Brislington, near Bristol. Hatched February 25, 1854.

Class 3.—DORKING (Coloured).—26. First prize, Mrs. Elizabeth George, Rookery, Chaldon, Croydon, Surrey. Age, about twelve months. 27. Second prize, Mr. H. D. Davies, Spring Grove House, Hounslow, Middlesex. Age, not known. 30. Third prize, Mr. W. G. H. Breavington, Vicarage Farm, Hounslow, Middlesex. Age, thirteen months. *Highly Commended*.—33. Mr. Edward Pope, Great Toller, Dorset. Age, one year and upwards. *Commended*.—42. Mr. Henry Blandford, Sandridge, Melksham, Wilts. Age, cock three years; hens two years.

Class 4.—DORKING CHICKENS (Coloured).—80. First prize, Miss Steele Perkins, Sutton Coldfield, Birmingham. Age, January 3, 1854. 63. Second prize, Mr. H. D. Davies, Spring Grove House, Hounslow, Middlesex. Age, hatched January 14, 1854. *Highly Commended*.—64. Mr. H. D. Davies, Spring Grove House, Hounslow, Middlesex. Age, hatched January 14, 1854. *Commended*.—66. Mr. John R. Rodbard, Aldwick Court, Wrington, Somerset. Age, March 1, 1854.

Class 5.—DORKING (White).—85. First prize, Mr. Charles Edwards, Brislington, Bristol. Age, over one year. 82. Second prize, Mr. Joseph Clift, Dorking, Surrey. Age, about two years and two months. 89. Third prize, Mr. Joseph Jennens, Mosley, near Birmingham. Aged.

Class 6.—DORKING CHICKENS (White).—94. First prize, Mr. George Vivian, Claverton Manor, near Bath. Age, twelve weeks and five days. 91. Second prize, Mrs. John Longman, Lyde Farm, Yeovil, Somerset. Age, four months.

Class 7.—COCHIN-CHINA (Buff or Cinnamon).—124. First prize, Mr. Cyrus Clark, Street, near Glastonbury. Age, various. 120. Second prize, Mr. John Fairlie, Cheveley Park, Cambridgeshire. Age, cock about one year; hens, various. 116. Third prize, Mr. James Cranc, jun., Toppuddle, Dorset. Age, two years and six months. *Commended*.—112. Mrs. Henry Fookes, Whitechurch, Blandford, Dorset. Age, cock and hen twelve months, hen twenty-three months.

Class 8.—COCHIN-CHINA CHICKENS (Buff or Cinnamon).—147. First prize, Mr. John R. Rodbard, Aldwick Court, Wrington, Somerset. Hatched January 16, 1854. 179. Second prize, Mr. John Dorrell, Wellington Road, Slough, Bucks. Hatched January 2, 1854. *Highly Commended*.—175. Mr. Henry Lucas Bean, Asheott, Glastonbury. Age, cockerel and pullets February 22, 1854. *Commended*.—141. Mr. William Thomas Squire, Barton Place, near Mildenhall, Suffolk. Age, twenty-two weeks. 145. Mr. John R. Rodbard, Aldwick Court, Wrington, Somerset. Hatched March 1, 1854.

Class 9.—COCHIN-CHINA (Brown, Partridge, or Grouse).—185. First prize, Rev. Grenville F. Hodson, Banwell, Somerset. Age, thirteen months. 189. Second prize, Mr. John Fairlie, Cheveley Park, Cambridgeshire. Age, various, above one year. 192. Third prize, Mr. J. F. Chater, Haverhill, Suffolk. Age, one year.

Class 10.—COCHIN-CHINA CHICKENS (Brown, Partridge, or Grouse).—195. First prize, Mr. James Garrod, Cheveley, Cambridgeshire. Age, fourteen weeks and four days. 196. Second prize, Capt. W. H. Snell, St. Switbin's Lane, London. Age, cockerel January 8, 1854, pullet February 15, 1854, pullet February 27, 1854. 194. Disqualified from an excess in the number of birds. Rev. Grenville F. Hodson, Banwell, Somerset. Age, four months and one week.

Class 11.—COCHIN-CHINA (White).—203. First prize, Mr. Cyrus Clark, Street, near Glastonbury. Age, one hen unknown, cock and hen sixteen months. 199. Second prize, Mrs. Sarah Rcheeca Herbert, Powich, Worestershire. Age, cock hatched in 1850, hens in 1852. 197. Third prize, Rev. G. H. H. Hutchinson, Charlton, Malmesbury, Wilts. Age, cock, young *Prince*, eleven months, hen eighteen months, hen ten months.

Class 12.—COCHIN-CHINA CHICKENS (White).—215. First prize, Mr. James Turner, Northbrook, Exeter. Age, March 23, 1854. 216. Second prize, Mr. James Buckley, Pennyfai House, Llanelly, Carmarthenshire. Age, cock and pullet first week in March, pullet Feb. 21.

Class 13.—COCHIN-CHINA (Black).—219. First prize, Mr. John Fairlie, Cheveley Park, Cambridgeshire. Age, above one year. 218. Second prize, Rev. G. H. H. Hutchinson, Charlton, Malmesbury, Wilts. Age, cock, the *Black Prince*, nine months, hen eleven months, hen nine months. (Third prize withheld.)

Class 14.—BRAHMA FOOTRA.—225. First prize, Mr. John Fairlie, Cheveley Park, Cambridgeshire. Age, above one year. 224. Second prize, Mr. John Fairlie, Cheveley Park, Cambridgeshire. Age, above one year. (Third prize withheld.)

Class 15.—**GAME** (White and Piles).—227. First prize, Rev. Thomas Lyon Fellowes, Beighton Rectory, Aile, Norfolk. Age, hatched 1852. 226. Second prize, Mr. John R. Rodbard, Aldwick Court, Wrington, Somerset. Age, cock ten months, hens fourteen months.

Class 16.—**GAME** (Black-breasted and other Reds).—237. First prize, Mr. John R. Rodbard, Aldwick Court, Wrington, Somerset. Age, two years. 244. Second prize, Mr. Charles Edwards, Brislington, near Bristol. Age, over one year.

Class 17.—**GAME** (Duckwings and other Greys and Blues).—254. First prize, Rev. C. T. James, Ermington, near Ivybridge, Devon. Age, cock two years six months and eleven days, hens fifteen months and four days. 259. Second prize, Mr. William Manfield, Dorchester, Dorset. Age, about ten months. *Highly Commended*.—255. Mr. John R. Rodbard, Aldwick Court, Wrington, near Bristol, Somerset. Age, two years.

Class 18.—**GAME** (Black and Brassy-winged, except Greys).—263. First prize, Mr. Henry Shield, Taunton, Somerset. Age, cock and hen one year, hen three years. 264. Second prize, Mr. Nathan N. Dyer, Manor House, Bredon, near Tewkesbury, Worcester. Age, twenty-two months.

Class 19.—**MALAY**.—271. First prize, Mr. William Manfield, Dorchester, Dorset. Age, cock months and one week. 276. Second prize, Mr. James Oldham, Long Eaton, Derby. Age, one year. (The class highly meritorious.)

Class 20.—**HAMBURGH** (Golden-pencilled).—279. First prize, Mr. Robert Fookes, Milton Abbas, near Blandford, Dorset. Age, twelve months. 278. Second prize, Mr. Robert Fookes, Milton Abbas, near Blandford, Dorset. Age, cock and one hen two years, one hen one year.

Class 21.—**HAMBURGH** (Silver-pencilled).—289. First prize, Mr. Thomas M'Cann, Graham House, Malvern. Aged. 296. Second prize, Mr. Cyrus Clark, Street, near Glastonbury. Age, unknown.

Class 22.—**HAMBURGH** (Golden-spangled).—306. First prize, Mrs. Henry Fookes, Blandford, Dorset. Age, cock two years, hens one year. 310. Second prize, Mr. Charles Edwards, Brislington, near Bristol. Age, over one year.

Class 23.—**HAMBURGH** (Silver-spangled).—318. First prize, Mr. Joseph Symonds, Gorwell, near Dorchester, Dorset. Age, May, 1853. 325. Second prize, Dr. Rogers, Honiton, Devon. Age, eleven months. *Highly Commended*.—323. Mr. Charles Edwards, Brislington, near Bristol. Age, over one year.

Class 24.—**BLACK POLAND WITH WHITE CRESTS**.—333. First prize, Mr. Austen Williams, Reading, Berks. Age, one year and four months. 334. Second prize, Mr. Charles Edwards, Brislington, near Bristol. Age, over one year.

Class 25.—**POLANDS** (Golden-spangled).—342. First prize, Mr. R. H. Bush, Ashton Lodge, near Bath. Age, unknown. 337A. Second prize, Mr. Cyrus Clark, Street, near Glastonbury. Age, unknown.

Class 26.—**POLANDS** (Silver-spangled).—347. First prize, Mr. Cyrus Clark, Street, near Glastonbury. Age, unknown. 348. Second prize, Mr. Charles Edwards, Brislington, near Bristol. Age, over one year.

Class 27.—**SPECIAL PRIZES**.—361. Prize, Mr. William Manfield, Dorchester, Dorset. Rumpless. Age, cock and hen two years, hen one year. 366. Prize, Mr. John Taylor, jun., Spring Grove, Shepherd's Bush, Middlesex. Andalusian. Age, various.

Class 28.—**SPECIAL PRIZES**.—367. Prize, Rev. G. H. H. Hutchinson, Charlton, Malmesbury, Wilts. Black Cochins-China. Age, nine weeks. 371. Prize, Mr. Parkins Jones, High-street, Fulham, Middlesex. Bramah Pootra Chickens. Age, March 5, 1854.

Class 29.—**BANTAMS** (Gold-laced).—377. First prize, Mr. Henry D. Palmer, Southtown, Great Yarmouth, Norfolk. Age, various. 378. Second prize, Mr. Henry D. Palmer, Southtown, Great Yarmouth, Norfolk. Age, ten months. *Commended*.—376. Mr. George Boothby, Holme Cottage, Louth, Lincolnshire. Age, one year.

Class 30.—**BANTAMS** (Silver-laced).—388. First prize, Mr. George W. Boothby, Holme Cottage, Louth, Lincolnshire. Age, one year. 391. Second prize, Rev. Grenville F. Hodson, Banwell, Somerset. Age, one year.

Class 31.—**BANTAMS** (White).—395. First prize, Rev. Grenville F. Hodson, Banwell, Somerset. Age, three years. 396. Second prize, Rev. Grenville F. Hodson, Banwell, Somerset. Age, cock and one hen one year, hen two years.

Class 32.—**BANTAMS** (Black).—400. First prize, Mr. Charles Ballance, 5, Mount Terrace, Taunton. Age, cock two years, hens thirteen months. 403. Second prize, Messrs. W. Connett and Co., Upholsterers, 270, High-street, Exeter. Age, three years and six months.

Class 33.—**DUCKS** (White Aylesbury).—406. First prize, Mr. W. G. H. Breavington, Vicarage Farm, Hounslow, Middlesex. Age, fifteen months. 410. Second prize, General Slade, Monty's Court, Taunton. Age, nine months. *Highly Commended*.—408. Mr. W. G. H. Breavington, Vicarage Farm, Hounslow, Middlesex. Age, three months. *Commended*.—411. Mr. John Margesson, Aylesbury, Bucks. Age, eight months. 421. Mr. Cyrus Clark, Street, near Glastonbury. Age, three months and one week.

Class 34.—**DUCKS** (Rouen).—423. First prize, Mr. John Fairlie, Cheveley Park, Cambridgeshire. Age, about one year. 422. Second prize, Mr. Charles Ballance, 5, Mount Terrace, Taunton. Age, fourteen-and-a-half months.

Class 35.—**DUCKS** (Any other variety).—427. First prize, Mr. George Botham, Wexham Court, near Slough, Bucks. Buenos Ayres Ducks. Age, one year. 430. Second prize, Mr. John Fairlie, Cheveley Park, Cambridgeshire. White Muscovy Ducks. Age, about one year.

Class 36.—**GEESE**.—434. First prize, Mr. John Fairlie, Cheveley Park, Cambridgeshire. Grey and White Geese. Age, about one year. 433.

Second prize, Mr. John Fairlie, Cheveley Park, Cambridgeshire. White Geese. Age, about one year.

Class 37.—**TURKEYS**.—439. First prize, Miss Julia Milward, Newton St. Loe, Somerset. French. Age, cock, June 3, 1851, hens, June 9, 1853. 441. Second prize, Mr. John Fairlie, Cheveley Park, Cambridgeshire. Cambridgeshire Turkeys. Age, about one year. (The class highly meritorious.)

PIGEONS.

Class 38.—**CARRIERS**.—446. Prize, Mr. Joseph G. Rake, Bristol. Age, three years.

Class 39.—**BARBS**.—449. Prize, Mr. C. R. Titterton, 6, Snow Hill, Birmingham. Age, unknown.

Class 40.—**POUTERS**.—453. Prize, Mr. C. R. Titterton, 6, Snow Hill, Birmingham. White Pouters. Age, about two years.

Class 42.—**FANTAILS**.—463. Prize, Miss Selina H. Northcote, Upton Pynes, Exeter, Devon. Age, unknown. *Commended*.—465. Mr. Herbert Henry Swift, North Lydiard, near Purton, Wiltshire. Age, unknown. 466. Mr. Thomas James Cottle, Pulteney Villa, Cheltenham. Age, uncertain.

Class 43.—**JACOBINS**.—473. Prize, Mr. Henry Child, jun., Sherborne Road, Birmingham. Age, not known.

Class 44.—**TURBITS**.—477. Prize, Mr. Charles Bluett, Taunton, Somerset. Age, unknown, but young.

Class 45.—**NUNS**.—481. Prize, Miss Selina H. Northcote, Upton Pynes, Exeter, Devon. Age, eleven months.

Class 46.—**ARCHANGELS**.—486. Prize, Mr. Joseph G. Rake, Bristol. Age, two years.

Class 47.—**TRUMPETERS**.—490. Prize, Rev. G. F. Hodson, Banwell, Somerset. Age, unknown. *Commended*.—493. Dr. Rogers, Honiton, Devon. Age, unknown.

Class 48.—**ALMOND TUMBLERS**.—497. Prize, Dr. Rogers, Honiton, Devon. Age, unknown.

Class 49.—**VARIETY OF TUMBLERS**.—501. Prize, Mr. Henry Child, jun., Sherborne Road, Birmingham. Tumblers. Age, not known.

Class 50.—**OWLS**.—506. Prize, Mr. Charles Bluett, Taunton, Somerset. Age, about twelve months.

Class 51.—**DRAGONS**.—508. Prize, Mr. C. R. Titterton, 6, Snow Hill, Birmingham. Age, unknown.

POULTRY NOMENCLATURE.

In noticing the comments on the Prize schedule of the Amateur Poultry Society of Dublin, which appear in your number of 11th May, we beg to say, that while we admit the importance of uniformity of nomenclature, and are aware of the variety of synonyms, we, nevertheless, cannot consent to adopt a nomenclature which we believe to be erroneous, no matter under whose auspices put forward. For *this very reason*, the broad distinction of dividing all Poultry into "*those with Combs, and those with Crests*," was adopted.

This arrangement was chosen by Mr. Richard Palmer Williams, in a paper on "The different varieties of poultry then known," which was read by him before the Dublin Natural History Society some years ago; when the only works then on the subject were Dickson and Mowbray.

In remarking on the term *Hamburgh*, you observe, "We are well aware how fondly Irish breeders have clung to this appellation," viz., the *Tufted Hamburghs*. Would it not be well to enquire, Is there not a reason?

On this point, we beg to say, we believe Exhibitions of Poultry for public competition originated with the Royal Dublin Society in 1840; and these crested fowl were then, and for half a century, known in Ireland as *Hamburgh Fowl*; from which country the breed was had, and which figures in all the paintings of Poultry two hundred years ago, viz., the White-crested Red (see also *Rees's Cyclopaedia*). The Pencilled fowl (Bolton Greys) now attempted to be called *Hamburgh*, appear to have been then unknown.

You observe, "the Spangled have every evidence of being an *English Breed, &c.*" In this we entirely agree; and you might have added—a very local breed, for they were unknown to the London dealers until lately. Why, then, call them *Hamburgh*? But as *Pheasant* fowl (called so from the vulgar error, both in England and Ireland, that the breed was produced from crossing with the Pheasant (*Phasianus Colchicus*), they were known in Ireland fifty years ago; and also as *Mooneys*, from the crescent-shaped edgings of the feathers, by which appellation, *Blackburn Spots, &c.*, they have been invariably called in the North of England, and are so still.

If the foregoing remarks be correct, it is clear that a different nomenclature should be adopted, and the appella-

tion, Poland, should be expunged for Crested birds, there being no authority whatever for the name, or proof of the breed having ever been in Poland.

With the view to correct the Birmingham nomenclature, by whose schedule the error was propagated, portraits of several of the varieties, life-size, painted by Mr Richard Palmer Williams, several years ago, were hung on the walls at the last exhibition of the Amateur Poultry Society, and relating thereto, the following questions were printed in the catalogue:—

“PHEASANT FOWL (Golden,) *Gallus Emarquatus*, known as such in the north of England and Ireland for years, now called in England Spangled Hamburg!

“DUTCH PENCILLED FOWL, *Gallus Lineatus*, in the north of England known for years as Bolton Greys, now called in England Pencilled Hamburg!

“WHITE-CRESTED RED, *Hamburg*, in German *Die Riesen-huhner*, *Rees' Cyclopaedia*, Hamburg Fowl, as seen in the paintings of the Hondcoeters, Weenix, Valkenburgh, &c., two hundred years ago, now called in England Golden Polish!

“SPANGLED FOWL (Silver,) *Gallus Punctatus*, the improved Hamburg, now called in England Silver Polish, and encouraged with white crest (as in original,) instead of having each feather tipped with black in the Cock, and margined with black in the Hen's Crest.

“WHITE-CRESTED BLACK, *Gallus Patavinus* of Aldrovandus, Lombardy Fowl, now called in England Black Polish!! The varieties of the Crested Fowl are in England now called Polish Fowl. Is there a record of such having ever been in Poland to be found in any work?

“THE BLACK-CRESTED WHITE FOWL, apparently extinct for about twenty years, recorded in *Rees' Cyclopaedia*, Brisson, Latham, Bewick, &c., is now the greatest desideratum in the Poultry of Amateurs.

“These few remarks on the nomenclature of Fowl, as now in England, are respectfully put forward to invite inquiry.”

With respect to the “*Irish Cuckoo*,” we beg to say, it is not the Cuckoo Dorking, as you suppose; but we believe the indigenous fowl of Ireland, than which no fowl is superior for its general good qualities; and it is now put forward to improve its size and other perfections, the breed having naturally deteriorated. Their principal localities are the southern counties of Ireland. The breed should have a single crest comb, full wattles, body of a uniform blue-grey, regularly barred with black. The Cock generally yellowish on the scapulars, bill and legs white. There is, we are well aware, in England, a breed of Cuckoo Dorking.

With respect to the *Black-crested White Fowl*, we know the breed did exist in Ireland some years ago; and believing that what did exist may exist, the variety is brought before the public, in the hope that some one will be so fortunate as to produce it.

JAMES R. DOMBRAIN } *Hon. Secs.*
WM. B. SELWOOD }

[In the foregoing observations, the desired point of uniformity in Poultry nomenclature is recognized, however at variance the proposed system with that now generally adopted in this country.

Some stress is laid on the fact, that the broad division of domestic Fowls into those “with crest,” and those “with combs,” originated with Mr. Williams, previously to the classification now in use at Birmingham, and elsewhere. We have not the advantage of a knowledge of the views of that gentleman, as expressed in the paper in question, and would, therefore, gladly be informed on this point; but mere priority would contribute little weight to such an arrangement, if unaccompanied by proof of the nomenclature argued for being not merely of long standing, but also accurate in respect of the local designations.

On this point we may observe, that the fact of certain fowls being represented in the works of painters of one or two hundred years ago, merely testifies to their existence, without pointing to any distinct appellation. If it be then said, that the artists were inhabitants of the country, whence a German name, or, to speak more particularly, the term Hamburg, would naturally be obtained, little progress is made; for, supposing that Poland was the country where the Polish fowl was originally found, they would naturally have spread to Hamburg and the German districts on the

north, as they certainly had done to Italy and the south, in the time of Aldrovandus. But we do not rely on any exclusive Polish origin for the birds now bearing that name; little, indeed, can be positively asserted on behalf of the correctness in respect of locality of either the Polish or the Hamburg families; although, as regards the relative periods in which those appellations have been in use, the former can probably lay claim to, at least, equal antiquity with the latter.

Poultry discussions, at the present day, have elicited statements from gentlemen of long experience; in which, while the terms, Polish and Hamburg, are both applied to tufted fowls, a distinction is drawn between them by claiming for the former an entire absence of comb, and also greater bulk. This has happened with those who have most strongly, and also most skilfully, objected to the arrangement of all the regularly-tufted fowls as Polish. Such would admit a Tufted Hamburg, without in any way discarding Polish as a distinctive term.

The Dublin Amateur Society and the English Poultry community are seeking the same end, although the means likely to lead to this much-to-be-desired result are at variance. “*Fowls with Crests*,” and “*Fowls with Combs*,” is the division held by the one party, as offering the best chance of success; while the application of existing terms, somewhat modified and re-arranged, are more favourably regarded by the latter. Were the former system to be adopted, a difficulty would at once appear in the position of the Tufted or Tasselled Game fowls; and similar instances in other breeds, where the possession of such a feature would consign them to a separate class of birds from their own race, not having this appendage, though identical in every other point; nor is this the only obstacle in such a path.

In respect of the Irish “Cuckoo” fowl, the description would be applicable to many a specimen of the Cuckoo Dorking of this country, a bird that has often appeared in good form at our Exhibitions, but exhibits the same uncertainty in colour as the rest of its family. Claims to the character of a distinct breed, the fertile causes of confusion, must have stronger evidence in their support than those now specified. We should be glad to hear them set forth at large; till then, however, the Cuckoo fowl, as ordinarily shown, must rest in its present position, whether as a Cuckoo Dorking, Cuckoo Game, or the same distinctive colour in any other breed.

Our allusions to the Black-crested White fowl were simply to the effect, that the separate class assigned to them seemed to indicate some nearer approach to their acquisition than we had previously been acquainted with. The value of such a bird will always ensure its appearance in either the miscellaneous class, or that which embraces any other description of Polish commonly so called.

We must thank our correspondents for their communications; and beg to assure them, that while we are prepared to admit the obscurity that envelopes the original habitats of the races in question, we have our fears that such remedial measures would fail to obviate the inaccuracies complained of, and would, also, create other difficulties in addition to those that already beset the path of the student in the Natural History of our domesticated Fowls.

The public voice must eventually decide this and also other questions of similar import; and our Exhibitions are the channels through which such verdicts must ultimately be given. At present, their authority and sanction is given, in a most decided manner, adverse to the views of the Dublin Society, and so far as the arguments of the latter have yet gone, we see no reason to call for any change.—W.]

QUERIES AND ANSWERS.

GARDENING.

RED SPIDER ON CUCUMBERS.

“I have, hitherto, been successful as a grower of Cucumbers, but this year (in a new place) I cannot get a single plant to bear. The leaves and the fruit are attacked by a very minute red insect, which eats the leaves like small pin-holes on the under side. The leaves then turn brown, or rather yellow, and the fruit is attacked. Can you send me word of the cause, and a remedy? I ought, from the

growth of plants, to have cut good Cucumbers in the first week in May, but have not had one yet.—A PERPLEXED MAN."

[The "minute red insect" is the *Acarus tellaris*, or Red Spider. There is no remedy so effective as having some hot-water plates filled with boiling-water, placing them in the frame, sprinkling on each plate a little flowers of sulphur, and then closing the frame. One hot-water plate for each light is desirable. Do this at night; syringe the plants with tepid water early in the morning; and repeat the treatment until the pest is removed. Keeping the air of a frame too dry is a great promoter of the Red Spider. The vapour of spirit of turpentine is said to be as destructive to this insect as is the vapour of the flowers of sulphur.]

CANKER IN THE APPLE-TREE.

"I enclose a twig of an Apple-tree, which has evidently died off on account of the strange-looking 'burn' on it. It seems to have originated in a 'spot' on the bark, which enlarged till it got quite round the bark, and so killed it. What can have caused this?"

"My man says that it is on account of the roots having reached our subsoil, which is a cold, rank clay; but why should that cause this kind of plague spot?"

"I have had hundreds of similar shoots killed by this complaint, which seems to begin the attack on the second year's growth.—F. C. H."

[Your man is probably quite right as to the cause of this disease, and we so think, because you have had "hundreds of similar shoots" so killed, shewing that the cause is general. A "cold, rank clay" subsoil causes this disease, canker, and there is no remedy but planting the trees on stations, as so often recommended by Mr. Errington. By so planting, the roots can be kept near the surface, and an equal action be sustained in the branches and roots. If the latter descend into the cold clay their action is checked, and ulceration in the branches, from a defective supply of sap to them, is as usual as ulceration, or shanking, in Grapes from a similar cause.]

PELARGONIUM SEED.—CROCUS SEED.

"Will you kindly inform me, at your convenience, in any one of your forthcoming numbers, with the best mode of procedure in regard to some fine-looking spikes of Geranium seed, which I already perceive upon some ivy-leaved plants that I have in a small conservatory leading out of my back drawing-room, the only glass for floriculture of which I can boast.

"In a patch of garden I have an abundance of Crocus seed, and being ambitious to rear such, if possible, would you at the same time give me instructions thereon?—M. D."

[When the *Pelargonium*, or *Geranium*, seed is ripe, which you will know by the seed-vessels becoming brown and dry, gather these, remove the feather-like appendages of the seed, wrap the seed in paper, and keep it in a dry place until the beginning of March, when it must be sown. The *Crocus* seed will not repay you for the trouble of saving it. The seedlings will be two years before they bloom, and not one in ten thousand will be an improvement upon older sorts. The seed requires to be sown in October.]

YELLOW ROSE.—SECOND CROP OF HAY.

"Can you tell me the name of a Rose which flowers in the south of France, in March,—is the same colour as the yellow *Banksie*, and flowers in large clusters, but so small as to be only the size of a Bachelor's Button; the leaves are very small, and all but plain round the edges. There is a pure white Rose of the same description.

"How shall I do for a second crop of Hay? Should the land be manured after the first crop, and should the first grass remain until quite ripe. It is (the hay) for cows.—MANY QUERIES MANY THANKS."

[This yellow Rose is just the old *Banksian*, and nothing else. The trees are old and crowded, and the wood ripens so thoroughly, that every sprig blooms every season, and that causes them to run into these yellow clusters of Bachelor's-Button-like blooms. You may rest assured this is a true

story; and the "pure white" Rose is just the same—nothing but the true old white *Banksian*.

Grass that is cut for hay ought to be manured at the end of February; and if the second crop is to be cut, it should not be manured with cow or yard muck after the first cutting; but dung-water, or sewage-water, or guano-water, would just double the second crop, and you might have a third also; but how is the strong water to be had, and how applied, are wide questions.]

BLUE HYDRANGEAS.

"Will you be kind enough to inform me, through the medium of your paper, what I am to water my *Hydrangeas* with, to turn the flowers blue. I have heard that alum-water will turn them blue, but I do not know what quantity to use; therefore, if you would be good enough to set me right on this subject, I should be exceedingly obliged.—A LOVER OF FLOWERS."

[We have no faith in this use of alum-water, and we never knew of any one who could depend on any of these nostrums. Iron-rust or iron-filings, as much of it as you could take up in a "handful," would do for five or six 48-pots, but to get real blue Hydrangeas, one must get that kind of soil which invariably turns them blue. In some places it is as difficult to get them pink, the soil being all for blue. A lump of alum as big as a lump of sugar for a coffee-cup will do for a quart of water, and if you once begin it, you ought to give no other water all the time.]

THUNBERGIA.—DIELYTRA SPECTABILIS SOWING.

"I have some seedling *Lobelias* showing flowers, as enclosed; seed sent me as *L. ramosa*. I have never seen a *Lobelia* like it before, so large or so pretty. Can you tell me what it is? (*It is ramosa, certainly.*)

"How ought cuttings of *Lantana crocea* be struck, with heat, or like *Verbenas*, in autumn, in the shade?"

"Will *Thunbergia* do out-of-doors (showing flower between yellow and buff, with dark centre), and is it strong-growing?"

"I have a plant of *Dielytra spectabilis*, with quantity of seed, apparently ripening. Will it grow from seed, and how treated?"

"What has been Mr. Payne's experience, this winter, in stocks of bees standing north aspect?"

"My experience tells me that all hives are better in dark, cool, and dry rooms in winter, with floor-board unmoved, and entrance open.—E. H. C."

[*Lantana crocea*, and all other *Lantanas*, ought to be struck from cuttings in heat; the strong varieties of *crocea* would, probably, root in the autumn, under a common hand-glass, but such propagation is very much against them all through the following winter, and if these plants are but once chilled, or stunted, they do little good for a long time. Strike them in a close, cold-pit from the middle of July to the end of August, or else in the spring, in a Cucumber-bed, which is the best way, and they root in heat in fifteen days, or sooner.

Your *Thunbergia* is the Black-eyed Susan of country gardeners. It will flower and ripen seeds out-of-doors in South Devon, and round London, treated just like Sweet Peas.

Dielytra spectabilis, if your seeds of it ripen, sow them the same day you gather them, and keep them over the winter as half-hardy plants, along with your *Verbenas*, and transplant them out on a border the following April; and Mr. Beaton says, that if you send him six or seven of the seeds, your own will be sure to prosper all the better. He has failed again this year in seeding or crossing his own *Dielytras*.]

KNIGHT AND CO., EASTBOURNE, SUSSEX.

"I wish to know if you consider Knight and Co., Eastbourne, Sussex, to be a respectable firm? On seeing their advertisement of the 13th of April, in your paper, I forwarded 10s. worth of stamps, for a dozen *Phloxes*, also one dozen *Verbenas*, as named in that date; I have not heard either of stamps or plants since, though a fortnight after, I wrote again, to ask them, if the plants were not ready, to acknowledge the money. I saw a caution a week or two ago

in your paper not to advance money, which made me begin to fear mine was vanished. My own man posted the stamps, and I, myself, the letter sent after, to enquire of them.—ELIZABETH HOLLISTER, *Hamstead, near Birmingham.*"

[We can only say, in reply to this letter, that we have had several to a similar effect; and from enquiries which have been made of us, we advise Mr. Knight, of Battle, in the same county, to state if he has any connection with the Eastbourne firm.]

POULTRY.

BLINDNESS IN DUCKLINGS.

"Last year a great many of my young Ducks, when about three weeks old, became blind, and ultimately died. I have now a brood, most of which are losing their sight in a similar manner, and are sickly. Can you give me any advice?—R. P."

[We never knew a case at all resembling this of your Ducklings, and we are strongly of opinion that it is occasioned by some great defect in the feeding or treatment. What the error is we cannot imagine, and you have given us no information. We consulted Mr. Tegetmeier, and this is his reply:—

"I have always found Ducks remarkably free from any tendency to disease, provided their food, water, and lodging were unobjectionable. I am inclined to think that when attacked, it is owing, usually, to some unwholesome food having been taken; it is possible, for example, that one of the numerous poisoners, wild water plants, may have been eaten. And I have known Ducklings, in July, pursue flies and grubs on the water to such an extent as to refuse to come for other food, and exhaust themselves so much, as literally to die shortly after coming to the shore. I have never seen much benefit from giving young chicken medicine, and would expect less from doctoring Ducklings, but would rather recommend a diligent search for the cause of the disease."

THE PRINCE ALBERT FOWL.

"I have to thank you for the insertion of my remarks on what I termed 'the merits of some cross bred fowls,' in your number 297, and in reply to your assertion, that the 'Prince Alberts are Shanghaes,' I would, with all due deference, call your attention to page 78 of 'Richardson on Fowls,' where he says:—'The so-called Prince Albert's breed are Bolton Grays, said to be crossed with Game blood.' I must also add, that I bought my two hens under the name of 'Prince Albert's,' and that from their so nearly resembling Richardson's account of the Prince Albert breed, with the exception only of being in plumage more like the *Pencilled* than the *Spangled* *Hamburgh*, I was induced to adopt the name. At any rate, whether Richardson is right or wrong in what he says of this breed, and whether my hens are veritable Prince Alberts or not, I think you will allow that they are not 'Shanghaes,' and that the breed from them, with the *Punchard* cock, is a 'cross breed.' In further illustration of the great laying powers of my 'cross-bred hen,' I may add, that since May 30th, she has laid nine eggs more, making, in all, *nineteen eggs in nineteen days*, and has, up to this, continued the care of her chickens.—R. O., *Edinburgh.*"

[It is very certain that the variation of the *Silver-Spangled Hamburghs*, called by Richardson "Prince Alberts," are not the variety of *Shanghaes* we have heard called "Prince Alberts," and affords one more instance, among many others, of the errors arising from imperfect nomenclature.]

BEEES.

"I bought a book on bees a few days since ('Milton'). Where are his hives to be procured? I had an unusual large swarm of bees on the 26th, from a hive of King's, and to-day the new swarm has sent out another swarm. Can you account for this? The first swarm was put into one of *Marriott's Cottage Hives*, and to all appearance the hive is quite full enough, and at the same time, the new swarm is the size of ordinary swarms. King's hive, I fear, will send out a cast, as the bees do not take to the drawers. I think they are too close in warm weather.—HONEY BEE."

[Milton's hives may be had in London at his honey-warehouse. The reason of your swarm sending out another a few days after being hived, was from two queens accompanying it from the parent stock.—J. B. P.]

HOUSEHOLD AFFAIRS.

BLACK BEETLE TRAP.

"Can any of your numerous readers inform me of a good bait for a Beetle trap? I mean the common house Beetle. I have a good trap formed by a common preserve-pot sunk in the kitchen-floor, into which the vermin tumble in considerable numbers, and are there drowned in some beer and water, which I find the most attractive liquid for these pests. But I seem to need a more powerfully attractive bait for them. The plan I have adopted, is to have the preserve-pot (which holds about a pint) sunk into the kitchen-floor, till its upper lip is about half-an-inch below the level of the floor; to this a lid is closely fitted, level with the floor, and thus the trap is only open during the night, when the lid is removed, and all is close and level during the day-time.—C. W. J."

[We are told that "as seasons change, tastes vary," even with Black Beetles. Sometimes they swarm to where treacle or similar sugary matters are come-at-able; whilst at other times nothing seems so attractive as cooked meat. On board-ship biscuit crumbs are their forage. Why not put some of all these foods into the trap? Any of our readers knowing any specially attractive bait for these black pests will oblige us by communicating the information.]

TO CORRESPONDENTS.

*** We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed "To the Editor of The Cottage Gardener, 2, Amen Corner, Paternoster Row, London."

WILLIAM ADAMS (C.).—We will ascertain all about his widow. The Postage Stamps came safe, and we are sure will be acknowledged most gratefully.

MR. CUTHILL (J. Husband).—His address is "Nurseryman, Camberwell, Surrey."

ANTS (Linda).—You will have seen what we have stated recently, and we have nothing fresh to add.

RUBARB WINE (W. A. L.).—The recipe is in our 99th number.

PASSIFLOEA CÆRULEA SEEDLINGS (C. W.).—We think the specimen sent is correct.

HOGG'S EDGING TILES.—We have had so many applications from correspondents respecting these tiles, that we have written to Mr. Hogg on the subject, and this is his reply:—"The manufactory of the Edging Tiles is confined to one place only, where I can depend on getting clay which will stand the frost, and am, therefore, at the mercy of one person. It is well known that tile works are closed during winter; and in spring, particularly of late years, since there has been such a demand for bricks, that the maker does not care to neglect his legitimate trade to make the tiles, and, consequently, I am obliged to wait his convenience, and thereby disappoint those who have sent orders for them. But if attention had been paid to the request I made in my prospectus, that all orders should be sent in early, as the tiles could only be made in summer, these disappointments would not have occurred. All the orders I have, were received late in the autumn, after the works were stopped, and, consequently, there were none on hand to supply them. I am not a tile maker, nor in any way connected with the trade, and cannot run the risk of having a large quantity of tiles made which may never be wanted. If parties, intending to lay down tiles in autumn, will send their orders in the summer, they will be supplied; but if not, they must abide any inconvenience that may arise from delay, as it is not a matter on which I am disposed to speculate."

NAMES OF PLANTS (T. W. Morgan).—No. 1 is *Eriophorum angustifolium*. No. 2. *Hesperis matronalis*, or *Dame's Violet*. (F. W. S.).—Your plant is the *Garden Valerian*, *Valeriana Phu.* (Ang).—Your plants are *Lantana crocea*, *Calceolaria Sultana*, and *Salvia Grahamii*. (*William Byrne*).—Plant your Plums and Pears at least fourteen feet apart against your wall. Your flower is *Hesperis matronalis purpureo plena*, or *Double Purple Rocket*. (J. W.).—*Ranunculus Asiaticus* badly bloomed.

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WEEKLY ALENDAR.

JUNE 29—JULY 5, 1854			WEATHER NEAR LONDON IN 1853.									
D	D		Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
29	Th	St. PETER.	29.745—29.654	71—50	S.W.	—	47 a 3	19 a 8	11 2	4	3 3	180
30	F	Buprestis biguttatus.	29.728—29.664	70—47	S.W.	04	48	18	11 19	5	3 15	181
1	S	Clubiona nutrix.	29.773—29.700	70—46	S.W.	22	49	18	11 a 35	6	3 26	182
2	SUN	3 SUNDAY AFTER TRINITY.	30.156—29.977	70—48	W.	—	49	18	11 48	7	3 38	183
3	M	Lycosa saccata.	30.237—30.163	70—49	W.	—	50	17	morn.	8	3 49	184
4	Tu	Panagæus erux major.	30.153—30.040	73—53	S.W.	—	51	17	0 2	9	4 0	185
5	W	Trechus humeralis.	30.019—29.924	74—55	S.W.	—	52	17	0 17	10	4 11	186

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 74.5° and 51.6° respectively. The greatest heat, 97°, occurred on the 5th in 1852; and the lowest cold, 37°, on the 4th in 1851. During the period 120 days were fine, and on 69 rain fell.

BRITISH WILD FLOWERS.

(Continued from page 169.)

ALYSSUM.—MADWORT.



GENERIC CHARACTER.—Calyx equal at the base, cup-shaped, deciduous; leaves egg-shaped, concave, uniform. Petals reversed-egg-shaped, entire, or slightly notched, flat, spreading, with short claws. Filaments about the length of the calyx, often furnished with a lateral tooth, or notch. Anthers of two roundish lobes. Germen orbicular, or elliptical, compressed. Style short. Stigma simple, small. Pouch orbicular, oval, or reversed-egg-shaped, laterally compressed, tipped with the style, of two cells; valves flattish, or tumid chiefly in the middle; partition membranous, of the same

shape and breadth. Seeds one or two in each cell, egg-shaped, compressed, rarely bordered; cotyledons accumbent.

ALYSSUM MARITIMUM: Sea, or Sweet Alyssum; Sea Madwort.

Description.—In warm situations it is a perennial, but in this country is usually annual. Stem much branched from the base, recumbent, leafy, though woody not very durable; and in gardens, where this plant is cultivated for the sake of its honey-scented flowers, it is generally treated as an annual. The herbage is hoary, or rather milky-green, with close-pressed silvery hairs. Leaves alternate, linear-lanceolate, tapering at the base. Flowers very abundant, in dense, tufted, or corymbose, clusters, much elongated when in fruit. Petals roundish, of a brilliant white; but in fading their claws, like the stamens, assume a violet hue. Pouch orbicular, smooth and polished, a little swollen, with one seed in each cell.

Time of flowering.—August and September.

Places where found.—On cliffs and banks near the sea. Very rare.

History.—This was considered a *Thlaspi*, by Dalechamp, Bauhin, and other early botanists, and Johnson, in his edition of "Gerarde's Herbal," gives two drawings of it, under that name, and as "White Treacle Mustard." It was first found growing wild in this country, near Aberdeen, by Professor W. Duncan; and at Budleigh Salterton, by Sir W. Hooker; but the Rev. J. Jervis says, that at the latter place it is not a native. It is found abundantly in Spain and other warm parts of Europe. Its generic name is derived from *a*, not, and *lyssa*, rage, on account of some of the species being considered effectual in allaying anger and other violent mental agitations. It has been called *Alyssum minimum*, and *A. balimifolium*, by some botanists; *Koniga maritima* by Brown; and *Glyce maritima* by Lindley.—(Smith. Withering. Johnson's Gerarde.)

THE PEA which comes first under our observation this week is one which has been many years in cultivation, but for some reason or other does not seem to have become so popular as its merits assure us it ought to have done. It is not, however, too late to bring it under the notice of the readers of this Journal, to whom we can recommend it as a very valuable variety.

MILFORD MARROW.

The plant is of a strong and robust habit of growth,

always with a single stem, attaining the height of four-and-a-half to five feet, and producing from twelve to sixteen pods on each. Pods almost always in pairs, and very rarely single, three-inches-and-three-quarters long, and three-quarters-of-an-inch wide. They do not become broad-backed, thick, or fleshy, but become rather shrivelled, and contain from six to seven very large peas, which are roundish and somewhat compressed, half-an-inch long, almost as much broad, and nine-twentieth's thick.

The seed was sown on the 5th of April, and the plants came into bloom on the 15th of June. On the 12th of July the pods were quite filled, and ready to gather. It is, therefore, as early as the *Early Green Marrow*.

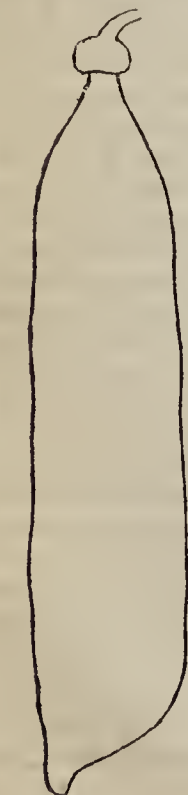
SPANISH DWARF.

SYNONYMES.—*Dwarf Fan*, *Dwarf Bog*, *Early Spanish Dwarf*.

This is a very old variety, which still maintains its position as a dwarf variety for small gardens, but it is one which we think may easily be dispensed with, particularly now that we have *Bishop's Long-podded* and *Burbidge's Eclipse*.

The plant is about a foot high, branching out on each side in the manner of a fan, and hence it is called the *Dwarf Fan*. The pods are either single or in pairs, from two to two-inches-and-a-half long, and about half-an-inch broad, terminating abruptly at the point, and containing from five to six rather large peas. There is a variety of this which is called the IMPROVED SPANISH DWARF, and grows fully nine inches taller than the old variety, but it possesses no particular merit to recommend it.

MILFORD MARROW. The *Spanish Dwarf* was sown on the 5th of April, bloomed on the 12th of June, and was fully podded on the 13th of July.



MILFORD MARROW.

BURBIDGE'S ECLIPSE.

SYNONYME.—*Stubbs' Dwarf*.

This may be classed among the valuable contributions which have been made to the list of Peas during the last few years. Unlike most of the dwarf varieties which preceded it, and which were all very indifferent bearers, this is a most productive variety, so that it is not its dwarf character alone which is its chief recommendation. For private gardens, or for the gardens of cottagers, we know of no Pea to surpass this and *Bishop's Long-podded*. Of *Beck's Gem* we have already spoken in very high terms; and where dwarf Peas only are grown, we should say, that a sowing of that variety to begin the season, followed by *Burbidge's Eclipse* or *Bishop's Long-podded*, sown at various periods throughout the season, would keep up a plentiful supply for any small establishment.

The plant is a robust grower, always with a simple stem, attaining the height of a foot-and-a-half to about two feet. Pods in pairs, rarely single, and from three inches to three-inches-and-a-quarter long, seven-tenths-of-an-inch broad, perfectly straight, and of equal width throughout, with a slight waving on the upper edge. They contain from five to seven peas, which are ovate, nine-twentieths-of-an-inch long, seven-twentieths broad, and the same in thickness.

The seed was sown on the 5th of April; plants bloomed on the 17th of June; and on the 13th of July they were fully podded.

This Pea was raised in the neighbourhood of Canterbury, by a person of the name of Stubbs, and hence called *Stubbs' Dwarf*, under which name we grew it for several years before it came out under that of *Burbidge's Eclipse*, and which was given to it by Mr. Burbidge, a nurseryman at Buckland, near Dover.

MATCHLESS MARROW.

This is a very good marrow Pea, but now surpassed by the improved varieties of the *Early Green Marrow*, of which we have already treated. It is, therefore, one of those which may easily be dispensed with. It possesses no qualities superior to that variety, and is not so early.

The plant is of a strong and robust habit of growth, sometimes with a branching, and sometimes with a simple stem, from five to six feet high. The pods are always in pairs, three inches long, about three-quarter's-of-an-inch wide, and perfectly straight. They contain, on an average, seven large peas, which are closely compressed together in the pod.

The seed was sown on the 5th of April; the plants bloomed on the 20th of June; and on the 13th of July the pods were fit to gather.

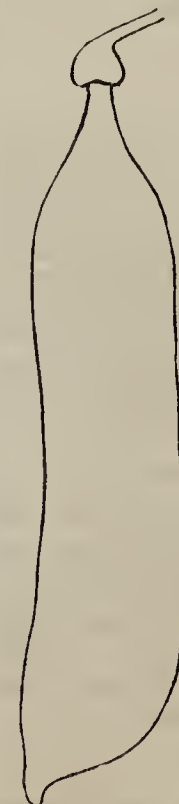
DWARF MARROW.

SYNONYME.—*Dwarf Marrowfat*.

The old *Dwarf Marrow* which did not grow above three feet or three-feet-and-a-half high, seems now to be lost, or to have assumed a different character to what it originally possessed, as we have not been able to discover, among all the collections we have seen growing,



MATCHLESS MARROW.



DWARF MARROW.

anything under that name, answering to the description of what we knew of the old *Dwarf Marrow*. That which is now grown under that name is a robust grower, from five to six feet high, and always with a simple stem. The pods begin to be produced at about three feet from the ground, and are continued at every successive joint to the summit, numbering, in all, about twelve on each plant. The pods are always single, rarely in pairs, about three-inches-and-a-half long, and three-quarters-of-an-inch broad, slightly curved on the upper side, somewhat flat, and closely filled, and containing, on an average, seven large peas.

The seed was sown on the 5th of April; the plants bloomed on the 22nd of June; and on the 13th of July the pods were ready to be gathered.

Though a good Pea, it is now far surpassed by many others which are in use at the same season, and may, therefore, be dispensed with. R. H.

(To be continued.)

BUSH FRUITS IN GENERAL.

UNDER this heading I would place the Black Currant, Red and White Currant, the Raspberry, and the Gooseberry; these are the principal. I cannot hope to tell any very "strange things" about them, but merely to throw a little light on their habits, as revealed farther than usual by the odd season we have undergone. I suppose, from the accounts which have come to hand from almost the four cardinal points, that three-fourths of the Black Currants over the kingdom have suffered in an unusual degree from the evil termed, in common language, "blight."

The Jumping term, blight, is not perfectly satisfactory in the present state of horticultural lore; people want a definite idea of what it really is, and from such a knowledge, as the only sure basis, to raise up some antagonism, if possible, against its recurrence. I do not, however, perceive anything of a very mysterious character in those Black Currants I have inspected; they are thoroughly infested with that class of Aphides which usually attack this shrub more or less; only, during the month of May, this year, in a most unusual degree. The fact is, that no fruit-tree suffers more from drought than this, more especially if the drought commence just when the greatest draw takes place on the energies of the bush, which is when the crop begins to be real berries.

I have watched the BLACK CURRANT closely for many years, not simply because it is a Currant, but because I have always felt a strong desire to ascertain, for myself, the peculiar habits of fruit-trees; for it may almost be affirmed that every tree we cultivate has a peculiarity of this kind, albeit, most other points in common. I find that this Currant will bear almost any depth of mulching, and since almost anything containing and giving out moisture as a medium will prove of service, and that the root of the Black Currant likes to be cool, why it follows that an extreme drought in spring may be overcome by a provision of the kind. I, this spring, piled a heap of half-rotten weeds, nine inches in depth, round a bush, and I was much gratified through the spring to find this bush looking more vigorous than all the rest of the row; the fruit, too, is healthier and greener, and the whole bush shows plain symptoms of approval of this course. I have before observed in this work, that the Black Currant shows, at all times, a marked disposition to root upwards; I know of no fruit-

tree like it in this respect. Irrigation would be the thing for this bush; but although so useful a fruit, few care to push its culture so far. Indeed, without a steady degree of moisture at the root there can be no certainty in the crop.

As to RED and WHITE CURRANTS, I do not know how it fares with the country in general, but we have a most splendid crop, and the character of the bushes at once points unmistakably to the fact of a past season of drought; for although here exceedingly liable to make breast-wood which requires dubbing, yet this year they need nothing of the kind. The fact is, they in the main enjoy that condition of air and soil which is injurious to the Black Currant. The Aphides have been at a minimum point with these, and they look delightfully. Those who have bushes overcharged with growing breast-wood should set the dubbing shears to work, removing all but about four inches of the base; or, in other words, leaving as much foliage as will allow the sun to peep at the branches, but not to shine on them.

THE RASPBERRY.—Those who have studied this useful fruit in the woods, growing wild, will have perceived much identity of habit between it and the Black Currant. It grows wild in the woods here; and at the very back of my cottage is a wood, the soil of which is black and peaty—in fact, rotten sphagnum and the coarser grasses, which delight in a moist soil; and here I have known the wild Raspberry to throw up canes seven or eight feet in height. At the same time, it is fair to state, that I have never known fruit produced fit for the table. Now, this wood is a continuous shade, and the application of the fact is this: that the soil, at least, is congenial; all that is wanting is more light. But if the Raspberry can endure and enjoy such a damp soil without sunshine, and with, by consequence, a minimum amount of elaboration, how much more is moisture at the root necessary when they are under high culture, and exposed to all sunshine? Watering, then, is requisite to this bush, although seldom practised; and many of the failures of which we hear are attributable to drought, more than the kind of soil they are growing in. But mulching is here of much importance, especially if the soil is not qualified to retain a permanency of moisture. As with the Black Currant, almost anything will be better than nothing; coarse weeds, the grass from lawns, pond weeds, &c., may all be blended; and I recommend what I am constantly practising, that these materials receive a kind of charring process to destroy all seeds, which otherwise cause unnecessary labour in the end. We kindle a good fire of brushwood, hedge-dubbings, &c., and when we get a good heap of red-hot material—say a small cartload in bulk—we pile the accumulated mass of weeds, &c., over the fire, and immediately soil it over nearly six inches in thickness. We have a mass of this kind within fifty yards of where I write, which has been smouldering for a fortnight; it will now be broken up, and the weed-casing will come out reeking like woollen rags out of a cauldron. The charred weeds at the bottom we riddle, and use as drainage to plants, and the remainder, weeds, ashes, &c., will be reserved for seed-beds, or to work up in planting the Brocoli tribes to check their clubbing.

Those who expect fine crops in the ensuing year must take care to thin the suckers now, leaving only from four to five to each. Nurserymen who have a new kind, which they are selling at five pounds the hundred, are justified in leaving a score or two of suckers to a stool; but we shall not find our exhibition men thus dealing with this or any other fruit. A grain of common sense, or fair consideration, will show any one that twelve suckers will detract more from a given volume of soil than five or six; and that, too, from a point whence the fruiting shoots must derive their nourishment.

GOOSEBERRIES.—We have been sadly pestered with the grub this summer; we have good crops, but the labour to keep these down, or for destroying them, really almost disheartens one. I have tried some recipes, but find shaking the bushes as good a plan as any, after all. We dig a hole beside the bush, and after giving each bush three or four unmistakable shakes, the surface of the soil is raked into the hole, stamped upon, and buried. By such means we have almost entirely got rid of these pests, and now, I rejoice to think I did not throw away time in the concocting and application of nostrums; although I believe that Foxglove-water may be resorted to with good effect. However, in these parts, another pest of the Gooseberry has this season got fearfully ahead, and bids fair, like the American blight or Apple bug, to exterminate many trees. At a seat called Vale Royal, near here, the gardener last year informed me that one-half of his bushes were killed outright by the Red Spider; and indeed it is a serious pest. No doubt peculiarity of seasons has accelerated the extent of the depredations; and so it is with other fruits. I have known Apples on dry soils go down for a year or two together under similar visitations.

I have used sulphur in more ways than one, and everybody knows that it is the best remedy, in one form or other, for the Red Spider at present known. Having myself suffered from that sad pest of the Vine, the *Oidium Tuckeri*, or Vine mildew, I have been compelled to resort to sulphur, and have preferred using Monsieur Grison's recipe, made known by him some three or four years since, and called "Hydro-sulphated." This we have tried on the Gooseberries infected with the Red Spider, and after two doses, I feel pretty well assured that we have extirpated it, or nearly so. My clever coadjutor, Mr. Fish, has saved me the necessity of a repetition on this matter, by showing how this is made in THE COTTAGE GARDENER of June 8th, p. 174.

I find that the mulching system is of excellent service with the Gooseberry; not but that it may be grown very fairly without, but that the fruit may be produced in much greater abundance by a higher course of culture, the bushes sustained in a more healthy and permanent way; and, moreover, that sort of course persisted in, on rational principles, must, like all other cultural matters of a well ascertained character, prove more remunerative.

It is not so much a question of manorial matters as of labour; as I before observed, it is not mere richness in the material, but the providing a surface medium at once progressively nourishing, and which is capable of affording a permanency of moisture to the roots through all their needs. It is all very right to philosophise about non-conductors, ground-heat, &c., with things from hot climates; but the question of permanency of moisture in dry weather through a medium qualified to promote the multiplication and thorough sustenance of fibres, is a question of more importance still with our hardier fruits. R. ERRINGTON.

DISA GRANDIFLORA AND THE PEACOCK IRIS.

If I were asked which is the most popular and the scarcest plant in Europe, I should say, decidedly the Peacock Iris, for it is in everybody's mouth; no seed-shop in London, of any note, is without it at the proper time; and you might order a bushel of the roots, or bulbs, from Haarlem, like so many *Van Thol* Tulips; but it is more than questionable if there is a single individual in Europe who knows the plant, or has ever seen it!

If, on the contrary, you were asked which is the most difficult plant in Europe to grow, probably you could not tell; but any of our great gardeners who tried it, would have little hesitation in saying that *Disa grandiflora*

had baffled the whole strength and ingenuity of British gardening for the last thirty years. I have, therefore, the greater pleasure in being able to state, on the highest authority, that this *Disa grandiflora* is about as easy to manage, and to get into flower, as the blue African Lily, *Agapanthus umbellatus*; that the two are much of the same nature, and that the greatest difference between them, in that respect, lies in the greater bodily strength, so to speak, of the blue Lily.

If you were to ask me which of all the Cape plants I consider the most handsome, I should, perhaps, be a little puzzled; but I would certainly say that *Disa grandiflora* is amongst the handsomest bulbs which I know of from the Cape, though not strictly a bulb. If we say that *Crinum Forbesianum*, from the banks of the Delagoa river (would we had it from hence) is the most superbly beautiful of all African bulbs known to us, we may, with equal justice, affirm that *Disa grandiflora* is the most lovingly-beautiful flower of its race which we have yet seen from any part of the world; that is, the race of ground Orchids, or terrestrial Orchidaceæ, as they used to say. Surely, then, few would grudge five shillings to see this beautiful plant in perfection of bloom, as I expect to see it very soon; but, indeed, it may be seen in this state for five farthings at the July show of the Horticultural Society at Chiswick; the admission tickets cost five shillings, and if they are divided into farthings, less than what I say will be the cost of seeing the one plant, as so many other things will be seen the same day. The plant will have four spikes of bloom from out of a great number of side-shoots, which it made since last September. I shall not say who will exhibit this plant till after the show, when I shall be able to give such a minute description of its whole treatment, all the year round, as will enable anyone, who can manage a Cape plant, to grow it without fear of any mishap whatever; which is some consolation to my own vanity, for I was one of a knot of practicals who were as completely beaten by the *Disa*, as the Emperor of Russia is already by anticipation; we could not keep the plant alive any how. The reason was, we did not know "how," but all shall know it soon; meantime, the only figure of it to which I can refer the reader is that in the "Botanical Register" for 1825. There is nothing more on its history or cultivation in our literature, as far as I know, except what has already—I believe last year—appeared in THE COTTAGE GARDENER.

THE PEACOCK IRIS.

It now appears that this has been as great a mystery in botany, and for as great a term of years, as the *Disa grandiflora* has been in practical gardening. The whole living weight of botany in Europe, Asia, Africa, and America, has been on the wrong scent for this plant more than for the sixty years last past; no wonder, therefore, that the small fry and fraction of our country gardeners, who had any feelings for bulb culture, no less than the masters of the trade in bulbs, should have been so far led astray as to have, each section of them, for themselves, their own peculiar root for a Peacock Iris, when the probability is, that there is none among us who had ever seen the plant at all.

Two of the gentlemen who first led the world astray for this plant are still amongst us—at least, I know one of them is, but it would not be prudent to mention names when Europe is in arms. The story is too long for a summer day; but I may say that the Peacock Iris has been lost here, and on the Continent, for more than forty years; that no traveller after plants has crossed the country where it is supposed to grow during these forty years—I mean the north-west coast of our Capo territory, from Cape Town to the Orango River. That conjecture is founded on another conjecture, which is, that Masson, who collected for Kew, was the only traveller whoever

sent home the Peacock Iris, and that many plants mentioned by him have never been since heard of. *Nerine marginata* was found by Masson on that route, and by no other collector since. Jacquin is the only author who figured *Nerine marginata*; he, also, was the first who figured the *Peacock Iris*, and the two plates are not far apart in the same work, "Plantarum rariorum Horti Cæsarei Schönbrunnensis," a folio work, in four volumes, completed in 1804. This, also, is presumptive evidence that the Peacock Iris is a native of the north-west coast of the Cape colony; that it, and *Nerine marginata*, was sent to Jacquin at the same time; that both flowered with him the same year, and that he figured them together; but the Peacock Iris was described previously, without a figure, by Linnæus. It was figured in London about the same time by Andrews, in his "Botanists' Repository," from a plant sent to Mr. Hibbert by Masson, who also sent it to Kew at the same time. It was sent home several times before then (1797), according to a memorandum by Andrews, which says, "its whole life in Europe rarely exceeds a single year." My own belief is, that the plant from which Andrews took his figure was the last of the Peacock Iris that flowered in England; and that the plant in the Schönbrunn Garden, from which Jacquin took his plate, was soon afterwards lost in Germany; and lastly, that there is not a single individual alive now who has ever seen the Peacock Iris growing. All the plants that are figured in the "Botanical Magazine," for the Peacock Iris, are only different kinds of *Moraa*, otherwise called *Vieusseuvia*, and all the Peacock Irises of the seed-trade are ditto, and nothing more. I thought all along that I knew the true Peacock Iris; and I believe my plant, which I had from the late Mr. Young of Taunton, was never figured. Mr. Young had his roots direct from the Cape; but I am not aware that any collector since Masson's time explored the sea-coast from Cape Town to the Orange River. At all events, we never had the true Peacock Iris home since Masson's time.

These inquiries were made in consequence of the following letter from a correspondent:—

"I am able now to send you the reference to *Iris pavonia*, of which I spoke in a communication forwarded to you last week. The book is 'Andrews' Botanical Repository,' plate 364. If you cannot obtain access to the book, I shall be glad to send the extract. He refers to 'Jacquin's Collectanea,' and, I think, to 'Willdenow's Species Plantarum,' pl. 1. 238, for descriptions. I am afraid you will think I trouble you much about this small bulb, but I have lately so frequently seen it stated that it is to be purchased at any of the seed-shops, and this by such respectable authorities, that I wish to point out the confusion between the true *I. pavonia* and *Vieusseuvia glaucopsis*. I cannot get it anywhere, whatever others may do; and Andrews says, 'its whole life in Europe rarely exceeds a single year;' so there is error somewhere. "A. R.

"The confusion is evident, from a reference to London's 'Hortus Britannicus,' voce *Vieusseuvia*. The bulb I want is there called *Vieusseuvia pavonica*."

All the surmises arising out of the inquiry are mine; but for the facts I can vouch, as I had assistance from the highest botanical authority in England in searching them out; and now I shall give a fireside description of the true Peacock Iris, and I hope some one will lay a train by which the plant, and the Amaryllis with the red line all round the edges of the leaf (*Nerine marginata*) may be got from the north-west coast of the Cape of Good Hope. The great purple and crimson Lily (*Crinum Forbesianum*) from the banks of the Delagoa River, on the other side of the colony, is likewise a great desideratum in our collections.

The roots, or bulbs, of the Peacock Iris are quite black, of an oblong shape, and rather larger than any of the

Ixia bulbs; the leaves are narrow, and from a foot to fifteen inches long; they bend over like the tail-feathers of a fowl; the scape, or flower-stem, has two or three joints, with a knee at each, making it look zig-zag fashion; the ground colour of the flower all over is a dull reddish-brown, rather darker than is meant by *lateritia*, or brick colour. The greenish-blue spots, from which it is named, are quite as intense and brilliant as those in the feathers of the Peacock. Our flower painters seem to have lost the secret of giving this metallic lustre without mixing something which destroys the rest of the colour in a few years; but in Jacquin's plates all the natural colours are as perfectly seen to this day as they were in the flowers at the time. The nearest flower that I can liken it to in size, shape, and substance, is *Cypella Herberti*, only that the Iris is of a duller ground colour. Some of the *Moraas* that have gone by the name of Peacock Iris, particularly the large white ones, are more handsome than the real Iris, all except the peacock spots; but then the contrast between the spots and the white ground in *Moraas* is far better than that between the spots and the dull-red ground of the true Peacock Iris.

D. BEATON.

THE SPOT ON PELARGONIUMS.

THIS evil has been more than usually prevalent this spring. I had seen little of it for a number of years, but this season I have several nice plants much injured in their appearance. Some of my acquaintances, and good growers in general, have suffered rather severely. Many and different inquiries have been made respecting it, which I will allude to in answer to the following questions, hoping that some one more experienced may be able to suggest something more definite.

1. What is the spot? What is it like? Some people are so morbid, that they believe they either have, or have had, all the diseases that flesh is heir to. Works on domestic medicine may be useful in many cases; from all such hypocondriasts they should be carefully sealed up. It matters not what disease they read about, they are sure to have all the symptoms. Just so with some of our floricultural friends that will look so much to the black side of things, that their continued honourable perseverance I have looked upon as little less than a miracle. Just imagine a most worthy fellow, possessing some nice little plants, because they do not resemble some neighbour's, who has cultivated his differently, and for a different purpose, fretting and waking when he should be sleeping, and wondering if he can have got this wondrous *spot*, or not! Old growers, who have never seen this pest, may be considered fortunate in their ignorance, and as successful in their culture as my worthy friend, who beat everybody for many years in growing Cucumbers, and yet had never seen a green fly upon them. Those who have really got the *spot* on a plant, will be in no danger of not knowing what they have got. They who have never seen it, or are uncertain about it, may form a very good idea of the appearance it presents if they could conceive of a quantity of lead shot, from the size of pin-heads to that of small peas, heated as much as possible, and then retained, in a scattered manner, on the surface of the leaf, until the parts on which they rested were heated and scalded through. The petiole, or footstalk, of the leaf is frequently marked in a similar manner, and in very bad cases the young shoots are also similarly affected. It generally makes its appearance first on the oldest and most succulent leaves, and from small dots continues to spread until the leaves become unsightly; and in extreme cases, fine flowers may be seen on plants pretty well as naked as a fowl would be that had lost most of its feathers.

2. Is the spot infectious? Some say, Yes; and would

as soon allow one spotted plant to remain in their collection as a farmer would permit a diseased sheep to taint his flock. My own limited experience does not lead me to this conclusion. I think those plants will only be affected that have been individually submitted to the predisposing causes. True, it may often happen that after one plant becomes spotted, others in its vicinity will become spotted likewise; but that is no proof of infection, though it may be a reminder that all these have been subjected to unfavourable influences. That amid such spotted plants there should be some vigorous and healthy, would not be conclusive evidence either way, as the natural constitution of the plant might be stronger to resist the taint; or, as we believe, that strength of constitution might be able to resist the deleterious influences that injured others; or, what is as likely, these influences were not brought to bear upon them in a similar manner, as a very little difference in the treatment, even as respects dryness and moisture, would make a great difference in the result. To make sure, however, and to act on the safe side, if the plant that gave the first signs of the spot was of no value, I would counsel getting rid of it; if valuable and desirable, I would not do so, but keep it a little by itself.

3. Does the disease become inherent and constitutional in the plant? Here, again, many say, Yes! and if so, the keeping of such plants, or propagating young plants from them, would merely be doing what in us lay to propagate a disease. Unless the plants are much injured indeed, so as to affect the stems as well as the leaves, I should be under no alarm of the disease spreading; in other words, I do not consider the disease inherent and constitutional, because I have found that plants that were spotted one year were free from spot on the following year; and that the cuttings taken from them were also clean, green, and healthy. This result must be attributed to the disease existing chiefly in the foliage; and when that is wholly removed, and the plants are cut down, the new leaves and shoots that are formed will give new and healthy vigour to the plants. Here, however, as in the last case, merely as a security, if I had healthy plants of the same kinds as these diseased, I would throw the latter away, and grow from the former. But unless the shoots were injured very much, I should be loathe to throw away a good and scarce variety. In general cases, I believe that the spot in the plants of this year need not be seen on the same plants next year.

4. What is the cause of the spot? Here the theories are endless. Every grower, as he has a perfect right to do, assigning what, no doubt, appears to himself a satisfactory reason. I wish I could here do the same. The following is what experience and observation have led me to consider as the causes, but I by no means consider them fully satisfactory. The main cause I attribute to a close, cold, stagnant, moist atmosphere, especially in winter. The injurious influence is farther increased, when in these circumstances the soil about the roots is wet rather than dry; and again, these influences are farther increased when the plants had been previously growing in a highish average temperature, with only a small amount of sunshine; while, after this cooling and damping process, the sun shines rather bright for a few days, and we hastily think that the plants will be so fond of it after their cooling, that we never dream of giving them the slightest shade. Hence the difficulty of keeping the tenderer of the Pelargonium section, fancy, or florist, in cold pits, if anything is attempted beyond *keeping* them; and the failures that then must be calculated on at times. Anything like *growing* in the first months of winter, by keeping them warm and closish, will receive a sad change when they must be shut up to keep out the cold. In such cases, much may be done by preventing *growth* when the

weather is mild, by abundance of air, and comparative dryness at the roots. But then these would be circumstances different from what we have supposed to be predisposing causes. Let us glance at an imaginary case, the parallels for which may not infrequently be found. These Geraniums, after standing, as was quite right, in the sun until the wood has hardened, giving them but little water in the meantime, were cut down at the end of July, were placed in a shady place, and a spare sash thrown over them, until the spurs and horns left pushed out young shoots for their buds. Then they were taken to the potting-shed, the old earth shaken from the roots, these roots pruned in a little if they wanted it, and then potted in fresh soil, and very likely in pots a size smaller than they stood in before. The owner wishes to get them forward, and keeps the plants rather close and moist in the warm months of autumn. They are transferred in good time to the greenhouse, and the same means of getting them to grow are persevered with. The grower has been told that 45° is the lowest the plants should see at night, and November being warm, the natural and artificial climate combined is generally nearer 50° to 55° at night, while the days, though warm, are but sparingly brightened by sunshine. The plants are rather extra watered as a matter of course, and leaves get large and fine, and as the old saying has it, "as green as Leeks." In December and January a sudden change comes, the weather becomes misty and cold, the plants are saturated with moisture, all the lights are kept shut, and as visions of economy in fuel, combined with inattention, obtrude upon the scene, the plants are considered perfectly safe if the thermometer is only a little above freezing point—nothing is thought of the danger of extremes. No account is taken of the amount of watery fluid stuffed into the plant in warmer dull weather, and which now can neither undergo elaboration, nor yet be got rid of by perspiration; and when, after a week, or a month, or a number of days of such treatment, in such circumstances, the mist having disappeared, the cold black frosts having said, for a time, good-bye, and the sun having once more appeared strong and bright in the heavens, not a doubt is entertained but these squashy leaves would rejoice in his light, and hold up their fronts as boldly as if they had never luxuriated save in his presence, and had not been starved and swilled by turns in his absence; and great is the outcry when indignant Phœbus allows his rays to penetrate and seald all the softest watery places, and thus *prints* his lessons as a *beware* and *attend*.

The presence of the sun, in such circumstances, though it accelerates, is not indispensably necessary to such an issue. Continued moisture at the roots, with a stagnant, moist, cold atmosphere around them, will, from the debility thus occasioned, alone predispose this disease in the leaves; and that will be only accelerated in its manifestation when, from such coldness and moisture, the plants are hastily transferred, or allowed to remain in an atmosphere as kiln-dried as it was at saturation point before. How often are glasses shut in a mild day in winter, when the exciting influence of a moist atmosphere should have been counteracted with a free current of air; while the same glasses are freely opened in a sunny, frosty day, though the air is dry enough to crack and scorch the lips and cheeks of the hardiest beauty. It never strikes many of us that there could be any analogy in such circumstances between our own skin and the leaves of tender plants.

5. What are the palliatives for, and the preventions necessary against, the disease? First, as respects palliatives, there can be little done with large plants that are blooming early. Nothing remains but to remove the worst leaves after they get very unsightly; and as soon as the flowers begin to fade, set the plants to dry in the sun, and prune back earlier than usual, thus get-

ting rid at once of all the spotted foliage. This, of course, will be followed only by those who do not consider the disease to be constitutional to the plant. No means that I have heard of will ever make a spotted leaf green again. Young plants, that are not expected to bloom for a month or two, may be *grown out* of the spot. Almost every affected leaf should be removed at once. If the plants are kept rather close during the day, and with air at night, shaded or syringed during sunshine, to prevent a too rapid perspiration, young foliage will soon be formed; and unless the smaller leaves left had previously been affected, there will be little manifestation of it on these young plants. A check to healthy growth was the predisposing cause, and an encouragement to free and active growth must now be resorted to, to get rid of its appearance. A highish temperature during the day, a cooler and airier atmosphere at night, will best promote this object. It would be of little use resorting to such a palliative until gentle April had come.

Secondly, preventing the manifestation of the disease may be gathered from what has already been said. In one word, it must be accomplished by attending to all the points of good culture, and especially guarding against sudden extremes of heat and cold, moisture and dryness, and more particularly guarding against a great degree of cold visiting the plants while the roots are soaked with water, and the atmosphere not far from the dew point. A number of our friends contrive to grow these plants by keeping them, for the most of the winter, in cold pits and frames, where they can apply no artificial *dry* heat; and where they succeed well, as they often do, so much greater is the honour. From such we have numberless inquiries as respects this very subject, and the advice we would give is simply this: Get your plants potted as early as you can, and use pots small rather than otherwise, and soil light rather than rich, and grow the plants pretty freely until the end of October, when the pots will be pretty well filled with roots. From that time, until the end of February, be more anxious to *keep* your plants than to *grow* them. Give them as much air as possible in mild weather, and as little water at the roots as will just keep the leaves from flagging. If a bright sun should come with mild weather, expose your plants as much as possible; but even then be careful of watering overmuch. If the foliage seems distressed, and on examining the soil you find there is still moisture about it, just lessen evaporation from the foliage by *dew*ing the leaves with the syringe, taking care to do it as gently as not to damp the place. If sunny days come, attended with a keen, dry, frosty air, give but little air, repeat the dewing process; the leaves will not be weakened in such circumstances by a little heat—sun-heat, for short intervals, will not draw the plants, and then, with a little air behind, the beams of the sun will dry and make all comfortable inside. If the plants show extra signs of suffering, prefer a little shade to opening the lights in such circumstances. By following this plan the plants will be stiff and hardy, scarcely larger on the first day of March than they were on the first day of November; but the leaves, though small, will be firm and tough, instead of soft and squasy. By the end of February, advantage may be taken of fine days to give the plants an impetus to grow, as long, dull weather after March sets in does not often dangerously trouble us. By April, the plants may be shifted, if desirable; if not, manure-water should be given; and shifted or not shifted, that manure-water communicated after the flower-buds are peeping will give you fine trusses of bloom, accompanied with small, healthy foliage, instead of large leaves and small trusses.

I need not mention that a similar treatment will be requisite in greenhouses, or Geranium houses, but the

difficulty will be greatly lessened, as the furnace enables us to avoid all extremes of temperature, and of moisture and dryness in the atmosphere. For instance, in continued muggy weather, we have no resource in a cold pit, except slipping in a hot-water greybeard, or some hot bricks, or large lumps of unslacked lime; but a small fire would at once dissipate the mist, and promote circulation in the greenhouse. The mere care that is taken of the watering-pot, however, during winter, the less the likelihood of Mr. Spot appearing, even though the average temperature should be rather low at times. The keeping Geranium plants, those not actually blooming, I mean, rather dry in winter and spring, is the great main secret of successful culture. The next is giving them all the air possible, consistent with an atmosphere not too cold nor too moist. From 43° to 48° may be considered a fair average temperature for such plants at night. The Fancies should not remain long below 45°, though a night or two at a time a little lower will do them no harm. If from some of the most successful exhibitors of these plants, whether Fancies or the old florist kinds, you could learn the real means how they obtained such masses of bloom, with just enough of healthy foliage to act as a pleasant counterfoil, they would tell you that their plants get but little of the water-pail until the flower-buds appeared. My neighbour, Mr. Busby, has some nice, small, stubby plants this season, smothered with bloom, and not the semblance of a spot on them. I know that he would tell you that airiness and comparative coolness and dryness in winter were the main elements of success.

R. FISHER.

EXHIBITIONS OF PLANTS, FLOWERS, FRUITS, AND VEGETABLES.

For more than thirty years I have watched, with great interest, the progress of exhibitions for prizes of the productions of the garden. I have been an exhibitor myself, and I may venture to say a successful one, and have been on committees of management, and have also filled the office of censor, or judge, repeatedly during that long period. As a matter of course, I have seen many things to approve of in management, and too many to condemn.

There can be no doubt that the emulation and desire to excel at these exhibitions has had a powerful tendency to improve the qualities of the horticultural and floral productions of the garden; and, therefore, it follows that exhibitions are desirable, and worthy of being supported and encouraged by the public, and have been so to a very great extent, and would be still more so if properly conducted.

In order to bring about such a consummation, "devoutly to be wished" by all lovers of the garden, I purpose, in the following brief remarks, to point out the first things that a committee of management ought to consider before establishing a Horticultural and Floral Society. These considerations will show why certain societies of this kind have failed, or, at least, have not succeeded to that extent their sanguine projectors have anticipated. I think this idea of showing what a society should do, will be less invidious than mentioning the names of any societies, who, having acted upon unwise or unfitting principles, have failed in consequence.

The first consideration requiring the attention of the individuals wishing to form such a society is this:—Are there, within a circle of ten, or, at the utmost, fifteen miles of the place of exhibition, a sufficient number of influential and, I may say, patriotic gentlemen that would together subscribe a sufficient annual income to enable the committee to offer respectable prizes over and above the incidental expenses? This annual in-

come is an essential for success; unless it can be had and depended upon, the society will not prosper, but be a source of heart-aching anxiety to the managers. Too many depend upon the admission money at the doors; a very precarious and uncertain source of income. A wet day, or some other attraction, such, for instance, as the launch of the Prince Albert ship, which completely spoiled the Chiswick Show, which, unfortunately, had been appointed on the same day. I cannot too strongly insist upon the necessity of being independent of such a precarious source of income. Better by far never attempt to form a society for such purposes, than attempt to start it without a sufficient number of annual subscribers.

Having, then, obtained a sufficient income by this certain means, the next important point is to obtain a goodly number of exhibitors. The good spirit of emulation must be evoked, and good prizes must be offered; this is also an essential. No amateur gentleman's gardener, or cottager, will exhibit without at least a decent prize in prospect. Some committee men I have heard say, "There is the honour;" but empty honour will not pay the expense of carrying the articles to the place, nor cover the extra labour and material used in producing superior articles. My doctrine is, the better the prizes are that are offered, the better will be the exhibition. Small prizes never yet produced a good show. Then, again, the subscribers wish naturally to see something for their money. They expect to see finer fruits, better grown plants and flowers, and finer vegetables than they have at home, or they will soon tire of subscribing to, or coming to see, the exhibition.

These two points act upon each other; the more liberal the prizes are the greater will be the competition, and, consequently, the finer in quality will be the articles exhibited; and the more excellent the show is, the greater will be the attraction of it to the public; and, consequently, *vice versa*, the less the prizes are, the poorer will be the articles exhibited, and then the public will soon fail to support such a poor show.

I have, I trust, made these two points evident, namely, that every Horticultural and Floricultural Society should first secure a sufficient income to afford good prizes, and then to offer them to the exhibitors freely and liberally.

There is a good old English proverb, which is this, "Short reckonings make long friends." Now with a sufficient purse the committee can and ought to pay their prizes immediately after they are adjudged. This, however, is only a hint to be acted upon according to circumstances.

The next important point is the choice of competent, honest judges, and having made that choice, for all parties, whether subscribers, officers, or exhibitors, to abide by their decision. This is a rule that, like that of the Medes and Persians, altereth not. Their decision must in all cases be final. If some glaring misjudgment should be apparent, then let that judge, or those judges, never be appointed to that high and honourable office again; but again, I say, let the present decision be final. To attempt, to change, or alter, would only lead to dissatisfaction and confusion on all sides. If the prize is adjudged to an exhibitor, he will not like to have it taken from him, and given to his rival competitor; and the one that, perhaps, ought to have had it, will then cry out loudly against the award. Both these parties would be quiet, if not satisfied, when they knew there was a rule that the awards by the judges cannot be altered.

T. APPLEBY.

(To be continued.)

HAZLEWOOD HALL.

THE SEAT OF THE RIGHT HONOURABLE LORD ROKEBY.

THIS beautiful seat is about three miles from Watford, and is pleasantly situated on a rising ground, with a narrow valley in front, and a gentle hill beyond. I was very much pleased with the gardening matters there, and, on a visit about the first week in May last, I took a few notes, or "jottings," which I think will be interesting and useful to the readers of THE COTTAGE GARDENER.

Lady Rokeby, like Lady Middleton, makes her flower-garden her study and delight. I was given to understand, the plan and arranging it are her ladyship's own designs; and certainly, I think, the place reflects great credit upon her taste. I wish Mr. Beaton would, or could, go and see it when in full flower, about August next; I am pretty certain he would find some ideas in the bedding system new and beautiful even to him. This flower-garden, with its accompanying lawn, grass terraces, rosary, &c., occupies, I should guess, about three acres. Standing on the elevated lawn in front of the mansion you have the garden laid out like a map before you, occupying the valley and rising part of the opposite hill, bounded by a plantation, and divided from a fruit-garden at the upper part of the valley by an evergreen fence or Laurel hedge, and from the park at the lower end by a wire fence. In the centre of the flower-garden is a circular ornamental basin of water, with appropriate figures, from which jets of water play. A broad, general walk crosses through all the beds, leading up to a rose-covered arbour. On each side of this walk there are placed, at intervals, square slate boxes, containing some handsome specimens of standard Sweet Bays and Portugal Laurels. These give a character to the scene by taking away the flat monotonous character of the flower-beds. Lady Rokeby also makes use of the Irish Yew, and other upright-growing coniferæ for the same purpose. I noted a novel thing in that way, and that was planting round these dark Yews a dense mass of the broad Silver-striped Grass, a common thing in most gardens, and usually grown on the borders only. The light shades of this grass contrasted beautifully with the dark foliage of the Yews. The flower-beds are edged with tiles, with gravel walks between them—a system much to be preferred to having the beds on turf. These edging-tiles, made of clay and burnt, are far from perfection. I understand most of the manufacturers had been applied to, and none could furnish one possessing the necessary qualities of neatness and strength. Surely this useful article may be manufactured, combining elegance of design, occupying small space, and yet sufficiently strong to withstand the weather and any slight blow or weight that may come against them. The Roses here are planted on narrow, long, raised beds, the sides of which are turfed; they are low bushes, which, when in bloom, must be beautiful by being brought so near to the eye. I was much amused by a brood of young ducks that were running along these beds, hunting eagerly for grubs, slugs, and worms. Mr. Urquhart, the gardener, informed me that they kept the beds quite clear of these destructive vermin without at all injuring his flowers. There is a very fair collection of Coniferæ, but, as yet, they are young. The Taxodiums had passed through the winter unscathed, as had also the Cryptomerias; Deodars had suffered a little from the frost, on the 24th of April, but nothing of any consequence. Two fine specimens of *Cupressus Lambertiana* stood near the entrance to the flower-garden; one of these was slightly injured, and the other was killed! I have often noticed the same circumstance in many species of trees, some specimens appearing to be much more hardy than others. I think only such hardier specimens should

be propagated from, we should then have such hardy fellows as would not care for, or be injured by, ordinary winters. Climbing Roses have been introduced largely into the floral department at Hazlewood. They are planted and trained to a half-circular arrangement of iron trellises extending on each side of the arbour alluded to above. Standing in front of this elegant arbour the whole floral garden scene is seen. The flower beds near the standard Bays, &c., intermixed, the green bank opposite rising up to a platform, on which the beautiful mansion, with its conservatory and greenhouse, is placed, forming altogether a *coup d'œil* which must be seen to be understood and enjoyed.

Passing through the gate at the end of the Laurel hedge, you come suddenly upon a range of Vineries; the Vines had been taken up and replaced, in consequence of some alterations, but had been done so carefully, that they had not stopped their growth at all. I saw my friend, Mr. Urquhart, the gardener, had begun his old game of growing Vines in pots. Few men understand this particular Vine-culture better than he does, as was proved repeatedly when he was manager of the gardens belonging to Lord Cottenham, at Windsor. Whoever visits these gardens two or three years hence will find, if I am not much mistaken, as fine Grapes as any in the country.

As the ground is sloping in front of these Vineries, it has enabled him to make an excellent border some fifteen feet wide, and on the outside of it is a low wall, built with flint stone, separating the border from the wall. This wall is about two feet high, and by thus elevating the border the roots of the Vines are kept dry and healthy, and will no doubt be able to throw health and vigour into the shoots inside.

At the end of this range of Vineries there is a tolerably-sized Peach-house. The trees inside had been taken up off the walls in another part of the garden, and planted only the November previously, yet they had on them a very fair sprinkling of fruit and healthy foliage. The late frosts had not done much mischief here. I observed a fair crop of Plums and Apricots on such old trees as have been left on the walls.

These gardens have been, and are, undergoing a thorough renovation, and when all the alterations are completed, they will be, according to their size, as good as any in the kingdom. There are some fine nooks for rockeries, root-houses, fernery, &c., which will, no doubt, some time, be devoted to these interesting objects.

T. APPLEBY.

VEGETABLES GENERALLY, AND THEIR THINNING.

It has been often and justly observed, that there is no garden in the United Kingdom like "Covent Garden," for the quantity and quality of its produce; hence, cultivators from distant parts of the country are usually astonished at the abundance and good quality of things there exhibited; for it matters not if the press have been detailing losses in the Potato crop by disease, amounting almost to total annihilation, and while others are lamenting that in whole districts the mildew has destroyed all the Grapes, or the hot weather the Pea and other produce, the cursory observer sees no lack of these things in Covent Garden, and but very little, if any, tokens of the disease they are complained of having been suffering under. Moreover, the general appearance of things offered for sale in the most reputable shops and stalls exceeds, in their respective kinds, what any one individual place in the kingdom can command, in so far as relates to quality.

Now, it is not difficult to comprehend this. A community of some two millions and more requires an

abundance of every article both of necessity and luxury; and to meet that demand, various localities send in their respective contributions, which are such as have been found by experience to be produced in greater perfection in their respective district than is to be found elsewhere; in other words, a district that furnishes Asparagus of the best quality, or what the London people think the best, is not necessarily the best place for Onions, while, where the latter grows, Lettuce is but sparingly produced; and many other instances might be adduced, but it is not necessary here to enter into these things, further than to point out the absurdity of expecting any one garden (however good the soil may be) being able to produce things all equalling in point of merit the best of their respective kinds in that all-important place, Covent Garden.

As much good may be obtained by examining and enquiring into the histories of the various products there exhibited, it is needless here saying more than just calling the attention of country cultivators, whose visits to the great metropolis may be "few and far between," to give a look into, and compare notes with, the great fruit and vegetable mart and what they have at home; for I feel sure, that an hour spent there will convey to the mind quite as much information as can be gleaned by a visit to a horticultural exhibition, unless the thirst for knowledge be confined to the fine, yet huge and unwieldy, plants in bloom, which this great mart does not contain in the perfection that first-class horticultural exhibitions do; and as it is said the first impression of admiration is generally such as to make observers dissatisfied with themselves, a secondary consideration must be made, and, finally, a praiseworthy determination ought to be entered into, to go home again, and with renewed perseverance try what further improvement it is possible to make; at the same time, it might be worth while enquiring how far the desire of pleasing the eye has been the object of the cultivator, instead of gratifying the palate, for the large fine-looking Asparagus, which is there exhibited, does not eat so well as that which is "home-grown" having a less imposing appearance, still there are many things really fine, and though everything, or at least the most that is there, must have necessarily been gathered some time, so as to be partially withered or kept from being so by watering and other means which cannot improve their quality.

It would be instructive to follow, or, rather, to trace vegetables to the various districts which produced them, in order to be able to judge of the character of the soil suited to each; and in doing so, it would be found that no given district of the kingdom contributes so much as the Vale of the Thames; but besides its proximity to the great mart of the world, and, consequently, the advantages attending thereto, there are certain things, as Celery, Rhubarb, Asparagus, &c., which seem to grow better there than elsewhere, not to mention the thousand-and-one minor crops which have their home there as well; but the increased modes of conveying goods by railway, which the last dozen years and more have brought into operation, have shifted the producing ground for much of the heavy articles to a much greater distance from London than before, so that all crops requiring much space are now reared on land less valuable than most of the garden-grounds are that are within ten miles of London. Cabbage, Brocoli, Peas, Beans, and many other things are produced at considerable distances off; but by the quick and easy transit which the rail has now established, soon find their way into the recesses of that busy hive, whose devouring capacity it would seem a no easy matter to satiate; and certainly such could not be done if the field for doing so was not continually extending; but London, alone, is not the only city which draws its

supplies from distant parts; the manufacturing towns in the north-west of England import largely from the more fertile soil and genial climate of the south-eastern counties and others; so that the mart for such things is so far equalized that it has passed into a proverb, that a district's principal product is cheaper anywhere than at home. I will say no more than again urge on the young gardener or cultivator who may be in London to extend his rambles to Covent Garden as often as he has an opportunity to do so, feeling assured that he will never be disappointed.

In the production of vegetables, generally, there are some points which ought never to be lost sight of; and one of the first of these is a liberal and judicious *thinning*, and that at the proper time, for it would be wrong to delay that operation until the plants have injured each other by standing too thick, as well as having been feeding on the ground in the immediate proximity of the permanent plant. As thinning can hardly ever be carried too far, and very often stops short of what it ought to do, let us take for example one of the most common crops—*Onions*; which are not unusually left standing some time thick, with the intention of thinning them for use as wanted. Now this is bad; for the main crop suffers sadly by the crowding, and the neck is elongated, and when thinning does take place it is ten to one but those left are unable to support themselves, and although they speedily do assume an upright growth again, still there is the loss of time they were prostrate, and the injury or delay of a week in the most important part of the growing season is an important matter not to be forgotten. *Turnips*, again, suffer in like manner; and though they are so accommodating as to set themselves aright after the bruising and mauling they have to endure when the operation is at length performed, yet it must be evident to every one that they have suffered a loss; but there are other things to which the subject of thinning is scarcely applicable; such, for instance, as growing crops of *Peas*, *Beans*, and even *Potatoes*, and the *Cabbage* tribe; the latter it is needless here calling attention to, for they speak for themselves; but the Potato is not so apparent a sufferer from crowding, although it often really is so; while the Peas and Beans are often totally disregarded after they have been committed to the ground, whereas, much finer pods, and more of them, might be had if they were sown a little thinner, or, rather, thinned when they had come up and got out of barn's way. Though this is seldom done, because those having large quantities of these things to grow exercise their judgment in not sowing them too thickly, and, consequently, have less occasion for after-labour, yet it is highly advisable to the amateur who wishes to have a superior article for his table, to bear in mind that it cannot be obtained without the liberal allowance of room which is incompatible with a close and crowded growth, and in Peas, &c., it is scarcely less necessary to limit the plants in the row, than it is to place the latter a good distance apart; in fact, they both tend to the same results.

It would be easy to multiply cases where a liberal allowance of elbow-room is not only essential to a plant's well-being; but it is also economical in a profitable point of view, as a greater produce will often be the issue; besides which, the appearance which things of sterling excellence have ought also to be considered; for the eye ought to be gratified as well as the other senses, and the honest pride which a meritorious production entitles the cultivator to assume, is as rational on a bed of Cabbages as on a collection of flowering plants; and though the latter may exhibit more the effects of artificial management, the other deserves care, assiduity, and patience as well.

J. ROBSON.

ALLOTMENT FARMING.—JULY.

A BUSY month this in the gardening way, and, I may add, the farm. Those who would make provision for a good winter and spring supply of the Cabbage-worts and green tribes, must be on the alert this month. Every nook-corner space that can be spared without injury to the root or other standing crop must be well filled up with Green Kale, Savoys, Brussels Sprouts, &c., according to the uses or profits of the cultivator. In doing so, however, he must remember that there is a sort of medium to be observed as to thickness. The planter should not only know where to introduce such things, but how thickly they may be planted; and this, of course, involves a little practical knowledge of the habits of growth of each kind, and the size they are likely to attain on his soil. Before introducing such, however, the existing crops should be looked over, and every weed finally removed; this will save much future trouble. I am here presuming that all cultivation matters between root-crops, &c., have been completed by this time, as I have formerly advised; if not, why better late than never. The early Potato ground will now, perhaps, be stripped of its crop. Those who managed well this spring with their *Ash-leaved Kidneys*, have, in these parts, made a deal of cash of the produce. I know plenty within a score miles of where I write, who have obtained from three-pence to four-pence per pound weight. Some cottagers thus nearly paying the rent of their cottage and plot by young Potatoes alone. And on the heels of the Kidney, which are, in many cases, turned into hard cash by the middle of June, the period at which we write these remarks—on the heels of these Potatoes—Swedes or Mangold are instantly planted; and these got in betimes, on rich and mellow soils, become as good a crop as those farmers who have devoted the whole season to the production of one crop. The later crops of Potatoes have, of course, been thoroughly cleaned, and soil, if requisite, drawn to their stems. Let me, however, caution our readers not to tamper with them when strong plants and nearly covering the ground; I have known many capital crops seriously injured by this ill-timed operation. No plant suffers sooner from mutilation of the foliage than the Potato, especially after the young Potatoes are large as sparrows' eggs.

With regard to the introduction of the *Green tribes*, *Swedes*, &c., there will, of course, be some early things of other kinds in course of removal; a sharp eye must be kept on such chances, not an inch of ground must be given away; this, however, does not mean that the cramming system must be pursued. A good and skilful cultivator has all these things in his head betimes in the spring; and, as I have frequently suggested, will, perhaps, have so tied himself to system, as to have placed pegs to indicate the kind of cropping, whether mixed or otherwise. It thus becomes familiar as he walks along with his summer's scheme; he is enabled, at all times, to properly appropriate his small amount of manure, and, indeed, his little plot is ever present to his mind like a map. Our men of many acres must not think such proceedings too fussy; they must remember the old adage, "Little things are great to little men." Many of them might, indeed, take a lesson of a really "cute" allotment man. I have frequently seen evident signs of more scheming, and a close consideration of the subject in hand, on thirty or forty poles of ground, than on a hundred acres. Such may, indeed, be the exception; but when they occur, it is enough to make a man of higher standing look about him.

TRANSPLANTING.—Let us take a glance at this proceeding, which must not be done any how. In the first place, our small farmers should know that not he who plants earliest is obliged to have a superior crop. One man may plant to-morrow his Swedes, or Mangold, in dusty soil, and in the entire absence of rain, with a glowing sunshine over head; and another may, with land at command, defer the operation a fortnight, and then, taking advantage of a showery time and the prevalence of clouds, plant, and excel his neighbour by some twenty per cent., other conditions of soil, &c., being exactly similar. These things are very important, although frequently unheeded. Another matter worth notice. Let me recommend you all not to put in a plant without "puddling" the roots. I puddle nearly every

vegetable, and the way is this:—The man who goes to plant takes with him a bucket of water and some soot; of course his basket for plants, and his dibble, also a spade. When arrived at the seed-bed, he digs a hole in the soil, pours therein some water, and pops in about two quarts of soot. He then stirs the hole well with his spade until the bottom and sides being rocked about and disturbed, the hole becomes nearly full of a regular slush or mud, composed of about two parts soil, one part soot, the rest, of course, water. As he draws the plants in hand bunches, they are successively dipped in this, and transferred to the basket, where, being covered with a wet rag, they travel to the planting plot fresh as a Daisy.

This is not only an excellent preventive of the "club" in the Cabbage-worts, but a manure; when the plants make more growth, they will speed with more vigour. The soot should, however, not be too fresh and crude, it is rather caustic in this way, and apt to prove too keen to the young fibres. Let, then, I say this be made a maxim with all planting from March to September.

As to cleaning processes in general, I may repeat former advice, that during dry weather, and whilst the soil is dusty on the surface, the hoe, during the height of summer, is a most efficient instrument, especially the broad hoe, as this cultivates deeper than the Dutch hoe. However, there are some crops which produce their fibres close to the surface of the soil, and for such the Dutch hoe will be best. It is always best to let the rake follow the hoe, for no one can tell how soon a change of weather may occur, and weeds soon take root again; in this respect, the hoeing of many is only transplanting. During showery weather, the hoe is of little use; and it is ever my practice to dig in weeds wherever a narrow spade can be introduced. Thus it becomes best policy to push on cleaning processes by hoe at all dry intervals, reserving hand-weeding, digging, &c., for damp weather. Thus much as to cleaning processes; as to cultural ones, they will mostly have been carried out before this. I must now chat over the crops present and prospective.

ONIONS.—I strongly advise the occasional application of soot to keep down the fly. We mix soot and sawdust in about equal quantities; it handles better. The soot is, of course, a good manure, and is carried down by the rains.

CARROTS.—We use the soot application here, also, as with the Onions, and mean to continue its use. Late-sown Carrots will, perhaps, require a little more thinning, and those who failed through the grub may still sow a few *Horn* Carrots in the first week if required; the soil should be good.

ROOT CROPS, in general, should now be looked through occasionally, in order to draw out some for use where too thick, and to remove what are termed "bolters." Quantities of Carrots, Parsnips, Mangold, &c., may thus be obtained to help out the family diet; and the pig, or ewe, will also come in for much refuse.

BLANK FILLING.—Few things are more eligible for this purpose than the Swede Turnip, and every one holding land should provide a good seed-bed. They may be filled in amongst any existing root or other crop, or, indeed, in any spare piece. Mangold will transplant very well if not too old, but it requires careful taking up, being very tender. Swedes may be planted when the bulbs are as large as hen's eggs; indeed, we prefer them so; some plant them much larger. It is of little use planting later than the middle of August; indeed, they should be got in before July is out.

SELECTION OF CROPS.—In selecting crops for an allotment, the cultivator should, of course, be ruled by the kind of produce most desirable. If near a good market, he will frequently find it much more profitable to grow things to sell than to use up himself. But he must look the manure question full in the face beforehand. To push high cultivation with vegetables for sale requires a rather liberal use of it, for they are esteemed in proportion to their succulence. However, in all such cases, I advise that every man have his pig, if possible; for under proper management there should be, at least, three parts kept for it from refuse of the garden and the swill of the house, taking the year through; and such materials may by no means be wasted.

And now I may direct attention to the peculiar sowing or planting of the month. More Coleworts may be sown liberally in the first week; these, if a good dwarf kind, may be crammed into every spare piece not required for any larger

vegetable; they will make nice little Cabbages by the end of October, and may be bunched and made into cash in some good market. A good sowing of Lettuces, also, in the very beginning, on rich soil, will produce from the beginning of September until nearly Christmas. Endive is sown in the early part of July, and again in the middle. This comes in from the end of August until the end of November. A row or two of Celery may be planted in the first week, and a little curled Cress for the cottager's wife. I do not, however, say that all these things must be aimed at; I merely point to the proper season. Again, let me urge every attention to muck making for the ensuing year. R. ERRINGTON.

CHELTENHAM POULTRY SHOW.

THE Third Annual Exhibition of the Cheltenham and County of Gloucester Society for Improving the Breed of Domestic Poultry took place on Wednesday and Thursday, the 14th and 15th of June. The gardens of the Old Wells, where the previous exhibitions had been held, being occupied by the Cheltenham Crystal Palace Exhibition, the Poultry Show was held on this occasion at the Pittville Gardens, and, in our opinion it lost nothing by the change. The meeting was held under the patronage of the Lord-Lieutenant of the county, of the Duke of Beaufort, of a long list of noblemen and influential gentlemen of the county and neighbourhood; and it was also well supported by the visitors and inhabitants of the town. Upwards of 500 pens were entered for competition; and although the names of Captain Hornby, Mr. Sturgeon, and one or two others who had formerly contributed to the list of entries, were wanting this year, a most attractive and excellent assemblage of poultry was brought together. The same gentlemen who upon previous occasions had the management of affairs again rendered their services; and too much cannot be said for the way in which the Messrs. Jessop, the Secretaries, performed their part. The fowls were shown in the concert room and in two tents erected at each end of it, so that it had almost the appearance of one continuous apartment. As a whole, we think the exhibition quite equalled in quality, while in quantity it surpassed, those of the two preceding years. The company was numerous as well as select, comprising, as usual, a large proportion of elegantly-dressed ladies; and two bands of music, stationed in the gardens, contributed to the pleasures of the day. Those who say the taste for poultry has had its day, and that the interest taken in these shows is declining, are certainly not borne out in their opinion by the result of the Cheltenham Exhibition. It may be true, that transactions, which will not bear a very strict scrutiny, may have made amateurs somewhat more cautious in making purchases; but neither the numbers and value of the birds shown, nor the attendance of exhibitors and visitors (many of them from a great distance), would tend to the belief that there is any falling off in the interest which those shows have excited, and still less in the pains taken to produce good specimens of the different varieties of poultry.

Having expressed an opinion of the show in general, we now purpose briefly to notice the different classes. The *Buff Cochins* (adult) comprised 44 pens, which, as a whole, were, we thought, of more than average merit, while several of them, and particularly the hens in the first-prize pen, belonging to Mr. Devenish, of Weymouth, were quite first-class specimens. The chickens numbered 46 pens, among which were some very forward ones, and many as good, whether in point of form or colour, as have ever been shown. The Partridge, or Dark, class was the very best of that variety which we have ever yet seen brought together, and show, we hope, that the taste for these beautiful birds is reviving. We cannot omit to notice especially Mr. Fairlie's first-prize pen, which did credit to the Cheveley stock. In the White class, Mrs. Herbert was again successful; but the chickens of this variety did not appear to us to be first-rate, and the judges withheld the first prize. The Blacks were of full average quality, Mr. Fairlie again carrying off the first prize, as did Mr. Cattell, in third class, for a very nice pen of Black chickens.

The *Dorkings*, as a class, were not first-rate. The first prize fell to the lot of Mr. Davies; but neither the birds

themselves, nor the form in which they were shown, quite sustained the credit of the Knowsley stock.

The *Spanish* were the best class in the exhibition. Mr. Davies carried off the first prize; but it is but fair to say, that the pens of Mrs. Stow and Mr. Winder ran them very close indeed; and that there were several others which trod closely upon the heels of these. A pen of Spanish chickens, belonging to Mr. Plummer, may be properly noticed in this place as very first-rate birds; they deservedly obtained a prize.

The so-called *Brahma Pootras* mustered 16 pens, many of them containing very good birds. We may observe, that the awards of the judges, giving the prizes to the single-combed birds, goes to confirm the opinion so often expressed in these pages, that these are, after all, neither more nor less than a grey variety of Shangbaes. The first prize was awarded to Mr. Simons, of Birmingham, for a pen of very fine (we understood imported) birds; Dr. Gwynne running him very close, and obtaining the second.

The *Game* fowls were all shown in one class; they were not numerous, but they certainly made up in quality for the fewness of their number. The *Malays* were poor, and the judges withheld the first prize. The different classes of *Polands* were fairly represented, although not in great numbers. The prize birds of each variety were very good, especially those of Mr. Atkins, of Edgbaston. The *Hamburgs* call for no especial remark. The Black and White *Bantams* were very good indeed; but the *Sebrights* were less worthy of praise. Prizes were given for "deserving specimens" of any other variety; but this class produced nothing worthy of particular notice. Some good *Dorking* and *Brahma Pootra* chickens were shown in a class for Chickens of 1854. The only other fowl which appeared to us to call for notice here were some very early and very good *Aylesbury Ducklings*. The *Pigeons*, however, must not be passed over without honourable mention. Every class was well filled; and the *Carriers* and Black and White *Fantails* well deserved the commendations given by the judges to almost every pen shown.

We cannot conclude this brief notice of a most successful exhibition without calling especial attention to the liberality of the prizes offered, including no less than six of £5 each, and the same number of £3 each. Another remark is equally just, that there were less really inferior birds shown than we ever saw at any exhibition of the same extent.

It only remains for us to congratulate the Committee, and especially the Messrs. Jessop, on the success of their labours, and to annex the list of the prizes awarded by the judges, Mr. J. W. Nutt, of Stoke Newington, and E. Bond, Esq., of Leeds.

Class 1.—*COCHIN-CHINA* (Cinnamon or Buff).—29. First prize, J. A. Devenish, Weymouth. Age, twenty-one months. 38. Second prize, John Fairlie, Cheveley Park, Newmarket. Age, above one year. 2. Third prize, F. C. Steggal, Weymouth. Age, cock one year, hens two years. *Commended*.—37. Mrs. L. C. Stow, Bredon, near Tewkesbury. 1853. 41. John Heape, 36, Ludgate Hill, Birmingham. Age, cock, twelve months; hens, thirteen months. 32. Rev. J. Allen, D.D., Englefield Green, Surrey. Age, cock, 1st of January; hens, March, 1853. 23. J. Cattell, 53, Worcester-street. Age, cock, fifteen months; hens, three years. 39. John Fairlie, Cheveley Park, Newmarket. Age, above one year. Hens only.

Class 2.—*COCHIN-CHINA* CHICKENS (Cinnamon, Buff, or Partridge).—Cockerel and three Pullets, hatched since 1st of January, 1854.—79. First prize, Miss Alcock, Newport, Salop. Age, January, 1854. 47. Second prize, J. R. Rodbard, Aldwick Court, Langford, near Bristol. Age, January 15th, 1854. 86. Third prize, Mrs. L. C. Stow, Bredon. Age, March. *Highly Commended*.—71. Mrs. T. Moilliet, Studley, Warwickshire. Age, 3rd of March, and of February. 72. C. Bainbridge, Oakfield Lodge, Sparkbrook, near Birmingham. Age not entered. *Commended*.—50. J. R. Rodbard. Age, March 1st. 76. James Cattell, 53, Worcester-street, Birmingham. Age, three months. 85. W. B. Mapplebeck, Bull Ring, Birmingham. Age, eleven weeks. 87. John Fairlie, Cheveley Park, Newmarket. (Buff.) Age, February.

Class 3.—*COCHIN-CHINA* (Partridge or Dark).—Cock and two Hens.—112. First prize, John Fairlie, Cheveley Park, Newmarket. Age, above one year. 102. Second prize, Thos. Bridges, Croydon, Surrey. Age, cock, sixteen months; one hen two-and-a-half years. 98. Third prize, Rev. G. F. Hodson. Age, cock, thirteen months; hens, eleven months. *Highly Commended*.—106. J. Harlow, Moseley, near Birmingham. *Aged. Commended*.—103. G. C. Adkins, Edgbaston. Age, unknown. 107. T. Smith, Stableford, Bridgnorth. Age, cock, one year; hens, two years.

Class 4.—*COCHIN-CHINA* (White).—120. First prize, Mrs. S. R. Herbert, Powick. Age, cock, three years and eight months; hens, April, 1852. 126. Second prize, S. Allen, M.D., Englefield Green, Surrey. Age, cock, 1852; hens, 1853. 122. Third prize, Mrs. G. H. Hutchinson,

Charlton, Wilts. Age, cock, one year; one hen, one-and-a-half year, one hen one year and eleven months.

Class 5.—*COCHIN-CHINA* CHICKENS (White).—Cockerel and three Pullets, hatched since January 1st, 1854.—First prize not awarded. 141. Second prize, Rev. S. Allen, D.D., Englefield Green, Surrey. Age, cockerel 15th; pullets, April, 1852. 140. Third prize, Miss C. Alcock, Newport, Salop. Age, cockerel and pullet 13th February; two pullets 24th March.

Class 6.—*COCHIN-CHINA* (Black).—Cock and two Hens.—159. First prize, John Fairlie, Cheveley Park. Age, above one year. 146. Second prize, Exhibitor: V. W. Blake, 6, Old Square, Birmingham. Age, cock, sixteen months; hens, thirteen months. 154. Third prize, G. H. Hutchinson, Charlton, near Malmesbury, Wilts. Age, nine months. *Commended*.—156. W. B. Mapplebeck, Birmingham. Age not entered. 160. C. Nelson, The Lozells, near Birmingham. Age, cock fourteen months; hens, aged.

Class 7.—*COCHIN-CHINA* CHICKEN (Black).—Cockerel and three Pullets, hatched since 1st of January, 1854.—164. First prize, James Cattell, 53, Worcester-street, Birmingham. Age, cockerel and pullet three months; two pullets five months. 165. Second prize, Thomas Smith, Stableford, near Bridgnorth. Age, three months. 167. Third prize, John Fairlie, Cheveley Park, Newmarket. Age, March, 1854.

Class 8.—*DORKING*.—Cock and two Hens.—175. First prize, W. H. Davies, Spring Grove House, Hounslow. Age, about two years. 180. Second prize, Mrs. L. C. Stow, Bredon. Age, 1853. 188. Third prize, Ditto. Age, 1853. *Highly Commended*.—179. T. Wittington, jun., Wootton Warren, near Henley-in-Arden. Age, cock, one year; hen, one year, hen, three years. *Commended*.—170. Rev. G. F. Hodson, Banwell, Somerset. (White.) Age, cock, fourteen months; one hen two years, hen, seven months. 172. G. Botham, Wexham Court, Slough. Age, one year. 191. Charles Edwards, Brislington, near Bristol. Age, exceeding one year. 169. Exhibitor: T. J. Benridge, Penrose Villa, Heavitree, Exeter. Age, unknown. 190. John Fairlie, Cheveley Park. Age, about one year.

Class 9.—*SPANISH*.—Cock and two Hens.—197. First prize, H. D. Davies, Spring Grove House, Hounslow. Age, about two years. 211. Second prize, Mrs. L. C. Stow, Bredon. Age, June, 1853. 196. Third prize, J. B. Winder, Suffolk-street, Birmingham. Age, cock eleven months; hens, two years. *Highly Commended*.—198. E. Simons, 84, Dale End, Birmingham. Age, two years, one hen three years. 199. H. D. Davies, Hounslow. Age, about two years. 207. William Plummer, Brislington, near Bristol. Age, cock, thirteen months; hens, twenty-two months. *Commended*.—195. G. Botham, Wexham Court, Slough. Age, cock, one year; hens, two years. 210. W. B. Mapplebeck, Bull Ring, Birmingham. Age, July, 1854. 212. Mrs. L. C. Stow, July, 1853. 214. C. Nelson, The Lozells, Birmingham. Age, cock, two years; one hen ditto, one hen, March, 1853.

Class 10.—*BRAMAH* POOTRA.—Cock and two Hens.—221. First prize, E. Simons, 84, Dale End, Birmingham. (Silver Grey.) Age, one year. 218. Second prize, Dr. Gwynne, Sandbach, Cheshire. Age, about one year. 232. Third prize, J. W. Fox, Skinner-street, City, London. Age, two years.

Class 11.—*GAME*.—234. First prize, John R. Rodbard, Aldwick Court, near Bristol. (Black-breasted Red.) Age, two years. 238. Second prize, Edward Farmer, Greet Brook, near Birmingham. (Red-breasted.) Age, cock, thirty months; hens, fifteen months. 235. Third prize, G. C. Adkins, Edgbaston. (Red.) Age, unknown. *Highly Commended*.—237. Edward Farmer, Greet Spark Brook, near Birmingham. (Black-breasted.) Age, cock, two years; hens, one year. 239. N. N. Dyer, Bredon. 241. C. W. Castree, Longford, near Gloucester. Age, eighteen months. *Commended*.—236. James Monsey Cooper, Norwich. Age, two years. 244. C. Edwards, Brislington, near Bristol. (Black-breasted Red.) Age, exceeding one year. 245. Joseph Jennens, Moseley, near Birmingham. (Black Game.) Age, cock, three years; hens, seventeen months.

Class 12.—*MALAY*.—Cock and two Hens.—First prize not awarded. 251. Second prize, James Leighton, Cheltenham. Age, cock, one year and ten months; hens, eleven months. Third prize not awarded.

Class 13.—*POLANDS* (Black, with White Crest).—255. First prize, G. C. Adkins, Edgbaston. Age, not known. 257. Second prize, G. C. Adkins. Age, not known. 260. Third prize, Charles Edwards, Brislington, near Bristol. Age, exceeding one year.

Class 14.—*GOLD-SPANGLED* POLANDS.—Cock and two Hens.—263. First prize, Exhibitor: R. H. Bush, Litfield House, Clifton. Age, unknown. 268. Second prize, C. Rawson, The Hurst. Age, 1852. 266. Third prize, S. C. Baker, Half Moon Passage, Gracechurch-street, London. Age, cock, eighteen months; hens, one year.

Class 15.—*SILVER-SPANGLED* POLANDS.—Cock and two Hens.—271. First prize, G. C. Adkins, Edgbaston. Age, not known. 278. Second prize, C. Rawson, The Hurst. Age, cock, 1852; hens, 1853. 277. Third prize, C. Rawson, The Hurst. Age, cock, 1851; hens, 1852. *Commended*.—273. Rev. J. Gandy, Old Clevee, Taunton. Age, 1852.

Class 16.—*HAMBURGS* (Gold-spangled).—Cock and two Hens.—286. First prize, C. Rawson, The Hurst, Walton-on-Thames. Age, 1852; one hen, 1853. 279. Second prize, G. C. Adkins, Edgbaston. Age, not known. 283. Third prize, Joseph Jordan, Wheeler-street, Birmingham. Age, cock, one year; hen, two years; hen aged.

Class 17.—*HAMBURGS* (Silver-spangled).—Cock and two Hens.—296. First prize, Joseph Jordan, Wheeler-street, Birmingham. Aged. 305. Second prize, C. Rawson, The Hurst, Walton-on-Thames. Age, cock and one hen, 1852; one hen, 1853. 288. Third prize, Miss Cripps, Preston Vicarage, near Cirencester. *Commended*.—294. H. Wiggins, Edgbaston. Age, one year.

Class 18.—*HAMBURGS* (Gold-pencilled).—Cock and two Hens.—309. First prize, C. Rawson, The Hurst. Age, cock, 1852; hens, 1853. 307. Second prize, Thos. Whittington, jun., near Henley-in-Arden. Age, cock and hen, one year; one hen, three years. 310. Third prize, Miss K. Jessop, Cheltenham. Age, two years; one hen, one year.

Class 19.—HAMBURGHS (Silver-pencilled).—Cock and two Hens.—315. First prize, Joseph Jordan, Wheeler-street, Birmingham. Aged. 323. Second prize, Thomas Whittington, near Henley-in-Arden. Cock and one hen. 317. Third prize, Thomas McCann, Graham House, Malvern. Age, cock, one year; hens, one year.

Class 20.—BLACK BANTAMS.—Cock and two Hens.—326. First prize, James Monsey Cooper, Norwich. Age, eighteen months. 329. Second prize, Miss Kate Jessop, Cheltenham. Age, one year.

Class 21.—WHITE BANTAMS.—Cock and two Hens.—330. First prize, Rev. G. F. Hodson, Banwell, Somerset. Age, three years. 331. Second prize, G. C. Adkins, Edgbaston. Age not known. *Highly Commended.*—332. Rev. J. Gandy. Age, March 21st, 1854. 333. James Monsey Cooper, Norwich. Age, eighteen months. 334. Lady Codrington, Dodington. Age, one year.

Class 22.—GOLD-LACED BANTAMS.—Cock and two Hens.—336. First prize, Henry D. Palmer, Great Yarmouth. Age, various. 340. Second prize, H. D. Palmer, Great Yarmouth. Age, ten months. *Commended.*—337. G. C. Adkins, Edgbaston. Age, unknown. 343. C. Rawson, The Hurst. Age, 1852.

Class 23.—BANTAMS (Silver-laced).—Cock and two Hens.—First prize not awarded. 352. Second prize, G. W. Boothby, Louth, Lincolnshire. Age, one year.

Class 24.—THOROUGH-BRED.—Cock and two Hens.—Deserving specimens of any variety not named in the Schedule. 375. Prize, John Fairlie, Cheveley Park. (Scotch Dumpies or Bakies.) Age, above one year. 379. Prize, Mrs. Jessop, St. James's Square, Cheltenham. (Indian Game.) Age, twelve months. 365. Prize, Mrs. Hyett, Painswick. (China Silk Fowls.) Age, cock and one hen, 1853; one hen, 1852.

Class 25.—CHICKENS.—Cockerel and three Pullets.—Hatched since 1st of January, 1854, any distinct breed for useful purposes (Cochin-China excepted).—404. Prize, W. Plummer, Brislington, near Bristol. (Spanish.) Age, cockerel and one pullet, five months, two, fourteen weeks. 399. Prize, Thomas Whittington, jun., Henley-in-Arden. (Coloured Dorkings.) Age, March. 400. Prize, James A. Devenish, Weymouth. (Bramah Pootra.) Age, three months. *Highly Commended.*—384. John R. Rodbard, Langford, near Bristol. (Grey Dorkings.) Age, 1st March. *Commended.*—393. Parkins Jones, Fullham. (Bramah Pootra.) Age, fourteen weeks. 410. Thomas H. Fox, 44, Skinner-street, Snow Hill, London. Age, cock, sixteen weeks; pullets, thirteen, fifteen, and sixteen weeks.

Class 26.—TURKIES.—Cock and Hen.—414. First prize, Charles Edwards, Brislington, near Bristol. Age, exceeding one year. 412. Second prize, John Fairlie, Cheveley Park. (Cambridgeshire.) Age, one year.

Class 27.—GUINEA FOWL.—Cock and Hen.—416. First prize, John R. Rodbard. Age, two years. 419. Second prize, Miss Jessop, St. James's Square, Cheltenham. Age, one year.

Class 28.—PIGEONS (Carriers).—Pairs.—420. First prize, Exhibitor: G. C. Adkins, Edgbaston. Age, unknown. 425. Second prize, T. J. Cottle, Cheltenham. Age, cock, two years; hen, ten months. *Highly Commended.*—421. G. C. Adkins, Edgbaston. Age, unknown. 422. Joseph Rake, Bristol. Age, three years.

Class 29.—RUNTS.—Pairs.—429. First prize, J. C. Adkins, Edgbaston. Age, unknown. 431. Second prize, C. Rawson, The Hurst, Walton-on-Thames. Age, 1852. *Commended.*—428. J. C. Adkins, Edgbaston. Age, unknown.

Class 30.—POUTERS OR CROPPERS.—433. First prize, C. R. Giltterton, Snow Hill, Birmingham. (White.) Age, two years. 437. Second prize, T. J. Cottle, Cheltenham. Age, cock and hen, two years.

Class 31.—BLACK FANTAILS.—440. First prize, G. C. Adkins. Age, unknown. 441. Second prize, G. C. Adkins, Edgbaston. Age, unknown. *Highly Commended.*—442. Joseph Jennens, Moseley, near Birmingham. Age, not entered. *Commended.*—439. H. H. Swift, North Lydiard, Wilts. Age, unknown. 443. C. Rawson, The Hurst, Walton-on-Thames. Age, 1852.

Class 32.—WHITE FANTAILS.—447. First prize, Selina M. Northcote, Upton Pyne, near Exeter. Age, unknown. 444. Second prize, E. Simons, Dale End, Birmingham. Age, not entered. *Highly Commended.*—445. G. C. Adkins, Edgbaston. Age, not known. 443. Joseph Jennens, Moseley. 449. Thomas J. Cottle, Cheltenham. Age, one year. 450. C. Rawson, The Hurst. Age, 1852.

Class 33.—JACOBS.—453. First prize, G. C. Adkins, Edgbaston. Age, not known. 458. Second prize, C. Rawson, The Hurst. Age, 1852. *Highly Commended.*—456. W. B. Mepplebeck, Bull Ring, Birmingham. Age, not known. 457. T. J. Cottle, Cheltenham. Age, one year.

Class 34.—ALMOND TUMBLERS.—461. First prize, G. C. Adkins. Age, not known. 464. Second prize, T. J. Cottle, Cheltenham. Age, cock and two hens, one year. *Highly Commended.*—463. T. J. Cottle, Cheltenham. Age, cock, three years; hens, two years. *Commended.*—459. G. C. Adkins, Edgbaston. Age, not known.

Class 35.—ANY OTHER VARIETIES.—473. Prize, C. Bluett, Taunton. (Blue Turbits.) Age, unknown. 490. Prize, C. Rawson. (Fring Backs.) Age, 1852. 480. Prize, S. C. Baker, 3, Half Moon Passage, Gracechurch-street, London. (Black Barbs.) *Commended.*—476. C. Bluett, Taunton. (Trumpeters.) Age, unknown. 454. Charles Bluett, Taunton. Age, not known. 483. C. Rawson, The Hurst. (Ermine Saxons.) Age, 1852. (The whole class of Pigeons were considered by the judges as meritorious.)

Class 36.—GEESE.—Gander and Goose.—495. First prize, C. Rawson, The Hurst. Age, 1852. 496. Second prize, ditto.

Class 37.—DUCKS (Aylesbury).—500. First prize, W. H. Green, Walton-street, Aylesbury. Age, ten weeks. 502. Second prize, J. Liverton, Fairfield House. Age, 23rd March, 1854. *Highly Commended.*

503. J. Liverton, Fairfield House. Age, 23rd March, 1854. *Commended.* 509. Mrs. L. C. Stow, Bredon. Age, 1853.

Class 38.—ROUEN.—Drake and Duck.—518. First prize, Honourable Mrs. Howard, Malmsbury. 521. Second prize, E. W. Haslewood, Bridgnorth. Age, one year. *Commended.*—524. John Fairlie, Cheveley Park, Newmarket. Age, thirteen weeks, 525. Ditto, ditto.

Class 39.—ANY OTHER VARIETY.—Drake and Duck.—533. Prize, H. Churchill, King's Head, Gloucester. 536. Miss Steel Perkins (Labrador).

THE HORTICULTURAL SOCIETY OF LONDON.

IN a recent number of this journal, "a Correspondent" made some sound and just observations on the want of energetic and useful practical operation on the part of the HORTICULTURAL SOCIETY in regard to fruits; but we much fear the same observations may very justly be extended to other branches of horticulture. If, instead of the Society waiting, as that correspondent says, till some one sends it, "two or three new things," it made a point of procuring everything that either was, or was said to be, new, and carefully testing its qualities, then it would be doing a public good, and carrying out the object for which it was instituted. But, after all, are we right in blaming the Society as a corporate body? The great majority of the members live at a distance from the scene of operations, and we know, from experience, how well many things look when seen from a distance; how the ideas are elevated, and expectation excited; but when we see the reality, all these fine mental visions vanish. So, we suspect it is, with the members of this Society. They hear of the three great shows; how many thousands of the noble, and gentle, and gay attended; gorgeous flowers; charming music; and sometimes, as on Lord Mayor's day, lovely weather. They have a few seeds, or perhaps plants, sent them, from time to time, as a set off against the four guineas subscription, and with the additional privilege of placing F.H.S. after their name, they are satisfied, living all the time under the delusion that they are contributing towards the advancement of horticulture. Now, to those who know better, all this is a delusion; but the greater part of the members do not know that; they exercise a confidence, which, if well placed, would be praiseworthy; and, consequently, they are not to blame. Where then, it will be asked, does the blame rest? We do not hesitate to give the reply, which is the only and oft-repeated one we have ever heard—in the management. It may be thought presumptuous in us to dictate to the Society how it should manage its own affairs; but it is to be borne in mind that it is a public body, professing to carry out a public object, and inviting the public to join it in carrying out that object. When we see members leaving the Society for insults received from those placed in authority; under such circumstances we have a right to complain. A parade is attempted of what the Society has done, and of the attractions that are exhibited in the gardens on three days in a year. We all know what has been done years ago, but we want to see something doing now; more vitality, more diligence and energy. The three shows are all very well in their way; but what credit can the Society take for them? The Royal Botanic Society can equal and even surpass them in that respect, and it makes no great pretensions or parade about what it is doing for the advancement of horticulture. Some years ago, Mr. Glenny established at Stafford Hall, close under the walls of Chiswick Gardens, a series of shows, which, if continued, bid fair to have swamped those of the Society altogether, and that gentleman was not backed by hundreds of four guinea subscribers. In a word, what is the Society doing for the advancement of horticulture, with all its staff and goodly revenue, more than a private individual has done and is doing?—Q.

APIARIAN'S CALENDAR.—JULY.

By J. H. Payne, Esq., Author of "The Bee-Keeper's Guide," &c.

SWARMS.—Swarming commenced in this neighbourhood rather earlier this year than usual; the first swarm was on the ninth of May, belonging to a cottager; it appears that it

was a large swarm, but, unfortunately for him, it remained in the hive only an hour or two, and then betook itself to a hollow tree, where it remains at the present time, caused, I have very little doubt, by the hive having been drenched with a mixture of beer, sugar, fennel, bean leaves, or something of the kind. It is most difficult to convince some persons that a clean, dry hive is much more pleasing to the bees than one smeared with *dressing*, as it is termed, which, instead of inducing them to remain in it, is the chief cause of their leaving it.

TAYLOR'S BEE-HIVE.—I am pleased to find these hives are working so well; a description of them, with my opinion as to the many advantages they possess beyond any other kind of hive for the amateur, may be found at page 198, vol. vii, of *THE COTTAGE GARDENER*. A few weeks since, I received a letter from a gentleman in Cheshire, asking my opinion as to a weak stock in one of these hives (a late, or a second swarm, I imagine). He says, "I have a weak stock in a Taylor's bar-hive, and two others in the same, very strong, and getting crowded with bees: Would it answer to take one, two, or three bars out of one of the strong ones with plenty of brood in them into the weak one?" My reply was, "Do it, by all means; but do it immediately, and let me know the result." He writes again on the 20th of May, saying, "I received your answer to my enquiries on the 12th, and made every preparation, as you directed, for the operation on the following day, the 13th. Myself and my assistants being well protected, I commenced at one o'clock, the day being very fine, and many of the bees of the strong hive being out in the field; the strong hive is now two years old, and the weak one was a swarm of last year. I made use of the fumigating bellows, as you proposed; unscrewed the top of the weak hive, found it beautifully filled with combs, but scarcely a handful of bees altogether, and very little honey. I felt quite distressed and puzzled, feeling sure it would be of no use to add the combs to so small a quantity of bees, but determined upon trying to form an artificial swarm, although too early in the season, and no drones having appeared. I, therefore, took two bars out of the centre of the box with great ease, quite whole, laid them on one side, then proceeded to what I expected would have been a desperate job; puffed a little smoke into the hive, unscrewed the top, took it gently off, up flew a tremendous cloud, but my assistant made good use of the bellows amongst them, and in a few seconds they dispersed, so that I could detach the combs from the sides with a hook knife, for the purpose, with the greatest ease, and gently took out two of the centre well filled with brood, and two queens cells on them, put them in the centre of the weak box, and then put the empty combs into the strong one, brushed the bees out of the way with a feather, slid the tops on and screwed them down, then carried the strong box sixty or seventy yards on to the stand the weak one was taken from, and shut them up till Monday morning. They commenced working a little the same day, and have improved every day since, and are now working very well; there has been little or no confusion amongst them. The weak hive was joined by a good quantity of bees that were out, and it has worked very well up to the present time, and it is difficult to say which is the strongest."

Thus an artificial swarm has been made with the least possible trouble; indeed, bees in these hives, as I have said before, are entirely under the control of their owners, either for making artificial swarms by the above method, preventing swarms by taking out the combs on which queen's cells are formed, cutting them out and returning the combs, supplying queens to queenless stocks, or strengthening weak ones; besides the advantage of taking a bar of honey for the table whenever required during the working season.

It is Mr. Taylor's *eight-bar-hive* that I am now speaking of; a great improvement this upon his original bar-hive, or his double bar-hive as figured and described in vol. i. of *THE COTTAGE GARDENER*.

QUEEN BEES.—There appear to have been more queens bred this year than usual, for several swarms have divided upon leaving the parent hive, and alighted in different places, each having a queen; others, after having been hived a few days, send out a swarm, the consequence, no doubt, of two queens having accompanied them from the parent stock.

SHAKSPERE STRAWBERRY.

SOME eight or nine years ago, I obtained from the neighbourhood of Stratford-on-Avon, a Strawberry under this name, which was then said to be new; and, in 1847, I published, in "The Manual of Fruits," a short description of it, to the effect that it was earlier, more prolific, and of a better colour than *Keen's Seedling*. A short time after the publication of that work, some person, who fancied he knew better, asserted, in "The Gardener's Chronicle," that it was not a new variety, but identical with *Keen's Seedling*. The little I had seen of it did not warrant me in refuting the statement at the time, and it was allowed to pass. Now, however, I think it right, after having grown these Strawberries for the last six years, in adjoining rows, and on the same soil, and after having closely compared them, to repeat what I wrote seven years ago; that *Shakspeare* is a distinct variety, and in every way superior to *Keen's Seedling*; indeed, it requires no close observation to see the difference between them. *Keen's Seedling* is a rank-growing, rampant bush, and, for the last three years, entirely destitute of fruit; while the other is not half the size, and producing more fruit than leaves. It seems to me that the *Shakspeare* is very similar to what is now called *Hooper's Seedling*, and is, consequently, a variety well worth cultivating.—ROBERT HOGG.

THE ORCHARD HOUSE.*

THIS two-shilling pamphlet has reached a third edition, and undeservedly so, for it teaches how fruit may be easily and unfailingly grown under glass "by the mere Cottage Gardener with his cheaply-constructed house, ten feet by ten."

The last winter, and still more severe spring, tested the efficiency both of Ewing's Glass Wall and Rivers's Orchard House. The first has thus been proved incapable of protecting the blossoms enclosed by it. At the Horticultural Society's Chiswick Garden, the fruit blossoms within Ewing's Walls were destroyed by the severe frosts in April. At Sawbridgeworth, on the contrary, the blossoms were all preserved, and Mr. Rivers, writing to us a few days since, is well warranted in saying:—"My Orchard House is a great triumph. The trees are all pictures of health and fertility; without it, all would have been desolate this trying spring, for all the fruit out-of-doors perished, except some cherries and two or three sorts of plums; and, by an extraordinary freak, green-gage plums on some old trees have set well, and are as thick as blackberries; and yet generally this is the most tender of all."

The following extracts are among the fresh additions to the new edition:—

"RETARDING OF FRUITS.—A great advantage may be derived from Orchard House trees in the facility they give of retarding by some weeks, peaches, nectarines, and apricots, so that Royal George peaches and Moor Park apricots may be eaten in perfection in October. The method is very simple: towards the end of July, the trees should be gradually prepared for removal, by tilting up the pots on one side, so as to break off half the young roots; the pots must then be replaced, and suffered to rest a week or nine days, and then the other side should be tilted, so as to break off the remaining roots. The trees should then be removed to the north side of a wall or fence, in the open air, guarding carefully against snails, which often injure apricots; they may remain there till the first or second week in September, and then be removed to the Orchard House to ripen their fruit."

"RIPENING ORCHARD HOUSE PEARS AND PLUMS IN THE OPEN AIR.—Plums that ripen in August, and all kinds of pears, are apt to be deficient in flavour when at all crowded in the Orchard House, owing to its scarcely being possible to give them sufficient air; this, however, is easily remedied. The trees should be removed to some sunny sheltered situation, about the second week in June, when the fruit is fully set; summer plums will then ripen their fruit at the usual period, and also pears, whether early or late. The surface of the pots should be covered with a coating of three

* The Orchard House, or the Cultivation of Fruit Trees in pots under glass. By Thomas Rivers, of the Nurseries, Sawbridgeworth, Herts. Longman and Co., London.

or four inches of half-decomposed manure or litter, and, if the weather be hot and sultry, the side of the pots next the sun should be sheltered from its burning rays by some pieces of mat, mown grass, or branches of trees. September and October plums, such as Coe's Golden Drop and others, need not to be removed to the open air to ripen their fruit, as their flavour is always rich and good, unless the house be crowded; they may then be removed and suffered to remain out-of-doors till some of the peaches and apricots have ripened their fruit, and then take their places in the Orchard House. Figs in pots, which require much room, may be removed to some very warm corner in the open air, about the middle of June; they will ripen their fruit very nicely in September. By following the methods above given, a house may be made to hold three times the number of fruit trees it otherwise would do, and yield an astonishing variety; in short, there seems *no end to the pleasing advantages* of Orchard Houses. It must, however, be borne in mind, that the ripening of fruits in the open air cannot be carried out in the extreme north."

AGRICULTURE *versus* HORTICULTURE.

"WHAT do you know about the tater? Go and mind your Geraniums!" were the words addressed by a septagenarian, who had passed the greatest part of his life on a small comfortable homestead of his own in one of the rural parishes of the pretty Island of Jersey, to a horticulturist who was some ten years his junior, but who had acquired an equally comfortable position through his acquaintance with the sciences of Horticulture and Floriculture.

But the mere expression of the two sentences is not the most amusing part of the affair; the exciting causes are truly laughable, as well as the admonition they were intended to convey.

Some short time since, a few of the "Jersey Mechanics' Institute," being somewhat amused at the excitement existing amongst the alarmists respecting the utter failure and badness of the "potato crop," determined to prove the correctness of the report by the following expedient: They offered a prize of one pound sterling, to the producer of the *worst* sixtonnier (about 5 quarts) of potatoes, *i.e.*, potatoes which were samples of the produce of a crop which had been destroyed by the "murrain."

As may be readily supposed, there were but few competitors; few persons being willing openly to acknowledge their readiness to increase the excitement which the report had already caused; there were, however, some, and amongst them our worthy friend, the septagenarian before alluded to, who produced a sixtonnier of potatoes, which, to all appearance, had been subjected to the process of putrefaction by some artificial means, or, to make the matter less contemptible in your readers' eyes, had become so by accident or through neglect.

The different specimens being produced, it was necessary to have the prize offered awarded according to the manner proposed, and to the sample most deserving of it; when our second friend was called upon to act as umpire; who, to the consternation of the elderly gentleman, proclaimed the cause of his potatoes being in the state they were in, and caused him to be laughed at—silently, of course, as his great age protected him from open ridicule. And so highly was the elderly gentleman incensed at the umpire, that these were the words in which he expressed himself, on meeting him a few days afterwards in the public market: "What do you know about the tater? Go and mind your Geraniums!"

The evident intention of the elderly gentleman was to make his hearer understand that there was a broad distinction betwixt growing Potatoes and growing Geraniums, and, founding his expressions on the "Rule of Thumb," thought, or could not see, how it was possible for a Horticulturist by profession to be a judge of, or to know anything about, potato culture, or its produce. How much the old gentleman must have deceived himself, and how very unlikely was he to lead his hearers into his own line of thought on such a subject, either by his style of language, or his mode of expression, in reference to it. If he had known one-sixteenth part of what his years and experience would have given him opportunities of acquiring by the most com-

mon-place observation, he would have been aware of the fact, that "Science is the mother of knowledge;" and that, unless a man's knowledge is founded on scientific principles, which admit of practical illustration and definition, he may be easily led astray, and often find himself in a peculiarly perplexing position, not knowing how to extricate himself; nor being quite sure himself, as to his whereabouts, or to what he was doing.

There is such a variety of character in the human family, that it is almost impossible correctly to define the septagenarian's reason for producing this "sample of potatoes," as he was himself aware of the cause or causes of their being in the state in which he exhibited them, having, in exhibiting them to another aged acquaintance a few days previously, congratulated himself on their appearance, and the probability of their getting the prize. Would it be, that building on the reputation of a long-established character (every man judging himself too favourably), he considered they would be received as he presented them, without a question being asked? Or, would it be, that he considered "all men were fools except himself," and that they would not be able to detect the mistake he was making himself, and was willing to lead others into? Both of which faults human nature is subject to, and would make us earnest in persuading all persons to endeavour to become perfect in understanding whilst it is time; for the "night cometh, when no man seeth;" and so does old age come, when it is too late for a life spent in willing benightment of mind to become illumined by the light of reason; and they may find themselves, should they be so long spared, labouring under the same delusions as our aged friend; giving way to excitement; and whilst deprecating and remonstrating with others, and directing their attention to what they may consider applies most distinctly to their business, forgetting entirely how much of their own they had neglected and forgotten; and not knowing how much happier they might have been, had they laid their own burden aside, and run the race which was set before them with greater accuracy and correctness.—C. B. S., *Jersey*.

BEE-KEEPING FOR COTTAGERS.

Section 6.—ON THE USES OF HONEY AND THE METHOD OF PREPARING IT AND WAX FOR THE MARKET.—We are now to suppose the honey-harvest over, all supers removed, and all necessary junctions effected; if a fair share of success has attended the bee-master's efforts he will have honey in three forms; in glasses and supers; in new hives which have been joined to their parent stocks; and in old hives which have been taken up on account of age. Before explaining the manner in which he should deal with his store, it will, perhaps, be convenient to discuss its properties and uses.

In discussing the properties and medicinal uses of honey, we cannot do better than follow Dr. Pereira, making somewhat free with his inflated language as we go on. He states, that honey must be regarded as a concentrated solution of sugar, mixed with odorous, colouring, gummy, and waxy matters, and that it is emollient, demulcent, nutritive, and laxative; that when fresh, it is apt to occasion indigestion and colic, and that when collected from poisonous plants, it has been found to possess deleterious qualities. Happily for us in England, poisonous plants are not sufficiently plentiful to affect the quality of honey. The Doctor goes on to state, that when mixed with flour and spread on linen, or leather, honey is a popular application "to promote the maturation of small abscesses and furunculi" (we suppose he means "to bring boils to a head"); that it sometimes is used in making gargles, partly for its taste, partly for its emollient operation; and that in troublesome coughs, barley-water mixed with honey, and sharpened with a slice of lemon, and taken warm, forms a very agreeable and useful drink.

So far Dr. Pereira; the following passage quoted from old Butler, in "Murray's Honey-Bee," is not without interest, as detailing other properties of honey. "Honey cutteth and casteth up phlegmatic matter, and, therefore, sharpeneth the stomach of them which by reason thereof have little appetite; it purgeth those things which hurt the clearness

of the eyes; it nourisheth very much; it breedeth good blood; it stirreth up and preserveth natural heat, and prolongeth old age; it keepeth all things incorrupt that are put into it; and, therefore, physicians do temper therewith such medicines as they mean to keep long; yea, the bodies of the dead being embalmed with honey have thereby been preserved from putrefaction."

The honey which is brought to market is sometimes adulterated by being mixed with flour; the adulteration may be ascertained by putting a small portion of the honey into pure water; if the honey be pure, the whole will be dissolved in the water, and the water be still clear; if it has been mixed with flour, the water will be clouded and milky looking.

We now come to the ordinary uses of honey. Besides its uses at the breakfast and tea tables, honey, as is generally known, is the principal ingredient used in making Mead and Metheglin; vinegar made from honey is very excellent, and honey-soap is much recommended for the cure of chapped hands; for making these things, mead, metheglin, vinegar, and soap, we shall give such receipts as we have tried ourselves, or seen recommended by others whose recommendations we can safely follow.

MEAD.—The following receipt for making Mead will be found in vol. iv. page 138 of THE COTTAGE GARDENER, and makes an excellent, clear, cooling drink. "Pour five gallons of boiling water upon twenty pounds of honey, boil, and remove the scum as it rises; when it ceases to rise, add one pound of hops, and boil for ten minutes afterwards; pour the liquor into a tub to cool; when reduced to 75° of Fahrenheit, add a slice of bread toasted and smeared over with a little new yeast; let it stand in a warm room, and be stirred occasionally; and when it carries a head, tun it, filling up the cask from time to time. When the fermentation has nearly finished, bung it down, leaving a peg-hole, which may soon be closed; hottle in about a year." Of course, less than six gallons may be made by using a proportionately smaller quantity of each ingredient.

The following receipt was given to us by a cottager living near Basingstoke. The Mead made by it is stronger and much more luscious than that made by the former receipt; it is not so clean and refreshing; but being made from the washing of the combs, which would otherwise be given to the bees to clean out, or else be thrown away, it is much cheaper. Wash as many old combs in the quantity of water to be made into Mead as will make it strong enough to float an egg so far above the surface that a portion of it, about the size of half-a-crown, may be visible; boil the liquor with ginger and allspice according to taste, for about three-quarters-of-an-hour; work it with yeast in the usual way, and then tun it; stop down when the working has ceased, and (if made in the autumn) the Mead will be ready to drink in the succeeding summer.

METHEGLIN.—The only receipt which we remember ever to have seen for making is the following, which is from our old friend, Butler, and is given in his own quaint language: doubtless, it would make a very excellent beverage, though, most likely, it has not been often tried. "First gather a bushel of sweet-briar leaves and a bushel of tyme, half-a-bushel of rosemary, and a pek of bay-leaves. Seethe all these (being well washed) in a furnace of fair water; let them boil the space of an hour or better, and then pour out all the water and herbs into a vat, and let it stand till it be but milk-warm: then strain the water from the herbs, and take to every six gallons of water one gallon of the finest honey, and put it into the boorne, and labour it together for half-an-hour; then let it stand two days, stirring it well twice or thrice each. Then take the liquor and boil it anew, and when it doth seethe, skim it as long as there remaineth any dross. When it is clear, put it into the vat as before, and there let it be cooled. You must then have in readiness a kive of new ale or beer, which, as soon as you have emptied, suddenly whelm it upside-down and set it up again, and presently put in the Metheglen, and let it stand three days a working; and then tun it up in barrels, tying at every tap-hole (by a pack-thread) a little bag of beaten cloves and mace to the value of an ounce. It must stand half-a-year before it be drunk." Our friend is rather large in his quantities, and he ought to have mentioned how much his furnace held. A couple of gallons

might be tried, reducing, of course, the quantities of ingredients in proportion. The receipt is enough to make one feel thirsty.

VINEGAR.—The following receipt for making vinegar will also be found in THE COTTAGE GARDENER, vol. iv. page 338. "Put half-a-pound of honey to a quart of water, boiling hot; mix well, and expose to the greatest beat of the sun without quite closing the vessel containing it; but yet sufficiently so to keep out insects. In about six weeks this liquor becomes acid, and changes to strong vinegar, and of excellent quality. The broken combs, after being drained, may be put in as much water as will float them, and well washed. The lincens also and sieves which have been used for draining honey may be rinsed in the same water, and with this make the vinegar; first boil and scum it before mixing it with the honey." We presume that honey is only to be used in making vinegar from the washings of combs, and the rinsings of the lincens and sieves, when these rinsings are not strong enough themselves; say strong enough just to float an egg.

SOAP.—To make honey-soap, take a pound of the best curd soap, cut it into very thin slices, put it into a saucepan with a pint of milk; boil it till melted; then add two table-spoonfuls of honey, and boil it again till the whole is mixed; scent it with oil of Lavender or Bergamot, and put it into shapes.—R.

QUERIES AND ANSWERS.

GARDENING.

PEACHES IN VINERY.

"I have a small Peach-house Vinery. The Vines are trained up the rafters, and are throwing out little roots all up their rods. They are trained on the spur-system. Should those roots be removed? The Peaches are trained on trellises under the Vines, and also on the back-wall. The Grapes are just turning their colour. As I cannot use the syringe so freely now, I see the red spider has made its appearance, what quantity of sulphur would be sufficient for me to use at a time? My house is twelve feet wide and twenty-four feet long. I have, also, some Vines in pots growing from eyes; the rods are about three feet long. What length should I allow them to grow before they are stopped? Should I remove any of the buds up the rods? My house is heated with hot-water. I have a hundred of *late white Brocoli*, which were put out late last year; they have not headed yet. Do you think there is any chance of their heading if I let them remain?—A. B."

[To grow Peaches under Vines is never attended with great success, and is as certainly the cause of greater trouble to the cultivator. Do not remove the rootlets issuing from the branches until the time for autumn-pruning arrives. Those rootlets are caused by the air being kept excessively moist. Water the floor frequently and abundantly. Four ounces of flowers of sulphur will be enough for one fumigation of your house. Do not stop nor disbud your Vines in pots at all the first season. Buy Mr. Elphinstone's capital little skilling book on "Growing Vines in Pots." Your *Brocoli* was probably planted out too late for heading this year. If so, it may head next year. The plants you enclosed were—1. *Alyssum maritimum variegatum*. 2. *Oxalis rosea*. 3. *Linaria cymbalaria*.]

PEAR TREES AND ASPARAGUS.

In answer to *R. H. Gill*, we reply; Pear-trees never bear the year after planting. You must refer to back numbers for their culture. The old Pear-tree against your wall, and not bearing, probably requires root-pruning. Do it at once. The *Louise Bonne* of Jersey has not rooted well with you. Keep its roots well mulched over. *Asparagus* never should be cut until the second year after planting, and then sparingly. As for treatment of the beds, adopt the following, which is from the pen of Mr. Downing, in the American "Horticulturist." He says—

"Every one who has seen my beds has begged me for the seed, thinking it a new sort; but I have pointed to the *maure-heap* (the farmer's best bank), and told them that

the secret all lay there. The seed was only such as might be had in every garden. About the first of November, as soon as the frost has well blackened the Asparagus tops, I take a scythe, and mow all close down to the surface of the bed; let it lie a day or two, then set fire to the heap of stalks; burn it to ashes, and spread the ashes over the surface of the bed. I then go to my barn-yard; I take a load of clean, fresh stable-manure, and add thereto half-a-bushel of hen dung, turning over and mixing the whole together throughout. This makes a pretty powerful compost. I apply one such load to every twenty feet in length of my Asparagus-beds, which are six feet wide. With a strong three-pronged *spud* or fork I dig this dressing under. The whole is now left for the winter. In the spring, as early as possible, I turn the top of the bed over lightly once more. Now, as the Asparagus grows naturally on the side of the ocean, and loves salt water, I give it an annual supply of its favourite condiment. I cover the surface of the bed about a quarter-of-an-inch thick with fine packing salt; it is not too much. As the spring rains come down, it gradually dissolves. Not a weed will appear the whole season. Everything else, pig-weed, chick-weed, purslane, all refuse to grow on the top of my briny Asparagus-beds. But it would do your eyes good to see the strong, stout, tender stalks of the vegetable itself, pushing through the surface early in the season. I do not at all stretch a point when I say that they are often as large round as my hoe-handle, and as tender and succulent as any I ever tasted. The same round of treatment is given to my bed every year."

MOSSY FISH-POND.

"I have got a Fish-pond full of the kind of Moss I enclose. I think it grows from the bottom. We clean it out every other week, for in that time it is covered over again. The pond has been made many years, and has never had any in before. Can you, or any other person, give me any information how to get rid of it? All the fish come to the pond-side and die. I shall feel greatly obliged if you can tell me how to proceed, as I have asked a great many persons, but they cannot tell me anything satisfactory; some say quick-lime will kill the moss; but it will kill the fish also.—W. E. S."

[The pond weed like green hair, which you inclosed, is certain evidence that the bottom of the fish-pond is very foul, and the gas (carburetted hydrogen), which is produced from the foul sediment, probably kills the fish. The pond should be emptied and thoroughly cleaned out. It will then go on satisfactorily for many years again, unless some change has taken place in the water supplying it.

We should be very much obliged to any of our readers who would inform us how they manage their fish-ponds.]

CUCUMBERS DECAYING.

"Having this spring erected a small house for forcing Cucumbers and other things, I am much annoyed to find that full one-half of them, instead of swelling off, as they should do, seem to decay at the tips. Some say it is for want of impregnating; but I think not, as many rot off before the flower offers to expand. The house is heated by water in pipes, and a temperature of from 70° to 80° kept up. The plants are grown in a border three feet wide, and about twelve inches in depth of soil, and trained on a trellis. The house is about thirteen feet long and eight feet wide; front upright sashes to open; and three ventilators in the back wall. My own opinion is, they have been kept too moist, and not sufficient air given; but, then, we have had so little sun that I could not give air without getting the temperature below 70°.—AN AMATEUR."

[Want of impregnation you are quite right in concluding has nothing to do with the decay of your Cucumbers. Experiments have demonstrated, that for table use, Cucumbers unfertilised are best. Too much moisture in the air, and, consequently, deficient ventilation, added to dryness at the roots; or the reverse, excess of wet at the roots, and excess of dryness to the leaves, are circumstances likely to cause such a premature decay of the fruit. Whenever fruit of any kind is thus affected, it is certain that the activity of the roots and the activity of the leaves are not well balanced.]

GROWING DIANTHUS SPLENDENS, ALSTROMERIAS, AND DOUBLE WALL-FLOWERS.

"Under the title of 'Primula Sinensis,' I once before sought and obtained advice as to the culture of that lovely flower. Your kind attention then induces me to intrude again, to ask for information respecting the sowing and raising (through the coming autumn and winter) the seeds of *Dianthus splendens* and *Alstromeria*, also double *Wall-flowers*, from seed. You told me, before, that you could instruct me better if I explained my resources. With your leave I will proceed to do so. I have but one window in my cottage which I consider right to fill with plants, as I do not approve of them in sleeping apartments, and, as I told you before, I am in very truth a 'Cottage Gardener'—but with fancies respecting flowers much too large for my house or garden. This aforesaid-window to my sitting-room is of a fair size, and takes the morning sun, from its appearing above the hills near which I live until a little past noon, when my window loses the sunbeams for the day. I have also a flower-border, more than twenty feet in length by two in width, with exactly the same aspect as my window; there I raise and grow annuals, and tolerably early, with the help of a flower-pot turned upside down at night; but the *Dianthus* and *Alstromeria* I do not understand how to treat, never having raised them from seed; therefore, any information will be gratefully received. And as to the obtaining double Wallflowers from seed sown now,—may I hope to be successful? I am so delighted with the papers by Mr. Appleby on the Culture of Stocks. They are the property of humble florists, like myself; for the sweet scent, as well as the beautiful colour, is the admiration of hundreds of simple country folks, and by no one more appreciated than myself. With the help, therefore, of Mr. Appleby, I hope to astonish my neighbours with some specimens of white and purple *Queen Stocks*, having sown the seed in pots, to guard against sparrows, &c. I wish he could know how I thank him, and read over his paper with my little son, who takes in THE COTTAGE GARDENER, intending to become one when old enough; and who never comes home from school without some wild-flower for me in his basket, shewing that a love of the beautiful belongs to the poor cottage child as well as the peer's son.—PRIMULA SINENSIS."

[Your concluding lines would gain a passport to our attention, though ever so busy and wearied. In fact, the ministering to the gratification of such love of the beautiful is one of our highest rewards. We doubt not you will succeed perfectly with the Stocks, under Mr. Appleby's directions; and your sowing in pots was a piece of prudent carefulness.

Of course you are well acquainted with the Sweet William (*Dianthus barbatus*), which, if sown in your border now, and defended from slugs in winter, will be in bloom nicely at this time next year. The *Dianthus splendens* we do not happen to know, unless it be a rather weak-growing species, or variety, with smallish leaves and beautiful dark flowers—a little tender, requiring a little protection in winter, and which, if sown now, would better be intrusted to a pot, housed in the window in November, and planted out next March or April. Light sandy soil would suit it best. If it is a peculiar fine kind you have got, and very different from Sweet William, then we would advise protecting it a little in winter. The Sweet William is as hardy as a Gooseberry, and looks well in winter from being so nice and green.

We can hold out but little inducement to your raising double Wall-flowers from seed. Double flowers are propagated from cuttings. Frequently semi-double, or rather less than that bear seed, but we have seldom found anything like double flowers coming from them. If you sow your Wall-flower seeds directly, in a corner of your border, and transplant them in November or October, you will have them in bloom early in the spring. If you have reason to believe that you have got fine kinds, you had better sow in pots likewise; and some you might keep in the pots all the winter, plunging the pot, and placing a branch or tree over the plants in cold, severe weather. You would require to give a similar protection to double flowers raised from cuttings, or, if very small, they would like to be inside the window.

As to *Alstromerias*, we wish you had made the enquiry three or four months ago. Most of the varieties from *Aurea*, and those brought from Chili, and raised by Van Houtte, thrive very well out-of-doors, provided the roots are protected from severe frost; and the best mode of securing this, when the weather is not excessively severe, is to have the strange-looking roots from six to ten inches below the surface of the soil. Seeds of *Alstromerias*, at least many of them, do not retain their vitality long, and, therefore, when plants are thus raised, the seeds are generally sown in autumn, or early in spring. On the principle better late than never, we would advise sowing directly. Drain a six inch pot well, and then fill it rather more than three-parts full with light sandy soil; steep the seeds in water, for a few hours, that has been made as warm as new milk. Sow them regularly a little distance apart, either in this one, or in several pots, according to the quantity. Cover them with similar soil, about the thickness of the eighth-of-an-inch; water; place a square of glass, or a saucer over the top of the pot, and place it in the window during the day, and near the fire-place at night; these modes being adopted to make up for loss of time. As soon as the plants appear they must have more light and air. When a couple of inches high, the pot may be half plunged in the border, taking care that the water passes away freely from it by leaving a cavity below it. As the plants grow, a little fine earth may be trundled gently in amongst them, at different times, and we had this in view when we did not recommend filling the pot with soil at first. As the nights get cold, the pot had better be transferred inside the window for winter, and if the plants are kept slowly growing, the stronger they will become afterwards. If they are inclined to die down, then let them, but just keep the roots inside below a table, anywhere from the frost during that winter. In either case the plants may be turned out in the border next April, having previously supplied it with a good depth of sandy loam. The plants should be placed as deep as would not smother them—six inches down their roots should be. Some will flower during the summer, but most will come strong and bloom beautifully the summer following.]

THEOBROMA CACAO, OR CHOCOLATE TREE.

"My *Theobroma Cacao* has flowered well, and made fine new shoots. It looked remarkably healthy up to a week ago, since that time it looks pretty well for the first two or three hours in the day, but about ten or eleven in the morning it flags, and the ends of the branches and the leaves all hang down as if the plant was going to die, and so it continues all day. The following morning it is better again. This has continued for seven or eight days. Can you tell me what is the matter, and recommend the means I should adopt?—A. B."

[The appearance your *Theobroma* presents is not uncommon, and is generally the result of one or two causes. First, insufficient watering. Last season we had a splendid *Rhododendron* that served us the same way; we were assured it had been well watered, and certainly the surface was damped. We gave it several good soakings, and that cured the evil. Secondly, making wood and leaves faster than there was light to consolidate them. We think this is very likely the case with your plant. Stove plants are very subject to it if kept growing freely in dull weather. If you are sure there is no want of moisture at the roots, then shade from the sun for a few hours in the hottest part of the day, and syringe the leaves, so as to keep them from perspiring when the light and heat are powerful. Remove all shading as the sun declines, and if the description of your plant is perfectly accurate, we have no doubt your plant will, ere long, be all you can desire.]

OPENING THE FRONT LIGHTS OF HOTHOUSES.

"I am erecting two, one six lights long, the other eleven. The lights are four feet high, and I propose hanging them from the top. I have seen some account of an invention to open them all at once with a screw, but how I do not know, nor how it answers. I think there is a great objection to the great long irons sticking out that we generally used to see. Which would you give the preference to, a bed for plunging plants in, or a stage for a foreing-house and stove plants?—A CORRESPONDENT, *Norfolk*."

[Some day we may revert to the mechanical means for opening the sashes of hothouses simultaneously, such as those in use at Trentham. After thinking the matter over, and keeping in view your mode of hanging your front sashes, as simple and as effectual a mode would be the following:—Obtain a flat bar of iron, say one inch wide and three-eighths-of-an-inch thick, and the length of the front of the house; prepare a shallow groove, so that it may slip easily backwards and forwards. For a foot or eighteen inches in length of this bar of iron, at one end, let teeth or knobs be fixed, so as to fit to the openings of a ratchet-wheel placed beneath it, and which can easily be turned round by means of a small handle. Suppose you have this placed at the west-end of your house, you can move the bar eastward or westward, just at your pleasure. The power is thus gained; all that is wanted is to connect this moving power with a lever to open the sashes outwards. Obtain as many pieces of iron as you have sashes you wish to open, keeping in mind that you can do nothing with the one which your ratchet-wheel is opposite to. Let these be about half the size and weight of the main rod, and from a foot to eighteen inches in length, the greater part being nearly straight, and the other curved into the segment of a circle. Fasten the end of the curved part to the centre of the bottom of the sash, and after coming from there to the main bar, let it be brought along parallel with it, and there rivetted with a moveable joint, so that it turns on a pivot. Now move your rod to the eastward, and the pressure against the sashes will force them open, from the smallest space to the length your little opening rod lies upon the main one. Turn the rack the other way, and all are shut at once. By such means there are no unsightly long rods coming in your way. "Do you have such a contrivance yourself?" "No! but were we building like you, we certainly should." There is always a great advantage in being able to plunge hothouse plants when desirable, and you can give the plants the benefit of a stage at any time, by setting the plants on the surface, or even elevating them on a pot.]

POULTRY.

CURE OF ROUP.

"Having tried almost every receipt that has been recommended for what I believe to be the *roup* in my fowls, and receiving no benefit, I, in despair, am induced to trouble you myself, and shall be greatly obliged if you can recommend anything to effect a cure. They are first taken with a gaping, and drink an immense quantity of water, their heads swell, and there is a discharge from the eyes and nose, and their eyelids stick close together, so that they become quite blind, and the discharge smells very disagreeable. I keep two dozen hens, and have about 130 young chickens, and have lost about twenty with this disease, and nearly the whole of the others are affected with it, more or less. I feed them on whole barley, and barleymeal, boiled rice, &c. They have a paddock of about three acres, and plenty of rubbish to dust in. Some of the old ones had it before they began to lay, but they do not appear to have anything the matter with them now. I had excellent luck in hatching, the first seven hens bringing off eighty-six chickens.—J. GOLD."

[The disease you describe is unmistakably true Roup, an affection of the lining membrane of the nose which extends to the eyes. I believe that in the putrid state (indicated by the peculiar and disagreeable odour) it is highly contagious; if this view is correct, little benefit can be expected, unless the diseased fowls are removed from the run. If this had been done originally, the house lime-washed and cleaned, and the water-vessels, &c., scalded, the disease would, in all probability, have been got rid of. As it is, I should remove the worst, and drop into the nostrils of all, either from the front, or through the slit in the roof of the mouth, which is easily done with a small quill open at both ends, a solution of blue vitriol, alum, or some other strong astringent (ten grains to an ounce of water). The quill is used by dipping it into the solution, and then closing the upper end with the finger, when it remains filled until the finger is removed. If this is done, and some stimulating food, as peppered meal, or cayenne, a little meat, &c.,

given, all is done that can be for the cure of this most troublesome disease. Should these plans be thought too troublesome, I should recommend the strong astringent to be given internally. I think I have seen more benefit from half a grain of blue vitriol twice a-day, in meal, than from other internal remedies. For a lengthened account of the disease, refer to an article in Number 268, which is at page 127, of Volume xi.—W. B. TEGETMEIER.]

PIGEONS NOT PAIRING.

"It is not long since I saw your answer to me in THE COTTAGE GARDENER about the Jacobins not pairing, as I had been out for a long time. I kept the Jacobins in a cage together for ten weeks, and they did not have any eggs (the Jacobins are a pair); but, as soon as I let them out, they instantly paired with other Pigeons and had eggs. What would you advise me to do now, as I want very particularly to have some young Jacobins; but the young ones that I get are only half-bred? What would the Pigeons be called that were bred by Jacobins and Tumblers? An answer to this would greatly oblige as soon as possible.—R. STONE."

[Adopt the common pairing-cage, with a division in the centre, so that the Pigeons are continually kept in sight of each other, but secluded from others, until such time as appearances indicate their desire of matching; for this effect, a week or ten days is usually sufficient.

The offspring of Tumblers and Jacobins would be simply a mongrel—to be consigned to execution so soon as they attain sufficient size.—W.]

SHELL-LESS EGGS.

"I keep six Cochin hens. I do not get a single egg; every one laid is soft. It is grievous sometimes in the morning to look into the house to see the remains of three or four that have been dropped during the night. I have just lost my best hen, and, I believe, in consequence of exhaustion from repeatedly laying these eggs. I have tried the remedy specified in your prescription till I am tired of it. I have pilled them, to no purpose, for the week together. I fancied they were fed too liberally, as they had always food by them—namely, barley, and the broken pieces of kitchen-stuff; therefore, lately, I have limited, even stinted them, fancying they were getting too fat; but all has been of no use. They are well supplied with water. Their house is small; but, I think, sufficiently large for the number, namely, three feet by six, and five feet in height; it is of brick and tile, with brick floor; it is well ventilated, as the door is open all day, and a tile is always kept removed. They have the range of a gravel-yard thirty yards square. Respecting the house, I might have observed, that it is not kept so clean, perhaps, as it might be; but it never goes more than a fortnight—sometimes it is cleaned weekly. I should, however, think this is not the cause, as the hens all look perfectly healthy. In one thing only have they been hitherto deficient, that is in being provided with raw meat; they have plenty of green food; as they cannot procure worms, &c., in the yard (being gravel) I have lately been advised to give them raw meat. Do you think that will be a remedy?—ONE DISAPPOINTED."

[Confinement in a small yard, combined with too stimulating diet, are the causes of the eggs being laid soft, added to the want of chalky matters from which to form the shells. Give the hens no meat. Let them have the bones from your table to pick. Give them barley in the morning, and soft food, such as pollard and barleymeal mixed, boiled rice, and mashed potatoes in the afternoon. Your idea of "plenty of green food," may be too limited; they cannot have too much of it. Your hens are too fat, and their egg-systems are inflamed. Let them have a constant supply of pounded chalk, or whitening, such as plasterers use for white-washing; or burnt and powdered oyster-shells. We have our hen-roost cleaned out almost daily. Dirt and disease are almost as synonymous as their initial letters.]

TO CORRESPONDENTS.

STRAWBERRIES NOT FRUITING (*A Subscriber*).—The frost in April may have killed the blossom; or, if very leafy, you may have manured them too highly. We cannot give a decided opinion without more information.

DEPILATORY (*A Distressed Female*).—Orpiment quarter-of-a-drachm; finely powdered quick-lime and starch, of each three drachms. Mix and keep in a glass-stoppered bottle. For use make it into a paste with a little warm water, and apply the paste to the part previously shaved close. As soon as the paste has become thoroughly dry wash it off with warm water.

PARROT (*Chatterer*).—Enquire among the bird dealers in and near St. Martin's Lane.

SECOND CROP OF HAY (*Ignorance*).—Liquid-manure is the most effectual for obtaining a second crop. It is not at all uncommon for a white Shanghai chicken to come from variously coloured parents.

POULTRY KEEPING FOR PROFIT (*A Young Beginner*).—First-rate Spanish and Dorkings alone excepted, there has been a general depreciation in the prices of fancy poultry since last year. In Spanish, to which you specially allude, the uncertainty as to the quality of the produce would prevent any accurate estimate of value until the chickens have nearly reached maturity. If you intend breeding Spanish for sale next season, it must be regarded as a matter of speculation, and birds of high merit, such as alone should be selected for breeding-stock, will not be attainable at the price you mention, viz., £1 a head, however numerous inferior specimens at a few shillings each. The choice of the fowls to be kept by any individual, with a view to a profitable sale, depends so entirely on his special circumstances as to locality and other conveniences, that general advice, without a knowledge of such conditions, would be far more likely to do harm than good. Any dealer can supply you with Rouen ducks, which we certainly consider preferable to the Aylesbury. It is contrary to all reason to suppose that the eggs can exert any influence, such as you allude to, on the incubating hen; or, that the latter can induce an organic metamorphosis in the form of the embryo in the egg. Some error, therefore, must have misled your observations.—W.

VINE-LEAVES DISEASED (*W. C. Whitehaven*).—Judging from the starved appearance of the leaf inclosed, we think there is something wrong at the root of the Black Hamburgh. The dark-coloured fungi are very likely to arise from a stagnant state of the sap. We should dust the leaves with flowers of sulphur, and apply some manure to the roots, besides keeping the surface mulched throughout the summer.

NAMES OF PLANTS (*A. S. B.*).—Your Fir is *Abies Smithiana*, or, *A. morinda*, of some botanists. (*Falcatia*).—1, *Eriogonum prostratum*; 2, *Geranium sanguineum*; 3, *Helianthemum vulgare*; 4, *Genista Rhodophtii*. (*R. S. K.*)—1, *Acacia longifolia*; it is not hardy; 2, *Chamaerops humilis*, not hardy; 3, *Deutzia straminea*; 4, *Amelanchier vulgaris*; 5, *Helianthemum vulgare*; 6, *Lychnis diurna*; 7, *Hieracium*, cannot make out the species; 8, *Veronica*, cannot make out the species. Specimens in very bad condition. (*J. S.*)—*Symphytum asperinum*. Other question next week. (*F. H. S.*)—Your Orchids are, *Epidendrum enclicatum*; the spotted one an *Epidendrum*, allied to *E. pietum*; a variety of *Gongora maculata*; and the fourth plant is not a *Sinningia*, but a *Gesnera*, related to *G. mollis*. (*W. X. W.*)—1, *Viola grandiflora* (?); 2, *Hieracium*; 3, *Solanum*. Specimens too bad to determine specific distinctions. (*Sancho*).—Probably *Campanula alpina*. (*Daisy*).—*Onosma taurica*, or Golden Onosma. (*G. A.*)—*Silene anglica*. (*C. K. C.*)—The Ferns enclosed by you, are 1, *Hypolepis Dicksonioides*; 2, *Pteris aquilina* in the seedling state, and probably drawn up in heat (two specimens); 3, *Nephrodium molle*.

Those who do not take pains to send good specimens, and packed in damp moss in a box, so as to facilitate our examination, we are reluctantly obliged to say we must decline endeavouring to name their plants.

CALENDAR FOR JULY.

FLOWER-GARDEN.

ANNUALS (Tender), bring out from frames; dress; give fresh earth; stake and tie. **ANNUALS**, sow for autumn; transplant generally. **AURICULAS** in pots, dress and water judiciously; seedlings transplant; old plants repot, c. **Box edgings** clip, b. **BUD roses**, jasmines, &c. **BULBOUS ROOTS**, take up (see June); seeds sow. **CARNATIONS**, attend to (see June); shade and shelter during hot weather; water freely, and give liquid-manure. **CHRYSANTHEMUM** suckers separate and plant; layer. **CUTTINGS** of most herbaceous plants will root now, and of all the scarlet Geraniums, if planted on a south border, b. **DALIAS** require support and pruning. **EDGINGS**, clip. **EVERGREENS**, prune; seedlings, prick out. **FLOWER-BEDS**, stir surface often; train; stop and often regulate the plants, to get an uniform growth and bloom. **GRASS** mow and roll freely. **HEDGES**, clip. **HOR** and rake at every opportunity. **LAYERING** Carnations, &c., may be performed, b.; water freely; transplant rooted layers. **LEAVES**, decayed, remove as soon as seen. **LIQUID-MANURE**, give occasionally to flowering shrubs. **MIGNONETTE**, and a few other quick-flowering annuals, may be sown, b., for autumn. **PIPING OF PINKS**, &c., may be still practised, b. **PELARGONIUMS**, cuttings, plant, b. **POLYANTHUSES**, seedlings, transplant; roots of old, part. **ROSES**, bud, layer, and make cuttings of, b. **SEEDS**, gather as they ripen. **STAKE** and tie up the plants whenever necessary. **TRANSPLANT**, b., from the reserve garden in damp or dull weather. **WATER** freely, not only the roots, but over the foliage. D. BEATON.

GREENHOUSE.

AIR, admit freely night and day, unless when stormy; make an exception, however, in those cases where growth is still desirable. There shut up early, and use the syringe morning and evening. **BUD** and **GRAFT** oranges, camellias, azaleas, climbers, &c. **CINERARIAS**, cut down, plant out-of-doors, or keep in pot, according as you wish to grow

from suckers, or merely by thinning-out, or dividing the old plants when growth has commenced. CUTTINGS, make and plant, placing them in cool pits at a distance from the glass, or in a mild bottom-heat, according to their requirements. Dress and keep everything neat. CALCEOLARIAS, give manured water; fumigate when necessary; cut down early blooming; thin the pods of those left for seed, as one pod will give hundreds of plants. Fine kinds done flowering, cut down and plant in light soil, on a north border; sow seeds of these and Cinerarias to have them early; for moderate early blooming in spring, it will be time enough a month hence. GERANIUMS, cut down the forwardest; tie and train successions; prepare for early supply of cuttings; they will do better now stuck in an open border than two months hence in pits or frames. HEATHS, cut down and prune when done flowering; give plenty of air to those in flower; shift those starting again after being pruned; and propagate by seeds and by cuttings in a pit under hand-glasses. Examine all PEAT PLANTS as respects water, for if dried up several times death is next to certain; your only chance is to set the pot or tub in water until all is saturated, and then allow it to drain. All HARD-WOODEN PLANTS must receive similar attention; the more sun they can stand now, the rougher and colder the treatment they will stand in winter. SEEDLINGS of all kinds prick off as soon as up, or they will be apt to fox off at the surface of the soil. SNAKE when necessary, especially things not well rooted; it is better in bright weather than more air or delugings of waterings. SHIFTING must be attended to with all successions, such as fuchsias, geraniums, balsams, cockscombs, &c., and free-growing, quick-blooming plants, as *Achimenes patens* and *coccinea*. *Tropæolums*, and other twiners and climbers, must be trained and fastened daily. One of the prettiest ornaments for a window is the *Tropæolum pentaphyllum*; when done flowering, keep bulbs in dry earth until they vegetate. WATER must now be given with great judgment, especially to newly shifted plants that have been transferred from a small to a large pot. In general circumstances, there is now as much danger from want of water as in winter there was the danger of giving too much, and giving it when not required. All bulbs that have finished flowering and growing are an exception; as soon as the leaves get yellow they should be encouraged to get into a state of rest as soon as possible by withholding water. Those that have their leaves yet green should be assisted with water until the bulbs are mature.

R. FISU.

FRUIT GARDEN.

APPLE ESPALIERS, train, thin, and stop. APRICOTS, pick off caterpillars, stop and train. CHEERRIES, cleanse from fly and protect from birds. CUCUMBERS, thin and stop frequently, and reserve specimens for seed. CURRANTS (red and white), prune back all side spray and top. CURRANTS (black), water freely. FIGS, thin out the wood, and stop. GOOSE-BERRIES, exterminate the caterpillar; thin out where bushes are overloaded. INSECTS of all kinds exterminate. MELONS, train, stop, thin, set fruit, and water freely when swelling the fruit; also syringe on fine afternoons. NECTARINES, as Peaches. NUTS remove superfluous spray from the interior of the bushes, also suckers. PEARS, remove waste shoots, stop, &c., according to advice previously given; thin fruit if too thick. PEACHES, make a final thinning of both fruit and wood; stop gross shoots wherever found. PLUMS, beware of the fly; stop, and thin. RASPBERRIES, thin suckers, and stop when more than five feet high. STRAWBERRIES, keep down runners, and water late kinds. VINES, remove extra laterals from those ripe, and continue stopping late grapes; water border, if dry and sound beneath, in dry weather.

R. ERRINGTON.

FLORISTS' FLOWERS.

AURICULAS and POLYANTHUSES, supply with water in dry weather; repot such as were not done in spring. CARNATIONS and PICOTÉES, shade from sun, and shelter from wind and rain; layer them as soon as the shoots are long enough. CINERARIAS, put in slips of as cuttings; transplant seedlings. CALCEOLARIAS, treat similarly. CRYSTANTHEMUMS, advance a stage by repotting. DAHLIAS, attend to tying; see the ties are not too tight; thin branches where too numerous; place traps to catch earwigs; look out for slugs, and if any are found water the ground with lime water; mulch freely, if not already done; and water abundantly in fine weather; put stakes to, if not done before. Cuttings put in of new and rare sorts; shelter the flowers when they open (See next month's Calendar). FUCHSIAS now in flower, supply liberally with water; repot such as require it. HOLLYHOCKS now advancing to flower, keep well tied to the stakes; mulch and water freely. HYACINTHS, take up, dry, and store. PANSIES, save seed from; layer; protect from adverse weather; put in cuttings; seedlings transplant where they are to flower. PELAGONIUMS, specimens of, cut down; give no water till they give over bleeding; put in cuttings; pot off those that have struck. PINKS, cut off decaying blooms; layer, and pipe—it is not yet too late. RANUNCULUSES, take up, dry, and store, e. ROSES, cut off all decaying flower and flower-stems; destroy insects on, or the autumn bloom will be spoilt. TULIPS, take up, dry, and store, e. or b. WATER all florists' flowers in pots freely in dry weather.

T. APPELBY.

FORCING HOUSE.

BORERS, attend to. BOTTOM-HEATS, minimum 50°, maximum 90°, CHEERRIES, secure from sudden changes, may sink gradually to rest; use a little liquid-manure. CUCUMBERS, water and stop regularly; beware of insects. FLOORS, moisten twice a-day. FIRES, try to forget at present. FIGS, be sure the root is moistened; stop every shoot when four or five inches. GRAPES ripening, give abundance of air of a dry character; succession crops give air and moisture; thin, tie, train, stop, &c. INSECTS, continue to destroy. LIQUID-MANURE, apply where needed. MELONS, sustain the foliage for a second crop; proceed as before with very late ones. MOISTURE, ROOT, see well to; in air, should be well kept up, except with ripe fruit. NECTARINES, as Peaches; neglect will prove painful in the end. PEACHES, stop, train, and thin foliage, to colour fruit; late crops, apply liquid-manure. PINES, fruiters, use liquid-manure, clear; sustain a bottom-heat of 85°; shut up hot and moist. PINES, successions, frequently sprinkle; shift boldly when requisite, and air liberally, to keep them sturdy. VINES, young, train carefully, stop frequently, and apply liquid-manure, if moisture be needed. VENTILATION, forget not by day, and all night if possible; be not niggardly. WATERING, attend to constantly.

R. ERRINGTON.

PLANT STOVE.

AIR, give most abundantly by day, and partially by night. AMARYLLIS BULBS that have done flowering, place in a cool house, to cause a state of rest. *Amaryllis* (*Hippeastrum*) *allica*, pot, and plunge in heat. *ACHIMENES PICTA*, put into wide shallow pans, and start into growth. *APHELANURA AURANTIACA*, pot and grow on, to flower in winter. BASKETS, any plant in, water freely, by dipping them in a cistern of well-aired water. BASKETS with drooping plants dip frequently. *BEGONIAS*, to flower in winter, repot and grow on freely. *EUPHORBIA JACQUINFOLIA*, *ERANTHEMUM STRICTUM*, and *ERANTHEMUM PULCHELLUM*, require liberal treatment now, to cause them to bloom well in winter. BULBS, done blooming, remove into a cool house, to induce rest. CLIMBERS, tie in, and keep clean from insects. CUTTINGS of various kinds of fast-rooting stove plants may be put in now successfully. CUTTINGS that are rooted, pot off, and shade for a few days. *GLOXINIAS* and *GESNERAS* done blooming, set out in the air in an open situation, to induce them to rest; lay the pots on one side to keep off heavy rain. *GESNERA ZEBRINA*, repot to bloom in winter. *IXORAS*, give the last potting for the season to such as are intended for specimens; tie down, to allow the young shoots to spring up in the centre; stop these, to cause bushiness. MOISTURE, supply to the internal air liberally. *POINSETTIA PULCHERRIMA*, pot and place in heat, to start into growth freely. PLANTS (young), remove as many as possible into cold frames early in the month; this gives them a stout hardy habit, and helps to keep down insects, especially the red spider. POTTING may yet be done for all freely-growing young plants. REST, give to all bulbous plants, and early flowering shrubby and herbaceous plants. SYRINGE, morning and evening, to keep down red spider, and to wash the dust off the leaves. WATER, apply in abundance to the freely-growing species, but withhold it from such as have made their annual growths.

T. APPELBY.

ORCHID HOUSE.

AIR may yet be given freely, and moisture in liberal supplies, by wetting the walls, walks, and pipes two or three times a day. BLOCKS, syringe daily, except such as may have ripened their pseudo-bulbs; remove such into a cooler and drier house. DENNROBES, continue to grow on for another month; water them abundantly. INSECTS breed fast during this month: apply the usual destroying remedy quickly and effectually. The white scale propagates the fastest of any of its class: wash the plants infested with it with a strong soap water worked into a lather, and laid on warm, but not hot. SYRINGE all the plants daily during the month, excepting it should prove cold and cloudy; let every part be kept neat and clean in every plant house. TOP-DRESSING; during this month go over all the plants, sponge the leaves, and top-dress such as require it. WATER freely all growing plants, but as soon as the new pseudo-bulbs are fully formed, withhold water, and place the plants in a cool house.

T. APPELBY.

KITCHEN-GARDEN.

ALEXANDERS, earth up in dry weather. ARTICHOKEs, attend to. ASPARAGUS, discontinue cutting; keep clean from weeds. If salting has been attended to, none will appear; but earth-stir with some pointed instrument. BEETS, see that these are well thinned out; use the hoe freely. BROAD BEANS, save seeds from the best kinds; a small planting may be made of the *Early Mazagan* kind in an open south border, and well watered at the time of planting, should the weather be dry. BORAGE, sow, and thin out a foot apart. BORECOLES, plant out and prick out; in all cases well water at the time of planting. BROCOLIS, treat the same. CABBAGES, plant out; sow seed about the 20th of the month, in an open situation, should the weather be dry, well water previously to sowing. CAPSICUMS, earth-stir among frequently. CARROONS, attend to earthing-up, &c. CARRAWAY, collect seed, &c. CARROTS, see that all are well thinned out, and use the hoe freely among them. CAULIFLOWERS, plant out; supply those that are forward in growth with plenty of water; invert a few leaves over the heads of those turning in. CELERY, plant out in earnest, and attend to earthing-up forward crops, and look after seed as it ripens. CHAMOMILE, keep clear from weeds, and collect flowers. CUCUMBERS, attend to daily, as to thinning, topping, training out, top-dressing and watering. The hand-glass crops, fork up the earth round about their roots, allowing them sufficient room to run out freely. ENNIVE, of both sorts, make a good sowing towards the middle of this month, and plant out previously sown plants. GARLIC and SHALLOTS, take up and dry off for winter use. HERBS of any kind, cut and dry when in bloom. KIDNEY BEANS (dwarfs), at this late season, should be sown in open, warm borders. KNOTTEN or SWEET MARJORAM, attend to earth-stirring. LEEKS, plant out, b. LETTUCES, sow or plant out, tie up in succession, and seed look after. MELONS, attend to earthing-up late planted out crops; do such work in the afternoon; shut up close; setting the fruit is best done about 10 or 11 o'clock in the forenoon; give plenty of air to those ripening off their fruit; be sparing of the water among the ripening fruit. ONIONS, well thin out, weed, and earth-stir; press down stiff-necked onions as they advance in growth. PARSNIPS, use hoe freely. PEAS, at this late season, sow early kinds in warm situations; well water at the time of sowing in dry weather; save seed from the best favourite kinds. In all kinds of PLANTING-OUT, take advantage of dull weather, and water well at the time of planting. Make good use of the HOE in dry weather, in cutting down weeds and earth-stirring. We never like to see the rake used much in the kitchen-garden. RADISHES, sow where required. SALSIFY and SCORZONERA, thin out, and hoe among, b. SAVOYS, plant out. SEEDS of all kinds look after, and collect as they ripen. SPINACH, sow in succession, and thin out. SWEET BASIL, earth-stir among. TURNIPS, sow in succession, and attend to thinning-out; use the hoe freely among them. Particularly attend to planting out this month; water, and use the hoe. VEGETABLE MARROWS, train out and thin out.

T. WEAVER.

WEEKLY CALENDAR.

D M	D W	JULY 6-12, 1854.	WEATHER NEAR LONDON IN 1853.							Clock of Sun.	Day of Year.	
			Barometer.	Thermo.	Wind.	Rain in Inches.	Sun Rises.	Sun Sets.	Moon R. & S.			Moon's Age.
6	TH	<i>Aëpus flavescens.</i>	29.940-29.886	77-58	S.W.	—	53 a 3	16 a 8	0 36	11	4 21	167
7	F	<i>Colymbetes fontinalis.</i>	29.919-29.809	84-63	S.E.	14	53	16	0 59	12	4 31	188
8	S	Oxford Term ends.	29.960-29.896	79-59	N.E.	14	54	15	1 32	13	4 40	189
9	SUN	4 SUNDAY AFTER TRINITY.	29.925-29.869	81-57	S.	05	55	14	2 19	14	4 50	190
10	M	<i>Trichius fasciatus.</i>	29.906-29.425	70-47	N.W.	01	56	14	rises.	☺	4 58	191
11	Tu	<i>Salpingus 4-pustulatus.</i>	30.128-29.979	72-46	S.W.	—	57	13	9 a 2	16	5 7	192
12	W	<i>Apion vicieæ.</i>	30.017-29.944	76-47	S.W.	—	58	12	10 20	17	5 14	193

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 75° and 52° respectively. The greatest heat, 94°, occurred on the 9th in 1847; and the lowest cold, 38°, on the 10th in 1851. During the period 123 days were fine, and on 66 rain fell.

BRITISH WILD FLOWERS.

(Continued from page 229.)

DRABA.—WHITLOW GRASS.



Petals either cloven, notched or entire, spreading, with short claws. *Filaments* simple. *Anthers* of two roundish lobes. *Germen* egg-shaped. *Style* very short, or none. *Stigma* a round head, flat. *Pouch* oblong-oval, laterally compressed, entire, tipped with the style or stigma, of two cells; valves nearly flat, separating from the bottom; partition membranous, of the same shape and breadth. *Seeds* many in each cell, small, roundish, without a border; cotyledons accumbent.

DRABA AIZOIDES: Yellow Alpine, or Hairy-leaved Whitlow Grass; Sea-green Whitlow Grass.

Description.—It is a perennial. *Stems* tufted, about two inches high, repeatedly branched in a determinate manner, the leafy branches of the present year bearing each a solitary, terminal, naked *stalk*, with a few bright yellow clusters of *flowers*. *Petals* yellow, slightly notched, twice the length of the calyx. *Anthers* yellow. *Leaves* very numerous, closely imbricated, linear-lanceolate, rigid, of a shining green, keeled, fringed with white bristly hairs.

Time of flowering.—March and April.

Places where found.—Very rare. On rocks and walls near Swansea.

History.—It was first discovered to be a native plant, in the year 1795, at Wormshead, about sixteen miles west of Swansea. The discoverer was John Lucas, Esq., of Stout Hill, in that neighbourhood. It is a pretty, agreeably-scented plant, and well suited for rockwork. It is abundant in Switzerland and other alpine continental districts. It was known to Clusius and others of our early botanists, but they called it *Sedum petraeum*, or Rock Houseleek with small yellow flowers. The generic name *Draba*, is from *drabe*, acrid, the leaves of some of the species being very pungent; the specific name, *aizoides*, or Aizoon-like, from its resemblance to one species of the genus Aizoon. The genus belongs to *Tetradynamia siliculosa* of the Linnæan system.—(Smith. *Withering*. *Martyn*.)

GENERIC CHARACTER.—*Calyx* equal at the base, somewhat spreading, deciduous; leaves egg-shaped, concave.

ONE of the most striking phenomena in vegetation is the power which plants possess of making unnatural efforts to propagate and secure the extension of their species. It may be justly characterised as their "beings end and aim." Thus, as the seed of *Polygonum viviparum* and *Poa alpina* are often, from their alpine birth-place, incapable of ripening, those plants produce among their flowers a kind of bulb capable of growing and producing a perfect plant. If Strawberries are prevented bearing fruit they become abundantly more productive of runners; and many shrubs and trees, when similarly deprived of the opportunity to produce seed, struggle to diffuse themselves by throwing up numerous suckers from their roots.

It is very unusual for the flower-stems of any plant to retain even their vitality for any length of time after being cut, but, in the case of the Hollyhock, they have

such power, and to continue the processes of vegetation until they have perfected seed.

Messrs. Paul, of the Cheshunt Nurseries, exhibited, at Glasgow, about twelvemonths since, some very beautiful spikes of this flower, and they have sent us the following narrative of the subsequent adventures of those spikes, which they justly characterise as "a very extraordinary instance of the power with which vegetable life is endued for the preservation of its kind."

After the Glasgow Show was over, nine of the spikes were taken by Mr. James Neilson, auctioneer, of Falkirk, who thus pursues their history:—

"They were immediately put in water and placed on a table, so as to continue the gratification of viewing them as long as they would remain fresh. After ten days, however, they began to assume the sere and yellow leaf, and hence they were removed, and laid on a heap

of short-grass, in which there was a considerable heat. I did not think more of them until a few days afterwards, when, passing the heap, I observed seed-pods forming on them; I then removed them, cut a small portion of the lower end off each spike, and placed them in wet sand, under glass, for about four weeks, when I considered the seed to have been ripened. I then took them out of the sand, and laid them carefully aside to dry for a few days. I afterwards removed the seed-pods from the stems, and kept them till the middle of April last, when I sowed the seeds on a hotbed under glass, and have now the satisfaction of seeing upwards of sixty fine, healthy, young plants, the produce of my friend's noble flowers, which so deservedly carried off the first prize at the exhibition alluded to."

THE June Meeting of the Entomological Society was well attended, although the unpropitious weather of the preceding six weeks had had a very visible effect upon the extent of the captures of rare insects, of which much fewer novelties and rarities were exhibited than is ordinary at this season. W. W. Saunders, Esq., F.L.S., Vice President, was in the chair.

Amongst the donations, a fine collection of insects of all orders, from Burmah, presented by Mrs. Hamilton, was especially noticeable. It contained many rare, and several new, species, including a new Goliath beetle, allied to *Naryeius*; the female only had been received, but, from analogy with *Naryeius opalus*, the male will most probably have a pair of long porrected horns on the head. An especial vote of thanks was unanimously passed in acknowledgment of this and several donations of a similar character from the same lady, by whom, also, a number of beautiful drawings of the transformations of various Indian Lepidoptera were exhibited.

Mr. Samuel Stevens exhibited a moth, belonging to the genus *Leucaneta*, affixed to a blade of grass by a fungus which had grown from its body. This fact was of some interest in connection with the growth of the fungus in the bodies of living silkworms, by which so many are destroyed; the disease being known by the name of *Muscardine*, and consisting of a white fungoid powder bursting forth all over the surface of the body. Mr. Stevens also exhibited a fly, which had been impaled upon the sharp point of a reed by the wind. Insects impaled on thorns had often been observed, and their position in such situations had been attributed to the Butcher bird; but several recent observations rendered it certain that in some instances they were impaled by the force of the wind. Mr. S. Stevens also exhibited a specimen of the Maple prominent moth, *Notodonta cucullina*, bred from the larva taken at Halton, Bucks; and stated that he had been successful in obtaining a brood of caterpillars from the eggs deposited by the female of the very rare *Notodonta carmelita*, which he had exhibited alive at the last meeting, from Sherwood Forest.

Mr. F. Smith exhibited some rare Hymenoptera, sent from Perthshire by Mr. Weaver; amongst them were

specimens of *Osmia parietina*, obtained from a nest found beneath a stone; an apparently new species of *Andrena*; and a variety of *Andrena clerckella*, identical with specimens from Nova Scotia, in the British Museum collection, which he had considered as a distinct species.

Mr. Jansen exhibited two boxes of Coleopterous insects, also received from Mr. Foxcroft, including the following rare beetles—*Elater lythropterus*, of Germar (*E. sanguineus*, of English authors, but not of Linnæus), *E. impressus*, of Fabricius, but not of Marsham; *Pogonocherus fasciculatus*, *Dictyopteryx aurora*, *Sericosomus brunneus* and *fugax*, &c.; also a specimen of the larva of *Polia tineta*, with two fungoid excrescences, emitted from the head of the insect whilst alive, which were said to be as green as grass when they first appeared.

Mr. Douglas exhibited specimens of *Elachista ceruceella*, lately reared from the larva state; and Mr. Boyd, specimens of *Elachista treitschkiella*, reared from the *Cornus sanguineus*, within the leaves of which the young caterpillars burrow whilst very young, afterwards forming small, flat, oval, movable cases of bits of the leaves, within which they pass the winter still in the larva state.

Mr. Westwood communicated a prospectus of an Entomological excursion proposed to be made in the north of Scotland, by Mr. Elmslie, who requested subscribers for his collections. He also read a paper containing descriptions of various new species of Goliath beetles; and exhibited some cocoons of a species of Silk Moth, recently imported in considerable numbers into Malta from India, where it is said to thrive extremely well. The silk has the disagreeable advantage of being so strong that it will scarcely wear out; which will, of course, not render it a favourite either with the manufacturers or the ladies. The specimens were communicated by Dr. Templeton, who stated that considerable difficulty was experienced in unwinding the silk from the cocoons, so that a more expeditious mode of unwinding the threads was a desideratum. The Chairman stated, however, that he had recently been in communication with a gentleman, resident near Geneva, who had requested from him samples of the different kinds of Indian silk, such as had been sent by the East India Company to the Great Exhibition of 1851, as he had succeeded in unwinding all the kinds of silk of which he had been able to form cocoons. This discovery would, therefore, be of great value when applied to the silk in question, which would, doubtless, be thus rendered extensively useful.

WALL FRUIT-TREES IN JULY.

THIS month may be considered the most important in the whole year to trained fruit-trees; those who neglect them now, will be talking about bad setting, blights, &c., next April and May. I am quite aware, that such severe visitations of untoward weather as we have experienced for a spring or two may baffle, in some degree, the best of practice; but unless Englishmen are content to give up the fruit question, to confess a want

of pluck in this respect to the rest of Europe, they must not allow themselves to be daunted. Such seasons have occurred in former days, and will, at times, occur again. It is of no use harbouring the idea that we are worse used than our forefathers; the good souls bore up with fortitude, and why not the present generation?

Every one should, by this time, be aware, that light, sun-light, and heat, are the cause of fruitfulness; and, although there be certain fruits, such as the *Morello* Cherry, stewing Pears, and Black Currants, &c., which will succeed on the north side of a wall, yet not so with those from warmer climes. If any one doubt this, let him try a Peach or an Apricot in such a situation; he may heat the wall and soil if he choose, but he will not meet with success. I must, therefore, beg our gentle readers to keep these facts alive continually in the mind's eye, to confide in them, and to suffer them at all times to bias their practice when thinking about their fruits.

It is during July that the breast-wood of all fruits, inclined to rampant growth, attains such a gross disposition as to prove of serious mischief to those buds which are in course of organization for blossom in the ensuing spring, or are, by nature, designed to be their successors in future years. In July, they either attain a decided character in this respect, or are thrown into an anomalous character, or are at once forced by circumstances to lose the impress which nature had given them, and to become rampant shoots themselves. Hence the evil accumulates: a tree bearing fruit freely will not choke itself with useless spray; but plant a tree in generous soil, neglect it at the proper period, by suffering an unwarrantable amount of shade, and, consequently, barrenness, and you have the disposition increased; subsequent labour attains, as they say, its maximum point, and profit a minimum.

The tree now, as I observed in a former paper, gradually assumes the character of a timber tree; and, wherever we find such on walls without a corresponding extent of branches and foliage, so sure we shall find barrenness.

Such facts will, I trust, prove tolerably conclusive, and will pave the way to the practical advice which I intend to offer in this paper.

Let me first ask, Are your extended leaders, required to cover naked portions of walls, palos, &c., fastened? If not, lose not an hour. I need not here dwell on the importance of getting every brick covered as soon as possible. After disbudding processes, this is the very first step. These form an exception to the ordinary shoots, inasmuch as they need not be stopped or pinched unless very gross, when it frequently becomes expedient, in order to divert the sap into weaker shoots, and to furnish laterals for covering a greater breadth of wall. Unless very robust, however, the latter reason may not be permitted to influence the case; it will be better to let them grow on, and make it a case of winter shortening.

These remarks apply to almost every kind of trained fruits.

I may ask, in the next place, if every shoot has been disbudded which is not required to be retained in the ensuing year? Some will say, "Oh, you *must* leave much more wood than is absolutely requisite, in case it is wanted." I grant, that if you cannot rely on your course of practice and the soundness of your trees, you must be content with what I will term the cramming system, or, rather, no system. Depend on it, however, that where trees are stripped of their useless spray betimes, the chances of fruitful habits are increased exceedingly, and the tendency to reproduce much waste wood continually diminished. Hence, ultimate economy in labour is involved in early attention, rather than neglect. I grant that it is very difficult to get a mere labourer to comprehend the practice; but that is no

reason why we should not continually aim at good practice. It becomes those who write for the public to write up high practices, whether that public reach them or no. It is not right for the fagelman to compromise his dexterity, merely because he has some awkward fellows in his squad.

Let me next request that those gross-looking shoots, termed robbers, be beheaded, if hitherto neglected. I before pointed to certain exceptions in this case, and, to save repetition, back papers may be referred to. If this is done in the beginning of the month, laterals will be produced, which will become tolerably firm, and prove serviceable at the winter pruning and training. Indeed, it will be proper to pinch most of the stronger wood in another month or so, following it up according to the degree of strength relatively. I am of opinion, that most trained trees are benefited by this proceeding; it has for its object concentration of elaborative energy, a matter quite in antagonism to those late and untimely growths which dissipate, and which are, in the main, the result of too much stimulus; in other words, are absorbing powers beyond the capability of the elaborations.

This pinching, with me, is commenced just when the fruit, of whatever kind, is beginning the ripening process, and is done twice or thrice. Thus, say a Peach-tree, and it is the last week in July, or the first in August; the fruit just commencing what may be termed the first stage of ripening, which may be known by a sudden enlargement of the fruit, and a kind of waxy and mellow appearance. This, then, is, I think, the period in which a partial stopping, or pinching proves of benefit; and, as a kind of rule, since rules there must be, let about one-third of the young and growing shoots be pinched; and in another fortnight pinch about another third; the remainder may be left growing to the end of the season. Of course it will be understood that the very strongest are first attacked; and in the second stopping a precisely similar course pursued; those, therefore, left at last, will be shoots which are rather below than above the ordinary strength.

Now, such a course of practice is based, I conceive, on principles which will bear the severest scrutiny of both science and common sense, and I have indirect testimony that the profession, in the main, require them; for, if I may be allowed a little harmless egotism for a moment, I may observe, that I was probably the first to promote an earnest recognition of such principles; having urged them on the attention of the public some twenty years since in *Loudon's Magazine*; the great grandfather of all our modern gardening periodicals. In conducting the Calendar, too, of the *Gardeners' Chronicle*, which I did for two consecutive years, I frequently took occasion to urge the importance of summer stopping, as compared to mere winter pruning; and in *Maunder's Fruitist, Auctarium*, &c., in like manner. And now, I seldom look at the calendars of the day in our contempories without finding recommendations of the kind; and I am sometimes so amused, as to whisper to myself, in the language of old Dennis, in "Joe Miller," "That's my thunder." Old Dennis had a patent for making thunder for histrionical matters, and some rogue had committed an act of piracy.


But I must back to my fruit-trees.—This stopping, then, will be found to accomplish, more or less, three things; it will tend to solidify the wood betimes; to increase the size of the fruit; and last, not least, to equalize the strength of the trees for ensuing years; I may also add, to mature all natural spurs or incipient blossom-buds for the ensuing spring. It must be remembered that the early part of July is the most searching period in a dry summer, and fruit-trees bearing full crops are at this period heavily taxed; watering, therefore, becomes occasionally necessary under such circum-

stances. Without this, in extreme cases, Pears will sometimes crack, Peaches and Nectarines be deficient in pulp, Plums become leathery, and Cherries, as *Morcellos*, &c., only attain half their size. Besides this, the resources of the tree will be so heavily taxed, that, in gardening terms, the elaborated materials, of which there should be always a small "stock in hand," will be thoroughly exhausted, and the action of the new foliage of an ensuing summer is necessary to put the tree in working order again. Let water, in such cases, be applied liberally, and on a mulching; dribbling is of no use here. I now may express a hope that some of our readers may derive benefit from this advice.

R. ERRINGTON.

ROYAL BOTANICAL SOCIETY'S EXHIBITION, 21st JUNE.

EDITORS are always in tune, but reporters take colds, coughs, and other ailments, like the rest of us, and the law is, that the next one on the list must take his place, whether he likes it or not. Under this law I had to report this exhibition for Mr Appleby. I expected to see the King of Portugal there, but he went to Woolwich that day; Her Majesty was there, however, with Prince Albert, the Prince of Wales, and Prince Arthur, attended by one of the maids of honour, Miss Beatrice Byng, and three gentlemen of the household; they had a private view, together with some of the high nobility, who have privileged tickets, on such occasions, to see the exhibition before the public are admitted; they remained about three-quarters-of-an-hour, and left amid the hearty cheers of the people outside. I never saw Her Majesty look better, or more smartly dressed on such occasions, and she was in the full humour of putting all at their ease; she had a smile, or a nod, or a how-do-you-do for all she knew, and some ladies stepped out of the crowd to shake hands with the Queen as heartily as other folks do at a country fair; and when she met her aunt, the Duchess of Cambridge, and the Princess Mary, she embraced them both most affectionately before all the people; but I was struck with the difference a few years makes in young people. It seems but the other day when the young princes would run about and romp as boys ought to do; but now, the Lord Chancellor and the Archbishop could not go about with more gravity than they; not long since, I have seen the Princess Mary blush like a country girl, and get quite flurried in coming up to shake hands with the Queen before people; but to-day she went through greater exercise with as much ease as her mother. Her Majesty had a state ball the evening before, and Prince Albert looked pale and tired; but Her Majesty looked as fresh as one up from a dairy farm that very morning. The two young princes promise to be tall and handsome, with fine sharp features; but, to a Scotsman, they do not seem to get the right kind of food and exercise to get up their blood, cherry-cheek fashion; fast growing boys like them ought to have their porridge and milk every morning, be eating away at something all day long, and have at least one good *smack* of whiskey every day in the year, and as much romping about as would wear away their shoes in no time. Let doctors say what they like, that is just the right way to bring up youngsters to face the Russians. Her Majesty wore a pretty little white self-ventilating bonnet, with three small white feathers, one over each ear, and one behind; a large light green shawl, a plaid sash ribbon tied round her waist with a large bow in front, and a white and lilac dress with three short flounces festooned with white lace. The green shawl was a good weather-glass in June, and a good hint to ladies who might have been in hot ball-rooms the evening before.

LARGE TENT.—They have a novel and a capital way of exhibiting all the plants in one large tent here this season, something after the manner of the ridge-and-furrow system. There are five ridges to this tent, supported by cast-iron columns; these run south and north, or nearly so, and both ends are deeply rounded, thus . The space inside is scooped out like a punch-bowl, the sides being terraced all round. These terraces, on the south and north sides, follow the line of the canvass, making alternate deep bays and sharp promontories. A broad gravel-walk leads along the middle of these terraces; three green terraces, or large steps, rising, one after the other, above the walk, to the edge of the canvass, and three other green steps between the walk and the bottom of the bowl. There are four entrances to the tent, and each of them communicates with the bottom of the space, but not in a straight line; all the walks being irregular as to level and direction. The bottom of the space is nearly level, covered with gravel, and may be from forty to fifty yards one way, and not quite so much the other way. All the pots are set on these green steps, all the way round. The large, and some of the small, collections of stove and greenhouse plants, the Roses, the Orchids, the Fuchsias, the Ferns, and some other plants, occupy the three highest steps above the walk; and the spaces between the walk and the open centre are filled with Pelargoniums, Geraniums, Fancy Geraniums, cut Roses, new and rare plants, and all the *et ceteras* which come in from all sides on such occasions, and with cut flowers from the florists. The effect of the whole, when the tent was thin of people, was extremely good—almost grand—yet there are obvious drawbacks. It requires a bright sunny day to give the right light for the flowers, and this day was overcast throughout. The walls of the tent are of green baize; and what with that dark green, the light green of so much grass, and the varied green of the leaves, many of the flowers were drowned, so to speak. The Orchids would tell better near the centre space, and opposite the great Pelargoniums, as their leaves, being so varied, do not toll like the leaves of Roses, Heaths, and such like; so that they were too much of "air plants" on this occasion, and necessarily too far apart to make a grand whole. The Pelargoniums, on the other hand, were bounded in front by the centre space of gravel, and immediately behind them was the terrace walk, and they stood close together; and I am certain that nothing more telling was ever seen in flowers for exhibition. The Fancy Geraniums occupied another bank; the odds and ends a third bank; cut Roses, Pinks, Ranunculuses, and Pansies, a fourth. Of Cinerarias, there were none. Of Calceolarias, a few; but, with the exception of a large, flat, yellow bedder, they were not worth their keep. Fuchsias, better than I ever saw them. Roses, done brown, and not worth carriage. Stove and greenhouse plants, most numerous, and certainly most splendidly grown, trained, and staged. Orchids, inferior to the May shows, but still there were a few good things and growth among them; but the arrangement in this new tent does not suit Orchids at all; I would give them the space then occupied by the Pelargoniums. I have told already how I often find the highest judgment in the kingdom on fancies about flowers; and now I can say, that the highest authority in that tent—next to the Duchess of Cambridge, and before her Majesty arrived—had discussed with me the bad effects of the Orchids. The same Duchess was busy taking notes during the whole time of the private exhibition.

And now into particulars.

FUCHSIAS.—I began my notes with the Fuchsias, which stood on the right of the Queen's entrance, or north gate. There were two or three collections of them; but the best were trained exactly like pillar Roses, from

four to six or seven feet high, clothed down to the pot, and from four to six feet in diameter across the pot. *Collegian* and *Nonsuch*, in the way of *Gracilis*, were very fine. *Perfection*, in the way of *Riecartonii*, is a magnificent Fuchsia. *Ajax*, a large rod; and *Compte de Beaulieu*, a pondulous red. *Princess*, the best white plant. *Madame Sontag*, *Elizabeth*, and *Prince Arthur*, the next best whites.

VERBENAS.—Mr. Smith, of Hornsey, had twelve cut blooms of as many new kinds, but as I would not buy a plant from seeing cut flowers of it, more than I would "a pig in a peke," I shall only say that the best scarlet among these is called *Islington Rival*; the best white, *Perfection*; best pink, *Camellia*; and there was a nice violet-purple one, with a white eye, called *Violacea*; but, as I said before, no one should take the least heed to a cut flower. I would not allow cut flowers at a show for love or money; the greatest rascal on earth can cheat you before your eyes with a cut flower, and the fairest dealer in the world has no better chance with the knowing ones than a blackleg.

PETUNIAS.—Pots of the *Purple King*, from Mr. Reeves, of Notting Hill, were the only ones exhibited; this is the best and the only real purple Petunia that has yet been raised.

CALCEOLARIAS.—The only good one was the *Wellington Hero*, a large, flat, clear yellow flower, and a growth between the *Kentish Hero* and *Kayii*; this is a good bedder, if it stands the rain and the sun. The variegated *Phloxes* which I saw at Chiswick were there.

SEEDLING GERANIUMS.—*Virginia*, a large white flower, which I described in 1852, from Messrs. Henderson and Son, of the Wellington Nursery, was the best white; *Elegans*, a fancy blush flower, with dark spots, is very distinct; *Dr. Andre*, a fringed flower, as it were: a rosy front and shaded back, is large and showy, without a trace of a florist's mark; but the most striking kind of all was another of the French seedlings brought out by Mr. Gaines, of Battersea, called *James Odier*, and I would advise all who can afford it to purchase this Geranium at once. It has a large, white, feathered eye, scarlet front petals, and purplish-red back petals, with darker blotches on them, and a light edging all round the five petals: it is the gayest yet out, and bids defiance to every point insisted on by our fanciers, but it will make its way up to the Queen's drawing-room against all opposing forms and florists. *Ocellatum* is the only English seedling known to me to cross with these "shapeless things," as the high florists term them. I think it was only five years ago that the first florist of our times challenged me out to mortal combat, for saying that this *Ocellatum* could stand ground for one year; but I have just arranged with the best grower of them in the world that *Ocellatum*, and five more kinds of the same style, which I shall name presently, shall be put up next year as a distinct strain for competition, just as Mr. Gaines is doing now with the French seedlings.

If I am spared, I shall keep the rod in pickle till all these mad florists come over to my way of thinking that colour is the first point to be considered in all flowers. Any distinct colour will do, but we must have no milk-and-water. The next point is a healthy good habit in the parent plant, and this will cut the ground from under cut-flowers altogether. The third point is strength to stand sun and rain; after that strong, waxy, substance; and at the fifth degree comes the present *ultimatum*—shape. So that we want four most essential points before we come to shape at all. The shape of a flower is really of very little use;—a good flower cannot be of a bad shape, be it what it may. I would even put size before shape in any flower. But why waste ink on the subject, when all whom it may concern are well aware, that a gentleman, who might now be riding in his own carriage, is obliged to ring the bell and answer it him-

self, to this very day, for no other reason than that he staked his fortune and his credit on the mere shape of a Florist's flower.

Mr. Gaines got a prize for a high-coloured seedling PELARGONIUM, named *Conqueror*. The prize was "given for colour only," which is something. This *Conqueror* is another flower which will work its way up to Covent Garden, and to all the drawing-rooms. It is the best in the style of *Rising Sun*, but is more scarlet, and more black in the back petals. He had a prize, also, for the curious French Seedling, which I named from Chiswick. *Petruchio*, a large crimson and black flower, by Mr. Turner, of Slough, is another seedling which will follow the *Conqueror* and *Magnet* to Covent Garden. The rest of the seedlings were mere florists' flowers, and not much different from older sorts, except *Vesper*, by Mr. Turner, and *Vesper* has not a single florists' point in it; but it is destined to shine in the highest circles of fashion for many years; not only that, but it will come in for my expected new strain next year, with *Ocellatum*, *Sanspareil* (a beauty), *Eugenia*, *Azurea*, and *Painter Improved*. *Vesper* is one-half white, with no eye at all; there is a feathered blotch in each of the three front petals, with a tail to each blotch, running down into the very bottom, where they meet the dark on the back petals; this is one of the most curious features in all the English Pelargoniums. *Phaeton*, scarlet and black, is the only other seedling that I would care to have.

NEW PLANTS.—There were not many of them; the best were *Lysimachia Leschenaultii*, by Mr. Osborne, of Fulham, and a very large light blue *Clematis* from Messrs. Standish and Noble; the *Clematis* is called *lanuginosa*, and is from the north of China, and will be hardy; the *Lysimachia* is from the Neigherry Hills in India. It is a soft-wooded plant, but looks like a woody shrub, like some *Pimelia*; it branches out in all directions, and has a head of pinky flowers at the end of each, after the head or truss of a Verbena, but the flowers are of the size and shape of the New Zealand Veronicas, with long spreading stamens just in the same way. The new *Hemanthus*, which Mr. Prince sent to Regent Street, last spring, was there, and called *Rooperi*. It is from the Zulu country behind the Natal settlement, in Africa. I have grown it since 1846, in the open borders at Shrubland Park, and it is all but hardy, and is the strongest growing of all the family.

There was a yellow-flowering *Ground Orchid*, from the Cape, with one tall spike like *Bletia*, or *Eulophia*. The yellow *Aphelandra* coming into flower; *Rhododendron*, *John Waterar*, a dark crimson all over, and dark spotted as well, the richest hybrid yet; a magnificent mass of twenty-two large blooms. Three *Evergreen Berberis* from Mr. Standish—*Japonica*, *Bealii* and *intermedia*. *Gordonia Javanica*, a nice plant, with waxy flowers, like a small white single *Camellia*. *Hydrangea chinensis*, not very different from the old *quercifolium*, and several others of less note. Mr. Salter, of Hammorsmith, had a large collection of bulbous *Irises*, and a very nice lot of China *Paonies*, chiefly cream-coloured, to salmon, blush white, and large rose, and one or two deep purplish-crimson, and most of them with guard petals, like a Hollyhoek.

PANSIES, PINKS, and RANUNCULUSES, were in great force, but as they were only cut flowers, the less said about them the better; besides, I am no judge at all of Pinks. To tell the truth, I thought all Mr. Turner's Pinks were full blown Carnations! I made the same mistake just this time twenty years, in the National School, in Gloucester, with the *Anne Boleyn* Pink, which was rather new at the time; but Mr. Wheeler pulled me off the top of a coach to be one of the judges, telling the people I was a judge of the first water; but he told the guard of the coach he was arresting me for bigamy, and between one thing or another, I was so confused that I

did not know *Anne Boleyn* from a new Carnation! I was on the Western Circuit at the time, spent all my money, and had to walk home sixteen miles, having lost the chance of the Ledbury coach, which ran only three times a week, so that I have a good reason for saying as little as possible about Pinks and Carnations.

LARGE PELARGONIUMS OF GREENHOUSE GERANIUMS.—Mr. Turner, of Slough, beat all that was before him with magnificent plants; but all this class were particularly good this time; just at their best, and only the best were brought forward, so that there was a good deal more interest about them than on former occasions. They have brought some of them up to perfection, as some say, the whole back or upper petals as black as poor Topsy, with just a seen crimson ring over the black edges; the fronts are of various colours. One, called a real *Topsy*, in Mr. Turner's group, is, perhaps, the best of these; *Conspicuum* and *Optimum* run in this style, *Magnet* was the highest coloured. *Purple Perfection* is another of them with jet black upper petals, a very showy one, as is *Cloth of Gold*, orange-scarlet, and black tops. *Ring-leader*, scarlet and dark; *Alonzo*, ditto; and *Ajax*, purple and black, were the most conspicuous. *Pearl*, *Delicatum*, *Mont Blanc*, *Exactum*, and *Virgin Queen*, is the order in which these five white ones told their own merits this time.

FANCY GERANIUMS.—These were not nearly so good as last month. Mr. Turner had only one of his May plants, *Perfection*, and it was so out of proportion to the rest that he put it up as a single specimen; yet he took the first prize with them; Mr. Gains being his chief opponent in both classes. *Gaiety* is the only one of these fancies which I have not mentioned already, and it is gay all over, white and lilac, about the proportions for a little girl's dress.

CUT ROSES.—There were twenty-six large boxes of cut Roses, but as pot Roses cut the best figure of all the exhibition plants, we make no particular mention of cut flowers of them; besides, here is nothing in the world more dangerous than to select new Roses from cut flowers; you might as well select new Dahlias from seeing cut flowers only, and we all know how that sealed the fate of that fancy.

PYRAMIDAL GERANIUMS.—The best place in England for growing Geraniums for a conservatory and for drawing-rooms is certainly the Regent Park Garden, and Shrubland Park is the next best for them. They have them at these gardens just like pillar Roses, and from five to eight feet high, and generally four feet across at the bottom; the lower branches flower below the rim of the pot. Mr. Marnock, the Curator, began this system eight or nine years back. I followed from his recommendation, and my successor crowned what I had only began. The present system of showing Geraniums is the best certainly for advertising them, and for comparing new with old kinds, and all that sort of thing, therefore it is a most useful plan, and ought to keep its ground in the exhibition tents; but for private use, the plan has not the smallest pretension to merit where more than two plants of them are seen at one time. Two match plants, on the "squat" or present system, will make a good change in a conservatory, or in any of the living rooms or passages leading to them, but if you double the pair, the effect is lowered immediately.

ROSES.—Mr. Lano was first, with ten plants, and Mr. Francis second, with another ten. There was nothing among them which I did not mention last month.

STOVE AND GREENHOUSE PLANTS.—There never was a better show of these, nor more plants of them put together, and there was not a single bad plant among the number; the truth is, that Mrs. Lawrence's useless bushes kept the industrious smaller growers at home, and the Societies could not see their mistake in giving her medals till her day was over. There were very few

plants in this large assemblage which I did not see in May; the exceptions were *Crassulus*, *Schubertia graveolens*, *Dipladenia splendens* and *atropurpurea*, *Xanthosea rotundifolia*, *Lemonia spectabilis*, and three *Ivoras*; all the rest are in my reports of the Chiswick Show.

ORCHIDS.—They stood as at Chiswick in May and June. Mr. Williams first, and Mr. Wooly second. Mr. Veitch did not exhibit. Mr. Hume, gardener to Mr. Hanbury, of the Poles, Herts, had some of the best specimen Orchids there, particularly an *Aërides odoratum*, which had 42 long spikes of bloom, the greatest number that ever was exhibited on any *Aërides* before. Mr. Hume had only twelve plants, but judging from them, he will soon be a rival to Mr. Williams and Mr. Wooly; his *Phalenopsis grandiflora* was the best there also. I guessed it had 200 flowers open. His *Vanda teris* had five spikes. Mr. Green and Mr. Wooly had nice *Barkeria spectabilis*, and Mr. Williams had *Epidendrum verrucosum*, which comes the nearest to *Barkerias* of all the tribe. Mr. Wooly had *Peristeria elata*, with ten flower-spikes, and from ten to twelve flowers on each, the largest number ever exhibited on one plant. There were some very good specimens of *Oncidium lanceanum*, *Saccolabiums*, *Aërides*, *Vandas*, *Oncidiums*, *Dendrobiums*, and *Epidendrums* being the chief plants in all the collections.

HEATHS.—They also were much more varied than they generally are, and they look better in this kind of tent than any other way I have seen them. Here are the most distinct and prominent—*Cavendishii*, yellow; *depressa*, yellow; *halicacaba*, a very marked kind, with large, light greenish flowers, and a close, strong habit; *Massonii*, various; *Mutabilis*, nearly scarlet; *Westphalingia*, crimson.

FRUIT.—The fruit was splendid, and most numerous, on two long tables, back to back, in the large conservatory, and there were 41 Pine Apples in a row on the ridge between the two tables. There were 36 dishes and baskets of Black Grapes; 13 ditto White Grapes—some of the *Muscats* three-parts ripe; one dish of the grizzly *Frontignac*; 29 dishes of Peaches and Nectarines, all on one table; on the opposite table were five dishes of Black Grapes, and three of White; 12 of Strawberries; 11 of Cherries; four of Figs; 45 Melons; five large fruit of the Papaw-tree (*Carrica papaya*), from Syon House. Mr. McEwen, gardener to the Duke of Norfolk, took the best prize for a collection. Mr. Henderson, gardener to Sir G. H. Beaumont; and Mr. Frost, gardener at Preston Hall, were the next on the list.

D. BEATON.

THE CUCUMBER—ITS ENEMIES AND DISEASES.

HAVING alluded to the Spot on the Geranium last week, I almost step out of my path to advert to the above subject, for two reasons—first, to save myself the trouble of writing several private letters; and secondly, to direct the attention of others more conversant with the subject, more prominently to those evils which have proved causes of failure for several years past. Not only amateurs with but little experience, but some of our best gardeners, were very much annoyed with their Cucumber crops last season; and some have no better tales to repeat respecting the present. One of these worthies, not so very long ago, half joking, half in earnest, asked me to tell how these difficulties were to be surmounted, or frankly to own that I was just as ignorant of the matter as he was; and this is exactly the thing I mean to do.

It is not my purpose to treat of the culture of the Cucumber in general; but I would just state, in passing,

that an average atmospheric temperature of 70°, with a fair portion of moisture in it, and a rise, from sunshine, of from 10° to 15° more, with a fair portion of air, at least, during the day, and a bottom-heat from 75° to 85°, will, with the assistance of rich, light soil, grow all the finer kinds of Cucumbers. Those that produce fruit short and stubby will thrive in a temperature from 5° to 10° lower. It may just, also, be added, that however grown, whether in house, pit, or frame, the plants will be easier kept clean if trained on a trellis, instead of being pegged along the ground; and another inducement for this treatment is, that the fruit not only looks better when hanging than when lying, but it is green all round instead of being pale on one side. The only disadvantage against the hanging process, that I know of, is, that the neck of the Cucumber is thus made longer than would meet the refined taste of a *virtuosi* in these matters; but even here, when a short neck is extra desirable, the Cucumber may easily be placed in a glass case and slung in an horizontal position.

The first enemy to which I will allude is the *Green Fly*. I am far from being so successful as the friend I have several times alluded to; for I have seen less or more of this pest every season. It is wonderful what a quantity of hard-skinned fellows will congregato in a short time on the underside of a leaf, if you do not keep your eyes about you. Where do they come from?—is a question easier put than answered. A would-be philosopher would have me believe, that they were merely the consequences of certain combinations of material elements; though he hardly saw his own way clearly. Why, if mere material forces sufficed to make insects by the million, should not the same forces compound an elephant, or make a man?

Allow these Green Flies to remain on a leaf several days, and the health of that leaf is gone. Allow them undisputed sway over a plant for a week, and, unless the roots are extra strong, it is next to impossible to restore the plant to health. After trying many things, I still prefer tobacco-smoke for ridding us of these pests. Here, as well as in all matters relating to the destruction of insects, the old adage holds good—none the less, though put in an old Saxon form—“He gives twice, who gives quickly.” Use the strongest black shag tobacco, and fill the house with cool smoke whenever you see the first fly; you may depend on it, that there are others at no great distance. Delay the operation for a few days, and you will have another brood, and hosts of eggs deposited ready for the hatching. If taken in time, a second application, after a day or two, may catch up all those sick, but not killed, and those young ones that have just emerged from their shell. These young ones require less strength of tobacco than the older ones. Perform the operation in the evening; let the leaves be rather dry; and shade from sun the following day. Whatever the mode of smoking, see that the smoke is cool.

The second enemy is the *Red Spider*. This, though so small as to require a sharp eye to distinguish, is much more destructive than the aphid, and tobacco will by no means smoke him away. The fumes of sulphur, obtained by placing flowers of sulphur in a moist state over a hot-water plate, pipe, or lid of a kettle, the water being heated to from 170° to 180°, is one of the best remedies, in conjunction with a free use of the syringe, and not unfrequently a sulphuret of lime being mixed with the water. It is, however, difficult to eradicate when once it obtains possession. Prevention is, therefore, better than cure. A damp atmosphere is inimical to this pest, as well as animal life in general. A free use of the syringe, when shutting up in an afternoon, is what this intruder will not willingly endure. If, in addition to this, the walls of the house, the back of the frame, or pit, where the sun strikes rather powerfully,

are painted with one part lime and two parts sulphur, and this moisture in the atmosphere is maintained, there will be no inducement for this intruder to seek lodgings there. If a few leaves are affected, the sooner they are cut off and burnt the better; as, if in a vigorous state, a Cucumber plant will soon make fresh foliage.

The *Thrip* is even more difficult to eradicate than the spider. Many speak of conquering him with tobacco. I cannot say that I ever succeeded in destroying the enemy before I had also destroyed his feeding ground. Perhaps, however, I did not persevere enough. There is little difficulty in keeping it down when the plants are grown in a house, or so suspended as you can get underneath them. I have known many cases, in which the plants were next to destroyed, and yet the owners could not divine what could be the reason. Though several times the length of a Red Spider, they are very slim in their body, but can easily be detected by their jumping on the under side of a leaf. The leaf, though it presents a little of the yellow dotted appearance, the result of the visit of the Red Spider, has also, on its under side, a shining glazed appearance, something as if a snail had left its trail there, but on examining you find this is the consequence of nothing left, but of the juice and life-blood that has been removed. I have said, they may easily be kept down in a house where we can examine and see the underside of the leaves, as the Thrip generally selects the underside of the oldest, finest foliage, and from thence he can be dashed with the syringe; or, if very bad, the leaves may be removed and burned. Various ingredients may be mixed with the water used in syringing, of which the mixture of lime and sulphur, recently referred to, I have found useful; and also a decoction of laurel-water, made by taking as many of the young shoots of the Laurel, as when the leaves were cut in small pieces, or bruised with a mallet, would fill firmly a quart pot, placing them in a jar or watering pot, pouring boiling water over them, and allowing to soak for an hour, to get good strong tea from them, and then adding enough of water to make from three to four gallons. This, in the circumstances, I have found the most effectual slap-dash remedy. But when I used to grow these plants in a Pine stove and suspended, I used to keep them pretty well free of Thrip, by looking over them very often, or getting a boy, with sharp eyes and a little persevering energy, to do it for me, and actually catching every one of these little jumping Thrips that showed face; and this was the simple mode adopted: a leaf was held by the left hand, the eye flashed over its underside; with equal celerity, the thumb of the right hand, *previously wetted*, was pounced upon the back of the intruder, and once waddling and twisting, amid what was to him an ocean river, the bringing the thumb and two fore-fingers together would settle the whole affair, without the intervention of judge or jury. By the use of this wondrous natural machinery I have seen a young lad daub up a score of these jumpers before a stander-by could sing out “Jack Robinson;” and two or three mornings thus spent, with a little assistance from the syringe, has kept the Thrip a perfect stranger to us for months.

With every disposition to hail improvements, in tools, utensils, and machinery, whenever we depart from the extremely simple in gardening, we are nearing the regions of TOYISM, and leaving those of stern utility; and the worst of it is, that though not openly expressed, an idea is apt to take possession of many of us, that improved modes are to take the place of continued watchfulness, and a free use of the mechanism of our own fingers. How often, even in the case of insects, will a person be seen looking on in bewilderment, with a face as long as if he was praying earnestly to Hercules to help him, when his own fingers, with or with-

out syringe, sponge, and pail, would soon settle the whole affair. There are few that have not witnessed a wondrous amount of waste of shoe-leather in peregrinations to and from a tool-house to get the necessary improved article, or implement, when the ready use of the fingers would have saved all the tramping. All intricacies in gardening, however much they may amuse ladies and gentlemen, and save their hands and feet from being soiled, are of no use when work must be done quickly and well. I was a little amused, a short time ago, by a worthy Knight, connected with our gallant army, recommending to me a great improvement on our water-barrel for the garden. I mention the fact in this sort of episodal paragraph, though it has but a collateral bearing on insects, as it just illustrates what I have said above about improved garden utensils. These barrels are slung on two pivots, between two wheels, so that when two or three pailfuls are lifted out, a little practice enables the operator to get at the remaining number of pailfuls quickly by bending the barrel to one side. The great improvement was *fixing a tap near the bottom of the barrel*, and allowing the water to run out there. The tap proposed was one such as is used in beer barrels, and a larger one would rather be in the way. Now, such a tap would be useful in saving a splash upon a Knight or his Lady; but I should consider the man next to a sloven, who did not empty out his eight or ten large pailfuls, by the present mode, in the time he was patiently surveying a pailful or two running out by the tap.

But to return to the Thrip. As he congregates on the underside of the leaf, the above catching mode cannot be resorted to in beds and pits. Here, a few of the worst leaves should be removed, and the plants and walls be well syringed with the laurel and lime and sulphur water, trying every dodge for getting the water thrown on the underside of the leaves. A smoking with tobacco will do no harm. I have found it more efficacious when a handful of bruised laurel-leaves was placed over the tobacco in rather a moist state; but care must be taken not to burn them much, or you may give too strong a dose; and, if very particular about your paint, and there is much moisture in the house, you may have something like a prussiate of lead deposited on it, which will, however, go off by exposure. I have also, in extreme cases, cleared this and every other insect out of frames, by placing a quantity of bruised laurel-leaves inside of them. But here it is necessary to act with caution, as too large and long-continued a dose will kill the plants as well. A bushel of leaves, thus cut and bruised, might be placed in a three-light box or pit; but it should not be kept shut for much more than an hour. There is so much more poisonous acid in the leaves at one time than another, that if this mode is adopted, it should only be referred to in extreme cases, and that with the precaution of making the dose weak enough at first.

I need not say, that though these pests are great enemies to the Cucumber, that similar modes of eradicating them may be resorted to in the case of other plants affected; bearing in mind, that weaker doses must be applied to tender plants, and especially when the foliage is in a young, succulent state.

Other enemies of the Cucumber I will do little more than mention.

The *Woodlouse*.—The destruction of this has frequently been referred to, and again, rather fully, in a recent number. In pits and frames my toads have saved me all trouble this season. These bright-eyed gentlemen desire a saucer of water kept replenished for their especial benefit. The only objection I know of to their use, is the creeping loathing with which many people, especially ladies, regard them, increased by the

tameness and feeling of security which Mr. Toad soon realises when well used.

The *Fireworm*.—Let one of these burrow in the stem of a Cucumber, and the luxuriance of to-day may be followed by the drooping foliage of the morrow, a drooping which no art can remove. The soil, therefore, for Cucumbers should be examined carefully, and if there is the smallest suspicion of any of these hard-bided gentry being present after that minute and careful investigation, means must be taken alike to tempt, feed, and trap them, by inserting cut slices of young Carrots in the soil, and examining them frequently. Of all other things, young Carrots sliced seem their especial favourite. Being caught, I need not follow the quack in giving an elaborate account of the best mode of destroying them; any mode will do, provided it is done.

Once more. *Snails* and *Slugs* often do much injury by nipping the young fruit, eating the leaves, &c. They are often introduced in a young state with the soil. A little quick-lime mixed with it some time before using, and turning several times, is a good preventive. The only objection to the use of road-drift, and the sand and sandy soil obtained from the sides of roads, so useful for general purposes, is, that it is apt to swarm with these slimy gentry in an incipient state, that only want the heat of a Cucumber-box to bring them into active vitality. Watering and syringing with lime-water will help to keep them down; but this, to be at all effective, should be done at night, when they are in the wandering mood, as during the day they get into holes and crannies, where the acidity of the lime has little chance of getting at their soft skins. Brewer's grains are also an attractive bait, on which, after dark, they may be found guzzling with all the zest of a toper. Young Cabbage leaves, or young leaves of Lettuces, buttered a little on one side, are a good substitute; and in lieu of these, a lantern and candle just before going to bed, to enable you to look over the plants, the walls, &c. Some of the larger kinds can hardly be secured but by this means. I got a huge snail in a Mushroom-house this winter, striped and spotted like, and only less than, a hedge snake, by hunting for him for nearly a fortnight, and seeing fresh traces of him every night without once getting a sight of him. That night I just got a glance of his head and horns protruding through the crown of a huge Mushroom. I need not say that lime-water must not come near a Mushroom-bed.

In order to meet many cases, I have dwelt on these enemies for double the space I intended, and fear that the *diseases* must be adjourned.

R. FISII.

THE DOUBLE DAISY.

OUR continental neighbours have taken this humble flower by the hand (petals?), and have greatly improved it by raising new varieties from seed, many of which are exceedingly beautiful. I saw, lately, a collection in flower, and was so much pleased with them that I made a resolution to write about them and their culture, and only a day or two past I received a fillip in the shape of two fine varieties shown to me and raised by E. Leeds, Esq., of Manchester—the same gentleman that raised the new varieties of Narcissus, referred to by me when writing on that genus. These two Daisies, Mr. Leeds has named *Victoria* and *Albert*; the former is a large flower, very double, and pure white in colour; the latter is, also, a large flower, very double, the centre rising up so as to form quite a pyramid of petals, the colour bright red mottled with white; the flower-stems of both varieties are very stout and long (from eight to nine inches), bearing up the blooms well above the foliage. These are two of the finest Daisies I ever saw.

The following are good German varieties:—*Conspicua*, mottled blush and red; *Eliza*, light rose-pink; *Eva*, beautiful, small, white; *Flower of the Day*, rose and blush; *King of Crimson*, rich dark colour; *Perfection*, light pink; *Prince Albert*, beautiful, large, white tipped with cherry; and *Princess Royal*, white changing to rose.

So much is this flower improved, that a good collection, well grown, when in bloom, are nearly as handsome as a bed of Ranunculuses of the same colours, to which flower, indeed, the best varieties have a great resemblance, excepting, that they are more double than the best Ranunculuses, and have the advantage of being more hardy, and more easily cultivated. No doubt, there may be many successful raisers of Daisies throughout this country, but probably such persons do not think their flowers, however excellent, worth public notice. Hence, we never hear of them. This is a mistake; for in this flower-loving age any improved flower is highly esteemed, and would be gladly received by the public, did they know where to apply for it. Let all possessors of such improved varieties (especially those who deal in them) make them known through the medium of THE COTTAGE GARDENER.

The cultivation of these flowers may be divided into, 1st, Propagation; 2nd, Soil and Situation; 3rd, General management.

Propagation: By Seed to save new Varieties.—The seed should be saved from the largest semi-double flowers; full double flowers do not produce seed, for the simple reason that they cannot, the seed-vessels having been changed by culture into flower-leaves, or petals. The seed must be gathered as soon as it is ripe, or it will quickly shed and be lost. If saved before the end of July, it may be sown immediately, but if later, it will be advisable not to sow it until the spring. If the quantity saved is small, it may be sown in wide shallow earthenware pans, or in boxes; place them in the shade of a wall, where the sun cannot shine upon them before eleven o'clock, or thereabouts. This partial shade prevents the soil from being parched-up and requiring so often watering. If such a position is not on the premises, then an artificial shade must be formed with a frame of sticks and canvass, something in shape like a candle-extinguisher. This may be easily placed upon the seed-pans during hot sunshine, or when a dry, parching wind prevails. The soil for seedlings should be light loam mixed with river sand, and the pans should be well drained, placing over the drainage some pieces of fibry turf, so as to cover it about half-an-inch. These lumps being packed close together prevent the finer particles of the soil from falling among the broken crocks and choking up the drain. Fill the pans, then, with the soil, nearly up to the rim, press it gently down with a round piece of board, with a nail driven in the centre to take hold of as a handle; then sow the seed evenly, and not too thick, and sift a thin covering of fine soil upon it, and when all the seed is sown, water them gently with a very fine-rose pot, so as not to disturb this thin covering; then place them in the position above-mentioned, or have the shades ready for use when the weather renders the shade necessary. If the quantity of seed saved is considerable, it may be sown on a bed in the open ground. This bed ought, however, to be duly prepared to receive the seed; the same principles being acted upon as in the case of sowing the seed in pans; that is, it should be drained well, mixed with sand, made smooth and even on the surface, and when the seed is sown it should be covered, slightly watered, and duly shaded. All these points having been attended to, the cultivator may reasonably expect that the seed will grow and reward him for the extra trouble. It will require attention to pluck up the weeds and keep a look-out for slugs; and, perhaps, if the weather continues

dry, a watering or two will be necessary, but the precaution of shading and sheltering from drying winds will keep the soil longer moist, and, consequently, the watering-pot will not so often be in requisition. It is not desirable to water oftener than is absolutely necessary, for several reasons, the chief one being the hardening the surface of the soil, so that the seed cannot break it, and, therefore, perishes for want of air. Many a sowing of small seeds has been destroyed by injudicious artificial watering, especially when shading has been neglected or dispensed with. Then, again, if watering must be resorted to, it should be copiously applied, so much so as to give the soil a regular good soaking. Whenever I have occasion to water seed-beds, I have them gone over first liberally, and then, in half-an-hour afterwards, a second dose equal in quantity to the first is applied. These two waterings, combined with a shade, I have generally found sufficient to sprout and bring up most kinds of seeds, which require sowing during the summer months.

T. APPELBY.

(To be continued.)

WOODS AND FORESTS.

THE OAK.

(Continued from page 220.)

A FOREIGNER, well acquainted with English history, travelling through these islands, expressed his great surprize at the state of our Oak woods, and considered it a mark of no wisdom on the part of John Bull to allow his woods to be so mismanaged and neglected, especially when that kind of wood entered so largely into those mighty ships which protect our shores, and cause our rights to be attended to by all other nations. These observations I lately met with, and they encourage me to persevere, even at the risk of being thought somewhat tedious and lengthy in my essays on Oak-culture.

In my last paper, I endeavoured to describe the best method of sowing the Acorns on the spot where they are to form timber trees, and finished by recommending the ground to be kept clear of weeds. This operation must, of course, be repeated whenever necessary. The autumn following, the young Oaks will have attained, on the average, about six inches in height; and, as I recommended their being sown in rows a foot apart and eight inches apart. Now, if they have all come up, it is evident they will require thinning, and this ought to be done, in part, the first year. The seedlings so thinned-out might be transplanted into nursery rows for future plantings. As to ensure regularity, there is nothing like method in all our works; the method the thinning man should put in practice is, to commence with the first row and take up the second plant, leaving the third and fourth, and then take up the fifth, and so on to the end of the row. This, as will be easily understood, leaves the plants in pairs, and these pairs should be separated the second year. The next row, the first and second plants should be left, and the third taken up; the fourth and fifth left, and the sixth taken up; and so on to the end of the second row. It is evident, then, that the vacancies in each row will be alternate, which is right, because then the trees will completely cover the ground, and each will have air and space equally on every side. The third row will be thinned in the same way as the first; and thus the work should progress throughout the whole plantation. As one or more men are going on with this thinning, others should be planting them in the nursery, and a third party should be following on, digging carefully between the rows, injuring the roots as little as possible. This thinning, planting, and digging, should be, if possible, all done by the end of February. The whole

plot will then be in the best possible condition. Weeds will be checked, and the soil laid up to mellow with the winter frosts.

The second year, the same process should be followed. Take up one of each pair, and plant these thinnings in the nursery; though, if a piece of ground was prepared the summer previously, these two-year-old seedlings would be strong enough to plant in it at once; and thus the breadth of ground under the Oak-culture would be doubled, and an experiment instituted to try whether non-removed seedlings, or young transplanted trees, would soonest make timber-trees. It seems a waste and a pity to throw away these nice young trees; yet, if there is not place for them, or the proprietor may not think fit to increase his timber crop, they must, in such a case, be thrown away, because thinned they must be.

After this second thinning the ground should be dug over, and thus left in good condition once more. The young trees will probably be a foot-and-a-half high, they will stand two feet apart in the rows alternating with each other, and now the pruning should be commenced. Many of them will have prominent side-branches, a kind of gourmands, that are robbing their neighbours. The small branches, and also the leaders, those gluttons, I would remove at once, with a sharp knife. And here I would stop and make a few general remarks on pruning forest trees. 1st. It should always be commenced early, because the small wounds are more quickly healed. 2nd. Each shoot pruned off should be cut close to the main stem, because then there will be no hard dead knots in the wood. 3rd. There should be a few small branches left on each stem, to draw up a larger quantity of sap, as well as to shelter the stems from cold draughts of air; and, lastly, this pruning should be done at least every alternate year, till the trees have reached not less than thirty feet high. They may be then allowed to form natural heads of spreading branches. By pruning frequently, no stronger instruments than a good knife, and a mallet, and long-handled chisel, will be necessary. I consider it bad management when the bill-hook or the saw has to be brought to use as pruning instruments.

To return to our thinned plantation. After the second year's thinning is performed, the trees may be left to grow and draw up straight (due attention being paid to hoeing, weeding, pruning, and annual digging,) for two or three years, according to the progress they make. The forester will examine them and act accordingly. If they appear crowded, then, in the autumn, go over them again with a firm hand and bold heart. Let every alternate one be removed at once. These will be strong plants, probably three or four feet high, and will be excellent for filling up old woods that have had the greater part of the timber felled for use. If used for this purpose, good, wide, deep holes should be dug, the surface weeds, or turf, placed at the bottom, a layer of soil put upon them, the tree planted just a trifle deeper than it grew before, the clean soil filled in around it firmly trodden down, and then left to root and grow on apace. These thinnings having been removed and disposed of, the young plantation trees will then be four feet apart, which will be a sufficient space for the next four years, the pruning, &c., being duly attended to. The trees will now be a complete cover to the ground, smothering the weeds and grass, and beginning to look like a wood. At the end of the four years the same process of thinning must be resorted to. Every alternate one must come out again, but now they will be too large to transplant, but will make many useful things, such as hoops for the cooper, stakes for the flower-garden, or hedge-roses for hurdle-makers, &c. The trees that are left will, of course, be eight feet apart, and will now, everything having gone on well, be a gratifying sight to the cultivator. T. APPLEBY.

(To be continued.)

A FEW WORDS ON LATE PEAS.

WHATEVER advantage a southern district possesses over a northern one in the way of having certain crops a few days earlier fit for use, there is certainly some advantages which the less favoured one possesses which it would not be right to undervalue, and amongst such advantages is the production of a late crop of Peas in a good condition, which many places, possessing many excellent qualifications in other ways, are unable to do, unless when accompanied with such trouble and expense as makes their presence partake more of a "forced character," than a natural or ordinary production; and the many failures that happen to crops that are intended for a late supply, has been such as to deter some cultivators from attempting their growth; thus contenting themselves with furnishing this very popular article for only one-half the time that it is capable being had in other places less favoured in many respects.

Without attempting to raise the veil which shrouds the history of this and other legumes, as well as cereals, from the prying search of an enquiring age, it may fairly be set down as being amongst the hardiest of the class of pulse-bearing plants; not but that others will bear as severe a winter, but the hardships of frost and snow seem less fatal to the Pea than the mildew and other evils they have to encounter during summer, which evils, being more numerous in a warm climate than in a cold one, make their cultivation in the former a much more difficult and uncertain matter, than in a district less genial in other respects. Now, as this arises from different causes, it may not be uninteresting here to notice them particularly.

In the first place, if we compare the earliest variety of Pea with the cereals commonly grown, we see that it arrives at maturity before they do, and, consequently, "Nature, that all-important" instructor of all our designs, has evidently intended to exempt the Pea from that scourge, "the mildew," which attacks it so unmercifully when it has to endure the dry air and parched ground of dog-days; for it is reasonable to suppose that the fluids necessary to their healthy existence may not be forthcoming at such a dry time; or if we even have a late season, it does not follow that rain alone possesses all the qualifications requisite to a sound, healthy, cultivation: hence, the failures which often take place as well in a moist season as a dry one, when other things do not favour their well-being. And as it is more in unison with the design of nature that the period noticed above should be dry rather than wet, it follows that a wet season may be fairly said to be an unhealthy one for vegetation in a general way, and it is vain to think that a shower in August or September will have the same beneficial results as one in April; consequently, the Pea becomes unhealthy, and easily falls a prey to those diseases which are so ready to attack a disabled plant, and, as it is before observed, that this tendency to succumb to the evils above exists in a greater degree in the south of England than in the north of it and Scotland, it follows, that in the majority of seasons the prolonged period in which good, useful Peas can be had for table in the latter district, is more than will compensate for the few days earlier that the southern portion is favoured with. This, however, is not the only benefit, for it often happens, that in districts noted for early Peas, after the first crops have been off, and the article has been in use say two months, the scantiness of the other crops which follow is often a loss both of time and space; because they having been sown with a view to come into use, at a given time, and sticking and other attendance given them, a considerable space of ground is put under crop which, being unfortunate and useless, displaces other things that might have become profitable. Now, although it would be too

much to say that cure can be had for all these evils, yet, by attending to a few points in culture which bear on the matter, much may be accomplished in the way of lessening the evil.

Having just observed that the Pea is more subject to misfortune when planted to come into use at a late period than when done sooner, it follows, that the season, *i.e.* the atmosphere, and the state of the ground generally, is not suited to the wants of the Pea; the former being charged with something favouring disease rather than vigour, while the latter is deficient of that qualification necessary to ward it off; hence the liability to suffer. Now, in order to preserve it against such a misfortune, we must take all the pains we can to secure the plant such an amount of good wholesome food, that it will not suffer from the lack of proper nourishment; the state of the ground ought to be so regulated as to admit all this, which is accomplished by breaking it up to such a depth as to admit the roots of the Peas so far down as to be below the immediate action of the dry weather; the stiff ground must be mixed with such as consists of a finer texture, while very light, hungry soils and gravels must have a corresponding addition made to them of stiff and retentive nature, so as to ensure a healthy action to roots deep enough to be below the immediate range of an ordinary summer's drought; but this latter is a more difficult duty than the other, for the dry nature of a sandy, chalky, or gravelly, sub-soil, is such as to suck out the moisture from any ordinary substance buried in it, consequently, the means of restoring that moisture must be made available; in other words, where a soil of the above description has to be operated on, it would be better if the subsoil was removed to at least ensure a depth of eighteen inches of good loamy soil of a kind that was sweet and well-pulverized by its exposure to the atmosphere; if this cannot be had in sufficient quantity to do the whole plot, then let the rows be so done to the breadth and depth of at least eighteen inches each way, and the Peas being sown at the proper time, the moisture of this space must be kept up by repeated waterings as wanted, not forgetting to supply liquid-manure when the plants have advanced one-half their height and afterwards. By attending to this, and allowing them a free, open, airy situation, a tolerable crop of Peas may be depended on, which in an ordinary way might have fallen a prey to mildew when just beginning to form their pods.

When land of an entirely opposite character has to be acted upon, a contrary course must be adopted, for here we have the plant supplied with a superabundance of fluid matter, and that, perhaps, of a sour and improper kind. In cases of this kind, where the ground is wet, clayey, and unkind, what farmers would call a good fallow is necessary here, *i.e.*, it must be exposed to the vicissitudes of the elements for some time before sowing, and frequently turned over during that time; and when the proper time arrives for sowing, let a reverse way to the one noted above be adopted; in fact, instead of sowing the seed in rows of earth that had been deepened to receive a better material, let the material in this case be heaped on the surface, and the seed sown in a sort of ridge, more or less high, as the wetness of the ground may seem necessary; but observe, this plan is only necessary in extreme cases; for though it is common enough to sow Peas, and other things in that way, in early spring, &c., the ground must want draining very much that requires this precaution in June or July. However, I have here advised its being done in extreme cases; and, if very dry weather occur, moisture can easily be supplied to it—only, in this case, the watering must be performed in the early stages of the crop, and not in the latter; for by the time the plants have advanced one or two feet high, their roots will also have penetrated down to the ground in which water abounds in sufficient quantity to meet their wants;

consequently, they will not be benefited by hand-feeding in that case, and may derive much harm by a superabundance of water, which, as is well known, is more deleterious in its effects when applied in an artificial way than in a natural one. However, the season, and other circumstances, will, in general, point that out.

I cannot conclude this article without urging on the amateur the necessity of ensuring a good quality in the seed he selects for his late crop. It has been customary to sow the early white kinds at this season, and they are certainly less liable to misfortune than the more delicate green varieties; but such as present a robustness of habit ought to be selected, such as *Thurston's Reliance*, which I have found do very well. Even the *British Queen* sometimes bears well at a late period; but, as there is generally some peculiarity in each individual soil, or a something which operates on the crop, that each place has its favourite variety which succeeds better than others. But when pains are taken, as above, to ensure a healthy and vigorous growth, there is every prospect of obtaining good Peas, even in the most unpromising situation; and I earnestly request our young friends to attempt their growth in such a way, and though, in extreme cases, they may be disappointed, yet, usually, they will be successful; and as it is easier in the Pea to ward off disease than to cure it, I herewith warn the amateur not to depend on sulphur, or any other nostrum affecting a remedy for this crop.

J. ROBSON.

THE DYING FRENCHMAN.

By the Authoress of "My Flowers."

THE following narrative has been sent by a kind and now well-known writer. It is one of real interest; and at this time, when France and England are so closely united; when their brave sons are fighting side by side in the cause of liberty and independence, and the whole world, as it were, spectators of the honourable struggle; at this time it is doubly interesting to mark and detail the little history of one of our French brethren, and to place him among those "Villagers" who have a natural claim upon our hearts.

"It is hoped that the solemnization of the late day of humiliation and prayer may be long impressed upon the minds of the British nation, and that they may evidence, by their national conduct, that the acknowledgment then made of the Lord's supremacy was not an awful mockery, and an hypocritical bending of the knee. Who will readily forget the brightness and sunshine of that glorious day, as though the Almighty had already vouchsafed a gracious reply to the prayers of his people, being 'always more ready to hear than we are to pray?'"

"It was between the services appointed for that occasion, that, in the absence of some friends who had been accustomed to call upon an old Frenchman then lying at the point of death, I paid a visit, at their request, to the dying man. His history was singular and affecting. His father was a zealous loyalist, and a captain in the naval service of France at the time of the great and fearful Revolution; and, like hundreds of others of his countrymen, he sought protection on the shores of Britain from the persecution of the insurgents. He landed at an obscure port in Wales, with his wife and only child—the poor man in whose case my friends were interested. Worn down with poverty, and overwhelmed with anxiety for the future, the captain died in London in obscurity; and the mind of his widow, racked with distress, gave way, and she became a harmless lunatic, in humble lodgings in a provincial town of one of the mid-land counties.

"Whether the son, while a youth in France, had picked up a knowledge of the art he practised in after-life, or whether he was initiated into its secrets in England, I am not aware; but with the ready skill so proverbial in our lively neighbours on the other side of the channel, he became a proficient in the art of glass-spinning, and picked up a tolerable

subsistence in displaying his ingenuity in manufacturing glass horses, birds, dogs, &c.; and I have heard him mention, with considerable pride, a visit that was paid to him in Brighton by the revered monarch George the Third and the royal family; so that his celebrity must have attained some height at this period of his life, to have obtained for him the honour of a visit from a crowned head. The daughter of the person with whom his insane mother was placed, and in whose house she died, became his wife; and a more thrifty, cleanly woman could not be imagined. She is, indeed, a "help meet" for him; and has tenderly ministered to his wants, during a long illness, with devoted affection. One son alone is left to them, and he has a large family to support, therefore is only able to assist them sparingly out of his slender means. Knowing their extreme poverty, I was indeed unprepared to find the comfort and delicate cleanliness which pervaded the sick room. The snowy whiteness of the linen, and the bright polish of a few glass trinkets that stood as ornaments on the small bedside table, might indeed have shamed many a housekeeper of higher pretensions to domestic management. The windows of the room opened upon a bright green field, and, as I seated myself by the bedside of the invalid, I thought I had never witnessed so cheerful a sick-room, or one in which I could breathe out my soul into the hands of my Creator. It was, indeed, an affecting sight to see the attenuated form of the dying Frenchman stretched upon his bed, with clasped hands and uplifted eyes as he poured out his gratitude to God for all His 'many and great mercies.' 'Who,' he said, 'am I, that I should have such comforts in my last hours; that friends should be found to visit me, and minister to my wants?' He expressed his great readiness, or rather his anxiety, to die, if it should please God to call him quickly, relying, as he said he did, entirely on the merits of his Redeemer. But when he referred to his wife; 'the dear old creature, who has been such a friend to me for more than forty years'—he could no longer restrain his feelings, and the pent-up tears rushed down his cheeks in streams, as he called down blessings upon her head, and expressed anxiety for her welfare after his decease.

"Two lessons may, indeed, be learnt from this visit to a dying chamber. The one teaches us how idle is the excuse that filth is a necessary consequence of poverty; and the other, that gratitude to God for all His mercies is but little evidenced by the creatures He has made. Here was a poor man, to my certain knowledge, with only three shillings a week to help himself and wife, lying in a room which, for cleanliness, the Queen herself would not have scrupled to enter, with a soul overflowing with gratitude and thankfulness to his Creator for His many mercies! A little time longer, and it is to be hoped poor Du Pre will be in a better and purer region, where 'tears will be wiped from all eyes,' and where sin and sorrow shall never enter; but the remembrance of his heartfelt gratitude to God; his humble and simple reliance upon the merits of his Redeemer; and the scrupulous cleanliness of that room of death, will not readily be effaced from my memory."

The dying Frenchman may cause shame to many a living Briton. Let his bright example of holy gratitude sink into all our hearts, and lead us to be thankful too, not only for what we have, but what we have not. The blessing of God is the "cruse of oil" to the body and the soul: if we can say we possess it, we may open our mouth as wide as we will, and it will be filled. Du Pre's three shillings would have done little, had he been ignorant and indifferent; but he knew in whom he trusted, and was helped.

There is an affecting warning, too, for us in the history of his parents. They seemed to have mistrusted the "God of the friendless and the faint;" for one died, oppressed with poverty and anxiety; and the other lost her reason! Is not man's extremity God's opportunity? "Why are ye fearful, O ye of little faith?"

Dear readers! it is we who distrust and disbelieve; not God who forsakes and refuses! If we only look steadily at God's promises, and His doings for the children of men, we shall meet every danger and every difficulty as Elisha did; we should say, "Where is the Lord God of Elijah?" Where is the Lord God of our forefathers, of all who have trusted and waited for Him? We should smite the waters with the prayer of faith; they would "part hither and

thither," and we should pass safely over. Such has been the experience of many—may such be the experience of us all. Let us remember Du Pre, the dying Frenchman and living Christian; and let us "rejoice in the God of our salvation" like him.

TAUNTON POULTRY SHOW.

ONE of the most interesting Shows of Poultry that has taken place this season was held at Taunton Deane, Somersetshire, on the 21st and 22nd of June. The arrangements were exceedingly creditable to the committee, and the competition in the various classes more than generally severe; very few indifferent specimens presented themselves, and the care taken in the matching and general selection of the pens, shows that exhibitors themselves are at length conscious of the *all-importance* of care in this respect.

In the *Spanish* class, the first prize pen contained a cock originally from the stock of Mrs. Lydia Stowe. This was one of the most strikingly beautiful birds we have seen for some time; purely white-faced, and shown in the highest possible condition, as were also the hens. The two hens in the second prize pen were most excellent, and of unusual size. The commended fowls were exhibited in bad condition; they were really excellent birds, but appeared drooping and to great disadvantage, which tended, no doubt, considerably to their defeat. In the *Dorkings*, the first prize were coloured, and very fine, superior birds, as were also the white Dorkings that claimed the second prize, but it is very inadvisable to allow the two different varieties of Dorkings to come for one and the same prize. The *Partridge-coloured Cochins* were superior to those usually shown. The Rev. G. F. Hodson, of Banwell, claimed all the honours in this class, as did Mr. W. L. Channing, of Heavitree, those in the *Buffs*. The *White Cochins* were very indifferent, and the second prize was withheld; but certainly, the *Cochin* classes (with this one exception) were far better than at the aggregate of shows lately held. The *Malays* were excellent, Mr. Charles Ballance, of Taunton, taking every prize; but they were all sadly injured in appearance, from eating the feathers from each other, and, therefore, except to amateurs, were decidedly unattractive. In the *Game* classes, J. R. Rodbard, Esq., of Aldwick Court, Bristol, received both the first prizes, and their well-known reputation was again fully maintained, their health and plumage being of the highest possible character. In the *Golden-pencilled Hamburgs*, the first prize were very bright, clearly-marked fowls, the "gilding" in the tail of the cock being *unusually* good. In this class, Pen 68 was "disqualified," from four fowls (instead of three) being sent. The loss to exhibitors in not noticing the general rules is notorious, and we trust will be more eared for in future; as disappointment (even with good birds) is always inevitable from its neglect. The most perfect pen of *Silver-spangled Hamburgs* we have seen for a long time were the winners, belonging to Dr. Rogers, of Honiton; they were well shown, and deservedly the admired by all. The *Black Polands* were very indifferent. In the *Silver Polands* were some first-rate fowls, but shown in sad feather; the second prize birds being unusually damaged in plumage. In the class for any other pure breed, the *White Spanish* were deservedly conspicuous; the *Andalusian* taking the second prize, and an *extra second* being given to a very good pen of early *Brahma* chickens. All the *Bantams* were well represented. The *Turkeys* were excellent (the American breed). The *Aylesbury Ducks* good, and the *Rouens* very inferior. The competition in the *Pigeons* was very remarkable; indeed, it has seldom been equalled. In the extra stock, a pair of *Black Spanish* chickens, Pen 185, were most promising, as were also a coop of seven or eight young *Geese* (not entered in the catalogue), by Mr. T. D. Stephens, of Trull Green, Taunton, and these were deservedly commended for their great size and early maturity.

The decisions of the judge, E. Hewitt, Esq., of Sparkbrook, Birmingham, were satisfactory, and the committee paid an attention to the poultry committed to their care that will tend to influence the success of their future exhibitions; and we may add, all the birds were dispatched homewards the same evening the exhibition closed, a practice highly tending to popularity.

The prize list is as follows:—

Class 1.—SPANISH.—4. First prize, Daniel Parsley, Rock Cottage, Stapleton-road, Bristol. 7. Second prize, John Marshall, Belmont, Taunton. *Commended*.—5. William Plummer, Brislington, Bristol.

Class 2.—DORKING.—9. First prize, T. J. Bremridge, Penrose Villa, Heavitree, Exeter. 11. Second prize, Rev. G. F. Hodson, Banwell, Somerset.

Class 3.—COCHIN-CHINA (Brown or Partridge).—15. First prize, Rev. G. F. Hodson, Banwell. 16. Second prize, Rev. G. F. Hodson, Banwell.

Class 4.—COCHIN-CHINA (Buff, Lemon, and Cinnamon).—20. First prize, W. L. Channing, Heavitree, Exeter. 22. Second prize, W. L. Channing, Heavitree, Exeter.

Class 5.—COCHIN-CHINA (White or Black).—34. First prize, F. J. Coleridge, Ottery St. Mary, Devon. Second prize withheld.

Class 6.—MALAY.—39. First prize, Charles Ballance, Taunton. 42. Second prize, Charles Ballance, Taunton. *Commended*.—39. Charles Ballance, Taunton.

Class 7.—GAME (Black, Brassy-winged, Black-breasted, and other Reds).—44. First prize, J. R. Rodbard, Aldwick Court, Bristol. 47. Second prize, R. R. Sewell, Bridgewater. *Commended*.—51. Henry Shield, Taunton. 52. Henry Shield, Taunton.

Class 8.—GAME (White, Piles, Grays, and Blues).—54. First prize, J. R. Rodbard, Aldwick Court, near Bristol. 55. Second prize, William Buncombe, Taunton.

Class 9.—HAMBURGH (Gold or Silver-pencilled).—61. First prize, Miss F. Pattison, Feniton Court, Honiton. 70. Second prize, T. Michelmore, jun., Berry, Totness.

Class 10.—HAMBURGH (Gold or Silver-spangled).—72. First prize, Dr. Rogers, Honiton. 78. Second prize, Walter Hugo, Albert Villa, Mount Radford. *Commended*.—77. Charles Edwards, Brislington, Bristol.

Class 11.—POLANN (Black, with White Crests).—79a. First prize, John Buncombe, Wellington. 79. Second prize, Charles Edwards, Brislington, Bristol.

Class 12.—POLANN (Gold or Silver).—83. First prize, J. H. Gandy, Old Cleeve, Somerset. 80. Second prize, Cyrus Clark, Street, Glastonbury. *Commended*.—81. Charles Edwards, Brislington, Bristol.

Class 13.—ANY OTHER PURE BREEN.—86. First prize, W. L. Channing, Heavitree, Exeter. (White Spanish.) 89. Second prize, John Taylor, Cressy House, Shepherd's Bush, Middlesex. (Blue Andalusians.) 91. Extra second prize, John Marshall, Belmont, Taunton. (Brahma Pootra.)

Class 14.—HYBRINS.—First prize withheld. 93. Second prize, John D. Peuny, Taunton.

Class 15.—BANTAMS (Silver-laced).—96. First prize, Rev. G. F. Hodson, Banwell. 95. Second prize, Messrs. Connett, and Co., 270, High-street, Exeter.

Class 16.—BANTAMS (Gold-laced).—98. First prize, Messrs. Connett and Co., 27, High-street, Exeter. 97. Second prize, Rev. G. F. Hodson, Banwell.

Class 17.—BANTAMS (Black).—104. First prize, Rev. G. F. Hodson, Banwell. 105a. Second prize, Messrs. Connett and Co., Exeter.

Class 18.—BANTAMS (White).—108. First prize, Rev. G. F. Hodson, Banwell. 109. Second prize, Rev. G. F. Hodson.

Class 19.—TURKYS.—113. First prize, Charles Edwards, Brislington, Bristol. 112. Second prize, Miss King, Pyrland Hall, near Taunton.

Class 20.—GEESE.—First prize withheld. 114. Second prize, T. D. Stephens, Trull.

Class 21.—AYLESBURY DUCKS.—119. First prize, B. J. Ford, Exeter. 117. Second prize, Cyrus Clark, Street, Glastonbury.

Class 22.—ROUEN DUCKS.—120. First prize, Charles Ballance, Taunton. 121. Second prize, Charles Ballance, Taunton. *Commended*.—122. Rev. C. Smith, Bishop's Lydeard, Taunton.

Class 23.—ANY VARIETY OF DUCKS (Buenos Ayres).—125. First prize, John Marshall, Belmont. 124. Second prize, John Marshall, Belmont.

Class 24.—CARRIEAS.—127. First prize, Saml. Summerhayes, Taunton.

Class 25.—TUMBLEAS.—131. First prize, Dr. Rogers, Honiton.

Class 26.—RUNTS.—134. First prize, Rev. E. Coleridge, Buckerell Vicarage, Honiton.

Class 27.—FANTAILS.—138. First prize, Miss Selina Northcott, Upton Pyne, Devon. *Commended*.—139. John Marshall, Belmont.

Class 28.—POUTERS.—142. First prize, Miss Selina Northcott, Upton Pyne, Devon. *Commended*.—144. Thomas Bartlett, Taunton.

Class 29.—BARBES.—148. First prize, Charles Bluett, Taunton. *Commended*.—147. Rev. G. F. Hodson, Banwell.

Class 30.—JACOBINS.—151. First prize, Dr. Rogers, Honiton. *Commended*.—149. W. L. Channing, Heavitree, Exeter.

Class 31.—TRUMPETERS.—156. First prize, Thomas Twose, Bridge-water. *Commended*.—154. W. L. Channing, Heavitree, Exeter. 157. Dr. Rogers, Honiton. 158. S. Summerhayes, Taunton.

Class 32.—OWLS.—60. First prize, W. L. Channing, Heavitree, Exeter. *Commended*.—164. Thomas Michelmore, jun.

Class 33.—NUNS.—168. First prize, Master A. J. Mackey, Fair-hill, Exeter.

Class 34.—TURBITS.—174. First prize, Charles Bluett, Taunton.

Class 35.—ANY OTHER VARIETY OF PIGEON.—180. First prize, Dr. Rogers, Honiton. (Magpies.)

EXTRA STOCK.—*Commended*.—185. Daniel Paisley, Rock Cottage, Stapleton-road, Bristol. (Spanish chickens.) 191. Rev. J. H. Gandy, Old Cleeve, Washford. (Cochin-China Chickens.)

WEST KENT POULTRY EXHIBITION.

At the annual exhibition at Farningham, on June 20th, 1854, the following prizes were awarded:—

Class 1.—COCHIN-CHINA (Buff or Cinnamon).—For the best Cock and two Hens of any age above eighteen months.—First prize, Thomas Rider, Esq., Boughton Park, Staplehurst.

Class 1*.—For the best Cock and two Hens not exceeding eighteen months.—First prize, Mr. Parkins Jones, Fulham. *Commended*.—Mr. Robert Bowles, Shoreham.

Class 2.—COCHIN-CHINA (Brown and Partridge-feathered).—For the best Cock and two Hens of any age above eighteen months old.—First prize, Mr. William Dray, Farningham. *Commended*.—Mr. William Dray, Farningham.

Class 2*.—For the best Cock and two Hens not exceeding eighteen months.—First prize, Mr. Thomas Bridges, Croydon.

Class 3.—COCHIN-CHINA (White). No award.

Class 4.—COCHIN-CHINA (Chickens of any colour).—For the best Coop of six or more Chickens of one brood, not exceeding three months.—First prize, Mr. W. R. Morris, Deptford. Second prize, Mr. Thomas Rider, Boughton Park, Staplehurst. *Highly Commended*.—Mrs. Elizabeth George. *Commended*.—Mr. H. G. K. Breavington, Sutton, near Hounslow, Middlesex. Mr. James Margeeson Bryan, Ingress House, Gravesend. Mr. John Fairlie, Cheveley Park, Newmarket.

Class 5.—DORKING (Single-combed or Rose-combed).—For the best Cock and two Hens of any age above eighteen months old.—First prize, Mrs. Col. Anstey, Seven Oaks.

Class 5*.—For the best Cock and two Hens not exceeding eighteen months old.—First prize, Mr. H. G. K. Breavington, Sutton, near Hounslow.

Class 6.—DORKING (White).—For the best Cock and two Hens of any age above eighteen months old.—First prize, Mr. Joseph Clift, Dorking, Surrey. *Commended*.—Mr. Joseph Clift, Dorking, Surrey. Mr. Joseph Robins, Dartford.

Class 7.—DORKING (Chickens of any colour).—For the best Coop of six or more Chickens, of one brood, not exceeding three months old.—First prize, Mr. Thomas Rider, Boughton Park, Staplehurst. Second prize, Mr. H. G. K. Breavington, Sutton, near Hounslow. *Commended*.—Mr. Joseph Clift, Dorking. Mr. William Dray, Farningham.

Class 8.—SPANISH.—For the best Cock and two Hens of any age above eighteen months.—First prize, Mr. William Dray, Farningham.

Class 8*.—For the best Cock and two Hens not exceeding eighteen months old.—First prize, Mr. Nathaniel Norman, Bull's Fields, Plumstead.

Class 9.—SPANISH (Chickens).—For the best Coop of six or more Chickens, of one brood, not exceeding three months old.—First prize, Mr. Nathaniel Norman, Bull's Fields, Plumstead. Second prize, Mr. Anthony Wood, Down.

Class 10.—HAMBURGH (Golden or Silver-pencilled).—For the best Cock and two Hens of any age above eighteen months.—First prize, Mr. J. Atkinson Briggs, Bessels Green, Sevenoaks. *Highly Commended*.—Mr. J. Atkinson Briggs, Bessels Green, Sevenoaks.

Class 10*.—For the best Cock and two Hens not exceeding eighteen months old.—First prize, Mr. William Page, Sutton-at-Hone. *Highly Commended*.—Mr. William Page, Sutton-at-Hone.

Class 11.—HAMBURGH (Gold or Silver-spangled).—For the best Cock and two Hens of any age above eighteen months.—First prize, Mr. John Bidwell, Guildford, Surrey. *Commended*.—Mr. Harrison Weir, Lyndhurst Road, Peckham.

Class 12.—HAMBURGH (Chickens, Golden or Silver, Pencilled or Spangled).—First prize, Mr. T. B. Fairhead, Cressing, Braintree, Essex. *Commended*.—Mr. C. Rawson, The Hurst, Walton-on-Thames.

Class 13.—POLANN FOWL (Of any colour, with or without Ruffs or Beards).—For the best Cock and two Hens of any age above eighteen months.—First prize, Mr. Parkins Jones, Fulham.

Class 13*.—For the best Cock and two Hens not exceeding eighteen months old.—First prize, Mr. S. C. and C. N. Baker, Half-moon Passage, London.

Class 14*.—POLANN FOWL (Black with White Crests, or all White).—For the best Cock and two Hens not exceeding eighteen months old.—First prize, Mr. William Dray, Farningham.

Class 15.—POLAND FOWL (Chickens of any sort).—First prize, Mr. Parkins Jones, Fulham. Second prize, Mr. C. Rawson, The Hurst.

Class 16.—Cross between any Breed.—No award.

Class 17.—CHICKENS OR PULLETS.—*Gold Medal*.—Mr. Thomas Rider, Boughton Park. *Highly Commended*.—Mr. T. B. Fairhead, Cressing, Braintree. Mr. James Russell, Sen., Horton Kirby. *Commended*.—Mr. William Dray, Farningham.

Class 18.—GAME FOWL (Of any colour).—For the best Cock and two Hens of any age above eighteen months.—First prize, Mr. Thomas B. Fairhead, Cressing, Braintree, Essex.

Class 19.—BANTAMS (Gold or Silver-laced).—For the best Cock and two Hens.—First prize, Mr. John Clinton, Maidstone. Second prize, Mr. Richard Beard, Darenth.

BANTAMS (Black or Raven).—First prize, Mr. William and Thomas Dray. Second prize, Mr. William and Thomas Dray.

BANTAMS (Any other variety).—No competition.

Class 20.—DUCKS.—For the best White Aylesbury Drake and two Ducks.—First prize, Mr. H. G. K. Breavington, Sutton, near Hounslow. Second prize, Mr. C. Rawson, The Hurst.

DUCKS.—For the best Rouen Drake and two Ducks.—No award.

DUCKS.—For the best Drake and two Ducks of any other variety.—First prize, The Rev. H. Kittoc, Chadwell, near Grays, Essex. Second prize, Mr. William Dray, Farningham.

Class 21.—DUCKLINGS (Of any sort).—For the best brood of five or more Ducklings not exceeding eight weeks old.—First prize, Mr. G. H. K. Breavington, Sutton, near Hounslow. *Highly Commended*.—Mr. J. Fairlie, Cheveley Park, Newmarket.

Class 21*.—DUCKLINGS (Of any sort).—For the best brood of five or more Ducklings, hatched since Christmas, 1853.—First prize, Mr. Alfred R. Fremlin, Hollingbourne. *Highly Commended*.—Mr. C. Rawson, The Hurst. The Hon. Greville Howard, Lydiard, Swindon, Wilts. *Commended*.—Mr. Alfred R. Fremlin.

Class 22.—GEESE.—For the best Gander and two Geese.—First prize, Mr. C. Rawson, The Hurst. Second prize, Mr. William Dray, Farningham.

Class 23.—GOSLINGS.—For the brood of five or more Goslings, hatched since Christmas, 1853.—First prize, Mr. William Dray, of Farningham.

Class 25.—GUINEA FOWL.—No award.

Class 26.—PEA FOWL.—No award.

Class 27.—DISTINCT VARIETIES.—First prize, Mr. Parkins Jones, Fulham. First prize, Mr. T. O. Camroux, Rookery, Hawley, near Dartford. First prize, The Rev. Henry F. Cowanee, Shoreham. Second prize, Mr. William Dray, Farningham.

PIGEONS (Of any colour).—*Pouters or Croppers*.—No award. *Carriers*.—First prize, A. Wickham, Rochester. Second prize, Wm. Woodhouse, London. *Dragons*.—First prize, B. P. Brent, Bessels Green. Second prize, W. Woodhouse, London, *Tumblers*.—Second prize, A. Wickham, Rochester. *Baldheads*.—First prize, Harrison Weir, Peckham. Second prize, Arthur Wickham, Delee. *Jacobines*.—First prize, C. Rawson, The Hurst. Second prize, H. Childs, Birmingham. *Fantails*.—First prize, C. Rawson, The Hurst. Second prize, H. Childs, Birmingham. *Large Spanish*.—Second prize, S. C. and C. N. Baker. *Varieties*.—First prize, C. Rawson, The Hurst. *Beards*.—Highly commended. No competition. *Beards*.—Commended. H. Child, Jun., Birmingham.

RABBITS.—First prize, Fawn Buck, for length of ears, Nathaniel Norman, Plumstead. Second prize, Yellow and White Doe, N. Norman, Plumstead.

DEVON AND CORNWALL SOCIETY FOR THE IMPROVEMENT OF POULTRY.

The following is the list of Prizes awarded at this Society's Exhibition on the 27th of June. If there is any error in the list it shall be amended in our report on the exhibition next week. The judges were the Rev. W. W. Wingfield, of Gulval, Cornwall, and Mr. W. L. Channing, of Heavitree, Devon.

Class 1.—COLOURED DORRING.—1. First prize, Mr. Charles Harward, Hayne House, Plymtree, Collumpton, Devon. Bred by exhibitor. Age, thirteen months. 2. Second prize, Mr. Thomas Bremridge, Penrose Villa, Heavitree, Exeter, Devon. Age, cock two years, hens about one year each.

Class 1A.—COLOURED DORRING (Chicken of 1854).—8. First prize, Mr. John R. Rodbard, Aldwick Court, Langford, near Bristol, Somerset. Grey Dorking chicken, hatched March 1st, 1854, bred by exhibitor. 6. Second prize, Mr. Charles Harward, Hayne House, Plymtree, Collumpton, Devon. Bred by exhibitor. Age, seventeen weeks.

Class 2.—WHITE DORRING.—13. Second prize, Mr. Charles Edwards, Brislington, near Bristol. Age, exceeding one year; in possession of exhibitor more than six months.

Class 2A.—WHITE DORRING (Chicken of 1854).—14. First prize, Mr. Francis J. Coleridge, The Cottage, Ottery St. Mary, Devon. Four White Dorking chicken, age, one sixteen weeks, three ten weeks. Bred by exhibitor.

Class 3.—SPANISH.—19. First prize, Mr. William Wevill Rowe, Milton Abbott, Tavistock, Devon. Age, cock one year, hen two years; in possession of exhibitor twelve months. 17. Second prize, Mr. William Joseph Square, 14, Portland Square, Plymouth, Devon. Age, cock fourteen months, hen same age, and the other hen two years. Hens bred by exhibitor, and the cock in his possession several months.

Class 4.—BUFF OR CINNAMON SHANGHAE.—25. First prize, Mr. S. C. Parkhouse, Bedford-street, Plymouth. Age, cock one year, hens various; in possession of exhibitor six months. 24. Second prize, Mr. S. C. Parkhouse, Bedford-street, Plymouth. Age, cock one year, hens various; in the possession of exhibitor six months. 26. Third prize, Mr. S. C. Parkhouse, Bedford-street, Plymouth. Age, cock one year, and hens various; in possession of exhibitor six months. *Commended*. 27.—Mr. W. J. Lawrence, Rosemorran, Penzance, Cornwall. (Buff.) Age, two-and-a-half years.

Class 4A.—BUFF OR CINNAMON SHANGHAE (Chicken of 1854).—47. First prize, Mr. Edward Burton, Tregolls Cottage, Truro, Cornwall. Cockerel and three Pullets. Age, ten weeks; bred by exhibitor. 46. Second prize, Mr. William Joseph Square, 14, Portland Square, Plymouth, Devon. Hatched March 30th, 1854; bred by exhibitor. *Highly Commended*.—41. Mr. John R. Rodbard, Aldwick Court, Langford, near Bristol, Somerset. Hatched March 1st, 1854; bred by exhibitor.

Class 5.—BROWN OR PARTRIDGE SHANGHAE.—55. First prize, Mr. William Eastlake, Mannamead, Plymouth, Devon. Age, nine months; cock Mr. Punched's breed. 56. Second prize, Mr. G. C. Adkins, West House, Edgbaston, near Birmingham. Ages unknown; in possession of exhibitor twelve months.

Class 6A.—WHITE SHANGHAE (Chicken of 1854).—66. First prize, Mr. James Turner, Northbrook, near Exeter, Devon. Age, three months; bred by exhibitor. 67. Second prize, Mr. James Turner, Northbrook, near Exeter, Devon. Age, nine weeks; bred by exhibitor.

Class 8.—REN GAME (Any named variety).—68. First prize, Mr. J. Harvey, 32, Notte-street, Plymouth, Devon. Age, Red Game cock three years, hens one year; bred by exhibitor. 75. Second prize, Mr. W. J. Little, Anderton, near Devonport. (Lord Derby's Red Game.) Age, about fourteen months; in exhibitor's possession four months. *Highly Commended*.—70. Mr. G. C. Adkins, West House, Edgbaston, near Birmingham. Ages unknown; in exhibitor's possession six months.

Class 9.—GRAY GAME (Any named variety).—78. First prize, Mr. John Biekford, Tideford, St. Germans, Cornwall. Age, two years; bred by exhibitor. 84. Second prize, Mr. W. J. Little, Anderton, near Devonport. (Duckwings.) Age, cock two years and two months, hens one year and three months.

Class 11.—SILVER-PENCILLED HAMBURGH.—94. First prize, Mr. W. Wevill Rowe, Milton Abbott, Tavistock, Devon. Age, cock two years, hens one year and ten months. 91. Second prize, Mr. Thomas Michellmore, junr., Berry, Totnes, Devon. Age, eleven months; in exhibitor's possession, cock four months, hens nine months. *Highly Commended*.—92. Mr. William Kent, junr., No. 14, Queen-street, Plymouth, Devon. Age, cock eleven months, one hen twelve months, and one, ten months; in exhibitor's possession, hens ever since hatched, and cock six months.

Class 12.—GOLD-PENCILLED HAMBURGH.—101. First prize, Mr. Wm. Wevill Rowe, Milton Abbott, Tavistock, Devon. Age, cock twelve months and seven days, hens twelve and ten months. 100. Second prize, Miss F. Patteson, Feniton Court, Honiton, Devon. Age, one year and three months; the hens bred by exhibitor, and the cock in her possession nine months.

Class 13.—SILVER-SPANGLED HAMBURGH.—105. First prize, Mr. Charles Edwards, Brislington, near Bristol. Age, one year and upwards; in exhibitor's possession more than six months. 107. Second prize, Mr. W. Robert Gee, Steartfield, Paignton, Devon. Ages, cock twenty months, hen ten months; in possession of exhibitor not quite six months. *Commended*.—106. Mr. Charles Edwards, Brislington, near Bristol. Age, over one year; in exhibitor's possession more than six months.

Class 14.—GOLD-SPANGLED HAMBURGH.—111. First prize, Mr. G. C. Adkins, West House, Edgbaston, near Birmingham. Age not known; in possession of exhibitor twelve months. 110. Second prize, Mr. Charles Edwards, Brislington, near Bristol. Age, one year and upwards; more than six months in possession of exhibitor.

Class 15.—WHITE OR BUFF POLANDS.—112. First prize, Mr. W. J. Lawrence, Rosemorran, Penzance, Cornwall. (White Poland.) Age, eighteen months.

Class 16.—POLANDS, BLACK (White Tops).—115. First prize, Mr. Charles Edwards, Brislington, near Bristol. Age, more than one year; in possession of exhibitor over six months. 116. Second prize, Mr. G. C. Adkins, West House, Edgbaston, near Birmingham. Age, unknown; in the possession of exhibitor two years.

Class 17.—GOLD POLAND.—117. First prize, Mr. Edward Carlyon, Solicitor, St. Austell, Cornwall. Age, about fifteen months, in possession of exhibitor three months. 119. Second prize, Mr. Stephen Towan, 13, Buckwell-street, Plymouth, Devon. Ages unknown; in possession of exhibitor about four months.

Class 18.—SILVER POLAND.—123. First prize, Mr. G. C. Adkins, West House, Edgbaston, near Birmingham. Age, unknown; in exhibitor's possession one year. 121. Second prize, Mr. James Turner, Northbrook, near Exeter, Devon. Age, unknown; in possession of exhibitor about one month.

Class 19.—WHITE BANTAM.—124. First prize, Mr. G. C. Adkins, West House, Edgbaston, near Birmingham. Ages, unknown; in exhibitor's possession one year. 125. Second prize, Messrs. W. Connatt and Co., 270, High-street, Exeter, Devon. Age, three years.

Class 21.—GOLD-LACED BANTAM.—129. Second prize, Messrs. W. Connatt and Co., High-street, Exeter, Devon. Age, sixteen months.

Class 22.—SILVER-LACED BANTAM.—132. Second prize, Messrs. W. Connatt and Co., 270, High-street, Exeter, Devon. Age, three years.

Class 24.—GEESE.—135. First prize, Mr. William Wevill Rowe, Milton Abbott, Tavistock, Devon. Age, two months and twenty-four days; reared by exhibitor.

Class 25.—WHITE AYLESBURY DUCKS.—140. Second prize, Mr. R. E. Moore, Pennycombequicke, Plymouth. Ages, various.

Class 26.—ROUEN DUCKS.—142. First prize, Mr. Edward Burton, Tregolls Cottage, Truro, Cornwall. Age, twelve months; six months in possession of exhibitor. 143. Second prize, Mr. Wm. Wevill Rowe, Milton Abbott, Tavistock, Devon. Age, three months and three days; reared by exhibitor.

PIGEONS.

Class 28.—CARRIERS.—145. First prize, Mr. John Chalker, Catherine-street, Plymouth. Age, one cock four years; bred by exhibitor. 147.

First prize, Mr. J. Chalker, Catherine-street, Plymouth. Age, one cock two years; twenty-three months in exhibitor's possession. *Highly Commended*.—152. Mr. W. Joseph Square, 14, Portland Square, Plymouth, Devon. Bred by exhibitor.

Class 29.—ALMOND TUMBLER.—155. First prize, Mr. G. C. Adkins, West House, Edgbaston. Age, unknown; in exhibitor's possession twelve months.

Class 30.—FANTAILS.—160. First prize, Mr. Edward Burton, Tregolls Cottage, Truro, Cornwall. (White Fantails.) Age, twelve months; in exhibitor's possession twelve months.

Class 31.—JACOBINES.—166. First prize, Mr. W. C. Hodge, Crescent, Plymouth, Devon. Age, unknown. *Commended*.—165. Mr. W. Beer, 20, Tavistock-street, Devonport, Devon. (Pair.) Age, two years; in exhibitor's possession for that period. 168. Mr. Charles Bluett, Taunton, Somerset. Age, unknown.

Class 33.—TRUMPETERS.—177. First prize, Mr. Edward Burton, Tregolls Cottage, Truro. (Pair.) Age, twelve months; six months in exhibitor's possession.

Class 34.—184. First prize, Mr. Charles Bluett, Taunton, Somerset. (A Turbit Pigeon.) Age, unknown. 185. First prize, Mr. Charles Bluett, Taunton, Somerset. (A Barb Pigeon.) Age, unknown. 186. First prize, Mr. G. C. Adkins, West House, Edgbaston, near Birmingham. (Runt Pigeon.) Age, unknown. 187. First prize, Mr. G. C. Adkins, West House, Edgbaston, near Birmingham. (Archangel Pigeon.) Age, unknown; in exhibitor's possession one year. 200. First prize, Mrs. Kent, 11, Caroline-place, Stonehouse, Devon. (Malay Chicken.) Age, twelve weeks old; bred by exhibitor. 204. First prize, Capt. Thomas Russell, Strand-street, Stonehouse, Devon. Cock and two Hens. (Persian Tailless Fowls, imported.) Ages, unknown. 205. First prize, Capt. Thomas Russell, Strand-street, Stonehouse, Devon. (Friesland or Frizzled Fowls.) Cock and two Hens. Ages, unknown.

BEES ON THE DEPRIVING SYSTEM WILL SWARM.

I do not think J. B. P.'s answer to your querist "Honey Bee" is quite satisfactory, when he only tells him that "Milton's hives are to be obtained at his honey-warehouse." As London is a large place he might have added, that Milton's warehouse is at 10, Great Marylebone-Street, Cavendish Square; where "Honey Bee" would meet with every attention from a most civil, obliging, and practical bee-master, such as I can confidently assert Mr. Milton to be. And now that I am on the subject of bees, perhaps you will allow me to make some remarks about the management of them which is recommended by the various writers. I have read nearly all the modern writers; including Hnish, Nutt, Payne, Taylor, Cotton, Milton, Wood, &c., and they nearly all say that bees on the depriving system will not swarm. This I unflinchingly deny. The only way of preventing swarming is to fumigate the hives, cut out the queen's cells, and return the bees. This I tried last year, on a hive which I bought from a poor man, and which was very weak, and did not want to swarm until July; which, of course, was too late to be of any use for honey gathering. The next day, after the cells were cut out, the bees began turning out the drones, which, as is well known, was a sure sign that all thoughts of swarming was given up.

Now, with regard to the depriving system. I put a glass on a hive nearly resembling Milton's "Revolving Top Straw Hive," but altered to suit my own taste; on the 30th of April they worked it half full of wax; but sent out a swarm on the 8th of June; a cast six days after; the bees having left the glass on the first swarm going off, never going into it between the first and second swarms going off, and have never entered it since. Now, bee-keepers generally suppose, if extra room is given to bees they will not swarm; but, how was it mine swarmed whilst they had the glass to work in? I think I can give an answer myself. May was a bad month for honey gathering; the bees increased quicker than they could make honey; and, whatever quantity of room had been given them, they would still have swarmed; else, how was it they did not even visit the glass between the first swarm and the sending out the cast? I could tell young bee-keepers a few secrets, if I chose, with regard to books and fancy hives; but I do not wish to spoil the sale of them; therefore they had better buy their experience as I have done. Did any of your bee-keeping readers remark that their swarms went off on June the 8th, at eight o'clock in the morning? I know of five swarms in this immediate neighbourhood that did so.—J. R.

SEA WEEDS.

(Concluded from page 201.)

CONFERVÆ.

"NAME from a word signifying to consolidate, because some of the species were used by the ancients for binding up fractured limbs."

CONFERVA MELAGONIUM (Black-jointed).—Dark green; stiff and wiry: on rocks at low-water.

C. ARENOSA (Sand).—"This species occurs in fleeces a yard or more in extent; they consist of several thin layers placed over each other."—*Harvey*.

C. TORTUOSA (Zigzag).—"Green; filaments simple, rigid, curled, twisted, and entangled; joints cylindrical; thrice as long as broad. In the water *C. tortuosa* appears like a flock of fine wool."—*Dr. Johnston*.

C. IMPLEXA (Plaited).—On rocks and algæ; the filaments are flaccid and very slender, forming little tufts.

C. COLLABEUS.—"Found at Yarmouth by Dr. Hooker; the only time it has been discovered; it was of a bright verdigris-green, and was on a floating piece of deal.

C. RANGIODES.—"Tufts three to six inches; of a dark green colour."—*Harvey*.

C. YOUNGANII.—"On rocks near high-water mark, near Dunraven Castle, Glamorganshire: filaments an inch long, forming small tufts somewhat rigid."—*Harvey*.

ORDER 16. ULVACEÆ.

"Fronde membranaceous; of a green colour; (in some cases saccate, and inflated in the young state); fructification minute granules, mostly arranged in fours."—*Greville*. Name from the Celtic word, *ul*, water.

1. EUTEROMORPHA. *Link*.

"Fronde tubular, hollow, membranaceous; of a green colour, and reticulated structure; fructification three or four roundish granules, aggregated in the reticulations."—*Greville*. "Name from an entrail, and a form, or appearance."

1. *E. CORNUCOPIE* (Horn of Plenty).—"In rocky pools; on corallines: the fronds about an inch long, and funnel-shaped; colour dark green below, pale above."

2. *E. INTESTINALIS* (Intestine-like).—"Very common: fronds sometimes a yard long, and of a full bright green. "When perfect, and filled with water, it resembles the intestines of an animal. It often swims upon the surface of the water, and looks bloated, as if in a state of fermentation."—*Dr. Johnston*.

3. *E. COMPRESSA* (Flattened).—"Very abundant; green, and with a compressed and branching frond; troublesome to fishermen, by clogging their nets; they call it *slake*."

4. *E. LINKIANI*.—"Fronde six to twelve inches long, inflated; colour very pale yellowish-green."

5. *E. ERECTA* (Upright).—"A very variable plant, much resembling *E. clathrata*."

6. *E. CLATHRATA*.—"Between tide-marks; common: frond four to six inches high; slender, filiform, and very bushy or fleecy."

7. *E. RAMULOSA* (Branchleted).—"On rocks. "Fronde five or six inches to one or two feet long; compressed, curled, and twisted, interwoven into a thick, inextricable mat, and beset on all sides with sharp spine-like branchlets, which render it harsh to the touch; substance membranaceous-green; this species may at once be distinguished from *E. clathrata*, with which alone there is any risk of its being confounded, by mere handling, the one feeling harsh to the touch, the other soft and silky."—*Carm*.

8. *E. HOPKIRKII*.—"Fronde six to twelve inches long, of exceeding fineness and delicacy. Named after Mr. T. Hopkirk."

9. *E. PERCURSA*.—"On the sea-shore: fronds several inches long, and as fine as hair."

2. ULVA. *Lin.*

1. *U. LATISSIMA* (Broadest).—"Fronde green; widely oblong or roundish; waved, membranaceous, thin."—*Greville*. Very common all the year; early in the year it makes beautiful specimens, adhering well to paper. It is called oyster-green, because it was used to cover oysters. It is also called green-laver, and is sometimes used as a substitute for Porphyra, but is not thought so good.

2. *U. LACTUCA* (Lettuce-like).—On rocks and stones in



the sea: very delicate and beautiful; of a lighter green and finer texture than the preceding. Dr. Johnston says: "In its first stage this *Ulva* resembles a Florence flask in miniature; but it soon bursts, and becomes cleft in a very irregular manner."

3. *U. LINGA*.—A very pretty plant, with linear lanceolate fronds; much curled at the edges, and attenuated at each extremity; of a bright and glossy green in spring, and adhering well to paper; the fronds are sometimes eighteen inches long and an inch broad.

3. PORPHYRA. *Ag.*

"Fronde plane, exceedingly thin, and of a purple colour; fructification, 1, scattered sori of oval seeds, 2, roundish granules, mostly arranged in a quaternate manner, and covering the frond. Name refers to its colour—purple."—*Greville*.

P. LACINEATA (Ragged).—Very common, on rocks and stones: fronds from four to eight inches long; when dried, transparent, and of a fine glossy purple. Miss Mc Leish gave me the most beautiful specimen I ever saw, found by her at Port Glasgow. Children call it "sea-silk," it is so exceedingly soft. This plant is used for the table under the name of laver; in Ireland, sloke. It requires much stewing to make it tender. "The inhabitants of the Western Islands gather it in the month of March; and after pounding, and stewing it with a little water, eat it with pepper, vinegar, and butter. Others stew it with leeks and onions. In England, it is generally pickled with salt, and preserved in jars, and when brought to table is stewed, and eaten with oil and lemon juice." Professor Harvey says, "After many hours' boiling, the frond is reduced to a somewhat slimy pulp, of a dark brown colour, which is eaten with pepper and lemon juice or vinegar, and has an agreeable flavour to those who have conquered the repugnance to taste it, which its great ugliness induces; and many persons are very fond of it. It might become a valuable article of diet, in the absence of other vegetables, to the crews of our whaling vessels in high latitudes, where every marine rock at half-tide abundantly produces it."

2. *P. VULGARIS* (Common).—"Fronde simple, broadly lanceolate; the margin much waved." Very common, on rocks in the sea: the fronds are one or two feet long, and waved. It differs little from the preceding, except in having the fronds undivided.

With this we conclude our papers on the Plants of the Ocean. We shall be glad if they have afforded information or amusement to any of our readers. Still more glad, if they have led to the contemplation of the vegetation of the deep as the wonderful work of an Almighty hand; the surprising variety and beauty of which cause them to "Praise Him," as do all His works. And it is not only their curious and variously beautiful forms which may excite our admiration, but, as we have remarked in former papers, the various uses to which they may be applied; and though the olive-weeds, which are the plainest-looking, are the *most useful* (by what may be called a law of compensation, as, for instance, the nightingale in her suit of sober brown is the most delightful of songsters), yet all have, doubtless, their purpose of one kind or other; and we see that some of those noticed in this last great division are used as articles of food, as, for instance, *Ulva* and *Porphyra*; while the smaller confervæ

help, minute and insignificant as they may appear, to purify the waters in which they grow. The very smallest of the works of God has its use and its appointed place in the creation; and the most minute required "a God to form." "The heavens declare the glory of God, and the firmament sheweth His handy works," yet grand, surpassingly grand and glorious, as they are, no less wonderful are the minute creations of Him who called them all into being.—S. B.

DERIVATION OF CURIOUS BOTANIC NAMES, AND ANCIENT ITALIAN KALYDOR.

The generic name of the fern *Ceterach officinarum* is generally said to be derived from the Arabic *Chetherak*. I find, however, among a list of ancient British names of plants, published in 1633 at the end of Johnson's edition of Gerard, the expression *cedor y wrach*, which means the *joined* or *double rake*, and is exactly significant of the form of the *Ceterach*. The Fernrakes are joined as it were back to back; but the single prongs of the one alternate botanically with those of the other. Master Robert Dauyes, of Guisancey in Flintshire, the correspondent of Johnson, gives the name of another of the Filices (*Equisetum*) as the English equivalent of the ancient British term. But the form of this plant does not at all correspond to that signified by the Celtic words. It is not improbable, therefore, that he was wrong as respects the correct English name of the plant.

The Turkish *shetr* or *chetr*, to cut, and *warak*, a leaf, seem to point out the meaning of the Arabic term quoted in Hooker's *Flora* and elsewhere. Probably some of your Oriental readers will have the kindness to supply the exact English for *chetherak*.

It appears to me, however, that the transition from *cedor-wrach* to *ceterach* is more easy, and is a more probable derivation.

Hooker and Loudon say that another generic name, *Veronica*, is of doubtful origin. In the Arabic language I find *virunika* as the name of a plant. This word is evidently composed of *nikoo*, beautiful, and *viroo*, remembrance; *viroonika*, therefore, means beautiful remembrance, and is but an Oriental name for a Forget-me-not, for which flower *Veronica chamaedrys* has often been mistaken. Possibly the name may have come to us from the Spanish-Arabian vocabulary. The Spaniards call the same plant *Veronica*. They use this word to signify the representation of our Saviour's face on a handkerchief. When Christ was bearing his cross, a young woman, the legend says, wiped his face with her handkerchief, which henceforth retained the divine likeness.

The feminine name *Veronica* is of course the Latin form of *φερωνίκη*, victory-bearer (of which *Berenice* is the Macedonian and *Latiu* construction), and is plainly, thus derived, inappropriate as the designation of a little azure wild flower which, like loving eyes, greets us everywhere.

In looking over Martin Mathée's notes on *Dioscorides*, published 1553, I find that Italian women of his time used to make a cosmetic of the root of the *Arum*, commonly called "Lords and Ladies." The mixture, he says, makes the skin wondrously white and shining, and is called *gersa*. ("*Il font des racines d'Aron de l'eau et de lexive*," &c., tom. v. p. 98.)—HUGHES FRASER HALLE, L.L.D.,—*South Lambeth*.—(Notes and Queries.)

ROSE AMATEUR'S GUIDE. *

THIS very trustworthy and very useful little volume has reached a fifth edition, nor is it a mere reprint of its predecessors, but the author, one of our best authorities on this flower, has, to use his own words, "profited by time and experience." He has improved his lists, discarding those varieties that have been excelled by more recent introductions; and has added much valuable information relative to the cultivation of Roses in pots, and the modes of preparing them. The following are extracts from these new additions.

"SPRING AND SUMMER GRAFTING OF AUTUMNAL ROSES.—

* *The Rose Amateur's Guide*. By Thomas Rivers, of the Nurseries, Sawbridgeworth, Herts. Longman and Co., London, 1854. Fifth Edition.

This is a most interesting method of propagation and most simple. Stocks of any free-growing roses should be potted at any time in the autumn, winter, or early spring months; the first-named period is the most eligible. The Manetti Rose is the best stock, then comes Celine, also very good: some of the Hybrid China Roses will also make good stocks. In the month of April, the shoots of Tea-scented, Hybrid-Perpetual, and indeed of all the autumnal roses that have been forced, will be mature and in a fit state for grafting. One certain rule may be depended upon, when every flower on a shoot has fallen, that shoot is ripe and in a fit state; then take your stock, cut off cleanly all the shoots from the stem, leaving only those at the crown, which shorten to within two inches of their base, cut off from the side of the stock a thin slice of bark, and fit the graft to it as in whip-grafting, only instead of using bass for tying, use cotton twist, and in binding on the graft do not let the threads of twist touch, but mind that you can see the bark of the stock between each thread; place the grafted stock in a close, moist heat, till the grafts begin to shoot, cutting off all the young shoots carefully from the stock below the graft, and hardening them gradually; in a fortnight they will be safe; as soon as the graft has made shoots four or five inches long, the head of the stock should be cut off close down to the graft; till this takes place, all the young shoots from the crown of the stock above the graft should be shortened but not taken off.

"In May, shoots from Tea-scented, China, Bourbon, and Noisette Roses, grown in pots in the greenhouse, will be fit to graft. In June, shoots from roses of the same families, growing against walls or in other warm situations in the open air will be fit; in the last-named month, artificial heat for the grafts may be dispensed with, and a close frame, well shaded with mats in sunny weather, and the plants sprinkled morning and evening, will do very well, unless the weather be windy and cool, the grafts will then require close, moist heat, either from manure or hot water; in the former case, a common cucumber bed and frame kept closely shut will answer every purpose. These summer grafted rose-trees are nicely adapted for pot culture: those grafted in April and May will bloom beautifully in the greenhouse till the end of December.

"When the four-inch pots in which the stocks have been grafted become filled with roots, the plants may be shifted into seven-inch pots, and plunged in old tan or sawdust in a gentle hotbed, in a sunny-exposed situation, till the end of September, if the weather be warm and dry; if wet and cold, they should be removed to the greenhouse early in the month: from the greenhouse they may be repotted into eight or nine-inch pots, and removed to the forcing-house: in January they will give abundance of flowers, and amply reward the cultivator.

"SURFACE DRESSING.—To cultivate roses in perfection, and more particularly standards, they should have annual surface dressings of manure, or some rich compost. For standards or pillar roses on lawns, presuming that the usual circle of bare earth is round each tree, common manure should always be applied in autumn, about two shovelful to each tree. Its effects never descend too low, but are gradually washed down to the roots during winter.

"Night-soil, mixed with the drainings of the dunghill, or even with pond or ditch-water, so as to make a thick liquid, and applied once or twice in winter, giving one or two gallons to each tree, will be found of great use. Brewers' grains, after being fermented in a heap two or three weeks, and giving from half a peck to a peck to each tree, in November or December, are a more powerful stimulant. These are both offensive, but they may be at once deodorised by some powdered charcoal or lime; and as they are applied in winter, their odour is not of much consequence. In spring the soil should be stirred to the depth of three or four inches round each tree. For a summer surface dressing guano and wood-ashes answer well in the proportions of half-a-peck of guano to a bushel of ashes, giving a-quarter-of-a-peck of the mixture to each tree in a circle of eighteen inches round the stem, and letting it remain undisturbed on the surface.

"EARLY SPRING ROSES.—The Hybrid Perpetuals are the only roses adapted for this mode of culture, which is very simple. About the end of August select some plants in a

bed of roses, that you wish to bloom very early in spring; then cut all the weak shoots and shorten all those that are strong and vigorous to within five or six buds of their base. A moderate-sized tree, whether dwarf or standard, will furnish from five to seven of these vigorous shoots. They will, soon after being pruned, put forth numerous young blooming spurs; in October, thin out these spurs so that the tree is not crowded, and pinch off the bloom buds, giving no other pruning, and, in spring, they will reward you with a crop of flowers, earlier by ten days than roses managed in the usual way. I have seen them from a fortnight to three weeks earlier; in 1848 they were in full bloom on May 14th."

QUERIES AND ANSWERS.

GARDENING.

PROPAGATION OF CONIFERS.

"Information is requested as to the proper season and manner of propagating Conifers by cuttings and layers. Such as species of *Abies*, *Pinus*, *Junipers*, *Cypress*, *Taxodium sempervirens*, and *Cryptomeria japonica*.—*αλσ.*"

[The proper way to propagate such Conifers as those named above, is to take cuttings of the young wood early in the spring, and strike them in heat, under glasses, in the usual way, or layers of them may be made in April, making a tongue to the layer like a Carnation layer, and putting a little sand under the tongue, to help the run of the roots. Another way is to make cuttings of half-ripe wood in September, keep them cool till February, and then introduce them into heat, but the spring cuttings in heat are the best. *Taxodium sempervirens*, *Cryptomeria japonica*, and all the Cypress tribe, strike readily in heat, in the spring, and so will *Cunninghamia*, and some others, but there is no better way of increasing Firs, Pines, Cedars, and Auracarias, than by seeds. New Yews are best from grafts on the old one. Cuttings of Cypress, *Taxodium*, and *Cryptomeria*, may be made from small young shoots all through the summer, and when they are cooled down after rooting, to be either potted separately, or to be planted out in light soil, in nursery rows.]

WINTERING GERANIUMS.

"Should any of your subscribers have packed up Scarlet Geraniums in a box last autumn, I should be obliged by their answering the following questions:—At what time they opened the box? What state the plants were in when the box was unpacked? What method they pursued with them? What is the result? I had a box filled, and left home February 3rd, desiring my gardener not to open the box till my return. I returned April 4th, found he had done so about a month before, and he said they were all dead but two, and destroyed the plants. I think those he threw away might have recovered, as a friend of mine hangs his in a dry cellar for the winter; when taken out they appear quite dead, but recover, being merely planted out in the ground.—C. H."

[We shall be much obliged by information on this subject.]

GERANIUM LEAVES TURNING YELLOW.— CUTTINGS.

"I have an *Alexandria* Geranium, and its leaves, both young and old, are all turning yellow. The yellowness begins at the edges, and spreads all over the leaf. Can you inform me what I must do to stop the leaves turning yellow? I give the plant plenty of light and air; it is kept in a parlour-window. I water it pretty regularly, and syringe the tree itself about once a-week. It still continues making new leaves. There are a number of small green insects on the plant, and, every day, I keep them down, as well as I can, by smoking (tobacco) them and picking them off. How should Geranium Cuttings be treated?—T. J. E."

[If your plant is young and luxuriant, the smoking you allude to, if there should be sponging and washing afterwards, will cure it of the evil, provided watering and air are

attended to. You will find some hints in Mr. Fish's article last week. Judging from appearances, we should say, that if your plant is young, it is frequently neglected as respects watering. We suppose it stands in a saucer; a little water in the bottom of the saucer, say, from an eighth to a quarter-of-an-inch, will do no harm. Every time the soil of a Geranium plant gets thoroughly dry in summer, it sheds a number of leaves in consequence; or, rather, it makes them so unsightly, that they require to be taken off. If your plant has flowered freely for a month or two, the yellow leaves denote that its work is nearly over for the season; and the best thing you can do is to place the plant out-of-doors—at first, in rather a shady place; then enure it by degrees to the full sun, and give no more water than will keep it from flagging; and in the course of a fortnight, cut it down to within a bud or two of the base of the shoots, and keep the plant a little shaded, and rather dry, until it has pushed afresh; then treat as advised last week. Take the tops to the shed, and preserve all except the flowering-stems, which will make but poor cuttings. Cut the other parts into lengths of from three to five inches, cutting clean across with a horizontal cut through a bud at the base, and in a sloping direction above a bud at the top. If the cutting possesses two or three buds, you will get the skeleton of a plant sooner. Let the base end dry for a day, and then insert the cutting firmly in sandy soil; it matters little, at this season, where that soil is, in a pot, under a handlight, under a glass-frame, or in the open border; only they may grow a little earlier under a glass.]

PINES (QUEEN'S) DEFICIENT IN FLAVOUR.

"A gentleman residing in Devonshire, and, therefore, in a warm and growing climate, has failed in his Pine crop, inasmuch as the fruit, when cut and brought to table, though fine in size, tastes, as we should say of a turnip in my country, *mosey*, and has one insipid, brown-sugary flavour pervading it, and no other. The diamond-like raised points on the outside of the fruit yield soft to the touch; and a softness, or want of crispness and sharpness, both of touch and flavour, outside and in, indicate that there is something wrong. His beds are new, being about three years old: his house heated with warm-water pipes under the beds; and his gardener considered first-rate. The last year's crop was excellent. Why is this?—A WORCESTERSHIRE MAN."

[We have seen the effects you mention produced by these causes:—1. Giving an extra degree of moisture at the roots and atmosphere to swell the fruit; and then, too great a degree of dryness when nearly ripe. 2. A sudden check to the flowering stem, produced by merely moving the plants when in a fruiting state. 3. Keeping the plants shaded to keep the fruit back. 4. Allowing the plant to remain too long ripe before it is eaten. For sharpness of flavour, a Pine should always be rather under-ripe than over-ripe. We think these are over-ripe which you allude to.]

CLIMBERS FOR A SHADED WALL.

"A. B. will be obliged by the Editor giving a list of the best climbers to grow on a wall *much* shaded with large trees. The wall runs along a terrace-walk, and used to be covered with apple-trees; it is six feet high, and the soil at the back of the wall is raised to a level with it; on this the trees have grown to a great size, quite *over-hanging* the wall and green terrace-walk; from this cause, the apple-trees have died out, and A. B. has been trying to cover it with Ivy; but she wishes to have a variety of creepers. From the terrace-walk there is a sloping orchard, and at the bottom of this, about thirty yards off, a bank, on which large trees grow; thus the wall is in a very warm situation, the aspect being east by south, and from the overhanging trees the ground is always very dry, and the roots of the trees prevent the plants getting much nourishment; at the same time, A. B. would be very unwilling to cut in the trees, which, from the way they droop, are very beautiful; or to renew the soil, as it is a grass terrace of more than fifty years old."

[Climbers for a shaded wall, where the shade of large trees killed some apple-trees, are few indeed. Nothing except *Ivy* and *Virginian creeper* are worth your trial in such a place; we would plant five or six-foot *Yews* and

Tree Box against this wall, and about eight feet apart; then the *Ivy*, strong nursery plants, in pots, in the intervals; but if you attempt to plant with smaller plants, or with more kinds, you will be as surely beaten as the Emperor of all the Russias. Plant them all at the beginning of September, and water them well next summer.]

EVERGREENS FOR A BANK.—CLIMBERS FOR A GREENHOUSE.

"In front of my house is a sloping turf bank, with an exposed north-east aspect. I have been desirous to have select evergreen shrubs on this bank, and have succeeded pretty well on the lower part, where there is much more shelter, but on the top, near the gravel, I have not been successful. I wish to have there, *bushy and rather small evergreens*; and a hint would be most acceptable from you. The large ones I put farther down the bank.

"I am increasing my greenhouse, and have room (on a border and on two pillars on a border), for four climbers. I have been carefully looking over the "COTTAGE GARDENER," and find *Mandevilla Sarcocolla*, *Hirbert's Passion flower*, *Clanthus puniceus* and *Habrothamnus elegans*, much recommended. I wish at least one of the plants to be a nice evergreen flowering shrub.—A SUBSCRIBER, Glasgow."

[The best evergreens for the top of this bank are *Laurestinus*, variegated *Hollies*, *Tree* and *Minorca Box*. *Leisocera formosa*, though not evergreen, is just suited for such a place. *Berberis aquifolia*, the *Mediterranean Heath*, the *White* and *Spanish Broom*, *Cotoneaster microphylla*, *Gum cistus*, and *Swedish Juniper*. Any good nursery in Glasgow will supply the climbers; though the names may not be in the catalogues, they could get them by rail from Edinburgh. *Sollya heterophylla* and *linearis* are as nice evergreen flowering bushes as you could wish, also *Rhiucospermum jasminoides*.]

OXALIS BOWEI BULBS NOT VEGETATING.

"In the beginning of April I planted, in two 6-in. pots, six bulbs in each pot, of *Oxalis Bowei*, which were kept dry through the winter; only two have grown in each pot, and are now in flower. On looking to see the state of the bulbs that have not come up, they appear to be quite fresh, and have been producing new bulbs, or tubers. Pray, what is the cause of their not growing like the rest? When planted, they were placed in a gentle hotbed, and removed to the greenhouse when nearly in bloom.

"I was almost electrified by Mr. Beaton's description of a new plant (*Impatiens Jerdonia*), in the COTTAGE GARDENER, of the 3rd of November, 1853 (as I am very fond of novelties). It is there described as a low-growing, shrubby, *half-hardy* plant, which I thought the very thing for my small greenhouse, in which I employ no more artificial heat than just to exclude frost. You may judge how disappointed I felt the other day, on seeing it advertised by the Messrs. Veitch, in the *Gardeners' Chronicle*, who says it 'requires the temperature of a *warm greenhouse, or stove*.' Do you think I could manage it if I were to keep it in a room-window during the winter months, in which there is a fire in the room every day, and remove it to the greenhouse in April or May? Why do not nurserymen, like the Messrs. V., favour the COTTAGE GARDENER with their advertisements of new plants, in which Mr. Beaton gives such glowing descriptions, which almost tempts one to buy them, whether one can grow them or not?—J. S."

[*Oxalis Bowei* often takes it into its head to lie dormant a long time, and to make young ones just as yours are doing now; it is an old and oft-told tale, and the supposed reason is, that the bulbs were not sufficiently ripe when the pot was allowed to dry, or the frost had overtaken them the autumn before, before they were prepared for lifting. You can do nothing to keep them, but they may sprout after a while. What a pretty flower it is; and how odd it is not cultivated as widely as potatoes and carrots.

About the new *Impatiens*, or *Indiau Wild Balsam*, that electric shock has shook your nerves too much to be able to tackle it this year. "Wait a wee," and you will hear of some one who has made an autumn bed of it. All the *Indian Balsams* in our gardens were given out as stove-

plants, but they do best in shrubberies, nevertheless. Even the one before this, *latifolia*, red and white, are just now favourite stove-plants; but we had them out-of-doors beautifully, in large masses and in beds. All the best *Salvias* are marked stove-plants in some of the best catalogues. What this Balsam, named after Mrs. Jerdan, wants, is to be treated like the bedding Lantanas; but, as we said before, have nothing to do with it till you recover from that electric tickling; then, and not till then, you will, no doubt, keep it safe enough in a dry, warm sitting-room window; just the thing for it, no doubt.]

HOUSEKEEPING.

BAIT FOR BLACK BEETLES.

"In reply to 'C. W. J.'s enquiry respecting a good bait for a Beetle trap, I beg leave to forward the following:—

- One teaspoonful of sugar,
- Two ditto of beer,
- One ditto of crumbs of bread.

I have given this to a great many people; and it has never failed clearing the house of the vermin. The trap should have a fresh supply every night.—X. QJor."

THE SHORTHORNS.

To this justly celebrated breed of Shorthorns, we have lately had occasion to pay considerable attention. Two notices, one from the *Farmer's Almanac* for 1854, by Johnson and Shaw, and the second from *Morton's Encyclopaedia of Agriculture*, will give our readers a graphic view of the progress of this noble breed of cattle.

"The two last years," remark the Editors of *The Farmer's Almanac*, "will long be remembered in the history of British Agriculture. They include the minimum prices, and the greatest Agricultural difficulties. It will be noted, too, perhaps, by the future historian, how well, and how energetically the unconquered British Farmers strove to meet the natural as well as legislative difficulties with which they were surrounded—how ardently they laboured to increase the productiveness of their soils—and how ably they directed their attention to the most profitable branch of farming which presented itself—the increase of the numbers, and the improved breeding and feeding of their live stock. Such an historian, too, will not forget to notice one or two of the results of that skill and that science: he will glance at the memorable sale of Lord Ducie's Shorthorns, at Tortworth, August 24, 1853, as one of those events which those who are apt to undervalue the efforts of the English breeder will do well to study. We subjoin the result of that sale, as well as those of the celebrated Charles Colling, of Ketton, near Darlington, October 11, 1810; of Robert Colling, at Barmpton, September 29, 1818; and of Mr. Thomas Bates, of Kirkleavington, May 9, 1850. The following Tables give the prices obtained at these memorable sales—

CHARLES COLLING'S SALE.

Cows.	Age.	Gs.	Heifers.	Age.	Gs.
Cherry	11	83	Phoebe	3	105
Peerness	5	170	Young Duchess	2	183
Countess	9	400	Young Countess	2	206
Celina	5	200	Lucy	2	132
Lady	14	206	Charlotte	1	132
Lily	3	410	Heifer calves under 1 yr.		
	Bulls.		Lucilla		106
Comet	6	1000	Calista		50
Major	9	200	White Rose		75
Petrarah	2	365	Altogether it appears		
Alfred	1	110	that—	£	s.
Duke	1	105	17 cows sold for	2802	9
Bull calves under one year old.			11 bulls	2361	9
Young Favourite		140	7 bull calves	687	15
Georse		130	7 heifers	942	18
Sir Dimple		90	5 heifer calves	321	6
Cecil		170	47 lots	£7115	17

ROBERT COLLING'S STOCK SALE.

	Gs.		Gs.
34 cows produced	4141	One 2 year old cow sold for	331
17 heifers	1287	One 4 do.	306
6 bulls	1343	One 5 do.	370
4 bull calves	713	One 1 do. bull calf	270
61 head of cattle	7484	One 4 do. bull	621

THOMAS BATES'S SALE.

"The herd of Mr. Bates consisted of six distinct tribes or families; viz., the Duchess, the Oxford, the Waterloo, the Cambridge Rose, the Wild Eyes, and the Foggathorpe.—(*Newcastle Journal*).

DUCHESS.		£	s.	WILD EYES.		£	s.
4 cows sold for	322	7		9 cows sold for	328	13	
3 heifers	441	0		7 heifers	440	10	
1 heifer calf	162	15		2 heifer calves	64	1	
4 bulls	625	16		4 bulls	254	2	
2 bull calves	75	12		3 bull calves	126	0	
14 head	£1627	10		25 head	£1203	6	
OXFORD.							
4 cows sold for	288	15		FOGGATHORPE.			
2 heifers	95	11		2 cows sold for	74	11	
4 heifer calves	303	9		1 heifer calf	31	10	
3 bulls	206	17		4 bulls	222	12	
13 head	£894	12		7 head	£328	13	
WATERLOO.							
2 cows sold for	101	17		THE SALE CONSISTED OF—			
3 heifers	180	12		22 cows, which sold for	1163	8	
1 heifer calf	74	11		16 heifers	1221	3	
6 head	£357	0		10 heifer calves	662	11	
CAMBRIDGE ROSE.							
1 cow sold for	47	5		15 bulls	1309	7	
1 heifer	73	10		5 bull calves	201	12	
1 heifer calf	26	5		48 head	£4558	1	
3 head	£147	0					

"Referring to the Kirkleavington sale on the 9th of May, 1850, we find the late Earl of Ducie to have been the purchaser of six head. The prices for which these animals severally sold at Kirkleavington and at Tortworth are as follow.

Prices at Kirkleavington, May 9, 1850.

	£	s.	d.
Duchess 55th	110	5	0
Oxford 6th	131	5	0
Duchess 59th	210	0	0
Duchess 64th	162	15	0
Oxford 11th	131	5	0
Fourth Duke of York	210	0	0
Total	£955	10	0

Prices at Tortworth, Aug. 24, 1853.

	£	s.	d.
Duchess 55th	52	10	0
Oxford 6th	215	0	0
Duchess 59th	367	0	0
Duchess 64th	630	0	0
Oxford 11th	262	10	0
Fourth Duke of York	525	0	0
Total	£2052	0	0

"The produce of the foregoing, after becoming the property of his lordship, were—

	£	s.
2 heifers sold for	935	0
4 heifer calves	1249	10
1 bull	642	10
1 bull calf	315	0
8 head	£3192	0

EARL DUCIE'S SALE.

Cows and Heifers.			Cows and Heifers.		
	Yr.	Mo. Gs.		Yr.	Mo. Gs.
Bessy . . .	13	6 . . 41	Lucy . . .	1	5 . . 40
Stella . . .	12	6 . . 35	Hornet . . .	1	4 . . 43
Challengo . .	10	6 . . 44	Duchess 67 . .	1	3 . . 350
Duchess 55 . .	9	0 . . 50	Parliament . .	1	2 . . 56
Victoria . . .	8	6 . . 44	Oxford 15 . .	1	2 . . 200
Princess Fairfax	8	0 . . 77	Bibby . . .	1	0 . . 51
Norwich . . .	7	6 . . 50	Pride . . .	0	11½ . . 165
Chaff . . .	7	6 . . 42	Duchess 68 . .	0	11 . . 300
Minstrel . . .	7	6 . . 100	Chance . . .	0	7 . . 56
Oxford 6 . . .	6	6 . . 205	Violet . . .	0	6 . . 48
Duchess 59 . .	5	6 . . 350	Snowdrop . . .	0	6 . . 120
Mantilla . . .	5	6 . . 110	Duchess 69 . .	0	5 . . 400
Virginia . . .	5	6 . . 75	Lizzy . . .	0	4 . . 81
Pomp . . .	5	6 . . 65	Oxford 16 . .	0	3 . . 180
Louisa . . .	5	0 . . 78	Duchess 70 . .	7	wks. 310
Beatrice . . .	5	0 . . 87	Parade . . .	14	days. 73
Chaplet . . .	4	6 . . 54	Vanquish . . .	13	days. 30
Victorine . . .	4	0 . . 46			
Horatio . . .	4	0 . . 30			
Duchess 64 . .	4	0 . . 600			
Oxford 11 . .	4	0 . . 250			
Florence . . .	4	0 . . 62			
Fatima . . .	3	6 . . 70			
Mystery . . .	3	6 . . 200			
Boddice . . .	3	0 . . 115			
Flourish . . .	3	0 . . 71			
Duchess 66 . .	3	0 . . 700			
Victory . . .	2	9 . . 80			
Chintz . . .	2	7 . . 70			
Finance . . .	2	5 . . 90			
China . . .	1	8 . . 90			
Bodkin . . .	1	6 . . 56			

Bulls and Calves.

D. of Glo'ster	3	0 . . 650
4th D. of York	6	6 . . 500
Cornwall . . .	1	3 . . 61
Uncle Tom . . .	1	2 . . 37
Vampire . . .	1	1 . . 120
Franklin . . .	0	10 . . 80
Cheltenham . .	0	8 . . 125
Florian . . .	0	8 . . 58
5th D. Oxford . .	0	5½ . . 300
Gloucester . . .	0	4½ . . 120
Francisco . . .	0	4 . . 150
Norman . . .	0	3½ . . 100
Marquis . . .	0	2 . . 75

"The shorthorn, Durham, or, more properly speaking, 'the Improved Shorthorns,' observes Mr. C. Morton, 'is now unquestionably established as the most profitable breed of cattle we possess. The reasons for this are obvious enough; no animal arrives so early at maturity, few supply meat of as superior a quality, while fewer still have so many recommendations, either in appearance or disposition, for the homestead of the agriculturist or the domain of the amateur. It has, however, occasionally been urged that, in one particular, the Shorthorn is deficient. By many the breed is yet considered to be but indifferent milkers. Perhaps the best answer to this objection would be a walk through the establishments of our London dairymen. Nearly every cow tied up here will be found of the common Shorthorn, or Yorkshire sort; though many, indeed, show much breeding, and are doubtless crossed with some of our best bulls. When the aim is to have them good milkers, they can generally be insured; on the other hand, the exhibitor at a prize-show sacrifices one quality for the other. As the beast increases in flesh, the supply of milk will decrease. It is still quite compatible, with only due observation on the part of the breeder, to successfully develop these two different qualities in the same animal. A cow that in her day may have been a first-rate milker, will, on being put up to feed, make as good a carcase, and produce quite as fine meat, as many animals that have never been used for the dairy at all. But it does so happen that no kind of cattle are so frequently prepared for public display, and hence the origin of a censure, that arises from the treatment rather than the natural capability of the beast. The selection has only to be carefully made in favour of milk or meat, and for the production of either will the Shorthorn be found eminently qualified.

"It is now fast approaching a century since this improvement was first attempted. The change for the better has been remarkable indeed. The original Teeswater, found on both sides of the Tees, together with the still coarser kind of beast known in the East Riding of Yorkshire as the "Holderness," was, especially the latter, a large ungainly animal, generally deficient in his fore-quarters, with strong shoulders, slow and unprofitable to feed, as well as being but a middling beast for the butcher. The meat was coarse to the palate, and uninviting to the eye. There was thus plenty of room, if not much encouragement, for producing

something better; and the task was set about with as much spirit as discrimination by the brothers Charles and Robert Colling. To their celebrated bull, Hubback, it is the desire of most breeders, either directly or indirectly, to trace back. He is in the *Herd Book* what Highflyer is in the *Stud Book*—the foundation of our best sorts.

"His origin and own pedigree is of course somewhat difficult to trace. It may be still interesting to transcribe, on the authority of Mr. George Coates, an ardent and renowned breeder, to whom is due the credit of having first collected the pedigrees of our Shorthorns, the following particulars of Hubback, duly signed and dated, as will be observed, by the person from whom the information was derived. We can couple with this the full pedigree of the animal, as recorded by Mr. Coates, who was a contemporary of the Messrs. Collings:—

"I remember the cow which my father bred, that was the dam of Hubback; there was no idea that she had any mixed or Kyloe blood in her. Much has been lately said that she was descended from a Kyloe; but I have no reason to believe, nor do I believe, that she had any mixture of Kyloe blood in her.

(Signed)

JOHN HUNTER.

"Hurworth, near Darlington, July 6, 1822."

(To be continued.)

TO CORRESPONDENTS.

WILLIAM ANAMS (C).—The Authoress of "My Flowers" begs very gratefully to thank C. for the kind donation received. When the little debt is liquidated, there will be ten shillings left. The widow cannot lawfully be considered an object of charity; she is sufficiently young and strong, and otherwise qualified, to maintain herself at present, besides being not quite so well esteemed as her poor suffering husband. The remaining sum, therefore, will be transmitted to the generous donor in any way he may choose to name, as his open hand may find known objects of charity on whom it may be more beneficially bestowed.

KNIGHT AND CO., *Eastbourne*.—Having applied to a gentleman at Eastbourne for information relative to this firm, we have received this answer:—"In reply to your letter on the other side, I have to inform you there has been a man by the name of Knight living here, who called himself a nurseryman. There are no nursery grounds in Eastbourne, and the man, I believe, to be at present in Lewes Gaol."

HOGG'S EDGING TILES (H. A. S.).—Relative to these we can give no further information than that which you will find at p. 228. If we required an edging, and found the expense of Mr. Hogg's too heavy, we should have a mould made of the shape we wished, and make an edging of Portland cement and sand mixed, as for casing the walls of houses.

NAME OF A POPLAR (*Linda*).—We cannot recognise it merely from the catkin. Send us a leaf or two.

NAME OF A ROSE (C. B. C., *Exeter*).—Yours seems to be *Rosa villosa*, of Babington's British Botany.

LIGUIN GUANO FOR GRASS (—).—We should use 2 cwt. of guano in twenty tons of water, and apply it by the aid of such a cart as is used for watering the roads. A Rose packed in damp moss, in a tin box, would travel fresh from France.

CASTOR OIL AND TOBACCO PLANTS (J. Prince).—These plants are not to be had in the trade at all, there is no demand for them, and they are never kept in stock, but an advertisement might catch the eye of some one who has more of them than he wants. The usual way is to buy packets of seeds of them, and rear them in heat. Parsley, Peas, and Beans, are other articles never asked for in plants, and are never kept for sale.

LUCERN CULTURE (A Constant Subscriber).—At page 10 of our No. 79, which you can obtain for threepence, you will find an essay on Lucerne culture. It is too long to reprint.

POULTRY HOUSE (Subscriber, *Liverpool*).—If you will send your name and direction we will write to you.

TABLE GOOSEBERRIES (*Querist*).—The following are very excellent:—Rough Red, Red Champagne, Pitmaston Green Gage, Roaring Lion, Red Warrington, and Rifleman. Any Manchester or London nurseryman can supply them. The old *Caroline Strawberry* is a good fruit, but it is neither so early as Hooper's Seedling, nor so highly flavoured as British Queen, nor so late as the Elton. All of them, indeed, are better fruit.

PRESERVING ANGELICA (A Regular Subscriber).—Boil the stalks until tender, then peel them, and put them into some fresh warm water, cover them, and let them stand over a gentle fire until they become green; place them on a cloth to dry, then take their weight of loaf sugar, put to it a little water, boil it, until by dropping it upon a cold plate you find it readily crystalizes; then put the Angelica stalks into the syrup, boil it quickly, take them out and put them upon a marble slab, or dish, where the sugar will crystalize over them.

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WEEKLY CALENDAR.

D M	D W	JULY 13-19, 1854.	WEATHER NEAR LONDON IN 1853.					Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.							
13	Th	Apion ervi.	29.861-29.442	72-55	E.	92	IV	11 a 8	10 41	18	5 22	194	
14	F	Apion lathyri.	29.297-29.176	61-49	S.W.	64	1	10	10 57	19	5 29	195	
15	S	St. Swithin. Apion ononis.	29.576-29.364	66-48	S.W.	34	2	9	11 10	20	5 35	196	
16	SUN	5 SUNDAY AFTER TRINITY.	29.606-29.578	66-51	S.W.	26	3	8	11 25	21	5 41	197	
17	M	Apion cracca.	29.884-29.825	69-47	S.W.	—	4	7	11 40	22	5 47	198	
18	Tu	Lixus paraplecticus.	29.902-29.813	66-52	S.W.	35	5	6	11 56	24	5 52	199	
19	W	Rhynchaenus Lathburii.	29.929-29.904	71-48	S.W.	02	7	5	morn.	25	5 56	200	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 75° and 52° respectively. The greatest heat, 94°, occurred on the 17th in 1834; and the lowest cold, 39°, on the 18th in 1831. During the period 113 days were fine, and on 76 rain fell.

BRITISH WILD FLOWERS.

(Continued from page 220.)

DRABA HIRTA.—Simple-haired Whitlow-grass. Hairy-alpine Whitlow-grass.



Description.—It is a perennial. Root slender, somewhat creeping, subdivided at the crown, bearing several tufts of copious, spreading, lanceolate, bluntish, flat, deep-green

leaves; tapering at the base; a little wavy, or slightly notched, at the margin, fringed with constantly simple bristly hairs, such as are scattered, more or less sparingly, over both surfaces, where a few forked, stellated, ones are occasionally intermixed. Stalk solitary, slightly curved or wavy, two or three inches high, round, simply hairy, either quite leafless, or bearing, near the bottom, and sometimes under the lowermost flower, a solitary leaf, like the root ones, though smaller, and by no means dilated, egg-shaped, or strongly serrated. Flowers small, densely clustered. Calyx somewhat hairy. Petals reversed egg-shaped, white, with a shallow notch, erect, twice as long as the calyx. Pouches in a long, unequal, or interrupted, upright cluster, with hairy partial stalks, about half their own length; their form elliptic-oblong rather than lanceolate, compressed but not flat, tipped with the very short thick style and round-headed stigma; their valves usually rough with minute, forked, spreading, rigid, white hairs; but they are sometimes quite smooth and naked.

Time of flowering.—May and June.

Places where found.—It is rare. On the summit of Ben Lawers, in Scotland, and on lime-stone mountains of Leitrim and Sligo, in Ireland.

History.—It has variously been called *Draba rupestris*, *austriaca*, *norvegica*, and *stellata*, by different botanists. It is a very hardy plant, being found in Lapland, and on rocks in alpine districts of Denmark, Switzerland, and other cold districts of Europe.—(Smith. *Withering. Martyn.*)

It may be accepted as a fact, without any known exception, that all animal and vegetable matters, whether in a fresh or decaying state, are manures, and promote the fertility of the soil into which they are turned either by the spade or the plough.

Such manures, of course, vary in their fertilizing powers, those being most powerful, and consequently requiring to be applied in small quantities, which most abound with ammonia. However, it is not the most powerful manure, or, in other words, that which gives most food to plants, which is always the most desirable to be employed; for they are beneficial in various other modes, such as by absorbing and retaining moisture from the air, by improving the staple of the soil, and by being destructive of insects. It must also be borne in mind, that those manures which are most abounding in ammonia are the most transitory in their effects. They stimulate a plant in its early growth, and supply food to sustain that growth; but they require care that they do not leave the plant on short commons during the most important period of maturing its produce.

We have been led to make these few remarks as not inapplicable to introducing RAPE CAKE as a manure to the gardener's notice. It has not received much

attention from the spadesman, although it has long been favourably known to the farmer, especially as a manure for Turnips. It is most beneficially applied by mixing it with the seed, in the state of dust, at the rate of eight or nine bushels per acre. A bushol of this Rape-cake dust weighs about fifty-two pounds.

The Turnip is well known to be more liable than most of our cultivated crops to the attacks of insects—attacks upon its roots as well as leaves. The oil and other components of Rape-cake are particularly obnoxious to insects, and Wireworms will not approach it, or, if they do come in contact with it, they evidently suffer, and often die from the effects.

The cause of the Rape-cake being a fertilizer, as well as destructive of vermin, is easily explained. It contains, with the exception of so much of its oil as has been expressed, all the constituents of the seed of the Rape (*Brassica napus*), or of the Colza (*Brassica campestris*), and the cake of the latter, whilst fresh, contains nearly five per cent of nitrogen (the basis of ammonia); whereas, well-made farm-yard manure contains only four per cent.

The following analysis was published by Professor

Anderson, of Edinburgh, in 1853. (*Farmers' Almanac*, 1854, p. 95):—

Water	...	...	...	10,68
Oil	...	...	...	11,10
Albuminous compounds	...	...	...	29,53
Ash (when burnt)	...	...	...	7,79
Other constituents	...	...	...	40,90
				100,00

The following are some of those "other constituents," and the proportions in which they are found in the Rape-cake:—

Nitrogen	...	...	...	4,38*
Phosphates	...	...	...	3,87
Phosphoric acid	...	...	...	0,39
Silica	...	...	...	1,18

Mr. Shier, Fordyce lecturer on agriculture at Aberdeen, states, that in the Netherlands it is used to strengthen the urine and liquid-manures; and that in Scotland he knew it used with urine with remarkable success. The oily constituent of the cake probably unites with the excess of ammonia in the urine, and renders it more enduring, because not so liable to pass off into the air. Mixed with peat, or other slowly-decaying vegetable remains, Rape-cake dust is found to hasten their decomposition.

The only crop that of our own knowledge we can say is benefited by Rape-cake dust is the *Carrot*. The dust, mixed with the seed, was sown with it in drills, and most signally preserved the roots from the Carrot grub, which devastated the neighbouring grounds that year, and which had been similarly destructive in our garden during previous years.

As a manure for *Onions*, we have been much obliged by the following from a Lincolnshire clergyman:—

"I do not think it is generally known, that Rape-cake dust, such as is employed in agricultural purposes, may be most beneficially used in the cultivation of Onions. A full half-peck of the dust to an ounce of seed, scattered in the drills at the time of sowing. I have tried it for the last three seasons with the greatest success. Its effects are, this year, peculiarly evident—as I have a splendid bed of Onions, whilst my neighbours have either lost the whole crop, or can show only a few scattered plants.

"The Rape dust would appear to be suitable manure for all the Onion tribe, as I last year tried it with *Leeks* after they were planted out. The plants were small and sickly. I used about a peck of dust to a bed containing, probably, three hundred plants. The effect, in a fortnight's time, was wonderful; and they attained a large size before cold weather set in. The dust is equally beneficial with Onions sown to stand the winter."

It is quite evident that the Carrot and Onion crops are preserved from the grub by the oily constituents of the Rape-cake being obnoxious to that larva.

BEFORE any answer can be returned to the question, Is irrigated land unhealthy to man and live stock?—a distinction must be made between the application of

* Bourssingault and Payen found 4,92 per cent.

pure, living water, and the use of stagnant water, more or less charged with substances just ready to pass into a state of putrefactive fermentation, and calculated to excite and promote such a state among half-decayed vegetable matters on the surface of the ground. Much confusion of ideas has arisen from omitting any notice of this distinction; and yet the two things are as different as need be. In the first instance, the water acts mainly as so much water, by virtue of its own peculiar living and life-renewing powers, as we shall presently see. In the latter case, its action is, in a great measure, subordinate and ancillary; certain manuring substances being conveyed to and diffused over the land by means of water, and in a liquid rather than a solid state; certain new, putrefactive fermentations being thus set going, and a rank, rapid, new vegetation arising from the decay of the old. For the present, we will confine our observations to the first half of the question; reserving the latter and more difficult part of the subject for future remark.

Our apology for troubling our readers with these details must be—first, the mysterious connexion between cholera and other plagues, and our river-courses; secondly, the proposal to irrigate land near to towns with the sewage of towns, in connexion with works for improving the public health.

Frequent alternations of wet and dry weather—sunshine and showers combined—are well known to have a marked influence on the growth of the grasses, the leaves of trees, and every green thing. The difference between the yield of hay after a "droppy" spring, and after a dry one, should convince the most sceptical of farmers of the value of mere water as a manure. A considerable annual amount of rain-fall seems requisite even for the profitable cultivation of the large-leaved Turnip crop. We pity the man for whom it was written—

"A Primrose by a river's brim,
A little Primrose was to him—
A Primrose—nothing more!"

Believing that a great deal more may be made of the fact, that "on the sides of streams and springs we see the margins, which have been from time to time submerged in winter, clothed in the early part of the season with verdure. Doubtless, the main effect is due to the action of the water itself on plants and the soil. It contains atmospheric air, and, usually, carbonic acid. It further contains certain saline bodies (with finely-divided earthy matters of different kinds, and, in certain cases, a considerable proportion of organic substances). But the ground must not be *too long* submerged; and the current should pass over plants chiefly in the early stages of their growth when vegetation is feeble, or inert, as in winter, or the early part of spring. The water must not cover the surface so long as to eradicate the species of plants it is wished to produce; and must be maintained in a gentle stream, so as not to favour the growth of plants which grow in stagnant water, or in soil surcharged with moisture."*

* Mr. Low, whom we have largely quoted above, admits the difficulty of exactly accounting for the *modus operandi* of water in this case. This handmaid of nature is a very different sort of character when idle,

The good man's prosperity in that share of this world's goods which is the natural reward of a well-ordered life, has been compared by the inspired poet to the growth of a tree planted by a river's side. Hesiod, and Homer, and Virgil, the great (though, alas, like Balaam, greatly fallen) seers of the religion of nature, have many highly poetical allusions to the practice of irrigating land with living water. The gentile world, in their blindness, transferred their adoration from the great Creator to the created thing, and attributed not only life, but a certain divinity to their much-loved streams and fountains; and, as for the rain, descending from heaven and fertilizing the earth, they made that the symbol of Him, "in every age, in every clime adored."

"Nocte pluit tota redeunt spectacula mane
Divisum imperium cum Jove Cæsar habet."

The fable which is the subject of this extraordinary epigram is alluded to in the Apostle's remonstrance to the men of Lystra, who offered worship to him and to Barnabas, as Jupiter and Mercurius, bringing oxen and garlands, the choicest productions of the soil.

"Ye should turn from these vanities unto the living God who made heaven and earth, and the sea and all things that are therein; who in times past suffered all nations to walk in their own ways. Nevertheless, he left not himself without witness in that *He did good, and gave us rain* from heaven and fruitful seasons, filling our hearts with food and gladness."

He who could be all things to all men has left this testimony to the beauty, the importance, the universality, of natural religion; and the exceeding sinfulness of the vain idolatrous symbols by which it has been overlaid by superstitious men. How thankful should not all of us be who are not left to be led into error by mysteries and images and symbols; who can drink freely of the living waters of the gospel, having the Bible itself to verify, or correct, or to refute, the expositions of men. And we may add, true religion does not require a deep and recondite knowledge of all rare and vast treasures of natural science for its illustration. A tree planted by a river's side; a passing shower; the decay of the cotyledons of a seed sown in the ground and the renewal of the life in the germ: these, and such-like lessons, the field and the garden teach the most unsophisticated.

J. J.

Not many years ago, Woking was an obscure place which few people ever saw, unless they went on purpose to see it; and even a letter through the post might reach it with difficulty, unless the Postmaster General was informed that it was "near Ripley, Surrey." Now, however, thanks to the railways, Woking Station, and Woking Common, are as notorious as Waterloo Bridge,

and when in an active state. Chemistry comes to our aid with such expressions as, "new elective affinities and attractions; in the nascent state; altered electrical conditions;" and so on; but such words do not quite explain the new actions which result from the constantly changing particles of running water, of the blood, and of light; and we are all equally in the dark about each. For ourselves, we admire the truly Scriptural figure, which attributes a kind of life to each of them. The metaphors of the Bible are always suggestive, and the parallels which they point out extend farther than we may at first suppose.—J. J.

or Southampton; and what was formerly a secluded rural parish is now all but a suburb of "the great Metropolis." When first we knew the place, every face and form you met were familiar in the neighbourhood, a nod of recognition, or a chat over an adjoining hedge about the weather, about crops, or prices, were quite a matter of course with everybody; but now groups of gay holiday-seekers may be seen clambering and chasing each other up steeples of the woody knolls, and through the furze and fern, but nobody knows them; they are "Londoners;" they come and go like butterflies, as many of them are, and no one cares whence or whither.

But although Woking was thus long a secluded and unknown spot to the world at large, there was one class to whom it has, for many years, been familiar. For upwards of a century the nurserymen of this country have been dependant on this locality for one of the most important branches of their trade. It is here that almost all "the stocks" which are employed in the propagation of fruit-trees are raised; here, also, are regular manufactories of the most choice ornamental trees and shrubs, and large breadths of young forest-trees for timber; indeed, the staple commodity of the parish may be said to be nursery stock. Of such nurseries there are several, some of small extent; the produce of which is generally bought up by the larger establishments; and to give some idea of what these places are, the following account of the old and extensive firm of *Donald and Son* will furnish an excellent example.

It is now upwards of fifty years since Mr. Robert Donald, a native of Aberdeenshire, established himself, at Goldworth, near Woking, as what is called "a Surrey nurseryman." He was one of those clear-headed, sound, practical, horticulturists, who, combining active business-habits with the most perfect knowledge of his profession, soon formed a connection, and made himself known throughout the length and breadth of the country; and his kindly disposition, and large-hearted philanthropy, rendered him to all who had the pleasure of his acquaintance an object of esteem and respect. After a successful career of nearly half-a-century in this spot of his adoption, he retired to his rest at the ripe old age of eighty-five, and his remains were buried in the little rural chureyard, the spot being denoted by a marble slab, enclosed within an iron railing, and bearing the beautiful, and in this case most appropriate, inscription:—"The sun shall be no more thy light by day; neither for brightness shall the moon give light unto thee; but the Lord shall be unto thee an everlasting light, and thy God thy glory."

The nursery which Mr. Donald established, and which is now so well conducted by his son, extends over fifty acres, and comprises every description of nursery stock. Its most prominent features, however, are the production of ornamental trees and shrubs, fruit-trees, and fruit-tree stocks; for the latter, particularly, it is, perhaps, the largest in the country. Many thousands of these are annually transmitted to all parts of this country, and large exportations to America have for many years formed a great part of the trade. But,

besides the acres upon acres of handsomely-grown and luxuriant fruit-trees of every description, and the still greater extent of fruit-tree stocks, there are magnificent specimens of some of the most choice Coniferous trees, another class of plants for which the nursery has been long noted, and from which the great collections, such as Dropmore and Elvaston Castle, have received large accessions.

It was to the formation of an arboretum that Mr. Donald early directed his attention, and the collection of hardy trees and shrubs which he gathered together was immense, as is evidenced by the catalogue published some years ago. Although the greater portion of the original plantation has been necessarily removed, the less valuable being thinned out to allow room for the more rare specimens, there is still so much of it remaining as furnishes an abundant source of interest, and particularly as the present Mr. Donald is continually adding whatsoever is new and valuable. Among the most important we noticed the following:—

Abies Douglassi.—A magnificent specimen, thirty-feet high, feathered to the very ground, and producing numerous cones. From cones which it has borne in previous years, a stock of seedling plants of this valuable and highly ornamental tree have been raised.

Abies Menziesii.—Another noble specimen of a noble Fir, also thirty feet high, and handsomely furnished.

Abies Klotzowii.—A very handsome plant fifteen feet high; and also *Abies morinda*, of the same height, equally as handsome as the former. These two have generally been considered synonymous, from the close resemblance they have to each other in their young state; but Mr. Donald is of opinion they are perfectly distinct, and when we see large specimens like these assuming habits so different, we may be warranted in presuming they are so.

Abies Brunoviana.—This, which is ten feet high, is the largest specimen we have seen of this peculiarly handsome tree, and which, in its young state, is so difficult to rear. It seems considerably hardy, but the young shoots have suffered by the frost of April. While referring to the frost, we may mention a fact for physiologists which we observed in this nursery. Mr. Donald, last year, received two plants of *Araucaria brasiliensis*, both of the same size and age, being about two-feet-and-a-half high. They were planted out in the arboretum, within three yards of each other; one of them was completely killed to the ground by the frost of last winter, and the other is as green and luxuriant as if it had been kept in a greenhouse all the winter.

Picea nobilis.—A very handsome specimen of this truly noble tree. It is ten feet high, remarkably well-furnished and luxuriant, and neither the winter nor spring frosts have had the slightest effect upon it.

Picea cephalonica.—This is a very handsome specimen; eighteen to twenty feet high, and of a beautiful pyramidal habit of growth. It is very luxuriant; the leader appearing as if it would shoot away like an arrow into the air. It has stood the winter remarkably

well; but the young shoots near the base have suffered slightly by the April frost.

Picea pinsapo.—We have rarely seen examples of this species attaining anything much beyond the size and habit of a shrub; but here there is a beautiful plant, six feet high; a very unusual sight to be seen, and promising fair, now that it has taken it into its head to shoot away, to become a fine specimen.

Picea Nordmanniana.—This is a remarkable tree, and here is a very fine specimen of it, considering how rare it is in this country. It grows very luxuriantly, is perfectly hardy, and has already attained the height of five feet.

Picea Fraseri.—It is very rarely we see a plant of this species twenty feet high; but here is one feathered from the ground upwards.

Pinus ponderosa.—There is a splendid specimen of this valuable tree, thirty feet high; growing most luxuriantly.

Pinus insignis.—This may not be regarded as a very large specimen, being only about ten feet high; but it is a very handsome one, and has already begun to produce cones.

Pinus Labriniana.—Of this, the specimen, twenty feet high, is remarkably fine.

Pinus macrocarpa.—This is also a rare specimen, the same height as the preceding, and forming with it a pair of the finest examples of these two nearly-allied species we have ever seen.

Pinus Gerardiana.—Although in many parts of the country this species has been found to be too tender to withstand the rigour of our winters, and, consequently, it is rarely to be found otherwise than in small pots, protected in pits during the winter, we have here a very excellent specimen, upwards of three feet high, which appears to accommodate itself to the situation it now occupies, and to withstand both winter and spring frosts of unusual severity.

Pinus Devoniana.—This, also, in some situations, is only half-hardy, but here we have seen a beautiful and luxuriant specimen ten feet high.

Pinus apulcensis.—Eighteen feet high, remarkably handsome, and not the least affected by the late severe winter; this is a noble plant.

Pinus macrophylla.—It was at first thought this would prove only half-hardy, and in some parts of the country it is so; but the plant in this arboretum is ten feet high, perfectly robust and handsome, and not in the least affected by frost.

Cedrus deodara.—We do not remember seeing a finer specimen of this elegant tree. It is thirty feet high, remarkably well furnished from the ground upwards, and has not suffered in the least from last winter's frost, although many of the younger plants have been materially injured.

Besides what we have already enumerated, there are numerous handsome trees of many species of *Quercus*, *Magnolia*, *Rhododendrons*, *Kalmias*, *Arbutus*, and other subjects too numerous to mention. But we must not forget to notice the large stock we observed of *Cedrus*

deodara, *Taxodium sempervirens*, *Cryptomeria japonica*, and other coniferous plants, varying in height from one foot to sixteen feet. It is gratifying to know that this beautiful tribe of plants is now being planted to a large extent in the new Cemetery which is being formed on Woking Common, and which will, in a few years, present one of the most extensive examples of ornamental planting which has ever been executed in this country. To Mr. Donald's good taste and judgment in the execution of this part of the work, which has been entrusted to him, very much of the future beauty of this immense undertaking will mainly be attributable.

H.

THE LIVERPOOL FLORAL AND HORTICULTURAL SHOW.—JUNE 29TH.

I HAVE attended this exhibition as judge for many years, and can fully attest its constantly advancing character. There is a vast amount of emulation in the gardening way about this mighty commercial emporium, this city of merchants, whose fame as first-rate men of business, and whose riches are the talk wherever civilisation exists, and, indeed, far beyond such bounds. The world will, therefore, very naturally expect something superior in whatever Liverpool men undertake, and in horticultural matters a stranger would scarcely feel disappointed. There is no clap-trap here; all carries the impress of substantiality, and shows plainly the utilitarian tendency of all that Englishmen take in hand.

Much credit is due to Mr. Leatherbarrow, who, as honorary secretary, carries out his duties in the most indefatigable, emulous, and clear-headed style imaginable; not a stone is left unturned that can secure a good show, contribute to the comfort and convenience of visitors, or stamp system and method on every proceeding. This much I am proud to be able to say, and long may it continue to flourish.

The weather had been given to rain previous, and the morning looked lowering, but the day progressively improved until about four o'clock, when another drizzle occurred, not quite the thing for silks, satins, muslins, &c., about which my friend Donald discourses so eloquently when he turns his eyes on the world of fashion. However, it merely caused a little wholesome scampering. I need scarcely say that a good band added to the pleasures of the day. It was truly delightful to witness the zest which the *élite* of Liverpool appeared to possess in the affair, and the number and elegance of the promenaders, together with the number of vehicles at the gates for hours, bore ample testimony to the gratification the Liverpool people receive through the medium of gardening.

And now to particularise in detail the comparative merit of the various exotics, hardy things, or fruits and vegetables, would be in me unbecoming; the Liverpool papers will manage that affair. I feel it a duty rather to point to the chief features, for I am perfectly ignorant as to who won the first prizes and who the others. I would, then, point to the Geraniums, Eriacs, Calecolarias, Fuchsias, and Verbenas, as, in the main, fit to take their stand at Sydenham, Chiswick, or the Regent's Park; they were, on the whole, well done.

The size in the *Verbenas* was remarkable; there were whites that might, at a distance, be taken for the old Gueldres Rose—regular bouncers. Without vouching for complete accuracy in the names, I must point to *Canary Bird*, *Mary*, *Auricula*, *Annie Laurie*, *Conqueror of Europe*, *Princess Alice*, and *Napoleon Buonaparte*, as first-rate. I examined the soil they were in, for they were really astounding in point of size, and, as far as I

could discern, it appeared to be a free loam or alluvium, with much old cow-dung, sharp sand, and, perhaps, a little old peaty material.

The *Stove and Greenhouse specimens* were many of them done in first-rate style. Allamandas, Apelelexis, Boronia, Leschenaultia, Cyrtocera, Stephanotis, &c., were well-represented. Fancy tints, too, were interesting; some very fine *Cissus discolor*, *Anectochilus*, &c. There was a most beautiful specimen of *Hoya bella*, and a six-foot *Logestracmia indica* in fine bloom; this good old plant is not met with every day. *Orchids* were not very extraordinary, although there was a good *Saccolabium guttatum*, an *Aerides affine*, *Cattleya Aucklandia*, and the fine *Oncidium ampliatum mejins*. *Roses* were the worst done of anything. I really cannot imagine how it is they do not try to go a-head in this queen of flowers. Some excellent floral devices graced the tables; there is great advance here, and I congratulate them on their advanced position, for they not only lead to advance in taste, but when good are of eminent service in adding to the general effect of the tents; and as to the public interest in them, that is well attested by the crowding around them.

In *Bouquets* for hand I could perceive no advance; a most unmeaning mannerism prevailed through all of them. It is astonishing that English people are so slow to advance in these matters; they would do well to take a lesson occasionally from their Parisian friends. There are, I suppose, two distinct kinds of bouquets, the one artistic, the other natural. Now, it is all very well for a Hodge to offer his Nell a bunch of flowers pulled at random, and tied with a wisp of tough grass; we may admire it, too, in the hands of a coarse country wench, chiefly because it assorts with her dress and condition better than a highly-artistic bouquet, and because it is met with where choice exotics are almost unknown; but such a bouquet would ill assort with the superb dresses of the affluent, and worse still with the gorgeous associations of the modern drawing-room or boudoir. Those who make bouquets should well consider these things, for the any-how-plan will not do in these times with a public constantly accustomed to high art in everything connected with their persons or establishments.

And now I may observe, that *Wax Flowers* constitute a very popular feature at these shows; not that such a vast quantity is produced, but that those which are seem to elicit much commendation from the ladies, who are by far the best judges of such productions. Miss Newton, of Rensham-street, Liverpool, who produces excellent stands, was, it seems, a pupil of Minton's, and gives lessons in this interesting art; in her stands there were some beautifully done things; and amongst the rest one of those monstrous Aristolochias, which astonish even those accustomed to Nature's eccentricities. Miss Leatherbarrow, daughter to the honorary secretary, had a set scarcely second to Miss Newton; some nicely done things here. Miss L., however, exhibits simply as an amateur.

Again, we had a nice lot of Ferns and Lycopods very well grown, and lots of specimen flowers in glasses.

I may now just advert to the *Fruit and Vegetable* portion of the Exhibition; and here I found capital Grapes (mostly *Humbro's*), Peaches, and Nectarines, of respectable character, and lots of Melons; amongst these, the *Trentham* blood, in various grades, was readily perceptible. Some very fine Strawberries; the best, our old favourite the *British Queen*; and sundry other appurtenances of the dessert, on the whole good, but scarcely any Pines. Vegetables were, indeed, abundant; the benches were in much peril of breaking down beneath the ponderous load they had to sustain. Cauliflowers by the hundred, from two to three feet circumference; Carrots of all grades, from the small, neat *Horn* variety,

to the long *Altringham*. Turnips, the *Dutch Stone*, *Starisbrick*, &c. Peas, from the *Early Frame* up to the fat *Marrow* section. Broad Beans, *Lisbon* and other Onions, and abundance of Cucumbers. Amongst the latter were a brace on one stem, which really might be taken for the production of the Derbyshire Spa cucumber makers; both of a length, fluted, or grooved, with artistic precision, and both possessing that high criterion of tenderness and freshness; the blossom on at the point; in other words, they might fairly have been castings from the same mould.

These, then, constitute the chief features of this excellent Exhibition, and I hope to be pardoned for offering such details, with a few remarks consequent to the notice of our readers. The fact is, newspaper reporters give generally details about these things, but cannot look on them with the eye of an experienced gardener; they may string phrases together in a superior way, but cannot string important facts so easily, or make such valuable deductions.

I must now suggest to the exhibitors the propriety of dispensing with sticks and stakes as much as possible. I verily had thought that the Baltic, in these war times, did not produce such a profusion of timber. Now, surely, plant growers must know that sticks are but means to an end; they are to the plant what the scaffolding is to a building. To be sure, some plants, after being artistically trained, still require support; but I would suggest to trainers of exhibition plants, that they keep staking matters classified in their mind; that they distinguish from the commencement of a plant's culture between permanent stakes and temporary ones, and that the latter be removed, as far as possible, in many specimens the moment the plant can do without them. The fact is, however, it requires much taste and experience to carry out such training, and the gardener, most unwillingly, is but too often compelled to employ a mere clod-hopper, and hence the bungling. So, then, I do not arrogate to myself the power to blame, but merely to suggest a reconsideration of such things; and these remarks, I fear, will apply more or less to most of our exhibitions. I feel fully persuaded that before many years are passed a superior taste will arise, but there must, like other marketable things, be a demand before a supply can be expected; if reform is needed, the public must first appreciate it. The time will come, I trust, when plants naturally pendulous will be permitted to exhibit their natural impress; when the dense bush will not be forced into a pyramid, and a plant with, by nature, all the gracefulness of the Birch, or weeping Birch-tree, or of the *Humea elegans*, will not be snubbed into a green block. I quite agree with my clever friend, Donald Beaton, on this head, that our mere florists have done much harm to the higher order of taste; they have so insidiously woven the prescriptive meshes of their enslaving network, that, like poor Gulliver, we are bound down by every hair of our heads.

I quite agree, that a little compromise is necessary, and that it would not be convenient to cause highly increased expenses through a necessary enlargement of our tents, &c.; but it will be seen in Britain, that with increasing commercial prosperity will, assuredly, come enlargement of ideas. The past history of our Crystal Palaces proves this.

R. ERRINGTON.

GERANIUM SEEDS AND SEEDLINGS.

The practice of the florist differs materially from that of the flower-gardener, with respect to the time of sowing Geranium seeds, and with respect to the early management of the seedlings. Mr. Appleby has given, in detail, the whole management of this class of seeds in the ninth

volume, page 384; and the same plan has lately been recommended in the current volume at page 227. The flower-gardener is more impatient; and the cross-breeder, who is neither a florist nor a flower-gardener, is faster than either of us. To secure a perfect cross, he introduces the parent plants into forcing heat in the spring, and gets them into bloom long before the general collection, so that no insect or current of air may deceive him by introducing pollen from neighbouring plants; there will be none on, or about, his premises to interrupt his experiment. I have acted in the double capacity of cross-breeder and flower-gardener for many years, and no one need be more intimate with the care of a cross seedling, yet I have learned something now about such crosses not later than late in the summer of last year. One of our correspondents (*Amellus*), with whom I correspond privately on such subjects, was remarking to me, in one of his letters, that "life is too short to allow him to follow the plan of the florist" with his Geranium seeds. He adds a perfect novelty in these words, "*I never allow my Geranium seeds to ripen at all*; as soon as the feathery tail of the seed turns black on the beak, and while the seed-coat is hardly browned, I cut them off, and sow them the same day," and so forth. This was a new idea; but although *Amellus* is a first-rate hybridizer, and a gentleman of fortune, with a large garden establishment to boot, I must needs prove his plan to my own satisfaction before I said much about it.

I began in July last year, and I have now seventeen experiments recorded inside the lid of my envelop box; and just outside the window where I am writing, are living evidences of the seventeen trials to the tune of eighty-four real healthy seedlings, all from unripe seeds, and all sown on the days on which they were gathered, beginning the sowings on the 16th July and ending on the 4th September.

The first of the memoranda stands thus, No. 1, Ld. M. x Ld. C., 15 July 22. No. 2, and all the numbers do not occupy respectively more room than No. 1 on the envelop lid, so that there was no great bother in keeping the accounts. The plain meaning of No. 1 is this, Ld. M., *Lady Middleton*, x crossed with *Lady Caroline*, sown on the fifteenth of August, were up on the twenty-second. The number of seeds in each sowing, and the number that came up of each, were marked by *Seaton's* short-hand marking, to keep them distinct from the numbers for the days of the month. I have neither a hand-glass, nor a frame, cold or hot, nor a greenhouse, nor a stove, nor an orchid-house, and I made a sowing of Geranium seeds on the second week in October, which did not belong to the experiments; and out of close upon one hundred seedlings, I only lost eleven with the hard winter, and that loss was more through a foolish experiment than by the frost or damp. I may state, however, that since the second week of January we never had such a season, so favourable, for rearing seedlings since I left the foot-ball in the Academy Park in Inverness.

Seeds of a cross between *Lady Middleton* and *Lady Caroline*, which were not ripe, and which were sown at four different times, from the 15th of July to the 16th of August, came up on an average of seven days; two more sowings in August took nine days; and one on the 4th of September took fourteen days in coming up. Seeds from the self-same cross, which were allowed to ripen in the usual way, were sown as soon as they parted from the pods of their own accord, the dates of sowing and of coming up being kept, like those for the unripe seeds; two sowings of ripe seed made in August took five and seven days longer to come up than the unripe seeds; but, probably, the differences would not hold good if all the sowings were made in a hotbed; my seeds were in the driest place for seeds, or plants, in the county of Surrey, and it is so ventilated, day and

night, that old *Boreas* himself could flap through it in a gale; they were under the glass roof which covers my back kitchen, the ridge being twenty feet above the stew-pans; the seed pots were then placed high and quite close to the front glass of *my conservatory*, a state of things which seems to answer for Geranium seedlings remarkably well, and which points to a good south window of a living room as the very best place for this kind of work, when the eye is practised to notice the least turn in a seedling for the worse or for the better.

In all my experience, I never had a more promising set of seedlings than I have this season. My stock is more for the purpose of proving the effect of mixing the best shades from healthy parents, than for any improvement on the distinct colours we already possess; but under this trial, I have a better pink flower already than any of the old ones; indeed, with the exception of the old pink *Ivy leaf*, we have not a single real pink Geranium after all; the pink *Nosegay* is too purplish; the flower of the plain and variegated *Mangle's* is too small, and the pink in them is not a rich colour; the *Salmon*, or *Salmon Nosegay*, as some call it, is too light by far, and *Cherry Cheek*, with all the shades of *Cerise*, from *Lucia rosea* up to *Lady Middleton*, are either of a cherry colour or Geranium colour, as the ladies will have it; *Judy* is too red for a pink, and *Compactum* is neither pink or scarlet; to be sure, we have a pink Horse-shoe, but what is it to boast of but a poor thin flower, with a shade of pink over a red ground, and a light eye; so that a good, broad, soft leaf, and a real pink flower, are still in expectation only, and nothing worth the name of good shades of pink; but pink is a necessary colour in a good flower-garden, and good shades of pinks are just as much wanted by those who aspire to perfection in the higher style of planting first-rate assortments of distinct colours, and their shades, as in the "Fountain Garden," at Shrubland Park, the very best planted garden in all England, in that style.

Knowing this want for many years, and having both leisure and materials at hand at present, I hope some of my seedlings of this season will supply the deficiency, or, at any rate, a good way towards it, besides other fancy shades, which are not without their use to the higher planters. A purple Geranium, such as *Unique*, with the flower, truss, and habit of *Tom Thumb*; a clear yellow Geranium, ditto; and a pure white one, the same, are still to be desired and looked for. Perhaps I shall be first with that style of white myself; my white seedlings are still the best in the market. Last autumn I did think they had a better white-scarlet, so to speak, at Shrubland Park, one called *Hendersonii*; I got a cutting of it, which is now in bloom by the side of my own best white, but there is not a line of difference between them. There is another white one at Claremont, which Mr. Mellisson imported from France, which is not so prolific in bloom as our English seedlings. If there is anything better in these from last season's work, we shall most likely see them, or hear about them, at the July shows.

MANAGING SEEDLINGS.

"One-half the world do not know how the other half lives," is an old and very true saying. Her Majesty's household does not offer a greater contrast to Hurl's cottage, to which the dust and ashes of Surbiton is carried every morning, than that of the man with four or five thousand seedling Geraniums in November does to the back-kitchen of your humble servant. Still, I once had my thousands, as well as the best of them; and had to make shifts and elbow-room for them all, under passing circumstances, and often under threats of being turned adrift with them for occupying room intended for better things, or things so-called; and now,

though in a very humble way, my seedlings are not "shiftless," as aunt Vermont would say; and knowing both sides of the question—how to abound, and how to be hard pinched for room—this is how I sow and manage seedling Geraniums, and that is how I shall continue to do until I hear of a better plan. First of all, I would not sow a seed which was not properly crossed—that is, a Geranium seed—for love or money. I would not cross two very dissimilar flowers for all the world. The first half-dozen of flowers on a truss I would cut off before they were quite open; I would then stop the shoot down to where the flower-stem issued from. In a day or two after that, I would select ten or a dozen of the flower-buds in different stages of development; and I would cut away all the rest of the buds in that truss with something sharp, as they thin out bunches of Grapes. The ten or twelve flower-buds left for crossing will open in succession for a week, and will give time to try three or four kinds of pollen to one truss; and if the thing is done carefully, there are just as many chances of getting a good cross from a single truss, as would be from one hundred trusses by the same pollen, and all the care consists of extracting the pollen bags just when the flower is on the point of opening. Open the petals with a long pin, or with the point of a small knife; put the point down below the anthers, then draw it gently towards you, and the anthers will slip off without any hurt to the style, or female part. You must bruise these anthers between your fingers the moment they are extracted, else I would not give three farthings for your chance, as they will ripen after coming out, and the pollen dust will fly about, or be carried about by ants, or insects; and if the smallest grain of pollen, which could not be seen by the naked eye, should reach the five curled tops of the style, or any one of them. All the pollen in the kingdom will not have the slightest effect upon them after that. When the flower opens, the style is like a blunt pin in the centre; by-and-by the point begins to separate into five divisions, and when these are in the shape of a star is the proper time to apply the pollen to them, but it will do after the points curl round into hooks. The whole inner surface of these five divisions is capable of receiving the pollen-dust. The easiest way to put the pollen to them is to cut off the pollen-flower, and discarding the petals, apply the powdered anthers all together to the five divisions. Any time of the day or night will do for this if the flowers are quite dry; one application is enough, but there is no harm in going over them two or three times, if there is no want of pollen. All the scarlet breeds of Geraniums, and two sections of the other Geraniums, will reverse the position of the flower as soon as the pollen takes effect, and come back gradually to the first position as the seeds ripen. Watch the beak or long point of the seed-vessel, and when you see it streaked with black lines, and the covering of the seed just turning brown, cut it off with a pin, or sharp point; separate each seed gently, and the black line on the beak will follow it, like a silky feather;—now the seed is ready to sow; but I rather plant the seeds, as I shall show presently; and no one, with the least grain of practice and a good window, need fear sowing the most previous crosses till the last day in September.

The reason for sowing bedding Geraniums as soon as the ends are ripe, or nearly ripe, is to get them into flower the following summer. I never knew, or heard of any one who had ever known, a seedling of this class flower the same summer or season when they were sown any time after Christmas, the trouble of watching a pot of seedlings through the winter is nothing to that of finding pot-room for spring seedlings to flower the second year. Suppose your seed is ripe on the first of August, 1854, if you sow it that day you will see the

result of your experiment in June or July, 1855; but if you lay it up till the following spring, as the florists do, you will not see your new crosses till the summer of 1856. I use 48-sized pots for this kind of seed invariably; the pots are drained well, and the soil is light; a sandy loam, without peat or leaf-mould, both being liable to damp the little seedlings in the winter. I plant one row of seeds quite close to the side of the pot, and two inches seed from seed; this is done with a dibble, like planting cabbages. I take hold of the feathery tail, and push the seed, head foremost down, till the whole of it is just covered, the tails standing up by the very side of the pot all the way round, and just two inches tail from tail. After this, and with this arrangement, they want no more doing to them till the middle or end of next April; no potting off into single pots, that is a most extraordinary piece of extravagance and trouble, and keeps the plants much later in flowering. No stimulus should they have till the show for bloom, and providing they were all of equal strength, fine plants can be proved in the seed-pot; but a batch of seedlings never come of equal strength, and by April they will be so crowded as to need thinning; then turn out the ball, and as the seedlings are just on the outside of it they will come apart without disturbing it; and then five of the strongest plants may be left in it to bloom; and the rest in fours, or in fives, according to their size, should be placed in 48-sized pots in loam as light as before.

The moment a truss is seen on the top of one of these seedlings, the top eye or joint should be stopped, and the plant will "break" abundantly below, before the first flower opens. If the *colour* and *shape* of the new flower come up to your ideas of improvement be content, the substance of the petals, and the number of flowers in a truss or head, will improve as the plant gets older. Scores of good seedlings have been thrown to the dogs for want of knowing this singular property in all the races of the scarlet Geraniums, because the petals were thin, and very few flowers in the truss. I, myself, threw away many thousands, but now, and for a long time past, I am satisfied with colour alone; substance increases with age, and a good flower is never, and can never be, of a bad shape; the more shapes, in fact, the better, in a flower-garden.

In conclusion, the whole secret lies in one sentence: sow the seeds the same day you gather them; sow them round the side of the pot only, and quite close to it, and at such distances that the seedlings need not be removed till next April, and never give any of them the least stimulus till you see the flower-buds.

D. BEATON.

DISEASES AFFECTING THE CUCUMBER.

THE first of these to which I will allude is *mildew*. Every gardener is ashamed of the "dusty miller" appearance of this on his Cucumber plants, as right or wrong, good cultivators say he has nothing but his own negligence to thank for it. There is a degree of morbid satisfaction in being able to rail at frost and weather for our disasters, but when our own conduct comes to be the blameworthy point, then there is trampling on tender toes with a vengeance. I will not settle the vexed question, whether under glass, mildew may or may not be entirely prevented. Under such circumstances it is seldom I have met with it. It will be more profitable to state the means for preventing its appearance, and for setting it adrift when present.

I have found the causes of mildew to be chiefly these. A sudden check given to the excitements to extension and growth; a stimulus of heat and moisture applied to the roots when the atmosphere was cold and dry; a high,

moist temperature about the branches, and a cold soil about the roots, whether that was dry or clogged with muddy wet; a continued close, moist atmosphere in dull weather, when there was not air enough given to enable the plant to throw off its redundancy of watery juices by a free perspiration. The converse of all this will insure the absence of the mildew; such as roots ramifying in a healthy, open soil, to which air as well as water can find access; a healthy, growing temperature at the roots, corresponding with a healthy, airy atmosphere; and moisture at roots and in the atmosphere proportioned to the degree of heat applied to both. For instance, in a bright sunny day perspiration must either be lessened by shading, the use of the syringe over the foliage, the presence of evaporating pans, the watering of walls, paths, as well as roots, to keep a moist atmosphere round the plants. Do all this in a sunless, cold day, where a dryish atmosphere and dry leaves are more needful than damp ones, and the inability to get rid of the watery juices will be a regular nest-egg for fungus to brood in. If the soil should get at all cloggy and sour, frequent stirrings, and even removing a portion with the fingers and a pointed stick, will be of great utility when replaced with nice, light, fibry compost. So much for preventives and restoratives in a gentle way; now for more vigorous opponents of the malady when it presents itself.

For this, sulphur applications hold the first place, in unison with that system of culture just indicated. Lime in a quick state is also useful; but not so effectual as the sulphur. If a number of leaves are very bad, they should be immediately removed, and in this, as well as all other cuts just now, when the juices are in rather a disordered state, the cut part should be daubed with powdery lime mixed with charcoal dust, which will prevent decay and gangrene taking place there. The sulphur may be dusted carefully on the parts affected, whether leaves or stems, and an opportunity should be taken of fine airy days to syringe with the lime and sulphur-water, lately and frequently referred to, and also to syringe with it walls or boards of pits and frames, before shutting up in an afternoon. Where there are hot-water pipes, the smearing of these with sulphur, and not allowing the water to rise above 175° with air on, when the pipes are hot, will both destroy and prevent the mildew. These applications, with a nice, moist, and yet not too close, a heat, and a right healthy state of soil, will soon cause the mildew to depart. If plants are very bad, the best process would be to replace them by others in a healthy state. I have no reason for supposing that the disease is constitutional; in other words, that seed saved from a mildewed plant will produce mildewed plants again, as a matter of course; though, when a choice can be made, it is as well to avoid the risk. We have, however, seen seed taken from mildewed plants, and the mildew never showed itself on the progeny. It would have been an easy matter to obtain seeming proof that such a disease was hereditary, merely by resorting to the causes that produce mildew.

The second disease I shall mention is *canker*, so named, because its appearance is somewhat analagous to what takes place in fruit trees—the bark becoming first of a rusty, scaly appearance, destroying the skin, and ultimately killing the part to the branches centre. This often takes place where one main branch separates from another; but quite as often near the base of the plant, and where, if left alone, the plant must soon be destroyed. In but rare instances have I succeeded in getting a healthy bark to grow over such a cankered part; but, taken in time, the plants will not be so injured as to prevent them yielding in succession a goodly quantity of first-rate fruit. At any rate, plenty of time will be given to scuro fruit-bearing plants in succession from

soed or cuttings, if deemed advisable. I have had plants with the bark and outer woody layers destroyed for an inch or two, no unseemly protuberance, above or below, and yet the plant luxuriant and fruitful for many months.

This is only one of many facts I might present to those who hold what was once next to a universal opinion, the calling in question of which stamped you at once with heterodoxy, namely, that in vegetable life, there was, as in the animal economy, a regular circulation of juices, the sap rising in one set of vessels, and returning as regularly by another; nay, in some instances, going beyond this, and contending, that if these outer returning vessels were destroyed there could be no fertility and no long-continued existence. I do not see the cause of this disease so plainly as in the case of mildew. My impression is, that plants grown in soils with an extra amount of iron in them, or if extra sandy and poor, are more liable than plants grown in loam and peat, and lightened with pure sand and decayed leaf-mould. For guarding against this evil in the culture of the Cucumber in winter, I used little besides well aired peat, supplying more nutriment, when necessary, with weak manure-water. Another predisposing cause, at all times, but especially early and late in the season, is keeping the soil near the collar of the plant wet and damp, and a moist, stagnant atmosphere round the stems. A free circulation of air would so far remedy this, but the chief means of safety are watering, when necessary, the back and front of the feeding ground, but leaving a space in the middle, round the stems, untouched by the watering pot. In extreme cases, such as early in winter, I have found it advisable to defend the stem and the earth round it even from the dribblings from the syringe, by surrounding them with a tube, closed with moss, or a tile at the top, though freely admitting air. When the canker presents itself, the best remedy for arresting its progress is frequent applications of quick lime and charcoaldust, until the part becomes quite cauterized. When taken at the very first, fresh bark may sometimes cover the spaces, but this is not often to be expected. This, however, is a matter of little moment, as the plants generally retain their full fertility for only a few months. Not but that the plant may easily be coaxed into being a perennial, as I have had a plant bearing very fairly for between two and three years; but what was the good of keeping it, when with little or no more trouble young plants would yield rather better results?

The third disease to which I will allude, is a *damping* and *rotting* at the *joints*, and at the base of those leaves and shoots which required to be pruned away. No plant stands lopping and cutting better than the Cucumber. In fact, without constant pinching, topping, and thinning, the most fertile plants would soon run wild. Many practitioners, to avoid this rotting and damping scourge, leave a part of the foot-stalks of leaves and shoots removed, preferring that these should shrivel up before they remove them. This unsightly mode, however, frequently merely postpones the evil day. The evil generally prevails when the plants are almost too luxuriant to be extra fertile, and when this extra growth is stimulated by heat and moisture at the roots, and a rather high temperature, and a moist atmosphere above. In the case of plants thus luxuriant, it is as well to lessen the amount of these stimuli to growth, by a colder and a drier atmosphere, and as much dryness at the roots as the plants will bear without flagging, both before and after cutting and pruning. The plants are thus less charged with moisture. In addition to this, both early and late in the season, when there is a deficiency of sun power to consolidate the wood, or elaborate the juices, every cut should be daubed, almost as soon as made, with quicklime and

charcoaldust; a small pot full of the commodity, with the assistance of the finger and thumb, will soon daub a hundred or two of wounds. At both these seasons, and when extra luxuriant in dull weather in summer, stopping and disbudding, should, as much as possible, take the place of pruning. In such circumstances, until the wounds are healing, the syringe should be little used, and when necessary to apply it at all, after, or during, a sunny day, clear lime-water, *moderately caustic, will be the best.*

The fourth drawback in the culture of the plant is a *decaying of the young fruit*. This evil has been more than usually prevalent for these few seasons. The plants appear healthy, the fruit shows plentifully, but after the bloom at its point shrivels up there is no progression; the fruit withers or rots at the point, and if allowed, the decay goes backward, until the forestalk of the fruit is reached. The finer and longer-growing kinds are most subject to this evil. Young fruit that have been fecundated are not so liable as those left alone; but then, in long kinds, a fruit with seed in it is seldom so handsome, nor yet so sweet and crisp as one without it. I have come to the conclusion that this evil is chiefly attributable to opposite causes. First, an undue excitement to the growing principle, by plenty of heat and moisture at the roots, and heat and moisture in excess in the atmosphere. In this case, more air has effected the remedy, by arresting mere vegetable growth. Secondly, it is often owing to a want of equal action between roots and branches, such as when the roots are cold and wet, and the atmosphere dry and warm; and just the opposite when the atmosphere is moist, and the roots extra dry. When the disease manifests itself in frames, the best remedy will, in general, be a healthy root action, by the application of sweet dung linings, and these raised so high round the box, or pit, that a free current of air may pass over the plants. A little air left on at night is also of great importance. When manifesting itself in places heated by hot-water, the securing of a medium state of moisture at the roots, and plenty of air above, with no more moisture than was raised by evaporating pans, was generally sufficient for throwing more strength into the young fruit. There is also a mechanical contrivance which I can unreservedly commend, and especially in the case of young, luxuriant plants early in the spring, when one Cucumber is more thought of than a score or two at present, and which may easily be adopted when the plants are trained on trellises, either in houses, frames, or pits; namely, when the bloom at the end of the fruit has been open a day or two, bring its petals together, tie them with a piece of matting, and to the end of that string of matting leave a piece of stone, an ounce or more in weight, dangling. When I used to pride myself in growing Cucumbers from two to two-and-a-half feet in length, I have had weights suspended from a dried-up blossom of from half-an-ounce to four ounces; and, in obstinate cases, I have clapped another weight attached to the footstalk of the fruit, the object being by the strain to attract the nourishing juices to that part, much on the same principle that the arms of the blacksmith obtain what would be deemed by some wondrous strength of bone and muscle by the swinging of the sledge hammer.

The last disease to which I will allude is one even more annoying than any of these—a sort of nasty, jelly-like gummy secretion, that comes from stems and fruits, disfiguring the latter, and, if even arrested, leaving a scar and a spot on the fruit. The first time this came under my own particular notice was last season. The variety was a very good kind, and produced, in a wide, temporary box, some most excellent fruit, namely, *Hunter's Prolific*. The disease manifested itself chiefly towards autumn; and I attributed it chiefly then to a coldness and extra moisture at the

roots, which I could not have easily neutralised under the circumstances. The kind seemed to me to have so many advantages, and hoping there would be nothing hereditary in the malady, I saved seeds, and from these obtained plants for the main spring and summer crop, which were to be grown in five lights of the pit, a section of which was lately given. Here the plants grew as well as could be—extra luxuriance being guarded against, as those who will examine the section will see, by a limited amount of feeding ground—and a quantity of fine clean fruit has been secured, averaging from eighteen to twenty-three inches in length. But if one fact be worthy consideration—though I would not lay great stress upon it, farther than a note of care and beware—that fact would seem to say, that the disease is apt to become constitutional and hereditary, for the same plants from seeds *thus* obtained, that produced these fine fruit, would also produce some affected with this loathsome-looking disease. With the exception of two or three spots, it has not shown itself much on the stems or leaf-stalks, but has chiefly confined itself to the fruit, breaking through the skin, sometimes in dots, and then for larger spaces. If allowed to go on, the parts thus affected begin to rot and decay. If moved off at once, and the parts dusted with lime, sulphur and charcoal dust, the parts will generally heal up, and nothing be seen of where the excretion stood, but a healed scar, or cicatrix. It will be recollected, that by means of pipes I could give bottom-heat, and top heat, dry heat, or moist heat, at will. I found that the disease was most apt to manifest itself, when—after nice sunny weather, during which there was a happy relative action going on between roots and branches, a sufficiency of moisture below and above, and all regulated for the benefit of the plant, by the glorious sunbeam—there followed a few days of cloudy, cold weather, and less fresh air was given than was demanded in the circumstances, not so much from inattention, as from disappointed hopes of the sun appearing, and thus so far economizing the fuel-heap. A free, moist root-action, by having the rubble round the pipes moist, and a little heat in these pipes, when a strong sun dispensed with the necessity of heating the surface pipes; and the keeping heat in both set of pipes in cold dull weather, so as even then to give a circulation of air, seemed to be the chief means of mitigating, though not entirely removing, the evil. Syringing with the sulphur and lime-water was, also, I think, attended with benefit. Frequently, three weeks or a month would elapse without a fruit showing a gummy spot, but very likely, when I had just got the length of supposing I had conquered the evil, *one* would give unmistakable signs of the malady. The above means, however, seem to minimise its virulence. When grown in dung-beds, I would recommend a healthy root-action, and linings sufficient to give plenty of air in dull weather. In the meantime, until more is known of it, it would be advisable not to save seed from infected plants.

If reasons be required why such space should be taken up with such matters in this place, these may be found in the many inquiries made; the more than usual prevalence of the evils complained of; and the applicability of much that has been advanced, to plants in general, and to such plants as the MELON in particular.

R. FISII.

JOTTINGS BY THE WAY.

STATE OF THE CROPS.

DURING the progress of my journey, my attention was naturally drawn to the appearance of the various crops on the farms as I passed by them. The corn crops, such as Wheat, Barley, Oats, and Beans, I never saw

look better, with some few exceptions, on hilly ground, where they evidently suffered to some extent from drought. This remark applies to the time when I first started from home, early in June; towards the latter end of the month the genial showers that had fallen had materially improved even these dry hilly fields. In a large field of Wheat, near Liverpool, I was sorry to see many of the heads of Wheat corn had become smutty and black, but that is the only field that I saw that had suffered from that disease. The first Wheat I saw in the ear was in North Wales, on the flat grounds near the sea, through which the Chester and Holyhead railway runs. If this warm, showery weather continues another week or two, I believe the crop will be above the average. The Bean crop is forward, and will, with a moderately fair autumn, be housed early, and, consequently, well. Oats very luxuriant, and of the darkest green, and the same remark applies to the Barley. Peas suffering in fields for the want of the early rains. In gardens the crops of this useful esculent are plentiful.

The *Potato*.—It is an undeniable fact that the plants never looked so well as they do this year. Up to the 24th of June I had never heard of, nor seen, any symptom of that fell disease which some years back threatened to banish this root out of cultivation. On that day, a friend, of mine, at Chester, dug up some Ash-leaved Kidneys, and to my sorrow, showed me some few that were unmistakably diseased; I think he said about one-fifth of the crop were in that condition. I made enquiry of several growers throughout Lancashire, the county that has been celebrated for its excellent Potatoes, and was assured that the disease had made its appearance, though but slightly as yet. At the moment I am writing this the weather is close and sultry, with rain falling in quantity, just the sort of weather that increases the disease with wonderful rapidity. New Potatoes are plentiful in the various markets, and are selling this day, June 29th, at one penny per pound, and the price is expected to be still lower in a day or two, because there is such a large breadth planted, and the crop is so good. Let us hope the disease may not spread, and then the Potato crop will help to feed all classes, and to keep down the price of bread. I saw, in the Manchester and Liverpool markets, large stocks of old Potatoes, which, it appeared to me, the holders had kept too long; the new ones having come in so early and fine, that the old ones would be useless, unless used to feed cattle. Perhaps some may say, these men that kept them back are rightly served, because they ought to have sold them and been content with a moderate price.

Hay harvest has began here and there in the north, but not generally. The crops are decidedly light, and will be considerably under the average, especially on the hill sides. It is a matter of great regret that irrigation is not more put in practice, the benefit being certain and immediate, to a great degree. The reason why so palpably a beneficial practice is not more acted upon, may be traced to the uncertainty of our climate. Some seasons we have abundance of the early and latter rain; in fact, sometimes too much. In such seasons, the machinery and expense of irrigation, the farmers say, would be thrown away; and as the rains may fall in due season any year, that trouble and expense may be avoided. Or, in other words, we will always expect rain to fall, and if in some years it does not, we must be patient and content. Is this wise? Are such notions worthy of the age? I say, No. Man has given to him certain powers of mind by which he may controul the elements, in many instances, to his benefit and comfort, and he commits wrong if he neglects to use them. The benefits of irrigation are immediate; the parched pasture or meadow will, when properly irrigated, soon turn

green and luxuriant, and the crop rendered thereby productive and almost certain.

I have seen, in one garden, even this season, Peas turning prematurely yellow; whilst in another, where reservoirs of water were preserved and applied with gutta percha tubing, the same sorts of Peas were as fresh and luxuriant as if it had rained abundantly every day. The Turnip crop, in this district, is late. The spring was so dry, that the seed, in many instances, has perished. In low situations, the Swedes have come up better. I saw this day, the 29th June, in a large field, five or six men transplanting Swedes that had grown to a considerable size. The rains that are now falling will be of the greatest service to these transplantings. The other kinds of Turnips are coming up thick, and will, no doubt, be an abundant crop.

Mangold Wurtzel is late, but progressing quickly now.

Upon the whole, we have reason to be thankful and satisfied with our prospects in regard to food for man and beast, the only drawback being the hay; but, as we have now fine growing weather, the second crop may be so abundant as to make up for the deficiency of the first.

T. APPLEBY.

BOTANIC GARDENS, BIRMINGHAM.

THE *Victoria* house here is so large, that there is sufficient space to grow a good collection of Ferns and stove plants, in addition to the plant itself for which the house was erected. The Ferns are arranged in groups on the floor, and being of a considerable size, the effect they produce on the mind is very pleasing. The different shades of green, and the varied size of the fronds, combined with a judicious arrangement in elevating some, and depressing others, so as to produce a tasteful picture, rendered these groups a source of pleasing emotion. The first group met the eye on entering, and was of an irregular long form. In the centre was a large Fan Palm, well supported by large plants of that palm-like Fern, *Blechnum concocoidensis*, fringed with *Gymnogramma tartarica*, *Davallia elegans*, and *Aspidium unitum*, and these again fringed with the various Lycopods, especially *densum*. The group to the right of this consisting of a noble plant of *Polypodium spirodactylum*, surrounded by good plants of *Adiantum cuneatum*, a trapeziform *Polypodium otites*, and others. The one to the left was formed with *Polypodium glaucum*, a large specimen for the centre, encircled with *Asplenium coriaceum*, *Pteris nemoralis*, and others. At the other end there was a noble *Cycas revoluta*, which had just made its new feather-like leaves, the elegance of which is indescribable. It formed a group by itself, excepting that the soil and pot or box in which it grew were hidden completely by that trailing plant *Tradescantia discolor*, the leaves of which are red underneath, and variegated on the upper side. There was a group of Ferns on each side of this fine plant, formed with *Platycreium allicorne* for the centre, and *Asplenium Nidus avis* for the other. All these centre Ferns were considerably elevated, and their pots hid by the ample foliage of those that surrounded them. These groups were not crowded upon each other, there was plenty of space allowed for spectators to pass amongst them and examine the beauty of each. I think this grouping of plants is much more pleasing than long, stiff, formal lines of plants, which look more like a well-clipt hedge than anything else, and are far from pleasing to the eye.

To conceal the large mass of pipes necessary to heat this large house, there is a trellised platform placed over them, and this platform was covered with stove plants, very well grown, and in excellent health. I noted the following in flower, *Eschyanthus pulchra* and *speciosa*, and *Alpinia nutans*. This rarely-seen-in-flower plant had

seven spikes of its large, shining, wax-like flowers upon it. (I think its beauty is so great, that it ought to be more grown, and better cultivated, in order to induce it to flower.) *Ardisia crenulata*, *Balsamina latifolia*, and its variety *alba*, two plants almost always in bloom. *Begonias*, eight species in bloom; *Clivea nobilis*, *Clerodendron hastatum*, *Eugenia jambos*; *Gardenias*, several species; *Hoya bella*, *carnea*, and *Paxtonii*, *Melastoma holosericea*, *Medinilla magnifica*, three large spikes; *Justicia carnea superba*, *Musa rosacea*, and *coccinea*, *Lantana mutabilis*, a pretty species; the *Arabian Jasmine*, *Euphorbia speciosa*, several large plants, and *E. Boydii*, *Torenia asiatica*, trained on a balloon trellis; *Pitcairnia punicea*, *Tabernamontana coronaria simplex*, and *Briestia splendens*, besides several others of less note. On the roof there was an *Ipomea*, with many large lilac-coloured flowers, the name of which was unknown, though it had some resemblance to *I. insignis*. Besides these, there were several Orchids in bloom; *Aerides crispum*, suspended in a basket, and several oncidids.

The *Victoria Lily* had been planted but a short time, but was making rapid growth. Taking all these beautiful objects in succession, this house was a treat, indeed, to the admirers of choice plants, and did great credit to Mr. Catling, the intelligent curator.

In the greenhouse there were the usual inhabitants intermixed with flowering plants of such things as Cinerarias, Geraniums, Petunias, and, especially, Calceolarias, the most conspicuous of which was *C. Sultan*, with its large, rich, dark crimson flowers. This variety is invaluable as an early blooming plant for pot culture for the greenhouse. In the large centre house the noble *Lilium giganteum* was in bloom; the stem was eight feet high, and had on it, towards the apex, ten fine, large, trumpet-shaped flowers, of a cream-colour striped with pink. This is a noble plant for a large conservatory, and is by no means difficult to grow and bloom.

In the grounds I found the hard winter had not done so much mischief as in other places; and I ascribe that to the soil and situation. I have been credibly informed, that the fine collection of Coniferæ at Elvaston Castle has suffered greatly. Now, Elvaston is situated on a low, flat, and damp locality, with a cold clay bottom; whilst the Botanic Garden here is considerably elevated, and has a dry sandy subsoil; hence, better calculated to carry half-hardy plants safe through a hard winter uninjured, or partially so. The only one dead was *Cupressus torulosa*; severely injured, on the north side, *Juniperus macrocarpus*. The common Cypress, of which there are several large plants, are all severely injured, but will recover; *Picea Webbiana*, nearly killed; *Taxodium sempervirens*, slightly hurt. Quite safe are *Arancaria imbricata*, the *Douglas abies*, *Cryptomeria japonica*, *Cedrus Deodara*, *Picea nobilis*, ten feet high, and all the Pinus tribe. Contrasting these two places, we may learn a lesson as to a proper site for a Pinetum: we should choose a moderate elevation and dry subsoil, and avoid a level flat with a damp bottom.

In a distant hilly part of these Pine grounds there is a large collection of Scotch Roses in large masses; they were in flower, and I thought them very beautiful. In many large places these tiny Roses might be planted in groups with the best effect.

The soil here is poor and sandy, which causes many things to flower freely. I was glad to note that the *Weigelia rosea* bloomed very fine. In richer soils it grows more freely; but scarcely ever flowers. Let this hint not be lost. It is easy, in most cases, to procure poor soils, and in such this beautiful shrub should be planted.

T. APPLEBY.

(To be continued.)

CELERY CULTURE.

IN continuation of the remarks made at page 221 on this vegetable, it will be proper to consider for what especial purpose the Celery may be wanted. Many of our amateur friends disregard everything except the having their Celery very large, but this is not always wanted in private families; for it does not keep so well as some of more humble growth, much on the same principle that timber of very rapid growth is seldom if ever so durable as where it advances more gradually and slowly; now, as it is important that the supply for a family of rank should be continued for as long a period as possible, the very large heads, of which the exhibiting cultivator was so proud in September, are not necessarily the best at the end of March; on the contrary, the exertion the plant made to accomplish a certain growth in a specified time was incompatible with that firmness and stability so necessary a part of its keeping qualities; now, as this keeping property must always be accomplished in some mode or other, a few words on that subject will not, perhaps, be entirely thrown away.

As has been said, the Celery is a native of wet, marshy places by the sides of ditches, and other situations where moisture is prevalent at one season or another, and most generally at all times; now, it is reasonable to infer, that the plant is a toper, in regards to its liking for fluids, and consequently will, on the other hand, dislike a soil of a contrary description; yet this is not entirely borne out by the facts of the case, for the Celery of the ditch may have been driven there by a more robust vegetation occupying all the sound and healthy land in its neighbourhood, and if this theory be right, the Celery inhabits those wet places only in consequence of being compelled to do so, a stonter neighbour having driven it there; be this as it may, certain it is, that Celery relishes a rich, nutritious soil which partakes of moisture rather than otherwise, hence the propriety of selecting such a piece of ground for it, in all instances, where the choice can be made; and where that cannot be, let the best substitute be adopted that circumstances admit of; for instance, a very dry sand may be rendered more suitable for this plant by the site of the respective rows being deepened, and soil of an opposite nature being added in liberal quantities, and afterwards kept moist, so as to ensure the roots deriving the full advantage which their adopted soil presents; in general, the subsoil of dry grounds is a sort of hungry sand or gravel, or, it may be, chalk, all of which are obnoxious to the Celery, so that, to ensure the roots of it ample space to ramify in without coming in contact with the deleterious matter, some considerable depth, say at least twelve inches from the bottom of the trench, must be provided of a good healthy soil, which may be more or less mixed with enriching matter, as the wants or means of the cultivator may dictate. Usually, many private individuals, who only grow a limited quantity of Celery, like to have it very good, *i.e.*, very large; this, however, is not always the case with those who have to supply the wants of a family of rank, for with them quantity is not unusually of more consequence than mere size, for there are so many purposes to which a single head, be it ever so large, only one, the outside of it being so reduced as to come down to the standard size of what fashion or custom has established such things ought to be; hence the waste of so much that is useful in large heads of Celery; nevertheless, there are certain purposes which it cannot be too large for, and a part ought to be grown so if possible.

As has before been said, the bulk of Celery planted for winter and spring use had better not be indulged with too many good things, it is only fair to observe,

that a directly contrary course will be equally disastrous, as very small, badly-grown Celery will be anything but creditable to the cultivator, while it unquestionably stands the severities of the season, but consequently a small portion ought to be planted in that way, in order that some may be had as late in the spring as possible for the many kitchen purposes to which this vegetable is put, for it is needless to say that only good, fair-grown Celery is fit for salad purposes.

It may not be out of place here to mention, that as Celery does not require planting until late in summer, say from the beginning of July to the end of August, for the general crop, the ground it occupies may have been under crop for something else; and as in all well-kept kitchen gardens, the whole space is usually kept hard at work, this part needs no exception; neither does it require here any comment on the crop it ought to follow, because, in the general rotation of crops that ought to be kept in mind, and acted upon accordingly, but it is proper to observe, that when a plot is at liberty that has had potatoes or early peas, such spaces are to be preferred to one having been under crop of some of the Cabbage tribe.

As there are so many kinds of Celery, all claiming merits in their several ways, beside which many districts possess varieties known only amongst themselves, but possessing all that is required in a good head of Celery, it is only necessary here to direct the attention of growers to the fact, that but little attention has hitherto been given to the qualifications necessary to insure a very late supply. Size, solidity, and crispness, each respective kind assumes to possess, but a very late and yet useful kind seems wanting to fill up the catalogue. Hardihood is also wanting in some otherwise good; *Coles's Crystal White* is lamentably deficient that way; and, as the power to resist cold often diminishes as the cultivation of the plant improves, it would be proper to see what could be done to counteract that. Seed sown on some bleak, chilly district will no doubt produce an offspring more hardy than the same would do if from the rich, warm quarters of a well-sheltered garden; hence the propriety of endeavouring to have seed so obtained. The farmer often does the same thing with his wheats, and we ought not to be behind him; as good Celery is an article relished by every one, it would be advisable trying every means that could be adopted to ensure its being so; and, in doing that, it is feared, sufficient attention has not been paid to the hardihood of the plant so improved.

There are few things bear transplanting better than Celery; in fact, it has been asserted that it is improved by it, but that is questionable; certain, however, it is, that with care, plants of a large size may be removed with ease and safety; its roots are so formed as to attach to them a considerable quantity of the earth, or other matter in which it is growing, hence they lift with balls of almost any size, and as their final resting place may not be at liberty at the precise moment most proper to plant them, some suitable nursery bed ought to be chosen wherein they might remain until their proper place be ready; but while in this preparatory state, care must be taken not to starve them, otherwise the disposition to run to seed will be encouraged, which will shew itself afterwards.

Where economy of space is an important feature in Celery growing, the "broad trench" offers many advantages, by more than double the usual number of plants being grown on the same spot of ground, but they are seldom grown so fine that way; nevertheless, it would be advisable to try a part on that principle, and to give the rest separate rows; observe, that a broad trench is only available to advantage on dry ground, at least the plants do not stand the winter so well in it, but it offers many temptations; thus we would recommend our young

friends to try and see what could be done with one some five or six feet wide, with cross rows a foot apart, they would find it took a great many plants, and if proper pains be taken to ensure them sufficient nourishment, the produce will be good likewise.

I cannot close this chapter without adverting to the practice of Celery trench-making (so called), and must condemn the mode of making them so deep as to deprive the plant of the best part of the soil for growing in, for it is no unusual thing to see Celery trenches dug out with mathematical care and precision, and the poor plants stuck in and condemned to exist at the bottom of a trench on little else than mere clay, or whatever may be the subsoil; in this case, success is out of the question, for the plants rarely see their way over the ridges, let alone requiring earthing up; this is of far more importance than anything else in the way of Celery growing, and ought to be attended to accordingly.

It is not necessary here to enter on the merits of the early or late system of earthing up. Some of the advocates for the latter, carrying their notions to an extreme, have evidently overshot the mark; one thing may be said, that it is the other means that are adopted that cause the Celery to grow; this, however, will be noted on hereafter.

J. ROBSON.

DEVON AND CORNWALL POULTRY EXHIBITION.

THE south-western districts of England cannot be charged with remissness in aiding the onward progress of the poultry cause, since the immediate vicinity of Plymouth alone has witnessed no less than four exhibitions during the last twelve months. The last of these was that held at Antony, the beautiful seat of W. H. P. Carew, Esq., on the 27th and 28th of June last, and the prize list of which we published last week.

On this occasion the poultry were arranged beneath sheds erected near the magnificent clump of Ilex, supposed to be among the finest specimens in this country, while in close proximity were tents, marques, and other buildings appropriated to a flower shower, a bazaar, an exhibition of machinery, and various other purposes.

The labours of the Committee, however, were sadly decomposed by weather of the most unfavourable description, and the canvass shelter of the poultry became insufficient for the full protection of the birds from the continuous and heavy rain. In many instances the occupants of different pens had suffered severely in their plumage from this cause.

Coloured Dorkings, though unequal to those exhibited at the Bath and West of England Agricultural Association at Pennycombequick, in 1853, were a decided improvement on the average of the breed in this part of England. Wherever chickens are shown it seems advisable to require a certain proportion of the sexes; a pen consisting wholly of cockerels is of somewhat difficult comparison with one containing the same number of pullets only, especially where, as in the Dorking family, growth and weight exercises so powerful an influence on the arbitrations. Here the Dorking chickens had various proportions of the sexes, entailing, in part, the difficulty above alluded to.

Among the white Dorkings there was a singularly neat pen of chicken, belonging to Mr. Francis Coleridge, of Ottery St. Mary, but we can say but little for the adult birds.

Spanish also, were a manifest advance on what has usually been witnessed at our local shows; both the birds belonging to Mr. Rowe, and those of Mr. Square, were of great merit, and we would more especially notice the hens exhibited by the first-named gentleman. The undecorated pens, however, must not be passed over in silence, since among their inmates were many birds of good quality, but unfortunately matched with unworthy companions.

The adult Shanghae fowl is at all times difficult to produce in good feather at this season of the year. Drawbacks on this account, however, were now aggravated by many of the competing pens, being thoroughly drenched. All the prizes in the buff or cinnamon class fell to Mr. Parkhouse, of

Plymouth; Mr. Lawrence, of Penzance, being commended for a cock of remarkably good colour, but rather lightly booted.

Among the chickens of the same colours, Mr. Burton, of Truro, deservedly took a first prize for a pen of great promise, Mr. Square, of Plymouth, being second.

The Shanghaes of other colours were but indifferent, if we except the two pens of white chickens, belonging to Mr. Turner, of Northbrook, near Exeter, which were of very high excellence. Green or otherwise discoloured legs, it should be remembered, must ever prove a bar to success in the white Shanghae.

The Game fowls were decidedly good, but our oft-repeated observations of the carelessness with which pens are matched for exhibition were here again noticeable. Individual birds equal to any of their competitors were in several of the pens that received no honours, but companions of a very faulty character could not but mar their chance. One of the best cocks, for instance, was cast by the unlucky circumstance of one of the hens having broken its leg.

Among the Pencilled Hamburg, both Gold and Silver, we were glad to observe an onward progress; our complaints of their general character in this district having been oft repeated. Pen 101, of the former variety, the property of Mr. Rowe, of Milton Abbot, being especially deserving of our eulogiums. The Spangled birds being also meritorious, we confidently look forward for a better general representation in this neighbourhood of all the breeds arranged under this name.

A good pen of White Polands were rewarded, as were also specimens of high pretensions among the White-crested Black, the Golden and the Silver varieties. Of the first of these, more particularly, our recollection would be severely taxed to recall better examples.

In Bantams, Mr. Adkins, of Edgbaston, was successful with some good white birds, but the other varieties were not well represented.

Some American Turkeys, the property of Mr. Lawrence, and bred from Captain Hornby's stock, were disqualified from there being but one hen, the schedule requiring two.

A pen of young Geese gave practical evidence of what may be attained by these profitable birds.

The Aylesbury Ducks were but an indifferent lot; the characteristic colour of the bill being generally wanting, while size also, in several instances, was far below the requirements of the present day. Of the Rouen breed there were present good specimens of both young and old alike, while the rejection by the judges of some black East Indian Ducks, should instruct breeders that a brown breast is unbecoming that race.

Among the miscellaneous fowls we noticed singularly good specimens of booted and tufted black tailless fowls, which, we were given to understand, were a recent importation from Persia. A novelty was also effected by exhibiting hens with their broods, but the unavoidable injury to the chickens, and the hazard of accidents, will always, we apprehend, be regarded as serious objections to this practice.

The Pigeon class was well filled, and among them the Carriers were certainly pre-eminent. Equal first prizes awarded severally, to an old and a young bird, attested the severity of the competition. The prize Fantail, Barb, Runt, Archangel, and Turbit, were also exceedingly good.

We conclude with a word of advice to exhibitors, as well as poultry societies, and those who on such occasions may be entrusted with judicial responsibility. Birds of any description sent to a show with any apparent marks, such as string or ribbon round the leg should, in our opinion, be disqualified. This does not, of course, include the private marks of breeders which are impressed on the foot, bill, or elsewhere, and which are seldom conspicuous, or likely to be readily recognized. The Birmingham Committee have here acceded to the wishes of their judges on a recent occasion, and their example may be advantageously followed by all other similar bodies.

DUBLIN NATURAL HISTORY SOCIETY.

THE Meeting for the month of June was held by the Members at the Rooms of the Society, 212, Great Bruns-

wick-street, on Friday evening, the 16th of June; James R. Dombain, Esq., in the chair.

A beautiful specimen of Pheasant Fowl was presented by R. P. Williams, Esq., who observed that he was anxious to place in the collection a complete series of the best breeds of fowl introduced to this country. This fowl is acknowledged to be purely English breed, but has been erroneously termed Hamburg.

The chairman called on Mr. Andrews for his paper, "Remarks on the Spawning States of the Syngnathidae, or Pipe-fish family."

Mr. Andrews said, that before commencing the papers for the evening, he was desirous of placing on record some Plants that had been first noticed in this country at the meetings of the Society. The first was a very remarkable form of *Saxifraga gemm*, fine specimens of which he submitted to the meeting. It was found by Mr. Andrews, in the Great Blasket Island, in 1842, and noticed in the society at the December meeting of that year. It was remarkable for its strong growth and dark hirsute leaves, but more particularly in the glands which surround the ovary, and which in the flowering state of the plant present a beautiful appearance, the glands being of a deep rose colour. It seemed remarkable in connecting the Saxifragaceæ with the Parnassia and Crassulaceæ; it produces perfect seeds, and the seedlings present the same characteristics as the parent plant. Doctor Harvey, who took specimens to England, writes—"Charles Darwin was very much interested in your Blasket Saxifrage, particularly at the fact of its producing perfect seeds. He is working out some observations on the continuability of varieties by seed, and wishes much to know whether the seedlings from this saxifrage produce the metamorphic glands of the parent. I told him I thought they did, but would get the full particulars from you." My friend, Mr. Simon Foot, who cultivated the plant, confirms the fact of the seedlings having the same formation of glands as the parent, and informed me that Dr. Lindley observed to him that he considered it would prove to be a plant of great interest. Plants of *Saxifraga Pedatifida*, *Arabis Crantziana*, and *Saxifraga leucanthemifolia*, were exhibited, as originally noticed in the society—the two former discovered by the Right Hon. John Wynne, of Haslewood, the saxifrage in Mayo, and the *Arabis* on Benbulbin, Sligo. The *Saxifraga leucanthemifolia*, which exhibited numerous foliaceous buds on the flowering branches, and which, on falling off, became young plants, was brought by Dr. Scouler from Portugal. On flowering the following year this peculiarity in the plant was seen and brought forward, as it had not been noticed by any Continental botanist. The plants do not perfect their seeds. These plants were submitted for the object of being recorded in the *Natural History Review*, a journal in which the proceedings of the Society are now regularly given.

Mr. Andrews then continued. "It had been my intention this evening to have submitted to the Society some peculiarities that I had observed in the spawning states of the *Syngnathidae*, or pipe-fish family, more especially with reference to *Syngnathus typhle*—the deep-nosed pipe-fish; and to the straight-nosed pipe-fish, *S. ophidiou*; and to have added a review of the several British species (all of which I have obtained on the south-west coast), detailing their several habits and seasons of spawning. From this, however, I have been diverted by several communications that have been made relative to the habits of the salmon, and as to the identity of the fish known as the parr, or gravelling, with the salmo-salar. This being a subject of such importance, not only in a scientific point, but in its practical application, that I again lay aside my paper upon the *Syngnathidae*, with the hope that this will afford full discussion of interest for the evening. It may be in the recollection of the members, a paper of great interest, given by Mr. Ffennell, Inspecting Commissioner of Fisheries, in the month of February, 1849, "on the habits and spawning states of the salmon, and upon the salmon fisheries of this country." In that paper Mr. Ffennell supported the view of Mr. Shaw, of Drumlanrig, relative to the first, and the parr state of the young salmon, and its remaining two years in the river before it assumed the smolt, or migratory state; and though he admitted that the seasons and the condition of salmon were not the same in all rivers, yet he maintained that a uniform system of open and close season should be adopted

in order to prevent the nefarious and injurious system that might probably result in salmon being exposed for sale in a public market taken from a close river while other rivers were open. This paper was in some measure an explanation with reference to an inquiry held on the fisheries of the Caragh and the Laune in Kerry. My friend, Mr. Williams, at that meeting of the Society, energetically disputed that the fish known generally as the parr or gravelling was the young of the salmon. He had made examinations of an extensive collection of that little fish, which he had obtained throughout the season from the rivers of Cork and of Wicklow, and he was not disposed to agree with Mr. Shaw, of Drumlanrig, that all gravelings were the young of the salmon. At the meetings of the months of April and of May last notices were again brought forward by Mr. Ffennell and by Mr. Williams, and which, differing in some views and principles, I thought it might lead to interesting, and I trust useful discussion, to submit some of the fish in the parr and in the smolt state, and to offer a few remarks. At the time of that discussion, in 1849, my attention had been chiefly directed to the sea-fisheries of the west coast, but during the seasons of 1848, 1849, and 1850, I had ample practical means of forming observations in the salmon fishery connected with the project I was engaged in. Determined to follow out that inquiry as time and circumstances permitted, my friend Mr. Williams accompanied me, on the 23rd of May, to Carlow, to visit the little river Greece. Former recollections and frequent fishing excursions satisfied me that the little fish known and described as the parr by Yarrell, existed there in abundance. The rivers Greece and Ler, which stream through the borders of Carlow and Kildare, and empty into the river Barrow, are famous for their excellent trout; the former a lively stream, rapid over clean gravelly beds, produces abundance of bright and well-fed trout. Although the day was in every way unsuited to the wishes of a fly-fisher, we, however, soon obtained the object of our search. Many years have passed since my former visits, but there was the same purring restless stream, the banks, the untopped wall leading to the old bridge, unchanged and untouched as it were but yesterday. Carlow is delightfully rural; its avenue-like roads, bordered with tall fragrant hawthorn, made us buoyantly feel the change from city life. Besides, to the naturalist, every step afforded interest—along the banks of the river the Ephemera and the Phryganæ, as they suddenly emerged from the pupa state, almost as suddenly merged into the stomach of some lively trout—the light and the dark ash-fox, brown and gray Coughlins, and the hawthorn flies, as they floated along, or fluttered about the stream, were all objects of attraction. The question which we sought the elucidation of, was not as to whether salmon do, or do not, enter the Greece from the Barrow, or whether the shallow beds of that little stream are, or are not, suited for spawning ground, but with regard to the distinctive characters of the parr existing there, its comparison with that described in Yarrell, and with that of the true salmon fry. The local terms, lasprings, gravel-lasprings, salmon-pink, fingerlings, gravelings, parr, and samlet, have all been made of too general application, and no proper separation has been drawn to distinguish habits or characteristics, but to confound all as gravel-lings, and gravelings to be the parr, the young of the salmon. My friend Williams had argued that the gravel-ling that he had obtained in some of the rivers of Cork and of Wicklow, were not the young of the salmon, and so far he was right, for neither were those we obtained in the Greece. Those we obtained were identical with the accurate descriptions given by Yarrell, by Doctor Heyshaw, and by several authors—the head being of a greenish ash-colour—back and sides above the lateral line dusky, or olivaceous-brown, marked with numerous dark spots, bordering the lateral line, a series of carmine or vermilion-coloured spots—belly silvery white, and the body marked with nine or ten bluish-coloured transverse bars—gill-covers have generally two dark-coloured spots, one more strongly marked than the other—dorsal fin with a few dusky spots—pectoral fins, larger than those of the common trout, yellowish white, anal and ventral fins, yellowish, caudal fin, much forked; body deeper in proportion to its length—general length from four to six inches. Now, on comparing these specimens with those of the true salmon-fry, obtained from the Ban-

don, Laune, and the Caragh rivers, we find great distinction of development and markings. In the true salmon-fry, the head more blunt; broader on the neck and shoulders; gill-covers marked similar with spots silvery gray; preoperculum much rounded; external edge soft; back dusky ash colour, with numerous minute dark spots, which do not go beneath the lateral line; nine bright orange, or approaching to vermilion-coloured spots along the lateral line, equalling in number the transverse bars: pectoral fins long in proportion, yellowish white, tinged with black dusky spots, generally absent in the dorsal fin; caudal fin largely developed; ventral and anal fins yellowish white; belly white. The body is narrower in proportion to its length than that of the parr, and teeth in a more rudimentary state. I am not prepared to admit the parr being a distinct species, for it is the young state of the fish, and all the specimens of the salmonida that I have obtained are more or less in the young state characterised by those transverse bars. In the rivers where it frequents the parr is abundant in all seasons, in the same stages of growth; and even when the memorable floods of the winter of 1849 were supposed to cause the scarcity of 1850, the parr was equally abundant. An experienced salmon-fisher, and employed in the salmon-fisheries of the Laune, states that the barred gravellings are to be found there all the year round of the same growth, that he considers them to be distinct from the true salmon-fry, which is not to be found at the end of May or the month of June of any size, all the full-grown fry having gone to the sea, while those of the season are too small to be noticed. In order to illustrate that confusion might naturally exist with regard to the gravelling, Mr. Andrews exhibited specimens of a series of the following:—Salmon-fry, from the Caragh, Laune, and Bandon rivers. Parr from the Greece, the Bandon, and the Caragh. Young of the white trout from the Laune, and the Bandon rivers. Young of the brown trout from the Caragh. Smolts, with migratory dress, from the Lanne river. To all these terms the 'gravelling' were generally applied. A most intelligent friend of Mr. Williams observes, that on the Bandon river he has marked numbers of gravelling, and that afterwards he has taken them as peal. No doubt among them he may have marked the true salmon-fry, and on their return from the sea have taken them as peal, but no proof can be afforded that all marked underwent the same change. A characteristic mark in the young state of the salmon-fry and the brown trout is the yellowish gray colour of the adipose fin, of the former, while in the latter it is tinged and tipped with bright orange. From these specimens exhibited, and from some of the foregoing remarks, a question would arise as to the several states of growth and age of the fry and smolts. To Mr. Shaw, of Drumlanrig, undoubtedly belongs the merit of determining the true state of the fry from the ova; but still his observations have not all been satisfactorily conclusive. The trials and experiments of development carried on artificially in ponds and in tanks may, to a certain extent, illustrate extrication from the ova and changes of the fry state; but to the habits of an animal peculiarly sensitive through those changes of growth, that growth must be more or less retarded by the deprivation of its natural acts and resources. Mr. Shaw successfully proved the experiment with regard to the character of the fry by taking them direct from the spawning beds of the salmon; and to him much is due for so perseveringly pursuing such well-directed inquiries, and to the shame of preceding naturalists, who ought to have sifted what really was the young state and habits of a fish of such importance in the economy of our industrial resources. His experiments only so far prove what really are the young of the salmon, not that all young states of the salmonida, named parr or gravelling, are the young of the salmon. In his treatise, "Experimental Observations on the Growth of Salmon Fry," Mr. Shaw mentions, at page 4, "that after the so-called smolts have descended to the sea, none of the larger can be detected in the rivers." The idea that the male parr consorts with the female salmon is too delusive to be supported. What attainable object is advanced by such a departure from all natural laws? That the ova and the milt in a rudimentary state may be detected in young stages of the true salmon-fry I do not deny; but that the female salmon, which is incapable of the fecundating development of the ova until after the third year of existence and

first return and enlarged growth from the sea, can be impregnated by the male of the fry, which had not visited the sea, nor undergone those changes necessary for mature growth, appear contrary to all physiological principles. It is true that parr, gravelling, and small trout, on the spawning beds of the salmon, during the periods of spawning, may constantly be noticed, for such shoals of the river are their proper locality. O'Gorman, who wrote "The Practice of Angling in Ireland," a most experienced salmon-fisher, and who enjoys a fine old age in the town of Ennis, could never be persuaded of the parr state of the salmon, but that all the young retreated to the sea the first season of their existence. My own observations and inquiries would lead me to consider, that from the period of the extrication of the fry from the ova to the change to its smolt or migratory state would be about thirteen or fourteen months. In some rivers the fry are in a more advanced state in the winter and spring months than in others, that is, undergoing earlier extrication from the ova, according to the temperature of localities, or to early or late breeding fish. Hence the varied growth throughout the summer and autumn; and I further consider that the great bulk of these assume the migratory state the following spring, descending early in April and May to the sea. That they assume the silvery scales and full migratory dress in the higher portions of the river, before their movement to the sea, I have frequently detected. Referring to my notes, I find that some years since, when fishing in the county of Clare, about the first week in May, in company with the late James O'Gorman, I met the salmon-fry in abundance with the silvery scales, or migratory coat, in that part of the Cooraclare river between the bridges of Ballydoneen and Goulborne. Some dozens were taken in a part of the stream that ran rapidly over a rocky and gravelly bed which high banks overhung. It was close to a spawning-bed of the salmon. These fish had perfectly assumed the silvery scales of the smolt, tapering in form, and with pectoral and caudal fins largely developed, the terminal parts tinged with a dark shade. Subsequent observations and application to the subject influenced me to consider that they were the young of the ova of the previous year, and that they had only attained their 13th or 14th month, their migration to the sea being between the 11th and 14th month from the period of extrication from the ova. The river of Cooraclare, which assumes the name of Dumbeg where it falls into the Atlantic Ocean, in the little estuary of that name, is famous for its salmon. In August, 1835, I saw in one haul 104 salmon and 200 white trout taken by Michl. Kennedy from the lake below the bridge and fall, under Dumbeg Castle. The rivers Creegh, Annageeragh, and Annagh, which I have fished, are all excellent in their seasons for salmon and white trout. In the little river of Monmore, which runs through the great bog of that name, salmon and white trout run up the stream in the autumn floods, but I never recollect meeting the gravelling there with the markings and bright hue of the parr. It is not my intention now to enter into a statement of the salmon fisheries, but merely a reference to some of the observations made by Mr. Ffennell in this society. At the meeting in April, Mr. Ffennell, mentioned, that at the approach of the spawning season the male salmon invariably first ascend the rivers from the sea. It is singular that authors have given the precedence to the females, both to the salmon and to the trout. Allowing either the priority, experience has shown that the parent fish are on the spawning-beds together, each occasionally engaged, but more especially the female, in the excavation of the furrow, or channel, in which the ova is to be deposited, and in this labour their principal exertions are snouting the gravel. The clear and shoaler beds of a river, where it is necessary for the salmon to select the deposit-beds for the due maturing of the ova, can be quietly watched and all their operations noticed. In the Wandle, Mr. Gurney has seen the large trout raise ridges of gravel, and has remarked their noses or snouts to be lacerated by the work. The romantic story of Remy, the fisherman of the Vosges, pursuing his patient watchings on the habits of the trout, in the bleak nights of November, and which reflect lustre on his powers of observation, is pleasingly told. No such endurance is necessary to mark the operations of the parent salmon. Some have observed that the hook of the male salmon serves some purpose in the spawning operations.

This curvature of the under-jaw is peculiar both to the male salmon and the trout, and which is more or less developed according to age, or state of health of the fish. On the ascent from the sea, the hook is merely observable, but after the exhaustion of spawning, the reduced condition of the fish renders it more conspicuous; and should obstacles prevent the proper period of return to the sea, a cartilaginous extension takes place (whence it is called Carraghbaugh), but which disappears on the renewed health of the fish, in its visit to the sea. In aged fish, particularly in large trout, this curvature becomes permanent in its enlargement, forming a deep fosse in the upper jaw. Without a good foundation of scientific and practical knowledge combined in the pursuits of such subjects, it is a task of great difficulty to select with judgment the plausible opinions that are frequently advanced by writers of known character, but who at the time, perhaps, only possess general views of the matter of which they treat. Thus, Mr. Keiller's observations, given in "Lloyd's Scandinavian Adventures," states the habit of the salmon of the Save, in Norway, to be such as are altogether different from that of the British Isles. Forming no channel for the deposit of the ova, but allowing it to float away with the stream, impregnated by the milt similarly floating, and, finally, whatever escapes the rapacity of the river fish, settles in some crevice or rock until the fry is excluded. This is so contrary to the natural principles of the family of the true salmon as scarcely to be worthy of dependence; for, more probably, the floating ova that escaped the maws of hungry trout would settle in some quiet pool beyond the medium for maturation, and finally perish. In fact, it is characteristic of the Clupeidæ or herring family, which, in the spawning seasons, seek the inlets and shallows of our shores, where the excluded ova, in myriads, float away at the mercy of the tides; besides, a far greater distinction exists in the specific gravity of the ova of the salmon, the trout, and the herring—those of the former, the greater portion sink at once to the bed or furrow, where, impregnated by the male, and remain without removal. In the Clupeidæ expulsion of the ova in masses spread far, and float a considerable time, even where no force of tide or wave would drive. We know of that family that the shad—both *Alosa finta* and *alosa communis*—ascend in the early part of summer from the sea to the fresh water to spawn; but they seek the sluggish parts of a river, or the quiet waters of the lake, where the ova float, to be impregnated, similar in habit to the herring. The shad has been taken in salmon nets in the lakes at Killarney, and in rivers in Kerry. Some discussion also arose in the society that the clean spring fish ascending the Caragh river, in the county Kerry, in January, remained in the fresh water throughout the summer, and spawned the following autumn without revisiting the sea before spawning. It is necessary, for the proper development of the ova and milt, that the fish should be in the healthiest state of vigour; consequently, a sojourn in the fresh water for so many months must greatly deteriorate the condition of the fish, and render them unequal to such important functions. The wild and romantic districts of Kerry, which supply the waters of the Laune and the Caragh, have for years been familiar to me. Its salmon fisheries, therefore, would naturally interest me. Salmon are found ascending the Caragh very early in the autumn for the spawning beds, being at that time, in August, and early in September, with the ova largely developed. These are the early breeding fish and subsequently are the run of early spring salmon. After the operations are completed in the spawning beds, the fish return to the sea to recruit, and are again to be met early in January in the fresh water in the prime condition. These fish do not then visit the river or lake for the purpose of spawning, nor remain until that time approaches, for salmon do not at all times enter the rivers for the object of breeding. Seasons and localities alone influence the salmon to proceed to the spawning beds, according to the condition of the early and late breeding fish. Mr. Shaw's experiment proves that the salmon which he captured for the purpose of obtaining the ova for artificial impregnation, and placed in ponds, after he had successfully effected the object, on being liberated from the ponds at once moved towards the sea. Frequent remarks have been advanced, that to the destructive floods of 1848 and 1849 were to be attributed

the scarcity of salmon the following years. I was on the south-west coast, in the season of 1849 and 1850. Our salmon fisheries in the Feohanagh and the Clehane, were complete failures in 1850, and there certainly was a scarcity of peal that season. Our western rivers are very late, and salmon do not, in the generality of them, approach until late in the season. After the season had closed the salmon were plentiful in the estuaries, and this was strikingly the case late in the season of 1850—for great quantities of fish were hanging about the mouths of the rivers, unable, or uninclined, to ascend until very late in the season. The season of that year was uncommonly dry, and the rivers were low the greater part of the autumn; and it was not until October that the fish entered the rivers. At that time I heard that those that were taken were in prime condition. On inquiries, the same season, I found that similar causes to some extent affected the Lee and the Slaney, and that long after the season had closed the salmon were to be found going up the rivers, and in prime condition. This went far to prove that in some of those late rivers the season closes much too early (at least for the rod); and on the other hand, the season should not commence too early. Again, there are exceptions, for in some rivers there is a good run of clean fish the greater part of the year. It is quite clear that salmon do not desert the rivers of their origin, for whatever natural causes may induce or oppose their earlier or later ascent from the sea, they invariably seek the parent stream. Their visits to the sea are confined to those depths off the coast where the river disembogues, and where rocky ledges and sandy and shingly channels afford protection, and abundance of marine animals for the proper nourishment of their rapid growth. Experience has proved to me the unsound views advanced of the migration of fish. Cod, ling, haddock, hake, pollock, and herrings, are throughout the year in the deep water, their proper feeding grounds bordering the parts of the coast, and the bays and estuaries, where they each season approach to spawn. All oviparous fish visit the shoaler parts of a coast to spawn, and those periods are now the seasons of the fishermen's harvest. An experimental cruise in 1850 proved the correctness of these views. On proper sounding grounds off the coast the finest ling and cod were taken long after the usual season was over, thus fully bearing out the statements that had been made to the late Admiral Sir Thomas Ussher and to the Earl of Clarendon. My friend, James Edw. Stopford, Esq., in connexion with the Royal Irish Fisheries Company, is now on the south-west coast working out more extensively these trials. In these inquiries it is difficult to overcome the prejudices and habits of the coast fishermen—educated only in the knowledge of their fathers, they are hostile to any innovation of that knowledge, and therefore cannot comprehend the views of the practical naturalist, to learn accurately the nature of the soundings, the marine animals, the characteristics of and distribution of fish, which all tend to arrive at information so necessary with regard to the feeding, the spawning grounds, and the habits of animals connected with so important a branch of resource. In concluding, these observations must only be considered general, as it is my intention to enter more minutely into the distinctive details that characterise the Salmonidæ. I have to regret, however, the absence of Mr. Ffennell, whose able assistance would have been valuable on this subject, which he had started in the Society, and invited to the discussion. It is a subject, also, that requires the aid of the sound judgment of the practical men of the great Scotch fisheries."

The Chairman said that the salmon fisheries of Ireland had for some years past excited great interest, and general, yet it was a subject that appeared not to have been understood. He would be glad to hear any remarks from the members upon the statements which Mr. Andrews had submitted.

Dr. Kinahan made the following statement:—In the paper read by me at our last meeting, I stated that on one point I was still in doubt, viz., how far varieties combine *inter se*. Since then, I have been enabled to arrive at the following conclusions on this subject, opportunely indeed, as it completes the scheme I was endeavouring to lay before you:—I find that these combinations do take place occasionally, and that they, with a very few exceptions (more, I am

inclined to think, seeming than real), take place only between the sub-groups of the same group, *i.e.*, between variety and variety, and sub-variety and sub-variety. These conclusions, as well as those laid before you on former occasions, were all confirmed by examinations of, I believe, the two best collections of the kind in England, *viz.*, that of Dr. H. Allchin, in London, and that of G. B. Wollaston, Esq., in Kent. Through the kindness of both these gentlemen, I have been much indebted, both for information regarding the plants, and by the opportunity afforded me of examining forms, many of them unique. In Mr. Wollaston's collection there is a form of Hartstongue, raised by him from seed, which well illustrates the combination of forms. In it, the lower portion of the frond represents the var. *laciniatum*, while the apex represents the var. *cristatum*. In one frond this was shown in a remarkable manner—the stipe was cleft, one portion was diminished to a fibrous hook, about a-quarter-of-an-inch long, the other bore a frond, the base marginate serrated and the apex divided into two, the one division cristate, the other reduced to a branched lash of bare fibrils. The establishment of this fact clears up the only difficulty in arranging the varieties I met with, establishing an additional class of mixed forms. Thus, the *Athyrium* found in Joyce Country, by Robert Gunning, and figured by Newman, as well, I believe, as the form found by Mr. A. Smith, near Belfast, are to be referred to a form *laciniato-cristatum*, being a combination of *laciniatum* and *cristatum*.

Dr. Kiuahan exhibited a beautiful form of *Athyrium filix femina*, Newman, obtained in June 1853, near Castlekelly, county Dublin. In it the segments of the pinnæ were pennatifid; the indentations entire, at their edges, and bearing the sori in the angle; the spore cases projecting beyond the edge of the frond, which, added to the bulging forwards of the substance of the pinnule, gave the plant much the appearance of a *Davallia*, or rather of a *Loxsonia*, though, of course, differing in the shape and position of the indusium from either of these genera. In habit this plant resembled *Athyrium circuitarium*, especially in the remarkable fact of its segments bearing but a single vein and sorus, thus corroborating the illustrious R. Brown's opinion, who rejects this as a distinctive character, in opposition to Smith and Bernhardt, by whom the genus *Darea* or *Canopteris* has, owing to this character, been separated from *Athyrium*. This plant is also a beautiful example of the variety *laciniatum* (Kin.); the plant was growing in a shady nook along with a plant of the ordinary form. It is sparingly fruitful.

Doctor Farran wished to offer a few observations prior to the adjournment of the society for the summer recess. Ornithological facts, with the exception of Mr. Andrew's highly interesting paper on the membranaceous duck of Australia, had occupied the attention of the society very briefly during the late meetings; but he trusted a large accumulation of such would be in store for the ensuing session. He thought the following notes might prove interesting:—Walking on the shore of Knockaginn, on the 3rd April, 1854, he (Dr. Farran) saw eight or ten male wheatears (*Saxicola Oenanthe*), in fine plumage, sitting on a little eminence or sand-hill. It being a fine sun shining day flies were abundantly about, on which the wheatears were feeding in a manner of the flycatchers, capturing the insects on the wing, and immediately returning to the spot they left. They appeared perfectly devoid of fear, suffering an approach of five yards, remaining motionless until attracted by their prey. It would appear, from such a number of male birds being together, that they preceded the females in their migration. Another fact was the almost total disappearance of Brent Goose (*Anser Brenta*), from the Dublin markets. This bird, erroneously named Bernicle, has hitherto been abundant, and much esteemed for its flavour. The winter was very severe, which usually brings them in numbers to our shores. The cause of their disappearance should be inquired into.

POULTRY FACTS AND SCRAPS.

FIVE-TOED FOWLS.—The fifth toe is usually regarded as belonging to the Dorking fowl only; its absence in that breed being regarded as a mark of probable impurity; and its presence in other fowls leading to a suspicion of a cross

with the Dorking. All breeders of Dorkings know that from five-toed parents, not unfrequently, four-toed chicken are produced, not inferior in size and shape to them with the supplementary member. And on the other hand, I am quite confident that five-toed chicken are at times produced in other breeds which have never been crossed with Dorkings. I had in my possession, some time since, a Silver-pencilled Hamburg, very small in size, and as fine in shape, colour, &c., as she could possibly be, that had an extra toe on each foot, without any other evidence whatever of Dorking blood.

Many Cochins were formerly thus distinguished, and it was always said that they had been crossed with the Dorking. In many cases, I have no doubt but that this was true; at the same time, I do not think it was in all, for I know that many imported birds were five-toed. One of our most renowned breeders informed me, that on the opening of the Chinese ports after the war, one of his vessels was the first that went to Shanghai, and that the Captain brought home a number of fowls from thence, many of which were five-toed. This, of course, settles the question. At the same time, I should, in most cases, suspect an infusion of Dorking blood in five-toed fowls.

THE HATCHING MONTHS.—Some old doggerel rhymes respecting the Cuckoo have been running in my head for a day or two; and half-a-dozen times have I involuntarily repeated, or commenced repeating,—

“In April
Come he will.
In May
He sings all day.
In June
He alters his tune.
In July
Prepares to fly.
And in August
Go he must.”

Without a thought, I parodied the above as respects the hatching of chicken.

Should any of my readers feel surprised at my designedly writing rubbish, I would merely state, that since the time one of our most scientific naturalists did me the honour of stating, in “*Fraser*,” that my writings on Poultry were characterised by good sense and sound practical information, I feel that I may venture upon nonsense and play the fool occasionally.

If any captious critic should say that the following is not poetry, I would reply, “No, but it is true; and that is more than can be said of all rhyme.”

CHICKEN.

In January
Are tender, very.
In February
Are less like to die.
In March so rough
They're strong enough.
In wet April
They all do well.
In merry May
They thrive all day.
In leafy June
They're none too soon.
In hot July
Some surely die.
After August
'Tis vain to trust.

BREEDING FROM FOWLS WITH ACCIDENTAL VARIATIONS.—When a fowl from a good stock possesses some accidental variation from the type of the breed, *but is in all other respects a superior or first-rate bird*, I would never hesitate to breed from it, if circumstances rendered it desirable to do so, as I am certain, that in the larger number of cases the chicken will not inherit the defect; and those that do, can be consigned to the flesh-pot. For example, if a Dorking is produced with four toes, I would use it, if a very good bird, and the greater number of the chicken will be found five-toed. I have a very superior Cochin hen, remarkably short on the legs, and of compact square-built form; she is, however, decidedly and unmistakably green-legged; nevertheless, I mated her with my best cock, and saved every egg, and in all instances yellow-legged chicken have been produced from them. Had any green-legged birds been hatched, I should certainly have devoted them to the spit, as I think there would have been a greater chance, in

breeding from them again, of the defect becoming hereditary.—W. B. TEGETMEIER, *Willesden*.

THE VINEYARDS OF NORTHERN CALIFORNIA.

THE agricultural resources of this State, although little known, and comparatively undeveloped, are of the very first class. Its valleys are very extensive and fertile, possessing a capacity for production unequalled by any portion of the Union. I have lately visited portions of the northern part of the State with reference to its capacity as a fruit-growing country. As to the Peach, Pear, Apple, Grape, &c., I think it has no equal. There are several vineyards now in full bearing in different parts of Northern California, fully sustaining this character of its soil and climate. In the valley of Santa Rosa there is a vineyard of two thousand vines. One hundred of these are fifteen years old. These latter vines are trained to the height of six feet, and then allowed to spread at random upon a frame work, having a free circulation of air. They are trimmed every winter to a mere head, leaving only from three to five buds for wood and fruit. The remainder of the vines in this vineyard are two years old. They are trimmed low to a standard within six inches of the ground, and it is intended to grow the fruit thus near the earth. The theory is, that the fruit being thus near the ground, will be shaded and protected from the extreme heat of the sun. How the experiment will succeed, I am unable to determine. The soil is a clayey loam on a level surface.

Sonoma valley contains the finest vineyards in Northern California. It contains about five thousand vines, planted about six feet apart. The soil is a grayish loam, breaking into lumps the size of a large potato in working, and easy of cultivation. The vineyard is situated on a gentle declivity of the foot hills of the Contra Costa Range of mountains. There are several unfailing springs of water running from the hill-sides above, which furnish an abundance of water for irrigation. These springs are highly impregnated. A portion of this vineyard is fifteen years old, and is bearing abundantly. The vines are trimmed to a standard of about two feet, and every winter all the woods of the previous year is trimmed off, and only from three to five buds are left for wood and fruit the ensuing year. This trimming is done from November till March. The older vines are supported by braces where necessary. The growing wood of the old vines is interwoven in the form of a large hoop, and the vine is then made to sustain the whole weight of the branches and fruit of the year. The grapes hang in large beautiful clusters near the head of the standard vine, and are mostly protected from the rays of the sun in this manner. The whole vineyard is occasionally irrigated. The income of this vineyard is estimated at 20,000 dollars. The climate of this valley is dry and of a moderate temperature.

There are also two vineyards at the old Mission of San Jose. One of these contains about 4000 vines, in a tolerable condition. They are trimmed to a standard about two feet high, and from three to five buds are saved for wood and fruit. The vines are all allowed to spread at random over the ground during the summer. This vineyard is irrigated. The other vineyard is small, and the vines. Some of them are said to be sixty years old. The mode of trimming is the same as the last vineyard. A portion of the ground is in grass, and only a small place round each vine is cultivated. This vineyard is not irrigated. These are planted about six feet apart. They are situated high on the declivity of the foot hills of the Contra Costa Range of mountains, and are watered from a mountain stream. The soil is a dark loam, breaking into small lumps, and easy of cultivation, with a dry limestone subsoil. This soil is well adapted to the vine.

There are two vineyards in Napa valley—one of them, belonging to a Mr. Youat, I have not seen. A part of it has been planted fifteen years, and produces abundantly. The other is owned by Mr. Kellogg, formerly of Illinois. It was planted in 1849. It is situated on a level piece of ground, under the brow of a high hill, with an eastern exposure. The surface is level, and the soil a gravel full of large and small stones, and very different from any other I

have examined. There are about fifteen hundred vines, and each one is trained to a standard of two feet. They are trained after the manner of the other vineyards I have described. In the spring, before the vines commence growing, this vineyard presents the appearance of so many small stumps of trees. This vineyard is irrigated three times every season—once when the fruit is setting, again when it is half-grown, and lastly when the fruit is ripening. The vines spread at random over the ground. This vineyard is productive, and pays well. There is also a small vineyard at Livermore's Ranch, on the Contra Costa Range, about twenty miles east of the Mission of San Jose. It has been planted about fifteen years, and is trimmed to a standard of about six feet, and allowed to spread at random upon frame work. It is trimmed after the manner of the other vineyards I have mentioned. This vineyard is an alluvial soil, on the banks of a mountain stream. The soil is a black clay, mixed with very rich black vegetable mould, very soft and adhesive, and even miry in the winter. In summer, it becomes very dry and hard, and cracks to the depth of several inches, and is full of large crevices. The fruit is said to be very sweet.

The climate of all the valleys of Northern California is dry in summer, and well adapted to the culture of the grape. There is no such thing as the rot, to my knowledge. A large portion of the country is underlaid with limestone rock, and has a subsoil well adapted to the vine.

There are a number of old vineyards in Lower California, which are very productive. The grapes are shipped to San Francisco, and sold at high prices. Of these vineyards, however, I know nothing personally. Only one kind of grape has been cultivated on this coast. It is believed to be the Malaga grape of old Spain, introduced here about one hundred and fifty years since by the Roman Catholic Missionaries who visited this country. It is a grape of a fine quality, and well acclimated.—E. TOWNSEND.—(*The California Farmer*.)

BIDEFORD POULTRY SHOW.

EXHIBITIONS for the improvement of Domestic Poultry have been held in very many of the cities and towns in the kingdom, but the one now under notice is the first that has been held in the North of Devon. It originated, we believe, with the Worshipful the Mayor of Bideford, A. Ley, Esq., who first called a public meeting to take into consideration the propriety of its establishment. At that meeting a committee was formed, composed of the Mayor; E. U. Vidal, Esq., of Cornborough House; Goldie Harding, Esq., of Halls Anney House; A. B. Wren, Esq., of Bradworthy; J. J. Collas, Esq., of Pile Head, Bideford; W. W. Hewett, Esq., of Bowood House; — Stringfield, Esq., of East Heale House; T. D. Gregory, Esq., and others. In alluding to the management of the affair, we must not omit to notice the services so effectually rendered by the indefatigable Secretary, Mr. John Jones. The first day of the Show was on Tuesday, when the Exhibition was held in a very convenient and commodious yard at the end of the Quay, kindly lent for the occasion by our respected county member, Lewis W. Buck, Esq. The decorations, which were superintended by James S. Ley, Esq., of Durrant, were most tastefully arranged; and the pens for the poultry were substantially and well prepared.

The show of birds was unusually good, considering it was the first that had taken place in the neighbourhood, and that our situation is at present somewhat isolated, though it will not long remain so, as it is hoped that in a short time direct railway communication will be opened to all parts of the kingdom, by means of the North Devon Railway and its extension to this town.

The fowls which appeared the most admired from their size, shape, plumage, and general good qualities, were undoubtedly the *Dorkings*, the gaunt forms of some of their neighbours, the *Cochins*, showing to great disadvantage in comparison with them. The *White-faced Spanish* were particularly fine, as were also the Ducks, especially the *White Aylesbury*, an excellent pen of which, the property of the Hon. G. Howard, of Swindon, arrived too late for entry. A pen of *Peruvians*, shown by Mr. Wood, of Beaford, also, attracted some attention.

The arduous and, at times, unpleasant duties of Judges, were on this occasion most ably performed by Mr. W. Connett, of High-street, Exeter: the Rev. F. Thomas, of Parkham, and the Rev. R. R. Wright, of Marhamchurch, Cornwall, (who were kindly entertained by the Mayor), and Goldie Harding, Esq., of Halls Annery House, Bideford.

The following is the prize-list.

SPANISH.—1st prize, Mr. R. Branwell, Holsworthy; 2nd ditto, Mrs. Keats, Bideford, and Mr. W. W. Hewett, Abbotsham, near Bideford, commended.

DORKING.—Coloured.—1st prize, Mr. R. Branwell, Holsworthy; 2nd ditto, Mr. A. B. Wren, Bradworthy; and Mr. W. Turner, Grange, Bideford, commended. The birds in this class were very beautiful, but badly penned.

DORKING.—(White) none entered.

COCHIN-CHINA.—Cinnamon or Buffs.—1st prize, Mr. Charles Hole, Bideford; 2nd, Mr. James Partridge, Barnstaple.

COCHIN-CHINA.—Brown or Partridge.—1st prize, Mr. George Mill, Northam; 2nd, Rev. Edward Reynolds, Appledore. Mr. T. D. Gregory, Bideford, commended.

CHICKEN OF 1851.—Fourteen Pens Entered.—1st prize, Rev. J. B. Clyde, Bradworthy (Dorkings). Mr. R. Branwell, Holsworthy; highly commended (Dorkings); ditto, commended (Buff Cochins). Mr. James Partridge, Barnstaple, commended (Buff Cochins); Mr. A. B. Wren, Bradworthy, commended (Dorkings).

GAME.—1st prize, Mr. G. C. Turner, Woolfardisworthy; 2nd, Mr. W. D. Braginton, Great Torrington; Mr. W. Turner, Grange, Bideford, highly commended; Mr. John Short, Bideford, commended.

HAMBURGH.—Golden Pencilled and Spangled.—1st prize, withheld; 2nd, Mr. C. T. Le Gallis, Barnstaple.

HAMBURGH.—Silver Pencilled and Spangled.—1st prize, withheld; 2nd ditto, Mr. E. U. Vidal, Abbotsham, near Bideford.

POLANDS.—Black and White Crested.—1st prize, withheld; 2nd ditto, Mr. W. W. Hewett, Ashburton. Mr. A. B. Wren, Extra Prize.

POLANDS.—Gold and Silver.—1st prize withheld; 2nd ditto, Mr. Henry Parsons, Bideford.

BARN DOOR.—1st prize, withheld; 2nd ditto, Mr. W. Turner, Bideford.

TURKEYS.—Only one Pen, Mr. W. Turner, commended.

GESE.—1st prize, withheld; 2nd ditto, Mr. J. B. Torr, Westleigh. Extra Prize, Mr. K. W. Horlock, Barnstaple.

DUCKS.—White Aylesbury.—First prize, Mr. E. U. Vidal, Abbotsham. 2nd ditto, Mr. K. W. Horlock, Barnstaple.

DUCKS.—Any sort.—1st prize, Mr. Arthur Ley, Bideford; 2nd ditto, Rev. Charles Wood, Beaford, Devon.

PIGEONS.—Almond Tumblers, Mr. J. Tinson, Barnstaple; Fantails, Mr. Henry Parsons, Bideford.

WHITE COCHIN-CHINA.—Prize awarded to Mr. Branwell.

BEST PEN NOT CLASSED.—Mr. J. B. Torr, Westleigh.

RETENTION OF VITALITY BY UNHATCHED CHICKENS.—POULTRY REGISTRY.

SOME of your Poultry-keeping readers may be glad to read the following, which, as I am able to give the exact days and hours, may be relied upon.

At eight o'clock on the evening of the 28th May, I set a hen (a good mother) on eleven Dorking eggs, that had travelled about seventy miles a day or two before. At five P.M., on the 8th of June, on my return home, I found the hen sitting on two eggs in the adjoining nest; her own feeling cold to my hand, and I had come home *outside* the coach. I could not discover how long she had been off, for none of my family had seen her. However, I immediately put her on again; and she sat closely the remainder of the time. One or two chickens were hatched on Sunday the 18th of June; and upon further examination, on the next morning, I was pleased to find eight perfect chickens, and three added eggs (quite liquid).

I take this opportunity of asking (from some of your readers) for a good form of Register for the Poultry-yard. I give you the form I now use; but it does not meet all my wants.

Hatched.	Description.	Date of Sitting.	No. & sort of Eggs.	Produce.	Remarks.

W. W. H.

QUERIES AND ANSWERS.

GARDENING.

PLUMBAGO LARPENTÆ.—MOVING STOVE FERNS.

“I have a plant of *Plumbago Larpentæ* in my greenhouse. It is perfectly healthy, and luxuriant in foliage; but has never blossomed, though I have had it two years. I have never disturbed it. Am I to repot it and change the soil?”

“I also wish to know whether *Stove Ferns* in pots should be repotted at any season, and what soil will usually suit them?”

“*Adiantum tenerum*, *Adiantum cuculatum*, and *Pteris serrulata*, are those I have, and a species of *Lycopodium*, with a beautiful bluish bloom on the leaves, which I should like to increase, and wish to know when, and how I ought to do so?—G. E. S.”

[Let your *Plumbago* remain untouched; and, if it has had plenty of light, it will, probably, bloom about August.

Stove Ferns, it is true, may be shifted at any time; but as a general rule, the spring, about April, is the best time for propagating them by dividing them; but were we asking for a bit of either the *Lycopodium* you speak of, or either of the kinds of Ferns you mention, we would just as soon have it now as at any time in the whole year. The Moss-like plant is the *Lycopodium caesium*, and the handsomest of the genus. This and the Ferns all delight in a peat soil, and a little charcoal mixed with it.]

STAUNTONIA LATIFOLIA.

“Does the *Stauntonia latifolia* twine in the same direction as the Scarlet-runner (French Bean); or in that of the Hop? All twiners will easily twine round rods, or sticks; but how are they to be induced to twine round trees of some considerable circumference?—J.”

[This question is referable to an old doctrine, the facts founded on which we can neither affirm nor controvert. According to the rules insisted on by at least some of the authors who affirmed this doctrine, all the climbers, and more particularly, all the twiners, which inhabit the north side of the equator, grow, or ought to grow, towards the sun; that is to say, they twine from the right hand to the left, and are, or were, called *Dextrorsers*. Whereas, such twiners as are natives beyond the line should twine from left to right, and these were called *Sinistrorsers*. We have looked about, but could not see a hop-plant, and the scarlet-runners in these parts are not staked; the stakes cost more money than the crops are worth, and they grow in all directions; but we have just looked at our own *Stauntonias* outside the door, where they withstood the rigours of the last winter and spring without protection, and we find them to be of the *dextrorsus* class, growing from right to left, and that most vigorously. We purpose to treat them like grape vines; for the first three years prune them down to near the ground late in the autumn; after that, the roots will be sufficiently strong to throw up shoots strong enough to embrace large trees; not, perhaps, by twining round them, but by nailing and training as we would a grape vine, or a honeysuckle. We never heard of any other way for leading twiners or climbers round large trees. *Stauntonia latifolia* promises to grow fast, and as strong as a common honeysuckle, and like the *Wistarea sinensis*, we think it will bear being trained without much twining, except the young growths. It is, certainly, a noble-looking evergreen. We take it to be the *Stauntonia* which Dr. Hooker mentions as one of the best fruiting plants in that part of the Sikkim Hymalayas, where he saw it; still we are not sanguine about the fruit, or the flowers; but we would earnestly recommend it as one of the very best evergreens to train over a veranda, or summer-house, and we would prevent it from twining until the spaces were regularly covered, just as we would a *Wistarea*.]

HERACLEUM GIGANTEUM.

“Is not ten feet a great height for this plant to attain, with the girth of its stem twelve inches?—P.”

[We cannot give you a better answer than the following note received by the next post from Bishop's Waltham:—

"I think you will excuse me for informing you, that my plants, one of which I informed you, last year, was nine feet high, are now, June 30th, from *ten feet to eleven feet six inches* in height, and in full bloom; one of them is full eleven feet six inches in height, and they measure in circumference, at the base of the stems, from *thirteen inches* to not less than ten inches. They are called *biennials*; but this is their *third* and most flourishing year.

"I am indebted to Dr. Gwynne, of Sandbach, for the seeds; and, barring accidents, I shall have enough to supply the whole parish or the *county* this autumn.—T. M. W."

POULTRY.

HASTENING THE GROWTH OF FEATHERS.— BONE POWDER FOR CHICKENS.

"I have a Cock and some Pullets of the White-faced Spanish breed. The latter have lost some of their feathers. Will you be kind enough to inform me, through the medium of your paper, if it be possible by any treatment to bring them into proper plumage by the middle of September; or must I wait till the moulting season?—And how I am to bring on a Cock bird of the same breed for a Poultry Show in about two months time; he is a fine bird, not eleven months old? And also, if pulverised bone is a good strengthening thing for Cochlin-China Chicken?—J. S."

[In the case of Spanish Fowls now out of condition, through the loss of a portion of their feathers, whether accidentally or by very early moulting, we can hold out no prospect of their being brought into a fit state for exhibition by the middle of September. Your second question we would answer thus; that no Poultry Society that advertises its meeting for the end of August can expect to have the adult birds in fit condition for exhibition. Your third query asks if pulverised bone is a good thing for strengthening Shanghai chickens? For our own part, we have never found it necessary to resort to any such remedies. Good food and a healthy run being always sufficient to preserve our stock, old and young alike, free from maladies, such as those for which bone, and other substances containing a portion of lime, should be administered. In confined yards, calcined oyster-shells would, probably, provide this substance in as good a form as any other.—W.]

CURL IN THE DRAKE'S TAIL.

"Your paper being the chief organ for all poultry matters, I trust that you will allow me a small space, to state a few facts relative to a late poultry exhibition, which I think ought in justice to be made public, in order to prevent such mistakes in future. I dare say I shall be accused of partiality, but I state facts. I exhibited six Aylesbury ducklings under eight weeks of age, in the class especially set apart for the best brood of five or more ducklings, not exceeding eight weeks old. Well, I was unable to go to the show myself, but naturally feeling anxious about the success of my six ducklings, (which weighed twenty-six pounds), I asked a friend, also an amateur poultry-breeder, to see how they looked: and in case they were beaten, to observe and describe to me the superiority of their more fortunate competitors, that I might judge how to improve my breed for another season. He tells me that one Drake in the prize pen had the curl in the tail, which *usually* does not make its appearance till quite the end of the second month, *i.e.*, when the bird is about fifteen weeks old, at the earliest! The imposition (for I can call it nothing else) as to age was so palpable, that on the prize card, nailed on the pen, was pencilled after the words, 'under eight weeks of age,' 'very doubtful!!!' Surely, the judge could never have overlooked such a misstatement; and I take it for granted, that being selected as judge, he knows something about Ducks. I have trespassed already too far on your valuable space, but, perhaps, in conclusion, you will allow me to put a question to you and your readers in general,—Is there any breed of white Ducks closely resembling the Aylesbury, the *drakes* of which are hatched with a curl in their tails? I hear there are several other complaints relative to the show, some of which, perhaps, may reach you. Such as pens, although priced in the catalogue, not allowed to be

claimed at the specified price, &c.—WESTON JOHN GOWERS, *Chadwell, near Grays, Essex.*"

[We have struck out all names, because all such complaints should be made to the Committee at the time of the show. In reply to your query, we certainly have no recollection of any drake of any breed exhibiting a development of the curled feather in the tail under eight weeks old, nor should we consider it probable that any such case could be authenticated.—W.]

TO CORRESPONDENTS.

* * * We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed "To the Editor of The Cottage Gardener, 2, Amen Corner, Paternoster Row, London."

DIBBLING WHEAT (J. B. H.).—The rows should be five inches apart, and the holes four inches apart in the rows. The holes should be two inches deep. Three grains should be put into each hole, which allowance requires about one bushel and a half of seed Wheat per acre. A good dibbler, with three active droppers to attend him, will plant about half an acre per day.

PINES DEFICIENT IN FLAVOUR (A Worcestershire Man).—The answer was in before your second communication. If Pines are cut very unripe, of course they will wither without ever thoroughly ripening, or attaining a full flavour.

ROUP IN FOWLS (Stentor).—The causes of Roup are probably many and uncertain, but we believe that most commonly it is brought on by confining them at night in a hot, ill-ventilated roost-house, and letting them out into the cold and wet during the day. Barley steeped in spirit of turpentine would be injurious rather than beneficial to roup-y fowls.

GLOBULES ON LEAF (F. W. S.).—They are the eggs of a moth, but they were all crushed, or from the larvæ we could have found out the species.

WHITE COMB (J. R.).—We have never failed to cure this by rubbing with turmeric and cocoa-nut oil the parts affected. Was your cocoa-nut oil almost a solid? If not, it was not genuine.

VINE LEAVES AND GRAPES DISEASED (A Young Grape Grower).—The whole are *very* badly attacked by mildew. The only chance of saving them when in such a state is to have one person hold a plate full of flowers of sulphur under the leaves and bunches, whilst a second person rubs them gently all over with the sulphur. Your other question shall be answered next week.

MELONS FALLING FROM THEIR STALK (A Subscriber).—When they do this it is a sign they are quite fit for gathering. If you wish to prevent their falling, you must put some support under them.

PINCUING OFF BLOOMS (A Constant Reader).—You do not say what are the names of your plants. The green leaf of your Mangold's Variegated Scarlet Geranium is only a sport, we think. What sort of plants do you wish to grow under Vines, and in what kind of structure? We have not the gift of clair-voyance, so cannot answer a correspondent unless he gives us full particulars.

LAYING OUT A GARDEN (S. Stytes).—Neither Mr. Beaton, nor any one else who is honest, will undertake to lay out a garden which he has never seen.

NAMES OF PLANTS (T. M. W.).—1. *Epipactis grandiflora*. 2. *Orchis bifolia*. 3. *Helianthemum vulgare*. 4. *Poterium sanguisorba*. 5. *Polygala vulgaris*. (J. Wilson).—1. *Chelidonium majus*. 2. *Symphytum asperinum*. You can have the back numbers by applying to Messrs. W. S. Orr and Co. (A. S. B.).—*Epilobium angustifolium*.

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WEEKLY CALENDAR.

D M	D W	JULY 20-26, 1854.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
20	Tu	Cossonus hypoleucus.	29.987-29.859	71-55	S.W.	—	8 a 4	4 a 8	0 17	25	6 0	201
21	F	Sun's declinat., 20° 31' N.	29.831-29.750	70-58	S.W.	06	9	3	0 43	26	6 4	202
22	S	Prionus coriarius.	29.765-29.610	70-48	S.	01	11	2	1 16	27	6 7	203
23	SUN	6 SUNDAY AFTER TRINITY.	29.972-29.879	76-53	S.W.	—	12	0	2 0	28	6 9	204
24	M	Saperda lineato-collis.	29.829-29.719	72-47	S.W.	—	13	vii	2 55	29	6 11	205
25	Tu	ST. JAMES. Ds. CAMB. B. 1797.	29.783-29.776	73-52	S.W.	04	15	58	set.	30	6 12	206
26	W	Leptura apicalis.	29.831-29.798	63-56	S.W.	—	16	56	9 a 8	1	6 12	207

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 72.5° and 52° respectively. The greatest heat, 92°, occurred on the 25th in 1844; and the lowest cold, 40°, on the 24th in 1838. During the period 101 days were fine, and on 88 rain fell.

BRITISH WILD FLOWERS.

(Continued from page 269.)

DRABA INCANA: Twisted-podded Whitlow Grass; Hoary Whitlow Grass; Small Wreath Cress.



Description.—It is a biennial. Root long, tapering, with

numerous hair-like rootlets. *Herb* all over hoary, with minute, starry, crowded and close - pressed hairs, very variable in stature and luxuriance, like most biennial or annual plants, according to the moisture or nourishment it receives. *Stem* from two to twelve inches high in a wild state, two feet when cultivated, simple or somewhat branched, copiously leafy, its starry downiness accompanied by, or sometimes in the lower part changed for, fine long simple hairs. *Root leaves* elliptic-lanceolate, forming in the first season a dense rose-like tuft; those of the stem, the following year, very numerous, scattered, stalkless egg-shaped, ribbed, variously toothed or cut, seldom, except in starved plants, quite entire. *Flowers* numerous. *Calyx* hairy. *Petals* white, inversely heart-shaped, twice the length of the calyx, with taper claws. *Partial flower-stalks* very hairy, scarcely half the length of the *pouch*, which is about half-an-inch long, elliptic-lanceolate, or oblong, more or less oblique, uneven, or twisted half-round, in the direction contrary to the sun's course, flat not tumid, the edges thick, the summit crowned with the extremely short thick *style*, and depressed capitate *stigma*. The surface of the *pouch* in British specimens always smooth.

Time of flowering.—May and June.

Places where found.—On the top of limestone mountains in England, Scotland, and Wales. Not common.

History.—This is the *Draba contorta* of some botanists. Ray first discovered it to be a native of our Island. It is more plentiful in Lapland, and other northern countries of Europe.—(Smith. Martyn. Ray.)

On the 10th instant there was a meeting in Regent-street, London, for the purpose of establishing a Society for the promotion of fruit culture, and the first step taken is certainly most encouraging.

It will be seen from an advertisement in our to-day's paper that Sir Joseph Paxton has become its President, and that among the forty members enrolled already, there are some of the best known pomologists and gardeners of the day. We earnestly recommend our readers to become members; for every ten shillings, which is the amount of the annual subscription, will strengthen the Society's power to work out the good which it purposes, and we are quite sure that each subscriber will be benefited to a far greater value than the sum he subscribes.

It will be seen—"That the Society has for its objects the promotion, generally, of fruit culture in the British

dominions; that it will especially direct attention to the production of new varieties of fruit, examining and reporting on their merits, as well as striving to classify them."

Now, towards the improvement of fruits, by promoting the production of varieties, little or nothing has been done lately in this country, if we except the Strawberry from the list of the neglected. Yet it is not because much cannot be effected; the late President of the Horticultural Society, Mr. Knight, and Mr. Williams, of Pitmaston, are unimpeachable witnesses to the contrary; nor did they exhaust the treasury of improvement, for since their time we have had many superior varieties raised in Belgium, France, and America.

That the Society may protect the public from disappointment, by reporting on the merits of new varieties of fruits, is beyond all dispute, and it will be a centre to

which will be gathered most valuable information as to the varieties best suited to different soils and localities. Nothing can more powerfully show the importance of such information than the fact related at the above Meeting, that Pears considered worthless in the milder districts of England, are among the best-flavoured and most melting in the colder climate of Scotland.

As to the classifying and settling the synonyms of fruits, the Society has a wide and but partially explored field before it. The importance of an arrangement of fruits so as to facilitate the discovery of the proper names, needs no other evidence than that to the nine-hundred-and-forty Apples enumerated in Mr. Hogg's "Pomology," we have no certain guide. Yet what Mr. Hogg has there done for the Apple, would be most valuable if extended to the Pear, Grape, and other fruits.

It was stated at the above Meeting, that one of the leaders of the Horticultural Society had expressed his opinion that a Pomological Society is not needed. An opinion requiring no other refutation than the deplorable state of the Society's own fruit-trees, and the miserable defect of knowledge exhibited by the recently published supplement to its own fruit calendar.

Whilst we state this, let it be clearly understood that "The British Pomological Society" wishes to be in perfect amity and co-operation with the Horticultural Society. It only purposes to concentrate its attention to one branch of gardening which has been too much neglected by the Horticultural Society, owing to its peculiar situation—peculiar as to its funds, the soil of its garden, and the exclusive floral taste of its chief officer. Such concentrated attention is always desirable, and is no more antagonistic to the general Society, than are the Entomological, Botanic, and Zoological, to the Linnæan.

"The British Pomological Society" being established at the Meeting we have mentioned, a Committee was then formed to draw up a code of rules, which will be submitted to a general meeting of the members, to be called on an early-coming day.

CERTAIN SEASONS are especially favourable to the breeding of some insects, but opposed to that of others. The spring and summer of the present year have been extremely favourable to the production of the *Aphis*, Plant Louse, or Green Fly, as it is variously called, but these seasons have been very unfavourable to the breeding of all Moths and Butterflies.

Never did we see the *Aphis* so universal, and plants are attacked by it, the armed and hardy characteristics of which seem to defy such invasion. Even the Thistle is loaded with a black species, or variety, for we have a suspicion that one and the same species often feeds upon many plants, and varies more or less in colour according to the plant on which it feeds.

The general prevalence of the *Aphis* has been remarked upon by more than one of our correspondents, and in one of their letters occurs this passage:—

"Did you ever see so much blight about? Everything is covered with insects. My *Peaches*, *Cherries*, *Plums*, *Parsnips*, *Lettuces*, *Roses*, and even the *Ivy*, are literally smothered with *Aphides*. The *Hops*, what I have seen of them in Kent, are drooping their leaves; the very hedges begin to be affected by them. Whatever is to be the end of these judgments; for they must be judgments! First—Potato blight, Vine blight, fruit blight, and now *everything* blight."

Whether this "plague of Lée" is sent as a judgment or not, we may be quite sure that it is permitted for some good purpose, and it will not have been without its use if it induces the gardener, by draining and protecting his crops, to secure them from those violent transitions from moist to dry, and from heat to cold, which, by causing the exudation and decomposition of the sap of plants, affords such an excessive supply of food to the *Aphis*. An abundance of food is well-known to be the best promoter of an increase of population.

THE POSITION OF HARDY FRUITS IN GENERAL.—POMOLOGICAL SOCIETY.

It is well for even horticulturists to pause and to "take stock," now and then, like our great commercialists; by so doing we may duly estimate our present position, ascertain our shortcomings, and lay the foundation for future progress; for progress there must and will be. The gist of this question will be found to lie in two points, which may be embodied in the following questions:—

1st. Have we progressed in the raising new fruits from seed in a corresponding ratio to our florists with their *Geraniums*, *Cinerarias*, *Fuchsias*, *Pansies*, &c.? If not, how is it? Is it from an inherent difficulty, and is it invincible?

2nd. Do we thoroughly understand the question of Stocks, or has it received that consideration which it deserves?

Now, these two points open a wide case, and since we have so many and oft-repeated lamentations about fruit failures, it will really be cowardly and most un-English to fear approaching the subject; which, indeed, to "give a good account of," certainly requires what is called pluck, and, of course, some experience.

This question carries, we know, a highly scientific bearing, but it will, perhaps, be best for the present to take a plainly practical glimpse of it, and thus work our way upwards on sure ground. My clever contemporary, Mr. Robson, has more than once hinted at the stationary, not to say retrogressive, position of the fruit question; and I freely confess, that his remarks carry too much point to be agreeable. He has pointed to the fact, that our *Peaches*, *Nectarines*, &c., stand just where they did nearly a century ago, as to kinds; whilst he attempts to show that in culture they have retrogressed. The latter point is somewhat doubtful, inasmuch as I could point to gardens where as noble crops of *Peaches* and *Nectarines* may be seen most years as when I was a lad, and trees uniformly clothed from top to bottom. I remember seeing such a wall at Knowsley Hall, the seat of Earl Derby, about three years since, and I could but congratulate his excellent gardener, Mr. Jennings, on the splendid character of his trees; for trees they were, covering walls some twelve to fifteen feet in height. Two years since, I found a noble wall of such trees at Alnwick Castle, in Northumberland, under the direction of a real substantial gardener, Mr. Pillans; and, indeed,

I could name other places. I may also add, that my trees are as good as ever, and laden with fruit. But for kinds, I will say that I, too, am astounded that no new seedlings have been brought to our notice, and I do hope to persuade some of our amateur friends to take up the case, and try their hands, for it appears it must be made a hobby rather than a matter of business.

My first point—the raising new fruits from seed. No man of sound understanding can for a moment doubt that a wide and interesting field would speedily lay at the service of any individual or company undertaking the matter with skill and enthusiasm. There would appear to be two great essentials on this matter, and the eye should be well fixed on them; that is to say, the question resolves itself, in the main, into two points, the one how to originate new flavour, with other qualities; the other, how to combine or unite existing merits, so as to add fresh links to this interesting chain. As to the first, I do think it probable that we should have to revert to the blood of our “Wildings” in originating fresh flavours.

What is termed smartness, or briskness, is, as every good judge knows, one great essential in fruit; this is, of course, opposed to insipidity. Look, for instance, at the briskness of the old *Nonpariel* Apple. I am not aware that we meet with precisely the same in any other Apple. When we look at the smallness of the foliage, and the comparative slenderness of the wood, as compared with some of our huge dumpling Apples, I think it but fair to infer that this kind owes much of its smartness to the blood of some wilding, which, probably, constituted its parentage on the one side. When I say wilding, however, I do not wish to confine the term to the wild Crab in its most original state; there are other forms of wildings, just a stage or two removed from these Crabs, which, to briskness of juice add more pulp, and that, too, of a more tender character—or, perhaps, I ought to say, of finer texture. If I was going to commence in this way, I would hunt out such over the kingdom, inviting co-operation therein; and I should have no doubt of meeting with a reciprocity of feeling. I am persuaded that the train is already laid; there needs but the spark applied by a judicious hand in the right way.

To pass on to Cherries. Who does not admire the smart port-wine character of the *Morello*, when ripened on an east or west wall, and so well fed as to almost rival an Orleans Plum in size? Why not obtain crosses between this and our larger and sweeter Cherries? Only fancy a Cherry nearly intermediate in character between such a *Morello*, and the *Elton*, or even the *Bigarreau*! From the *Elton* cross, however, one of the finest late Cherries in the kingdom might be expected; and one possessing much hardihood and adaptability for espalier training.

In Plums, too, it has often occurred to me, that the *Damson* would, used as a cross on one side, open up a new class altogether. Only let us fancy a cross between this and the *Greengage*, in which the latter predominated. The colour, to be sure, would hardly be fair; but why not intermediate grades of colour, to give variety to the dessert, or to the exhibition table. But then there is the chance of obtaining hardihood as well. Again, there are such as the *Precoce de Tours*, the *Morocco*, &c., which are notorious as good setters—a most desirable point to encourage in Plums, which are in general rather awkward customers in this respect. I do not know how it occurs, but we have a regular shoal of new Plums over from our Yankee brethren, and of many of them they would seem to have made free use of the old *Magnum Bonum*, or Egg Plum section. Size and robustness of habit have evidently been a leading consideration with our fast friends. If Americans can so readily raise Plums, why not John Bull?

As for Pears, it is probable that we should not meet with a degree of success equal to some of our continental neighbours. Our climate scarcely warrants high expectations as to the Pear kinds. Still, that is no reason why a hardy and superior orchard class should not originate here. One of the best of our old Pears to use in this way is, I think, the *Swan's Egg*. This, in its day, has been one of the most generally useful Pears in the kingdom for ordinary purposes; and it would seem that the late Mr. Knight, of Downton, had an eye to this; for I think this strain may be clearly traced in the *Althorpe Crassanne*, and several others which he raised from seed.

In Peaches and Nectarines, we have not, as far as I am aware, anything original to fall back on. The only chance here would seem to be raising from fruit of very superior flavour, pulp, and smartness; and pushing forward by selecting fruits possessing peculiarities, if not originality.

As to Stocks, I must make them the subject of another paper; for much more may be said on this head than space can be spared for on this occasion. I do not know if I can offer any really new ideas; but the very raising of the question can do no harm, especially as we are shortly promised a genuine Pomological Society.

If such really take place, I do hope that it will take into consideration the propriety of taking up good ground, and a sufficient breadth of plan, to allow any after advances to be added; for, assuredly, the public will not remain stationary many years in the new fruit question. Co-operation will, in time, perform these things. There is nothing like a public company for pushing great matters with speed; not that I would by any means damn our amateur performers, but quite the contrary. They can, at least, be first in the field, and the occupation of raising seedling fruits will be found to be one of intense interest; it is only making a beginning.

If any party should at any time attempt a society having for its object the raising, proving, and dispersion of new fruits, they would need but about a couple of acres of good upland, loamy soil, in some situation almost midland; say near a railway, about a score miles south of Birmingham. I do not see but that such a society might be made not only self-supporting, but even remunerative, after the first three or four years. Our exhibitions might be the chief test of the merits of seedlings, and proved and registered kinds might be propagated forthwith, and sold at high prices, which they would readily command. We should have America as our market, as well as Europe in general; there would be no fear of a deficient demand. Besides new fruits, other superior kinds might be cultivated for sale, and for breeding from, and vegetable or other culture might be made to contribute towards defraying the expenses. To those amateurs, or others, who wish to commence operations, I would say, look sharp out now for some fruits of very superior character to commence on. They should be from healthy trees, from superior aspects or situations, and unless possessed of very superior qualities or flavour should be at once rejected. I hope these hints, though somewhat of a discursive character, may set other minds at work. I must, in a future paper, remark on Stocks, for the necessity for advance here is as urgent as in the case just handled.

I may just observe, for the information of beginners, that seedling fruit-trees will not only be earlier proved, but their character will be earlier developed, if budded or grafted towards the terminal points of established trees, whether as standards, or in a trained state. This was the favourite practice of the late Mr. Knight, of Downton, who also found in many cases that seedlings did not exhibit their inherent merits on their first fruiting, especially if on their own roots. It is ab-

solutely essential, however, to select healthy wood, fully exposed to the sun's rays, and the more fruitful the tree, in its own character, the better. Old trees, if healthy, should, I think, have the preference.

R. ERRINGTON.

EXHIBITION AT THE ROYAL BOTANIC GARDEN, REGENT'S PARK.—JULY 5TH.

"Too much" has been the exception, not the rule, of the adage this week. We had two exhibitions of two of the greatest and most influential societies for such things in the world, but by no means too much of a good thing. The royal palm has been cast into the waters of Marah at last, and at the last of the two meetings. The Queen heard of the great loss sustained by the Horticultural Society through the launch in May and the opening of the Crystal Palace in June. Her Majesty heard, also, that the Scottish portion, at least, of the gardeners who contributed to the tables at Chiswick were sadly cast down at not seeing the Queen there but once for the last ten years; and, also, that serious talk about the days of "Culloden," were heard round the potting-boards, far and near. A sad change for them in these troublesome times. Surely, then, we had not too many shows this week, seeing, now, that all this is rectified, most graciously on the one hand, and most loyally on the other. No sooner did Her Majesty learn the state of things at the Horticultural, than she made known to the authorities her gracious intention of paying a state visit, as it were, to the gardens, on the afternoon of the show day, that all might see her. This is the first time in our history that royalty mixed with show folks in these or any other gardens, and the effect on the show, and on the number of visitors of the first class, was most remarkable, as I shall show presently; but the crowning part of the story is this—the royal wish that all the principal exhibitors should be in readiness to attend the royal party and procession in the tents, and a lot of as spruce fellows as ever you saw they turned out certainly, some of them with their loyalty oozing out in great heavy drops; but I lost the usual garden gossip in the afternoon by all this loyalty, for they had to go home for an extra shave, and get their best things on, and would not speak to a body after that.

REGENT'S PARK.

There was an excellent show of plants, fruits, and cut-flowers here on Wednesday the 5th, but, with the exception of one collection from the Messrs. Standish and Noble, of Bagshot, there was not much novelty in the way of new plants; there were no Roses in pots, but enormous quantities of cut Roses; the Fuchsias were even better than they were here in June; the stove and greenhouse plants much about the same as in June; the Pelargoniums, on the whole, were a shade better than they were in June, and the fancy Geraniums were far better. The Orchids were visibly on the decline, but not much; Heaths were as varied, I believe, as the season of the year, and this large family could warrant us to expect, and the size, training, and healthy appearance of the plants could not possibly be found fault with, even by an angry critic; there were eight collections of Ferns, not at all judiciously selected for a popular exhibition, but sent rather to sustain the name of the garden, *Royal Botanic*, and yet the royal Fern (*Osmunda regalis*) was not there. There was not a single Cineraria shown here or at Chiswick this season; a fact which I have all along predicted, since the florists took them in hand. When this war is over, I would vote for the transportation of all the British florists, in one lump, to the Crimea. Dahlias, Calceolarias, Fuchsias, and Cinerarias might then be not only tolerated, but

even brought up again to general favour, and now that the Queen has gone to Chiswick, we could do very well without florists at all, and altogether.

FRUIT.—I never saw such quantities of the best description of fruit brought together. The Duke of Norfolk had the first gold prize for a collection. The Duchess of Sutherland being next, and the Marquis of Lansdowne third best, but he had enough fruit there to make a suitable dessert for eighty peers. I once helped to lay the dessert for 400, at a dinner of the Caledonian Horticultural Society, in Edinburgh, when we had fully as many Peaches, Nectarines, and Grapes, as were at the Regent's Park this day, but not nearly so many Pine-apples.

STOVE AND GREENHOUSE PLANTS.—These were exhibited in sixteen plants as the first collection, of which were three, the first prize to Mr. May, gardener to H. Colyer, Esq., Dartford; the second to Mr. Speed, of Edmonton; and the third to Mr. Green, gardener to Sir E. Antrobus, Bart. I could tell all the plants in these three collections without crossing the Thames that day, beginning with *Allamanda cathartica*, *neruifolia*, and *Schotti*, *Crassula* or *Kalosanthes*, *coccinea*, *miniata* and *superba*, *Clerodendron fallax*, *squamatum*, and *Kämpferi*, *Stephanotis floribunda*, *Ixora coccinea*, *erocata*, *javanica*, and *salicifolia*, of which there were two varieties at the show. Two good and one bad *Rocelia ciliata*, an old and difficult plant to grow. *Tetratea verticillata*, *Polygala cordifolia*, and *oppositifolia*, *Rondeletia speciosa*, *Dipladenia splendens*, and *crassinoda*, with *Echites atropurpurea*, all three supposed to be difficult to grow a few years back, but now they are in every collection of ten plants and upwards. *Pimelea Hendersonii*, and *decussata*, *Dracocephalum gracile*, alias *Sphenotoma*, *Vinca rosea*, and *alba*, *Pteroma elegans*, *Phanocoma proliferum* (old *Elichrysum*), another old difficult one. *Leschenaultia formosa*, two everlastings (*Aphelaxis*), *Statice Holdfordii*, and the following Heaths, *Oblata*, which was also in seven collections. A large, white flower, in terminal heads. *Massonii*, green, yellow, and red ditto, and a difficult one. *Parmentiera*, splendid, and the colour, *lateritia*, as in the Azalea so called. *Savilla*, like the flowers of the pale *cineria* (*C. carnea*), on Chobham Common, and literally covered in them. *Cavendishii*, best yellow; *depressa*, second best ditto; and one magnificent *metuliflora*, of three shades. All these were in the three large collections of sixteens, and no more. The next collections were in twelves, of which were three by nurserymen only—the Messrs. Rollinson, of Tooting, Mr. Fraser, of Lea Bridge, and Mr. Tamplin, of Hornsey, I think. The next were in tens, and there were six exhibitors. The next and last were in sixes, and there were five of them, besides collections of *Crassulas*, Heaths, and *Ixoras*, and in all these different collections the following are the only additions to the stove and greenhouse plants:—*Rhycospermum jasminoides*, an excellent pot-plant, and summer outdoor climber; *Sollyea linearis*, *heterophylla*, and *salicifolia*, which was new to me. It was in a collection of ten, by Mr. Reed, gardener to Mrs. Treadwell, St. John's Lodge, Norwood, Surrey. It is only an improved variety of *heterophylla*, with larger flowers, and of a lighter blue. *Mirbelia dilatata*, a pink, pea-flowered, greenhouse plant, with the looks of a new *Acacia*, in a ten group, by Mr. Clark, gardener to Mrs. Webb, of Hoddleston; this was the only plant out of the common run. *Pentas carnea*, *Cyrtoceras reflexa*, *Boronia serrulata*, *Epacris mincata*, *Xanthosia rotundifolia*; a very old one up again; blue *Leschenaultia*, and *L. Baxteri*, *Taberna-montana coronaria*, *Hoya bella*, *Azalea variegata*, *Mitrasia coccinea*. Let the reader count or arrange the above for himself, in so many groups, and he will judge the richness of so many of the best summer plants all put together, and every one of them in the best con-

dition, except one, *Roella ciliata*, which ought to have been burnt the day before, it was all but dead then.

HEATHS.—The principal Heaths were the following, and what I introduce them for, is to show those that are, at the same time, the most distinct, and the most likely to make good plants under ordinary circumstances; for I take it that any Heath which is very difficult to manage is never brought out now-a-days to exhibitions:—*Actonii*, *oblata*, *Massoni*, *tricolor*, seven kinds of, *mutabilis*, *miniata*, *retorta*, and *retorta major*, *Berghiana*, *ampulacea*, *inflata*, *ventricosa*, of sorts, *magnifica* being the best of them, *Halicacaba*, *gemmaifera*, *cassonia*, *eximia*, *ferruginea*, and *jasminiflora*.

FUCHSIAS.—There were four good collections of them, in sixes. The first prize for them was taken by Mr. Bray, gardener to J. L. Goldsmid, Esq., St. John's Lodge, Regent's Park. They were the six best grown Fuchsias ever exhibited. There were three white, and three red ones, and they were placed better than I ever saw such things done at exhibitions. Some people may think it an easy thing to set up a collection so as to tell best, but depend upon it, there is as much art and eye required to puff up these plants as to grow them well. These six Fuchsias were in this wise—*Pearl of England*, white, and *Perfection*, red, in front; *Collegium*, red, and *Speciosa*, white, in the second row, that is, the reds at cross corners, and the whites ditto, then the last two red and white, corresponding with the first two. These last were—*Madame Sontag*, white; and *graudis*, red. They were from six to nine feet high, and about five feet across the pot. The second prize was taken by Mr. Ward, gardener to G. Bishop, Esq., South Villa, Regent's Park, with *Prince Arthur*, white; *Voltigeur*, red; *Pearl of England*, white; and *Elizabeth*, white also, and the two together a blemish; *Sir John Falstaff*, red. These, therefore, in equal numbers of red and white, may be considered as the very best for growing like Pillar Roses; and I hope we shall have nine or ten collections of such at all the shows, in another year, for they are most useful plants, and everybody's plant to the bargain.

PELARGONIUMS.—There were fine collections of a dozen each, and Mr. Turner was first again to-day, Mr. Gains being close on his heels. I stood back five yards from them, that being the focus, as it were, to see their proper distinctness under the subdued light. This is the order in which I would choose them for myself: *Governor General*, a splendid scarlet. *Enchantress*, orange-scarlet. *Carlos*, salmon front, white eye, and dark back; very distinct. *Juliet*, ditto. *Optimum*, deep scarlet front and dark back; a most conspicuous kind. *Rouveau*, another charming kind, with light salmon front, light eye, red back, and large blotch on it. *Achilles*, rosy front, white eye, dark back, with a red margin. *Ganymede*, one of the most distinct light lilacy fronts, dark back shaded with red; with *Zeno* and *Mochanna*, both in the more common style, of which there is no end, or beginning, or middle, that I could ever make out; to these add *Maquet*, the highest on the turf, and you have twelve of the newest very best.

Gains began with *Rosa*, a lovely scarlet flower, and I should think a sister to his *Conqueror*, the first seedling of this season. *Governor*, reddish-purple and black. *Ajax*, a contrast to Governor, with lilac, purple, and black. *Fete Noir*, a most remarkable flower; a streaked orange-scarlet front, lightish or lilac eye, and the two back petals exactly like the two black cheeks of poor Topsy, as described by Miss Ophelia in "Uncle Tom's Cabin;" never was anything more ebony black in this world; the size and substance extraordinary as well. This ought to have been called Topsy, on account of the extraordinary character of the original; *Andover*, much in the way of the last. *Queen of Purple*, a very striking kind. The rest were more common-looking.

FANCY GERANIUMS.—In these Mr. Turner was first hand with *Electra*, a plant which you would take to be on fire if you saw it at a distance. *Criterion*, *Celestial*, and *Conspicua*, high coloured. *Enchantress*, half white and half red. *Caliban* was out of character here, being of the same breed as the *Hero of Surrey*; it does not fall in with the French breed of *Anais* and *Ibrahim Pacha*, the originals of the true fanciers. *Erubescens*, half red and white. *Conspicuum*, ditto, and *Criterion* the same. Mr. Gains had *Delicatum*, which passes for a full white, but there is a faint shade of red in the back petals which I objected to when I first saw the seedling. I must now eat my own words, and say *Delicatum* is a most distinct and useful kind, and one of the best bloomers. It has been in several collections at the different shows. As I never spare my best friends, it is only fair that I should eat the leek myself now and then, and I would eat it with the essence of wormwood sooner than pass over a fault in the case of judging flowers. *Conspicuum* in fine condition. *Princess Alice Maude*, half white. *Perfection*, ditto. *Advancer*, of the Jehu breed, and *Vandyke* the same. *Lucy*, a gay half white, and *Erubescens* ditto.

SCARLET GERANIUMS.—There were twelve *Tom Thumb's*, in No. 16 pots, from Mr. Edwards, the great florist, and no florist ever showed better grown, or a better style, for this dwarf breed, they averaged thirty inches in diameter, and were the very pictures of health and good management.

Large pot CALCEOLARIAS from the Pine-Apple Place Nursery were gay, and there was a dark crimson seedling Calceolaria, called *Eclipse*, from Mr. Cole, I think, a nurseryman at St. Albans, which I recommend as the best of this season, backed, as I am, by the great authority of the first grower of the day, Mr. Turner, of Slough.

RHODODENDRONS.—There was a full collection of the *Sikkim* and *Bhootan* Rhododendrons, from Messrs. Henderson and Son, of the Wellington Nursery, in excellent leaf. *Natalii*, with a magnolia-looking leaf, was the best looking of those from the Bhootan Alps, a wild country to the east of Sikkim, in the Himalaya range, and *Falgoneri*, had the largest leaf of those from Sikkim. *Eximium* had also a very broad, thick, round leaf.

BEDDING GERANIUMS.—Here I ought to put on the night-cap and jump into a bed of scarlet *Unique*, from Mr. Gains, the only one seen this season. The leaf, style of growth, flower-stem, and truss, with the shape of the flower, are all exactly as in the old purple *Unique*, and the colour is just that kind of orange-scarlet in *Lady Mary Fox*, but not nearly so much black-colour; it is a very great acquisition to the garden. *Kingsbury Pet* is the only one of several seedlings, in that style, that were out here at all this season; I mean such as *Boule de Nieve*, *Miss Emily Field*, *Skeltou*, and that pale breed of the Horse-shoe kinds.

SEEDLING GERANIUMS.—*Una*, a white one, like *Pearl*, from Mr. Turner, had a prize; and Mr. Gains had one for his *Conqueror*; a fine, large scarlet.

VERBENAS IN POTS.—When one sees them in pots there is a fair chance for selection. Mr. Turner had six new seedlings, called Edward's *Seedlings*, of which one called *Wonderful* is certainly so for large flowers, trusses, and distinctness of colours; a shaded purple, and a very large white eye; this will make a splendid bed and a good pot plant. *Blue Beard*, a purplish-blue, with a white eye. *Lady Lacon*, flesh-colour, and large light eye. *Admiral Dundas*, in the way of *Wonderful*. *Morning Star*, a French-white, shaded red round the eye.

PETUNIAS.—There were four seedlings, with a dirty, dingy, drabbely, colour, bordered by a sickly green. I shall not injure that man who sent these ugly monsters by mentioning his name, but they gave me the nightmare that same night, and I dreamed falling off from

the north-east peak of the saddle of Carraccas, down, down, a sheer perpendicular, as long as from here to Varna, and splash into the Lake of Maracaybo, when I awoke, all on the shake, and all through these green laced Petunias at the Regent's Park. *Shrubland Rose Petunia*, and *Rosy Circle*, in the same way, were the only good Petunias here.

FERNs.—Very numerous, and in collections of British species, some under large bell-glasses, and a rare one, from Killarney, in a Wardian case; this was *Trichomanes speciosa*, a kind supposed, till recently, not to be a native of these isles. Ferns are not good exhibition plants, unless it be such kinds as can be grown into dense large plants.

ROSES.—Immense quantities of them in cut flowers all round the large conservatory inside; where also stood, I know not how many Pinks, Carnations, Pansies, Ranunculuses, Irises, Gladioluses, Sweet Williams, and other cut flowers. There was a box full of *Geant des Batailles*, and another of *Paul Ricaut*, from Mr. Lane, splendid samples; and no less so in a box of a new hybrid perpetual Rose, called *Duchess of Norfolk*, from Mr. Wood, of Maresfield—this is a high-coloured perpetual Rose, with much the looks of that beautiful China Rose called *Cranmoisie superieure*. But to write about cut Roses at an exhibition in London, one would need to begin on the first of January in each year.

GLOXINIAS AND ACHIMENES.—The latter have also disappeared this season, except a few new ones, and a large lot of newish Gloxinias from Messrs. Hendersen and Son, of the Wellington Nursery. *Black Prince*, a dark purplish blue Gloxinia, and the best of the race of *Violacca*, which originated with me in 1834. *Magnet*, a light-red, and *Leonie Van Houte*, ditto; *Erecta magnifica*, the best of that class of Gloxinias which turn up and look so much like a Foxglove inverted. This is a fine thing, certainly. Of the different Achimenes, a crimson one, called *Sir Trecherne Thomas*, was the best. But I must defer my accounts of "new and rare," or scarce plants, both here and at Chiswick, to another week, as no justice could be done to this important class in a running commentary like this; besides, I must make "garden gossip," and my own budget, bear on the novelties and varieties of the season, while they are fresh in the memory. The Orchids were more numerous, and much better seen at Chiswick; and I shall mention them under that head. D. BEATON.

EXHIBITION AT THE GARDEN OF THE HORTICULTURAL SOCIETY.—JULY 8.

A VERY dull, wet morning; but on reaching Kingston, whence I go to Chiswick through Richmond, and asking the conductor of the omnibus about the weather, he cheered up with "All right, sir; all right; the Queen is going to the Chiswick Garden this afternoon, and the weather is as safe as you would be if you were booked to the Bank." I saw he had swallowed the *Times* with his coffee. The arrangement about the Queen's visit was announced in the *Times* of that morning; the conductor was "all right;" the weather did clear up to a "Queen's day," and the Queen did come about half-past five, saw all that was to be seen, and was seen by all who could, except your humble servant. The fact is, or was, there were large placards in blue letters in all places in and about the garden, telling us the Queen was coming in the afternoon, and hoping that we would all consent to let the tents be cleared when her Majesty arrived; but long before she left the palace the crowds "cleared" themselves out of all the tents, and took to the best places for seeing the first royal horticultural procession on record. Another scene like that of the Fleet, the Launch, and the opening of the Crystal Palace was

nearly ripe, and who could help looking out for the best berths in time! The highest nobility in the land were just as eager in all this as the rest of us, as I can tell to my cost; for to tell the truth, I went to drink her Majesty's health at the iron pump behind the hot-houses; and before I could get back again, every spot from which the Queen could be seen was occupied. Here I met two very loyal subjects no better off, so I went for a bench, we sat on it outside the great chain, and had an hour's travel over California, Patagonia, New Caledonia, Java, Borneo, and so on to China, and back to the Indian ranges, then over to Ceylon, making our way back by Madagascar, Natal, the Cape, the Bight of Benin, and Sierra Leone, whence we struck across to New Orleans, and just as we were getting on the shores in the marshes of Carolina, after *Saracenis*, *Dionæas*, and such like, the band, behind us, struck up the national anthem, and all were eyes and ears. We stood up on the bench, but could only see part of the procession crossing in front of the royal pavilion at the head of the tents. The royal pavilion was surmounted by the British crown, with chairs, couches, and crimson cloth inside, more befitting an Indian chief or a Turkish pacha, than a Queen who never tires. When all was over, the royals and right royalists followed her Majesty down to the Duke of Devonshire's beautiful villa gardens, and I returned through Richmond, taking "maids of honour" home with me to supper as I did not see the Queen.

I think the principal exhibitors must have known of the royal visit, as they mustered in great force and filled all the tents to overcrowding; and taking the show as a whole, I never saw a better; and I have been, in one way or another, at these exhibitions regularly for the last twenty years—all with whom I came in contact affirmed the same signs of prosperity. More than two-thirds of the stove and greenhouse plants which were at the Regent Park on the previous Wednesday were here to-day, with a very large addition of better and more valuable plants; and what is more to the mark, all these came from the nurseries—from Mr. Veitch's, the Messrs. Rollinson, and the Messrs. Hendersen, of the Wellington and of the Pine Apple Nurseries. Each of these sent collections of upwards of seventy plants of the most rare, the most curious, and the most valuable plants in England, in addition to the usual share of the more popular plants.

My share in the work of the day was really enormous; but like "more cost more honour," the more the difficulty the greater the pleasure; for all the bother in this world of ours, nothing is more tiresome than to have to sit down, day after day, and night after night, to stale dishes and old stories, which you have seen, tasted, and tired of, a thousand times over and over again. If ever I am on the reporting staff again, I wish, most earnestly, that Her Majesty would intimate her "gracious intention" a month beforehand, when she purposes to honour *any* of the shows with her royal presence. Then I should have to do what would be worth doing, judging from the spirit in which each and all came out on the present occasion. The fact is, there is no Queen like Queen Victoria; and we of the horticultural world, at least, have the evidence of our senses, that we cannot get on in our improvements and designs without the royal aid and presence; we had both to-day, Her Majesty competing in the highest class of "new or very rare plants," and was successful, as usual. Putting off my accounts of these new or rare plants for another week, let us enter the first tent as you go from the National School, or North Gate, and prepare your nerves for an electric shock.

If "J. S.," our worthy friend at page 266, were to enter by this rout, the first mass of bloom which he encountered would drive the electricity of which he

* Sweet cakes, so called, for which Richmond is celebrated.

speaks right through the marrow of his bones. Hard upon a thousand blooms of Mrs. Jerdon's Balsam, *Impatiens Jerdonie*, and no Balsam ever yet heard of a quarter so handsome. You could hear little all day, but about the Queen and that Balsam. To say that you were transfixed, or *translooded*, by this or that agency, is a mere nothing to the universal sensation created by that plant among so many thousands. There were six plants of this Balsam at the very first corner of the tent, one of which was full thirty inches across, and not more than six inches high, one mass of gold and crimson-scarlet; one or two of the smaller plants which were tried with more heat, probably, were ten or twelve inches high; but quite as full of bloom as the rest. I did not see Mr. Veitch, who furnished this great treat. I suppose he had the royal command to be in readiness to tell Her Majesty how he grew the Balsam, and other things, and I must wait my turn.

Below the Balsam stood above seventy new or rare plants from Mr. Veitch, together with another collection of far-fetched things, all of which will stand over for another week, except the *Wellingtonia gigantea*. There were six seedling plants of this most valuable evergreen tree, in 32-pots, and in Mr. Veitch's best style of nursery cultivation, and for all the world they look just like so many young plants of the *Leschenaultia formosa*, only a little stouter in all the parts. I had wished to have some of those German and other continental philosophers who raised an outcry against Dr. Lindley about the name of this tree, alleging that it was a *Sequoia*, the *Sequoia gigantea* of Endlicher. The six plants before me were backed with two seed cones of *Wellingtonia*, which would have silenced any botanical misgivings whatever. Then, there was another piece of the wood and another piece of the bark of *Wellingtonia*, those I told of, from Regent Street in the spring, and if the large drawing of the tree had been up behind the specimens, the whole would have been complete, as was remarked to me by a lady who came up at the time.

VARIEGATED PLANTS.—Here the Messrs. Veitch, Rollinson, and Henderson, of the Pine-Apple and Wellington Nurseries, competed in great strength; and here are some of the most remarkable plants from each. In a large collection of *Anætochilus*, from Mr. Veitch, and without glasses over them, I noted the following—two varieties of *striata*, one of *picta*, one of *Lobbii*, three *intermediæ*, five *Lowii*, splendid large plants, with large leaves, in a purple velvet dress, marked with gold; two *setacea*, in a lighter purple, but full of gold lines; *Xanthophylla*, gold and brown velvet; *cordata*, the same, and a new species from Bornco, with some *Phisurus*, of which *argenteus* was the most striking; two varieties of *Sonerila maculata*, which have, perhaps, the very handsomest spotted leaves of all plants we know, and they take very little room. *Echites nutans*, a stove-climber with purple leaves, netted with crimson veins in all directions, is extremely beautiful whilst in a young state; *Begonia xanthina* has large, strong leaves, blotched in shades of brown; *Begonia Thraitsii* is more slender in the leaves, and is variously marked. These two are of recent introduction, and from Ceylon, I believe; *Elaeodendron indicum*, with its large Magnolia-looking leaves, is very striking; *Aphelandra squarrosa*, with citron-yellow flowers, and zebra-like marked leaves; and a stronger variety of it called *Leopoldi*, are two of the first water for country gardeners, as they hold on so long in flower, besides their well marked leaves; *Gesnera zebrina splendida*, the very dark purple-leaved kind, was rich in the extreme; but I must pass over many more of such, to recommend two hardy variegated plants for the flower-garden in the same collection; these were the Greek Valerian (*Polemonium caruleum*), half white and half green in the leaf, and as pretty, for that kind of edging, as the *Golden-chain* Geranium, and as hardy as

a nut. The second is not so bright; the variegated *Arabis præcox*, a spring flower.

Mr. Veitch had also large specimens of *Philesia burifolia*, three feet through and thirty inches high; *Veronica variegata*, as big as a bush, and as full of flowers as any plant ever was; and a *Pteroma elegans* nearly as large. After these he had thirty-two *Rhododendrons* of the new Sikkim breed, of which *Falconeri* had the largest leaf, *argenteum* next, and *Hodsonii* third, of plants with "fine foliage." Mr. Veitch also had *Stenocarpus Cunninghamii*, one of the handsome Proteads allied to the Waratch of Anstralia (*Zelopca*) with leaves branched, so to speak, like a stag's horn; it was nine feet high. *Araucaria Cookii*, as green as a leek, and much after the looks of the Norfolk Island Pine (*Araucaria excelsa*); *Calamus viminalis*, one of the Cane Palms, with long prickly stems and stalks. *Dicksonia antarctica*, or the gigantic Fern-tree of St. Helena, subdued down to a root-stock by antarctic climate, but with wide-spreading fronds worthy of the family name. *Cupania Cunninghamia*, one of the Akee fruit-trees, looking like a *Spathodea* from the Gold Coast. The great Nepal Berberis (*Nepalensis*), and *Berberis Leschenaultia*, also from Nepal, and a magnificent example of *Philodendron pertusum*, with many openings through the leaves, together with some score of Pitcher plants; with out flowers of a new *Dipladenia*, in the way of *Crassinoda*, besides collections of Ferns, and Lycopods, and many new plants, which I leave out for another week. Mr. Rollinson and the Messrs. Henderson had also many of the above sorts, and some more, as the following, from the Footing emporium: out of seventy kinds these are most valuable, and chiefly store plants. Beginning with Ferns, we have *Gymnogramma Massonii*, powdered with gold dust. *Pteris tremula*, with long footstalks, and, as it were, holding up the most elegant leaves trembling at the breath of a fly. *Platycerum grande*, from Morton Bay, and grand, indeed, it was, embracing its own support by the natural spreading of its own web-footed fronds. *Nephrolepis darvallioides*, remarkable for fruiting all round the crenulations, or ups-and-downs, round the edges of the leaves. *Blechnum corcovadensis*, from beyond the town of Rio, and looking, for all the world, like some of our own *Lastrea* Ferns. *Didymochlana sinuosa*, four upright strong fronds, four feet high. *Dromaria corcovadensis*, like the Seythian Lamb Fern. Different *Saracénias*, and Pitcher Plants, of which *Hookeri* was different from what I read of the description, if I recollect rightly.

A new Pitcher Plant has recently been found as far south as New Caledonia, a most curious fact in geographical botany, which is not the question here by-the-by, but the rest of these noble looking plants from the Messrs. Rollinson—both the Pitcher, I lost my mark—but here it is, *Rhopala*, or, more properly, *Rhopala magnifica*, another example of the happy name given to Proteads, for where on the face of the whole earth can you find a match for all this diversity of aspect in one natural family. You cannot even guess at the appearance of one Protead, from a knowledge of the very next plant to it in a natural arrangement, or any arrangement you choose to make of them. These magnificent *Rhopalas* present the purple down peculiar to the Stag-horn Sumach on most of their young parts; their leaves of different forms are arranged in pinnated order; the plants are of free growth, and look well with or without flowers. *Rhopala elegans*, more slender than *magnifica*, and others of them, with several *Jacarandas*. Another set of fine-leaved, strong plants, *Dacrydium cupressinum*, with the brown tint peculiar to that family. A fine new species of *Jonesia*, next in beauty to *Amherstia*. *Udea pinnatifida*, a fine climber. *Xanthochymus oblongus*, one of the Gamboge-trees of India, with large Magnolia-looking

leaves. *Philodendron petusum*, and many others of that stamp, with collections of Heaths, Orchids, variegated plants, and of stove and greenhouse plants also, enough to satisfy the largest growers in the world. Then we have similar collections from the Wellington Nursery, St. John's Wood, beginning with *Rhopala corcovadensis*, and several other species of it. *Cassinia borbonica*, with Peach-tree shaped leaves in three pairs (pinnate), and an odd one, with golden foot-stalks and veins remarkably pretty. *Pavetta borbonica*, with gold and silver veins in its handsome, large leaves. *Dracena maculata*, in bloom and blotch; the two Zebra *Aphelandras*, *Millea-filifolia*. A fine Jacaranda-like plant, *Lomatia feruginea*, with Fern-like leaves. *Jatropha multifida*, with deeply-palmate leaves on long foot-stalks, and twenty-four *Rhododendrons*, of the Sikkim and Bhootan breeds, together with other collections of more every-day plants.

The Messrs. Fraser, of Lea Bridge, competed in collections of Stove and Greenhouse plants, in *Heaths*, and in *Crassulas* or *Kalozanthus*, as at Regent's Park.

ORCHIDS.—The Messrs. Rollinson competed with Mr. Veitch in collections of fifteen, and Mr. Williams and Mr. Woolly stood as formerly, with collections of twenty, and the following are the additions from each, which I have not mentioned already. From Tooting, we had *Cattleya crispa*, and *Stanhopea aurea*, two which are seldom seen from home. *Grammatophyllum multiflorum*, with three strong spikes, carrying from thirty to forty brown flowers each. A very large *Miltonia spectabilis*, in better health than is usual in the leaves. *Dendrobium Gibsoni*, a fringed, yellow flower, with two black eyes, not acquired in seuffle, but natural to it; and the *Europelium Lindeni*, again, and others.

Mr. Veitch had *Epidendrum vitellinum*; a fine *Dendrobium formosum*, large white flowers, with a yellow blotch on the lip; *Cypripedium lactatum* with thirty blooms on it; *Vanda Batemanii*, with fifteen blooms open and many more coming; a large *Oncidium ampliatum* and more besides, with a beautiful new *Oncidium* or *Odontoglossum*, brown and yellow, with small flat bulbs and one leaf to each, the flower stem upright, and ten or twelve inches high; a very nice thing. Mr. Williams had the lovely *Epidendrum verrucosum*, which puts one in mind of *Barkerias* so much, *Calanthe Masuca*, *Aerides*, *Saccobium*, *Cattleyas*, *Vandas*, *Dendrobiums*, *Oncids*, and Indian moths (*Phalanopsis*) of course; and Mr. Woolly had much the same, with *Dendrobium transparens*—of growth and size as in *Nobile*, but more slender, and the flowers nearly white with a deep stain of purple on the lip. *Odontoglossum Laurencianum* in the way of *Grande*, but not so good; and *Oncidium luridum*, very fine. Among smaller collections from different gardens, I noted *Dendrobium ulunum* from Mr. Carson, a slender-stemmed kind, trained and covered with multitudes of rosy lilac flowers, and a beautiful *Cattleya superba*. Mr. Gedney, gardener to Mrs. Ellis, of Hoddestone, had a fine *Angraecum caudatum*, *Oncidium Lanceanum*, *Lelia anceps*, rarely seen at a show. Her Majesty sent, "all new and rare," a large light blue *Thunbergia* trained; two pretty annuals from Texas, with the growth of a strong *Anagallis*, and the flowers of a large *Chironia*, rosy with a yellow eye. The genus is called *Sabbatia*, by Adanson, a French botanist. These seem delicate for out-of-doors, but they will make good pot plants to stand near the ventilators of the greenhouse in summer, and they look as if they would keep a long time in bloom; also two beautiful kinds of cross seedlings of *Begonias*, for which her Majesty's garden at Windsor has been long celebrated; the Queen being very fond of, and very successful in, cross-bred seedlings. One of these *Begonias* is called *suaveolens rosea*, and a very rosy sweet thing it is, with immense heads of drooping clusters, and a tall plant; the second is merely called *hybrida*; it is a high crimson, with paler shades, and the seed-pod in the midst is light,

or as if transparent; altogether, these may be classed with the very first crosses in the family. But I must drop the tale for a day or two.—D. BEATON.

FERN LEAVES FROM WILDERNESS PARK.

LAST week, with my mind filled with dreamy anticipations of the grandeur of the Palace at Sydenham, some of which partook too much of the aerial and fairy-land to stand the test of real, material splendour; the gorgeousness of metropolitan floral and horticultural shows; and, though the less dazzling, yet, in many respects, the not less interesting, associations connected with a provincial exhibition at which I had engaged to be present, with but limited time at my disposal; but, as an exemplification of the old axiom, that "where there is a will there is a way," I found myself, on Monday afternoon, comfortably seated on the top of a "bus" that plies between Charing Cross and Sevenoaks, in Kent. About two miles from that town is pleasantly situated Wilderness Park, the seat of the Marquis of Camden. "Truth, and you may call it a wilderness, for there are no neighbours at all, unless you make them out of the trees and bushes and ferns," replied a worthy dame, on whom I had begun to exercise the inquisitive bump; while a sister matron hummed something about passing through the lodge gates, casting a look askance over my outward man, as if she was perfectly conversant with a great practical fact, that a good coat will be an open sesame to many a place to which a coat out-at-elbows, or with all the marks of the shabby genteel, would be as impassable a barrier as the forts of Silistria proved to the besieging Russians.

As I do not mind letting readers into all my secrets, except the few reserved for "bosom cronies," and the fewer still which Burns says we "should hardly tell to any," I may as well state, that this hurried pilgrimage was undertaken for two especial purposes—first, to renew old intimacies and friendships; and secondly, as many good hints, directly, or indirectly, for THE COTTAGE GARDENER, had come from this place, I felt convinced, that in addition to the easy mode of managing *Calceolarias*, &c., for which many were obliged, I might, from observation, and comparing notes with Mr. Fraser, obtain some ideas that might be generally useful, and especially to that numerous class with but limited space and means, and a great amount of ambition to make the most of them; and I think that those who will have the patience to read all through my gossiping recollections will agree that there was no disappointment.

I entered the demesne at a neat little lodge, not far from the village of Seal. From this there is a beautiful avenue of double rows of young trees, extending, for a considerable distance, towards the mansion. If the half or the quarter of these trees had been planted, there would not have been such a fine appearance in a similar time as now; but a great present difficulty would have been avoided, such as breaking in upon the uniformity of the line by a wholesale thinning; and if that is not commenced and gradually accomplished, the appearance of the avenue must suffer in after-years. I remember but little of the Lodge, being so much more taken up with the obliging courtesy of the woman who kept it, and the beautiful beds of flowers, and plants in pots, that were plentifully studded in groups around it. On admiring them, it came out, that the goodman, her husband, had a great love for flowers, and "he was not a gardener, either," but worked upon the farm. There was a nice bed of the *Kentish Hero* *Calceolaria* in a corner, and, as my own stock of that splendid variety has never yet been satisfactorily established since they were attacked with the black leprosy—visions of a bundle of healthy cuttings began to flit before my

mind's eye; but it came out, that "her husband had brought these from a distance, and that they did not thrive well in the garden." I never could see the propriety of clinching any argument with a *bet* that what is termed chance was to determine; but, to humour those afflicted with this worse-than-morbid mania, I should not mind for once laying a silver groat to a brass farthing, that that man, so fond of flowers, was a kind husband and a good father, and an orderly, respectable member of society; and if *I*, or rather *he*, should be so unfortunate, that I must cash-up to square accounts, I next to pledge myself, in all times coming, to imitate an old friend, now no more, who, in all disputed points, was ready with his noisy asseveration, "I'll bet—I'll bet!" but who always cautiously let himself down from his stilts, and felt common sense shoe-leather and mother earth beneath him, as he finished with, "I'll bet a ha-penny worth of treacle!"

The mansion is very pleasantly situated, being a plain unadorned building, with nothing to attract the eye particularly by its outside architectural aspects, though, from its square parallelogram outline, conjuring up the ideas of large and commodious rooms within. In most aspects the beautiful scenery around may be said to be self-contained, that is, not extending beyond the bounds of the demesnes. The exception is on the entrance or west side, where, after enjoying a fine open undulating glade, rendered lively, at times, by a cricket ground near its centre, flanked with fine timber, and picturesque specimens, such as a very singularly formed Yew, and Firs, and other evergreens, thinly dotted in the foreground; the eye passes over the tops of trees growing in a dell, and rests on the beautiful Surrey hills in the distance. From many parts of the demesne fine views are obtained of the splendid amphitheatre of beautiful scenery that opens up after passing the heights of Farningham on coming from London. That evening, the sun burst on this scenery from a watery cloud, and there was not a seemingly stranger passenger but stretched his neck and exclaimed, "How beautiful!" Blessings, many, rest on those true patriots, who, it may be with an eye to the main chance, yet, by their planting, contribute to the rich scenery of a neighbourhood.

On the opposite, or east side of the mansion, there is a beautiful lawn that comes up to a stone pavement. Close to this front of the mansion, and over the green expanse of this lawn the eye rests on fine undulating wooded scenery, backed by a wood of Scotch Firs. The most conspicuous objects on this lawn are two fine Silver Firs, near its south side, very lofty, and with their lower branches spreading outwards along the ground, for from twelve to fifteen feet beyond the other branches of the tree. This presents a very singular and beautiful base for the tree-like pyramid, and appears to be quite natural. On the north side of this lawn, communicating with the mansion, is situated a lean-to conservatory, and a little farther eastward a dairy, embowered by wood. At the north of these, and the house combined, are situated the stables and offices, and among others the laundry, where there is a drying room, heated chiefly on the Polmaiso system, which answers admirably.

In front of the conservatory is a group of flower-beds, well filled, and what struck me forcibly in that group, as worthy of trial and adoption, was a large bed of the *Scarlet Shrubland Geranium*, mixed with the *Blue Ageratum*, and a rustic basket filled with a mixture of colours; but edged with the *Euthales macrocarpa*, which hung and festooned in a very graceful manner all round it. If any do not know this plant, I may mention, that it resembles, in the mode and colour of flowering, and is only inferior to, the beautiful *Oncidium flexuosum*, while it requires little more attention than any herbaceous plant that will not stand the frost of our winters. Cuttings put in now will yield nice flowering plants,

either for pots or the outside of baskets, next season. For the latter purpose, it would be well worthy of a place in the suspended baskets of the Crystal Palace.

The south side of the house may be said to be the chief garden front; but the lawn, here, is mostly concealed from that on the east side by masses of evergreens. There is little seen beyond this lawn, but an opening or two, which gives a peep of the wild Fern scenery of the park. On the east side of this lawn is placed the principal flower-garden, with a rose-bower for its centre. This bower, instead of being fitted up with seats and benches, is planted with the sweet Verbena, *Aloysia citriodora*, though the sooner seats were introduced, the sooner, in my opinion, would an improvement be effected. The boundary on the west side of this lawn, a walk winds round, with nice groups of Rhododendrons between it and the boundary, interspersed with groups of Roses, Hollyhocks, Dahlias, &c. Tastes will differ; but in such a position I would vote for all herbaceous plants being excluded, as with such masses of Rhododendrons they seem to break in on the unity of expression. The front of the south side of the mansion is covered, or nearly so, with a noble *Hycine sinensis*, a fine *Magnolia grandiflora*, Roses, Myrtles, &c.; and far up on the wall were splendid bunches of the *Cloth of Gold* Rose. Mr. Fraser told me that he had tried it several times on its own roots, and did but little good with it; whilst here, and in other places he showed me, it thrived amazingly when budded on a free growing stock, such as the stronger growing *Noisettes*. There can be no mistake about its being a fine thing when thus obtained in such perfection. These Roses and Climbers, &c., have a narrow border assigned to them between the house and the walk, though, no doubt, the roots have long travelled away from hence; and this border was very gay, chiefly with herbaceous plants. I by no means set myself up as an arbiter in taste, though, had I my way, I should never allow such a border to attend a country mansion, though it might be more proper at a cottage, or even at a town house. Let alone a smacking of *cockneyism*,—earth-borders for herbaceous plants close to a house always conjure up ideas of wet foundations and damp walls, though this may be anything but the case. Supposing that such a border must be kept, I would prefer, in the circumstances, a bank of flints, roots of trees, &c., and covering them with *Helianthemums*, *Cistus*, *Daphne cneorum*, or the better kinds of hardy free-growing Ferns. There would be a great contrast between these latter and the fine shaven lawn, but even that would be in accordance with the *name* of the place, and a striking contrast is often as pleasing as a severely studied unity of expression. The above remark will apply to many places which I have seen, and though I by no means assert that I am right, the ventilation of the subject can do no harm.

The lawn is now pretty extensive, and there will be no difficulty in extending it, chiefly on the south side, if it should be at all desirable, especially for the purpose of increasing the lumps of American plants. All the hardy *Azaleas* and *Rhododendrons* grow luxuriantly, and there are beautiful masses of them now. It always goes against the grain to move or cut down fine old shrubs; but the thinning and removing of masses of bushes in some places would be an advantage, more especially as the American plants do so exceedingly well. I could picture what a bright scene they were a few weeks ago. Some old Portugal Laurels were a dense mass of bloom. Plenty of excellent peat or heath-mould, is obtained in the immediate neighbourhood in the park.

Two things farther here deserve especial notice. First, the bedding was grouping indeed. The plants were what might be termed dug in. The great proportion were already quite full; not a bit of earth to be seen,

and most of them well in bloom. Few could tell such a tale in the first days of July this season. The remark applies chiefly to *Geraniums* and *Calceolarias*. Amongst the former, I was shown a desirable Scarlet, called "No. 60," with large bright flowers, pronounced to be as good or better than *Punch*, and a habit little stronger than *Tom Thumb*. For yellow *Calceolarias*, Mr. Fraser has fallen back on the old *Rugosa*, as the ground did not suit any other kinds so well; and taking the season through as respects late and early blooming, this old small-flowered kind has many advantages.

The second thing worthy of especial notice is the lean-to conservatory, which is divided into two divisions, one of which communicates with the mansion. The first half is filled, as respects its centre, with three large Orange-plants in large tubs; and a similar plant of a fine hybrid from *Rhododendron arboreum*. These are fixtures, as without taking out a portion of the house they could not be removed. The wall is covered with climbers. In the second division the wall is covered with Camellias, and beautiful and healthy they looked. The young shoots had just been slightly tied in, and were thick and regular from the summit of the wall to its base. This wall was a mass of bloom from Christmas to May. It has every promise of being so again. The kinds were *Paeoniflora*, *reticulata*, *fimbriata*, *Hume's Blush*, *Chandler's Elegans*, &c. I think I previously mentioned how well Camellias were managed against the back wall of a peach-house at Tingerth. In this second division, festoons for creepers run lengthwise near the middle of the house; and by means of moveable stands, and a broadish shelf in front, the house was always kept gay with plants in bloom. In the first division, the stems of the Orange-trees rise a little above the tubs before they begin to branch out; and thus, by placing boards, neatly fitted on purpose, across the top of the Orange tub, a stand for compact flowering plants is procured at once. After having seen the collection of Camellias, Azaleas, Heaths, Geraniums, and the glass roofing at command, the wonder was where all these things could be housed in winter, even supposing the graperies and pits to be drammed. But Kentish gardeners are becoming proverbial for doing great things with little means.

Crossing this east lawn, we enter an avenue walk, formed of Lime-trees, which leaves the kitchen-garden at a little distance on the left, and the rose-arboured flower-garden on the right, neither of them, however, being seen. Between this avenue and the kitchen-garden wall are some nice spots, on which Mr. Fraser has fixed his eye as rare places for forming wild Ferneries and Alpineries. At the top of this Lime walk, and at right angles with it, enclosing thus a nice square space for a kitchen garden, is a Walnut avenue. Several things struck my attention, or were pointed out to me here. The size of these Walnut-trees, but of which I have no memorandum, the pencil marks being obliterated; the desirableness of an urn, or obelisk, or commemorative pillar, at the top of the Lime avenue, at the point where they both meet. The peculiar character of most of the Lime-trees, most of them at something like a dozen feet from the ground, having that peculiar, crow-nest, crowded appearance, as would seem to denote they had once been pollarded at that height, though there is nothing in the present vigorous appearance of the main stems of the trees to warrant that assumption, and the vast quantity of mistletoe, with which the trees are loaded, which must give the avenue a peculiar appearance in winter, and almost led me to believe that Wilderness Park had been a favourite residence of the Druids of the olden times.

The Kitchen-Garden is large, some five or six acres, well cropped, and containing a fair-sized Vinery in two divisions. In the Melon-ground are two nice pits,

heated by hot-water, and a number of frames. I have got so much to say, and have already scribbled so much paper, that I must now be brief; and would beg our amateur friends' attention particularly to the economical modes which Mr. Fraser adopts for securing his bedding plants and abundance of late-flowering plants.

VINERIES.—These were producing fine crops. The borders are covered every winter with asphalt fastened firmly to wood, and so made that these asphalt covers, when not wanted for the border, in winter and spring are used for the protection of covering pits for vegetables and flowers. These were now under cover. In these Vineries were many plants generally grown in hothouses or stoves. In winter, a stage, now fresh-painted in a shed, is moved into the house, and a greenhouse formed at once.

ONIONS.—I should have mentioned this above. There was a fine healthy crop. I heard great complaints of the maggot in that part of Kent, on the omnibus. I am sure that if Mr. Fraser has used any particular method to get rid of this pest he will let us know.

WALLS.—All the finer fruit were in great abundance; and Peach and Apricot-trees were in healthy condition. Strong canvass cloth covers are used alike for retarding and protecting—letting them down during the day, and pulling them up during the night, when cold, for some time before the blossom appeared. These covers are made into pieces, as far as I could guess, of about four to five yards in length, and they are fastened to square pieces of wood at each side. One of these sides is fixed by screws to brackets at the top of the wall, and then two strings fastened to the lower piece of wood, towards the middle, and one at each end, and these, passing up the side of the cloth through rings, and going over a pulley-wheel at the top, enables two men to pull them up and let them down with great rapidity, by each standing at an end of a piece, and pulling or letting go, as the case may be, an outside and a middle string. Of course, the pulley-wheels are placed in the upper piece of wood, and, independently of being easily managed, they are thus easily moved from place to place, and very easily packed away over the rafters of a dry shed. These covers had been in use at least five years, and seemed none the worse for wear.

MELONS.—Mr. Fraser had been troubled with his plants looking very fresh at first, but, just when commencing to grow freely, some of the middle-sized leaves would curl up; and the process would continue until the plants were injured. There were two pipes for surface-heat, and one small one for bottom-heat. When the day lengthened, so as to minimise fire-heat, the Melons did well, setting, and swelling their fruit in perfection. He attributes the cause—and I imagine quite rightly (see recent article on Cucumbers)—to a stagnation for want of heat at the roots, while there was a strong heat above from sunshine and fire-heat combined. The demand for evaporation, in such circumstances, was greater than the weak action of the roots could supply. The evil would be aggravated by doing as I have done in such circumstances, putting a foot or eighteen inches of hot dung below the plants at planting time; for, ere long, that would get so dense, that the heat from the pipe would not easily penetrate it. An open bottom for a living to throw in heat or a slow growth at the top to restore the reciprocal action of a sluggishness at the roots, are the chief remedies which Mr. Fraser suggested.

COLD PITS.—I have frequently mentioned how these may be changed to warm pits in summer, with no more assistance than what the sun gives; and in such places I saw fine plants of various kinds of *Achimenes* in full bloom, destined, I have no doubt, to adorn the conservatory.

STRAW-WALL PITS.—These were now being filled with

a variety of things. In a corner of one of these the bedding Calceolarias had been struck, as previously reported, receiving no protection in winter, except the handlights and a good covering of cut fern. A deeper one of these was filled with Pelargoniums just beginning to open their buds, and beautiful and compact they looked. This pit was erected behind a south wall, and what is of great importance, they had been removed to their present quarters when the first vinery became too hot for them in March. Geraniums were not wanted early, and during the present and the next month these plants would present a mass of bloom. These beds, or pits, are all covered with asphalt covers when required, made into large pieces, and placed lengthwise along the bed. It is considered requisite to paint them with tur every other year. The pits for all these purposes are made very simply. Square posts are put in back and front, and on these a neat rail is fixed. The wheaten straw is placed upright, after being rather cleanly drawn, one end close to, if not in, the ground, and the other the height of the rail. Small Hazel rods, placed outside and inside, lengthwise, and tied together, kept the straw secure and in its place. In some of the shallower ones, where plants were set, the pots would be protected from the fierceness of the sun.

PHYLOGICAL FACTS.—Mr. Fraser drew my attention to a limb of a Pear-tree, which then, and for years previously, had borne abundantly, though all the means of communicating with the roots must consist in a very small portion of the heart-wood of the branch. At the top of the Limo avenue is a fine Beech (Beech flourishes well), from which a large limb, or rather side-piece, had been torn, and that exposed part was becoming perfectly rotten, though we could not see how far it extended down the tree. On the sides of this cleft fresh wood and bark was not only forming, but from the upper side a root was descending and feeding on the rotting part; and no doubt, if the rottenness reached the ground, that root would get to it likewise, and thus provide sustenance for the tree, and prove a firm cordage on that side for resisting storms and tempests.

Leaving the gardens, there are two things in the neighbouring village of Seal that came in for a share of our attention. First, the *Allotment Gardens*. I here met the schoolmaster of the village, and from him I learned that the gardens, or allotments, averaged half-a-rood in size, and that there had been a keen rivalry the previous season for the six prizes that the noble Marquis had given as an incentive to industry, and a reward for its manifestation. The size of the allotments is worthy of being noted, being such as a man, with a little assistance from his family, may cultivate in his own time without breaking upon his regular employment. Regular work, and as much ground as he can manage in over-time, are some of the best conditions for us labourers. As much ground as would require several weeks or months attention is apt to induce an indolent squatting system; placing a man under all the disadvantages, with but few or none of the advantages of the small farmer.

A second subject worthy of noting, is a reading-room and library, established at Seal, nearly a twelvemonth ago. The Marquis of Camden being President or patron. I also understood, that to encourage it, besides other assistance, his lordship paid the entrance money for all his workpeople who chose to enrol themselves as members. It is a nice, comfortable room, which I had a peep into at seven in the morning. A good library is being formed, and a number of newspapers and periodicals are regularly taken in. A considerable number of lectures have also been given gratuitously. R. S. Smith, Esq., tutor at Wilderness Park, has taken a very great interest in all the arrangements, seeing that books &c., are kept right, and has

delivered two lectures on the Russian Empire and Seat of War. Mr. Boodle gave a lecture on Pitcairn Island; the Rev. Mr. Davis gave a lecture on the characteristics of the Duke of Wellington; the Rev. Mr. Blackhall, the vicar of the parish, in addition to six or seven lectures on English History, and which are to be continued when the long nights arrive, gave two lectures on Australia, which were repeated again at a low charge of admittance; twopenno, I believe. The present subscription is, as far as I recollect, sixpence per month. It is complained that the class that the promoters were most anxious to reach are not the class most ready to acknowledge and use its benefits. But this is just the old tale about the Mechanics Institutes. Few fustian jackets spend their evenings there. The taste for reading must be formed before people can estimate the benefits of the reading-room and library. In a similar case, I once heard something like a joko made of an old man, who could scarcely spell his way, clutching "Smith's Wealth of Nations," warranting his girl would read it for him. If not regularly broke in, "Uncle Tom," or the "Wido World," would have been more luring wares.

All things angr well for the Seal Institute. The fact is,—*They pay for the room*. I like a spico of independence. I could tell of first steps to breaking up in such institutions, when the members consented to have everything *done for* them. The second is, that the clergymen of the place and neighbourhood have given it their countenance and support. I know not how it is, but though not expressed, it has been found, that in many places there has been no great cordial sympathy between the church and the institute. This has reference neither to the church establishment nor any other section of the Christian church in particular. There has been a cold shoulder felt between members of all churches and these institutes, for which it would be difficult to account, as none better than they know the importance of knowledge for elevating and ameliorating character, and none more than they should feel the responsibility of guiding a stream, resistance to which is beyond human control, knowing full well that knowledge can only exert its full powers of good when based upon moral principle, and directed in its movements by Christian benevolence.

R. FISK.

WOODS AND FORESTS.

THE OAK.

(Continued from page 258.)

I VERY lately had occasion to visit that county, Nottingham, famous for its Oak woods; and more especially, that part of the county where the seat of the Duke of Portland is, namely, Welbeck Abbey, three miles from the pleasant, clean town of Worksop. Since I visited this place in January last, the late venerable owner has passed to that "bourne from whence no traveller returns," leaving behind him his dearly cherished Oaks for his successors to enjoy. I believe, most sincerely, that no man ever planted more of this useful tree than the late Duke did, and very few, if any, paid that attention to their after management, so necessary, in order to produce good, sound, clean timber. Mr. Tillery, the gardener there, with his usual kind attention, showed me through some of the principal plantations. I was particularly anxious to see the famous *Portu Oaks* (the origin of this name I could not learn), and we bent our steps to them. They stand on each side of an entrance gate, and are really immense trees. I measured one of them, and at six feet from the ground, the stem, or trunk, was thirty feet in circumference, and continued very gradually to lessen in girth to a very great height. The highest leader, however, is

dead, and some of the higher branches also are decaying at the ends; yet they are two noble trees well worthy of inspection and a long journey to see them. We passed through a wood planted exactly a hundred and twenty years ago. Most of the trees are from eighty to a hundred feet high, with clean trunks as straight as an arrow, and three-fourths of their height without a branch. Many of these fine trunks will measure from two to three feet diameter, and will afford a great number of noble planks for ship-building. They stand at, on an average, about forty feet from each other; so that an acre will yield more than three hundred of these noble trees. Surely this is encouragement to planters to go and do likewise.

Other plantations of younger trees are advancing rapidly; but they require, now, an immediate severe thinning, or they will not attain the size and diameter of the one just mentioned. I believe the present Duke has given orders that every thing proper to be done shall be immediately carried into effect.

Most of the large Oak plantations here are marked with a large label, firmly placed in the ground. On these labels is either the letter P, or the letter S, with a date to each. The letter P means planted in such a year, and the letter S means sown in such a year. I tried to make out a difference between the two, in some that were nearly forty years old; but am compelled to confess that I could not detect any, neither in straightness of growth, nor in height; but I was informed that great pains were always taken with the planted trees, so that no wonder they soon overtook their sown brethren. One point struck me much, and that is, the extreme thickness of the ten or fifteen-year-old plantations. Nothing could exceed their health; and I ascribe that to their being sown or planted in four-foot beds thrown up for the purpose. The ditches between the beds kept them dry; and more than that, permitted the air to blow and circulate freely amongst the trees, whereas, had they been equally sown or planted over the whole surface of the land, the air could not have entered at all, and the consequence would have been one-half of the trees, if not more, would have actually been smothered. I could not help thinking, however, that the young trees, even under the most favourable circumstances, would have been much finer if they had been regularly thinned from the time they began to crowd on each other. I also observed that they had not been pruned at all. I believe the Duke held the opinion, that if the Oaks stood sufficiently thick the lower branches would be smothered, and fall off by degrees of their own accord. It is a pity that the reverse of this non-pruning method was not at least given a trial. It is true, I saw several branches that had dropped off, and their place was quite healed over, so that it required a sharp eye to discover where they had been; but I also saw some, nay, many short stumps of dead branches that the bark was vainly attempting to encircle and cover, thus enclosing, as it were, a long piece of dead wood, which would eventually become a hard knot, and when the trunk is squared up and sawn into planks will be a great drawback on its value. Close early pruning, such as I described in a former paper, is the preventive of such defects, and I am fully persuaded not only useful for that, but also for a greater development of the bulk of timber.

The soil at Welbeck is a deep loam upon a stratum of red sand; the situation of most of the woods is on gentle rising ground, though some of them are on broad flats, yet considerably elevated above the rivers in the neighbourhood; hence, the soil and situation are both particularly favourable to the production of fine Oak timber. The late Duke was liberal with his land for this purpose, though it was and is valuable for agricultural purposes. Whoever wishes to have good Oak must imitate this disinterested

example, and give a portion of good ground for the same patriotic, and in the end profitable, investment. Nearly the whole of the woods here are Oak, at least, as far as I observed, and a large fortune would be realised by felling only all such as are encroaching upon each other. If our national woods and forests were as thickly wooded with such fine timber, the reports of the proceeds would cut a very different figure than they do at present, besides leaving a large, young, thriving stock for the generations to come. That they are not so, is a fact too clearly established; yet it is to be hoped, by better management in more efficient hands, they will soon be put into a better condition. T. APPELBY.

(To be continued.)

FLORIST'S FLOWERS.

THE DAISY.

(Concluded from page 257.)

Propagation.—In my last paper on this universally admired flower, both by old and young, I described the best method of improving the varieties already in existence by seed, and it naturally follows, as it were, that it is desirable to know how to preserve the varieties so raised, as well as the older ones, and that must be done by division. The Daisy sends forth side-shoots from the centre stem very freely, and these shoots being close to the ground put forth roots as they grow, and then may be easily increased by division. The best season for this interesting operation is July, though it may be done through all the spring months, commencing with March; but if the work is done about this time of the year, the plants so divided get well established before winter, and are strong enough to carry them through the winter well, and flower firmly early the next year.

Previously to taking up the plants to be divided, let a bed be prepared for their reception. The soil of the bed should be light and rich. I have used road-serapings, with the best effect for that purpose, mixing them thoroughly with the common soil of the garden. By road-serapings, I mean the horse-droppings collected by poor cottagers' children, or old men past heavy labour. This is generally mixed with the sand, and small stones collected with it; and this mixture keeps the soil open, and greatly assists the young plants in their growth. This material should be laid or spread upon the bed about two inches thick, and then the bed should be well and deeply dug, mixing the gathered dung well with the soil. If time will allow, this digging should be done twice, the better to effect the mixing, and this second digging will effect that better if it is done with a five-pronged fork. Parkes's five-pronged fork is one of the best instruments ever invented for pulverising and mixing garden soils and manures. This preparation of the bed should be done at least a month before it is wanted for the divisions. That time having arrived, level and rake the surface of the bed, and then lift the plants carefully with a small spade or trowel. Write fresh legible labels for each variety, and plant one sort before taking up the next. This precaution is especially incumbent upon the florist who intends his plants for sale, in order to insure correct dealings with his customers. The plants, when taken up, should have all the soil shaken off them, and then with a sharp knife cut off each stolon, or offset, taking care to preserve all the roots to each division. If these roots are very long, they may be shortened in a little. Then open a trench at one end of the bed, and chop down the further side of the trench nearly perpendicular, place the roots against this upright side, and with the hand place a little soil against each plant to keep it in its place. If they are to bloom in this bed, the distance from plant to plant

should be six inches. When the row is filled with plants, then carefully dig the soil up to them, keeping the crown of each just level with the soil, tread it gently down close to them, and dig as much more of the bed as will allow eight inches between the first and the second row; then give a gentle pat or two with the spade, to make it firm, and chop it down to receive the next row of plants, and plant them also. Proceed thus till all are planted, then stretch a line the whole length of the bed at the side about four inches from the plants, chop the side down neatly with the spade, and repeat the same operation on the other side, rake the walks, and the operation is finished neatly and well. Should the weather be dry, a good watering will be indispensable to start the plants into fresh growth.

2nd. *Soil and Situation.*—The finest Daisies I ever saw were in the garden of John Smith, Esq., the present Mayor of Macclesfield, situated at Langley House, near that town. The soil of that garden is alluvial, a brook runs through it, and the Daisies were planted on a border near the brook. That part of the garden had been made only about a year, and, consequently, the Daisy plants had only a year's growth. The fresh soil and cool situation, no doubt, suited these plants, and produced exceedingly fine flowers without any care, excepting the usual one of keeping them clear of weeds. This is a lesson worthy of being studied, and naturally points out what we should do as to soil and situation; and further, that in order to obtain large, well-formed, and highly coloured flowers, the plants should be divided every year. But as every one cannot have such a situation, it behoves them to endeavour to imitate it as nearly as possible. The soil I mentioned to plant the divisions in for propagation will answer in most situations, but where it is poor, sandy, or worn out by being long used as a garden, then some fresh, good loam will be a great improvement. In such light, sandy, poor soil, in a dry season, I have seen, in hot weather, Daisies die in hundreds, therefore, such soils should be removed, and soil of a stronger, cooler, texture substituted. The bed for the finest varieties should also be in such a situation that it would be shaded or protected from the hot summer sun.

General Management.—Whoever has attentively read my observations thus far on the culture of the Double Daisy, will have obtained a tolerable idea of their management, and it may be summed up in a very few sentences, namely—The Daisy loves a cool soil and situation. It should be annually divided in order to produce the finest flowers. It may be greatly improved by seed, and easily increased by division.

I shall conclude with a few remarks on the Daisy as an edging plant. I have seen it frequently used for that purpose, and when well managed and kept in good order is very ornamental. As an edging, the colours should be mixed, alternately white and red, or the mottled varieties may be used. If all red the colour is too glaring, and if all white, it has, to me, a rather sickly appearance; therefore, the mixtures are, in my opinion, the most proper and desirable. These edgings should be renewed every second year, or they will become too broad and irregular. As soon as the bloom is over, the old flower-stems and the old leaves should be neatly clipped off, and that will enable the plants to produce fresh leaves, and be a neat green edging through the autumn and winter.

T. APPELBY.

SOWING THE CABBAGE.

Few people who have the well-being of society at heart will regret the present desire that has been manifested to become acquainted with "common things," by that class to which the acquisition will be of most im-

portance. I am not one of that few, and, therefore, I purpose here to call attention to the culture of one of the very commonest of garden vegetables, yet one alike useful to the prince as well as to the peasant, and one as generally a favourite—I mean "the Cabbage."

Of the many varieties of this useful vegetable it is not necessary here to make mention, as the numbers keep on increasing, or rather the names do; for without imputing to the enterprising cultivator any improper motive for giving a name to what he fancies a new variety, it is proper to say, that without some care in the selection of plants to raise seeds from, old varieties would degenerate and eventually become as worthless as the wild plant from which they originally proceeded.

Although there is no doubt but that all plants have their own peculiar soil in which they flourish and make most progress, yet there are some which seem to accommodate themselves with more ease than others to soils and situations diametrically opposed to each other. Of the latter class is the Cabbage. Originally from a soil partaking largely of calcareous matter, it has, by a long series of cultivation, been brought to a state in which it is made to thrive in any soil sufficiently fed with enriching substances, as it is, like most of its class, "a gross feeder;" consequently, a soil that has been well supplied with dung is the one for the Cabbage; it is, also, necessary to give it a situation where it is not likely to suffer from the drought of summer, for its food partakes largely of fluid matters as well. However, as it is so accommodating as to grow almost any where, we do not suppose a choice of situation is left to it; but that it must be planted in some plot, which, in the "rotation of crops," is allotted for it; and as it will require but little attention after planting, it would be prudent to give it as much good manure at once as can be spared with propriety, but as there are other things to do before planting-out, a notice of these may not be unacceptable before advancing further.

In *sowing the seed* of this useful vegetable, more care must be taken of the site than is usually given to the planting-out afterwards. An open airy situation must be selected; and, as we do not advise the seed to be sown very thick, it need not be very rich. I generally sow this, and other plants of kindred habits, in beds of four feet wide, marking each kind on a stick, sufficiently long to be seen over the tops of the plants when they have got to the full size for planting-out. If the season should be exceedingly dry, I generally shade the beds for a time until the plants show themselves. Afterwards, they are fully exposed. This is more especially necessary in the dry weather of July and August. A batch of Cabbage-seed ought to be sown before August; in fact, by the time this page will reach the reader, about the 20th July, it will be quite time to sow a small quantity of the best early sort to come into use first, which are, however, not to be depended on for the main crop, which had better not be sown until the 10th or 12th of August; an intermediate sowing about the 1st being also made, will afford a few plants for early work; but as some nicety not unusually depends on the sowing and planting of Cabbage at the proper time, this seems a fitting place explain its various bearings.

Like most of the plants with cross-shaped flowers (*Crucifera*) to which the Cabbage is related, its natural or proper time of flowering is spring and early summer; and if it can be diverted from doing so at this period it is not so likely to do so afterwards. Although now and then a plant will be seen erecting its head even as late as September, still the usual time of its doing so is about May. Now, as cultivation has brought this plant into such a condition that it is made to perform a certain growth before it gives way to the tendency that all plants have "of furnishing seed to propagate their species," it becomes necessary to overcome that ten-

dency in certain cases, in order that the plants may continue that growth which enlarges the part we esteem as the most useful before this seeding process comes on. Now this is the critical point; for to have the plants of a tolerable good size by the beginning of March, which in a mild season is the one they usually exhibit a tendency to run into flower, is what is wanted without the flowering; and it is not too much to say that all of the Cabbage tribe would endeavour to seed at that time, if sufficiently advanced in size to do so, but so soon as the critical time is past the difficulty is over, consequently, the attention of cultivators has been directed to the attempt to introduce plants that would resist the flowering temptation when of a larger size and greater age than their predecessors, and so increased their usefulness; for it is easy enough to have a bed of Cabbages, with hearts nicely turning in by Christmas, but the chances are, how many of them are likely to be Cabbages in April?

As the skill and attention of growers have been directed to the development of this part of the plant's economy, varieties have sprung into existence which may be sown much sooner than used to be the time, and yet not run to flower in spring; some varieties having this property to a greater extent than others, but all early Cabbages are expected to possess it to a greater or less extent. It is not necessary here to refer to the industrious process carried on through many years that has accomplished this; suffice it to say, that there is reason to believe that in the first improvements attempted on the wild plant, the sowing and flowering would be effected the same season; and it would not be until after a long period of patient culture that the plants raised from seed sown in August would stand over the trying spring season; but we may readily guess that the persevering cultivator who attempted it would accomplish his object by saving seed from those only which did resist, be that one the only individual in an hundred. As this process has been repeated up to the present day, we are now able to sow our varieties of Cabbage as early as the 20th July, without the danger of their seeding in ordinary seasons, for it is necessary to put in this qualification. Nevertheless, it would be wrong to say that the principal crop ought to be sown before August, as already specified.

It is here proper to observe, that if by any accident the two first sowings above-mentioned fail from any cause, a great advantage may be taken by sowing a few of the August plants on a piece of very fine and rich ground, and not too thick; the rapid growth then commenced must be carried on in the next plot they are transferred to, so that by Christmas they are large, well-formed plants, their rapid growth certainly unfitting them to stand the severities of the season, as well as those which have a greater age to boast of, still they are less likely to run to seed, and the produce will be sure. It is proper to observe that this process might, with still greater advantages, be adopted in the middle sowing.

It is almost needless here to enter into the minutæ of Cabbage growing; suffice it to say, that the earliest planted may be planted a little closer than the main summer crop, a good open situation being selected for all; the earliest, however, are often favoured with an early border in order to hasten them on. And although large breadths of Cabbages of a useful, good kind may be seen, yet we seldom see them so correctly true anywhere as in the large market gardens which supply London and other towns. Many cottagers, in districts where they grow their own seeds, also exhibit excellent varieties of this vegetable, and deserve every commendation for their management; still, it cannot be said that the Cabbage has yet arrived at that stage of its progress where improvement must stop, for certain points in the Cabbage admit of amendment yet, especially

in their eating qualifications, which, unfortunately, some of the otherwise best kinds grown do not possess in an admirable degree.

J. ROBSON.

THE OLD PROFLIGATE.

By the Authoress of "My Flowers."

If we needed proofs of the Bible being the Book of God, we should find them more plainly set forth in our every-day experience than in all the histories that men have written about it. We daily and hourly see, "Thus saith the Lord," written upon every nation, every church, every event, every family, and every individual that our eyes or minds rest upon. "It is written," explains every difficulty, settles every doubt, and answers every question. There is not a "why" in worldly affairs, whether great or small, that there is not a scriptural "because" appended to it. Does not this satisfy the most earnestly inquiring mind, that "the Lord omnipotent reigneth," and that His mighty finger has written those wondrous declarations that are so clearly and fully established by everything that happens to the children of men? There is a solemn declaration made by the Lord's own mouth: "They that honour me I will honour, and they that despise me shall be lightly esteemed." Do we not daily see the truth of this immutable Word? Do we not see obstinate sinners confounded and left to perish? Do we not see others dragging on a miserable old age without comfort, peace, or respectability—"lightly esteemed" even among men, and "having no hope in their death?"

The following sketch, sent by one whom I shall henceforward call the Cottage Gardener's Friend, will be read with painful, but I hope profitable, interest:—

"If there be one thing more humiliating to human nature than another, it is the spectacle of an old man bearing about him the evidences and effects of a life given up to profligacy and sensuality; a life which has not only wasted his worldly substance, but brought his grey hairs in sorrow and wretchedness to the verge of that bourne from which there is no return.

"I well remember, in my very early days, a professional man of considerable standing and reputation, who was then in the prime of his existence, and certainly one of the smartest and most fashionable of the little coterie to which he belonged. It has often been a matter of speculation to my own mind how it is that the appearance, manner, age, and the very tone of voice of some indifferent person, almost unknown to us, are remembered in after years, with such clear distinctness, that they seem indeed daguerrotyped on our memory—so it is with Mr. Sparkes. I knew him merely when I was a child, as passing him in the street, or seeing him lounge about the public square, laughing and joking with some equally frivolous companions; the sound of his loud laugh even now rings in my ears, and I see the merry, jocund face, the very personification of health and strength, unclouded by care or anxiety. But look at him now! See that poor emaciated form, clad in the thrown-off apparel of some pitying inhabitant! Mark that vacant stare, those attenuated limbs, those pallid lips, muttering an incoherent conversation with himself! Can this be the man I have been describing? It is even he; and let my readers mark and remember that his present state has been brought about by *intemperance* and its accompanying vices. His condition is indeed most pitiable. He is, I am told, kept from positive starvation by the kindness of some individuals who knew him in his best days;—one sends him a sack of flour, another an old coat, a third, perhaps, a cast-away hat: and these acts of benevolence are performed with the greatest caution; for, although suffering the greatest privations, and drinking the cup of poverty to the very dregs, yet his pride remains unsubdued, and did he know from whose hands he received these necessary kindnesses, he would, without hesitation, return these gifts into the hands of the bestowers. He is, indeed, a pitiable object; unnoticed by those who formerly sought his company, he remains an abandoned outcast of society, a warning to the young, and an object of solemn commiseration to the thoughtful. May God grant that his example may not be lost, and that his sins may be repented of before he goes, hence, and is no more seen of men."

"The hoary head is a crown of rejoicing, if it be found in the way of righteousness;" but alas! what a woful sight, what a clothing of "shame and dishonour" is it, when it is found in the way of sin! An old man "lightly esteemed"—an old man, the object of scorn, reproach, or loathing to all around him! Can the earthly portion be made more bitter? No. The depths of poverty are nothing; sorrow, bereavement, the Union Workhouse itself, may be hailed almost with joy as the bounds of our evening habitation; one who holds the hand of his loving Father, cares not where He leads him; but to have *no* Father, *no* God, no bright hope beyond the night that is closing in, to have no inward sanctuary to dwell in, no whispering Friend to cheer and rejoice the heart; *this it is* that tips the arrows of the Lord with poison; *this it is* that makes the obscuring cloud send forth crashing peals and withering flashes! "A youth of folly, an old age of cards," is but a poet's view of these terrible sights; but a youth of sin, and an old age of shame, of the hiding of God's face, of "light esteem" in His regard, is the view a Christian, a true believer, takes of this awful catastrophe, and it makes him tremble. Bitter as the punishment is on earth, it is but as the first light drops before the tempest. Dreadful as it is to live without God *here*, what *will* it be to live without Him hereafter? Oh! if we would but consider for one little minute, how dearly purchased earth's vanities and pleasures are, when we come to *pay down their price*—when we barter for them every real good, and know that they are wrapped up in an old age of shame, and an eternity of darkness;—if we would but consider this, surely we should refuse to trade as we do with Satan; surely we should flee from his baited trap, and seek, instead of his jingling coin, "the unsearchable riches of Christ."

Reader! ponder these things. They are of mighty consequence. Remember, remember the solemn warning God has given us. It is not *man's* word, and we see it continually made plain before our face, "They that honour me, I will honour; and they that despise me, shall be lightly esteemed."

RAISING FRUITS FROM SEED.

We know of no subject on which we can more profitably offer a few observations at this time of the year than that of raising fruit from seed. We are every year ransacking foreign countries for new varieties; we are not satisfied with what we have, and we never shall be. It is in the nature of man to seek for novelties; and it is well, on the whole, that it is so. We shall not say a word against this, but desire to commend to people's attention the abundant means nature has placed in our reach to produce new varieties here, at home, on our own soil.

Shall these be neglected? We hope not. There seems, fortunately, at the present time, a disposition in the public mind favourable to the improvement of home resources in a gardening sense, and the raising of seedling fruit is certainly one of the most important. Just enough has been done to show the facility, and afford us encouragement to proceed. Dr. Kirtland's Cherries, Dr. Brinckle's Raspberries, and many varieties of Strawberries, all of much merit, are recent additions to our lists of fruits, raised from seed in the simplest manner, without any regard to the niceties of hybridization; so we can count up fifteen or twenty first-rate American seedling Apples, some of which, and indeed many, have a national reputation, all raised from chance seedlings.

Now, in fruit-raising, it is of the highest importance that every man cultivate such varieties as are best adapted to his soil and climate. One of the great problems which pomologists are at present endeavouring to solve relates to this very point. As botanists have divided the earth into zones of vegetation, each of which is characterized by a peculiar flora, by the prevalence of certain trees, and shrubs, and plants that flourish there, and there only; so, in fruit-culture it is believed necessary to map off this great country of ours, embracing such a variety of climate, into pomological zones, in each of which certain fruits succeed better than in others. On this pomological chart, that our American Pomological Society, if it live and thrive, intend one day to appoint a commission to make out, shall be clearly defined the exact

limits of successful cultivation of our *Bartletts*, (Williams' Bonchrétien) *Seekels*, and *Virgalieus*; our *Newtown Pippins*, *Baldwins*, and *Spys*; and this will certainly be a most interesting and valuable map. But it may be a long time yet before it is completed, or before we shall have collected the great mass of facts and statistics which the execution of the project will demand.

Meantime, it must be urged upon fruit-growers, both professional and amateur, every man or woman, boy or girl, who can obtain seeds of fine fruits, to plant them and rear them into bearing trees. It scarcely admits of a doubt but that this is the true, and almost the *only* way to obtain varieties completely adapted to all local circumstances; this can be read plainly in the history of nearly all our native fruits. As a general thing, their culture is most successful in the region of their origin. Some, like certain genera of plants, are confined to narrow limits, beyond which they do not appear to prosper; others admit of a greater diffusion, and adapt themselves to a greater variety of circumstances.

The most forcible illustration of this is found in the case of northern and southern fruits. The *Fameuse*, *Pomme*, *Grise*, and some other apples of the north, are best in the coldest latitudes, and fail as they go south, until they become utterly valueless before they reach the Mississippi. So in the case of southern fruits, like the *Rawles' Janet*, *Tewkesbury Winter Blush*; &c., that succeed only where the seasons are very long, and are entirely valueless in the north, as spring opens about the first of May, and the autumnal frosts come as early as the first of October. The *Porter* and *Baldwin* are in no place so good as in Massachusetts; the *Newtown Pippin* is best on Long Island and the Hudson, the *Spitzenburgh* in New York, &c.

Aside from the unquestionable facts of the case, it is clearly natural that this should be so. A variety springing up from seed in any given locality, is, in the course of its production, endowed with a constitution and habits adapted to that locality in a particular manner—just as men are more at home in the climate and mode of life of their native country than in any other, and are, in a measure, proof against local diseases that strangers would immediately fall victims to. This is all in strict conformity to the harmonious laws that regulate and govern all nature, animate and inanimate.

Now, we are an impatient people—a "fast" people, to use a current term—and we are quite loth to embark in anything that does not promise immediate results. Our young men greatly prefer hazarding their lives for the chance of securing a lump of California gold, to working a fortune patiently, but surely, out of their paternal acres. To such people, raising new and fine fruits from seed, where perhaps not more than one in ten thousand may be a prize, is a slow business, and anything probably cannot convince them that it is more rapid than they imagine. But we shall try, nevertheless.

Suppose, for instance, we wish to produce some seedling Strawberries; we take the finest berries of the best kinds to be had; they must be perfectly ripe; either wash the seeds out of the pulp or crush the berries, and spread out pulp, seeds, and all to dry. We then sow either the clean seeds, or dried pulp and seeds, in light earth, and by autumn we have nice plants. These need protection during the winter by a covering of leaves, and the next spring they are planted out into beds. The following season they bear, and then it is seen whether we have gained a prize or not. Raspberries, Currants, and Gooseberries, are managed exactly in the same manner, and bring forth fruit in the same time. This is not a tedious process. Three years, or four, enable us to arrive at some result with these small fruits, and very important fruits they are. It would take as long as this to raise a colt fit for market, and a first-rate Strawberry, Currant, or Raspberry is as valuable as two or three good colts, at least, or it might be half a dozen.

Peaches are easily raised from seed, and come quickly into bearing. Every one knows the method of raising Peaches from seed. The fresh stone may be transferred at once from the pulp to the ground, and in three or four years it will yield fruit. Pears and Apples are more tedious; but there is a way to manage these to obtain an early result. Suppose, now, in 1854, we collect seeds of the finest Apples and Pears; as they are taken from the fruits they are placed

in sand or earth till all are collected; they are then planted in fine prepared earth. Next spring they will start, and in the autumn of 1855 they will be yearling plants. While yet in leaf select the most promising subjects—such as show in their features the greatest degree of refinement; then, instead of waiting ten years for these to bear, we bud or graft them into bearing trees, dwarfs, if possible, and in two years they will be fruited. Plums and Cherries are managed in the same manner.

We think that no reasonable person who has patience enough to wait for the ordinary seed-time and harvest could call this a very tedious process. Aside from the advantages which it offers, the raising of seedling fruits is full of instruction and interesting, as every one can testify who has given it a trial.—*Genesee Farmer.*

BEEES SWARMING VERY EARLY ON THE EIGHTH OF JUNE.

As J. B. asks you if any of your readers remembered their bees swarming early on the 8th of June, I beg to say, I had a swarm on that day, which left the hive at a quarter to eight in the morning, were in their new hive a little after eight, and are now working a good-sized bell-glass, having filled one of "Golding's Bar Hives." I find I cannot prevent swarming in any hive. I have "Nutt's Pavilion," "King's," "Golding's," "Common Cottage and Improved Cottage," and a Cork Hive, being in all eleven stocks; more than I actually want; and though I gave them all room in April, they swarmed in May; and from three I have had casts, and from one, two second swarms; and from one of the new swarms, a second swarm, all of which are doing well; but none of the old stocks are working in the glasses, except one. I must get rid of some of my stocks, and conclude I had best unite the weakest hives; at present they are very strong, though the weather is very much against honey-making.—**HONEY BEE.**

POTLTRY-YARD REPORT.

SHANGHAE v. SPANISH.

DURING a temporary absence from home in the early part of this month, although I had given strict injunctions relative to these matters, like many others, it was forgotten. I have, therefore, chosen to break off the report at the end of May. It stands thus:—

SPANISH.			
	Eggs.	Weight.	
January	4	0	8 6
February	16	2	2 0
March	59	7	11 6
April	70	9	4 3
May	64	8	8 1
	213	lbs. 28	3 0
SHANGHAE.			
January	36	3	13 2
February	100	10	13 5
March	44	4	6 7
April	64	7	6 0
May	71	7	12 7
	315	lbs. 34	4 5

In every way the report is favourable to the Shanghaes: reckoning six Minorea and eight Shanghaes, both as to weight and number of eggs, the latter have the advantage; the weight of the eggs is greater in proportion. The Minoreas (fewer in number) ought to have laid 267 eggs; and the weight should have been 3 lb. more than it is now; then they would, in proportion, have equalled the Shanghae.

Altogether, the eight Shanghaes have sat *seventeen* times. One sat six weeks without intermission. On the side of the Minoreas, one only. I do not hesitate awarding the palm, as far as my experience goes, to the Shanghae.

H. B. S., *Monmouthshire.*

PEASANT PROPERTIES.*

In our present observations on peasant properties, we do not intend to inquire into the ethics of the question. We do not ask whether it was morally right or morally wrong for England to pursue that vast system of inclosure, by which the English peasantry were permanently ejected from their commons, and deprived of their prescriptive rights,—or whether it was right or wrong for the Legislature and the Highland proprietors to convert, by a fiction of law, what was once, to all intents and purposes, the property of the clans, into the private domains of individual landlords,—thereby disinheriting all save the chief and his family. These questions are practically settled,—the facts are achieved,—society has accepted them,—and it is now useless to speculate on what might have been the result, if a different principle had pervaded the arrangements. Within a century and a half, a vast revolution has been wrought in the occupation of the lands both of England and Scotland. By the inclosure of the commons, about five thousand parishes, constituting nearly a half of the soil of England, were subjected to a legal process which severed the peasant from all direct interest in the land, and left it ultimately in the hands of large proprietors. And by the introduction of the English doctrine of property into the Highlands, the old system of customary occupation was entirely superseded, and a new system substituted, which threw vast territories into the absolute control of single individuals, who had previously been only the representatives of their tribe, and who had held the lands not as their own, but in virtue of their office as chiefs or petty sovereigns, who ruled over a given district, and administered the public affairs of the clan. These measures have produced a radical change in the whole structure of society. The first, by leading to the absorption of the smaller properties, abolished the English yeoman; and the second bids fair to abolish the Highland population. Both measures had essentially the same result in one respect,—essentially a different result in another. They both left a country population, composed of a very small number of great landed proprietors, surrounded by a dependent and almost subject tenantry, outside of which remained the mass of those who live by labour alone,—who have been east loose from all interest in the soil, and who are regarded as machines for the execution of work. In this respect the results have been similar in the two countries; but a very striking difference presents itself to view when we turn our attention to the soil itself, and ask how it has been affected by the change. In England the pretext for the inclosure of the commons was, that the land was uncultivated, and to a great extent unproductive. This was actually true, and being so, it was a good and sufficient reason for the introduction of some new system by which the lands should be brought into cultivation. Still, even supposing that the produce after the inclosure was five or ten times greater than before, it was more advantageous to the peasantry, that is, to the great body of the rural population, to have only the fifth or tenth as their own, than to be deprived of it altogether, and to see ten times the produce passing into the hands of the great landlords and great agriculturists. The lands, however, *were* cultivated, and the produce was obtained; so that although the English peasant was ousted from his common rights, the land was turned to its proper agricultural use, and grew corn for the service of the nation. The landlords and farmers acquired wealth, the peasants went on the parish, and were supported by the parish rates. In Scotland the effect has been entirely of an opposite character. The lands, instead of being brought into cultivation, have been thrown out of cultivation. The cottage and the croft have been herried to make way for grouse and deer; and so far as the production of food is concerned,—food available for the ordinary purposes of life,—hundreds of thousands of acres that once grew, and supported soldiers second to none who ever stepped, might as well be sunk in the bottom of the sea. Not only are they not cultivated, but, in some cases, they are not even to be seen.

What, then, is to be the termination of this course, that has been gradually but surely working an entire change in the relations of the British population to the British soil?

* By Hugh Miller, Esq., Author of "The Old Red Sandstone," &c., and Editor of the "Edinburgh Witness."

The number of proprietors has been constantly diminishing, and the land is passing into fewer and fewer hands. If the process were to continue, a time might come when the very stability of the State itself might be endangered, and a change of system would be imperatively required for the safety of the nation. Already many parts of the country are both materially and martially much weaker than at any former period. They can neither turn out the same amount of food for the support of the nation, nor the same number of men for the national labour or the national defence. In other districts where the population is dense, the stature of the people has diminished,—that is, the people are undergoing a course of physical deterioration. Great numbers of our healthiest, strongest, and most athletic sons are emigrating; for it is no longer the half-starved pauper who emigrates, but the very pick of our industrial classes. The nation, powerful as it is, and perhaps presuming a little too much on its past career, is certainly at the present time undergoing a process of debilitation—becoming relatively weaker,—increasing in wealth, but not improving, or even maintaining, the solid element of a well-arranged and well-conditioned population.

To arrest the progress of this growing evil, various remedies have been proposed. Some have asserted that a total abolition of entails would effectually prevent the accumulation of estates into the hands of a single proprietor,—forgetting that the estates *have* been so accumulated simply because the large estates were entailed, and the small estates were not entailed; and that the usual purchaser, whenever land is exposed for sale, is either a great proprietor, or a great capitalist. When an evil has grown to a certain point, it will perpetuate itself, like iron, which, when heated to a certain temperature, will burn of its own accord. In the present condition of Britain, the abolition of entails would be quite as likely to throw the land into fewer hands as to increase the number of landholders, because the great proprietors, who have large revenues, or almost unlimited credit, will give more for the land than its actual mercantile worth estimated by the rate of interest that might be derived from other investments. The abolition of entails would, in all probability, only transfer the estates of the impoverished families to those who are already possessed of extensive domains. There would be no tendency to subdivision, because the offer of ten thousand pounds for a small property that was only worth five thousand would be no temptation to a lord or duke, who has perhaps a clear income of a hundred thousand a year, and whose object is not to get money, but to get more land. That the abolition of entails would lead to the sale of land in such portions as would be convenient to the purchaser—that a farmer, for instance, who had been saving and successful, could go to his landlord and buy his farm at a fair market price, as he would buy a house or a ship—we certainly do not anticipate; for if the farm lay in the centre of an estate, the proprietor would not sell it for ten times its estimated value, nay, he would not sell it at all. The mere abolition of entails, therefore, although in itself a good and proper measure, would not be calculated to work any great change for the general welfare. It might relieve some spendthrift families from the inconvenience of estates which they were unable to manage or redeem, and it might infuse new capital into the agricultural improvements of the country; but that it would materially affect the mass of the rural population to their advantage is by no means probable. At the same time, the total abolition of every remnant of the feudal system and of feudal practice in land conveyance is perhaps the first step to improvement.

Another proposed remedy is the formation of peasant properties—a measure that has vehement advocates, and quite as vehement opponents, even among those who are supposed impartially to have investigated the subject. Mr. McCulloch, carried away with the one idea of cultivation on a large scale, assures us that anything like peasant proprietorship would submerge us into a sea of pauperism. Mr. Joseph Kay, on the contrary, whose ability we take to be quite equal to that of Mr. McCulloch, and whose opportunities for extensive, accurate, and personal observation, we apprehend to have been even superior, assures us that the measure would tend to make our poorer classes happy, prudent, and prosperous. Mr. McCulloch's objections we regard as a long course of special pleading, based on the

fallacy of taking a small portion of the population as the index of the whole. It is quite easy to point to one of our large farms, or to our whole system of large farming, and to compare the amount of produce with the amount obtained from the same number of individuals in France, Germany, or Ireland. From such premises, however, the conclusion is a mere partial inference from insufficient data. It is quite easy to point to one of our regiments, and to admire the order, cleanliness, and seeming perfection of the military organization, just as Mr. Carlyle adduces the line-of-battle ship as an instance of indubitable success, and asks why the same system is not universally introduced into the field of labour. But human nature is neither composed of regiments nor of line-of-battle ships, nor of any select body of men from whom the very young, the very old, the halt, the lame, and the blind, are sedulously and intentionally excluded. When we look at a regiment, we must ask not only what is the condition of these young men, but what is the condition of their wives, their children, and their aged parents? Muster the whole on parade, let us inspect the whole, and then we shall be able to form an opinion as to the success of the system. And so also, when Mr. McCulloch tells us to look at the success of our large properties and large farms,—let us look at the whole population—let us look at the fact, that at the very moment of his writing, about every tenth person in England was a pauper—let us look at our prisons, our poor laws, our union workhouses, our poisonings for the sake of burial fees, our emigration, as if our people were flying like rats, helter skelter, from a drowning ship. Let us sum up the whole, and then perhaps we should find that our boasted system of social distribution was no more successful than the muster of one regiment, where we should find on the one hand, order and competence; on the other, rags and tatters, wives abandoned, parents neglected, children left to the hazard of casual charity, and too often a dark shadow of vice and wretchedness following in the train of our vaunted institutions.

There is another special fallacy involved in the objections to peasant properties. We are told to compare ourselves with those countries where the great majority of the people are engaged in agriculture, and to mark their condition. We are told, with a singularly lame species of reasoning, that France is a nation of peasants—that France has peasant properties; and consequently, that if we have peasant properties, we shall become a nation of peasants also. But, in the first place, the question is not whether France may have run rather too far in one direction, but whether we have not run incomparably farther in the other; and, in the second place, France has at present no other means of employing her population except on the soil, whereas we can employ a hitherto unknown proportion of our people in manufacturing and commercial industry. No disposition of the land could ever again reduce Britain to the condition of France, because we have profitable manufacturers, holding out the prospect of a higher reward than can be derived from agriculture; and consequently it is as absurd to suppose that our people should again return to mere tillage, as that they should return to the hunting and savage state of the earlier ages. The question of peasant properties does not affect the majority of our population, but only that portion actually engaged in the culture of the soil; and here we believe that the allocation of a certain portion of land to our labouring agriculturists would go a great way to restore the stability and independence of our country population, and perhaps to revive those homely virtues which were once more common than they are now, and which have waned exceedingly within the memory of those who are still alive. Of the positive advantages of having a peasantry rooted and grounded in the soil itself we say nothing, because there are at present no means by which the change from the prevailing system could be effected; but it seems evident, that if our colonies and the States continue to present advantages which cannot be obtained at home, and if our people come to regard emigration, not as a matter of necessity—not as a change which the indigent are obliged to make for the sake of the necessaries of life—but as an attractive removal to another sphere, in which they can employ their labour much more satisfactorily than in their native country—then we must anticipate that a larger and larger portion of our best labourers will seek to establish an independent existence

annually change hands by public auction, independent of the vast amount sold by private contract.

"The Shorthorn is generally a good doer; he thrives equally well in almost every part of England, and was introduced with great success by Captain Barclay into Scotland. If we may believe all we hear, and take as further proof the number now exported, his hardy constitution and good quality by no means suffer in America, over the vast extent of which a great many herds, chiefly derived from our best stock, are now being distributed. Nearer home we find the breed as highly prized, and almost as much sought after—in France, Belgium, Italy, Prussia, Russia, and the whole of continental Europe. Ranging out again, we see the Shorthorn annually and progressively imported into Australia, New Zealand, Canada, New Brunswick, and, in fact, to the majority of our colonies. This is as a pure breed; but, further than this, it may be said, in the words of a very high authority, that 'the Shorthorns improve every breed they cross with.' Experiments are in course of trial with many of our other kinds of cattle, the most encouraging hitherto having, perhaps, been with the Scot.

"The Shorthorns vary in colour, ranging from pure white to a bright or rich red. The most fashionable of all, however, is a mixture of the two, forming a deep or light roan, sometimes called hazel, or strawberry. Colour, however, should never be regarded as an objection to the real value of the animal, as the same cow, crossed by the same bull, will often throw the three different colours in as many calves. We are well aware of there being some certain prejudice against white, in contradistinction to which it may be only necessary to state, that some of the very best of the Improved Shorthorns have been white ones. Still, to correct this, or perhaps only to act in obedience to the fashion of the time, the red is now become more esteemed; as from it, when crossed with the white, is frequently produced the most brilliant of roans.

"The appearance and points of the Shorthorn may be thus briefly summed up. The head of the male animal is short, but at the same time fine; very broad across the eyes, but gradually tapering to the nose, the nostril of which is full and prominent; the nose itself of a rich flesh-colour, neither too light nor dark; eyes bright and placid, with ears somewhat large and thin. The head, crowned with a curved and rather flat horn, is well set on to a lengthy, broad, muscular neck; the chest wide, deep, and projecting; shoulders fine, oblique, and well formed into the chine; forelegs short, with the upper arm large and powerful; barrel round, deep, and well ribbed-up towards the loins and hips, which should be wide and level; back straight from the withers to the setting on of the tail, but still short—that is, from hip to the chine—the opinion of many good judges being that a beast should have a short back, with a long frame. As a consequence of this, the hind quarter must itself be lengthy, but well filled in. The symmetry of frame at present to be found in a well-bred Shorthorn reaches as near perfection as possible, while few animals "handle" so well, or to use a still more technical phrase, have so "fine and mellow a touch." The hair is plentiful, soft, and mossy, with a hide not too thin, and, in fact, somewhat approaching the feeling of velvet. The female enjoys nearly all the same characteristics as the above, with the exception of her head being finer, longer, and more tapering; her neck thinner and altogether lighter, and her shoulders more inclined to narrow towards the chine. Like most well-proportioned animals, the Shorthorn often looks smaller than he really is. The rapidity with which he often puts on flesh, and the weight he frequently makes, are facts so well known, that it can be scarcely necessary to dilate on them here. Still we may mention that it is no uncommon occurrence to see steers, of from four to five years old, realising 140 stoues of 14 lb.; many ranging as high as 150 stoues. Such animals frequently command from the butcher £60 to £70 per head; while others, between two and three years old, and of course less weight, make as much as £40 a-piece. A vast number now realise even sooner than this, being slaughtered at two years old, and under—another, and still further proof of the early maturity for which the Shorthorn has long been so justly and so widely celebrated."

TO CORRESPONDENTS.

FAILURE OF CUCUMBERS (*Actonian*).—The "white spots, on the lower leaves first, but advancing step by step over the fruit and every part of the plant," is, beyond all doubt, the mildew. What Mr. Fish stated last week, at page 276, will answer all your inquiry.

BOTANY (*J. Newbold*).—"The simplest system" is the Linnæan, and it will be the most useful if you merely require "to make out the names of plants unknown to you." Just read, first, Dr. Thomson's very excellent "Wanderings among the Wild Flowers," advertised in our columns last week. It will establish your feet in the path of the Linnæan system. We hope to notice it more fully next week.

FOWLS POISONED BY STRYCHNINE (*Joseph Hurst*).—We think that the dead bodies eaten by pointer puppies will not injure the latter; but you will be more certain on the point before you read this, and we shall be glad to hear from you what has been the result.

SHANGHAES OR HAMBURGS (*A Young Beginner*).—The first are most profitable. There is nothing else in your long letter that requires an answer.

POIS MANGE TOUS (*C. Chapman*).—We quite agree with you in thinking this Pea, which is hoiled in the pod whilst very young, like the Kidney Bean, is very excellent, and desirable as a variation among our vegetables; but it is not so sweet as our best varieties of shelled Peas. Mr. Chapman, gardener to E. V. Egg, Esq., Richmond House, Brighton, will send any one a boiling who sends to him previously eighteen penny postage stamps.

KNIGHT AND CO., *Eastborne*.—We think it right to state that *Mr. W. Knight*, of Battle, in Sussex, informs us that he has "no connection with the above firm, nor with any other."

GARDENER (*Loccum*).—The best place to apply to is THE COTTAGE GARDENER. Insert an advertisement in its columns, stating the qualifications you require, and the wages you give.

BUFF SHANGHAES' WINGS (*S. T.*).—There ought to be no white feathers in them, nor any black, except on the tips of some of the quill feathers.

CALCEOLARIAS (*S. C.*).—They are all pretty, and the markings of one or two uncommon.

GRASS FOR POULTRY (*R. R.*).—You must inform us what is the nature of your soil and subsoil, before we can tell you what kinds you had better sow.

PEAS AND STRAWBERRIES (*Tyro*).—The Pea you mention was raised by Messrs. Beck, Seedsmen, London, and the Strawberries by Mr. Myatt, Nurseryman, Deptford. You had better apply to them for the information you require.

BEDS OF ROSES (*W. E.*).—As the flower-garden intervenes between the house and the new Rosary, we would not, on any account, plant the circular centre bed with *Heliotrope*, nor with any neutral colour. *White Roses* ought to be in the centre bed, as the *Mabnaison*, edged with *Miss Glass*, *Noisette*, or with the old *White China*. At any rate, it should be a white, and then the four somewhat crescent-shaped beds round it, should be a mixture of all the best *Roses*, or what you consider best. We would plant none but perpetuals in so conspicuous a place, but the only principle involved is not to neutralise the centre bed. Any white flower will do.

DOUBLE DAISY SEED (*Enquirer*).—We fear we cannot give you the information you ask for. The most likely person to supply you is Mr. John Salter, Versailles Nursery, Hammersmith.

POULTRY DEALERS (*Theta. N. B.*).—We cannot recommend any one. When we require any variety, we write to those who have taken prizes, and ask them to supply us. It is too late to set either Fowls or Turkeys.

NAME OF PLANT (*Breffitt*).—Yours is the Mouse-ear Chickweed, *Cerastium tomentosum*. (*Cruciferae. An Original Subscriber*).—1. *Cupressus funebris*, or Funeral Cypress of China. 2. *Cupressus pendula*, or Drooping Cypress. 3. *Tamarix gallica*, or French Tamarisk.

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Advertisements.

CALCEOLARIA SEED from the most splendid varieties in cultivation, some of which (by competent judges) have been pronounced almost perfect. They have been admired by thousands during the present summer. Great pains have been bestowed in crossing the best flowers, so that a great improvement is fully anticipated.

Price 2s 6d per packet, free by post.

JOHN KER, Florist, Bristol Road, Birmingham.



SCYTHES.—**BOYD'S PATENT SELF-ADJUSTING SCYTHE** will last out three of the ordinary sort, and is always ready for use. "We have seen this scythe at work, and can strongly recommend it."—See *Mark-lane Express*, May 16, 1853. To be had of every Ironmonger and Nurseryman in the kingdom, and wholesale and retail of WM. DRAY and Co., Agricultural Implement Makers, Swan-lane, London.

WEEKLY CALENDAR.

D M	D W	JULY 27—AUGUST 2, 1854.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometcr.	Thermo.	Wind.	Rain in Inches.						
27	Th	<i>Crioceris puncticollis.</i>	29.947—29.854	73—57	S.	98	18 a 4	55 a 7	9 26	2	6 12	203
28	F	<i>Crioceris melanopa.</i>	29.795—29.770	72—53	W.	10	19	53	9 41	3	6 12	209
29	S	<i>Cassida spergulae.</i>	29.894—29.810	71—56	S.W.	03	21	52	9 56	4	6 11	210
30	SUN	7 SUNDAY AFTER TRINITY.	29.834—29.742	68—48	W.	—	22	50	10 9	5	6 9	211
31	M	<i>Chrysomela fulgida.</i>	29.934—29.919	71—58	S.W.	—	23	49	10 22	6	6 6	212
1	Tu	<i>Geophilus carcophagus.</i>	29.932—29.801	76—58	S.W.	05	24	48	10 39	7	6 3	213
2	W	<i>Phalangium opilio.</i>	29.929—29.865	73—52	N.E.	—	26	46	10 58	8	6 0	214

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 75.1° and 52.1° respectively. The greatest heat, 92°, occurred on the 1st in 1845; and the lowest cold, 39°, on the 2nd in 1847. During the period 105 days were fine, and on 84 rain fell.

NEW PLANTS.

CERATOSTEMA LONGIFLORUM (*Long-flowered Ceratostema, or Horn-berry.*)



This very brilliant Heath-like plant belongs to the Natural Order of Cran-berries (*Vacciniæ*), and to Decandria Monogynia of the Linnæan system. If the drawing in the *Gardener's Chronicle* for 1848 be correct, that species

cannot have been the same as that from which the drawing in the *Botanical Magazine* is taken. It is not improbable that they are distinct species; but whether identical or distinct, they were found at 12,000 feet above the sea's level, in Peru, by Mr. Lobb, the collector for Messrs. Veitch and Son, of the Exotic Nurseries, at Exeter, and King's Road, Chelsea. It is an evergreen, and half-hardy. The flowers, nearly two inches long, are bright scarlet. The plant is about a foot high.—(*Botanical Magazine*, t. 4779.)

PITCAIRNIA LONGIFOLIA (*Long-leaved Pitcairnia.*)

This member of the Pine-apple tribe (*Bromeliacæ*), and Hexandria Monogynia of Linnæus, is a native of Lima, whence it was sent by Mr. Nation, and bloomed in a stove at Kew, during December of 1853. It bears a loose panicle of bright red flowers.—(*Ibid.* t. 4775.)

GENTIANA FORTUNI (*Mr. Fortune's Gentian.*)

There is little doubt that this beautiful addition to our garden plants will prove hardy. It throws up two or three erect stems, bearing upon their upper portion, large, axillary flowers, intensely-deep blue, spotted within very regularly with white. Sir W. Hooker says:—"It evidently belongs to the same group or section of the genus with our well-known *G. Pneumonanthe*, and with the Siberian and Altaic *G. septemfida* of Pallas and of Sims (*Botanical Magazine*, Tabs. 1229, 1410), particularly with variety *maculata*, represented on the latter plate. It is, however, a taller, more robust-growing plant, with more distant foliage, larger flowers, and it is at once distinguishable by the plicæ or scales at the mouth having three, often irregular, blunt teeth, scarcely projecting beyond the mouth of the tube of the corolla, whereas in *G. septemfida* they are large and prominent, and furnished with long cilia, giving a densely fringed character to the mouth of the flower. Our charming species is a native of northern China (the exact locality is not stated), and was sent by Mr. Fortune, in 1849, to Messrs. Standish and Noble, of the Bagshot Nursery. Showing a disposition to flower, as it did, late in the autumn, it was kept in a greenhouse, and the blossom expanded in December, 1853."

FLACK'S IMPERIAL.

SYNONYMES.—*Flack's Victory, Flack's Victoria, Flack's New Large Victoria.*

The plant is of a robust habit of growth, with a stem which is always branching, and generally about three feet in height. The pods are very numerous, varying from twelve to eighteen on each plant. They are generally produced in pairs, but also frequently singly, and are from three-inches-and-a-quarter, to three-inches-and-a-half long, three-quarters-of-an-inch broad, and considerably curved, but not so much so as the *Scimitar*, and unlike that variety, the pod is terminated abruptly at the point, where it is somewhat broader than

THE class of PEAS which on this occasion comes under our consideration is one possessing qualities which are almost universally regarded as of considerable importance in such crops. "*Imperials*" have, at all times, and for many years, been looked upon as a "leading article" in the lists of Peas, and as new varieties have been introduced, *Imperials* have been improved, it being determined, as it were, that they should still hold their position as one of the indispensable requisites of a well-managed garden. Formerly we had *Dwarf Imperials*, and *Tall Imperials*. The latter have long ceased to exist, and the former have been so improved, that they, too, may be said to have disappeared; still, however, we have *Imperials*, and very valuable varieties they are.

at any other part. Each pod contains from six to eight very large peas, which are of an ovate shape, half-an-



FLACK'S IMPERIAL.

BEDMAN'S IMPERIAL.

inch long, seven-twentieths broad, and the same in thickness. The ripe seed is blue.

The seed was sown on the 5th of April, and the plants bloomed on the 20th of June. On the 26th the blooms dropped, and the slats appeared, and on the 12th of July the pods were quite filled and ready to be gathered.

All the *Imperials* are very prone to degenerate, having a tendency to run back to the old *Blue Prussian*, from which they first originated; great care is, therefore, necessary on the part of the growers, to keep the stock pure.

Flack's Imperial is one of the most prolific Peas in cultivation. It grows to a convenient height, and whether considered for private gardens, or for market supplies, it is one of the most valuable varieties which has been introduced of late years.

BEDMAN'S IMPERIAL.

This, for many years, was the *Imperial, par excellence*, but now it is far surpassed by the preceding variety; indeed, it is not worth growing.

The plant generally produces a single stem, which is from three to four feet high. The pods are generally in pairs, but sometimes single; three-inches-and-a-quarter long, five-eighths-of-an-inch broad, somewhat curved, and terminating abruptly at the points. Each pod contains

from six to seven peas, which are of an ovate shape, and about the third-of-an-inch in their greatest diameter. The ripe seed is pale blue.

From the figures given above, it will be seen how much superior Flack's is to Bedman's, and it has also the advantage of being two or three days earlier in podding.

GROOM'S SUPERB.

SYNONYMES.—*Blue Spanish Dwarf, Blue Fan.*

This variety was raised by Mr. H. Groom, of Walworth, and introduced about eighteen or twenty years ago. It is a useful variety for small gardens, being dwarf, and a moderate bearer, but it is now very much surpassed by *Bishop's Long Podded*, and *Burbidge's Eclipse*, both of which are considered more prolific, and better-flavoured peas.

The plant grows from a foot-and-a-half to three feet high. The pods are single, and in pairs, in about equal proportions, two-inches-and-a-half long, containing from six to seven peas in each. The ripe seed is pale blue.

The seed was sown on the 5th of April, and the plants bloomed on the 22nd of June. On the 14th of July the pods were ready to gather. R. H.

(To be continued.)

HAVING considered the admirable effects of pure running water when applied according to proper principles in irrigating poor upland meadows near the very sources of springs, we proceed to notice the case where an extremely weak and infinitesimal dose of manure is used, to provoke just a slight amount of fermentation and of action in water which has lost its freshness. Plants, as well as animals, loathe stagnant water, and are thankful for anything which promises to replace the loss of the most important quality which water can possess. The actual value as manures of the matters held in solution, or in suspension, in this instance is altogether insignificant; their efficacy depending not on the strength, but on the extremely diluted state of the mixture. How different is the action of the contents of the farm-yard tank and the urine barrel, charged with the richest liquid drainage of our stables, privies, and shippens. In order to save cost and labour in collecting, storing, and carrying out to the field, every pains is taken to have the mixture in a highly concentrated state, by excluding all surface-water from the tank. Some high farmers mix their liquid-manure with guano, or bone dust. They rarely apply it to the growing crop, except in very wet weather; but rather to the bare ground, or in the intervals between the ridges and drills, or by way of compost mixed with charred weeds or clay. The strong solution of fertilizing salts is readily taken up by the hungry soil, which at once deodorizes, fixes, absorbs, and divides it; presenting it, in the end, as a most acceptable food for the roots of plants—in virtue of a principle repeatedly advocated in this journal, a principle plainly Providential, which we have shown to have

been the basis of the sanitary laws ordained for the Israelitish camp.

The practice of the Flemish farmers is most successful in the use of liquid-manure, which they apply to the soil itself nearly as we have described. They largely avail themselves of irrigated meadows also, near their rivers, which, however, on account of their lowness, are not found to be quite as healthy as they are fertile. On somewhat similar principles these thrifty people boil down the food of their cattle into a savoury mess, called "brassin," consisting of cabbages, turnips, carrots, potatoes, &c., with a little cheap meal, perhaps, in addition. But they also supply these same cattle with water, to which a little meal is always added to induce them to drink the more.

As partly illustrating our views, we have already alluded to the characteristic national beverages of mankind. It is not the tea itself, or the coffee, the lemon, the sugar, or the wine, that is the grand ingredient in the negus, lemonade, eau sucrée, the cup of tea, or of coffee, in which we delight. All these are only so many contrivances for making water-drinking pleasant and popular under another name. Quite different are these things from the economical and wholesome stews and *consommés* which we know so little about that we actually have not English names for the half of them: *ollas*, *potaufues*, *bouillis*, and such like, into which the poorest continental peasant contrives to dip his daily crust of bread. But these are not the drinks, they are the food of mankind, and should always be made of sufficient strength. Mere slip-slop will not do. An alderman, or a coalwhipper, may believe that turtle-soup, or "stout," is both meat and drink for him; and, surely enough, the invalid, or the very young, who rather vegetate than live, may get on for a while with milk, barley-water, or chicken-broth; but we incline to the doctrine, that drink and food are two different things, and that when for the simplest and most natural beverages we are induced to substitute mixed fluids of any kind, the more largely these are diluted the better; but that any liquid food which is to be put in the place of solid nutriment should be of a certain strength, and not mere slip-slop. This rule is plain enough in regard to animal life and health; in regard to vegetation, it is not so easily laid down, because the food of plants is principally liquid—still it is practicable to draw a distinction between manuring and watering plants.

Of villain-service, Lyttleton gives us the following sample, in rude Norman verse:—

"To carry the dung of his Seigneur
Forth from his city to his manor
—and spread it over his land."

See "Coke on Lyttleton."

This most villanous service it has been attempted to put upon the purest element—by supplying each house in every town with so many gallons of water daily; collecting the waste, and using it to wash out all impurities; and finally, applying the whole of the resulting solution on the nearest convenient piece of land. But the earth, and not water, is the best immediate receptacle for any quantity of powerful manuring matter; whilst it would

require a tract of country altogether immense to be laid partially under water, if it were intended to dilute to the full extent requisite for irrigating purposes all the offensive matters washed out by the sewers of a great city. The low, marshy lands below London, and other ports, are low and moist enough already, and difficult to drain—why, then, artificially add to their moisture? Unwholesome vapours enough and to spare are even now given out from the present limited surface of the river Thames, the Mersey, the Tyne, and the Liffey; but the nuisance would be greatly increased were there many square miles, or hundreds of miles, of land overspread with foul water, as has been proposed.

Every case in which this doubtful experiment has been made, from Edinburgh to Croydon, remains to be cited as a warning rather than an example. Dr. Lyon Playfair found some vestiges of the barbarous and obscene custom on the banks of some of the dirty rivers flowing through the coke towns in Lancashire, on which he had to report. He condemned the practice.

A certain number of small inland country towns have been reported on by Wm. Lee, Esq., in which great results, in an agricultural point of view, are said to have followed the application of town's sewerage. But the same trustworthy and most pains-taking observer has published another report, with the view of shewing, amongst other things, how much of preventible disease exists in country places even; and, in this second report, the very villages and little towns above alluded to are each and all of them pronounced unhealthy. Reading appears to be one of the most unhealthy towns in the kingdom, and to be getting worse and worse every year, upon the authority of Mr. Lee. Dr. Baly says the same thing, in his report on cholera to the Royal College of Physicians:—"Reading," we are told, "is built on a bog, surrounded by water-meadows. Thames on one side; a canal on the other. Atmosphere remarkably humid." That such a place should have only had seventeen deaths from cholera, is very remarkable; but it is at some distance from, and elevation above, the sea.

We have prepared some further remarks on the precise action of proper liquid-manures on the soil, and of irrigation in which the manure formed a notable ingredient. And it is impossible to dismiss this subject without some reference to the labours of Professor Way, and others, with a view to the deodorising, fixing, and impounding in a solid state, all the manure contained in sewerage. These subjects, however, we must defer to another article. For the present we must shut up the sluices—*Sat prata biberunt* (The pastures have drunk enough).
J. J.

THE July Meeting of the *Entomological Society* was held on the 3rd of the month, the President, Edward Nowman, Esq., F.L.S., &c., being in the chair. The Secretary announced that since the last Meeting a donation of fifty species of British *Lepidoptera*, desiderata to the Society's collection, had been received from

Mr. Allis, for which a voto of thanks was passed. The second volume of M. Boheman's valuable monograph on the family of the Tortoise Beetles (*Cossididae*), was also presented by the Author, a Swedish entomologist of eminence, and curator of the Entomological department of the Royal Musuem, at Stockholm, who has recently been on a visit to this country to inspect the Linnæan and Banksian collections, as well as those of the British Museum, and several private collections, for the purpose of rendering his work as complete as possible. The Secretary also announced that a new part of the Transactions was ready for delivery to the members.

Mr. Samuel Stevens exhibited a nearly full-grown Caterpillar, of the rare *Notodonta Carmelita*, which he had reared from eggs deposited by the female which he had exhibited alive at the May meeting of the Society. Many of the young larvæ hatched from the same batch of eggs had died at an early age from a difficulty in shedding their skins. Likewise a beautiful Beetle, *Pyrochroa pectinicornis*, recently taken by Mr. Burton, in Scotland, quite new to this country, although common in Germany and Sweden. The same gentleman had also met with two or three new species of *Microlépidoptera* in Scotland. Mr. Stevens also exhibited a specimen of the singular Beetle, *Damaster Blaptoides*, from Japan; an insect of very great rarity, of which only four specimens are known.

Mr. Janson exhibited various good species of Coleoptera, captured by himself during the excursion of the Society to Darent Wood, in the preceding month, as well as six specimens of the very rare *Hyppulus quercinus*, which he had captured on the stump of a decayed tree at Colney Hatch. Also, various Coleoptera and Lepidoptera, collected by Mr. Foxcroft, in Perthshire, intended for distribution among the subscribers to his Excursion.

A number of specimens of the new Irish Burnet Moth (*Antroccra minus*), taken in Galway, were sent for distribution among the members, by Mr. Moore. Mr. Douglas exhibited a new species of *Lithocolletes*, reared from the *Vaccinium vitis-idea*; and Mr. F. Smith, several very rare species of Bees, and other *Hymenoptera*. Amongst these was *Nomada armata*, an insect in Dr. Leach's collection in the British Musuem, of which no subsequent captures had been made, and which had, consequently, been regarded, like many other of Dr. Leach's rarities, as a foreign species, which he had inadvertently introduced into his British cabinet: specimens, had, however, recently been captured by Mr. Dossitor, near Swansea, and by Mr. Sam. Stevens, in Devonshire, in company with *Andrena Hattorfiana*; of *Tenthredo cingulata*, a species of which females often occur in very great numbers without a single male being seen, he had also obtained the latter sex, together with a new British species of *Crabro*.

Mr. G. R. Waterhouse observed, in reference to the capture of the *Nomada armata*, that Dr. Leach's disputed British species were, one by one, being re-discovered; and he noticed that the fine *Carabus ipbricatus*

had been several times captured in Dr. Leach's locality, near Spitchweek, Devonshire.

Mr. Stainton called attention to a memoir by M. Boheman, in the Swedish Academy's Transactions, in which a number of new Swedish insects of different orders were described, some of which would, probably, eventually prove to be natives of this country. Amongst the rest was a small insect described as Lepidopterous, and as belonging to the genus *Nepticula* (*N. quadramaculella*). Mr. Stainton had, however, recently obtained a British species of this insect, which he regarded as *Trichopterous*.

Mr. Waterhouse read a paper containing descriptions and notes on the Australian species of the genus *Amycterus*, belonging to the family of the Weevils (*Curculurula*); and Mr. Westwood read descriptions, accompanied by magnified figures, of four new species of the remarkable family *Paussida*, from the collections of the Royal Museum, at Stockholm, and Mr. Dohrn, President of the Entomological Society of Stettin. Mr. Westwood also communicated some observations on the Natural History of various insects made by Mr. Varney. These consisted of notes on the habits of the common *Wasp*, detailing its mode of gnawing solid wood to manufacture into the paper-like cover of its nest; its mode of capturing its prey; also on a colony of sand-burrowing Bees, and on the mining Caterpillars of the Rose-leaves. He had succeeded in discovering the situation of the cocoons of these larvæ, which had escaped the observations of many previous entomologists.

A discussion took place among the members, on the question, whether the common Wasp and Hornet really attack solid wood, or whether the papyraceous covering of their nests is not formed of rotten wood and fungus, an opinion which had been mentioned at a recent meeting of the Microscopical Society. The former opinion appeared to be generally entertained amongst the entomologists present, and Mr. Smith mentioned the destruction of a solid post by a colony of Hornets, which resorted to it, by preference, in great numbers.

A notice was communicated by Mr. S. Stevens of the arrival of Mr. Wallace, at Singapore, and of the success he had already met with in his researches, having captured as many as eighty species of Butterflies.

MUSHROOMS.

I THINK that our departmental writers, as a body, must be allowed, on all sides, to be at least a good-tempered and liberal race; for cross each other how we will in the path of life, we never quarrel; and this is not mere policy, but cannot arise from any other source than that liberality of feeling, and total absence of all jealousy, which is so becoming in individuals, and surely to be commended in any body of men, who, in aiming at one grand point—the pursuit of truth and the desire to propagate it—must, perforce, constantly run the risk of chafing each other. But when men know what they are writing about, feel perfect confidence in their motives and principles, and possess hearts enlarged by liberal feelings, together with minds widened by the habitude of drawing careful inferences,

devoid of mere individual conceit — why, all petty jealousies speedily vanish, or rather obtain not an existence. "See that ye fall not out by the way," said the patriarchal Abraham, in olden time; and although but plain language, it is so emphatic, so true, so applicable to the human race in general, that it will remain a sound maxim to the end of time.

This may seem a strange exordium to the mere fungoid matter which is about to follow; but we have heard of "Mushroom patriots," &c., and why not Mushroom scribblers? However, begging pardon for joking on so serious a subject as the study of a Cryptogam, I will proceed to show a little simplicity in their culture, which will, I trust, open the minds of many who are but on the threshold of gardening, and in so doing, I acknowledge myself poaching on the manor of our clever coadjutor, Mr. Robson, and I therefore fancied that I needed my prefatorial remarks.

I well remember the time when a man who could grow Mushrooms with certainty was considered little less than a conjuror. For my part, being, as I have before stated, brought up originally to the nursery and seed trade, and the firm wherewith I was connected in my early days choosing rather to purchase Mushroom spawn than to make it—for it was supposed, some forty years ago, that there was some mystery in the act of spawn making,—I was early brought in contact with the worthies of those days, the spawn-makers. My father used to transact business of this kind with a Mr. Robinson, who held land just by the "Hero of Maida" public house, in the Edgware-road, then all splash and mud; no fine buildings, no gin palaces, but the margins thereof colonised, in the main, by cow-keepers and such-like craft. Robinson was a John Bull fellow, stolid, sturdy, protuberant, partial to bread and cheese and onions, in alternate stratifications with porter. But he was the marvel of the neighbourhood as to Mushroom-culture, and truly he could conjure them out of a stone-wall. He used, indeed, to brag that he could make them come out of any wall—and he could. Seizing that period of the year when the average of the air heat was about 65°, old Robinson would make a paste, composed of three-parts nice, fresh, mellow, and sweetened horse-droppings, three-parts dry, with a little cow-dung, and a smattering of soil. This paste, old Robinson would dab into a big crevice in a broken old wall, bore a hole in the centre, introduce a lump of pure, healthy, unexhausted spawn, as big as a walnut, and go to sleep, more assured of triumph, than, I fear, our brave Charley can be over Cronstadt.

Robinson's yards used to contain, in those days, several rows of Mushroom-beds, in parallel lines, each bed about three feet wide at the base, and about the same in height, and from these he obtained splendid crops, and made excellent markets.

Besides all this, he made spawn extensively for the nurserymen, and, doubtless, this trade, connected with cow-keeping, and a consequent sale of such manures, brought him abundant profits.

My chief business now, however, is to point to a plan by which every person who can obtain annually some good fresh horse-dung, and who possesses a small garden, may obtain Mushrooms with ease and certainty every year, from the beginning of July until the end of October, and that with so little trouble or skill, as that a youth of ten years of age, or an old dowager of seventy, may accomplish it, and that without any expense beyond the horse-dung, and a very small amount of labour, if labour it must be called.

By way of illustrating the matter, I will detail what I have done this way this season, as a prelude to a simpler plan still. I have a wall facing the west, covered from one end to the other with trained choise

Pears. This wall, about 150 feet long, has a coping projecting about eight inches, and, of course, what with the Pear-leaves and the coping, the drip is thrown nearly a foot from the wall, at its base. At the foot of this wall, in May, a labourer dug out one single spit of soil, in a continuous line, and close to its base, and having some droppings in a shed, half dry, intended for Mushroom-culture, he filled this trench with them, raising the surface above the ground-level, and sloping it away from the wall. It was now well trodden, and the excavated soil cased over it two inches in thickness. Lumps of spawn were immediately planted with a dibble, at half-a-yard apart, and the work was thus completed. We never took any further notice of it until about a week since, when the Mushrooms began pushing through in all directions. The surface was covered with weeds left purposely, and the shade of which they seemed to enjoy; as, however, they became robbers, I thought it expedient to remove them, and the surface is and has been exposed. They are as fine as it is possible for Mushrooms to be, but I dare say would be none the worse for a thin covering of straw or litter.

Now, I was not at all astonished at the success of the simple affair, although several knowing persons in the gardening way have appeared so. This shows how imperfectly, still, Mushroom-culture is understood. The fact is this: their culture depends on such simple principles that their requirements have ever been overrated. The following are the essentials:—Manure in a half-dry state—dried rather by exposure and turning in a shed than by fermentation; a steady temperature in the bed, or dung, when fixed for them, of from 65° to 70°; and security from wet by accident. These are the three essentials, and to these may be added a partial or total darkness.

We will now look over these abstract principles in detail. As to manure, it is well known that Mushrooms may be produced from almost any organic matter, if the other conditions be right; I have known very good crops from the thatch of an old building, but they do not continue long in bearing; they are gluttons at rich manures, and the richer the dung, and the greater its body and solidity, the longer will they continue in bearing. There is nothing superior to the dung from well fed horses, and this should be obtained as fresh as possible from the stable-door, and before any rain has fallen on it. It is best to remove this to a shed and throw it on a heap to ferment once; in four or five days it will be so warm that it will be unpleasant to thrust the hand in, and now it may be at once thrown abroad to dry; if continued longer it becomes white, and this not only betokens the loss of much strength, but points to the probability of having to apply water to sweeten it, &c., a thing to be avoided, as its own native moisture should be sufficient. Whilst in the shed it will require turning two or three times, and knocking about; and when nearly half dry, it may be made into a bed. When collected, the longest of the litter may be shaken out, but not too much. The time required thus to prepare it varies considerably, according to the time of the year; at this period it will be ready in a fortnight; in November, December, or January, it would require double the time; and the other periods of course intermediate in character. In all "bed-making," where a body of dung is used, overheating is the thing to be avoided; more beds are thus ruined than by any other cause; they will endure about 80°, but no inexperienced grower should aim at so much.

I may now offer suggestions for an extension of their out-door culture, based on the following principles here laid down; and showing, if possible, how the out-door wall plan may be farther simplified, so as to be available to every member of society who possesses a small garden. I have said before, that an immunity from much wet,

and a certain and continuous warmth in the mass of some 65°, is necessary; let us see whether a cottager, or allotment holder, possessing half-a-dozen poles of land, has it in his power to grow them; has he any standing crop in June that will secure these conditions, for at that period no artificial warmth will be required; the soil itself will, whatever the character of the season, range from near 60° to about 75°, until the middle of October, or nearly so.

Now it so happens, that there are some crops about the stems of which the soil is always either dry or in a mellow state; as such may be named Brussels Sprouts, Peas, the Broad Bean, &c.; these are crops which are generally soiled up in the stem, and here will be found an eligible situation for Mushroom-culture. For instance, we have a row of lato Peas, which have just been staked, the *British Queen*; my practice is, after staking, to add a little soil to their sides. I intend then, to-morrow, to draw a drill by hoe, about three inches from their stems on each side, and to introduce as much of these prepared droppings as will form a ridge on each side of the Pea-stems of some four or five inches in height above the ground level. This dung will be trod firm, eased with soil from the sides, and beat with the spade. I will then dibble in bits of good spawn at a foot apart. It will be seen that by this practice there will be a ridge on each side the Peas, with a small cavity in the centre, to let the rain trickle down the Pea-stems.

Such, then, is the nature of the plans I shall practice, and I hope the day will come when Mushroom-culture will be so simplified and so certain as that every cottager can have Mushrooms at his back-door from July to November. We know that a successful season in the fields would supersede, in some degree, such needs, but, unfortunately, such only occurs once in three or four years.

R. ERRINGTON.

RARE PLANTS AT THE JULY EXHIBITIONS.

THE tables at Chiswick were so overloaded with novelties, in honour of the Queen's visit, that it gave me the cramp in the fingers to note them down; and if I were to run out a fair report of them all from my short-hand notes, they would occupy three full impressions of THE COTTAGE GARDENER. But as the like opportunity might never occur again in my time, I did the best I could with them for my own garden gossip, and for filling up descriptions which I might not otherwise be able to do on future occasions.

The following is an example of how old gardeners look at such things, and how old stories about plants come back into one's head on seeing the living plants before one's eyes. I begin with the only collection of novelties at the Regent's Park Show, from the Messrs. Standish and Noble, of Bagshot, which were also exhibited at Chiswick. I think the best of them were two species of *Embothrium*—*ferruginum* and *lancoletum*. This is a genus of very handsome plants inhabiting the extreme south limits of South America; I have heard of seven or eight species of it, of which *lancoletum* was the best, as far back as the passing of the Catholic Emancipation Bill, in 1829, but *Embothrium* has not got into garden gossip till within the last half-dozen years, when Mr. Veitch introduced some of them from his collector, Mr. Lobb. Mr. Anderson, a friend of mine, who was attached to the surveying expedition under Capt. King, sent home seeds of eight kinds of *Embothrium*, not one of which vegetated. He also sent *Fuchsia discolor*, the Port Famine Fuchsia. Anderson spoke of these *Embothriums* as among the finest of the South American Flora; he could see their scarlet and crimson blossoms miles off, and he likened them to the Waratah of Australia (*Telopea speciosissima*), to

which they are relatives in the order of Proteads. The next time I heard about them was in 1849 or 1850, when *Embothrium coccineum* appeared, from seeds by Mr. Lobb, in Mr. Veitch's collection; but I had heard that Mr. Bridges had seen them, and that he, even, went farther than Anderson in their praise; and his own friends in Suffolk, who thought that he was in a kingdom beyond the moon long since, will be glad to hear that he is now the greatest plantsman and dealer in plants in the far west beyond the line. *Embothrium ferruginum* is a hardy, or all but hardy, strong-growing, evergreen shrub, with leaves like, or not unlike, a common Fern called *Adiantum nigrum*, but much stronger, and of that brownish hue peculiar to some New Zealand Conifers. *Embothrium lancoletum*, said to be "most splendid," is of quite a different aspect; a pale green upright shrub, with lanceolate Willow-like leaves, from six to eight inches long. Mr. Bridges calls it "the most brilliant scarlet flower belonging to this vast continent;" add to these Mr. Veitch's *Embothrium coccineum*, and we are certain of three good species.

Podocarpus Nubigenis and *Chilina* were in this collection; these come very near to the aspect of Yews. The former has the very leaf of the Irish Yew, but a different growth, and *Chilina* has broader leaves. These are two hardy evergreen trees; or, at any rate *Nubigenis* is, from the snow line in Patagonia, must be as hardy as our own Yew, and *Chilina* stood out last winter with no protection.

Three new species or kinds of Myrtle, different from ours, and from another new one, called *Ugni*, and probably all as hardy as the common Myrtle. A new Patagonian species of *Weinmannia*, with exquisitely cut and formed leaves—I never saw such leaves—the common Tansy gives the nearest idea of them. The flowers will probably be as pretty, in white or pink, as the leaves are beautiful; such colours are common in the genus. The bark of a kind of *Weinmannia* is used to adulterate the Peruvian bark, and also for tanning leather, therefore boots and shoes, good astringents, and Tansy tea, will keep us in mind of this evergreen till we can buy it.

The next is of the Nutmeg family, and the leaves are aromatic; it is from Patagonia, and probably hardy. It was named by Brown *Cryptocarya*, and by Nees von Essenbeck, *Peumus*. The two names put together is the adopted name, *Cryptocarya peumus*. It looks like some Laurel. Another species of it produces the Brazilian Nutmegs, *Quadria heterophylla* (*Quadria* is now obsolete). It is another handsome tree from Patagonia and Chili, with large leathery leaves, something in the way of *Berberis aquifolium*, and one of the endless forms of Proteads. It was named by Ruiz and Pavon, and other travellers affirm the fruit to be eatable, like Walnuts, but with the flavour of Cocoa-nuts. All this is garden gossip, however; this is the tree which bears the nuts which are sold in the market of Chili under the name of *Avellano*. I have heard it said, the half-Spanish damsels, at picnic parties there, use these nuts, their own large dark eyes, and their raven locks, as *irresistibles*, for good or for evil, against half-pay officers from our side the line; and the true name of the Avellano-nut-tree is *Guevina heterophylla*, which, if not a bardy here, will do in one of Mr. Rivers's orchard-houses.

Another handsome evergreen from Chili, a half-hardy, at least, *Laurelia aromatica*, the leaves being fragrant, and the fruit partaking much of the Nutmeg character. The English name of the order is Plum-Nutmegs. The plant in its present young state looks like the Japan Spindle tree (*Euonymus japonicus*). *Myrica esculenta*, a Nepal Candleberry Myrtle, looks very much like a young Spanish Chesnut in the leaf. It is in the lists of old introductions, but I never saw it before, so it must be scarce. *Cephalotaxus pendulus* is the first variation we know of from the normal species. It is an accidental

sport from seeds, and grows much closer and with smaller leaves than *Cephalotaxus Fortunei*, besides being a drooping plant. Every sport which appears in all Conifers is eagerly multiplied in the nurseries, and as eagerly sought after by collectors of them to satisfy the public taste.

Gaultheria oryanensis, a round-leaved species, mentioned by the lamented Gardiner, in his Brazilian Journal, as growing on the very summit of the Organ Mountains. A promising evergreen from Chili, like some *Pernettya*. A long willow-leaved plant from the north of India, looking like some Euphorbia. A new *Saxgothea*, called *gracilis*, from Patagonia and Valdinia, with much smaller leaves and of a closer growth than *Saxgothea conspicua*, is supposed to be quite hardy. Two strong Ferns (*Lomaria*) from Chili, and two new wild *Calceolarias* from the same country, one of them, called *ericoides*, I would rather take to be *Alona caelestis*, from the same quarter. The other is called *lysopifolia*; a shrubby kind. Neither of them have yet flowered. Some fine evergreen *Berberis*, of which one called *concinna* is new since I gave a descriptive list of the evergreen ones in these pages. They were *Japonica*, *Bealii*, *intermedia*, *trifurca*, and *concinna*, and all these will be found in the index to the last volume; *concinna* is as like *Darwini* as can be, except the undersido of the leaves, which are silvery white. Mr. Veitch sent only three new plants to the Regent's Park Show, *Ixora Lobbi*, a fine species in the way of *Javanica*; his large specimen of *Veronica variegata*, and a species of *Cyanoches*, with two long drooping spikes, full of greenish-yellow flowers, not worthy of the family name, except to those who register the genealogies of air plants. But at Chiswick he, the said Mr. Veitch, overwhelmed me with new and old, young and handsome, to the tune of full three hundred plants in all, and the moment he had them staged, off he was, like the rest of them, to brush up for her Majesty. He had only one fault in all his things, and that fault I tell all the world, as a punishment for not having had a single individual from him the whole day to tell me anything about the extra work. The large drawing of the *Wellingtonia* ought to have been up behind the plants and specimens of wood, bark, and cones, which I mentioned last week; and this omission was pointed out to me by a lady, whose first acquaintance I made at the time. A large plant of *Lomatia ferruginia*, which is near, if not the very same plant as *Embothrium ferruginum*, and if so, it will be the most showy plant there that day, after *Embothrium lanceolatum*, and *Bejaria aestuans*, the latter being the rarest thing in all Mr. Veitch's varieties. This is a Peruvian *Bejaria*, with the growth and looks of a broad-leaved *Dryandria*, or something that way. The flowers are nearly as large as those of a common Rhododendron, but not quite so open; they come in large heads at the ends of the branches, droop a little, and of a pale rose-colour, altogether a most charming flower, which puts one in mind of some of those untold gems in the genus *Bomaria*. Six plants, in full bloom, of a new bedding annual from California, in 24-sized pots. The flowers are violet, or dark blue, in shape like a middle sized Campanula, with the stamens exerted, or running out beyond the edges of the bell-like flowers; the growth of the plant is the same as that of *Eutoca viscidula*, and the plant must belong to the same order, and come very near to *Eutoca*; but the genus is quite new, discovered by Harvoy, and called *Whillaria*. Another new hardy annual from California will soon become a great favourite in every flower-garden, is called *Eschscholtzia tenuifolia*. This is a smaller plant in all the parts than the older *Eschscholtzias*—of a more rigid and upright growth, and the flowers are of a sulphur-yellow. It would make an excellent edging to a bed of the old *Eschscholtzia*, or a distinct bed by itself. A

very showy new species of *Escalonia*, "from the snow line of the Patagonian Andes," will be quite hardy, and will look in the borders exactly like some of the light-blush seedlings of *Epacris*. This was a small plant, but it was literally smothered with flowers, just like an *Epacris*. A new *Ceropegia*, from the east, I believe, with greenish flowers, a strong stove climber trained round sticks. Two plants of a hardy Patagonian *Myrtle*, with flowers like our own Myrtles, and the leaf not unlike that of *Vaccinium ovatum*; and cut-flowers of a very gay *Dipladenia*, near to *Crassinoda*. All these stood by the *Wellingtonia*, and were supported by the very best pot Ferns, in specimen plants, just as Ferns ought to be exhibited and grown for private use, and all from Mr. Veitch.

The selection and size of the plants were on this wise. *Adiantum Braziliensis*, four feet in diameter, and twenty inches high; *A. trapeziforme*, ditto; *A. pentadactylon*, four feet by three feet; *A. pubescens*, four feet through, and one high; *A. formosum*, four feet by three feet; *A. cuneatum*, three feet by two feet—this is the best of all the Ferns for mixing in nosegays, and is largely grown in every good garden for that very purpose; *A. concinnum*, two feet by one foot; *Darea diversifolia*, four feet by three feet; *Blechnum corcovadensis*, a splendid Fern; *Asplenium nidiravis*, with broad shining leaves, more like a young Banana than an ordinary Fern. Then the gold and silver Ferns (*Gymnogramma*), as thick, and close, and high, as any of the *Adiantums*, or Maiden-hair Ferns. After these, Mr. Veitch had another collection of *Lycopodiums*, in the same style of growth; and a *Pteroma elegans*, five feet through—a perfect globe.

Among the rare plants in flower, from the Messrs. Rollinson, the best was their *Nidularia fulgens*, a close-growing Bromelwort, throwing up crimson leaves in the centre, round a flat head of blush-lilac flowers. It is impossible to conceive anything more rich in colour than those crimson leaves.

A beautiful plant of *Æmea discolor* with three stout, flowing stems. A new *Pentas rosea*, from Mr. Osborne, of Fulham nursery, just as the old *Pentas*, but in the colour; *Veronica alba marginata*, from Mr. Salter, of Hammersmith; *Abelia uniflora*, with white flowers, from the Messrs. Rollinson; *Achimenes gigantea*, from Mr. Henderson, of the Wellington Nursery, which will make a useful plant, being a monster size of *picta*, and very distinct; and his *Gloxinia, Duke of Wellington*, looked to me about the best of all the red ones. A white *Burlingtonia*, from Mr. Carson, gardener to W. T. G. Farmer, Esq., had eighteen large flowers, with a yellow mark on the lip, was new to me. An *Aërides*-looking Orchid, from Mr. Carson, and called *Ornithochilus striatulus*, is not worth growing for show. A very pretty yellow *Stylidium*, from the Pine-Apple Place Nursery, called *mucronifolium*, I never saw before, and a kind of *Fuchsia*, variegated in the flowers, from the same collection, and called *Souvenir de la Reine*, and which I noticed at the Regent's Park, is, indeed, one of the very prettiest of all the late seedlings.

Relbania squarrosa, in a collection of twenty stove and greenhouse plants, from the Messrs. Fraser, of Lea Bridge, is a Daisy, or composite yellow flower, as old as the hills, and as useful as a Polygala; but no one grows it save themselves for exhibition. They had also *Burtonia conferta*, which was a relief to my old eyes, to which most of the collections "large" and "small" are as familiar as the bridge of my nose.

Mr. Carson was the only other competitor who broke in on the old dishes with a very old plant called *Exostemma aquaticum*, alias *Posoqueria longiflora* (a different thing). The growth is more like that of *Franciscoa uniflora*, with larger and longer leaves and terminal heads of long-tubed white flowers—the exact miniatur

of some long-tubed white *Crinum*, and from five to ten of them in a head. It is, or "used to be," a winter-flowering plant; but I suppose, by pruning "out of time," Mr. Carson managed to turn this "upside down." He had also, in his collection, *Jatropha pandurifolia*, the very worst plant in all England to grow into a good specimen, in most excellent order and scarlet bloom; also *Lemonia spectabilis*, which is not so showy as was expected of it a few years back; and *Roupefia grata*, a kind of strong stove climber, with heads of nearly white flowers; but I shall give a whole list of all the plants in the different collections, and only remark here simply that there was not a single bad-looking plant among the whole of them, that none of them were too big to be really showy; I mean such out-of-the-way plants as those with which Mrs. Lawrence kept all the best growers at bay for so many years, to the great detriment of our London exhibitions, and to the great scandal of the societies who encouraged her to spend her money so foolishly. Nevertheless, the gardening world will be pleased to hear that this lady is now hale and hearty, that she pulled down the useless old houses in which she kept the more than useless "collections," and that really useful new houses are now up in their stead, for domestic use and ornament only; and gardeners everywhere will be glad to learn that all those who took their notions of growing plants from Ealing Park will be in the back-ground for the rest of the chapter, or else form a "society" to give prizes to one another, just as the florists have been obliged to do at last, to their own great comfort, and to the satisfaction of all those who have a leaning that way; and that *we* and *ours* will be always glad to see part of their labours at each and all of *our* exhibitions and shows wherever they are, or may be held.

Now to the said florists in right earnest, and Mr. Turner, of Slough, at the head of them again with Pelargoniums and Fanev Geraniums, with Mr. Gains closely at his heels as anywhere this season. The first of note was *Cassandra* (Ayres) in the Fanevies, by Mr. Turner, as a single specimen. *Cassandra* was a beautiful woman, a king's daughter, and she had sixty-one brothers and sisters, as numerous as the Fanevies, but she lost her father, *Priam*, in the prime of life, and we hear no more of her, after the siege of Troy, till Mr. Turner placed her up on that corner, in advance of his own fair ones, and in a scarlet and white dress; his collection included *Celestial*, *Electra*, *Delicatum*, *Caliban*, *Perfection*, and *Conspicuum*, all of the very best stamp of Fanevies.

Mr. Gains had *Delicatum*, *Eclipse*, *Princess Alice Maude*, *Madame Rosali*, *Conspicuum*, and *John Bull*, I think. These great florists are sure to pick out the best kinds to make the best show, therefore the names of their kinds must be of more use to the young aspirant than those from private growers.

Mr. Maher, gardener to J. M. Strachan, Esq., Tedding Grove, near Kingston, had a first prize in the Fanev and in the large Geraniums with these kinds, which were remarkably well grown:—*Fairy Queen*, *Queen Victoria*, *Princess Maria Galitze*, *Magnifica*, *Perfection*, and *Delicatum*. *Magnifica* is too dark, and should be changed, another year, for *Electra*, or *Perfection*, or *Miss Shepherd*, or *Lady Hume Campbell*; at any rate, those dark ones after *Jehu* ought to be kept apart from the French breed of *Anais* and *Ibrahim Pacha*. Here are also the names of Mr. Strachan's large Pelargoniums, seeing he was so successful. They are very distinct ones:—*Monteith*, *Alderman*, *Centurion*, *Igned*, *Narcissus*, *Butterfly*, *Prince of Orange*, *Rubens*, *Village Maid*, *Ajax*, *Pearl*, and *Emily*. All these were on a stage of three shelves, rising one above the other, and this is how the florists placed their plants from front to back. Mr. Turner began with—

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|-------------|-------------------|------------------|
| 1. Rosa | 2. Topsy | 3. Queen Eleanor |
| 4. Virginia | 5. Carlos | 6. Azin |
| 7. Zeno | 8. Eucharistress | 9. Magnet |
| 10. Eugenea | 11. Governor Gen. | 12. Mochanna. |

Mr. Gains had his plants thus—

- | | | |
|-------------|----------------|--------------------------|
| 1. Arethusa | 2. Governor | 3. Beauty of Montpellier |
| 4. Rosa | 5. Constancee | 6. Fete Noir |
| 7. Mochanna | 8. Romulus | 9. Exhibitor |
| 10. Ajax | 11. Lady Julia | 12. Nandee. |

This is as they would place or plant the colours in a Tulip or Ranunculus bed, I suppose; and I have been wondering to myself how the Queen liked this arrangement. I did not see her Majesty, but a friend at Court told me that her Majesty was especially struck with the new French seedlings from Mr. Gains, and particularly pointed to *Lamorieiere* and *James Odier*; and I would risk a kingdom on the chance of her Majesty having ordered these and the whole collection of the new French Geraniums before this sees the light. Mr. Turner staged *Rowena* and *Vesper* as specimen Geraniums, or, I should say gems of the first water in that line. *Vesper*, it will be recollected from my former account, is three parts white.

FRUIT.—Her Majesty competed here with the very best persons in all her dominions, and beat them most triumphantly by many odds, with a large collection of Pines, Grapes, Peaches, Nectarines, Apricots, Plums, Strawberries, Cherries, Figs, and I know not what besides; and, as usual, everybody was so pleased to hear it, except, perhaps, the great ones whom her Majesty surpassed so completely. The Dukes of Sutherland, Marlborough, and Northumberland, Earl de Grey, and Lord Clarendon, Lady Charlotte Guest, and Lady Grenville, Sir John Cathcart, and a long list of other lords, ladies, and gentlemen, entered the fruit lists in great numbers. I recommended two sorts of the Strawberries to my late worthy *employées*, Sir William and Lady Middleton, as most useful in the dessert, but whether they are of good flavour is more than I know; the kinds were the *Bieton White Pine* Strawberry, a large white berry, that will make a most useful change in a dessert for great or small parties; and a very dark one, from near Birmingham, the name is *Sir Harry*. This was sent by Mr. Underhill, of Edgbaston, near the Botanic Gardens, Birmingham. But the very best Strawberries at the Show, after those from her Majesty, was a basket of *British Queens*, from Mr. Bates, of Moulsey, very near where I am now writing; and I recollect Mr. Bates having surprised the Londoners, last spring twelve-months, with such white Brocoli as Covent Garden could not then produce.

The Queen sent the best-looking Pine-Apple; and the best Grapes were an enormous bunch of *Cannon Hall Muscat*, sent by Mr. Strachan, gardener to K. B. Hill, Esq., of Bache Hall, Cheshire, down near Mr. Errington, whose Peaches, from the great tree, I expected to see by the dozen.

The *Disa grandiflora*, which I mentioned lately, was there, and was the lion of the day, and was sent by Charles Leach, Esq., of King's Road, Clapham Park—the only man in England, or elsewhere, who has succeeded in growing it to perfection. It caused as much surprise among the best growers of plants in the world as the Neigherry Balsam (*Impatiens Jerdonæ*) delighted the first ladies in the land; but I shall pass it this week, as well as other things at these exhibitions, in order to give a full account of how it was managed, from first to last, by Mr. Leach, to whom I am indebted for many useful experiments in crossing and in growing bulbs, as well as for the proper cultivation of this charming plant; and shall conclude with the follow-

ing alphabetical list of all the stove and greenhouse plants that were exhibited in large and small collections at this July Show of the Horticultural Society.

D. BEATON.

STOVE AND GREENHOUSE PLANTS.

Allemanda cathartica, grandiflora, and Schotti.
 Azalea Danielsana, and variegata.
 Aphelexis humilis, macrantha purpurea, macrantha rosea, and spectabilis.
 Æschinanthus Lobbianus, and pulcher.
 Boronia serrulata.
 Burtonia conferta.
 Clerodendron affine, fallax, Kämpferi, paniculatum, splendens, and squamatum.
 Crowea saligna.
 Cyrtoceras reflexum.
 Dipladenia crassinoda, and splendens.
 Dracocephalum gracile.
 Erica Aitoniana, Bergiana, Cavendishi, Irbiana, metulaeflora-tricolor, tricolor-elegans, tricolor-major, ventricosa Bothwelliana, and ventricosa grandiflora.
 Epacris miniata.
 Exostemma aquaticum.
 Hoya bella, and carnosa.
 Ixora alba, coccinea, crocata, and javanica.
 Jatropha panduræfolia.
 Kalosanthes coccinea, and mincata.
 Lemonia spectabilis.
 Leschenaultia Baxteri, biloba, and formosa.
 Phænocoma prolifera.
 Pimelea diosmæfolia, linifolia, and mirabilis.
 Polygala cordata, and oppositifolia.
 Relhania squarrosa.
 Roelia ciliaris.
 Rondeletia speciosa.
 Roupelia grata.
 Statice Holdfordi.
 Stephanotis floribunda.
 Tetratheca verticillata.
 Vinea alba, oculata, and rosea.
 Xanthosia rotundifolia, alias Leucolæna.
 Besides collections of Everlastings, Heaths, and Kalosanthes, or Crassulas.

NOTES ON THE EXHIBITION-TENT, REGENT'S PARK, JULY 5, AND NORTHAMPTON SHOW, JULY 6.

AFTER enjoying the gorgeous spectacle at the Regent's Park the day previously, I had the means of getting my judgment sobered down by a cool morning's ride, and a breakfast at Northampton. By referring to our last notes of this show, it will be seen that I took the liberty to say a few words on the mode of exhibiting, and the place in which the exhibitions were held. I intended to have followed up these remarks, by adducing, in confirmation, the mode adopted this season of having all the plants under one tent at the Regent's Park; but on getting home on the evening of the 6th, I found that the matter had already been alluded to by Mr. Beaton, p. 252, in his description of the preceding show. The effect of the whole was exceedingly striking at whatever opening you popped your head in, so long as the walks were not over-crowded; but when, as during the heavy rains of the afternoon, the place was crammed to suffocation—and yet every one smiling, as if it was no use to grumble—the effect of the plants, as a whole, was lost by the ocean of heads; though, even then, it was quite as easy to see them incidentally as when they used to stand on the sides of the long parallelogram-like tents. Taken all in all, this new mode is far superior to the old one; there is so much pleasure in getting out of the dull

uniformity, and winding up and down hill, and among terraces of splendid specimens; and I confess I was rather surprised to find what a mass of people the tent and the conservatory held comfortably from the wet, and how courteously they passed along in the latter place the unequalled display of fruit that loaded the tables. Gardeners and their employers have much for which to be grateful to Mr. Marnoch for the artistic skill and refined taste he has displayed in these gardens. Some of the first exhibitions of American plants quite took the floral world with astonished delight. I recollect getting my arm nearly squeezed through with the grasp of an Edinburgh man, when, in the first peep, he could only exclaim, "Eh, man!" and when he could draw breath so as again to articulate, it was to the effect, "Well, the ladies are done for, for once." Now, beautiful as these plants were, reflecting such honour on the Bagshot Nurseryman, no little part of the charm was owing to the beautiful arrangement of the grounds in which the specimens were planted. I believe the undoubted success of that American ground furnished the key-note for the green terraces and banks on which the specimens were exhibited. It is quite true, that as Mr. Beaton remarks, so much green in a dull day would be apt to drown the colour of the flowers, just as the lofty arched roof of the exchange at Northampton seemed to sink the plants to nothing; and this drowning would be more conspicuous at this season than at an earlier period, inasmuch as there are few things of a bright orange or yellow often exhibited. Floral exhibitions connected with large gardens may often escape those deficiencies which cannot be avoided in provincial gatherings, as they can draw largely on their own stores for fill-gaps; and if this great variety of colour can be introduced, it will always constitute an attraction. Some may imagine I am morbidly alive to the beauties of a yellow or an orange tint; but be that as it may, I passed several banks of splendid plants, on which I could not help thinking that a large *Cytisus*, a *Cassia corymbosa*, a few spikes of *Helychium coronarium*, yellow *Thunbergias* smothered with bloom, or even a few dense masses of yellow *Calecolarias*, would not only have been telling objects themselves, but *lightened* up the charms of their neighbours. Being told that Mr. Beaton was there, though I did not see him, I need not refer further to my recollections.

The show at Northampton was held at the same place, and on the whole was a good one. The room was better filled, new arrangements had been effected, and the nurserymen, Messrs. Jeyes and Perkins, had brought out more plants. Both these gentlemen, as well as Mr. Archer, showed Roses in excellent condition. Mr. Jeyes exhibited a nice collection of tender Exotics. Mr. Perkins exhibited a good collection of the rarer evergreens, and if the attention bestowed upon them by ladies and gentlemen be any test, we shall hope to see this feature of the show repeated. Among these were *Juniperus fragrans*, *J. hiibernica*, *J. compressa*, *J. nova borrensis*; *Taxus Humboldtii*, new, so far as I am aware, and fine; *Cephalotaxus Fortunei* proved to be hardy; *Pitzyoya Patagonica*, hardy; *Saxe Gothea conspicua*, *Torreya taxifolia*, *Cedrus robusta*, seemingly a variety of *Deodora*; *Pinus grandis*, *P. muricata*, *Cupressus Kniglitiana*, *Librocedrus Chilensis*, hardy; *Cerasus illicifolia*, cut down by frost, but coming up strong; and *Ilex cornuta* and *Ilex fureata*, the latter a very beautiful thing in its young state. Plants of the following *Rhododendrons* were also shown:—Edgeworthii, Falconerii, Nivatium, Alpina, Metaphor, Hodsonii, Elegans, Arcadii, Noviena, Fulgens, Guttatum, Antagonist, Ianthe, Pulchella, Dalhousiana, &c., many of these attracting much attention, even from their foliage. Among *Roses*, it is next to invidious to particularise, where all shown were in such excellent condition, only that the same gentleman exhi-

bited Pius Ninth, Paul Ricaut, Fortune's Yellow, and Cloth of Gold, in excellent condition, though the latter were not up to those I had seen at Wilderness Park two days before, budded and treated as described last week. A plant also appeared of the *Duke of Wellington* Fuchsia, with a flower or two expanded, that was not likely to create a rapid demand in that quarter; but the small plant showed it had been recently potted, and a full-sized flower could hardly be expected until the roots pressed or kissed the sides of the pot again; a fact which people showing new things should keep in mind, if they wish to show the full size of a bloom. For instance, the man who intends letting out a good new thing, should keep it to himself until he can show a fair-sized specimen; but the country nurseryman, who wishes to get back his guinea or two guineas worth as soon as possible, should exhibit, as an inducement to purchase, not a plant growing freely, and where this growing is so far in antagonism to the blooming freely, but a plant rather stunted of pot room, and where size can be given to the bloom, with rich surfacings and manure-waterings.

The new arrangements consisted chiefly in dividing the plant-tables with a section of green baize, and having a circular elevation or two, furnished with large Fuchsias, &c., which took away the monotonous outline, and produced so much agreeable variety, that the hint will no doubt be acted upon in futuro. A few large Araucarias, Deodars, or even some few Spruce Firs, stuck in tubs, would have still further enhanced the variety and charm in such a lofty building. Festoons of evergreens, carried from wall to wall, would also have lessened the apparent height of the roof, and produced a pleasant counterfoil; but the resources of provincial committees of such institutions too often limit their endeavours alike to gratify and improve the refined taste of their neighbours. It is true, that to obtain success, the best way is to deserve it; but the public is such a capricious animal, that so long as many who could easily give substantial support confine their encouragement chiefly to notes of admiration! indefatigable secretaries, and working committees, are refrained by prudence from making great outlays for mere ornamental display, if the paying back is to be dependant on the fickleness of the multitudes. Did the regular subscriptions alone secure against all risk, the results and the attractions would often be different. There was another change well worth noting, though entirely out of my way, as no one can know less of music than I do. Formerly, a splendid band took their position in the orchestra, or raised gallery, at the end of the room. What the effect may be during concerts and oratorios, when the place is crammed with people sitting, I know not; but when the visitors were walking about at these exhibitions, the crashes of music were to me perfectly brain-splitting. The band, this time, were seated in a side-room, with the doors left open, and the softened strains, even to my *unmusical* ear, were thrillingly delightful.

The object of these notes being, not so much to tell of the success of individual exhibitors—as that success, and the noble emulation that led to it, are best chronicled officially in the local papers—but to deduce inferences likely to be useful generally, I will just glance at some of the main features of the exhibition.

The *Vegetables* were in good condition, but not at all superior for Northampton, as, generally, both at exhibition and market, there is a good and plentiful supply. I suppose it was too early for some of the finer kinds of Peas, which generally appear in splendid condition. I spoke, last year, of Jeyes' *Conqueror*; and, where a tall Pea can be grown, I can confidently recommend it for its prolificacy, length of time of bearing, and richness of flavour and size of Pea.

The *Fruit* was scanty, and, on the whole, inferior to

that showed in May. I noticed Mr. Newman hoisting a small hamper into the luggage-van of the train, and from that he contrived to take the honour of a good share of the first prizes. A fine-looking, large, dark, Strawberry was present, named *Prince Albert*—but allowing the choice of other Strawberries present, I hardly think the Prince would taste it more than once. There was a fine dish of the *Courteen Hall Seedling* Strawberry present, which I consider well worth growing, though it seemed rather acid, Mr. Gardener speaking highly of its forcing qualities and its bearing so abundantly. It seems a cross between the *Kean*, or *Dickson's Pine*, and the *Queen*. The finest-flavoured Strawberry there, and which would not easily be surpassed elsewhere, was the *Shardeltes*, a middle-sized fruit, raised by Mr. Bailey, of that place, in Buckinghamshire, and which should be more generally grown.

Passing over groups of well-grown Cockscombs, and compact Balsams, I will merely instance a few of the more prominent miscellaneous plants. On entering, a very large, fine-flowered, Scarlet Geranium, from Mr. Barber, presented itself before you a perfect blaze. Nice compact plants of *Erica Cavendishii*, purple Polygala, Lantana, Pimelia, and Achimenes, came from Mr. Gardener; and *Coleus Bloomeii*, *Vinca rosca alba*, *Allamanda nerifolia*, *Allamanda cathartica*, *Ixora coccinea*, and *Allamanda Schotti*, came from Mr. Brown, and *Fuchsia Matildiana*, *Rondeletia speciosa*, *Epacris miniata*, and *Tetratheca verticillata*, came from Mr. Mechi. Of comparatively new plants, a nice specimen of *Cissus discolor* was shown by Mr. Brown, and pretty neat plants of the Achimenes *clivata*, and the Achimenes *gloxiniiflora*, were shown by the Messrs. Gardener and Mackie respectively, both of these being desirable, the former having purple flowers, drooping, so as to approach the seemingly Campanulata form, the latter being dotted with yellow, and having the incipency of the tube of the Gloxinia.

There was a good collection of *wild plants*, which always creates much interest, especially when correctly named. A number of *bouquets* and baskets of cut-flowers were also much attended to by visitors. Most of these, however, were arranged without any apparent attempt at system. I knew a lady who swept off the prize a number of years running, and with rather common flowers too, merely by making up each kind in a little bundle, and then arranging them in her basket, with open spaces filled with moss between, sometimes on the principle of shading her colours, and at other times of contrasting them, and though many costly things were in the baskets opposed to her, I never heard one calling in question her right to the prize. In one basket, I think belonging to Mr. Barber, there was an attempt at something of this nature, and though not carried out, I rather think it took the first prize. A thickish row round the outside consisted of the yellow *Eschscholtzia*, then a row of the yellow *Nemophila maculata*, then a row of *Scarlet Geranium*, getting mixed in the middle. Much refined taste may be displayed in such baskets of flowers; and as it is a sacrifice to cut so many flowers, when at all well done, societies, if possible, should always reward the labour, as at country exhibitions they always constitute an attractive feature.

A similar principle holds good in floral devices. It is difficult to say what might not be rendered a floral device, though designs and forms, which we are in the habit of associating with flowers, would be felt to be the most appropriate. Hitherto, these devices have chiefly been confined to flower-gardens, with miniature cottage, greenhouse, fountains, &c., the beds being arranged on turf and gravel, and filled with bloom instead of plants. Much good taste is often displayed in this way. There were two such gardens on the present occasion, both

interesting, and one very good indeed, but as an evidence that such devices should not be so confined, they were put second and third, and a little frame of a harp was put first over them. I understood, during the afternoon, that the same skeleton, similarly arranged, but, of course, with other flowers, had been conqueror at another show a week or ten days previously. Now, the most of the flowers were very common. The system of arrangement was what pleased every one. You may form some idea of it, when I mention, that the long leg of the harp consisted entirely of *Buttereups* (where is the colour that will beat it), *Nemophila insignis*, and a purplish-erimson *Cineraria*, with a whitish eye, resembling old *King*. These three things, in single blooms, followed each other, not in horizontal rows, but in corksew fashion. As might be expected, the harp was the handiwork of a young lady.

Contrary to custom, Mr Gardener this time walked the course with good plants of Gloxinias, the most prominent of which, for beauty and novelty, was *Marian Van Houtte*, I think, a pinkish-red flower, with a beautiful white throat, and *Duke of Wellington*, a very large red flower, showing itself well up above the foliage.

However much these objects obtained and deserved notice, the distinguishing features of the show were *Fuchsias*, *Achimenes*, and cut *Roses*.

The *Fuchsias* were not so fine as they appeared at the deluge at Blisworth last year, and were neither so large, nor so densely bloomed, as they appeared at the Regent's Park the previous day. They would, however, constitute striking ornaments in any greenhouse. So far as I recollect, the tables were turned this year. Mr. Gardener's large plants were second last year; and Mr. Mackie's large plants were second this year; compactness, freshness, and quality of bloom, being found most on the younger plants. The first stand were nicely arranged in colour, a dark and a light appearing respectively. The sorts were, Grand Sultan, Duchess of Lancaster, Diadem, Nonsuch, Kossuth, Matildiana, Pearl of England, England's Glory, and Bank's Glory, &c.

There was no decline in *Achimenes*. These were truly splendid. Mr. Appleby has been visiting shows; and first-rate places for a number of weeks, and I asked him if he had encountered their equal, and he answered, *Nowhere*. I put a fair sized umbrella across some of them, but it did not take in the diameter of the head, showing all over a dense mass of blossom. Our readers are, of course, aware that a great number of scaly tubers are placed in such a pot. This must ever be the case when such masses are to be produced. I saw a nice little group of *Achimenes* at the Regent's Park the previous day; and though it would have required three or four of such specimens squeezed together to make a Northampton specimen, still there was an ease and elegance about those little plants from which even the Northamptonians might take a hint. The most of the Northampton plants were trained quite symmetrically, like a Turner's fancy *Geranium*, making some two-thirds of a ball; but several of these plants at Regent's Park were blooming right down to the ground, or the bottom of the pot, and the shoots being thinner, there was more light and shade in the individual plant, and the flowers were seen on the shoots for a considerable part of their length, instead of being congregated chiefly in dense masses at their points. There is an old adage, that "a fool may pick a flaw in a wise man's work;" I have grown this tribe tolerably at several times, but I never came up to the Northampton standard; and if I might venture on a hint even to them, it would be a little more ease and carelessness in the lower shoots, so that the bloom may be nearly as low as the bottom of the pot, and less thickness and compactness of shoots, so that flowers, and light, and shade, may be obtained in looking through the plants. There will thus be liberty

and ease, instead of an approach to the regular lumpy-headedness, which soon loses its charm. I may just mention, in confirmation, that I watched some groups of ladies hovering over these plants, and it struck me they lingered longest and expressed most admiration opposite those that were thinnish, in opposition to those *thickset*. As they were, the specimens were, indeed, grand. With single specimens, Mr. Gardener and Mr. Mackie were both deservedly first; the former with *Margaretta*, the latter with *Longiflora major*. Of the collection of six, Mr. Mackie's were a little injured in coming, and that alone gave a little advantage to his rival. Mr. Gardener's group consisted of *Longiflora major*, *Margaretta*, *Kleii*, *Lipmanii*, *Longiflora alba*, *Longiflora*. The following are the kinds in Mr. Mackie's collection. *Patens major*, *Margaretta*, *Longiflora major*, *Hirsuta*, *Longiflora alba*, *Tugwellana*.

Many can bring cut blooms of *Roses* who cannot bring them, or grow them, in pots; and the general mass was inferior to none I had seen for the season, which is saying something after coming from the quantities at Regent's Park the day before. This, however, has not generally been a good season for *Roses*. One of the great *Rose*-growers, at least his factotum in that department, told me, that he had no choice, for he could collect no more than one or two above the specified number. Every encouragement was given at Northampton to private growers, as there was close competition in 18's, 12's, 8's, and 4's. If it had not been contrary to the rules, one grower (Captain Maunsell) would have cleared off the whole of the first prizes. His *Roses*, consisting chiefly of first-rate oldish kinds, for size, symmetry, and perfection, were the first I had seen for the season. These *Roses* formed a topic of discussion at the dinner table, everybody admitting their beauty and superiority, but differing as to the modes the worthy Captain employed to obtain such beautiful specimens, some attributing it to soil, mellow loam, drainings from a dunghill, thinning the *Rose* buds, &c., but some one or other had tried each or other of these modes, and found them ineffectual to produce such beauties. I did not have the pleasure of an introduction to the Captain, or I might have stolen the secret; but if this meets his eye, with the want of selfishness common to all true florists, he may be able to enlighten some of us practicals as to the cause of his great success.

Had space permitted, I should have had plenty to say of the up-and-downs of this exhibition in past years: the secure hold it seems now to be taking; the grumbling of gentlemen that they saw the same things over again, a complaint by no means confined to Northampton, but which their gardeners can pretty well tell them how to remedy; the good fortune of the Society, in getting such a good, working *honorary* Secretary as Mr. McQuire; the attendance of many of the influential gentlemen of the town at the dinner-table; the good feeling prevalent there; the eloquent address of Mr. Mackie, giving practical proof that a man is often most truly great when he is not superbly victorious; the forcible remarks of Mr. Appleby, on the beauty and benefits of rivalry and emulation, when associated with the courtesies of life, the sweet influences of private friendship, and the freedom from heart-burning jealousies that so much distinguished the competitors that day, and I may add, at all times since I have known them; the great number of visitors that attended; the necessity for gentlemen never finding fault with their gardeners not competing successfully to their mind, unless they furnish them with means, and full opportunities for doing so, as demonstrated in some articles last season;—but the Editor, or his Mercury, is knocking at my elbow, and I must desist, hoping that this institution will shed a beneficent influence on the increasing town and neighbourhood.

R. FISH.

FLORISTS' FLOWERS.

(Continued from page 301.)

NEW VERBENAS.

I HAVE very lately had an opportunity of seeing several collections of new Verbenas in flower, and, as far as I can judge, they are great improvements upon the older varieties. In purples, I have seen none better than *Purple King*, mentioned in a former communication on this subject. I have seen several beds of it in various places, and I think it decidedly the best of its class. It bears the weather well, grows dwarf, and produces large trusses profusely.

The others, which I shall now notice for the information of the readers of THE COTTAGE GARDENER, may be relied upon as good.

KING OF SCARLETS.—Fine habit, good truss, colour orange-scarlet, with a clear, distinct, lemon eye. A most beautiful variety, very striking; one of the brightest and finest Verbenas I ever met with.

IVER BEAUTY.—Pure white, with bright scarlet eye; fine, and very attractive.

STAR.—Deep rose, with a large white eye, good form, close compact truss, a free bloomer, and very distinct.

DELICATA.—Pure white, with a pink eye; a beautiful light flower, especially in a greenhouse.

UNIQUE.—Good purple, with a large white eye; a great improvement on *Ormsby Beauty*.

MRS. D. TYSSON.—Blush-white, with large crimson eye; pips large, flat, and smooth; full sized truss, and dwarf, compact habit; suitable for either pot-culture or bedding; a very superior variety.

ROUGE ET NOIR.—Rich dark crimson, with a pure, distinct, white eye; a new combination of colours, shows well on a bed, and is suitable also for pot-culture.

MRS. GERARD LEIGH.—A beautiful clear lilac-colour, with large white eye, compact truss, and blooms freely; a lovely novel variety.

CANARY BIRD.—Quite a novelty in colour, and is, I believe, the first step towards obtaining that desiderata, a yellow Verbena, the colour being a sulphur-yellow; pips large; well-formed truss; even and smooth; a very distinct and desirable variety.

RED ROVER.—A clear, distinct red; a shade very desirable for producing the shot-silk shades, so much recommended by Mr. Beaton; very dwarf, for bedding or for edging other colours.

SIR CHARLES NAPIER.—A decided improvement in the crimson or dark varieties; good truss, large pips, flat and smooth.

The season has been, perhaps, the worst ever known for Verbenas and other bedding-plants. I have visited many gardens lately, and have found them generally, all where the bedding-out system is carried out largely, fully six weeks behind the usual average. The late frosts, succeeded by dry, parching winds, prevented the plants from growing, and now, in many places, the green fly is making sad havoc with Verbenas and other plants subject to their attacks. The fine rains that have fallen lately have been beneficial, and the plants are beginning to make some growth. They require now warm, sunny weather, which, however, seems as far off as ever, for whilst I am writing (July 15th), the thermometer indicates only 52°, and that in the middle of July. Without a sudden favourable change, there is but a poor prospect of a gay flower-garden during August and September. Let us hope for more kind weather, not only for our flowers, but for what is of immensely greater importance, a favourable and plentiful harvest.

The rain, I find, has fallen more freely by far in the southern counties than in the north. Beyond Birmingham very little rain had made its appearance up to the end of June. The gardens were almost dried up. I

was told, in Chester, that there had only been one inch of rain during the entire months of March, April, and May; so we may imagine how dry the ground must have been. In Lancashire, about Manchester, such a season the oldest man cannot remember.

Such seasons try the patience and exercise the skill and industry of the florist to the utmost. The great difficulty is, how to counteract the evil effect of such weather on flowering-plants in the open air. It is true, we can apply water with the garden pot, or, what is infinitely better, with gutta percha tubes, supplied from large reservoirs, but we cannot supply that warm, moist atmosphere so enriching and refreshing to our tender young flower-plants, at least, to any extent. Yet we must not despair, and sit down in listless apathy, as if we neither could nor ought to do anything to keep our plants alive and in tolerable health till the warm showers fall from the clouds to bring the flowering-plants to perfection. No; we must use all the means in our power; such as plentiful waterings, shading, &c., and, having left no means untried, then we may rest content, and wait patiently for the latter, if we are not blessed with the early, rain.

Many years ago, I strongly recommended the use of flaky moss as a covering of the soil of flower-beds, and I am quite sure if that retaining-moisture-material had been more used during such a dry spring as we have had this year, the good effect of such an application would have been found greatly beneficial.

T. APPLEBY.

WREST PARK,

THE SEAT OF THE RIGHT HON. EARL DE GREY.

I VISITED this fine place with my friend, Mr. Fish, about the same time that we called at Nuneham, and rather expected he would have noticed it before now; but as he has not, and I took a few notes of some interesting matters, I will try to put them into shape for our COTTAGE GARDENER readers.

Whoever wishes to see a garden well kept in every department ought to visit Wrest Park; and I cannot refrain from paying this well deserved praise to Mr. Snow, the excellent gardener there.

The mansion, a noble pile, is situated on a rising ground, with beautiful views from the grand front. There is a noble paved terrace in front, bounded by a bold balustrade with piers at equal distances, on which are placed some fine statuary. From this terrace you look down upon a flower-garden laid out in the scroll style, each bed, or continuation of beds, is furnished with the usual bedding-out plants, beyond that there is a bold straight wall leading to a Grecian Temple.

Noble forest trees, in avenues, give a bold character to the pleasure-ground which such ancient places only can possess. This is the park front. On the garden front there is a noble conservatory filled with large Orange and Camellias, and similar standard plants, intermixed with such things as Geraniums, Fuchsias, Calceolarias, &c. I was much struck with a fine white Banksian Rose on the roof. I may venture to say there were hundreds of bunches of flowers upon it. In the front of this conservatory there is a large Italian flower-garden, with statues placed in the angles of the walks. Near to this garden I was delighted with a fine conservative wall covered with choice wall plants and creepers, intermixed with Roses. The fine Rose, *Gloire de Rosamene*, was covered with its glowing, dark scarlet roses, and a very beautiful one, named *Belle Emilie*, besides the *Souvenir de Malmaison*, and several others. A beautiful Honeysuckle, one of the trumpet-flowered species, named *Caprifolium sempervirens*, var., *angustifolia*, was also in full flower. The blossoms are of a dark

crimson-colour, and very showy; also a fine specimen in bloom of *Magnolia soulangeana*, and the yellow *Sophora*.

In the borders, I noticed several large bushes of that pretty and showy plant the *Chieranthus Marshallii*, a plant that every garden, however small, ought to possess; and also some splendid patches of the Brompton and Queen Stocks. These were particularly well grown, and finely bloomed; seeing these so well done, and so very showy, led me to write about Stocks lately, and recommend their culture.

At right angles with this wall there is a glade, or opening, bounded by a plantation of evergreens, planted on a rising bank of soil. This had evidently been placed there to hide the kitchen-garden walls. Amongst the shrubs, my attention was drawn to some tall Conifers, especially *Cupressus torulosa*, which had withstood the severe winter bravely. There are several fine specimens more than twenty feet high. It is difficult to account for the fact, that in some places this handsome tree is quite hardy, whilst in others it is more or less injured. One reason may be, that in a low, warm situation, this species, as well as several others, continue growing so late in the season that the young shoots do not become solidified, or, in other words, ripened; hence the severe frost expands the cellular tissue, causing them to burst, and thus destroying their cohesion.

Passing this boundary, we enter the kitchen and fruit-garden. In it are placed the Pineries, Vineries, Peach, and Plant-houses, all kept in perfect order, and all full of fruit in various stages. The Vines were quite healthy, though some of them were of a considerable age. Mr. Snow, instead of grubbing up old Vines, inarches young ones upon them; and some that had been so operated upon were making extraordinary strong shoots. This, I think, is a good practice, where the Vines have healthy roots. They grow stronger than any fresh-planted Vines would do, and come sooner into bearing. The method is good, also, in the case of desiring to change the kind of Grape for a new or better variety.

In the Stove, I noticed several fine things in flower. A good specimen of a plant almost out of cultivation, named *Melthania erythraylon*, with its silvery leaves and large white flowers, was blooming freely; *Canna iridifolia*, a tall species, with splendid deep crimson blossoms, and noble foliage, was a striking object; *Gesnera Cooperii*, several fine plants; one had eleven spikes of its truly showy scarlet flowers. *Aschy-nanthus*, several species. These plants are usually grown as droopers, but here they were trained in the pyramidal form, and were blooming profusely. Of *Amaryllis*, Mr. Snow has several superior seedlings blooming freely. As he justly remarks, no plants in the stove make a more splendid show than these South American bulbs; yet they are, comparatively, neglected to make room for more questionable things. I observed several pots filled with the *Zephyranthes rosea*, a plant of low growth, suitable for the front of larger plants. It is a lovely object when so grown as it is here. Tall *Cacti* were numerous, and so well-flowered, that could they have found their way uninjured to Chiswick, they would have matched, and run a race with that veteran in *Cacti* growing, Mr. Green.

My space warns me that I must be brief, therefore I can only notice further, that Mr. Snow is the gardener who raised the excellent Broccoli so much in demand, named *Snow's Early White*. He informed me that it is a very difficult one to seed. I saw a small plot devoted to that purpose. Many of the heads only sent up one or two flower-stems, and those were weak and puny; and the question naturally occurred to my mind, Where does all the seed come from sold under that name? I leave my readers to draw the inference, and give the answer.

Mr. Snow has, also, a new excellent Cos Lettuce,

which he has named *Snow's Matchless*, and a very excellent variety it is, very hard, very close, compact, and dwarf. When it becomes better known, and plenty of seed raised from it, I venture to predict that most other green Cos Lettuces will be driven out of culture.

I have one more note that I must mention. In a small reserve garden, I saw a bed of an old favourite plant of mine, the *Narcissus Bulbocodium*. They were planted here in a bed of deep, light, rich earth; and such clusters of flowers!! I counted one, and found it had the astonishing number of fifty-two blossoms upon it. Lady De Grey greatly esteems this lovely spring flower, and, therefore, it is cultivated here, perhaps, more largely than in any garden in the kingdom.

My visit to these gardens gave me great pleasure; and I am only sorry that I cannot give a fuller description of them. All I can say is, if any of our readers can make it convenient to go and see for themselves, I am sure they will be as highly gratified and instructed as I was. Lord de Grey very liberally allows the place to be seen by the public, if I remember rightly, every Monday during the summer season.

T. APPELBY.

STRAY NOTES ON THE ONION.

SOME twenty years ago, or more, it was mooted in the gardening periodicals of that day, that the English summer was not long enough, nor warm enough, to perfect the growth and ripen the tissue of this bulb, and that recourse to a part of the previous one ought to be had in order to secure a good crop of Onions. This startling theory, backed by the appearance and reports on certain Onions of fabulous size, which had then come to our shores, in somewhat liberal quantities, from the Sunny Isles and coasts of the Mediterranean, for a season or two led some of our more ardent cultivators astray in their endeavour to put the so-called "improved" plan of growing them into practice; for it is almost needless to say that the plan failed. Bulbs of a large size might be occasionally obtained that way, still they did not possess that compact growth and solidity requisite to ensure their keeping. Hence the plan was abandoned; yet, the discomfited projector of the scheme, doubtless, did some good; for the anxiety of those who grew them on the old "spring sown method" being called into action, greater attention was paid to the crop, so as to rival the new fashioned system. And after the failure of the plan, "theorists" were not wanting to describe and expatiate on the cause of it, in doing which they did no good, for they merely followed in the wake of practice, rather than led or directed it. However, the result was, that the same period of sowing was resorted to that our great grandfathers had adopted, and excepting the more general adoption of rows instead of beds, the plan of growing Onions did not seem to have undergone much change for a century or more. True, an ardent hunter after novelties would now and then point out what he conceived to be important improvements in the shape of manures peculiarly adapted to the wants of the Onion; but with that exception, little has been done deserving of notice, unless we admit that the varieties now grown, being more carefully selected for saving seed from, an improvement in their size and keeping qualities is very perceptible; and this being a point of no mean importance, a few words on the subject may not be altogether out of place.

I believe, it will generally be acknowledged, that an Onion being deeply formed, and ripening off so as to leave the smallest possible space to which the roots have been adhering to, coupled with a small neck, and firm at its base, is considered a better specimen than those broad, flat bulbs, which have more the shape of an

ordinary lamp-glass than of a globe, because, when they are so compressed, there is, of necessity, a much larger piece cut away as waste at the bottom than when the bottom is of smaller dimensions. Now attention, of late years, has been directed that way, and Globe Onions have been in request where Onions were wanted; coupled with this, something has also been done to secure a better keeping article, which, by-the-by, has not been so easily done; for the old *Strasbourg* Onion, which has always the perverse tendency of coming as a "compressed Globe," is, after all, the best keeping one we have; the *Globe* being, perhaps, the worst; but this keeps better than of yore, and, doubtless, by careful attention to the seed-saving bulbs, it may acquire as good a keeping qualification as any others. However, as my purpose was more to direct attention to the growing crop than to give directions to the "seed-grower," it would be better just to look to the condition of the bed, in order to see what may yet be done to ensure the best crop and quality the season yet admits of.

In the first place, taking for granted that the crop has been duly attended to in the thinning, weeding, hand-hoeing, and other work necessary to do, and that at the present time (the latter end of July) the crop exhibits that luxuriant appearance which is so easily distinguished by the practiced eye of an experienced looker-on, and which is totally different from that gross and vigorous growth which betokens an article more resembling a Leek than an Onion; but supposing that the crop be promising enough, and the season favourable, then little need be done until after the lapse of another week or two. But supposing a damp, cold season keeps up a growth until the period for perfectly ripening the bulbs be absolutely gone; in that case, or where there is reason to believe that to be the case, some measures must be taken to counteract it, and as these are simple and homely enough, their recital here is an easy matter; for by going over the beds and bending down the heads of all the Onions that do not seem disposed to lie down of themselves, a check is put to their growth, and the intention of nature, which is the ripening and hardening of a bulb capable of withstanding the severities of winter, is, to a certain extent, forwarded, and the Onion, by being partly bruised in the roots as well as the collar, the check is the more complete; but the setting-in of dry weather is the greatest boon; but as this is beyond control, we must adopt what other means we can.

Much may be said of the diseases to which the Onion is liable, some of which are very injurious; and, in the different localities where grown, different names are given to them; but the remedies are not so certain,—in fact, preventive measures are the only ones in this, as in many other garden productions, on which any reliance ought to be put; and the best way to secure a crop is to sow it under such conditions as will best ensure its rapid growth. Certainly, there are some situations wherein this cannot well be accomplished, Nature not being so bountiful as could be wished for, and a cold, perverse, clayey soil has to be operated upon. In this case, a plentiful supply of mortar-rubbish will effect a partial change, and the Onion is not averse to feed on such matters of which lime or chalk forms a conspicuous part. Other things might also be added; and be sure that the ground is not soddened by the trampling necessary at sowing time; in such cases, it would be better to dig and sow the ground at the same time, sowing each row as the digging proceeded, so as not to have occasion to tread on the dug part at all. This can easily be accomplished, and if the ground turn up rough and unsuitable to receive the seed, a small quantity of a finer description might be brought, on which the seed-rows might be formed. The quantity for this purpose is not much, and much benefit will be

derived from it, for the rest of the ground being necessarily rough, it will have time to mellow down before it is wanted by the crop it is destined to support. This plan of sowing seeds is not confined to the Onion, but may be carried out with all others.

In grounds of an opposite character, quite the reverse system must be adopted. In these the lightness of the soil must have a something done to tighten or solidify it; this is done by adding dung, or other substances of a heavy or solid nature; and not a little is done by the liberal use of manure-water, which is the more necessary here, because such soils are generally dry and wanting moisture. But apart from this, heavy and successive rollings are necessary after the seed is sown, or, what answers the same purpose, a good treading-in, taking care to do it when the ground is not too wet; but this is only the case on very light soils when it absolutely rains; for they have the accommodating property of allowing work to be done at all seasons; as an exceeding dry one is very prejudicial to the well-being of the crop, water, in some shape, ought to be administered, and the result will be highly beneficial, although it is needless to say it will be more so if it be slightly mixed with some manurial substance.

Although the end of July is late to recover a crop of Onions, which, by previous neglect, or bad management, has been allowed to run into disorder, or become stunted, still, a something may be done when they are healthy. Thinning ought to be done without delay when wanted; and the vigorous habits of others curbed as may be required; besides which, it would be advisable to clear away all weeds and superfluities, but at the same time, be careful not needlessly to injure them.

In the above, it will be seen that spring-sowing is recommended. In fact, I have never yet seen what may be called a sound, good Onion grown in any other way. They can be grown to a larger size by being partly forwarded the preceding autumn; or when sown in a hotbed early in spring, and reared so far by artificial means, and then planted out, they can be had, perhaps, of a larger size than when sown and grown on the same plot of ground out-of-doors; still, they are never so sound, firm, and solid, as the last-named, especially when the season and other things conspire to their well-being. I may also add, that one of their most favourite substances to grow in, when mixed with good garden-mould, is charcoal ashes; which is also one of the best antidotes to disease. Lime is also useful that way, but not so useful as charcoal ashes; in fact, the latter has been found efficacious in securing a crop on grounds in which the grub and diseases abounded to such an extent as to render it hopeless sowing without this preventive. I need scarcely add that it is also highly valuable as a manure; but of that I am not so sanguine as many who wrote on the marvellous effect of charcoal applications to various horticultural purposes some ten or a dozen years ago; but which was far from being a new invention; for charcoal-ashes have been used on Onion-beds, and to prevent the "club" in cabbage plants, for several generations, as I have been able to trace it, on tolerable accurate authority, for a century or more. However, I am wandering from my path, and my space reminds me that my allotted portion is fully occupied, that I must leave other matters relating to the Onion to another occasion.

J. ROBSON.

ALLOTMENT FARMING.—AUGUST.

OUR readers who have attended well to our advice previously given in these pages are in a position to exult over their crops in general. I can only say that the practice I have suggested is that pursued, in the main, by myself, and I have never, during an experience of some thirty to forty years,

had such successful results as this season, although the season has been rather of an untoward character in these parts. I have most pertinaciously endeavoured to carry out a few leading maxims in vegetable culture on all occasions, notwithstanding the very awkward position of the labour question of late, and I feel happy to think that I have endeavoured, at all times, to force them on the notice of our cottagers and allotment holders. The use of soot is one; sawdust, too, I have used in more ways than one; guano, occasionally, in very moderate quantities, as a liquid-manure; charred weeds, sticks, and rubbish, many a cart-load; and as for other matters, I may name a determination to suffer no weeds to seed if possible. These I call points of high consideration in the culture of vegetables, as involving much economy, both in labour and material, besides, the most flourishing crops. I do not name these facts as boasting, although, like other mortals, I feel proud of good results, but to encourage our small holders to persevere in such practices, and not to despise them because they appear at first sight unimportant.

And now, what about POTATOES? We may now take stock, and chat over our prospects, as compared with former years. In this quarter, up to the period at which I am writing, nothing can look finer; on all sides reports are made of the glorious appearance of the crop, and this is a most noted Potato county.

But the same might be said during the two past years, up to this time; so that we have no guarantee here. Still, it is better to report this than a patchy or diseased crop to begin with. But we have this set off. People have very generally adopted the practice I suggested in those pages, and elsewhere, some years since; they have discarded their late kinds, and given up very late planting, and the general recognition of the propriety of this practice has given rise to a new class of Potatoes, combining earliness with the keeping properties of the old late. Less manure has been used, on the whole, than formerly, especially dung or other organic matters, and many farmers have very wisely depended on a little guano, where the land was in tolerable good heart. I may observe, that some of the finest crops under my charge had nothing but sawdust and soot, two parts of the former to one of the latter; this is a favourite dressing with me. One peculiarity may be here noticed as within reach of my observation, viz.: that Potatoes, in many instances, have begun to blossom again; this is, in my opinion, one of the best premonitory symptoms of returning vigour of constitution.

However, I pretend not to suppose that we have done with the disease; I have no doubt that it will depart in an exceedingly slow way. Let me advise all parties to look sharp out for early seed for next year before they receive the least taint; better be much under-ripe than diseased. Besides, I am convinced that they are better taken up before ripe for early work; such practice keeps the seed back, which (if they be left in until ripe) is apt to become so full as almost to sprout, and hence in danger of being rubbed off in autumn or early spring.

As soon as taken up for seed, the best way is to strow them over an airy floor, where neither sun can shine on them nor moisture reach them; a building facing the north and open at the sides is best; here they may lie for three weeks, and they may then be put in hampers and placed in any dark, dry, and cool place in-doors until the end of October, when they may be pitted, if necessary; if in the way, until the end of January.

And now about other root crops, to which I always turn first as a promissary consideration. Carrots, Parsnips, and Mangold, will have been cleared thoroughly before this, and, indeed, all cultural operations finished; all that will remain to be done will be to draw out a weed here and there which had escaped the hoe, and to single out a few for use, occasionally, where rather too thick. Swedes may yet require a hoeing, if rather late, and a final thinning as soon as possible.

BLANKS.—One of the most important affairs at the end of July is to look over every crop and see if blanks exist, or if there be any grubbed or blighted roots that cannot be relied on. Such should be pulled up and consumed by the pig, and their places filled immediately by Swede plants, or dwarf Cabbage, taking care to puddle their roots.

PUDDLING.—By this is meant dipping the roots of plants in a thick mixture, in order to enable them to withstand drought, and insect enemies, grubs, &c. I find that the mixture I use bids defiance to the elub in most cases. In planting-out Cabbageworts, Swedes, &c., a hole may be made with a spade, close to where the plants are drawn, and the operator having a basket in one hand, a pot of soot in the other, and strong knife in his pocket, proceeds to his plants. The hole is half filled with soot, and then nearly filled up with water, and the spade being worked to and fro a while, the soil from the sides and bottom of the hole becomes blended with the soot, so as to constitute one-half, and the whole brought to the consistence of thick porridge. The plants are then drawn tidily in bunches, and about one-third of the tops cut off, and the roots just tipped; they are then dipped in the puddle, and placed regularly in the basket, so as that the planter may take them out in bunches to plant without farther hindrance. I practice this with every plant, and I know, by experience, that it enables the plant to bear up against drought in an extraordinary way.

The planting of *Savoys*, *Green Kale*, *Brussels Sprouts*, *Broccoli*, &c., wherever needed, must be at once completed. The *Green Kale* and *Savoys* are, perhaps, the most profitable. Many of these things will come in between other crops. The *Coleworts* or *Dwarf Cabbage* recommended by me to be sown in the middle of June, to be bunched for sale in November and December, should be got out in the beginning of the month on soil of good character. A little manure may be pointed in about three or four inches deep. It is an error to dig it out of their reach, having but a short period to do their work in. I crop my Onion ground this way. I have before explained how I obtain a very early Onion harvest, and as soon as the Onions are off their ground it is thus manured, and I get all my best winter Coleworts from it.

CAULIFLOWERS for November and December must be got out in the first week; these pay well in market.

CLEARING SUMMER CROPS.—In the beginning, let all exhausted crops, Peas, Beans, &c., be cleared off the ground; it is folly to wait and lose a second crop for the sake of a few straggling Beans or Peas; the latter, if half or three-parts ripe, may be dried and bagged, to thicken soups, and the cow will be glad of the haulm; if straw is a scarce article, it may be dried and stacked away to cover Cauliflowers and other tender things during hard weather.

LETTUCES.—The *Bath Cos* may be sown in the first week, for spring, not forgetting the *Hammersmith Hardy Green Cabbage Lettuce*.

SPINACH comes fine in October, and through winter, if sown in the first week on rich soil.

SEED WEEDS.—Let me again press on our allotment friends the great importance of preventing the seeding of weeds. I think little of any man's practice who under-rates this grand cultural maxim. It is quite bad enough to suffer young weeds to run away with one-third of the manure and to choke crops, but to suffer them to seed, and to cut out extra labour for the ensuing year, is most unwarrantable. Besides, the shade they produce during August and September, especially, is so prejudicial to root crops, which, to make weight and quality, need every glimpse of sunshine.

CHARRING.—Lose not a chance in thus converting dangerous materials full of seeds into a wholesome and valuable addition to hard-worked soils. As before observed, have a central or convenient spot, and let all weeds and refuse be collected in two lots; the coarser materials to kindle the fire on one side, the small weeds, rakings, &c., on the other; the latter to ease over the smouldering heap with. I will affirm, that within the past twelve months I have made a dozen cart-loads of this material. Thus the clearing process is amply repaid by the return made to the soil.

MANURE-HEAPS.—Let any manure, whether pig or otherwise, which has been drying in the pen, be immediately covered with soil of any kind three or four inches thick. If cold, let it be thrown into a mound first to keep out rain, and if any sawdust, old lime, lime-rubbish, or soot can be spared, throw it on the heap before covering. Other manure can be thrown to the heap, and, by-and-by, served in like manner, and at the end of the year let the whole be turned

and well mixed. As to heating, why I advise that it be permitted, nay, encouraged to become as warm as milk from the cow. There is little waste in their muck, and such is amply repaid in the mellow state in which it will come to hand when turned and broken. It is impossible to break up and blend manures too much. I will undertake to make two cart-loads of well divided manure go as far as any three in a raw and clotty condition. Those who do not appreciate this have much to learn. The more of various kinds of material the heap consists of the better, and the soil worked in is of eminent service in finely dividing the particles and absorbing any waste. R. ERRINGTON.

APIARIAN'S CALENDAR.—AUGUST.

By J. H. Payne, Esq., Author of "The Bee-Keeper's Guide," &c.

SWARMS.—Notwithstanding the apparently weak state of stocks, generally, at the commencement of the spring, swarming upon the whole has been earlier this year than usual, and the swarms which were timely supered have afforded some remarkably fine honey. There being so few stocks that survived the winter, every bee-keeper has been anxious for swarms, and, therefore, supered none of them, so that the fine specimens of honey that we now see are all obtained from swarms of the current year.

COTTAGER'S HONEY.—At the Bury St. Edmund's Horticultural Fete, on the sixth of July, which was held in the splendid gardens and grounds at Hardwick, about a mile from Bury St. Edmund's, by the kind permission of Sir Thomas and Lady Cullum, the cottager's tables "groaned" beneath an unusual quantity of excellently grown vegetables, and *nine supers of remarkably fine honey*, exhibited by as many cottagers. Several of them were sold, and *all*, I believe, had a prize of some kind awarded to them. Indeed, so thoroughly are the cottagers, hereabouts, convinced of the advantages arising from managing their bees on the depriving system, that scarcely one can be found who has not adopted it. The day was a general holiday in this place, the shops were all closed at one o'clock, and business of all kind suspended by the request of the Mayor. Upwards of six thousand persons spent the afternoon in the gardens and grounds, which were enlivened by the beautiful band of the Grenadier Guards. Few persons appeared to enjoy the thing more heartily than the worthy Baronet and his lady.

AUTUMNAL UNIONS.—Where second and third swarms have been hived by themselves, they will generally be found too poor to live through the winter, even with feeding, and where this has been done they may be put two or three together in the manner directed at page 339, volume vi., of THE COTTAGE GARDENER.

WASPS.—A more than usual number of these pests may be looked for this autumn, if we may judge from the large quantity of queens seen in the spring. Bee-keepers and gardeners should have their nests sought after, with a view to their destruction, for which, turpentine, as before directed, is the easiest and surest method.

QUERIES AND ANSWERS.

GARDENING.

HARDY FERNS.

"Allow me to suggest to you that a list of the hardy Ferns would be very acceptable to many of your readers, myself among the number. When I say 'hardy Ferns,' I mean such as will stand in a greenhouse in which a fire is never lighted. Of course, all the British Ferns will do so, as also *Adiantum pedatum*, and the *Lycopodium denticulatum*, but there are necessarily many others; those from North America, for instance.

"I have a house which I devote exclusively to Ferns (an old greenhouse placed under a north wall), and should be glad to add some others to the beautiful Ferns which already grace it. I thought that the *Hare's-foot* Fern would have succeeded, but found that it would not survive the last

winter. *Lycopodium apodium* I found, also, too delicate.—SCRUTATOR."

[Besides the more ornamental of our native Ferns, which are suitable for a cold greenhouse, the following exotic kinds will succeed in a structure of that kind, if means are taken to protect them from severe frost; which even some native kinds, *e. g.*, *Adiantum capillus-veneris*, and *Asplenium marinum*, will not bear:—

<i>Adiantum reniforme.</i>	<i>Lastrea decomposita.</i>
" <i>affine.</i>	" <i>hispida.</i>
" <i>hispidulum.</i>	<i>Lomaria Patersoni.</i>
" * <i>pedatum.</i>	" <i>lanceolata.</i>
" <i>formosum.</i>	" * <i>Alpina.</i>
<i>Asplenium palmatum.</i>	" <i>auriculata.</i>
" <i>lucidum.</i>	" * <i>Chilensis.</i>
" <i>obtusatum.</i>	" <i>Frazeri.</i>
" <i>flabellifolium.</i>	<i>Litobrochia vespertilionis.</i>
" <i>monanthemum.</i>	" <i>macilentia.</i>
" * <i>ebeneum.</i>	<i>Meniscium simplex.</i>
" <i>reclinatum.</i>	<i>Nothochlæna teuera.</i>
" <i>flaccidum.</i>	" <i>lanuginosa.</i>
" <i>bulbiferum.</i>	" <i>vestita.</i>
" <i>diversifolium.</i>	" <i>distans.</i>
" <i>furcatum.</i>	" <i>Marantæ.</i>
" <i>polyodon.</i>	" <i>Eckloniana.</i>
" <i>acutum.</i>	" <i>lævis.</i>
" * <i>Michauxu.</i>	<i>Niphobolus rupestris.</i>
" <i>axillare.</i>	" <i>pertusns.</i>
" <i>Brownii.</i>	" <i>lingua.</i>
<i>Balanium culcita.</i>	<i>Nephrodium unitum.</i>
<i>Blechnum triangulare.</i>	" <i>molle.</i>
" <i>occidentale.</i>	<i>Nephrolepis tuberosa.</i>
" <i>hastatum.</i>	<i>Onychium japonicum.</i>
<i>Cheilanthes odora.</i>	<i>Onoclea *sensibilis.</i>
" <i>micromera.</i>	<i>Polypodium rugulosum.</i>
" <i>hirta.</i>	" <i>trichodes.</i>
" <i>fariosa.</i>	" * <i>hexagonopterum.</i>
" <i>elegans.</i>	<i>Platyloma falcata.</i>
<i>Camptosorus *rhizophyllus.</i>	" <i>rotundifolia.</i>
<i>Cyrtonium *falcatum.</i>	" * <i>atropurpurea.</i>
<i>Cystopteris *bulbifera.</i>	" <i>cordata.</i>
" * <i>tenuis.</i>	<i>Pteris infra-marginalis.</i>
<i>Cibotium glaucescens.</i>	" <i>hastata.</i>
<i>Doodia caudata.</i>	" <i>longifolia.</i>
" <i>media.</i>	" <i>serrulata.</i>
" <i>aspera.</i>	" <i>cretica.</i>
<i>Diplazium lasiopteris.</i>	" <i>trenula.</i>
" * <i>thelypteroides.</i>	<i>Polystichum falcinellum.</i>
<i>Davallia caurariensis.</i>	" * <i>acrostichoides.</i>
" <i>pyxidata.</i>	" <i>vestitum.</i>
<i>Dicksonia arborescens.</i>	" <i>proliferum.</i>
" <i>antarctica.</i>	" <i>œmulum.</i>
" <i>squarrosa.</i>	" <i>Capense.</i>
<i>Drynaria pustulata.</i>	<i>Sitobium punctilobum.</i>
" <i>Billardieri.</i>	<i>Scolopendium Krebsii.</i>
<i>Grammitis Billardieri.</i>	<i>Woodwardia radicans.</i>
<i>Leucostegia immeusa.</i>	" * <i>onocleoides.</i>
<i>Lastrea decurrens.</i>	" * <i>Virginica.</i>
" * <i>Novaboracensis.</i>	<i>Woodsia mollis.</i>
" * <i>lancastriensis.</i>	" * <i>obtusa.</i>
" * <i>Goldiana.</i>	<i>Lycopodium denticulatum.</i>
" * <i>marginalis.</i>	" <i>belaticum.</i>
" <i>elongata.</i>	" <i>Willdenovii (of</i>
" <i>canariensis.</i>	<i>gardens).</i>

The above offer a selection of the best Ferns for a cold greenhouse. The degrees of cold which each will bear has not been ascertained, but it is probable that none would sustain injury from slight frost. Those marked * may be considered hardy.]

HYDRANGEAS NOT BLOOMING.

"I shall be obliged by being informed the reason of these plants not flowering. They are chiefly plants from two to three years growth; were kept during the winter on the stage in a cool greenhouse; in the spring they were potted in common garden soil, and plunged in the borders in the open air. On many of them there is no appearance of bloom.—A CONSTANT READER."

[You can do nothing more with the Hydrangeas this

season. They are, and have been, half-starved. If they were ours we would turn them out of the pots into the borders immediately, and allow them large doses of soft pure water for the next six weeks. There are, doubtless, many little hard, black, wiry shoots on them, with a gouty top, and a few green leaves, and all such ought to be cut down to the very bottom at once, and none but bold-looking vigorous shoots left. Some of these might then flower next September. At all events, we would leave the whole out in the ground next winter, with coal-ashes round them; cut them down to the ashes in February, and next summer they would flower most beautifully. About the end of next March we would take up one of the roots, and pot it to get healthy cuttings from for a fresh lot of pot plants; but after one year in the open ground all of them would do in pots, if potted early in the spring, and allowed to grow without forcing.]

DIELYTRA SPECTABILIS SEEDS.

"E. H. C. encloses some seed of *Dielytra spectabilis*, and hopes success will attend raising plants from them."

[Many thanks for the seeds of *Dielytra spectabilis*, which appear to be perfectly sound and healthy; they were sown immediately, and a report of their progress will appear in due time. The reason why we are so anxious to raise plants from this seed is to ascertain what effect a few year's cultivation may have in domesticating the species, so to speak. The species will come true from the seed, no doubt; but will the plants, so produced, be more willing to seed than those we possess from the original wild stock? or, has Mr. Fortune's plant been had from a stock so long cultivated and propagated by division of the roots in China as to cause barrenness? or, what is the cause that so few people can get the plant to seed at all in Britain? Practical answers, or conclusions, on such points are of the utmost value to the cross breeder, and not to be overlooked by the vegetable physiologist.]

ARBOR VITAE PRUNING—RHODODENDRONS.

"I shall esteem it a favour, if you will kindly advise me upon two little matters, viz., I have some fine *Arbor Vitae* grown out of shape, I imagine from being shaded on the north-west by some large Beeches. Would it be right to trim them with the shears. They are about 11 feet high? Also, I have planted a quantity of small *Rhododendrons* in my nursery. When will be the best time to cut down the new wood, as I wish to have them fine bushy plants when I bed them out in about two years' time? They are remarkably healthy.—G. H. T."

[The shears are the very worst tool to begin with when these trees get out of order and shape. The first thing is to ascertain if they have more than one leader a-piece. The whole order, tribe, and kindred of the *Arbor Vitae* should never be allowed to grow up with more than one leader, or centre stem, and all the side-branches ought to be in balance all round the central column, and the lowest branches to be the longest ones; these are principles, as sure as anything so called. If there are several leaders, the question is, can you do with one of them without defacing the shape more than it is? but that can only be answered on the spot. The probability is that the trees were neglected from their youth upwards. That one main leader only was produced; that from this leader strong side-branches came out and turned up and down, or anyhow; that other branches from these went the same ways, and by this time the centre of the trees are all naked and zig-zag in the branches; and that long hanging young shoots are falling down on the side farthest from the Beech-trees. If all this is as we think, it will take five years certain to put your *Arbor Vitae* in order. The way to do that is to cut back a fifth part of all the stronger shoots to such a distance from the main leader as would make a perfect cone of the tree, if all the shoots were cut back at the same time. That distance can only be determined on the spot. This is a good time to stump in the *Arbor Vitae*, and nothing short of stumping, or cutting back of the stronger boughs, will ever put an *Arbor Vitae* into good shape.

No hardy *Rhododendron* should be cut-in from July to

the middle of the following April; but May is the right time to cut them, so as to get them bushy, and into good shapes.]

EWING'S GLASS WALLS—EPIMEDIUM HYBRIDS.

"In comparing the protecting qualities of Ewing's Glass Walls and Rivers's Orchard-house, in your publication of June 29th, p. 242, I think it should have been stated, that at Sawbridgeworth, on April 24th, there were only 7° of frost, and at Chiswick there were 14°, so that I hardly think it a fair trial of the two contrivances. I am very glad my note about the *Vicusseuxia* has brought out Mr. Beaton's valuable article on that bulb. I may be able to send him a pinch of *Dielytra spectabilis* seed this year, as I see my large plant is seeding again. Last year I never found above one seed in a pod; this year I have two in a few of the pods. I have been unsuccessful in raising plants from the seed saved last, but I did not sow it till spring, and I see you direct it to be sown as soon as ripe. I have it still in the pot in which it was sown: is there any chance of its coming up now? I have successfully hybridized *Epimedium macranthum* and *E. colchicum*, and sowed the seed at once, but it has not come up. It has been sown six weeks, and I am much disappointed. Is this likely to come up? and if I succeed another year in hybridizing it, what am I to do? Does the seed take long to vegetate?—A. R."

[If the difference between the temperatures at Chiswick and at Mr. Rivers' was just double what it was said to be, that would not move us in favour of glass walls as exhibited in the garden of the Horticultural Society. The plain English of the whole plan is, that they are extravagant toys. The cross seeds of the *Epimediums* ought to have vegetated before now; we would plunge to the rim in the open borders, and put a piece of glass over it to keep the rains from splashing out the soil or seeds; perhaps they would vegetate that way better and sooner at the first start, or, perhaps, they will not vegetate till next spring, and the frost cannot hurt them. We have had many instances of crossed seeds being to all appearance perfect, yet they wanted the living germ. This fact is well-known, and a strange hypothesis has been reared, or attempted to be reared, on it, which is this, that two or three, if not four, processes in the act of fertilizing the seed takes place, such as forming the seed coat, first; seed leaves; after that something else, which we forget, third; and the principle of life or growth the last process of all. You will see to day that we have got some seeds of *Dielytra spectabilis*, but we have room for more.]

ROYAL AGRICULTURAL SOCIETY'S SHOW.

LINCOLN, JULY 21ST.

POULTRY.

THE show of Poultry was superior, perhaps, to any of its predecessors, especially in Dorkings. We will give a report next week, and now confine ourselves merely to the list of prizes awarded.

Class 1.—DORKING FOWLS.—Cock and two Hens.—Chickens of 1854. First prize, H. D. Davies, of Spring Grove House, Hounslow. Second prize, H. D. Davies, of Spring Grove House, Hounslow. Third prize, Joseph Smith, of Henley in Arden, Warwick. Fourth prize, James Lewry, of Handcross, Crawley, Sussex.

Class 2.—DORKING FOWLS, MORE THAN ONE YEAR OLD.—Cock and two Hens.—First prize, H. D. Davies, Spring Grove House, Hounslow. Second prize, Mrs. Towneley Parker, of Astley Hall, Chorley, Lancashire. Third prize, Mrs. Towneley Parker, of Astley Hall, Chorley, Lancashire. Fourth prize, G. A. Gelderd, of Aikrigg End, Kendal, Westmoreland.

Class 3.—DORKING COCKS OF ANY AGE.—First prize, G. A. Gelderd, of Aikrigg End, Kendal, Westmoreland. Second prize, Mrs. Towneley Parker, Astley Hall, Chorley, Lancashire.

Class 4.—SPANISH FOWLS.—Cock and two Hens.—First prize, H. D. Davies, Spring Grove House, Hounslow. Second prize, George Botham, of Wexham Court, Slough, Bucks. Third prize, H. D. Davies, Spring Grove House, Hounslow. Fourth prize, G. A. Gelderd, of Aikrigg End, Kendal, Westmoreland.

Class 5.—SPANISH COCKS OF ANY AGE.—First prize, James Dixon, of Westbrook-place, Bradford, Yorkshire.

Class 6.—COCHIN-CHINA FOWLS.—Cock and two Hens, Chickens of 1854.—First prizes, G. A. Gelderd, Aikrigg End, Kendal, Westmoreland. Second prize, G. A. Gelderd, of Aikrigg End, Kendal, Westmoreland. Third prize, John Taylor, jun., of Spring Grove House, Hounslow. Fourth prize, William Sanday, of Holme Pierrepont, Nottingham.

Class 7.—COCHIN-CHINA COCKS OF ANY AGE.—First prize, Caborn Pocklington, of Boston, Lancashire.

Class 8.—**BRAMAH POOTRA FOWLS.**—Cock and two Hens.—First prize, The Rev. F. Thursby, of Abington Rectory, Northampton.

Class 9.—**GAME FOWLS.**—Cock and two Hens.—First prize, Henry Worrall, of Knotty Ash House, near Liverpool. Second prize, G. C. Adkins, of West House, Edgbaston, Birmingham. Third prize, William Cox, of Brailsford, near Derby.

Class 10.—**GAME COCKS OF ANY AGE.**—First prize, Henry Marshall, of Cotgreave, Nottingham.

Class 11.—**HAMBURGH FOWLS (Golden-pencilled).**—Cock and two Hens.—Prizes withheld.

Class 12.—**HAMBURGH FOWLS (Silver-pencilled).**—Cock and two Hens.—Prizes withheld.

Class 13.—**HAMBURGH FOWLS (Golden-spangled).**—Cock and two Hens.—First prize, William Sylvester, of Stamp Office, Lincoln. Second prize, John Andrews, of Waterhouses, Ashton-under-Lyne.

Class 14.—**HAMBURGH FOWLS (Silver-spangled).**—Cock and two Hens.—First prize, James Dixon, of Westbrook-place, Bradford. Second prize, Jeffrey Ashcroft, of Waterloo, Ashton-under-Lyne.

Class 15.—**MALAY FOWLS.**—Cock and two Hens.—First prize, James Oldham, of Long Eaton, Derby. Second prize, The Rev. T. Lyon Fellowes, of Beighton Rectory, Acle, Norfolk.

Class 16.—**POLAND FOWLS.**—Cock and two Hens.—First prize, G. C. Adkins, of West House, Edgbaston, Birmingham. Second prize, G. C. Adkins, of West House, Edgbaston, Birmingham. Third prize, C. Rawson, of The Hurst, Walton-on-Thames.

Class 17.—**TURKEYS.**—Cock and two Hens.—First prize, Viscount Hill, of Hawkston, Shrewsbury. Second prize, C. Poeklington, of Boston, Lincoln. Third prize, H. Lister Maw, of Tetley, Crowle, Lincoln.

Class 18.—**GESE.**—Gander and two Geese.—First prize, Mrs. Towneley Parker, of Astley Hall, Chorley, Lancashire. Second prize, Mrs. Harriet Hill, of New House, Walton-on-Thames. Third prize, Christopher Rawson, of The Hurst, Walton-on-Thames.

Class 19.—**AYLESBURY DUCKS.**—Drake and two Ducks.—First prize, W. G. K. Breavington, of Vicarage Farm, Hounslow. Second prize, H. D. Davies, of Spring Grove House, Hounslow. Third prize, G. A. Gelderd, of Aikrigg End, Kendal.

Class 20.—**ROUEN DUCKS.**—Drake and two Ducks.—First prize, George Botham, of Wexham Court, Slough. Second prize, Thomas Teanby, of Uleby, Hull. Third prize, Charles Punehard, of Blunt's Hall, Haverhall, Suffolk.

Class 21.—**DUCKS OF ANY OTHER VARIETY.**—Drake and two Ducks.—First prize, Henry Worrall, of Knotty Ash House, near Liverpool. Second prize, T. M. Keyworth, of Cottesford-place, Lincoln.

DISEASES OF POULTRY.

PROTRUSION OF EGG-PASSAGE.—OPERATION AND RECOVERY.

SINCE the time, now two years ago, that I commenced a series of articles on poultry diseases in these pages, I have constantly been indebted to numerous professional friends for the reports of interesting cases, and to none more so than to Dr. W. C. Gwynne, who has repeatedly done me the favour of detailing useful and instructive cases at length, as my above communication sufficiently testifies. I will now take the liberty of extracting another useful example from the same mine. In February, Dr. Gwynne wrote to me—"A few days ago one of my pullets being, I suppose, in over good condition, protruded, in the process of laying, the lower extremity of the egg-passage, with the egg completely enveloped in it; finding that I could not return the parts, nor extract the egg by any other means, I made an incision where the covering appeared thinnest, and having extracted the egg, I returned the parts to their natural position, and kept the bird on low diet, so as to prevent for a time the formation of more eggs; she has done very well, hitherto, but how she will fare in her next laying remains to be proved. You can, perhaps, tell me if the parts are likely to resume their functions without much fear of ultimate detriment?" A few days since I inquired respecting this case, and was informed "that the hen has long since perfectly recovered, and I think in less than a fortnight after the operation was laying as well as ever."

I have never seen a precisely parallel case: protrusion of the egg-passage I have often seen; but in all cases the egg either has been laid, or was still contained in the body; the former cases I have always cured by returning the parts and putting the hen on a diet of rice or potato; the latter cases have been much more dangerous, as the continued efforts to expel the egg increases the mischief, and the result is generally fatal.

In all cases of severe disease of the egg-organs, it is most desirable to arrest the production of eggs for a time; this is

best accomplished by employing varieties of food which contain but a small amount of flesh-forming substances. Oatmeal, therefore, or meddlings, would be most objectionable in such cases; but rice or potato, which contain a very small per-centage of egg-making or nutritive materials, should be used.—W. B. TEGETMEIER, *Wilkesden*.

COVENT GARDEN.—JULY 18th, 1854.

THE market shews a bountiful supply of Fruits, Vegetables, and Flowers, splendid Pine Apples, Grapes, forced Peaches, and Nectarines, Apricots, foreign and native, Gooseberries, and Red and White Currants (Black Currants scarce.) Strawberries and Raspberries deficient in flavour and firmness, from excess of rain and dark weather; Cherries very fine; Apples have just appeared. Cut flowers of Roses, Heaths, Lilies, Mignonette, Carnations, Pinks, Stocks, Tris, Pelargoniums, Centaureas, Larkspurs, Phloxes, Sweet Peas, Honeysuckle, Verbenas, and Calceolarias, in bunches from 2d. to 1s. 6d.; Bouquettes from 1s. to 2s. 6d.

FRUIT.

Pine Apples, 4s to 6s per lb.	Cherries, Kentish, 9s per bush.
Hambro' Grapes, 3s to 8s p. lb.	Melons, 1s 6d to 4s each
White Muscat of Alexandria, 8s to 10s per lb.	Figs, 6d per dozen
Peaches, 7s to 15s per doz.	Orlean Plums, 2s per punnett
Nectarines, 6s to 12s per doz.	Green Gage, 2s 6d per pun.
Strawberries, 4d to 8d p. pottle	Apples, 2s 6d per half sieve
Ditto, 6d to 1s per punnett	Lemons, 8s to 12s per 100
Raspberries, 4d to 8d per gal.	Oranges, 12s to 14s per 100
Gooseberries, 2s 6d p. hf. sieve	Apricots, 3s per dozen
Currants, Red or White, 3s 6d per half sieve	Almonds, 6s per peck
Currants, Black, 4s pr. hf. s.	Walnuts, dried, 3s per peck
Cherries, 4d to 1s per lb.	Nuts, Barcelona, 5s 6d p. pk.
	—, Spanish, 5s per peck
	—, Brazil, 4s per peck

VEGETABLES.

Peas, 2s to 4s per bushel	Lettuces, 4d to 8d per score
Beans, 2s to 3s per bushel	Water Cresses, 4d to 6d per dozen bunches
Potatoes, 6s to 10s per cwt.	Radishes, 1s per doz. bnchs.
—, Kidneys, 2s 6d hf. sieve	Small Salad, 2d per punnett
Caulliflowers, 2s 6d per doz.	Mushrooms, 9d per pottle
Cabbages, 6d to 1s per dozen	Horso Radish, 1s 6d to 2s 6d per bunch
Greens, 2s to 3s per dozen bunches.	Artichokes, 4d to 8d each
Carrots, 3d to 4d per bunch	Shallots, 6d per bunch
Turnips, 3d to 4d per bunch	Garlic, 6d per bunch
Cucumbers, 3d to 1s each	
Onions, 3s to 5s p. doz. bnhs.	

HERBS.

Feunel, Thyme, Lemon Thymo, Parsley, Marjoram, Chervil, Tarragon, Savory, in bunches from 2d. to 4d.

GARDENS AND NURSERIES.

PERENNIAL PLANTS IN FLOWER.

Agrostemma	Epilobium	Nepeta
Aconito	Eschscholtzia	Ononis
Achillea	Erigeron	Oxalis
Alyssum	Fuchsia	Oenothera
Alstroemeria	Gnaphalium	Phlox
Betonica	Geranium	Potentilla
Centaurea	Hemerocallis	Primula
Campanula	Hieracium	Papaver
Clematis	Iberis	Rhodanthé
Cerastium	Lupinus	Sedum
Coronilla	Limnanthes	Spirea
Catananche	Lotus	Saxifraga
Chrysanthemum	Linum	Silene
Calendula	Lupinum	Scabiosa
Dictamnus	Lysimachia	Scutellaria
Dracocephalum	Lychnis	Thalictrum
Dielytra	Lobelia	Trifolium
Delphinium	Lepidium	Veronica
Dimorphothecca	Malva	Viola
Erysimum	Mimulus	Verbena

ANNUALS.

Antirrhinum	Erysimum	Mignonette
Agrostemma	Eutoea	Nemophila
Clarkia	Gelia	Nolana
Convolvulus	Heliophila	Platystemon
Centranthus	Iberis	Sileno
Collinsia	Kaulfussia	Teedia
Campanula	Lupinus	Zinnia
Cenia	Leptosiphon	

A magnificent plant of *Lilium giganteum*, which has been planted in an open border of a greenhouse two years; flowered early in July, at Lady Grey's, Oak Cottage, Old Brompton, under the care of her gardener, Mr. Cornelius. It was seven feet six inches high, stem five inches diameter.

TO CORRESPONDENTS.

*** We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed "To the Editor of The Cottage Gardener, 2, Amen Corner, Paternoster Row, London."

LARCH APRIS (*Sabrina*).—You shall know all about it next week.

HATCHING APPARATUS (*C. Minasi*).—You must advertise it in our columns.

RATS (*A Subscriber*).—There is no doubt that rats will eat the eggs of pigeons and of other domestic birds, and it is quite as certain that they will eat the young ones.

VARIOUS (*White Rose*).—Heating a Forcing House by the aid of gas would be far too expensive. Roses should not be allowed to bloom the year they are planted. The blooms of Roses should be removed immediately the petals fade. It is very usual for Bees not to swarm; leave them alone.

FUCHSIA VIRGATA (*G. J. Smith*).—Apply to any of the great London nurserymen.

COCOA-NUT FIBRE (*Ibid*).—This and any other vegetable refuse duly supplied with moisture will ferment and give out heat adapted for forcing purposes. Such fibre is very much of the nature of refuse tanner's bark, which is one of the best of heating materials. The *Gardeners' Almanack* for 1854 contains a list of all the nurserymen in England alphabetically arranged.

HOLLY HEDGES (*G. H.*).—The most expeditious way of forming these is to move as many large bushes as are required at the end of August. If you determine to raise plants from seed, gather the berries that have remained on the bush through the winter. Gather them in March and sow them at once. Coal-ashes will not dissolve Bones as wood-ashes do. It is the potash in the latter which enables them to do so.

BINEFORD POULTRY SHOW.—*R. Bramwell, Esq.*, of Holsworthy, Devon, writes to us as follows:—"From an error in punctuation in your report of the Bideford Poultry Show of yesterday's date, it appears that instead of both 1st and 2nd prizes for Spanish, and 1st and 2nd for Dorkings being awarded to me, the 2nd prize in the former class was awarded to Mrs. Keats, Bideford, and the 2nd of the latter class was awarded to Mr. A. B. Wren, Bradworthy. The punctuation should have been as follows:—Spanish—1st prize, Mr. Bramwell, Holsworthy; 2nd, ditto; Mrs. Keats, Bideford, and Mr. W. W. Hewett, Albotsham, near Bideford, commended. Dorking, coloured—1st prize, Mr. R. Bramwell, Holsworthy; 2nd, ditto; Mr. A. B. Wren, Bradworthy, and Mr. W. Turner, Grange, Bideford, commended. From this punctuation it will be seen that the 1st and 2nd prizes in each of these classes were awarded to me, and that the other birds were commended only; viz., Mrs. Keats and Mr. Hewett in the Spanish class, and Messrs. Wren and Turner in the Dorking class.

NAME OF PLANT (*J. M.*).—Your plant is the *Valeriana officinalis*, or Great Wild Valerian. This species produces the Valerian of the shops, and possesses strong antispasmodic virtues. Cats are delighted with the roots, and rats are said to be equally fond of them. A variety of this plant which is found in mountainous woods is most preferred for its medical properties.

DYING FRENCHMAN.—*D.* is most gratefully thanked by us for his ten shillings contributed to the comfort of this object of charity. To be the means of conferring such benefits is most gratifying.

BLACK BEETLES (*Nemo*).—We have often been told that Cucumber parings will kill these vermin. Perhaps it would, if they were so unwise as to eat them, but we have never known of their being guilty of the folly.

CALENDAR FOR AUGUST.

FLOWER-GARDEN.

ANEMONES (common) sow. ANNUALS, stick; water; clear from decayed leaves, &c. AURICULAS, shift into fresh earth; water; seedlings prick out; sow. BEDS, in which bulbous flowers have grown, fill with annuals from pots, to flower through autumn. BIENNIAL seedlings transplant. BULBOUS rooted flower-seeds, as *bulbous Iris*, &c., to obtain varieties, sow. BULBOUS roots remove or transplant; remove and plant offsets; plant. CARNATION layers cut from old root and plant; water frequently; layering may still be done, b.; card the flowers, and shade from sun, c. DAHLIAS, stake; thin the flowers. DAISIES propagate. Put in CUTTINGS of all flower-garden *Geraniums* early. DOUBLE-blossomed perennials with fibrous roots, as fine double *Larkspurs*, &c., propagate by division, c. DRESS borders as required. ENDINGS of box, &c., clip in wet weather. EVERGREENS may be moved, e. if wet weather; plant cuttings. GRASS, mow and roll weekly. GRASS SEEDS may be sown, c. GRAVEL, weed and roll weekly. HEDGES, clip in moist weather, except laurel and holly hedges. HELIOTROPES, put in cuttings under glass in a gentle heat, b. MIGNONETTE sow in frame, b. PELARGONIUMS propagate by cuttings, b. PERENNIALS, in pots and elsewhere, will require water almost daily; cut down flower-stalks as they finish blooming; seedlings transplant. PIPINGS of Pinks may be planted out. POLYANTHUSES, sow. PONDS keep clear of green scum. POTTEN ANNUALS will require water daily in dry weather. RANUNCULUSES, sow; plant in pots to bloom in November. ROSES, bud; prune in strong straggling shoots; cuttings of China and Tea-scented varieties plant under hand-glasses. Roses may be budded to the end of September on the Manetti and some Bourbon stocks. September is the best time to bud, unless done at the end of May. SEEDS, gather as they ripen. Even those of Heliotropes and Verbenas will frequently be found to be fertile. SHRUBBERY, cut off the bunches of seeds of Laburnums and Lilacs, &c., to strengthen in the bloom next year; also cut off the seeds of Rhododendrons. SOWINGS, to obtain varieties, had better be done in boxes. TEN-WEEK STOCK, sow, b. TULIPS, and other bulbous-rooted flower-seeds, sow. TURF may be laid, c. VERBENAS, put in cuttings of new kinds, c. WATERING will be required generally in dry weather. WERNING, generally attend to. *Cuttings* of Penstemons, Snapdragons, double Lychnis, and other herbaceous plants, will yet succeed, if planted and shaded under hand-glasses. Of the *China Asters*, mark the finest, and save for seed. D. BEATON.

FLORISTS' FLOWERS.

AURICULAS and POLYANTHUSES, finish potting, b. CINERARIAS, take off slips, transplant seedlings, sow, b., for the last time this year. CARNATIONS and PICOTEEES, finish layering, m.; seedlings transplant. CHRYSANTHEMUMS, layer those planted out for that purpose, pot off cuttings; give the last potting to all intended for blooming; water most abundantly, and syringe daily. DAHLIAS, stake, tie, mulch and water in dry weather; cuttings of new ones may yet be struck. FUCHSIAS done blooming place out-of-doors; save seed. HOLLYHOCKS, keep well tied to the stakes; cuttings of, put in heat under a frame, shade from sun till rooted. PANSIES, save seed of, put in cuttings, b., for the last time this year; transplant seedlings. PINKS, cut down old flower-stems; save seed of; transplant pipings already rooted, and also seedlings. PALARGONIUMS, cut down; give no water till they break again; put in cuttings; transplant seedlings; pot off cuttings already rooted. PETUNIAS, save seed from; transplant seedlings of; put in cuttings. RANUNCULUSES, take up and store without fail, b., or they will begin to grow again. ROSES bud b.; put in cuttings of; save seed. TULIPS, if not all taken up, should be at once. VERBENAS, peg down; water freely in dry weather; put in cuttings of good kinds only; save seed. See that all *plants in pots* are duly supplied with water, and keep a constant look out for all kinds of vermin. T. APPLERY.

GREENHOUSE.

AIR, give plenty night and day, especially during the former. In very hot weather, it is often advisable to keep rather close with a moist atmosphere during the day, even though the sashes should be entirely removed in the evening, to be replaced in the morning. This treatment will apply to *Heaths, Azaleas, Camellias*, &c., that are now making their growth. Those which have set their buds may be removed to a sheltered place, and have no glass protection for a time. BUNNING, of all things, finish before the wood gets hard. It may yet be done with *Oranges, Camellias*, &c. CINERARIAS, propagate by rooted slips, and transfer the earliest to blooming pots. PELARGONIUMS: those done flowering cut down, and now pushing again may have the soil shaken from them, be placed in light soil, and in a close moist pit, to encourage free growth. Until that growth has taken place, however, give little water at the roots. In

growing from cuttings, success will greatly depend in never allowing them to stand still, but keeping them constantly, but slowly, growing. Cut down successional plants as they get out of bloom. The fancy kinds, if the points and old flowers are merely removed, will flower again before winter. GREENHOUSE PLANTS IN GENERAL, if healthy, and their wood made, will be better out-of-doors in a sheltered place than within; defending the pots from being too much heated in sunshine is even of more importance than shading the tops. ALL YOUNG STOCK growing freely begin to harden by exposure by the end of the month. **POTTING:** finish shifting as soon as possible, that the plants may be feeling the outside of the pots before winter. **CHRYSANTHEMUMS, SALVIAS, &c.,** for winter blooming, set in an open place fully exposed to sun and air. The former must not be stopped any more. The latter should alone receive final stopping and shifting. **PROPAGATION:** almost everything may now be successfully propagated. The whole of the **SUCCULENT GERANIUM FAMILY** will do best on a south border. **CLIMBERS,** on the rafters, train when over rampant, but the more natural looking the better. By and by they must be cut in to allow more light to the plants. **GATHER SEEDS** of all desirable things as they ripen. The propagating of half-hardy things, such as **CALCEOLARIAS,** may commence about the end of the month. About the middle of the month, sow **SEED OF HERBACEOUS KINDS** in a cool pit. **WATERING** will not be wanted quite so much, unless the days are very bright. In such days use the syringe among growing plants freely in the afternoon. **DRESS,** tie, surface earth, and keep all neat and clean. R. FISH.

FRUIT-FORCING DEPARTMENT.

As long as the temperature will permit, admit **AIR** day and night. Allow the **TEMPERATURE** to range, with sun-heat, from 65° to 85°, and during night from 55° to 65°. **FIGS,** water liberally. Give the last shifting, early in the month, to those **PINES** intended for early fruiting next season; let others follow in succession; keep down superfluous suckers; use abundance of atmospheric moisture. Clear ripe **GRAPES** from all diseased and mouldy berries; admit abundance of air. Keep down, or, rather, keep *away*, the **RED SPIDER**, by lighting a fire on dull days, and brushing the pipes or flues with a thin mixture of sulphur and water. Thin freely the late crops, and water the **VINES** in dry weather with liquid-manure, also use mulchings. Give **PEACH-HOUSES,** from which the fruit has been gathered, copious syringings; and get the wood hardened and ripened before removing the sashes. Regulate and stop the shoots, and set the fruit on **MELON** plants; use manure-water liberally. Strike cuttings, or sow seeds, of **CUCUMBERS** intended for a late supply. Encourage the completion of growth of all **PLANTS IN POTS** intended for forcing, and place those fully matured at the back of a north wall. Lay **STRAWBERRIES** in small pots, to be shifted into larger. Turn **BARK BENS, PAINT,** wash. Clear out furnaces, empty and rinse out boilers, and have everything in readiness for a cold weather campaign. R. ERRINGTON.

ORCHARD.

BUDDING, finish, and remove bandages from that done three weeks since. Remove waste shoots from **STOCKS,** especially below the bud. **BLIGHT** (American), apply the brush once more, using spirits of turpentine. **APHIDES,** still try to extirpate them in peaches, plums, &c. **RED SPIDER;** if this appears, dust flowers of sulphur on the back of the leaves. **CHERRIES,** net carefully. **COCCUS,** or scaly insect; if this appears, use soap-suds. **FIGS,** continue to disbud, and commence stopping rambling shoots. **VINES,** follow up stopping of laterals, and keep them thin; also thin the berries. **APRICOTS,** stop gross leaders, and keep down breast shoots by pinching. **PEACHES** and **NECTARINES,** stop all gross shoots, and keep under breast wood by the same process; where too thick, remove shoots altogether. **PEARS,** remove foreright spray, thinning or stopping the wood freely, first selecting and tying down all short-jointed and brown-looking wood. **PROTECT** fruit with nets, &c. **WASPS,** destroy nests. Late **STRAWBERRIES,** water well. **ALPINES,** reduce runners from, and place slates or tiles beneath. **STRAWBERRIES,** make plantations of early and strong runners. **RASPBERRIES** (double-bearing), remove all barren shoots from, and carefully train those in blossom. **TOMATOES,** thin, stop, and train. Commence and complete, as soon as possible, all **NAILING** and **TRAINING,** whether on walls, pales, or espalier trellises. **GOOSEBERRIES,** still continue the extirpation of caterpillars. **BUSH FRUIT,** retard by shading with mats. **GRAFTS,** remove stock shoots from, and protect from wind and waving. R. ERRINGTON.

ORCHID HOUSE.

AIR, give plentifully on all fine days, to consolidate the now fast-forming new pseudo-bulbs. **BASKETS,** dip every week in tepid water. **BLOCKS,** syringe twice a day. **BARKERIAS** now growing, keep very moist till the annual growth is made; allow the air to play freely upon them, this will strengthen the plants much. **DENDROBIUMS:** many will have made their new pseudo-bulbs, cease giving much water to these, and remove them into a cooler house. **EPINENDRUMS** in the same condition, give a similar treatment to. **GRAMMATOPHYLLUM,** a noble orchid, continue growing on yet. **HUNTLEYS** having no pseudo-bulbs, continue to keep moderately moist and cool. **INSECTS,** diligently keep under, or they will be a pest all the year, and be difficult to eradicate in winter. **LÆLIAS** will now be growing freely, be liberal, and use the syringe frequently; if on blocks, add a thin layer of moss to give and retain moisture about the root. **MOISTURE TO THE INTERNAL AIR,** continue to supply daily, especially in the growing department. **PERISTERIA ELATA,** and all similar terrestrial species, keep moist as long as the bulbs

continue to swell, but not a moment longer. **PLANTS IN BASKETS,** remove into a cooler house when in bloom, or as soon as the new growth is perfected. All plants that have made their pseudo-bulbs quite up should have the benefit of a lower and drier atmosphere. This point must be strictly attended to, because if they are kept moist they will start to growth the second time, which will weaken stronger growth and materially injure the blooms. The success of next year's bloom depends much upon the strength of the preceding year's growth, together with a judicious period of rest, induced by a cool and dry treatment. T. APPELBY.

PLANT STOVE.

ACHIMENES done flowering, set out-of-doors, laying the pots on one side, to keep the bulbs at rest, and free from wet. **AIR,** give liberally through the whole month, unless cold wet days intervene toward the end. **CUTTINGS,** pot off as soon as struck, because the time is short for them to acquire strength to carry them through the winter. **GLOXINIAS** and **GESNERAS,** as they cease blooming, treat the same as Achimenes. **HEAT,** keep under as much as possible, but have the flues and pipes in good order for working, as cold nights might come towards the latter end. **INSECTS,** destroy as much as possible, or they will rapidly increase. **IXORAS,** specimens of, top-dress and tie out, so as to form handsome bushes of a rather pyramidal form. Young plants give a shift to, h.; stop and tie out; moisture, supply plentifully both to the roots of the plants, and to the internal air. **PASSION-FLOWERS,** and other climbers, trim in freely, and tie them so as to allow plenty of light to descend amongst the plants. **PLANTS IN FRAMES,** top dress and repot if needful; give plenty of air to, and water only in the mornings. **SPONGE,** use freely to clear the leaves from dust and insects; this is preferable to so much syringing. **WATER** more moderately as the days shorten. **WEEDS** and decaying leaves remove daily. T. APPELBY.

KITCHEN-GARDEN.

Particular attention should be paid to **SOWING** from the 1st up to the 12th of this month, as so many of our best vegetables and flowers are produced for the next season from the sowing made at the above-mentioned time; the *Caulliflower* only should be deferred until about the 21st of the month. **ALEXANDERS** and **ANGELICA,** sow, and attend to earthing-up that in growth. **ARTICHOKES,** cut away the heads of, whether required for use or not, for if allowed to run to flower they will very much exhaust the roots. **ASPARAGUS,** attend to; keep clear from weeds; should any branches be falling about over pathways let them be tied up to sticks rather than cut away. **BASIL,** attend to; cut and dry off steadily when in bloom. **BORAGE,** sow, and thin out growing crops, or earth-stir and look after seeds. **BORECOLES, BROCOLIS,** and **BRUSSELS SPROUTS,** plant out as early as possible; do not spare manure among any of the cabbage tribe. **CABBAGES,** sow of any favourite kinds; also a little *Red Dutch* for pickling; and prick out for planting out next month. **CARROTS** (Early Horn), sow on dry warm borders for early spring use; keep the growing crops clear from weeds. **CAPSICUMS** encourage the growth of by earth-stirring. **CAULIFLOWERS,** sow out in open quarters, so as to have a stock of healthy sturdy plants about the 21st to the 24th, to stand the winter; also plant, and water well. **CELERY,** plant out in earnest, and attend to earthing-up advancing crops in dry weather. **CAES** (American), sow. **CUCUMBERS,** attend to thinning, topping, and clearing away all decayed leaves, either in pits, frames, or out-door crops; cuttings may be struck of any favourite kinds for autumn and winter growth. **ENDIVE,** sow, plant, or prick in succession, and tie up, or cover up, full grown for blanching. **HERBS** of all kinds, cut and dry when in flower. **HOING,** attend to at all favourable opportunities. **LEEKs,** plant out. **LETTUCES,** sow **Brown Cos** and **Hardy Hammer-smith,** the two best kinds for general culture. **MELONS,** give plenty of air to; be sparing of the water among those ripening off their fruit; encourage the growth of the younger crops just swelling off their fruit with about three liberal waterings of liquid manure-water; let it be given steadily from the spout of the water-pot, and principally at the back part of the beds, and not over the crowns of the plants; add sprinkle almost daily in hot, dry weather, at shutting-up time. **ONIONS,** sow of the silver-skinned kind, being most hardy, to stand the winter; keep the advancing crops clear from weeds, and press down stiff-necked towards the end of the month, as cases may require. **PARSLEY,** cut down or transplant, or sow, and collect seeds. **POTATOES,** if early and ripe, may be taken up and stored away in a cool situation, for present use, in particular where the ground is wanted for some other immediate crop. **RADISHES,** sow, if required. **SAVOYS,** plant out as early as possible. **SEEDS** of all kinds, collect as fast as they ripen, or the birds will make sad havoc among them. **SORRELS,** keep flower-stems cut away. **SPINACH,** sow of the prickly seeded kind, in well prepared borders; and sow in drills ten inches apart. **SWEET MARJORAM,** see *Basil*. **TURNIPS,** sow of the little early kinds, any time during the month, and attend to thinning and hoeing advancing crops. Should the weather be very hot and dry, *Water* thoroughly previously to sowing the various seeds, and if a little shading could be given from ten to three in the afternoon, until the plants are up, all the better. T. WEAVER.

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WEEKLY CALENDAR.

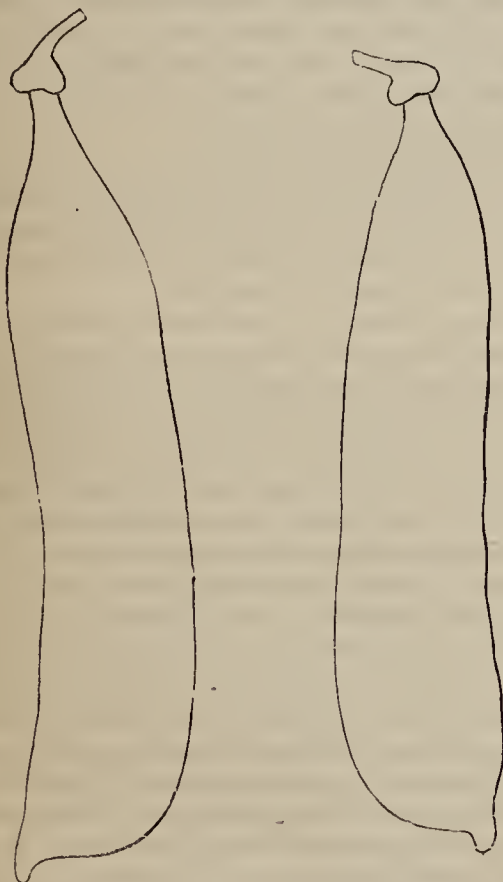
D M	D W	AUGUST 3—9, 1854.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Agc.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
3	Th	Agelena labyrinthica.	29.982—29.919	74—52	E.	—	28 a 4	44 a 7	11 26	9	5 55	215
4	F	Epeira diadema.	30.025—30.005	74—45	N.E.	—	29	42	morn.	10	5 50	216
5	S	Ocypte rubra.	30.122—30.115	71—45	N.E.	—	31	41	0 5	11	5 45	217
6	SUN	7 SUNDAY AFTER TRINITY. Pr.	30.226—30.160	74—43	S.E.	—	33	39	0 59	12	5 38	218
7	M	[ALFRED BORN 1844.	30.203—30.130	70—50	N.E.	—	34	37	2 13	13	5 32	219
8	Tu	Lebia crux minor.	30.192—30.151	75—47	N.E.	—	36	35	rises.	☺	5 24	220
9	W	Colymbetes agilis.	30.260—30.230	72—43	N.E.	—	37	33	8 a 41	15	5 16	221

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 74.4° and 51.7° respectively. The greatest heat, 92°, occurred on the 9th in 1842; and the lowest cold, 38°, on the 3rd in 1847. During the period 108 days were fine, and on 81 rain fell.

We continue our monograph of the PEA, and come now to consider a variety which, however good, possesses no particular merit to entitle it to be continued in cultivation. It is the

INDENTED GREEN MARROW.

The plant is a strong and robust grower, seven to eight feet high, and always with a branching stem. There are no pods below the point where the laterals



INDENTED GREEN MARROW.

BLUE PRUSSIAN.

are developed, which is at a distance of three feet from the ground. The number of pods on each plant is from sixteen to twenty. They are generally single, but frequently also in pairs, from three inches to three-inches-and-a-half long, and nearly three-quarters-of-an-inch broad, somewhat curved; very flat and broad at first, but afterwards becoming round; the colour is very dark green, and the surface smooth. The pods fill and yield very badly, few having more than seven

peas, and the generality not above four or five, some as few as two. Like the *Queen of the Dwarfs*, it has a large inflated pod with nothing in it. The peas are large, nine-twentieths-of-an-inch long, eight-twentieths broad, and seven-twentieths thick. The ripe seed has a mixed appearance, being white and light olive-green.

This is, in every respect, an inferior Pea, at least, it is very far below many others that are in use at the same time, such as *Ne Plus Ultra*, *British Queen*, and *Milford Marrow*, and is not nearly so early as *Early Green Marrow*.

The seed was sown on the 5th of April, and the plants bloomed on the 23rd of June; the blooms dropped on the 29th, and on the 20th of July the pods were fit to gather.

BLUE PRUSSIAN.

Plant of a vigorous but not robust habit of growth, with a single stem about three feet high, and which is sometimes branching. The pods are generally produced in pairs, but are also sometimes single, and vary from twelve to sixteen on each plant. They are from two-and-three-quarters to three inches long, three-quarters-of-an-inch wide, somewhat curved, and rather broader towards the point, where they terminate abruptly. They contain about seven peas, which are four-tenths-of-an-inch long, seven-twentieths wide, and about the same in thickness, and compressed on the sides from being so close together. The ripe seed is blue.

The seed was sown on the 5th of April, and the plants bloomed on the 20th of June. On the 26th the blooms began to drop, and the slats appeared, and on the 18th of July the pods were ready to gather. This old variety still maintains its position from the large crop it produces, but it is an inferior variety, and its cultivation may be advantageously discontinued.

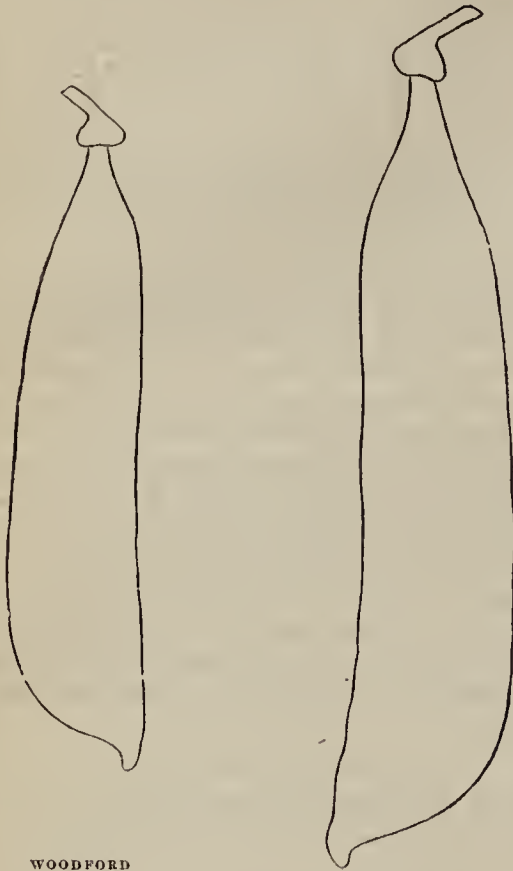
WHITE PRUSSIAN.

SYNONYMS.—*Dwarf Prolific*, *Royal Dwarf*, *Poor Man's Profit*.

Plant of medium growth, with an erect stem, which is three feet high, generally simple, but occasionally branching. The pods are sometimes single, and sometimes in pairs, but generally single, and from two-and-a-half to three inches long, half-an-inch broad, almost straight, and somewhat tapering to the point; the surface is quite smooth, and the colour bright green. They are generally well filled, and contain from five to

six peas, which are somewhat ovate, not compressed, eighth-twentieths long, seven-twentieths broad, and the same in thickness. The ripe seed is white.

The seed was sown on the 5th of April, and the



WOODFORD
MARROW.

WHITE PRUSSIAN.

plants bloomed on the 26th of June. The blooms dropped, and the slats appeared, and on the 16th of July the pods were fit to be gathered.

This is an old and very prolific variety, well adapted for field culture, and long a favourite in gardens, but now superseded.

WOODFORD MARROW.

Plant of a strong and robust habit of growth, like a vigorous-growing Marrow, rising with a stem three-feet-and-a-half high, which is sometimes simple, but generally branching at about half its height from the ground. The pods begin to be produced at little more than half the height of the plant, and from that point to the top every joint produces single or double pods, amounting in all to eleven on each; they are single or in pairs, in about equal proportions, about three-inches-and-a-half long, seven-tenths-of-an-inch broad, quite smooth, and of a very dark green colour. When ready to gather, they are rather flattened, but as they become ripe they assume a round shape. They contain, on an average, eight peas in each, which are of a very dark olive-green colour, rather thick in the skin, and very closely packed, so much so as to be quite flattened on the sides adjoining.

This is a very characteristic Pea, and may at once be detected from all others, either by the ripe seed or the

growing plants, from the very peculiar dark green colour which, when true, it always exhibits.

The seed was sown on the 5th of April, and bloomed on the 21st of June. On the 26th the slats appeared, and on the 18th of July the pods were quite filled. This variety comes in at the same time as the *Imperials*, and is rather before the *Scimitars*. It is more adapted for a market Pea than for private gardens, its dark green colour favouring the popular prejudices.

R. H.

(To be continued.)

With parent birds of infinitely better quality than those from which chickens of 1853 were produced, and with, at least, equal attention to food and management, Shanghai broods of the present year are far below our former average.

This refers to the White, no less than to the Cinnamon and Buff. With respect to the first-named, indeed, not one will be suffered to live of some forty chickens bred from birds of sufficient merit to carry off a first prize, with good competition, at a provincial exhibition of some note; and the Buffs were equally successful on the same occasion, and almost equally unfortunate in their offspring.

The above cannot be regarded as an isolated instance, for north and south, east and west, similar complaints are re-echoed, and whether we look to the reports of public shows, or the circumstances of private yards, the same conclusion must be arrived at.

It seems, indeed, to be a generally-recognised fact, that great deterioration is manifest in the Shanghai race, but the causes commonly assigned are rather, logically speaking, "accidents," than of such universal influence as would account for what we see and hear of in every quarter. Among these, breeding for colour only, over-fed stock birds, an insufficient extent of run, and breeding-in-and-in, are conditions under which such a result is usually considered to have been brought about, and, doubtless, such impolitic management would be fully adequate to produce the effect referred to, wherever it can be proved to have existed. In our own experience, however, we plead "not guilty" to charges of this nature, and many other breeders equally careful in these respects, report in similar terms with our own of the present state of their Shanghaes. Some further cause must, therefore, be sought for of more general application than all or any of the foregoing.

Climate would, of course, be all-powerful in such a case, but here, apparently, England has hitherto offered as suitable an abode for the family as their own Chinese habitat. In fact, so far as mere strength of constitution is concerned, the Shanghaes seem to yield to none of our native-born fowls, and are, moreover, unquestionably superior to many. Still, in this direction the only possible clue to the present generally-deteriorated state of the race would appear to exist, and it is a question deserving of attentive consideration, whether the influence of climate, apart from mere tem-

perature, may not have been an active agent in this general result?

The student in Natural History would not search in vain for examples of both animal and vegetable life transferred from their own original habitat to another precisely similar in point of temperature, as also apparently in other necessary conditions, but where, nevertheless, in a short space of time, infirmity, and, consequently, inferiority has shown itself. Present ideas, indeed, on this point, do not venture to advance beyond mere hypothesis, and it would be difficult to produce a case identical with that now occupying our attention; but the insufficiency of the causes at present alleged in explanation of the effect, necessarily point to some more universal agent, in which character, climate, not improbably, may have a part.

There are many poultry-keepers who are, in every respect, competent to express themselves, physiologically, on this subject, and on whose opinion great stress would justly be laid, and we hope that the public may benefit by their opinions, for which purpose the columns of THE COTTAGE GARDENER would be readily opened.

Reference has been here made to the Cinnamon, Buff, and White Shanghaes only, on account of those alone having been most within our close inspection during the past year. The darker varieties, however, have certainly suffered to at least an equal extent, although the Black may never have attained the point of excellence from which a fall would have attracted notice.

W.

It was justly said by one well conversant with portraits, "I would much rather be possessed of a good collection of prints of my countrymen, than of a collection of their mummies, though I had a pyramid for its repository." We think that very few will dissent from this opinion, because every one would rather know what was the actual appearance of a celebrated personage than have his bones and dust wrapt up in a cero-cloth. A portrait is no less than a "continuing the presence of the dead," and many is the time we have wished, vainly wished, that we had some such continuance of Dr. Beale, Switzer, Rea, Worlidge, Meager, Loudon, Wise, and many others of our best gardening authorities! Such a wish will be echoed by many, and if some effort be not made to prevent it, those who come after us will have to add to the catalogue of the unportraited such men as Fleming, Beaton, Bailey, Veitch, Fortune, Knight, Errington, and a host of other living worthies. We will make such an effort, and if we fail, it shall not be either because the endeavour is not strenuous or the outlay not liberal.

Shenstone also said of the unknown wife of his friend, "let me see her handwriting that I may judge of her character." There is something in that, so we will give their autographs also.

We shall call the series OUR PORTRAIT GALLERY, it will be accompanied by biographical notices, and we purpose that it shall include some of the most celebrated

of the dead as well as of the living. It will be shortly commenced with a portrait of SIR JOSEPH PAXTON.

A FEW IMPORTANT KITCHEN-GARDEN MATTERS IN AUGUST.

WITH those who have to cater for the wants of a family in the vegetable way through a long winter and spring, this month is most important. Celery crops, the Cabbage worts, Endive and other winter salads, Spinach, &c., demand a close attention as to sowing, transplanting, and a high course of culture. I, therefore, purpose, in these remarks, to point to a few of the principal features of the month. As to sowing, all the world knows, or should do, that the middle of August is the very best period for sowing *Cabbages to stand the winter*. Some persons transplant, and, indeed, it is most essential. In the transplanting process, of course, a fortnight is lost; those, therefore, who do not transplant, should sow nearly a fortnight later. It is very good practice to sow in drills thinly, six inches apart, and to introduce dry soil between their stems in the beginning of October; this prevents their becoming crooked, leggy, and shanking. However sown, we find it necessary, in all cases, to dress the ground with charred stuff from the weed-heap; by such means there need be no fear of club. Endive should be sown for a full winter crop in the beginning of the month; and a little more at the latest in the third week. Now, as I am not assuming to teach gardeners, I must take the liberty of descending to some details for the information of those who are desirous to learn practical matters.

ENDIVE loves very rich soil; indeed it is, comparatively, worthless in poor soil. It loves an immunity from excess of moisture. This points to the propriety of warm slopes and elevated beds. It requires about fourteen inches square to each plant, if required fine. Most people plant it about eleven or twelve inches; the largest distance, however, for noble autumn Endive, will amply repay if the soil is very generous. Liquid-manure is highly advantageous to the plants, especially directly they are tied for blanching; it makes them as plump as a good Savoy, and come fine to hand for the salad-bowl. The dwarf, compact, thick-hearted, green-curl'd, and the yellow, compact *Batavian*, are the very best if pure. What are called summer Endives, are tall, bouncing fellows, but not so well adapted for winter work; they occupy much space, and here especially, if to introduce to frames, *multum in parvo* must be our motto. Watering in dry periods is particularly requisite; and my practice is to cut the points of the plants with a scythe occasionally, whilst in the seed-bed—this renders them much thicker in the heart ultimately.

CELERY.—As to soiling, little and often is my maxim, rather than heavy layers all of a sudden, especially during the earlier stages. When, however, it is nearly full-grown, I like to give it "more law"—let it grow rampant for a longer period without soiling, and when at full stature to soil it with its full amount. *Waterings*—Liberal waterings are of vast benefit to Celery: the quicker it is grown, and the more liberal the soil, the more crisp and sweet it becomes. Most umbelliferous vegetables have a rank flavour in their wild state, and high culture alone can lessen this acrid character.

LETTUCES.—The first week in August is a good time to sow the *Bath Cos* Lettuce on a warm, rich border, to place under cloches, or glass, in the early part of October. The middle of the month, in ordinary beds, will produce plants of this and the *Hammersmith hardy green*, well adapted to "prick out" in beds to stand through the winter: and the last week, on raised beds,

a few may be sown thin, to remain in their seed bed. The latter often preserve better than the strong plants. Those whose soil is very sandy, and who love good, bouncing, crisp Lettuce, will do well to add strong loam occasionally to their composts, and to apply manure-water occasionally when they are three-parts grown.

CAULIFLOWERS.—Strong plants from a June sowing, planted out in generous soil, in the very first week, on a warm border, will, if the autumn prove good, come in at the beginning of November, and may be preserved by careful covering, or otherwise, until Christmas has passed. These are invaluable to the cook. Those from May sowings will be coming into head at the end of the month, and should have liquid-manure occasionally.

The Walcherens, Granges, Autumn, and the Capes, should have similar attention as the Cauliflowers. A good batch of Capes should be planted, in the first week, on rich soil: these are useful little fellows; if any one will plant liberally of a good kind in the middle of July, and again in the first week of August, I will engage that he will not eat on them one day in October, November, or December, without finding a dish fit for use. They come "dodging" in—and, in this respect, are a most useful adjunct to the Cauliflower, which, like sheep breaking through a gap, when one comes in the rest speedily follow.

COLEWORTS.—No winter garden is complete without these. A good planting should be made in the first week for a main winter's crop; and they may be planted at nine inches distance, if a good dwarf early kind. A second planting may be made in the last week; these are sometimes very useful indeed; if they escape the rigour of winter, they are nice little cabbage for table by the beginning of April. I always secure a plot.

SAVOYS, for spring use, should be planted in the first week; these, of course, do not make such big heads as those planted in the end of June, but they are extremely useful, and are generally termed "Savoy Coleworts." We always plant a plot, and cover them with litter during severe frosts. As they are smaller than the main crop, they may be planted much closer, say half a yard between the rows, and fifteen inches in the row; but they must be of the little dwarf curled kind; the old *Drumhead* is too large for this purpose.

BRUSSELS SPROUTS.—Here is one of the most useful and hardy greens known to gardeners, and if not the first in point of market profit, second to none in point of utility. A full crop having been planted in the beginning of July, a liberal second planting should be made in the early part of August; these will succeed the other, which will produce buds from the middle of September until February, by which time it is probable they will be stripped of their treasure, and the second planting will succeed them, and last until the middle of May.

SPINACH.—A full winter's crop should be sown in the second week of this month; the prickly kind. I generally sow a little more in the last week; the latter sometimes stands the winter best, and if not, succeeds the other. Rich soil is indispensable, and an elevated bed with a round facing to throw off water. It is best in drills nine inches apart, the plants thinned to about six inches; then the hoe can with facility be plied through them; no plant benefits more by hoeing than this; it cannot endure a collected scum on the surface of the soil through stagnation.

RADISHES may be sown at the beginning, and in the third week; and one sowing more in the middle of September will ensure a continual supply through September, October, and November, and equal to spring Radishes. The ground should be light and well broken, but not rich with recent manuring.

CRESS.—The Curled and Broad-leaved, sown at the

beginning and the end, will keep up a supply from the beginning of September all through the winter.

CORN SALAD or *Mache* may be sown in the beginning of the month.

CHERVIL.—Sow for a winter's supply as the Cress.

POTATOES.—Kidney, or other early and dwarf Potatoes, will succeed admirably, if required to be eaten young and fresh, if some of the very early seed (taken up about Midsummer, and greened by exposure), be planted on a warm border of generous soil.

ONIONS, to stand the winter, sow about the middle; those left, transplanted in February on rich soil, make capital early Onions.

CARROTS.—The *Horn* may be sown in the first week, on a warm and thoroughly-divided soil, using charred weeds, &c., as dressing.

CAULIFLOWERS, for early hand-glass work, sow about the 20th; a second lot to prick out thick in frames, or otherwise, in the first week in September.

We have heard many opinions, *pro and con*, as to the *earthing-up of Brocolis*, and the various greens. I will not affirm that earthing-up is indispensable, but I have ever found it necessary to practice it even as a safeguard against storms. I have known such things as *Brussels sprouts*, Kale, the later Brocolis, &c., thrown almost prostrate, or so crooked as to prove almost unmanageable afterward; causing, thereby, much extra labour, as well as compromising the character of the crop. But I am of opinion that it adds to the strength of the crop, for if performed betimes, most of these things root up the stem, and it will surely need little logic to prove that to multiply fibre is to increase power.

It is sometimes very difficult to get small seeds to vegetate during a dry and hot period in August, and serious losses have very frequently been sustained through this circumstance; losses not easily repaired. This, however, may be easily obviated by taking a little more pains at sowing time. My practice is this—unless the period is rainy—after selecting the bed, for Lettuces let us say—I saturate the surface with water, it is then dug deep and well crumbled, and the surface again watered. After settling a day or so the dressing is put on, and now the whole is well forked over, taking care to mix it thoroughly. The seed being sown, I stick tree or shrub branches all over to produce a flickering shade, and with this precaution the seed, if good, is sure to vegetate, and watering is rendered totally unnecessary as far as concerns germination.

Late crops of Peas are very apt to become mildewed in the month of August; this, doubtless, arises from the amount of perspiration from the foliage proving too great for the action of the root, thereby engendering a high degree of elaboration in the juices, and a consequent sweetness and viscidness in the sap, a condition highly congenial to certain fungi. The best way is to give one thorough watering the moment the least mildew appears, or rather before; not a dribbling, but a soaking. No crop requires more water to penetrate the ground than the Pea crop; they should be watered three times over, at least, during two successive days. I intend this year to try the hydro-sulphate recommended for the Vine mildew. I shall syringe them with it, and, combined with root-watering, entertain most sanguine expectations of success. R. ERRINGTON.

DISA GRANDIFLORA.

This rare and beautiful ground orchid, from the Cape, was exhibited at the July show of the Horticultural Society, at Chiswick, by Charles Leach, Esq., King's Road, Clapham Park: and all the gardeners with whom I conversed about it, particularly the older ones, agreed with me, that of all the plants at the show, this one was

the greatest triumph of skill. No gardener has ever yet succeeded in flowering *Disa grandiflora* in anything like perfection, as far as my knowledge goes, although hundreds of it have been introduced in my own time. I knew a German gardener, who, on his return in 1838 from serving Baron Ludwig, at Cape Town, brought over to England one hundred roots of this *Disa* in one box; he offered to sell some of them to me, he gave me all the natural history of the plant, and he declared that no plant from the Cape need require less care; but all would not do; I had burned my fingers with it before, and I told him on the spot, that I would not believe his tale, or that any one could ever manage to grow the plant two years running. Soon after that, Sir John Herschel showed, in Regent Street, other ground orchids from the Cape (*Satiriums*), which none of us could manage well, and he described to the Horticultural Society the exact conditions under which these *Satiriums* and the *Disa grandiflora* flourished at the Cape; from this report I could see the honest German gardener was all right, and I repented at not having had some of the roots from him. I learned that Mr. Skirving, of Liverpool, bought up the whole of them, but what came of them after that I never heard. I dreamed, more than once for the last fifteen years, that this *Disa* might be grown after all, and I sent out three times to the Cape for roots of it, but did not receive any; the next I heard of it was with Mr. Leach, two years back; since then, I had almost a monthly report of it from himself, and now I am convinced there is no more trouble in growing it, and in flowering it also, than there is in growing and flowering *Vallota purpurea* from the same country, a bulb which every cottager can now flower in his window; but in my early days, when this bulb was called *Amaryllis purpurea*, no one could flower it, and very few could keep it alive above two or three years; now, no one knows how to kill it, and it will be so with the *Disa* in a few years. Dr. Burchell, who first discovered the *Vallota*, said it was the only bulb of the order that he had found growing in boggy peat in Africa, that is the reason why it is an evergreen plant, and not knowing it to be so at first, was the cause why we could not manage it. Now *Disa grandiflora*, though not the only ground orchid which grows naturally in boggy places, is the only ground orchid which is an evergreen. Here, then, lies the whole secret about all our failures with it; no sooner did the dry heat of June, July, or August, affect the lips of the leaves, and turned them brown, than we, in our ignorance, began to withhold the usual supply of water, and finally put the plant to rest in the usual way, and we saw no more of it. *Calochortus splendens* and *macrocarpa* went exactly the same road, by the same means, and in one season, throughout all England, Ireland, and Scotland, and we never have had them since.

Disa grandiflora is not at all a scarce plant at the Cape, nor difficult to get to it there. I would take in hand to go out after breakfast, in Cape Town, and be home to dinner with a whole load of it on my shoulder. It bears carriage from thence as well as any other Cape plant, but I think, or rather I am sure, that early in the spring there, which corresponds with our autumn, is the best time to take it up for removal to England. Sir John Herschel kept some plants of it out-of-doors for several years after his return from the Cape, but they did not thrive well; the truth is, the plant is, strictly, a greenhouse plant, but requires as much air at all times as the Cape Heaths; also the very same kind of peat earth. Sir John Herschel gives the best account of its natural condition; he says, "It grows on, or near, the summit of the Table Mountain (immediately behind Cape Town), where the temperature is occasionally $31\frac{1}{2}^{\circ}$, and occasionally, also, $96\frac{1}{2}^{\circ}$, these were the minimum and maximum of a self-registering ther-

mometer I left there for three years. Its habitat is on the margin of pools of standing water, the drainage of the boggy slopes of the mountain, where its roots are immersed. These are dry, or nearly so, in summer. In such localities it is, of course, frequently involved in dense mists of the clouds, which, seen in the hottest months, often cover the whole summit of the mountain for a week or a fortnight uninterruptedly." So much wet at the roots and overhead might lead one into the error to suppose that such conditions were indispensable under cultivation, but we know it is far otherwise; and to imitate Nature to the letter would be more likely to lead us wrong on the other side. In the Melon-beds floating on the Lake of Cashmere, the roots of the Melon-plants must be constantly in water; we could not manage them so in England, we want more sun for that; and the want of an African sun hinders us from imitating the boggy site and the misty atmosphere of Table Mountain; but without putting such stress on the strength of the sun, have we not the Sikkim Rhododendrons in the utmost health under far greater light from our clearer and drier sky in England than they were accustomed to in Sikkim, where the air is so charged with moisture as to enable some of these Rhododendrons to grow on the branches and arms of other trees, like air-plants, and where the sun is clouded for months together? No; Mr. Leach has proved, beyond doubt, that the *Disa* does not require more water at the roots, or more moisture in the air, than a Cape Heath under an English sky; there is now no room for conjectures in the matter, the thing has been done to perfection, and there is an end to all speculations about the *Disa*. The nature of the plant has been thoroughly studied, under favourable circumstances, running over a space of full three years or more, and the result has determined the proper course of culture throughout the year; but before I explain that course, let me describe the habit and aspect of the plant, and that will make the reason for the kind of treatment more clear and satisfactory.

Mr. Leach's plant was in a No. 16 pot, and the whole surface of the pot was crowded with leaves; from the middle of this mass of leaves rose four scapes or flowering stems of from two feet to thirty inches; and before the flowers opened, a young gardener might be excused if he mistook the whole for a mass of Tuberose (*Pollianthes tuberosa*); the leaves look very much that way, but are not so long nor so wide as in the Tuberose; the flower-stems are jointed all the way up, and there is a leaf at each joint, embracing the stem just as in the Tuberose; the number of flowers, I believe, are three to each stem in the natural condition; and three were on some of the stems in this pot. From the habit of the plant it is possible that twenty flower-stems might rise from a patch of the plant which was not more than a foot in diameter, so that the number on each stem would not lessen the effect of a large patch of it on Table Mountain; the flower is very large, and of great substance; the colours are chiefly orange and scarlet and lighter shades; it is probably the handsomest, and the boldest-looking flower of all ground orchids, and it lasts six weeks or more; the least extra heat to get it sooner into blossom injures the high colour in the flower materially, and July is the true season of its flowering here. When the flowering is over, the stem dies down, and the leaves at the bottom of the flower-stem from which it issues die also; this is extremely curious, and has been the reason why we of the old school failed to grow this plant. I want to put a great stress on this natural feature which cannot be altered by cultivation; and I might appeal to the youngest reader of THE COTTAGE GARDENER, or to Sir Joseph Paxton, if it did not stand to reason that a bulb, after flowering, and with the leaves all dead, should not be put up to dry; they are

not bulbs, however, but that is the easiest term to express my meaning.

When roots of the *Disa* are first received from the Cape they often throw up the flowering-stem soon after they are potted; that stem was in progress before the plant was taken up; then the long time from the first appearance of the flower-stem to the last of the flowers allowed the roots to throw up a tuft of leaves, but no sooner is the flower-stem withered, whether it has flowered or not, they often come without flowering; the tuft of leaves withered also, but that is not the natural way of the plant at all; the withering of the flower-stem, and of the leaves round the bottom of it, is quite natural to it, but when the root is once established, it is what we call stoloniferous; that is, it makes a quantity of suckers all round it,—travelling suckers, as we may call them. A long neck comes from the tuber-like root, below the surface, and it pushes up a long way from the old roots, then forms a tuft of leaves. These suckers are more or less in number, according to the strength of the old root; they continue their growth and increase in numbers from July, the time of flowering, to the middle of the May following, when the flower-stems begin to move. Now, suppose a dozen of these travelling suckers to be on the way, but not yet up to the surface, when the old leaves and flower-stem die down, and we have a vigorous *Disa* in the first stage of its natural growth, and a batch of old gardeners, just as vigorous in their opposition to nature, withholding water altogether, just at the very time it is most wanted to assist the old roots in throwing up the said suckers. Each of the twelve suckers will keep green one, two, or three years, according to their strength, that is, until each of them throws up a flower-stem of its own; as soon as that stem begins to move, a fresh lot of suckers are preparing to issue from below it, to go right and left, and round ways, so as to keep up a full herbage when the old has decayed, so that the annual dying of flower-stems and their tufts of leaves do not make a single gap in a marsh full of *Disa*, because new comers are constantly on the move from one year's end to another. The older and stronger a plant of it is in a pot, the stronger and more numerous the suckers; there are some suckers now, seven or eight, in the large pot used by Mr. Leach, which came direct from the centre of the pot to the very side before they appeared above ground. The wonder is, that they did not break instead of turning upwards on reaching the side. When the flower-stems in this pot, and the leaves which accompany them, die down, by the end of August there will be four large gaps in the pot for a while, but that being the natural time for the plant to begin a fresh growth for next year, these gaps will soon fill up with fresh suckers, and shortly after they move is found to be the proper time for potting the plant, say about the middle of September.

Mr. Leach is the most successful grower of difficult Cape bulbs that I know of. He has the true *Amaryllis blanda*, and I believe he is the only one in Europe who has it; he flowers every one of them, year after year, with the greatest ease, he crosses them, and seldom loses a seedling; he grows them in a cool greenhouse where the *Disa* stands. It would not be fair or just, therefore, to say that Mr. Leach had hit upon the true management of *Disa grandiflora* by mere accident, as many a gardener has done with other plants; he must have had the good fortune to have got a good, healthy, strong plant introduced, and that plant having showed the side suckers before the old leaves died down, then, by encouraging these suckers, and by studying their requirements with a good practical eye and great patience, he has succeeded in making the cultivation of the most difficult plant known to practice, as simple and easy as that of the most common plant

one could mention. Good drainage, larger pots than the sizes of imported roots would seem to warrant, very good fibry peat, with a little silver sand, as for Heaths, potting annually in September, never to let the soil get dry, and not to water at one time more than at another, just to keep the soil always in a comfortable state, neither too wet nor too dry, constant air night and day, if the frost allows it, and no more fire-heat than will just save them from frost, are the chief turning points in his management of the *Disa grandiflora*. Who will venture to enter the lists against him? Not

D. BEATON.

THE BEAUTIFUL AND THE EXPENSIVE NOT IDENTICAL.

THERE are ladies, besides our pattern of a Queen, with strength of mind enough to wear their bonnets on their head; but look round a dense gathering, or glance your eye along a crowded thoroughfare in a genteel neighbourhood, and how very few of these sensible people will break upon vision? It matters not how outrageous the new mode may be, however discordant with elegance, refined taste, comfort, or utility;—let it once be started as the *new fashion*, and forthwith our wisest and most amiable and most lovely seem to have no other resource but to make themselves a *figure* as well as uncomfortable. Were it possible to infuse a little of the thinking principle into the specimens of savage life at the Crystal Palace, what rare mutterings of surprise, and pokings of fun there would be at the appearance of multitudes around them! Confess it or not, this indefinable genius Fashion—though we may hardly sensibly feel its mesmeric influence—is causing all of us to hop and jump in its train, however great the stereotyped sameness thus produced, however opposed to the development of individual character and diversified tastes.

Grateful for every fresh impetus given to ornamental gardening, I have a strong opinion, that when Fashion effects a change it does not necessarily accomplish an improvement; and that, in fact, if we were wise, instead of being ruled by fashion, we should make it our servant, and take as much, and no more of it, as just suited our peculiar circumstances. As few would think of getting into plant-houses in such a burning day as this 24th of July has been, allow me to "illustrate" what I mean by a reference to ornamental flower-gardening.

Without absolutely loving everything that is old, most of us, as we get older, are less disposed to be enthusiasts for change. We revel in the gleam of a sunbeam, but we wish something less aerial for our feet to repose on. It would require some boldness to hurl a lance at the whole system of grouping flower beds, as generally practised—so many feet of this colour and so many yards of that, without a stripe, a stand point, or a starer, to give relief to the eye, from the regular quilt-like pattern which *Punch* may one day stoop to banter with his ridicule. I should be prepared to contend as lustily as any one for the utility of the grouping system—changes being made in its modes and arrangements to prevent *variety* merging into monotony—provided due regard is had to the circumstances of the case; the wishes of the proprietor; the time at which it is desirable to have the garden gay, and means and labour at command to do the whole efficiently; but no love for the system can make me blind to the facts, that the mode in which it is generally carried out has made next to a wilderness of many a garden, until June, if not July, has begun to wane; and that many gardens belonging to the middle classes have lost their distinctive charm because the owners, forsooth, must copy the great man of the neighbourhood, and dip deeper into their purse than they

wished to do, to get fashionable plants for their beds; and yet, after all, taking the summer through, not obtain a tithe of the interest and real beauty which their gardens previously yielded, when such biennials as Canterbury Bells, and Sweet Williams, and the dwarf and more compact of the annuals were deemed worthy of sowing and growing. I never read and carefully digest the articles on herbaceous plants by Mr. Weaver, without wishing I was within elbow reach of him, and thinking of the times when flower-beds were kept gay all the spring and summer on the old mixed system. The distinguishing feature of Asbridge Park, a few years back, used to be that the mixed system was as well attended to as the grouping system, and the one reflected beauty and interest on the other. A great victory over fashion would be gained, and our humbler brethren would become more zealous enthusiasts after the beautiful, were they fully convinced that there is no certain connection between the *costly*, because novel or rare, and the beautiful.

I would give every honour to the man who encouraged our enterprising nurserymen by paying them handsomely for novelties. I would go farther, and say, that no gentleman could expect his gardens to stand first-rate, unless, according to size, &c., there was a liberal outlay in this direction; but I scarcely know whether a feeling of pity or of ridicule should be felt for the man whose appreciation of the beautiful was bounded by the £. s. d. part of the affair; or who could enjoy nothing that was intrinsically lovely because such plants did not happen to be *fashionable*—nay, were so *vulgar*, that the humblest that could spare a few pence and a frequent half-hour's labour, could enjoy the rich treat as well as the greatest in the land. I often wish that such a man as Mr. Weaver would introduce some of our more beautiful wild plants, either for mixed or grouped planting. One of the finest sights I have seen this season was a bank of the Speedwell, the *Veronica Chamædrys*; and its blue tint was lovely. I recollect, when I had small beds, carefully cultivating the *Lobelia lutea* for a dwarf, close, yellow; but who ever saw it equal to the turned bird's-foot 'Trefoil of the upland pasture—the *Lotus corniculatus*; or its double variety, that keep in bloom so many months.

So far from mere cost being an element of beauty, I have not the least doubt but that if a collection of some of the showiest of our home plants were cultivated, either on the mixed or the grouped system, that many would call them *beautiful*, and begin to enquire from what *far away* land they came. I know not how others feel, but I often get the conceit taken out of me by looking at the flower-plots of cottagers in May and the first weeks in June. There is a gracefulness and beauty in the very want of all polished system, with which Polyanthus, Auriculas, Wallflowers, Heartsease, Pinks, Daisies, Sweet Williams, Blue Bells, Larkspurs, Fuchsias, &c., are packed together. No lordly yellow *Calceolaria* may be there; but are the yellow *Eschscholtzia*, and the verticillated *Lysimachia*, which I see almost every day, without beauty? Would the farmer, or tradesman's wife, be likely to gain clearer perceptions of the beautiful by disarding the above, along with her Tulips, and Hyacinths, and Anemones, and Ranunculus, and Go-betweens; or the crawling shrub, and herbaceous plant, as yellow Alyssum, evergreen Candytuft, the dwarf Wallflower, *Cheiranthus alpinus*, and its more beautiful orange-coloured neighbour, *Cheiranthus Marshallii*; that she might grow, and be able to cull, a nosegay from Geraniums, &c., merely in the beginning of July? On the principle that we love that the least that costs us less, there is, certainly, an interest in being able to look over a small group, and say, or think, how much it cost, and what would be its value in a pecuniary or commercial point of view; but that can have no reference to the uninitiated in these matters, and their

thorough enjoyment of the gratification of the sense of the beautiful. A beneficent Creator has scattered the beautiful, with no sparing hand, around us; and so true is our instinctive appreciation of the lovely, that I have often seen gentle and simple hanging over an effect produced by flowers, at a first cost of a few farthings, with as great a zest as they hovered over a collection of Orchids, which the wealthy alone could possess. Would we lessen such gratifications with insinuations about the *cheap* and the *vulgar*, which, though it would enhance their charms in the estimation of the benevolent, would at once stigmatize them in the opinion of the really fashionable?

The something-like morbid desire to have only such aristocratic plants in our flower-beds in summer as want coddling and protecting during winter, is waning before the wish to have flower-beds gay at all times. I lately had a conversation with a nurseryman who, perhaps, more than any man has to do with the furnishing of metropolitan gardens and balconies. He told me that many of the plants on which we set such store in the country, for late summer and autumn display, were of no use to him; what he wanted were things that bloomed freely during the London season. Provided a fine floral effect was produced, he had scarcely ever had a grumble as to expense; the chief cause of complaint, was planting and charging for plants that would only be beginning to bloom when the family were leaving all behind them for the country. For a fine autumnal display, where the owners of gardens can only visit them then, nothing could excel the present system of grouping with tender plants; but for early summer display, I feel inclined to fall back chiefly on the old-fashioned herbaceous plants, and a plentiful supply of the more compact annuals.

The finest out-door display, on the 4th of July, that I have noticed for a long time, I saw in front of an Academy at Riverhead, about two miles from Sevenoaks. The flower-masses were arranged on grass in front of the house; and in two borders by the side of the main walks. I only had a glance for a few minutes through the railing, but the sight will not soon be forgotten. Scarcely an aristocratic bedding-plant was present. The mixed system of planting and arranging had been adopted, and though, on the whole, a wonderful profusion of bloom existed, very striking at first sight, the very mingling and variety produced a sameness, one clump or border being first, "another of the same," as applied to its next neighbour. Could we summon courage to suggest an improvement, it would be that while the individual clumps were *mixed* as now, a separate character should be given to each clump: the colours predominating in one being held in abeyance in another. It would not be fair to criticise as yet anything connected with the plant department at the Sydenham Palace; but the same idea struck us in noticing the flower-beds and baskets in the nave; the mixed style of planting instead of variety has produced sameness. I was told that this Academy-garden was, during the season, a perfect gem of flowers. Had time allowed, I should have felt pleasure in thanking the owner for the treat, and soliciting the outlines of his system. Perhaps, a friend in the neighbourhood may make up for my defects in this respect.

The main points of management seemed to be—removing every trace of withered and exhausted flower-stems, and sowing or planting something else in their immediate neighbourhood. Practice and experience will, no doubt, be continually directed to the right plants and seeds, and the best time for sowing and planting for producing desired results. The mixed system allows all this cutting down, removing, and planting, and sowing, to go on without ever making a long or unseemly break. There was not time to make the slightest memorandum; but, so far as I recollect,

the striking, dazzling picture, as a whole, was produced by masses of White Pink, Red Pink, Sweet William, Virginian Stock, Eschscholtzia, White Rocket, *Oenotheras* of kinds, Clarkias, Gilia, and *Collinsia*, *Nemophila*, Caudy-tufts of various kinds, *Venus's Navelwort*, *Venus's Looking-glass*, *Campanula Carpatica*, *Roses*, &c. Many of these, as a second crop, seemed just peeping through the ground; and in addition to early Stocks, younger ones were seen here and there, in company with *Asters*, *Marigolds*, and various things generally sown under a little protection. The man who wished to obtain the greatest amount of floral display from his garden during the first six months of the year, might gain a lesson from this Riverhead Academy; and all who are not thorough slaves of the genteel and the aspiring may perceive, that there may be much splendour and floral display in their flower-gardens during the season, without the costly appurtenances of pits, frames, and houses.

I seldom think over this subject,—I certainly did not glance at that Academy garden, without a vivid recollection of the evening of the 10th of April, 1837, on which Mr. Caie, of Bedford Lodge, Camden Hill, read at the West London Gardeners' Association, his admirable essay on the grouping system in flower-gardens, accompanied with a coloured plan, a draught of which, as well as the essay, appeared in the "Gardener's Magazine" of that year. To that gentleman belongs the chief honour of giving an impetus to the grouping system;—but to a leaning to aristocratic notions, and using only, and chiefly out-of-doors, tender plants, and not to any particular individual, do we owe the too usual baldness of our gardens during the summer months. No man used masses and rows of Clarkias, and other annuals, with better effect than Mr. Caie, acting often not merely as an early display, but also as some protection for the summer and autumn-flowering plants. I have several times, this season, seen a good effect produced by grouping annuals by planting them or sowing them thinly, and pulling them gradually out, as they either showed signs of seeding, or more light and room was wanted for the more lasting, though later flowering, occupants of the bed. I am not aware that any improvement has been added to the principles set forth in that essay, unless it be planting and arranging, not for the contrasting, but the shading of colours, the extreme beauty of which there are but few minds refined enough sufficiently to estimate. But I have a vivid recollection of the discussion of that evening—and the interest and opposition created, by the seeming heterodoxy of prophesying in a half-earnest, and a half-bantering style, the aspects of many of our gardens during the early summer months, when the grouping of these tender plants became all the rage. Admiring the beauty of these beds as much as any one, after Midsummer, I shall not have written these lines in vain, if lovers of flowers, with little means, will have force of character enough to fall back on hardier things, and strike out a path to suit their peculiar circumstances. There is an old proverb—that if a man lives long, and keeps a coat all his days, he will be several times in the fashion—and though I should lay little stress on the fact, yet, as fashion has its ebbs and flows, there are already signs and symptoms, that the lover of hardy flowers, be they perennial or annual, will now and then, unexpectedly even to himself—provided he lives long enough—be found standing in the van, instead of lagging in the rear, even of that world of fashion for which he really cares so little. R. FISH.

JOTTINGS BY THE WAY.

FRODSHAM.

THIS is a small, quiet town in Cheshire, one of the sunny nooks, of which, I am happy to say, there are

considerable numbers yet left in Old England, uncontaminated with tall black chimneys, manufactories, and their congregated sickly, and too often demoralized inhabitants. In this quiet nook, I was introduced to a gentleman, Joseph Stubbs, Esq., of Park Place, close to the town. He, as I was informed, has lately retired from business with a handsome fortune, and being of active habits, has turned his attention to improving the place, and more especially to gardening. The mansion is pleasantly situated at the foot of some lofty, abrupt hills, clothed partially with wood, giving light and shade, and some very interesting views from the house. This house has been rebuilt, together with compact stables, coach-houses, &c., forming altogether a comfortable homestead. The garden has been entirely made new, and was designed and laid out by Mr. Kemp, of Birkenhead. The flower-garden is large and well kept, no expense being spared. The manner of planting the numerous flower beds struck me as being new. Mr. Stubbs said that he constantly resided there, and, consequently, wished his beds to have flowers in them, as nearly as possible, all the year. Hence, the beds are planted with flowers that bloom early and late, as well as such as shed their beauty through the summer months. To accomplish this, requires a considerable amount of skill and judgment in arranging them, and the gentleman, backed by his skilful gardener, has, to a great degree, succeeded. In early spring, the Crocuses, the Snowdrops, the Scillas, *Prinroses*, *Hepaticas*, and other early flowers, garnish the scene with their sweet blooms. These are succeeded by other later blooming flowers, and then the beds are filled with the usual bedding-plants, such as *Scarlet Geraniums*, *Verbenas*, &c., which carry on the beauties of Flora till the autumnal frosts banish the goddess from the scene.

I was much pleased with the system of edging every bed with dwarf flowers, and I am sure my friend, Mr. Beaton, would have been in raptures with the great success achieved here in this pet point of his floral gardening. I will give a few instances. A bed of *Nierembergia calycina* was edged with *Sedum carulea*; a mixture bed, with *Mesembryanthemum tricolor*; and another, with the pretty *Cochlearia acaulis*. A bed of *Ranunculus*, blooming well, was bordered with the little pink Everlasting *Gnaphalium dioeca*; whilst a bed of *Phlox Drummondii* had a border of *Portulaca*. Then, again, a bed of the small *Fuchsia pumila* had a border of the pretty Alpine *Saxifraga oppositifolia*; and another bed of *Ranunculus* was garnished with *Mesembryanthemum glabrum*, with its large, deep, green, low-spreading leaves, and large yellow flowers. A bed of *Carnations* has for its edges a very unusual plant, the *Sedum globiferum*, a plant I never before saw used for such a purpose. Then, a healthy bed of the creeping *Daphne cneorum* had for its edging a border of the pretty *Gentiana pneumonanthe*; and a bed of *Anemones*, the *Sedum Sieboldii*. This was all very interesting and novel to me, especially when every edging was kept so neat, full, and tidy. Often the edging was in flower when the main plant of the bed was either not in flower, or, going out, to be replaced as soon as the roots could be taken up, such, for instance, as the *Anemones*, the *Ranunculuses*, *Tulips*, *Hyacinths*, and other early-flowering bulbs. The edgings then afford flowers whilst the changes are being effected.

In the borders close to the house there was growing, and blooming finely, a collection of Cape bulbs, planted in loam, leaf-mould, and sandy peat. By Cape bulbs, I mean *Ixia*, *Sparaxis*, *Babianas*, dwarf *Gladioli*, and such-like. Patches in the same border were planted with the choicest British Ferns; the surface was covered with small sand-stones; these, I thought, were rather out of place. With Ferns we naturally associate shade and retirement, and there are in the grounds many a quiet spot where they would thrive better, and be more

appropriate. The flower-garden is bounded on the south side by a good wall. This wall was planted with Peaches, Nectarines, and Apricots, and very well they are growing; but I could not help thinking this wall would have been better as a receptacle for ornamental rare shrubs and climbers, with a few of the best Roses intermixed. In fact, a finer and more appropriate situation (it adjoins the house) for a conservatory-wall is not in existence; but as that is a matter of taste, and Mr. Stubbs prefers it as a fruit-wall, nobody else has anything to do with it.

The kitchen-gardens adjoin the flower-garden, and being lately made, and well made too, the vegetables were exceedingly fine. The Peas were cultivated in the best fashion, that is, at wide intervals, with Potatoes and other low growing crops between. The consequence is, one row of Peas produces almost as much as two when sown close together in the more common way. This garden is happily situated in regard to a plentiful supply of water sufficiently elevated above it to allow the use of the new gutta percha tubing. It is brought into various parts of the grounds by pipes, and at proper intervals there are stop-cocks; one end of the gutta percha tubing is fixed to one of these cocks, the water turned on, and then conveyed through the tubes to any crops that may require it. There is at the end a rose like those attached to the common garden-pot, and the water rushes through this rose like a rich shower of rain, refreshing the crops and bringing them forwards surprisingly. I saw a row of Celery watered by this machinery: the water was turned on, the tube carried to the end of the row, laid down, and there left till the ground the whole length of the row was thoroughly soaked, and this accomplished without any labour or trampling on the land. Certainly, every garden, where possible, ought to be furnished with this tubing. A great benefit of its application was pointed out to me. The Rose-trees and Fruit-trees on the walls were kept clear of insects by being strongly syringed with this apparatus. The long-continued forcible stream of water effectually dislodged the red spider and the aphides from these trees, and the consequence was they were healthy and free from any disease.

About the kitchen-garden I have a note on Raspberry culture. They were planted in rows at regular distances, not in clumps as they usually are, and were tied to iron hurdles firmly set in the ground. By this method the canes were equally distributed, more air allowed to each plant, and the effects were, better ripened wood and finer fruit.

There is here some houses put up for Grapes, but as yet the Vines are young. The houses are neat and well built, but there appears to have been some mistake about them. The Vine-border is full two feet below the place where the Vines enter the houses, hence there are two feet of each Vine-stem exposed to the variations of temperature in the first month in the year. All Grape growers well know that this is a bad state for the Vines, especially for early crops.

This very interesting garden gave me great pleasure, and I was much gratified to find both master and gardener were readers of THE COTTAGE GARDENER, and declared that they were guided, in a great measure, by the directions given in it. Mr. Stubbs told me they had, amongst them, four numbers every week. I am not a selfish man, yet I cannot help wishing every place in the kingdom would do so likewise. I think they would find a benefit thereby.

T. APPLEBY.

EARLY-FLOWERING BORDER PLANTS.

THE mind that is rightly toned is always delighted with these lovely harbingers of spring; these fore-

runners of the perhaps more elaborate summer flowers coming to gladden the eyes and cheer the heart, after the barren, gloomy days of winter. I had occasion to visit a garden in this neighbourhood, at the Grove, belonging to Mrs. Priestley, a lady passionately devoted to the love of flowers, and more especially those low, humble, early spring flowers, too seldom cared sufficiently for in those bedding-out days. But here there is a long border devoted to their culture; and so well were they growing and flowering, that I made up my mind, the first opportunity I had, to write about them and press their beauty and culture upon the readers of THE COTTAGE GARDENER. There are these facts in their favour—they are, if well managed, perfectly hardy and easy to grow, and not expensive. Many a cottage garden, as well as others of higher pretensions, would be rendered more attractive and engaging to the owner, if a border or two were devoted to their culture. My plan, or method, will be to give an alphabetical list of their names, a brief description of their flowers, and the height they grow, with some short remarks on the proper management for them. I shall avoid such flowers as are described as peculiar to the florist—such, for instance, as the Auricula, Polyanthus, and such-like early bloomers—because I have already written about them in the foregoing pages of this work; and such persons as may wish for that information must look back in former numbers for it.

Previously to commencing this list, it may be advisable to give a few ideas in regard to the soil and situation. As many of these spring flowers are natives of high regions, where low shrubs grow, the soil is generally of a heathy character, or dry gravel; hence, the border should partake of such or similar soils. The one at the Grove, above alluded to, is a light, stony loam, and it is largely mixed with good heath-mould. The flowers thrive well there, and, therefore, such a soil is the best for them, taking them in general. Particular cases may occur where a different and richer soil will be suitable; such cases I shall point out in the catalogue. The best situation for them will be the south side of a low wall, or an evergreen hedge well clothed at the bottom. If it is wet and low it must be well drained, and elevated a few inches above the walk; but in high, dry places, these precautions will be needless.

Adonis vernalis (The Spring-Adonis); named after Adonis, the favourite of Venus; flowers yellow; height one foot; season of blooming, March and April; a native of Europe. The leaves of this plant are in clusters on the top of the stem, and the large flowers appear in the midst of them very beautiful and showy; increased by dividing the crown, or roots, as soon as the stems die down; plentiful in some gardens.

A. apennina (Alpine A.); a hardy perennial, similar to the preceding in height, and colour, and period of bloom; but different in foliage, and the flowers are somewhat less rare, but may be increased by division.

A. Volgaensis (Volga A.); so called from its native habitat; rather a new plant, and, I believe, lost to British gardens; colour deep yellow; height one foot; blooming in April and May.

Ajuga; this genus is so named from the singular fact that the calyx, or flower-cup, is only one-leaved. *A.*, in botany, means without; and *zugou*, a yoke or pair. The English name is Bugle. A very pretty assemblage of plants with blue flowers.

A. alpina (Alpine); a native of British mountains, but well worthy of a place in gardens; flowers in May; height half-a-foot; colour rich blue.

A. Genevensis (Geneva); a native of the hill above that city; May; colour, the deepest blue; height six inches.

A. pyramidalis (Pyramidal); the most beautiful of the whole genus; May; deep blue; height nine inches.

Alyssum (Madwort); a privative *lyssa*, canine madness. Ancient doctors said this plant would cure that fearful disease.

This is a large genus of early flowering plants with yellow flowers. The best are:—

A. certifolium (Onion-leaved); a very pretty, low plant, suitable for rock-work, or for the front of the border; a native of the Alps.

A. Marshallianum (Marshall's); from Caucasus, growing only four inches high; a little gem, but very rare; increased by cuttings under a glass in sand.

A. montanum (Mountain); a native of Germany. A very neat, pretty plant, growing only three inches high; increased by division; flowers in June.

A. Olympicum (Mount Olympus); another small gem of a plant; very little known, but well worthy of cultivation, though strictly a spring flower.

A. saxatile (Rock); this plant, though a native of Candia, is well-known to English gardens, and is generally known as the Yellow Alyssum. There is a variety with variegated leaves, which adds to its beauty; propagated by cuttings under a bell-glass in a shady border; will grow in any soil.

Androsace. White and pink are the prevailing colours in this genus; the plants are rather difficult to keep, but a few should always be grown in pots, and kept in a cold frame through winter.

A. Chamejasia (Bastard Jasmine); an Austrian plant of considerable beauty; height three inches; colour clear pink; a very pretty plant; increased by division.

A. lactiflora (Milk-flowered); from the cold regions of Siberia, but is little more than a biennial; it should be increased by cuttings every other year, or it will soon be lost; height six inches; colour pure white.

A. lactea (Milk-white); from Austria, and is more perennial than the preceding; height three inches; increased by division.

A. villosa (Shaggy); the prettiest of all small Alpine plants; and is pretty hardy. I have seen tufts of it four inches across. Everybody that has this plant values it highly; colour pink, with a spot of white on each tiny petal; height four inches; increased by division; requires pure heath-mould.

Anemone, from *Anemos* the wind, loves exposure to wind; hence, one species is called "The wind-flower."

A. acutipetala (Acute-petaled); a plant found in the Swiss mountains, growing six inches high; with blue flowers blooming in May; are increased by division.

A. Appennina (Appennine); this pretty blue flower is found but rarely in Britain; on the European Alps it is plentiful; producing its flowers early in May, and growing six inches high; increased easily by division.

A. Halleri (Haller's); a native of Switzerland, growing six inches high; and flowers in April; colour rich purple; a very pretty species; increased by division.

A. nemorosa flore pleno (our common wood Anemone); with double flowers; very handsome.

A. palmata (Palmated); a plant from that little-known country, in regard to its Flora, Portugal, with yellow flowers, appearing in May, and growing six inches high; increased by division.

A. pratensis (Meadow); a native of Germany, with dark purple flowers, growing six inches high in May. This is very showy; increased by division.

A. pulsatilla (The Wind-flower); a native of England, but only in chalky pastures; it will, however, grow in any light garden soil; growing a foot high, with various coloured flowers in April; increases readily by division and seed.

A. quinquefolia (Five-leaved); a North American species, with white flowers; grows six inches high; produced in April and May.

A. trifolia (Three-leaved); this is found wild in France;

has white flowers, growing nine inches high; increased by division.

A. vernalis (Spring); from the Swiss mountains, producing white flowers, six inches high. It is a fine species, and increases readily, both by seed and division. There is a yellow flowering variety. T. APPLEBY.

(To be continued.)

THE SEASON.

NOTWITHSTANDING the utmost care of the cultivator, be his calling that of a farmer or gardener, it will be admitted by all, that "the season" exercises a more powerful influence on the crops than any management of his, unless in those cases where the crop in question is the produce of some structure covered in with glass, or in some way or other subjected to artificial treatment of a kind which renders atmospheric influence a less important agent than when the crop is entirely out-of-doors. However, as the bulk of the produce which forms, not only the most necessary portion of our wants, but also many which contribute to our gratification, are grown out-of-doors, the vicissitudes of the season tell on such productions much more than the management of the cultivator. A farmer may plough, manure, and sow his fields; but an ungenial season denies him much of the reward due to his industry; while, on the contrary, a fruitful season enhances the crop that received but little assistance from the hands of the cultivator; so that, however much we may pride ourselves as being the managers of a "good article," we can claim but little credit as being the "author" of it, for the causes above operate more than we can do in the matter, except, as has been said, in those cases where artificial shelter, heat, or treatment, renders them more under our immediate controul.

Fortunate is it for us, in a national point of view, that Providence has enabled plants to accommodate themselves, in a great measure, to things much altered from those of usual occurrence. For instance, though corn undoubtedly ripens best in bright, sunny weather, yet it will do so under circumstances the reverse to that. A cold, wet summer, which certainly delays that important course of things, does not prevent it entirely; while a hot, dry summer, which diminishes the amount of grass and other herbage, gives increased nutriment to what really does exist. So much so, and so well is it appreciated by flock-masters in dry, hilly countries, that they, on the whole, prefer a dry season to a damp one for the wellbeing of their sheep; while corn is often of better quality, and not always deficient in quantity, when the straw is not over-abundant.

In gardening, however, vegetables, and such crops, on dry, parched upland, suffer from the continuance of drought, but fruit-trees (if established) rarely do; while flowering plants are more than ever profuse of their glories when assisted by unclouded sunshine. True, in the latter case, they may not remain so long in bloom, but the greater abundance with which blooming buds are furnished and brought out recompenses for it. Adverse seasons also exercise man's ingenuity, and now I will relate how this, and the season now passing, have affected the condition and prospects of the various crops which form the staple productions of the district around Staplehurst, with such remarks as may be interesting to those living in districts of a different character.

I believe I am speaking within bounds when I say, that quite one-tenth of the whole superficial area of the district around here, for some miles, is under spade cultivation, and, in some parishes, I know it is as much as one-fourth. It is needless to say that a great amount of labour is incurred in the tilling of the soil alone, but the crops, too, are of a kind which require labour of

another kind as well. Whole fields of Gooseberry, Currant, Filbert, and other fruit-trees, require pruning as well as digging amongst, to say nothing of the gathering of the produce which is also, on favourable seasons, a work of some time. Now, having in other places detailed much of the culture which each important article receives here, I will, in the present case, confine my observations to the general appearance of the whole at the time I write, the 20th of July, with such rough notes on each as may appear required.

In the first place, I may observe, that the season, which, by being dry and fine in March and April, promised to be early, has been followed by cold, dull, and showery weather the whole of May, June, and up to the middle of July, with only now and then intervals of fine bright weather; consequently, things are late, and that all-important produce, corn, is much behind the average of years. *Barley* (July 18th) only just colouring a little; while in 1850 some was cut here on the 10th of the same month. The *Corn* crops, however, look well on the whole, though not very heavy; and *Beans* and *Peas* may be regarded an average crop—the superabundance of haulm preventing my calling these a full or heavy crop; neither have they all escaped that little pest, the slug, which, by destroying the seed-plants in such numbers, has diminished the crop very much; this is especially the case with *Peas*, and the showery weather of the last two months has, of course, done all the mischief it can in producing weeds. Nevertheless, with all these drawbacks, the prospect of the corn-growers around here are, on the whole, not unfavourable; but I must add that corn is not an important crop; in fact, it is often only made subservient to other objects; many farmers consuming more corn than they grow in their horse, cattle, or sheep feeding; still there is an interest connected with it which deserves notice, and calls for attention from all parties.

The *Hay* crop of the past season has been of a varied character, and not only that on dry, sound ground can be called good, while that of the low, stiff lands of the weald of Kent has been much under an average crop; but the custom of the neighbourhood is to allow it to stand much longer than is often done in other counties, that the more genial, growing weather we had at the end of June improved it very much; still the crop fell short of that of last year, but much of it is in hand yet, the weather for hay-making purposes having been very indifferent for a long time; so that taking all things into consideration, the hay-crop may be regarded as a medium one only, much of it has been injured in the getting up. Green crops, as *Clover*, *Saintfoin*, *Lucern*, *Tares*, &c., are but sparingly grown; and much of those that are so, are cut and used in a green state; the same remark holds good towards them of being irregular. *Clover*, certainly, was as good as usual, the fine weather in March and April being, perhaps, of more consequence to this plant than all the rest of the year.

I now come to what is often regarded as the more important crops around here—the *Fruit* crop; and the *Hops* I will leave till another opportunity, and commence with *Apples*, the most extensively used of any English fruit. All accounts agree in representing them as anything but abundant; besides which, the trees are not in health, and what fruit there is seems “unkindly.” It will be remembered, that the blooming season with *Apples* was not so good as for the earlier fruits, yet no serious frosts of any amount occurred; but the setting in of dull, cold weather, chilled, if not paralysed, the rising juices of the tree, so as in many instances to make some *Apple* Orchards, on cold, clayey soil, have quite an autumn appearance at the end of May; the leaves being mostly brown and withered, with scarce one free from disease. Orchards that escaped are far from plentiful; so that the *Apple* crop may, on the

whole, be regarded as under an average one in quantity, and, to all appearances, much below that in quality, unless the season hereafter favour their growth more than is expected. I may observe, in reference to them, that but few of the early kinds are grown here, except *Hawthorndean*s and some one or two kinds, in small quantities, for early table purposes, as *June-eating*, *Quarrenden*, and some others; the bulk of the crop being of the better keeping qualities, and, as may be expected, certain places have their own peculiar sorts, which thrive and do better than others do; but, in a general way, it may be affirmed that the old favourites are wearing fast out, and even among those of more modern introduction there are unmistakeable tokens of decay. *Hawthorndean*s, for instance, refuse to grow in many places, save as spotted, knarled, unkindly fruit. But some of the more enterprising fruit-growers are introducing newer kinds, and it is to be hoped with success. But one bar in the way of improvement that way, is the tenacity with which the public at large cling to old favourites; the demand for *Ribston Pippins* being, perhaps, increased when it is no longer possible to grow them profitably; and an *Apple* having a new name, however good it may be, is always received with suspicion by the buying public. These things operating on the grower, necessarily check his energy in the way of introducing new varieties, while he finds it almost impossible to throw anything like permanent vigour into the old. Nevertheless, there are some enterprising characters who lead the way in both respects, and are justly looked upon as guides in the matter.

Pears may be regarded as a fair average crop; in places, in fact, good. *Plums* are also plentiful, and *Cherries* have been so. Small fruits various; but I must leave the details of them for another week, together with remarks on other crops, but may mention that up to the present the *Potatoes* are either wholly healthy or but very slightly attacked with disease.—J. ROBSON.

“REPENT, OR PERISH.”

By the Authoress of “*My Flowers*.”

THE acceptance which sketches of real life have found with the indulgent readers of THE COTTAGE GARDENER, induces me to adopt the suggestion of the Editor, and to give the outline, with occasional quotations from the narrative itself, of the history of one who in a humble station lived an exalted life, and sets a bright and precious example to all classes to choose the better part which cannot be taken from them.

An Israelite Indeed, is the name of the small but invaluable little volume sent forth by a writer whose pure and Apostolic faith no reader can suspect or gainsay who peruses it; and as many of my humbler friends may not be likely to obtain a sight of it, I am sure I shall gratify them, and extend the knowledge of “the truth as it is in Jesus,” by giving them extracts, and a general view of this remarkable instance of God’s sovereign grace and effectual calling.

John Henry was a native of the county Tyrone in our dear sister country, Ireland, where an amazing work of God has for years past been carrying on. He was lowly by birth, yet very respectable. His father farmed a small portion of Lord Castlestewart’s estate, and having a large family, was obliged to labour diligently to maintain them, and brought up his sons to labour too, as soon as childhood would permit. A very scanty amount of education could be obtained where they resided, and reading, writing, and arithmetic formed the simple, but (in my opinion) sufficient branches of knowledge for one whose hands were to gain his daily bread; and the rudiments alone of these were all he could acquire. But he was learning the rudiments, and more than the rudiments of a knowledge for which St. Paul counted all other things but “loss” and “dung;” simple and un instructed as he might be, the spirit of God was striving with him, and convincing him “of sin,” the first great and

momentous step in spiritual life. He carried about with him for many years a condemning conscience and "an alarm of war" in his heart, that disturbed his rest, and which he vainly endeavoured to quench and get away from. He knew he had "to repent, or perish!" Oh! what a knowledge is this! Readers, mark, for your own warning and instruction, this simple, but stupendous truth, for it belougs to *all men*—mark the cry that rang through the soul of a respectable, well-conducted, hardworking young man. "*I knew I had to repent, or perish!*" It seems to me that this one fact, this one short sentence, embraces all knowledge; takes in at once the whole scope of human life; and embodies eternity! It sets before us at one glance the sum and substance of every thing; and places in their right light every thing within, and without, and around us. Oh! that every living soul might be brought to know this solemn truth.

The perplexities arising from this first conviction are so simply and naturally told by poor John Henry himself, that I will here give an extract from one of his letters in after life, to the lady of the Rev. Richard Johnston: "I was born in April 16th 1822. I lived in sin for many a year, breaking the Sabbath, telling lies, disobeying my parents, still growing worse, but still I knew I had to repent, or perish; but I thought it was in my power to turn at any moment I thought convenient, so I put it away to New Year's-day. When that time came, I was worse than ever. I then thought on Easter Sunday, or some other set time; but when that time came, I thought I had not a good or convenient opportunity, or was not prepared enough; so I waited for a convenient season, still growing careless. It was not till about the 23rd August, 1845, I think that day was on Saturday; upon this day I had no great concern for my soul; however, I wanted to know if there was any in the same case as myself; so I went to Cookstown on the 23rd, and went into a bookseller's shop. I enquired if he had any of God's dealings with sinners? He said, he thought not; and looking for some, he showed me one entitled "Russel's seven Sermons." I bought it, and read some in it that night. I thought it delightful. The next day was Sunday, I read it carefully. I found I was a sinner; I began to pray for pardoning mercy; and on Monday, Tuesday, Wednesday, Thursday, and part of Friday. During this time I was crying for mercy, still seeking deeper, and thinking that my sins were too great to be pardoned; and having none to comfort me or to point me to the Lamb of God that taketh away the sins of the world, despair began to seize upon me; convictions fastened deep upon me; I had no rest day or night; I thought I would die in this awful state of mind, and be buried where repentance and pardon are not to be found. This consideration made me seek still deeper. It was of God's tender mercy here that I did not put an end to my life; but I did not know how to depart in such a state, knowing it would alarm my parents and others. I thought of enlisting myself as a soldier; and then, thinking this would hurry my death, and I would then have no more opportunity of turning, I thought on a plan; this was, to go to the Rev. Mr. —, to see if he thought there was any mercy for me; and if he thought there was none, I would then leave my country; but I tried to think if I could steal over unnoticed; so I thought, if I had any of my clothes out that I would need, as I was working alone, I could do so. On Thursday I stole my clothing out to an out-house, so as to go on the next day, Friday. However, on Friday morning I was careless about going, but then all that was in our house went away about some work, and I was left alone. I then fetched in my clothes, and threw them on a table; I stood still, thinking of the good opportunity, but still afraid to go. I stood for some time thinking whether it were better to go or not; my thoughts all left me, and then I found a voice speaking to my members, and speaking strongly inwardly, saying, 'Go to thy minister, and ask him, and he shall tell thee the way!'"

These were the workings of an awakened mind; these were the strivings of the Spirit against the rebellious heart of the natural man. Many have felt the same; many are feeling the same now; and to each class, the continuation of this deeply interesting narrative will be precious acceptable. Happy, thrice happy, doubly blessed, are they who have such a minister as the Rev. Richard Johnston to go to for

instruction and comfort in their dark and trying hours of doubt and ignorance!

Readers! if you have never felt that you must "repent, or perish," look to yourselves speedily. Sound the depths of your hearts without loss of time. You are among shoals and breakers, and rushing before the storm upon a shore that will wreck your souls for ever!

PROFITABLE POULTRY.*

THIS practical little work would command our favourable notice, even if the author were unknown to us, because it bears upon every page passages which testify that the writer is anxious to disseminate nothing but useful information. He writes only about such kinds of Poultry as may be kept with profit to the proprietor; and of those kinds he says no more than their proprietor may know advantageously.

Mr. Tegetmeier, having good anatomical knowledge, has thence brought fresh light upon the disputed purity and merits of the so-called Brahma Pootra, and this is his testimony:—

"BRAHMA POOTRAS.—In the first edition of this book I inserted the description, from actual observation, of a pair of these birds that had been sent to this country from the United States, by Dr. Bennett, who claimed to be the original holder of the variety, and I left the question as to their being a distinct breed an open one; since that article was published a more extended experience and the opportunity of making anatomical examinations of very many specimens, have led me to form a decided opinion respecting their origin and true character.

"All the Brahmas that have come under my notice, and I have made a point of seeing as many as possible, have been of either one or the other of the three following varieties, namely:—

1. Grey Cochins.
2. Cross-bred Cochin and Dorking.
3. Cross-bred Cochin and Malay, or Chittagong.

"That the best of these birds are nothing more than grey Cochins, is proved by the fact that they have been frequently imported from Shanghae with the buff birds, ever since the latter have been introduced, and I know personally that the descendants of grey Cochins, which were thus introduced into this country before the name of Brahma was ever heard of, have taken prizes as Brahma Pootras; the circumstance that those presented to the Royal Aviary were sent over from America as grey Shanghaes would alone be sufficient to settle the question. As to the name which has been given to these birds, there is not one tittle of evidence to prove that they ever came from the region of the Brahma Pootra river, which, in the lower part of its course, is within one hundred and fifty miles of Calcutta, running through territory which has long been in the possession of the British; further from its mouth it flows through the country of Assam, to which some years since the East India Company sent two most observant naturalists to report on the natural history of the region, and had any such remarkable fowls existed it is scarcely credible that they could have escaped observation. A further and even more conclusive proof, if one were needed, may be found in their anatomical peculiarities; it is a fact, universally recognized by comparative anatomists, that the distinguishing characters of nearly allied animals are most strongly marked in the bones of the skull than in any other part of the body; if the skull of a Cochin be examined there will be found in the frontal bone, exactly under the base of the comb, a deep narrow groove running from before backwards, this remarkable structure is peculiar to these birds, being found in no other variety whatever, and is as strongly marked in the first named variety of so-called Brahmas as in the buff Cochins.

"When it was found that grey birds were realising large sums, every mode of raising them was put in practice; single grey Cochins were mated with buff, and the progeny, when of the desired colour, were sold as Brahmas; in other cases buff Cochins were paired with light Dorking hens, and

* "Profitable Poultry; their Management in Health and Disease," By W. B. Tegetmeier. New Edition, greatly enlarged. Darton and Co., London.

many of the selected chicken found their way to the sale room. Under my own eye last season many of these birds were so manufactured; during the autumn, after the breeding of stock purposes was over, a buff Cochin cock was allowed to run with some Dorking hens, the eggs of the lightest hen were hatched, and the Chickens were all greys, some were clear-legged, some white-legged, others five-toed; but several had well-feathered yellow legs with four toes, and these were undistinguishable from a large number of the birds sold as Brahmans. On examination, I found the frontal groove strongly marked, although, as might be expected, in a rather less degree than in a pure bred Cochin.

"The birds originating in the Malay or Chittagong cross have been chiefly imported from America, I cannot therefore give the particulars of their manufacture, but the long snaky neck, the upright gait, and the peculiar carriage of the head, render other evidence unnecessary. These birds also have the characteristic groove.

"After what has been stated, it will scarcely be expected that any lengthened description of these birds should be given. The best are simply Cochins, and as silver-pencilled Shanghaes or Brahma Pootras, they were originally avowedly exhibited at the London shows. The Mongrels have every variety of form and almost of colour; from the most celebrated yards are shewn clear legs and feathered legs; yellow legs, and white legs; pea combs and single combs; white birds, grey birds, and even black birds, all pure Brahmans!! One person writes, that they roam over acres; another authority states, that they are more domesticated than Cochins. On the one hand, you hear of their laying eggs as large as those of turkeys; and on the other, of their being of the average Cochin size. One day, they are said to crow like their buff relations; and the next, we hear that their voices are much more mellifluous.

"My opinion of their merits and demerits may be stated in a few words; of the half breeds I will only say, that they are worthless for stock purposes, as they do not breed true to any particular character; of the true grey Cochin I may state, as far as my experience goes, that they are generally leggy compared with the best buffs, and that in many of them there is a remarkable tendency (especially in the hens) to accumulate internal abdominal fat, or, in other words, to 'go down behind' a state of things generally terminating in irregularity of the egg organs, which running on into inflammation is frequently fatal; at the same time, however, I have no doubt but that by careful breeding for a season or two they may be produced in every respect equal to the buff birds. Dr. W. C. Gwynne, who has reared them longer than any other amateur in this country, states his conviction that the genuine strain are a very good variety of grey Cochin, without the slightest cross: this verdict respecting them, coming as it does from one of the greatest admirers and most successful rearers of Brahmans, will, I have not the slightest doubt, be eventually universally acquiesced in; with regard to their hardihood as chicken, I may state that the most successful rearer of Cochins in the year 1853, to whose plans I have already alluded, and who spared no expence in getting first rate stock, informs me that he has reared Brahmans and Cochins in the same brood, and that he has not found the former by any means the hardier variety."

It is obvious that Mr. Tegetmeier knows more of the practices of the manufacturers of Brahma Pootras than he chooses to publish.

In support of what he states relative to the Brahma Pootras not producing chickens similar to their parents, we are informed that there was much evidence afforded about three weeks since. This was in a County-court case, at Great Yarmouth; *Preston v. Gabernatzi*. The suit was for £6, claimed for Brahma Pootra eggs; and the evidence clearly established that those eggs did not produce grey chickens.

SOAP-SUDS FOR GARDENING PURPOSES.

In some of your recent numbers, I see complaints of the havoc the maggot is making among the Onions in Kent, and I also see enquiries for a remedy. I once used soap and water, freely administered to a row of Celery, which

was in a fair way of being devoured by maggot, with complete success; and have no doubt but it would be equally successful with Onions. At every house where there is a garden the soap-suds should be saved for this, and similar purposes, such as to destroy the slugs, &c., about the roots of sea-kale, &c. A solution of soft soap, applied with a painter's brush to Apple trees, is a cheap and speedy way of getting quit of the American bug. I have also completely cleared in the same way my Morella Cherry trees of the filthy insect with which they are invariably infested. It is far more effectual than syringing, it being so difficult to hit the whole of the under side of the leaf with the syringe or garden engine, whereas, the paint brush reaches every part, and a woman or boy will soon do a number of trees.—A. C. B.

DISEASES OF POULTRY.

VERTIGO. — TREATMENT AND CURE.

THE following successful case has been kindly furnished me by Dr. Wm. Cust Gwynne. It appears so instructive and interesting, that I have much pleasure in laying it before my readers. The bird had previously an attack of vertigo, which yielded to two smart doses of jalap and a stream of cold water on the head.

"I will now tell you the sequel of the case of vertigo in my Brahma cock, of whose treatment and recovery I gave you the particulars in a former letter. He had not been cured above eight or ten days, when he was again seized with the same alarming symptoms of threatened apoplexy as before only in a much more aggravated form. It was with the greatest difficulty—indeed, only at the expense, now and then, of a sprawling tumble in the effort to do so—that he could keep his feet at all; for although, while in the act of falling in one direction, he could just manage to catch himself up, the want of control in the effort was such that the force of the rebound would nearly prostrate him in the opposite, like nothing so much, in fact, as the abortive attempts of a man 'very drunk indeed,' to maintain a respectable equilibrium.

"There was evidently a high degree of excitement about his brain, as shown by a fiery brightness about the eye, increased restlessness and constant crowing; the latter, by the way, being a very ludicrous and undignified performance; for by the time he had got half through the stave, the effort made to bring it out with stentorian effect was too much for him, and he always found himself in the act of capsizing backwards, and the exertion required to recover himself from this humiliating position quite marred the harmony of the strain. However, this annoyance was got over in a manner which shewed, that though his legs were of little use to him, his reasoning faculties still served him in good stead; for more than once he had recourse to a wall, and supporting himself against it, he had his crow out comfortably, sounding a satisfactory defiance to all Shanghae cocks within hearing, whether black, white, buff, or grey.

"But to the treatment: I at once took an ounce of blood from him by opening a vein under the wing; gave him a good dose of jalap and castor oil, and every three hours put his head under a stream of cold water. The next day I repeated the bleeding, and took away some blood by making some cuts in the comb with a lancet, and repeated the medicines, &c. The third day he was decidedly better; and in two more days was quite recovered. A few days after I turned him with the hens, when he relapsed, and I was obliged to submit him again to treatment. Fearing to reduce him too much by again bleeding, I had recourse to a seton at the back of the head, and employed the medicines as before; but he remained in *statu quo*, the complaint having evidently become chronic. I then tried mercury, with a most satisfactory result; a four-grain blue pill twice a day for two days, and once a day for the three following days, completely removed the vertigo, and he now walks as well and steadily as ever."

I received this account in March, and on enquiring after the bird last week was informed that he was as well as ever, but that, as a measure of precaution, was to be kept by himself until after next moulting time.

In one of his letters respecting this case, Dr. Gwynne

describes the treatment as that recommended by me in THE COTTAGE GARDENER (see last vol. page 390), and states, "I have every reason, therefore, to thank you for your valuable contributions to THE COTTAGE GARDENER, they are almost the only attempts I have ever seen to treat the Diseases of Fowls on the rational principles of systematic medicine."

I should not have quoted the last sentence, but that the statement has recently been made, that nothing is known respecting the diseases of fowls. To such an assertion the above ease, scientifically and successfully treated, is alone a sufficient answer.—W. B. TEGETMEIER, *Willesden*.

HERACLEUM GIGANTEUM.

I SAW, in your last number of THE COTTAGE GARDENER, an account of an *Heracleum giganteum*, from Bishop's Waltham, being eleven feet six inches high; I beg leave to inform you, that I exhibited one at the Malvern Flower Show which was twelve feet high to the centre bloom, and the outside blooms that were round the centre one, were ten inches higher than the centre one. It was twenty inches round at its base, and the leaves measured from their base at the stem, seven feet long, and three feet four inches across. It sowed itself last Autumn in a spot of very poor, uncultivated ground we used for lumber, under a large Oak. All the assistance it received from me was two pails of water a week, one pail of weak manure-water, the other simple water. I exhibited it in a large mashing tub, and it took six men to carry it to the tub, it having an immense ball of iron clay attached to its roots. I also beg to say, that it now looks as fresh as when taken up, which was on the 29th of June. It was not above two feet high in February.—J. W., *Miss Dorville's, Highcroft, Great Malvern*.

ROYAL AGRICULTURAL SOCIETY'S POULTRY SHOW AT LINCOLN.

LAST week we published the prize list of this Exhibition, merely adding that the show was superior to those of previous years, especially in *Dorkings*. We might rest contented with that brief comment, if we had not promised a fuller notice, for we find all judges consenting, that though better than the Society's preceding shows, yet that a more correct mode of expression would have been, that it was not so bad as those which the Society had previously effected.

Any great improvement in this department of the Society's Exhibition will not be secured until farmers estimate poultry-keeping more highly. At present, their "talk is of bullocks," and improved implements, and they offer large prizes for them; whilst Poultry, Pigeons, and "other such small deer," are not game lofty enough to be so favoured.

Whether they are correct in this course, we shall not now pause to enquire; nor shall we publish any longer report than the following, which will enable our readers to form a satisfactory opinion of the comparative merits of the prize birds:—

"The *Dorkings*, as a class, were excellent. *Spanish* pretty good. *Game* very good. *Hamburgs* very bad. *Shanghaes* infamous. *Geese* and *Turkeys* superior. *Ducks* only moderate."

RATE OF GROWTH IN SPANISH AND SHANGHAE FOWLS.

As you have been asking for facts relative to the weight of poultry, I send you a few; you can make what use you please of them.

WEIGHT.

	Hatched.	June 30.	July 17.	July 21.
		lbs. ozs.	lbs. ozs.	lbs. ozs.
Spanish Cock	March 31	3 0	3 8	3 9
" Pullet	" "	2 2	2 8	2 8
Shanghae Cock	" 20	2 12	3 12	3 12
" "	" "	2 6	3 4	3 6

In the two latter cases, one increased 1lb. in 17 days; and the other 1lb. in 21 days; nothing extra had been given in the shape of food, and the weighing took place on each day about the same time.—H. B. S., *Monmouthshire*.

COVENT GARDEN.—JULY 25TH.

THE supply continues abundant in Cut Flowers, in bunches of Catananche, Carnation, Mignonette, Pansies, Roses, Stocks, Sweet Peas, Pinks, Cloves, Centaureas, Heliotropes, Lilies, Gladiolus, Verbenas, Lupines, Larkspurs, &c., at 1d to 1s 6d per bunch; Bouquettes, 1s.

FRUIT.

Pine Apples, 4s to 6s per lb.	Plums, 3s to 4s per sieve
Grapes, Hambro', 2s 6d to 8s	Dessert Plums of Green Gage and Orleans, 1s per punnet
Forced Peaches, 7s to 18s p. dz	Gooseberries, 2s pr half sieve
Nectarines, 6s to 10s per doz.	Apples, 7s 6d pr bsh., kitchen
Apricots, Moor-park, 2s 6d	Currants, Red and White, 3s 6d per half sieve
Strawberries, 6d to 1s 3d p. put	Pears, Jargonelle, 2s 6d to 4s per half sieve
Gooseberries, 5s 6d per bush.	Oranges, Lemons, Nuts, Almonds, as last week.
Black Currants, 4s 6d p. hf. s.	
Black Cherries, 3s 3d p. dz. lbs	
White Cherries, 3s 6d p. dz. lbs	
Raspberries, 9d per gallon	

VEGETABLES.

Ash-leaved Kidney Potatoes, 12s per ewt.	Onions, 3s to 5s p. doz. bnch.
Regents, 5s to 6s 6d per ewt.	Turnips, 2s to 3s p. doz. bnch.
Leeks, 3d per bunch	Celery, 1s 9d per bunch
Young Onions, 4d per bunch	Cauliflower, 2s per dozen
Cabbage, 9d to 1s per dozen	Horse Radish, 3s 6d per bnch.
Lettuces, 1s 3d per score	Radishes, 2d per bunch
Carrots, 4d per bunch	Mushrooms, 2s per pottle
Beet, 6d per bunch	Cucumbers, 2d to 1s each
French Beans, 3s 6d p. hf. s.	Tomatoes, 2s per punnet
	Walnuts, pickling, 10s p. bsh.

HERBS.

Shallots, Garlic, Fennel, Thyme, Lemon Thyme, Parsley, Marjoram, Mint, Tarragon Mint, 2d to 6d per bunch; Chervil, 2d per punnet.

GARDENS AND NURSERIES.

PERENNIAL PLANTS IN FLOWER.

Astragalus maximus	Cannabis sativa
Aconitum napellus	Genia turbinata
" excelsum	Centaurea cyanus
" lycoctonum	Centranthus angustifolius
" album	Catananche corulea
Arenaria linifolia	Dielytra formosa
Achillea lingulata	" spectabile
" sylvatica	Digitalis lanata
" filipendulina	" purpurea
Alstroemeria psicitacina	Dracocephalum peregrinum
" ovata	Dipsacus sylvestris
" aurea	" fullonum
Antirrhinum Youngii	Dianthus barbatus
Ajuga pyramidalis	" asper
Bupleurum multinerve	" Armeria
" fruticosum	" hispanicus
Coronilla varia	" campestre
" iberica	Eschscholtzia californica
Clematis erecta	Erigeron alpinus
" pumila	" pumilus
" hybrida	Epilobium angustifolium
" diversifolia	Funkia Sieboldiana
" integrifolia	Gentiana cruciata
Cerastium tomentosum	" gelida
" Ledebouri	Glaucium luteum
Campanula nobilis	" coniculatum
" carpatica	Geranium strictum
" glomerata	" pratense
" colorata	" anemonefolium
" rapunculoides	" Vlassovianum
" Americana	" Lancastriense
" persicifolia	" sanguineum
" urticifolia	" nodosum
" nana	" albitlorum

Geranium affine	Silene inflata
Godetia Lindleyana	Salvia canadensis
" bifrons	" sclarea
" lepida	" gigantea
Galega biloba	" sylvestris
" officinalis	Seabiosa graminifolia
" orientalis	" agrestis
Gaillardia pinnatifida	" Webbiana
Genista anxantica	" Canadensis
Helichrysum angustifolium	" levigata
Hieracium tomentosum	Sphenogyne speciosa
Hymenoxis californica	Trifolium pannonicum
Lythrum salicaria	" rubens
" virgatum	" patens
Lupinus Americanus	" repens
" Douglassii	" medium
Lycnis flosjovis	Tradescantia subaspera
" coronaria	" alata
Linaria tristis	" coerulea
Linum flavum	" virginica
" Sibiricum	" alba
Nolana atriplicifolia	" glabris
Oenothera Frazerii	Tarnica alpina
Oxalis floribunda	" grandiflora
Platycodon grandiflorum	" rosea
Papaver croceum	" stricta
" pyrenaicum	Viola lutea
Platystemon californicum	" calcarata
Penstemon diffusus	" canadensis
" hirsutus	Valeriana tuberosa
Reseda alba	Verbascum spectabile
" lutea	" phlomoides
Silene saxifraga	" hybridum
" maritima	" vernale
" pendula	

QUERIES AND ANSWERS.

GARDENING.

MIGNONETTE DECAYING.

"SOMETHING is destroying our bed of *Mignonette*. The plants, from time to time, sicken, turn brown, and die; when they look ill they pull up quite easily, have no fibrous roots, and the main roots look as if a slug had been eating it underground. Can you tell me the cause, and a remedy?—C. C."

[The above is an instance of a very general complaint this season, and is a very old and fatal case. A small grub gets to the pith at the collar, or at the surface of the bed, eats out the heart of the plant, and death is instantaneous. A beautiful, wide-spreading plant of to-day, is all dead and drooping on the morrow. The cure, however, is very simple, but it is of no use this season. Fresh soot raked in with the seeds is an invariable protection against this and very many other garden grubs and evils. Fine wood-ashes, and soot, with a little coarse salt, ought to be kept in every garden shed, quite dry, of course, and every seed-bed which is sown in any part of the garden, ought to have a little of the mixture scattered over the surface, and mixed with it by the rake. Then, by adding fresh slacked lime, instead of salt, and making a thick paint of it and the soot and ashes, all the Cabbage tribes would be entirely and for ever free from clubs, gouts, kuarles, and gnawings, by merely dipping the roots and stems up to the leaves in this paint just as they are being planted. The most grubby land, and the most clubby Brocolis, with the fastest dying Mignonette, and all other fast deaths by earth-grubs and insects, might all be got rid of in one year only, by soot, wood-ashes, lime, salt, and *deep trenching*, and the last is about four times more effectual than all the rest put together. Recollect, however, anything under three feet is shallow trenching. August and September, when the weather is very dry, are the two best months for trenching *any kind of land*. One such trenching is equivalent to three winter trenchings in succession.]

MOVING LARGE FIRS.

"MAY I venture to transplant Scotch Spruce, and Silver

Firs, from ten to fifteen feet high, in an exposed situation?—L."

[Most certainly you can, and from fifteen to twenty-five feet if you choose. We ourselves planted seven Spruce Firs this last spring, at the very worst season, and they averaged thirty feet, and in our hurry to tell you the tale we have put the cart before the horse, for "troth to say," there is no such tree in the world as a Scotch Spruce, or Silver Spruce either. They call it the Norway Spruce. About the middle of next September is about the very best time for you to plant the large Spruce and Silver Firs; but, by-the-by, see that they do not sell you Balm of Gilead Firs for the Silver. If they do, they will bring upon you disappointment eventually. The two are very much alike at that age, but you may know the difference by candle light, the end buds of the Silver Fir are eased in soft varnish—the actual "Balm," in fact.]

SOWING THE BERBERIS AQUIFOLIUM.

"I SHALL be glad if you will inform me which is the best time to sow the seed of *Berberis aquifolium*. I have abundance of seed ripe, and wish to raise some young plants. I suppose they will grow if sown out in the open ground?—JNO. O'NEAL."

[There never was a better time than this very day for sowing these seeds, and there never was a seed more palatable to all song birds than this very seed; they take to it some days before it is ripe, and the sharp acid juice improves their songs so much that they come again and again, as long as it lasts. Now, if people were to be as considerate as you, and gather all this seed for two or three years, all the shrubberies, the copses, and plantations, of Great Britain might very soon and easily be carpeted with this Berbery, perfuming the air in April and May, and filling it in July, August, and September, with the improved harmony and cheerful notes of the whole sylvan chorus. The seeds of *every Evergreen Berberis* ought to be sown as soon as they are ripe, but more particularly this kind. Any situation will do for it, high or low, rich or poor; it would come up on the sand hills near Forres, and close to the sea, just as well as in Mr. Robson's celery trenches, or Mr. Errington's sound loam; on the top of Snowdon, as well as at Sydenham. It may be sown like Sweet Peas, or Mignonette, like Cabbage seeds, or like Geranium seeds, like Turnip seeds, or like Wheat or Barley. You cannot force it to come before its time by any known process, and no one can keep it back when the time comes, which is next April.]

IXIA VIRIDIFLORA.

"The enclosed blossom was sent me from Ireland, with this account:—'Some bulbs grow in the open border here (near Dungarvan, Waterford), which bear several pretty pale green blossoms with dark centre, on a stem about a foot high. There were eighteen blossoms on the stalk from which I picked this one.' The nurserymen here do not recognise it, and I shall feel obliged if you can tell me the proper name, and where it comes from.—Y. S. L., Hereford."

[Your beautiful, green, starry flower, with the large black eye, is the true *Ixia viridiflora* of the present day, and a variety of *Ixia maculata*, according to Jaquin and Andrews, both of whom figured upwards of twenty varieties of *maculata*, seventeen of which have not been seen in England since Masson's time. For nearly twenty years, Masson sent home quantities of these Cape bulbs, which no collector has since met with, and a rich harvest now remains for some one intermediate between Cape Town and the Orange River, both on the flats along the sea-coast and on the high hills beyond. There ought to be an act of Parliament for growing a bed of this *Ixia viridiflora* in every garden in the three kingdoms. It is about as hardy as *Gladiolus psittacinus*.]

IMPATIENS GLANDULIGERA CULTURE.

"What is the best way of propagating the *Impatiens glanduligera*, which has been sown many times and in many ways, and the seeds obtained from different places, and they have never come up, showing, thereby, some improper method of mixing soil or treatment of them?—W. H., Senr."

[*Impatiens glanduligera* is easily propagated in summer by cuttings under a hand-light or large bell-glass. Plants are more easily obtained by sowing seeds in lightish soil, in a hotbed in March, covering them merely with as much earth as the thickness of the seeds, watering the soil before sowing, and covering with soil a little drier. If the seeds are good, the seedlings will soon make their appearance, when they should be potted in small pots, and put under glass where they can have a little heat. By the middle of May, or beginning of June, after being gradually hardened, the plants may either be grown in pots, or planted out in the borders, and if the soil is rich they will become somewhat gigantic in size, and produce seeds freely.]

GREENHOUSE AGAINST A HIGH BANK.

"I am about to erect a small span-roof greenhouse (eighteen feet by twelve feet), and shall be greatly obliged if you could assist me with the information I require.

"The back of the house, when finished, would have the glass only one foot from the ground, and, unfortunately, the garden is too small to admit the frames which I require in any other spot but immediately behind the house, and I purpose to excavate a trench to admit them and the furnace, so as not to be above the brickwork of the greenhouse.

"Can I heat part of the frames and the greenhouse, independently, with one furnace and hot-water?—A. Z."

[There will be no difficulty as respects the sinking of the frames, if you can make sure of dryness by drainage. You have not told us what direction your house is to be. If standing north and south, either side would do for your frames, but if standing east and west, and your frames at the back, you could not expect to force anything well in these frames, unless they were far enough from the house for the rays not to be interrupted. For merely keeping and growing greenhouse plants that situation would do. You do not mention the height of your house, nor whether that is to be sunk in a trench or not; as if wholly above ground, and your glass so near the ground, you will want more heating power than if either partially sunk, or the walls a couple of feet higher. If the house stands east and west, and you wish to force Cucumbers, &c., in your frames or pits, is there any reason why they should not be sunk at the front as well as the back, and thus enjoy all the sunlight desirable, with means for shading, if necessary? We mention this, because a span-roofed house can scarcely be said to have a back and front, the glass being the same all round. We just glance at your sketch, and from that it would seem your frames are to be at the end, and not the back, and if that end stands to the north, your frames should look to the east or west. We have seen nice pits round a greenhouse like yours, the side walls of the house constituting the back walls of the pit. We can hardly estimate expense, say five to six pounds for a boiler, and a shilling for every foot of four-inch pipe. Three-inch pipe would be twopence or threepence cheaper, and with so much glass you would want two pipes on each side, and round the end of the house, or something like 120 feet in all. By having a low piece for your boiler, you can heat any part of the pit at pleasure, or by letting the water first to an elevated cistern, and taking it from thence by separate pipes to the different compartments to be heated.]

WEIGELA ROSEA AND MYRTLE PRUNING.

"I have a *Weigela rosea* just out of bloom in the window; what treatment am I to give it? and is it hardy enough to plant in a border all the winter, southern aspect?"

"When is the best time to prune the broad-leaved Myrtle which has not bloomed this season?—A NOVICE."

[Your *Weigela rosea*, probably, will have a number of young shoots growing that did not bloom. Leave these their full length, and cut out all those that bloomed, and any small twigs that would prevent the sun acting on the young shoots; nip the points of these shoots in the middle of September, and next season you will again have plenty of flowers. We found this plant perfectly hardy on an exposed east aspect last winter, and densely covered with bloom. It seems to bloom most densely on shoots rising two years old. We should prune your *Myrtle*, if healthy, no more than is necessary to allow sun and air to act on the shoots

left, and the sooner that is done, the better for the health of the plant and its free blooming next season.]

CRASSULA CULTURE.—ANTS *v.* GREEN FLY.

"Having some nice plants of *Crassulas* just done flowering, what shall I do with them to ensure a good bloom next June?"

"I have had some *Balsams* with a good deal of green fly upon them. Having no tobacco for a day or two, I was obliged to let them go; at last I got some tobacco, and went to smoke them, when I found them covered with ants, and the green fly gone. Is it usual?—ONE OF THE SMALL FRY."

[If all the shoots of your *Crassula* have bloomed, we know of no means you can take for getting them to bloom nicely next season, as the shoots must have a season's growth before they bloom. If some shoots have not bloomed, these will bloom next year; and those that have bloomed will be better cut down to within half-an-inch of their base, and from these you will have shoots in plenty to bloom the second season. Supposing that you have no great quantity of unbloomed shoots left, your wisest plan will be to let the plant get rather dry, prune it then closely back, keep it still rather dry; when the shoots push, give rather more water, then thin to the desired number; fresh shift into rich, sandy earth, with a proportion of lime-rubbish, and keep them slowly growing during the autumn, and resting in winter. Next spring they may want fresh potting, or surfacings; keep them fully in the sun, in autumn defend from rains, keep them dry in winter, and cool in spring; and, as the season advances, the flower-buds will appear at the points of the shoots.

We have met with an instance of green fly disappearing before ants, but have frequently found the ants decamp where there were no green fly, or sweet excretions from them to feed upon. We have watched the little fellows using the fat green fly much in the same way as the dairy-maid treats her favourite milk cow—tickling them until they discharge a sweetish secretion.]

CULTURE OF MIMOSA PUDICA.

"A CONSTANT READER will feel obliged if the Editor of THE COTTAGE GARDENER will favour her with a few hints respecting the culture of the *Sensitive Plant*. She has purchased two plants, and tried to raise plants from seeds, but cannot succeed. The seedlings grew in the hotbed, but when removed to the greenhouse died. She is very anxious to obtain some plants."

[The most sensitive plant generally cultivated, is the *Mimosa pudica*, generally grown as a tender annual. The culture was given some time ago in these pages. We have had it fine in a greenhouse in July and August, in warm weather, but any other time, or when exposed to a great draught of air, it withers and languishes. Were we near you, we could gladly have given you a plant, as there is much interest and amusement in showing its extreme sensitiveness. Any London seedsman could let you have a number of seeds for a few pence, and these, if sown in a hotbed, under a Cucumber-frame, would be sufficiently large to show the sensitiveness in the autumn; but they would not flourish in your greenhouse this season. It must have a tropical temperature, coming, as it does, from the hottest parts of Brazil.]

WAS THE CULTURE OF PLANTS UNDER GLASS KNOWN TO THE ANCIENTS.

"Does the following extract, published long since in *The Builder*, amount to a proof that the Greeks and Romans grew plants in glass structures, and obtained them at unnatural seasons?—CRITO."

"Although some sheet-glass has been found in the ruins of Pompeii, M. Humboldt has been of opinion that the ancients did not know what we call green or hot-houses. M. Dureau de la Malle, of the French Institute, has, however, succeeded in clearing up this point in dispute to perfect satisfaction. The name of 'gardens of Adonis' mentioned by ancient authors, ought to have pointed long ago a something uncommon, hidden under this appellation. Plato, mentioning them in his 'Phædon,' says, that 'a gain for

seed, or the branch of a tree, placed or introduced in these gardens, acquires in eight days a development which cannot be obtained in as many months in the open air.' According to an inscription discovered at Rome, Domitian possessed in his palace on the Palatine a hothouse, whose exotic plants were cultivated. Columella also, the head of Roman rural and agricultural authors, says—'Rome possesses, within the precincts of her walls, fragrant trees, of precious perfumes, such as grow in the open air of India and Arabia. These gardens are embellished with the myrtle and the crocus in flower—there you see the balm-tree of India, and the cinnamon-tree covered with leaves, as well as the tree of frankincense. Italy, this fertile land, yields willingly to the wants of her cultivators, and has learnt to contain the fruits of the whole universe.' In another passage, Columella mentions portable (movable) glass-houses. It was for Tiberius that cucumbers were to be grown *ferè toto anno* (nearly all the year), which was done in frames filled with warm dung, which were mounted on wheels for bringing them close to some wall, shone upon by the sun. M. D. de la Malle cites another passage of Martial's containing the reproach of a person to his friend, for having lodged him worse than his fruit-trees, 'which children of Silicia, for excluding them from winter and cold winds, are protected by glass in sheet from the blasts of Boreas, which do not admit but air and sun.' Seneca goes still further, saying—'Do those not live contrary to nature who require a rose in winter, and who, by the excitement of hot-water and an appropriate modification of heat, force from the equinox of winter the lily-bloom of spring?' This passage, in fine, is conclusive for proving that the Romans used *steam* as one of the heating agents for those Adonis gardens, which, considering their many warm-bath establishments, must have been an expedient obtruding itself on their attention."—*The Builder*.

[We have no doubt at all that the Romans cultivated plants, and forced them into production at unusual seasons, using for their protection sheets of Tale, but we doubt whether they employed glass. It is quite clear, from the 3rd chapter of the 11th Book of Columella, that Cucumbers, and, probably, Melons, were produced throughout the year, to satisfy the palate of the Emperor Tiberius. They were grown in baskets, and moved into and out of a house according as the time of day, or of the seasons, required; "notwithstanding," adds Columella, "they ought to be covered *specularibus*, that in cold weather also, when the days are clear, they may be safely brought forth into the sunshine." We know of no good authority entitling us to translate "*specularibus*" otherwise than "with *specularises*." Now, *specularis*, both Pliny and Seneca say, was a transparent stone, which was cleaved into films, and used to admit light, whilst it excluded the wind. Pliny says, that it was first found in Spain; and Seneca states that it was not in use before his time. We are aware that Sir Joseph Banks thought that the Romans used glass for forcing purposes; and that Martial, in his 68th Epigram, alludes to a vinery so constructed. Some time since we submitted the Epigram to a good classic scholar, and this is his reply:

"I place the Latin and English side by side, from which comparison I think that any unbiassed mind will come to the conclusion that Sir Joseph Banks, to make the Romans *force grapes*, himself *forces Latin*. I shrewdly suspect that he would translate that line 'Quid non ingenia voluit natura licere.' What licence may not ingenuity take, (to make words mean whatever best suits our own convenience). The only sense which the Latin will bear, in my humble opinion, is as follows:—*Qui* whosoever *vidit* hath seen *pomaria* the orchards *Regis Corcyraei* of the king of Corcyra, *ille* that man *præferat* would give the preference to *rus* the garden *tue domus* of your house, *Eatelle* O Eatellus (quà where, understood), *ne* lest *invidia bruma* the envious winter *urat* should nip with its frosts (lit. burn) *purpureos rucemos* the purple bunches of grape, *Et* and *gelidum frigus* the chilling cold *edat* should destroy (lit. eat or consume) *munera* the gifts *Bacchi* of Bacchus (*i.e.*, the grape); *vindemia* the crop *condita* stored up *vivit* lives (or continues fresh) *perspicua gemma* with its transparent berry, *et* and *felix* luxuriant *tegitur* is covered up (*i.e.*, protected): *nec tamen* nor yet *uva* does the grape *latet* hid (*i.e.*, so covered up as not to be hid from the light and

sun, I should think): *sic* in like manner, *bambycina*, the silken gown *linet* will thinly cover *femineum corpus* the female frame; *sic* or like as *calceus* the pebble *numerator* is multiplied in *nitida aqua* in the bright transparent water. *Quid* what *non voluit natura* hath not nature willed *licere* to concede to (or put in the power of) *ingenia* ingenuity? *Sterilis hiems* barren winter *jubetur* is commanded *ferre* to bear (or give place to) *Autumnus* autumn.

Such, then, is the plain sense of the words; but I add a few critical notes on the above, which will show yet more clearly the absurdity of twisting this passage into anything relating to the forcing of grapes.

Line 3.—*Bruma*, which you will find by referring to *Ainsworth*, means *mid winter*, and not either its beginning or close as bordering upon *spring* or *autumn*, and the grapes are then represented as *purpureos*, purple and ripe; therefore *Martial* is speaking of grapes not *early* and *before* their time, but as preserved *after* the usual season.

Line 5.—*Vindemia* means literally a harvest or ingathering of any crop or fruits. It is most usually applied in reference to them *after* they have been cut down or picked, as may be according to what is spoken of; but it certainly seems that *Martial* here uses it in respect to the grapes yet hanging on the vine. *Perspicua* means transparent, like glass, and denotes a quality *inherent* in the thing spoken of, and not separate from it; but has also a second signification *applied to things as seen through glass*; so that it might have been a kind of *greenhouse*; but there is nothing to indicate that it was *artificially heated*.

Line 7.—*Linet*, from *lino*, to smear over thinly with oil; therefore it would be applicable to anything which covered thinly, but not so as to hide it from sight; though even this meaning is somewhat *forced*.

Line 10.—*Autumnus*. This word, seems to me to give the death-blow to *Sir Joseph B's* interpretation. *Martial* does not express his admiration at the ingenuity which caused the *fruits of spring* to flourish in winter, but simply that those of *autumn* should be preserved so much later than was natural to them.

The glass (Tale?) of the *Romans* was not so clear and perfect as ours; probably, it gave a *wary* appearance to things seen through it, or it might have magnified them, or if it was gritty or knotty would multiply the object; hence the simile in *line 8*."

THE LE MAUN PEA.—CROPS AT MELROSE, N.B.

"I wrote to you some few weeks ago, mentioning a Pea—*Le Maun*. I now send you the particulars of it, together with a young pod. Whether the same will reach you in the state it leaves me, I cannot foresee; however, I send a slight sketch as well.

"*Warner's Emperor Pea*, mentioned in the early part of this year in *THE COTTAGE GARDENER*, has gained the first prize at Melrose shows, and has been much admired. It is a good and prolific Pea for Scotland.

"The *Fruit* (except *Plums*) is very bad, being completely destroyed by the caterpillar. *Gooseberries* and *Currants* have failed in places; with me they are unusually fine. *Carrots* have failed in many places, but I am exempt.

"I have *Indian Corn* and *Peppers* growing out-of-doors here, and both seem to do well.

"I followed out your advice with regard to the orchard, and have had a fine crop.

"I am about getting some sheep; what kind do you recommend? I wish to sell them off in the spring.—[Southdowns.]—W. HARDING WARNER."

[The pods of this Pea arrived in good condition, and prove to be the old *Grotto*, or *Oyster Pea*. The pods you sent are as yet too young to exhibit the distinguishing character of the variety; but as they become older you will find them covered with a roughness like sand-paper. Where did you obtain it under the name of *Le Maun*?]

KEEPING WORMS FROM ENTERING POTS.

"E. W. S. believes that the following method of preventing earthworms from finding their way into pots when plunged in the ground is not generally known, and, therefore, thinks the Editor may deem it worthy of insertion in *THE COTTAGE GARDENER*.

"Plunge the pot in the usual way, then take it up, and with a common dibble make a hole five or six inches deep in the centre of the cavity formed by the pot, exactly under the drainage hole, then return the pot to its place. By this means a better drainage is secured, and the worms cannot reach the hole in the pot."

[Your plan is very good, if not original. We think we have seen it mentioned before, but certainly it is not generally known.]

We cannot tell the cause of your *Grapes shrivelling*, because we do not know how you cultivate them. If the roots are in an outside border, open the soil for three or four feet round the stem, put in some well-decayed dung, and water well whilst dry weather continues. Your plant enclosed is *Thalictrum flavum*.]

APHIS ON THE LARCH.

"SABRINA will thank the Editor to give her the earliest information he can obtain respecting the *aphis* of which she encloses specimens. It is found in very large numbers, at this moment, on a Larch; no other tree of the kind, or any other trees in the vicinity being similarly visited. No Naturalist in the neighbourhood recognizes it."

[SABRINA's black insect is one of the *Aphidæ* belonging to the genus *Lachnus*, and appears to be identical with the *L. Pini*, of De Geer's *Memoires*, iii. pl. 6, fig. 1—14. Its history has been traced by Bonsel, Lyonet, DeGeer, &c. Its appearance at the present time in such numbers is only another instance how much the late ungenial weather has favoured the development of all kinds of plant lice, retarding, at the same time, that of their insect enemies.—W. W.]

OX-EYE DAISY.

"A SUBSCRIBER will be much obliged if THE COTTAGE GARDENER will recommend a good method for destroying the enclosed weed. It spreads through the grass, and spoils the pasture."

[Your plant is the *Chrysanthemum Leucanthemum*, the Ox-eye Daisy, or Moon Daisy. Cut them out with a common table-knife, and drop two or three seeds of Dutch Clover in the spots. Much may be done in a little time in this way towards making a complete and sweet herbage. Or a pinch of salt may be dropped upon every plant over a small field, and the other herbage will soon grow over the spot.]

PRUNING TRELLIS OR WALL ROSES.

"A *Celine Rose*, growing against a trellis, has several strong shoots from its root. Should all or any of these be cut off? The tree is rather bare towards the bottom. It has not yet filled the trellis, although it has been in its present place four years, and the trellis is but ten feet high.—ROSA."

[As the plant has not yet filled the space allotted for it, do not allow it to put out so much strength at the bottom, but as the bottom of the plant is rather bare at present, allow one-half of the new bottom-shoots to remain, and tie them to the older branches. A less number would do, if they give a clothing appearance to the whole bottom. The other half cut down to the very bottom, and keep them down all the season, if they push, by pinching them back again and again. About the middle of September stop the bottom-shoots, so trained, cutting off a few inches only, and if they push later shoots, stop them also; no winter-pruning to these shoots, and they will bloom next year beautifully, and they may be allowed to rise a stage higher. After all, these lower shoots may get to the top of the trellis first, and if they do, you must begin to cut out some of the older parts yearly, till you get rid of the first growths altogether. This management suits all kinds of Roses trained against walls and trellises, but not for pillar or festoons.]

HISTORICAL NOTES ON THE INTRODUCTION OF VARIOUS PLANTS INTO THE AGRICULTURE AND HORTICULTURE OF TUSCANY: a summary of a work entitled *Cenni storici sulla introduzione di varie piante nell'agricoltura ed orticoltura Toscana*. By Dr. Antonio Fargioni-Tozzetti. Florence, 1850. — (*From the Horticultural Societies Journal*.)

THE investigation of the origin and introduction of the vegetable productions raised for the use of man, is not only an interesting study in a critical, historical, or geographical point of view, but it may be applied to practical use by the cultivator. In showing how very few of these plants are to be met with naturally in the state in which we grow them, and how, by careful and persevering cultivation, their natural properties have been modified, so as to suit the purposes they are applied to, a stimulus is given to our exertions in the still further improvement of those already known, as well as for the introduction and conversion of new species or varieties to the use of man. At the same time, the knowledge of the readiness with which, in some instances, a worthless weed has been changed into a valuable esculent, and of the lengthened period which has at other times been required to effect the conversion, may often suggest to us the *modus operandi* to be attempted on future occasions.

No conclusion is come to as to the real origin of our four staple species, *Wheat, Barley, Rye, and Oats*. They are all shown to have been amongst the earliest grains cultivated in Italy; it is admitted that none of the indications of stations where they have been supposed to have been indigenous are to be relied upon, yet it seems still to be presumed that these cultivated forms are distinct species, which still exist, or have existed, wild in some hitherto unknown regions, with the same characters which they exhibit in our fields. The recent investigations of Mr. Fabre, of Agde, as to the effect of cultivation upon *Ægilops*, and the conclusions to be deduced from them, if accurate, appear to be unknown to him. Yet, however little the remarkable changes observed by Mr. Fabre may be credited by some, they bear so strongly upon the question, that, until refuted, they must be taken into account by all who would write on the subject.* We ourselves have no hesitation in stating our conviction, as the result of all the most reliable evidence bearing upon the subject, that none of these *Cerealæ* exist, or have existed, truly wild in their present state, but that all are cultivated varieties of species now growing in great abundance in Southern Europe or Western Asia. We believe that most, if not all, of our cultivated varieties of wheat originally sprung from one botanical species of *Ægilops* (*Æ. ovata*), excepting the smaller spelts of southern Europe, which are modifications of *Ægilops caudata* and *Crithodium ægilopoides*; that our barley and oats now grow wild in Europe in the form of some one of the recognised species of *Hordeum* and *Avena* respectively, although data are still wanting to determine precisely which is in each case the true type, and how many of the forms described as species it should include; and that our rye is a South European and Asiatic plant chiefly from the neighbourhood of the Black Sea, the *Secale moutanum* of Gussone, and *S. fragile* of Bieberstein, being varieties at least of the original botanical species.

The different *Millets* mentioned as cultivated in Tuscany belong to four botanical species, the *miglio* (*Panicum miliaceum*), the *panico* (*Setaria italica*), the *saggine in spiga* (*Penicillaria spicata*), and five varieties (or, according to some, species) of *saggine* proper, (*Sorghum*). Of these the *Panicum miliaceum* and the *Setaria* were already known to the ancient Romans from a very remote period; the black-seeded *Sorghum* is recorded as having been introduced from India in the time of Pliuy; and the other varieties, as

* The various specimens of *Ægilops* grown in the botanical garden of Avignon, where the late M. Requier had bestowed particular attention to the genus, showed modifications produced by culture which were many years since most puzzling to us as to the intermediates between *Ægilops ovata* and *Triticum sativum*. One great character relied upon as the strongest proof of the impossibility of their having a common origin, the articulation of the rachis in *Ægilops*, has always a tendency to disappear by luxuriant cultivation, not only in the ears of the *Gramineæ*, but also in the pods of *Leguminosæ* and *Crucifera*, and in other parts of various plants. The fact that wheat, cultivated as it is in all climates where it can be made to grow, will nowhere propagate itself as a weed of cultivation, is a further proof that it is in a state much altered from its original wild form.

well as the *Penicillaria*, are of more recent introduction from India or from Africa. All four species appear to have supplied grain for food, in periods of very remote antiquity, in Egypt or India, where their wild prototypes must be sought for. The *Panicum miliaceum*, and some varieties of the *Penicillaria*, are but little altered from the original forms as still found in those countries. The *Setaria italica* is not unlikely to be a luxuriant cultivated form of the *S. glauca*, a most abundant weed in all warm countries. As to the cultivated *Sorghums*, most botanists distinguish several species, although none are to be found in a wild state, except perhaps those which have a more diffuse panicle with less crowded flowers, and which come the nearest to the more luxuriant specimens of the *Sorghum halepense*, which is very abundant wild in some parts of Southern Europe, and all over Africa and India. Indeed, we believe it to be the opinion of an eminent agrostologist who has shown the soundest judgment in the investigation of East Indian and other *Graminæ*, an opinion in which we fully concur, that the described species of *Sorghum* are mostly, if not all, mere varieties of the *Sorghum halepense*, produced by extensive cultivation during a long series of ages.

Maize and *Indian Corn* (*Zea mays*) now so widely spread over the South of Europe, does not appear to have been introduced from America till near a century after the discovery of that continent, though mentioned as a valuable article of food in the West Indies by several travellers of the 16th century; it is shown to have been still unknown in Spain at the close of that period, and it was not until after the year 1610 that it found its way through Spain and Sicily into Italy. Professor Targioni-Tozzetti satisfactorily shows that all supposed mention of this grain by earlier writers before the discovery of America referred to other kinds of grain, though under some of the names since given to the Maize. We are not yet sufficiently acquainted with the American flora to ascertain, with any probability, what is the original indigenous form of this, apparently, the earliest cultivated American grain.

Rice was in the year 1400 still only known in Italy as an article of import from the East. Its cultivation was introduced into Piedmont and Lombardy in the end of the 15th or commencement of the 16th century, either directly from India by the Portuguese, or through Spain and Naples by the Spaniards. Some of the varieties now grown in India appear to be but little removed from their wild prototype.

The *Sugar-Cane* is merely alluded to because its cultivation was attempted in Tuscany in the 16th century, but found totally unsuited to the climate. Of Asiatic origin, where the wild type is not uncommon, it was carried to the West Indies, and thence introduced into Sicily in the time of the Saracens. It was also, perhaps, for a short time cultivated in Calabria, a point which has been much disputed, although of no importance, as no success attended the experiment if made.

Leguminous plants, either as forage or as pulse, cover a wide extent of the fields of Tuscany, and in the latter shape form a much greater proportion of the food of the inhabitants than in our own country. The introduction of most of the kinds into Italy dates from a period of very remote antiquity, for Professor Targioni finds them mentioned by nearly all the ancient Greek and Latin writers on Georgics, and their origin is difficult to trace. Some of them, indeed, are but little altered from the wild forms not uncommon in Italy; but whether these be indigenous, or have become naturalised there in consequence of their cultivation, remains doubtful. Taking them in the order in which they are here mentioned: the *Pea* has been stated by several authors to be a native of Italy, and Professor Targioni admits this to be the case with the *field pea*, or *rubiglio* (*Pisum arvense*), but with most botanists, insists upon the *garden-pea*, or *pisello* (*Pisum sativum*), being a distinct species of unknown origin. In this conclusion we cannot join; all our cultivated *Pisums* are surely referrible to one species, which is most probably really indigenous only in the more eastern of the districts, where it is now found apparently wild.

Of the *Haricots*, or *French beans*, *Fagioli* (*Phaseoleæ*), only two are mentioned as grown in Tuscany, both indigenous to and introduced from East India, where the cultivated

species are very numerous.* One is our common *Haricot*, or *French bean* (*Phaseolus vulgaris*), so well known in all civilised countries; the other is the *Fagiolo del' Occhio* (*Dolichos melanophthalmus* of Savi), a mere variety of the *Dolichos* or *Vigna Sinensis*, much cultivated in India and Egypt, but only very sparingly so in Southern Europe, and entirely unknown in this country.

The common *Bean* (*Vicia Faba*), has been vainly sought for in a wild state. The vague indication of supposed habitats in Persia, or on the shores of the Caspian, have not been confirmed by modern researches. May it not, however, have had its origin in the *Vicia Narbonensis*? a species not uncommon in the Mediterranean region from Spain to the Caucasus, and very much resembling the *Bean* in every respect, except in the thinness of the pod and the smallness of the seeds.

The seven following are stated to be all spontaneous in Asia, and slightly improved by long cultivation in European fields, being all mentioned by ancient Greek and Roman writers, viz., the *Lupin* (*Lupinus albus*), the *Mochi* (*Lathyrus cicer*, *Pois cornu* of the French), the *Cicerchie* (*Lathyrus sativus*, or *Gesse* of the French), the *Leri*, or *Zirli* (*Vicia ervilia*), the *Vetch* (*Vicia sativa*), the *Cece* (*Cicer arietinum*, or *Pois eliche*), and the *Lentil* (*Ervum Lens*). Several of these are now wild also in Italy, and the two *Lathyri*, and the common *Vetch*, may be indigenous; but they may with equal probability be only naturalised, as they are evidently so little altered by cultivation, that they may readily propagate naturally when they meet with a genial soil and climate. All of these are more or less eaten by the Italians as pulse, but few would be palatable to the English tastes. The *Cicer*, indeed, though rather coarse, is very fair when properly dressed and seasoned, but the only one really deserving importation is the *Lentil*, which is both wholesome and nutritious, and excellent *en purée*, in various stews and made dishes, &c. It is very much consumed all over Southern Europe, and constitutes, in all probability, that much-puffed article, so absurdly disguised for the purpose of sale, under the high-sounding name of *Revalentu arabica*, an evident corruption of *Erba lenta*.

Numerous as are the *Leguminosæ* used for forage in Southern Italy and Sicily, four only are mentioned as cultivated for that purpose in Tuscany: the *Lucern* (*Medicago sativa*), introduced, according to the ancient writers, from Media into Greece, in the time of Darius, and thence into Italy; the *Sainfoin* (*Onobrychis sativa*), the *Sulla* or *Lupinella* (*Hedysarum coronarium*, or French honeysuckle), and *Trafogliolo* (*Trifolium incarnatum*), the three last indigenous to Italy, and of comparatively modern cultivation. Allusion is made to the confusion and frequent interchange of names between the *Lucern* and the *Sainfoin*, which appears to be as prevalent in Italy as it is in many parts of France, and has often led to error in regard to their agricultural statistics. No mention is made of our common red or white clovers, nor of the *Medicago lupulina*, so much cultivated in Britain and Central Europe.

Four esculent *Solanææ* are extensively cultivated in Tuscany: the *Potato*, the *Tomato*, the *Egg-plant*, and the *Capsicum*, two first of American origin, the third East Indian, and the fourth either American or African, or both.

The history of the introduction of the *Potato* (*Solanum tuberosum*), is well known. Although mentioned occasionally by American explorers of the 16th century (by some confounded with the *sweet potato*, a convolvulaceous plant), it was not otherwise known in Europe till brought to England by Sir Walter Raleigh in 1586. Two years afterwards, Chusius at Vienna obtained two tubers through the Prefect of Mons, in Belgium, from a servant of the Pontifical Nuntiate in the Low Countries. It may have been transmitted to Italy at about the same time from the same source. At any rate, it was certainly in cultivation in Tus-

* These, however, are not nearly so numerous as is generally supposed; thus, the *Phaseolus vulgaris* includes at least eight of the commonly adopted species of modern botanists, the *P. lunatus* four, the *P. Mar* or *Mungo* (which is either dwarf or climbing, like the *P. vulgaris*) five or six, the *P. Truxillensis* three or four, *Dolichos* (or rather *Vigna*) *Sinensis* four or five, *Lablab vulgaris* at least as many, *Canavalia gladiata* two or three, and so on. This multiplication of species has not been owing entirely to the considering as botanical species what are mere varieties of cultivation, but in several instances it has arisen from the same varieties having been received from Asia, Africa, and America, and separately described without advertent to their common origin.

cany at the commencement of the 17th century, for Father Magazzini of Valombrosa, in a work on Tuscan agriculture, published in 1623, after his death, gives directions as to its cultivation, which he alludes to as being then habitual, having been introduced from Spain and Portugal by the bare-footed Carmelite monks.

Professor Targioni, led into error by the insertion of the *Tomato* (*Solanum Lycopersicum*), in the first florae of Cochin-China and Amboyna, considers it as a native of India, as well as of Peru, and expresses, therefore, some surprise that it should have been unknown to the ancients. But, if ever found wild in the Eastern Archipelago, it is only as spread from cultivation, for it is now ascertained to be exclusively of Peruvian origin, and was not known in Europe till after the discovery of America. It appears, however, to have preceded the more useful maize, and potato, for Matthioli mentions its introduction in his days, that is, in the commencement of the 16th century. It was first cultivated rather for ornament than for food, which may, perhaps, explain its more rapid introduction.

The *Melanzone* or *Pelonciani* (*Solanum Melongena*, Aubergine of the French, the Egg-plant* or Bringall of the West Indies) is most probably a native of Asia or Africa, although the precise original indigenous form has not as yet been satisfactorily made out. Many of the supposed botanical species of the most recent monographist are mere cultivated varieties, and their connection with allied forms stated to be wild in India or in America requires much critical investigation. Its cultivation in Italy cannot have been extensive before the discovery of America. It is indeed generally supposed to be referred to by Theophrastus under the name of *Strychnos*, by Avicenna under that of *Bedangian*, and especially by St. Hildegarda, Abbess of Bingen, who died in 1180, under that of *Megilana*, yet the identity is in no case placed beyond doubt, and requires collateral proof to be derived from the botanical and geographical investigation of the original wild type of the species.

There is still greater uncertainty as to the real native country of the *Capsicum* or *Hot-pepper* (*Capsicum anuum*, Peperoni of the Italians, Piment of the French), now so universally spread over all tropical countries. Although long known under the name of *Indian Pepper*, it appears not to be indigenous in Asia, and there is no authentic record of its cultivation in Europe before the discovery of America. It is said to be really wild in that continent, Cæsalpin and Clusius, late in the 16th century, both speak of it as introduced from thence. Yet, in the time of Matthioli, early in the same century, and consequently at a period when very little of the natural productions of the New World had been transplanted to the Old, we find at least three varieties well established and abundantly cultivated in Italy under the name of Indian Pepper, which is hardly probable if it had been really introduced from America, then so recently discovered.

A curious instance of the slowness with which the use of culinary vegetables is spread, is afforded by the large green mild variety of *Capsicum*, which is so much eaten over a great part of Spain and some of the adjoining French departments. It was carried by the Spaniards into Naples during their dominion in the 16th and 17th centuries, and has ever since remained in common use there without spreading further. In Tuscany it is scarcely known, except as an object of curiosity in botanical gardens. It makes an excellent salad, having all the flavour of the capsicum without the slightest pungency.

(To be continued.)

TO CORRESPONDENTS.

** We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed "To the Editor of The Cottage Gardener, 2, Amen Corner, Paternoster Row, London."

VINES IN POTS (*Querist*).—The warty appearance is a sort of fungus, generally produced by deficient drainage, though sometimes the best

* This name is generally given in our gardens to the short white-fruited variety which we grow merely as an object of curiosity. It is the long purple-fruited variety that is so much cultivated in the south as an article of food.

drainage will not cure it. The other matters will be referred to ere long, merely stating just now that both plans may be right, according to the system adopted; the aim should be to concentrate organised matter into the space definitively left.

VINES (*A Sufferer*).—We must think over your letter. At first sight there seems something mystical about it.

PITS (*A Tradesman*).—Excuse delay. Your case will meet consideration.

PITS (*A New Subscriber*).—Nothing new, but your case will receive more consideration.

OACHARD HOUSE (*J. C. L.*).—The hot-water pipes for top heat must certainly not be below the surface of the soil.

POT POURRI (*Jane B.*).—If you will purchase our 62nd Number, you will find three recipes for making this. You can obtain the number for threepence of Messrs. W. S. Orr and Co., Amen Corner.

STUDIES FOR A YOUNG GARDENER (*W. and Co.*).—There can be no doubt that the most useful study for gardeners is Botany—physiological as well as systematic. Next to this, the elements of *Geometry*, and *Mechanics*, and so much of *Drawing* as will enable them to sketch out plans to a scale. The late Mr. Loudon published a very useful work upon these subjects, entitled "The Young Gardener's Self-Instructor," or some such name.

POISONED CHICKENS (*A. M.*).—We have consulted Mr. Tegetmeier, and he agrees with us in opinion that without seeing the chickens, and knowing more about their treatment, no satisfactory conclusion can be drawn.

JUNGLE FOWL—TURTLE-DOVE.—"W. B. D. would be glad to know of any of our readers where he can procure a male bird of the Ceylon Jungle Fowl that is true bred; and whether a cross has been tried between the wild Turtle Dove and the French-white one. If so, with what success as regards plumage, whether whole coloured after either parent, or with mixed plumage."

TO DISTINGUISH OLD FROM YOUNG GUINEA FOWLS (*Sarah*).—We should certainly advise your adoption of some private mark to denote the ages of your several birds. Full-grown Guinea fowls, indeed, without some distinction of this kind, are, with difficulty, recognised one from another. Age would usually give a coarser appearance to the legs and crest, but this would be hardly sufficient to rely on.—W.

TOBACCO DRYING (*J. S. L.*).—If you refer to our 282nd Number you will find very full directions.

BOTANY (*J. M.*).—Commence by reading Henfrey's *Rudiments of Botany*.

NAMES OF PLANTS (*Oscar*).—Your plants first sent are only two varieties of the common Pink. Your hardy border plants are as follows—1 and 2. *Campanula pumila*, purple and white variety. 3. *Campanula grandis*. 4. *C. Rapunculoides*. 5. *Helianthemum vulgare*. 6. *Oenothera glauca*. 7. *Petunia phœnicea*. 8. *Erigeron philadelphicum*. 9. *Pyrethrum Parthenium plenum*. 10. *Lobelia erinus*. 11. *Geranium phœnum*. 23. *Campanula trachelium*. 24. *Tradescantia virginica*. The Pansies we cannot name, but they are of very good stamp, whether seedlings or otherwise, and all worth cultivating. We wish all our correspondents would send their specimens so nicely, with all the information they could give of them, as in your case, it would save us much valuable time and trouble. (*Linda*).—Your's is the true Canadian Poplar (*Populus Canadensis*). You can readily distinguish it from *P. monilifera* by the gum on the buds, and by the underside of the leaves, which are lighter than in any of this section which they refer to *Populus niger*. *P. monilifera* produces six times more cottony down on the catkins than this species, and casts it off six weeks or two months earlier in the season. The Canadian was the most favoured tree till within the last forty years, when it was displaced by the Black Italian (*P. monilifera*), which is a much faster-growing tree, and spreads wider in the head. (*A Subscriber, E. H.*).—We never heard of "The Australian Vinegar Plant." The common Vinegar Plant, or Fungus, is fully described at p. 94 of our vol. ii.

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WEEKLY CALENDAR.

D M	D W	AUGUST 8-14, 1854.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
8	TU	<i>Lebia crux minor.</i>	30.192-30.151	75-47	N.E.	—	06	35	Rises.	5 24	220	
9	W	<i>Colymbetes agilis.</i>	30.260-30.230	72-43	N.E.	—	37	33	8 a 41	5 16	221	
10	TH	<i>Ceratophytum Latreillii.</i>	30.322-30.247	72-47	N.E.	—	39	32	8 59	5 6	222	
11	F	<i>Cryptophagus cellaris.</i>	30.288-30.145	75-46	S.E.	—	40	30	9 14	4 59	223	
12	S	<i>Cryptophagus populi.</i>	30.195-30.117	68-54	N.E.	—	42	28	2 29	4 49	224	
13	SUN	9 SUNDAY AFTER TRINITY.	30.143-30.047	67-52	N.E.	—	43	26	9 44	4 39	225	
14	M	<i>Cryptophagus denticulatus.</i>	30.015-29.950	64-51	E.	—	45	24	10 0	4 28	226	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 74.3° and 51.2° respectively. The greatest heat, 93°, occurred on the 10th in 1842; and the lowest cold, 32°, on the 13th in 1839. During the period 110 days were fine, and on 79 rain fell.

BRITISH WILD FLOWERS.

(Continued from page 289.)

DRABA MURALIS: Wall Whitlow Grass; Speedwell-leaved Whitlow Grass; Speedwell Grass.



Description.—This is an annual and very unlike all our

other species. *Root* tapering. *Stem* erect, alternately branched, unless very weak, from the base, from six to eighteen inches high, leafy, rough, with minute starry hairs. *Radical leaves* several, depressed, reversed-egg-shaped, tapering at the base; those of the stem scattered, stalkless, and stem-clasping, heart-shaped; all strongly toothed, and clothed with short, either simple, forked or star-grouped, hairs. *Flowers* very numerous, small, in a little dense tuft, soon lengthened out into an extremely long cluster of spreading *pouches*, whose stalks are either smooth or hairy. *Calyx* generally smooth; but occasionally hairy. *Petals* white, reversed-egg-shaped, entire. *Style* scarcely any. *Stigma* blunt, very small. *Pouch* about half the length of its stalk, elliptical, blunt, flat, even and smooth, with six or eight *seeds* in each cell.

Time of flowering.—April and May.

Places where found.—On the shady sides of walls, and of limestone mountains. It is rare.

History.—Ray, we think, was the first who discovered it to be a British plant. He says—"It is not uncommon on the mountain sides of Craven, in the eastern part of Yorkshire; I found it also in Italy, mid-way between Lucca and Pisa, and in France, near Montpelier."—(*Hist. Plantarum*, i. 790.) It was then called by some botanists *Thlaspi veronica folio*, and by others, *Bursa pastoris major loculo oblongo* (Larger Shepherd's Purse, with oblong pouch).—(*Smith. Martyn. Ray.*)

THAT the study of Natural Science, especially of Botany, is increasing and prevailing must be a subject for rejoicing to every one who knows, or reflects, upon the fact, that wholesome occupation of the mind is the best guardian of virtue. Never did school text contain a more assured truth than that which records that "Idleness is the parent of vice;" and of all idleness the worst is idleness of mind. Wholesome mental occupation, as we have said, is the best guardian of virtue, and among such wholesome occupation there are many degrees of excellence, but none, certainly, more excellent than the study of plants. Every one must have felt this from the day when they read "Eyes and no Eyes," in "The Evenings at Home," down to the hour when they are gaining deeper knowledge of Botany, whether systematic or physiological.

If we were asked by a parent what taste is most desirable to be fostered in a child, we should reply—the

love for plants. There is no drawback in that affection. It is inexpensive, innocent, available in all situations—in affluence is a delight, in poverty a comfort and a profit; for the garden of the plant-lover is always best cultivated. No season can occur in which Botany is unavailable: the herbarium and the microscope are quite as much a resource in foul weather, as are botanical rambles during sunnier times. Nor is this all; for though the days are gone when God walked with man in his garden, yet God still walks there, though unseen, and Botany best reveals the impress of His fingers, and the traces of His loving carefulness of plants. It is there that we can best appreciate with the child, after the summer shower, "that God had been watering his flowers;" and it is there we can feel most fully the vanity of man's frippery, when compared with "the Lilies of the field."

When we commend especially Botany as a study, we

would restrict such recommendation so far as that we would have all the examples and illustrations of that study sought for amongst our native plants. To seek for these, and to form arranged collections of them; to have a catalogue, noting the place where found, and any particulars relative to each plant, are among the most interesting and useful of occupations.

Thus, by degrees, and each degree pregnant with pleasure, any lover of plants may form a catalogue of those of them which can be found in his neighbourhood—a class of work of which the utility is too well known to require our advocacy, and of which we cannot refer to a better example than Swete's recently-published *Flora Bristolensis*.*

To be extensively useful a Flora should be cheap, and the record of well-authenticated facts; it should state the soils and elevations where the plants are found; give clear and easily-recognised directions for finding the localities; have the plants systematically arranged; and be rendered doubly valuable by a copious index of names and synonymes. All these desirable characteristics belong to Mr. Swete's little volume. The plan of elevations, and the map of "five miles round Bristol," in a pocket of the cover, are excellent and good evidence that the convenience and wants of the student were well considered by the author. We have no doubt that he has felt the want of such aids, and is the better guide from having experienced what he would have prized by the way.

The "Introduction" is not the least useful portion of the volume, and from it we will quote the following as an example:—

"The distribution of plants is dependant, as has been before stated, on physical configuration, geological structure, and meteorological influence, and it will be seen from the previous remarks, that we have nearly every variety of such configuration and strata as are required by a large number of British plants; our *Flora* is, therefore, as might be expected, proportionately extensive, nearly two-thirds of the whole of the plants of England occurring in the district. Did bog land and sea coast occur, and were the altitude of some of our hills greater, we should probably possess a very considerable increase. These are mainly all the additions that are required to our small district, to render it a typical portion of Great Britain. Such a field ought, therefore, to afford great encouragement to the botanical student, being quite within the reach of all, and possessing every advantage and facility for field work. It is difficult to select one part more interesting to the botanist than another; the junior student may, perhaps, find Leigh Woods, St. Vincent's Rocks, Filton Meads, and Glen Frome, more attractive, though the neighbourhood of Dundry, and St. George's, Kingswood, has been least worked over, and will therefore afford a more likely field for new discoveries to the more mature observer.

"Several tribes of plants also will repay a little time spent in searching out their localities. The Rubi, Salices, and Hieracia, have not been sufficiently looked for. The Carices of the neighbourhood also require much additional investigation, and it would seem probable that more of the Mints are to be found in the district than have been yet reported.

"The Ranunculaceæ are well represented, nearly the whole of the genus *Ranunculus* being found. Cruciferae, Caryophyllerae, and Hypericaceæ, claim a large proportion of our *Flora*. The Limestone is particularly rich in Gerania-

ceæ, whilst the Onagraceæ abound on the Gritstone uplands. Trefoils and the Vetches are abundant, so are the Umbelliferae and Rubiaceæ. The Compositæ have not been worked so well as might have been wished; but still a very fair portion are known to occur, most of the species of the genus *Veronica* abound, while many of the Soap Dragons must be considered as naturalized. The Endogenous tribes bear a very fair proportion, though some of the more rare and beautiful Orchids are absent. Owing to the large amount of marsh land, the Haloragiaceæ, Fluviales, Araceæ, Juncaceæ, and Cyperaceæ, are very tolerably represented. The grasses also are numerous, though there are not many rare ones amongst them. Of the Filices a large number are present, and a few of Equisetaceæ. The Lycopods are entirely absent, as well as most of the Charas.

"There are few plants peculiar to the district, *Arabis stricta* being the only one that can be considered as an essentially local plant. The following may be enumerated amongst the rarer plants of the district:—

LIMESTONE.

Ranunculus parviflorus	<i>Trinia vulgaris</i>
Hutchinsia petræa	<i>Albia peregrina</i>
Draba muralis, 200 feet	<i>Veronica spicata</i>
Diploxis muralis	_____ <i>β. hybrida</i>
Reseda lutea	<i>Orobauche hederæ</i>
Erodium maritimum	<i>Allium sphaerocephalum</i>
Hippocrepis comosa	<i>Scilla autumnalis</i>
Spiræa Filipendula	<i>Carex clandestina</i>
Potentilla verna	<i>Gastridium lendigerum</i>
Sedum rupestre	<i>Bromus Madriteusis</i> , 90-200 ft.

NEW RED SANDSTONE.

<i>Helleborus fœtidus</i>	<i>Sedum album</i>
<i>Vicia bythynica</i>	<i>Asplenium lanceolatum</i>

PENNANT.

<i>Epilobium lanceolatum</i>	<i>Campanula latifolia</i>
<i>Campanula patula</i>	<i>Asplenium lauceolatum</i>

LIAS.

Rosa systala.

MARSHY PLACES.

<i>Senebiera didyma</i>	<i>Blupleurum tenuissimum</i>
<i>Lepidium ruderae</i>	<i>Ceanthe pimpinelloides</i>
<i>Althæa officinalis</i>	<i>Carduus pratensis</i>

"Most of these plants are sparingly distributed in other parts of England, and entirely absent from many of the counties. There are many other plants which are not very plentiful in the district, but may be easily found by a reference to the *Flora*, with a little patient investigation."

We have briefly advocated the study of Botany and of our native plants, and glad are we to be able to refer to a work just published, which we hail as a powerful coadjutor. We allude to Dr. Spencer Thomson's *Wanderings among Wild Flowers*.* It is a very alluring guide to systematic Botany, and to the plants especially to be sought for in each month. We know of no book that we would in preference place in the hands of a young person in whom we wished to excite a taste for studying plants. The following is a vivid sketch given of some of its pleasures by Dr. Thomson:—

A BOTANICAL EXCURSION.

"HITHERTO, our botanical lessons may have taken our readers no further than their reading table or easy chair; but now we must beg them to change the slippers for walking shoes, and good stout ones withal, and go forth with us into the fields in search of our practical experiences. Many a pleasant ramble will they have, if their experience should be similar to the author's; and, if they are in life's spring-time, many a pleasing reminiscence for its after-time will they lay up for themselves, many a green

* *Flora Bristolensis*: illustrated by a map and two plates." By E. H. Swete, M. R. C. S., Lecturer on Botany at the Bristol Medical School. Hamilton, Adams, and Co., London, 1854.

* *Wanderings among Wild Flowers; how to see and how to gather them.*" By Spencer Thomson, M.D., &c. Groombridge and Sons, London.

sunny spot in life's chequered landscape to look back upon. Few scenes in life will better bear retrospection than a happy botanical day spent in congenial company. But such recollections, perhaps, press more strongly upon those whose early botanical life was intermingled with that of many others, as in the case of fellow students at a university. The University of Edinburgh has for many years been known as the 'Alma Mater' of many enthusiastic botanists; nor has it, under the rule of the present respected professor of the science, lost any of the *prestige* which it acquired when the manly, frank, Professor Robert Graham, so successfully stimulated his students to the cultivation of botany. The success of the Edinburgh system of botanical teaching, is perhaps greatly owing, first, to the circumstance, that whilst the lecture-room is not neglected, neither are the fields, and the Saturday excursions give force and interest to the lessons of the past week; and second, to the almost unrivalled opportunities for botanical exploration which exist in the environs of the beautiful capital of the north. Let the first parts of our little work be to our readers as the lecture in the class-room, and our following 'Monthly Illustrations,' stand as the Saturday ramble—the latter the practical exposition of the former, and, therefore, at times it may be involving some repetitions both of matter and of illustration.

"We have said so much about these students' botanical excursions, that we must give a sketch of one of the best; moreover, that this very excursion is pleasingly remembered by others than the author, he has evidence, from recently meeting with a notice of it in a Madras journal, now edited by one of the merriest and most enthusiastic of those who took part in it.

"The rendezvous for one of the Saturdays of July, 1835, had been fixed at the village of Currie, six miles from Edinburgh, not then of course, as now, a railway station; and, as botanists do not ride, it was walking distance. The trysting time at the inn eight o'clock, and breakfast ready; six, therefore, must be the time to start from town. As bright a July morning as ever dawned it was as the author with one friend, now the Madras editor, Dr. Alexander Hunter, started for the meet. Parties of twos, threes, and fours soon gathered, all tending towards the same destination, and before the quarter after eight had elapsed, upwards of fifty young men were gathered in the large room of the inn, eagerly looking for the advent of the rolls, the eggs, and all etceteras which were to satisfy appetites sharpened by a six-mile walk. Fearful would have been the consternation of our host, had this inroad come upon him unprepared; but two days' notice, and a previous knowledge of botanical appetites—by no means vegetarian, however—had served to allow ample provision, testified by the clothes-baskets heaped full of rolls, the huge wickers of eggs, the beef and the hams.

"Almost we hear now the merry laughter of that breakfast table, almost see the air of *bonhomme*, with which our good professor, after himself diving to the kitchen, reappeared with another basket of eggs, when all were thought to be exhausted ere appetites were satisfied. Almost can we see the grave humour beaming in the genuine Scottish face of 'old Macnab,' known far and wide in Europe as the skilful manager of the Botanic Gardens, the professor's lieutenant, and whose walking powers of three-score could tire out many, if not most, of the younger limbs then present. Now and then would the laugh become doubly hearty as some laggard straggled in late, and looked ruefully around at the almost cleared board. But, breakfast over, then came the start for the hills and moorlands which were to be the scene of the day's explorations. Most of the band were really practical botanists, were well shod for the purpose, wore the light shooting-jacket and light cap, and carried boxes which would hold good store of plants; not a few with good stout hand-spades slung to the waist or button-hole; some only evidenced their novitiate by appearing in white trousers and natty boots, of whom more hereafter.

"A short two miles, and the first exploring ground is reached, an extensive bog, where grew not only most of our common bog-plants, but a few rarer species; one, more especially, of the orchis family, the *spurless coral-root*, found only in a very few situations in Scotland. No sportsman

can feel more eager interest than the enthusiastic botanist in search of a rare plant—the plant was soon found, but well was that bog searched over, and more than once did eagerness or ignorance lead some to venture on treacherous surfaces, to find themselves, without warning, sunk up to the middle in the black bog-water. To the men of strong shoes and rough trousers this was but a small calamity; but woe betide the well-cut boot and white inexpressibles, whose luckless owner had the laughs of the entire party to meet. By high noon, the bog having been exhausted, the hills had to be breasted, and more than one covey of grouse whirred off from among the patches of the mountain cloud-berry (*Rubus chamaemorus*), to reach which formed the outside limit of the excursion. Then, along the dry open moorlands, gathering on our way the small white butterfly orchis, the (*Habenaria albida*) the curious little fern-moonwort (*Botrychium Lunaria*) and many others, till we come to, in a small hill bog, the thread-like stems of the (*Vaccinium Oxyccocos*) resting on the surface of the white sphagnum moss, and bearing its rose-coloured blossoms and berries together. But the sun of this July day has shone fiercely, and by three o'clock, thirst oppresses many who have not had a sip from a pocket flask of cold tea or wine and water. There, on the side of the "the black hill," a line of fresh green tells that a spring rises no far way up, and sure enough we find it, clear and pure as only these hill streams are—cold too—almost too cold for safety; but many a thirsty one drinks from the 'diamond of the desert' notwithstanding. Thirst quenched, e'er long something tells that the stomach has long since disposed of the ample supplies of the morning. Some had been careful enough to provide a biscuit, or to pocket a roll from the breakfast-table, and some were happy enough to own such a provident friend willing to share with them; but the supplies were sadly scanty.

"There is the professor—his tall handsome form was ever distinguishable—striding off to that hill farm steading—or rather on Scottish ground 'farm town,'—and soon his hearty call was heard. He has brought up the whole of the good wife's dairy store, and milk, food and drink together, is there for the whole party. We wonder if the good woman ever had her milk pans so thoroughly cleared before—they were then.

"Another stretch across the moorland, a search down the narrow glen of the bonny burn which makes its way through it, in alternate stream, cascade and pool, stream and cascade again, and seven o'clock in the evening finds most of the party—some few had deserted early in the day—at the scene of the morning breakfast. But, alas! our host had not calculated upon an evening foray as well as a morning raid, and the late furnishing of comestibles was but scant compared with the early—actually there was not enough. One of the party we detected—we almost think it was our friend of Madras—laying violent hands on some rather nasty beef bones in the pantry, which the host had been ashamed to bring out.

"Then came the dispersion. Some, unused to the exertion, must stop at the inn, some lagged on the road, some stopped at the half-way village; and a few only, with the professor and his veteran lieutenant, marched into town at ten o'clock, well tired, but well satisfied, and one, at least, of the party to remember the day as one of the green spots in life's retrospect, which, like a thing of beauty

"Is a joy for ever."

"But now the shade. E'er the next summer flowers were blossoming, some of the merry laughers of that excursion were laid low by fever caught in the study of their profession in the hospital wards; another year or two and all were dispersed on their different roads of life. Short roads to some, very short. A West Indian appointment with one led to yellow fever and an early grave; one, at least, fell in the Khyber Pass under the knives of the Afghans; consumption and other diseases have claimed their victims, and Graham and Macnab fill respected graves; yet many live engaged in the successful exercise of their profession, and may sometimes lighten anxious thought by a recall of the botanical rambles of student days.

"Perhaps our readers will accept our narrative as a practical exposition of the uses and pleasures of botanical pursuits.

True, those engaged in the expedition were most, if not all, destined for the medical profession; but why should not a band of young clergymen do the same? gather health and strength and pleasant thoughts, eye and good illustrations, too, for their sermons, amid the glorious works, the beautiful material revelation of the Creator, whose other revelation it will be the business of their lives to carry forth to men. Nay, if we must add to the argument, did not He who gave us that revelation illustrate his own sermon—the *Sermon*—by a reference to flowers?—

“Flowers! when the Saviour’s calm benignant eye
Fell on your gentle beauty; when from you
That heavenly lesson for all hearts he drew,
Eternal, universal as the sky,
Then in the bosom of your purity,
A voice He set as in a temple-shrine;
That life’s quick travellers ne’er might pass you by,
Unwarned of that sweet oracle divine.
And though too oft its low celestial sound
By the harsh notes of work-day care is drowned,
And the loud steps of vain, unlistening haste;
Yet the great Ocean hath no tone of power,
Mightier to reach the soul in thought’s hush’d hour
Than yours, meek lilies, chosen thus and graced.”

MRS. HEMANS.

“But we hear some reader remark, Why are these pleasures only to be enjoyed by young medical men, or young clergymen? Surely others may band together for the like purposes? And surely they may. We would see the school-class, the naturalist’s club, the association of any kind, promoting alike their health, their good fellowship, their knowledge of the useful and of the beautiful in God’s created works, by practically searching them out—not flowers only, not one department of the kingdoms of Nature, but all. The formation of the earth, its rocks and stones and shells, as well as its plants and trees, its birds and its insects. *The study of these will give real improvement to the mind, quicken, as no other studies perhaps can, the powers of observation and of accurate perception.* They will exercise the memory; and they ought to call forth, not only the intellectual but the reflective faculties, ascending till they reach the highest—veneration for the Supreme Being. Thus will the mind ascend, from Nature to Nature’s God. Like the angels in Jacob’s vision, the thoughts first ‘ascending,’ will then ‘descend’ laden with blessings. Most unaccountable has been the neglect hitherto of the natural sciences as a part of the system of education in this country. The cry has been, ‘*cui bono?*’ ‘What profit are these things?’ The remark; ‘It is all very well for medical men to learn them as a part of their profession; but the future clergyman must keep to his classics and mathematics, the intended merchant to his double and single entry.’ The time for such arguments has passed away never to return. Now it can be seen that the acquisition of a knowledge of classics and of natural science is not incompatible: nay, it is pretty well acknowledged, that some of the long dreary years which it has been the custom to devote to Greek and Latin, may be allotted to the studies we advocate, with greater advantage to the general cultivation of the mind: that the intellectual education is no loser, the heart education has great gain. Moreover, it is every now and then found out that a good knowledge of natural science may become a source of profit pecuniarily to the merchant, or to the traveller, whom it enables to take advantage of circumstances which are hid from the eyes of the ignorant. Enough, let us turn to our “Monthly Illustrations.” As might be expected, the first months of the year offer but slight matter in the way of wild flower blossoms; advantage, therefore, has been taken of this, to give a few requisite directions respecting the collecting and preserving plants; and, in like manner, in concluding months of the year, when—

“The dead leaves strew the forest walk,
And withered are the pale wild flowers.”

“We have chosen the time to tell our readers somewhat of the fruits and seeds, which are alike the harvest of the fowls of the air which sow not, reap not, nor gather into barns, and the great storehouse whence He who made them, raises the ‘blooming wonders’ of another summer.”

In No. 9 of a series of papers entitled “*Nugæ Rusticæ*,” published in the “Derby and Chesterfield Reporter,” “the perils of the Poultry Show” are admirably described.

The hazards there incurred are truly spoken of as having reference not merely to the birds themselves, but as concerning their owners likewise; and the writer’s first inference, that “birds suffer severely from the Exhibition unless great care be taken,” is ably shown to be by no means the sole drawback to the breeder’s public competition. Thus the second and third inductions of the “*Derbyshire Yeoman*” state “that the best birds do not always gain the prize,” and “that different judges have different standards of merit in judging of poultry, and that it being known who, of the more prominent judges of the present day, is about to officiate, it may be predicated what character of fowl in each class will gain the prize.”

The first allegation we wholly coincide in, knowing from our own, as from other’s experience, that even with the utmost care in transit, and at the Exhibition, manifold casualties constantly occur; on this, therefore, we need not dwell. But were the second and third charges generally authenticated, Poultry Shows would justly receive so severe a blow, and such heavy discouragement, as would inevitably tend to their rapid decline. We propose, therefore, to make a few remarks on the extent to which acquiescence may be accorded to the “Yeoman’s” observations, and thus hope to exonerate the unfortunate officials who are called on for the thankless task of judging poultry from the sweeping censure that this clever article would inflict on them.

It is quite possible that from the limited period too frequently allotted for judge’s duties, that such a blemish as the absence of the fifth toe in a Dorking pen may have escaped observation, although prize birds are diligently scrutinized in this very particular by all those with whom it has been our lot to have been associated in this office. We are unable, indeed, to recall a single instance, as eye-witnesses, in which such an omission has occurred. But even had this happened in a solitary case, we cannot consider such an error as sufficient authority for the general charge of “*passing over the best birds.*” Our reasons for insisting on the presence of the fifth toe have been often expressed, and need not be now repeated, and we can only say that however meritorious in other respects, a pen thus defective should certainly never receive a Dorking prize at our hands.

A second instance referred to in evidence of judicial shortcomings relates to the sex of Geese. Here we certainly envy the quick appreciation of the relative genders evinced by the “Yeoman’s” servant on the first opening of the hamper. “*Here are two Ganders and one Goose.*” But nothing is stated as to the age of the birds in question; if exceeding six months, sexual distinctions should be sufficiently apparent, but far more so in the field, than in the cramped, unnatural position of the exhibition-pen. At and under that age, the closest

examination is frequently deceptive, and we should have no fears of obtaining the ready acquiescence of a very large portion of competent judges in the expression of our opinion, that no point comprised in the poultry judge's labours involves greater difficulty than his decision on the sex of Geese under six months old, as submitted to him in their pens.

The above are the only facts (if we append to the latter an assertion, that at the recent Cheltenham Show, a sentence of disqualification was pronounced on a pen of fowls on account of its consisting, in the estimation of the judges, of two cocks and one hen, while their owner was positive that the proportion of the sexes was the reverse, on which the "*lottery character*" of the awards of amateur judges is grounded. We cannot but deem this as insufficient evidence in proof of so grave a charge, and with every desire fully to appreciate the experience and integrity of *dealer* judges, we would still venture to affirm, that among the list of those gentlemen who are in the habit of officiating on such occasions, amateurs have exhibited as great "*experience, skill, and judgment*," as have been evinced by the class from which alone the "Derbyshire Yeoman" would select the arbitrators. If "*mischievous blunders*" have been perpetrated, although we believe them to have been in small, yes, in very small, proportion to what takes place at exhibitions of other live stock, they will be found, on enquiry, to have proceeded fully as often from one class as from the other of those gentlemen who have been invested with this thankless office.

Apart from erroneous judgments, by which term we would specify such cases as are contended to evince ignorance to the comparative merits of the competing pens, dissatisfaction is often expressed at the circumstances of the judges exercising their power of withholding prizes from pens successful on other occasions. We fully believe that a large proportion of dissatisfied competitors ground their complaints on occurrences of this nature. A very limited amount of poultry lore, however, should be sufficient to explain this, as, independently of any more serious charge, the condition of the birds themselves varying from day to day, would fully account for such decisions.

THE only counties this summer from which we have received a report of the Murrain being severely upon the Potato, are Cornwall and Devon. From Cheshiro, Kent, Sussex, Middlesex, Essex, and Hampshire, the uniform information is,—“The early-ripening sorts are being stored, and scarcely a diseased tuber has been turned up by the fork.” In low-lying, wet soils, there are some exceptions; but the following report from a high-lying garden, sent to us by Messrs. Hardy and Son, seed-growers, Maldon, Essex, applies to all similarly elevated, well-drained soils. They say:—

“We are happy to state, that up to this time, July 22nd, after nine years' unsuccessful cultivation of the Potato, we have no reason to pronounce a recurrence of

disease in this, the crop of 1854. About a fortnight ago, during the time of a remarkable humid, lurid, and sunless atmosphere, we heard of the actual presence of spotted leaves, and here and there a diseased tuber; and some unmistakably infected leaves have been sent us in letters from distant parts for ocular demonstration. By this time, we hope and trust that this fungus on such specimens is now starving or absorbing, and is overcome by the present and welcome hot sunny weather, and that the tubers are mostly thus preserved. In short, in this district (Essex), where most people have availed themselves, by our advice, of the opportunity of procuring early dwarf kinds, they are now fast ripening, with a healthy, yellow hue, and bidding defiance to disease; and none are in danger here except late varieties, which we are not so mad now either to cultivate or recommend. We have no doubt that, by future adherence to dwarf early varieties, and early planting, we shall then be able, as we are now, to say, ‘Good bye to Potato disease.’ Of about ten selected early varieties we cultivate all are at this time, July 22nd, fast maturing, and are free from disease. We are also equally successful, this season, in raising sound, lily-white, and fresh early varieties from our selected seed (not tubers), which have hitherto baffled our efforts by sharing the same fate as others. It is a most remarkable fact, that this year, such crops as are most susceptible of blight, louse, and numerous other insects, are, with the exception of the Bean, and Hop, and a few others, comparatively free from those pests which are now so prevalent. Instance the Potato, the Pea, and the Cabbage, with some others.”

THE QUESTION OF STOCKS FOR FRUITS.

HAVING, in a preceding paper, approached the confines of the Stock question, I must beg to proceed; first promising, that what I have to say is merely suggestive, and more matter of opinion, perhaps, than of established principle. We have been recently chatting over the propriety of aiming at new fruits; and why not new stocks occasionally? Not, certainly, in the latter case, for mere novelty's sake, but in order that some advance may take place here also; for who is there that supposes we have reached perfection in this affair? Shall it be said that everything else is in its nature progressive but the Stock question? This would be, indeed, a most erroneous conclusion;—in Horticulture, at least, there is no such thing as finality. There are, at least, two distinct phases under which to view this subject; the one, how, with any chance, may a superior class of Stocks be originated? the other—can we do anything with the Stocks we already possess to render the fruits grafted or budded thereon more satisfactory and profitable?

I have before, a long while since, offered suggestions in this work, which is considered of such practical utility in these parts, that a gentleman who called on me the other day from Frodsham, in this county, and who is going to establish first-class gardens, assured me, that no less than three copies were taken in on his grounds alone. This, certainly, is no confirmation of the scurrilous and envious remarks occasionally of writers who would fain arrogate to themselves the power to regulate the mental or moral palate of the public. However, such characters are tolerably unim-

portant, as to real position, to do much mischief. I have before offered suggestions this way; I may now be permitted to repeat, and to add to them.

As to the origination of New Stocks, it may be fairly asked, are any of our present stocks defective to meet the end in view? This is a very natural beginning, and we will try to answer it.

All the world knows, in the first place, that Apricots, especially the most valuable kinds, as *Moorpark*, are apt to decay piecemeal, even when the tree is in its prime and apparently healthy in its general system. Now this, surely, must either be through some inaptitude in the stock, or through some physical defect inherent in the kind, or what they term *wearing out*. If the former, here is a case for the Stock-grower; if the latter, it points to the propriety of raising new kinds from seed. And what stocks do our nurserymen use for them? I really am not well assured what Stocks the nurserymen do use at the present moment, but in former years they had what was termed the Commoner Stock, and they used also the Muscle Plum Stock. This "commoner" appeared to be a sort of half-bred Plum, and used to branch out much into axillary shoots; perhaps it is of the Bullace section, although I never heard of its fruiting. Some of our friends, probably, will have the kindness to throw light on this affair. The Muscle Stock, on the contrary, is a real Plum, growing with the uprightness and freedom of a fine young Orleans, and little disposed to axillary shoots or thorns. One thing is certain, that precisely similar results could not be expected from these two on all soils, nor from any two, differing so much in habit.

To turn to Plums, which are, or used to be, worked on the Brussels Stocks, to which, in many cases, there appears no objection, yet since very slender-habited Plums, or kinds inclined to "wear out," require free-growing, if not luxuriant, stocks, there are others, such as the Egg-Plum section, many of the American kinds, and some of the Orlean class, which grow too rampant on over-powerful stocks for a training system, that would be much more manageable, as well as come sooner into bearing, if their grossness was subdued by the use of a more moderate stock. I have seen such as the Washington produce rods five feet long, in one season, against a wall. The Brussels Stock, if I remember rightly, is some twenty per cent. more robust than the Muselé Stock. Why not put the weak kinds on the Brussels, and the robust on the Muscle, or, perhaps, the Wild Sloe?

In Pears, too, if raised from seed for stocks, what a variety of habits are discernible, pointing, of course, to various adaptabilities. In raising these "free" stocks, as they are termed, I think much improvement would be effected if sorted in the act of transplanting, keeping all those with very fibrous surface-roots for a dwarfing system, or for training artistically, and reserving the more tap-rooted kinds for ordinary standards, &c. I do think that there can be no doubt fruitful habits may be determined by the roots alone, when in a state of Nature; a little close examination will show that there is, even as in the branches, more difference than might be expected. I am thoroughly assured that fibrous roots in almost any fruit-tree point to early bearing, and to a moderated growth, and *vice versa*.

People may talk philosophically about multiplying the small fibres, in order to increase the vigour of the tree, but this is rather specious reasoning, and scarcely borne out in practice. The fact would appear to be—that every time a tree is root-pruned the impetus for rambling rapidly in quest of food is lessened; hence, a more steady growth, and, consequently, better equalization of the strength of a tree. I say nothing here about the warmer medium that surface-roots enjoy, as I wish to keep close to the subject in hand. It is very

probable that Pears of very healthy and prolific kinds would make good stocks for a dwarfing system, or seedlings from such as the *Bourré de Capiaumont*, *Louis bonne de Jersey*, &c.; it is not unlikely that some such practice would supersede the Quince Stock in a very great degree. I may here ask forgiveness of those Nurserymen who have invested much in the culture of the Quince; they naturally back their "stock in trade;" but we all possess, more or less, an infirmity of the kind, that of backing our own opinion and our own interests.

Some of our Peaches do not like our stocks; these are, I think, generally, on the Muscle Plum Stock. Now, why not try seed from the American orchard, selected from very robust and healthy kinds, and especially those adapted to cooler soils and situations there. The result, I should expect, would be a stock more congenial to the Peach; in fact, more of its own nature; for I am not aware that it is established as a fact, that the more dissimilar the stock, the higher the chances of successful culture.

Of course, Nectarines may be expected to submit to the same stock as Peaches; therefore, little need be said about them. I may just observe, however, that I have frequently, in my day, budded both Peach and Nectarine from young luxuriant trees, on the old wood of Peach trees; wood as thick as my wrist; and that I have nearly always found that the Nectarine succeeds best. It does not grow quite so fast, but it endures better by far; this is strange enough, and I confess myself unable to account for it. The thing is done to fill up gaps, for I hate a blank in a Peach wall; it generally bears witness to bad management, or neglect, at some period. I have a fine wall now, eighty yards long, nearly all Peaches and Nectarines, and uniformly covered with fruit from the ground upwards; and I challenge any man to find three naked bricks in any one portion where the trees extend.

As to Apples, I have little doubt that the striking them by cuttings would be one of the best plans for a dwarfing system; but this must not be done anyway: they would require generous treatment, for the check is so great, and the root produced not being of so hardy a character as the wildling from seed, that they must, doubtless, have a tolerable amount of care exercised over them, and would, perhaps, require more generous soil. I cannot say that I am perfectly satisfied with the Paradise Stock; it certainly answers admirably for some, but, like the Quince for the Pear, the odds, in the aggregate, are against it. But, behold a bed of seedling stocks raised from ordinary orchard Apples, what a difference in habit presents itself! Aye, and in vigour of constitution. Now, the nurseryman, of course, cannot be expected to select, sort, and systematise these according to the needs of the fastidious cultivator; if he did, he must charge double the value, on account of the extra labour involved, to say nothing of the head work required; he, of course, plants them out straight ahead.

Before concluding this Stock affair, which is merely suggestive, let me repeat the opinion, as an opinion, that I have before expressed in *THE COTTAGE GARDENER* more than once, and which is, I have little doubt, that if the young seedling stocks could be transplanted every year carefully for the first three years of their life, we should need neither Paradise Stock nor any thing else. We should have stocks which, when removed after grafting, would be a mass of fibres, instead of about three forks, like a three-legged stool; and, admitting such to be the case, I will ask our really practical men, what they think would be the result?

I hope enough has now been said to rouse attention to the Stock question, and to infuse fresh blood into it; of course, I cannot expect our readers who *indeed*

understand fruit-trees, to subscribe to all my opinions; I therefore throw them out, respectfully, for their consideration, and do hope to hear of an increased interest therein.

R. ERRINGTON.

AUTUMN PROPAGATION AND SPECIMEN PLANTS—FULHAM PALACE.

From about the middle of July to the end of August is the best time in the year to propagate all the kinds of *Geraniums* which are suitable for the flower-beds and borders. Out in the open air, and without pots, cuttings of them will then do better than in the best propagating house in the kingdom. However, this seems to be a season of exceptions from first to last, for there were few gardens, indeed, in which cuttings could be spared in the middle of last July. Those who have trusted all along in the more manageable system of *yearly cuttings*, and who, year by year, discarded their old plants, have had their fingers burnt most sadly with the late frosts of last April. The spring was so hot and sunny, that the "young stock" could not stand it at all; grow on faster and faster they would, even in the coldest frames, and they had to be turned out much sooner than usual; the memorable 24th of April overtook them unawares, and tens of thousands were either destroyed altogether, or were crippled so much that the beds could not be filled properly at the proper time; and instead of July cuttings, the beds, in most of the places which I have seen and heard about, were hardly up to the proper mark by the end of the month, and even now it goes against the grain to begin the autumn propagation in many places.

Now, look at the other side, and take an instance out of many where people have the patience and good sense to take every possible care of every morsel of an old plant in the autumn, and of as many of the old plants as can be kept, by hook or by crook, through the winter, a practice which I had adopted from the first day that I undertook flower-gardening in earnest, which I have recommended constantly ever since, and for which I have been called *daft*, or something near it, by those who ought to have known better.

The "old stock" do not come on so fast as young plants in such a spring as the last; old plants, under a hard winter treatment, are not half so excitable as young plants are in the spring; and if a late frost overtakes them, they suffer no more from it than Potatoes do,—the scorched leaves are soon replaced by a fresh sprouting, with very little damage to the old stems and roots. I do not recollect having ever burnt my fingers in the spring with short-comings from any cause, but I seldom escaped the consequences of my own folly in the autumn in leaving the plants out too long; and even last autumn, when I had it all to myself, I was no better off. I left my *Geraniums* out too long, the frost took them, and I took them from the frost, but they would not keep. I lost some valuable kinds for crossing, and my beds, such as they are, are now in mixtures, and all manner of things, so that the very children, playing outside my boundary fence, declare "Them there flowers ain't so good as they used to be." I must put up with all this, however, for the present, but my name is not Donald if ever I am caught napping again by the frost; and the purport of this article to *THE COTTAGE GARDENER* is simply the advice to make as many new cutting acquaintances as are likely to add to your respectability, but never to discard an old plant-friend for its looks. If it be out at the elbows, that may be a misfortune more than a fault, and if you are sure of it in the hour of need, present looks may be looked over altogether. The force of circumstances, however, as the first Napoleon used to say, will, most likely, compel many of the "young-stock" fanciers to consider both sides of the

question this season without much advice. Late propagation is dangerous at all times, and may appear more so to many after the losses of last April, therefore a little inquiry at the proper time may induce them to calculate on, say two-thirds of the old plants of this season coming in, with only one-third the usual quantity of autumn-struck cuttings; but to make sure work of it, let us say one-half of the customary number of cuttings will be amply sufficient for the next planting, if we take special care of the old plants this next coming winter; and that is just my own resolve at present.

The instance of real good management which I was going to tell, I saw on Thursday, the 27th July, last past. At the great gathering of the Horticultural Society, in honour of the Queen's visit, appeared, among other new names to me, that of Mr. Hayes, gardener to the Bishop of London, at Fulham Palace, as a successful competitor with Pine Apples. The garden of this episcopal palace has been celebrated in the annals of our craft since the days of Bishop Compton, who was one of the greatest patrons of gardening and botany of his time.* I had heard a good deal of this garden, besides, from Sir W. and Lady Middleton, and also about the flower decorations at London House, still I had no

* Mr. Beaton asks in a note to us, "What is known of Bishop Compton's Gardening?" and in reply, we reprint the following from an early number:—

"It is not alone by being guides upon the road which leads to eternal life that the clergy of our land are aids to our happiness. If this were a fitting place, we could tell from an experience of twenty years of village life in how many minor, yet important, circumstances, the ministers of the gospel, with their families, dotted about the British islands, are so many centres from which are diffused, from day to day and from year to year, the growing information and amenities of society. Nor is this an advantage, or blessing, emanating from them only in modern times: whenever and wherever there has been a fixed source of religious instruction, it has invariably been also the source of general improvement in the arts of life. It has been usual to look upon the monasteries of the Middle Ages as institutions of unmixed evil; but even they were not so; and however debased was their Christianity, yet they were the nurseries of the arts and sciences, and storehouses of the knowledge and improvements of the past, held sacred when all else was subjected to dispersion and destruction. Among the arts thus cherished and improved, gardening has ever been one; and we could tell of many monks who were as skilled in vine culture as they are fond of drinking deep of the juice of its berries. Records of their vineyards, orchards, and flower-gardens still remain: but we will tell of another ecclesiastical who emulated their skill without any fellowship in their vices.

"HENRY COMPTON, Bishop of London, is one of those characters on which no one can dwell without gratification; for in no period of life not only did he never fail in the performance of his duty, but never did he cease from striving to effect every possible good within his power. He was born in 1632, the youngest son of the second Earl of Northampton, and inherited the courageous spirit of his father, who died in the field whilst fighting for Charles I. He was but ten years old when the battle of Edge Hill was fought, and was, for the sake of security, in the royal camp during that blood-stained day. After the Restoration, he accepted a cornetcy in a regiment of horse, but soon gave up the profession of arms, and was ordained a minister of the church. Here he rapidly obtained preferment, and, finally, in 1676, became Bishop of London. He was emphatically known as "The Protestant Bishop," during that era of the struggle for ascendancy between the members of the Reformed and of the Romish church. We have no space sufficient for tracing even an outline of the efforts and labours which earned justly the popular title bestowed upon him, for we must particularize his acts for the advancement of the art which especially entitle him to notice in our pages. So ungrudging of expense was he for the encouragement of horticulture, that he enriched the gardens and greenhouses of his palace at Fulham to an extent which rendered them remarkable not only for excellence of cultivation, but for containing a greater variety of plants than any other gardening establishment in England. Of exotic plants he possessed more than 1000 species. To his taste for horticulture was united a knowledge of botany not usual among the elevated in rank of those days. He was a great encourager of Mr. London, who had been in his service, and who, under his patronage, established the Brompton Nursery—the best of its period. The Bishop was one of the first to promote the importation of ornamental exotics; and not only delighted in encouraging their cultivation, but also that of kitchen-garden plants. He was particularly fond of the Kidney bean, and introduced many of its varieties. Every department was under his own general superintendence; and having especially directed his attention to ascertaining the climates of the countries from which his favourites were imported, he soon was enabled to cultivate in his open borders many plants which had been considered too tender to be exposed to our seasons without protection. Death was sent not to him until he had passed his eightieth year; and when he was thus released from his labours on the 7th of July, 1713, he left behind him the reputation of being one of the few who, whatever part they have to fill, always act correctly. It is quite true that many virulent assaults upon his character and conduct are to be found in his contemporary literature, but they are attacks all to be traced to evil sources, and in every instance probably would have received the same worthy comment which he made upon one libeller: 'I am glad of his attack upon me, for he has given me an opportunity of setting you a good example in forgiving him.'"

opportunity of seeing this celebrated garden with my own eyes; I did not know Mr. Hayes, nor any one about the palace; I had failed in making my Lord Bishop's acquaintance at Shrubland Park; and now I never enter a garden without some previous acquaintance, or a good introduction. I was fortunate this time in my introduction, and in having found his lordship with a little spare time on his hands; a very unusual thing with him while Parliament is sitting. I did not make notes, nor even intimated that I should mention the place at all in black and white, but my reception was so thoroughly of the good old English style, and so characteristic of the great patrons of our art and calling, that I cannot pass without saying, that the Bishop of London is just as fond of gardening, and of the improvements of the art, as ever Bishop Compton could have been; that Mrs. Blomfield is as careful and as particular about the flower-garden and decorations, outside and in-doors, as any lady in the land; and that Mr. Hayes seems to be one of the fixtures of the place, looking now just as young as he did twenty years since, when he was so lucky as to engage under such kind-hearted patrons; peace and good will were stamped on everything I saw and heard in this garden. I only wish I could say half as much about some other gardens which I could name.

The beds in the flower-garden here must have been full to overflowing quite six weeks before my visit. I never saw beds more full in July anywhere. I know very well that ladies can do wonders in a flower-garden; but I know, quite as well, that there are only two modes by which flower-beds can be brought up to the right standard at once, by the present system of planting them with choice half-hardy plants, and to get at the tale is what I have been writing for thus far.

By sowing a selection of annuals from the middle of August to the middle or end of September, we have choice of a spring crop, at little cost, to fill in between spring-flowering bulbs, to flower while the bulbs are ripening off their leaves, on the one hand, and for filling up the spaces between bedding-plants, to make up for the time during which these plants are getting hold of their new situation, as it were; where annuals hold on with little loss from the winter, this plan gives greater variety for the season with less trouble and expense than that of filling the beds at once with Geraniums, Verbenas, Calceolarias, and the like. In nine places out of ten, you will find, that if all the Geraniums and Calceolarias, more particularly, are quite young, that is, from last autumn-struck cuttings, one of two things must happen; if you plant such young plants so thick as a bed ought to be seen in May, they will not have sufficient room to spread themselves so as to show their flowers to the best advantage; or, if you allow them the necessary spaces, the beds will look cold and naked for a considerable time. There are some few places to be met with, however, where the situation of the flower-beds is so fortunate for the gardener, that his young plants seem never to receive a check from turning out, and they soon close on each other, flower, and hide every part of the raw-dug earth. In such as these, young plants should not be crowded at first planting, but in all other situations where plants are liable to be affected by the weather, the rule is to have them planted so thick as to look *furnished*, as we say, at once. Then, if it is true, as I maintain it is, that young plants do not answer so well for the later part of the season if they are planted so thick at first, the next plan, and by far the best one, in my opinion, is to have recourse to as many old plants as one can manage to keep over the winter, and to use the young stock for planting all round them. This is exactly how they manage to fill the beds so well and so early at Fulham Palace, when nine-tenths of the gardens all over the country have nearly failed for the first part of

the season. I did not ask what time they took up their bedding-plants; how they were kept through the winter, and how in the spring; nor any of their details, because, at the time, I had no idea of making use of such information, as I have just said, but I should lose the best string in my bow if I were to miss this proof of the pudding which I have been cooking for so long a time, and more particularly now, when I cannot appeal to my own practice, as in former days.

Calceolaria ruga and *amplexicaulis* were the only yellow kinds in use here, and *Sultan* the only coloured one, as far as I recollect. *Amplexicaulis* is generally a late bloomer, but it was as full of bloom as it need be all the season, and the *Sultan* was one level canopy of bloom, over dwarf, bushy plants set quite close together. A bed of *Salvia patens*, looking as if of some improved variety, more dwarf and stocky than one generally sees them, was left out from last year, with a layer of dry leaves over them, and some boughs over to keep the leaves from blowing about, not one of them was lost, although the bed and all the beds here are scarcely above high tide mark, and not 300 yards from the Thames. Surely, then, this *Salvia* might be kept out in any garden during the winter, and the plants come up bushier and stronger every year; they also keep on the flowers longer when the roots are thus firmly established. A large bed of the double *Feverfew* (*Pyrethrum parthenium*) was the best white mass I ever saw; the plants were from twenty inches to two feet high; and in a large bed of new Verbenas from the Continent, were the largest flowers I have seen out-of-doors. The best kinds of herbaceous plants are grown by themselves, in bed and borders. The new continental *Phloxes* were particularly good, and full of bloom, together with a selection of best annuals and hardy *Ferns* in abundance, for which a rockery was recently made, killing two birds with one stone; shutting out a particular view, and forming a natural retreat for the best kinds of Ferns. *Magnolias* and all *American Plants* do remarkably well here, and grow to large shrubs and trees, in the "American Garden," which is close to one side of the Palace, a quadrangular pile; the side of the square next the American Garden is entirely covered with Ivy up to the roof. I never saw anything done so completely for uniting part of a mansion so thoroughly with a garden scene. There is no paint or stucco which keeps bricks more dry than a good mantle of *Ivy* like this, when it is properly attended to by people who understand what they are about. Some people run away with the idea, that Ivy makes damp walls, but there never was a greater mistake, unless it be the foolish notion that Ivy will take care of itself if once it is established in good soil. The truth is, however, Ivy requires as much attention as the best kept lawn. The true way, and the easiest, is to watch for the first pushing of growth towards the end of April in each year, and then to cut in every leaf and shoot as close as the mower would do on the lawn, and to thin out some of the younger branches wherever they appear crowded. In ten days it is all as green as ever, and for the rest of the season will only need the foreright shoots, or breast-wood to be cut in here and there, when any of the shoots push out beyond the regular surface of the leaves, so that the heaviest rain can never get beyond the thick covering of the leaves.

There is a fine tall plant of *Cunninghamia sinensis*, from the south of China, in this American ground, which stood without any protection last winter, and escaped unhurt; and in a more open part of the garden, a large specimen of a weeping *Eucalyptus*, from Australia, was coming into flower, after passing the winter, with no sort of protection; but a strong plant of *Abies Weibiana* was terribly hurt, and *Cupressus funebris* suffered considerably. An immenso root-stock of the Coral-tree

(*Erythrina crista-galli*) ripens seeds against the end wall of one of the hothouses, with little or no protection in winter. The pleasure-ground is full of the finest specimens of hardy trees to be met with in England, some of them being the very originals of the kinds introduced to this country. His lordship pointed out several such, and he appears to have a great veneration for them. I only recollect a black Hickory (*Juglans niger*), above fifty feet high, and with wide-spreading arms, which he said was planted in sixteen hundred and something. A *Julus* tree twenty-five to thirty feet high, and with the largest head of the kind, perhaps, in the country. A *Pinus pinaster*, sixty to seventy feet, on a rough guess, the most enrious-grown tree in England; it is as straight as an arrow, and without a bough for more than half its length, and all this bole or trunk seems to be almost of the same diameter all the way up, and much thicker than any Fir-tree one is accustomed to see in this country. A huge *Cork-tree*, from forty to fifty feet high, with a wide-spreading top, and the bark in ridge and furrow all over it. One of the large arms of this tree broke off high up near the trunk, but instead of taking it away to a Museum, or, perhaps, to waste, as some would do, it has been propped up against the tree itself, bottom upwards, and the main tops fixed in the grass below, where it tells its own tale to the letter; the first time I ever saw a massive limb of a tree broken off and made the best of. An *evergreen Oak*, with a single stem more than twenty feet high, a very large head, and the trunk at the surface of the ground seven yards round; this was the only tree which I stepped round, and I could look at it for a summer's day without tiring. Other Oaks, with Maples and Cedars of Lebanon, are also of great age and sizes, and a most healthy, vigorous generation of young trees from these patriarchs, which were reared from seed by the present Bishop of London, are now large-looking trees in the park, together with more recent introductions.

As if on purpose to associate with these large trees of the woods and forests, there are several plants of the tallest *Scarlet Geraniums* in England out on the lawn here, in groups of threes together; the tallest of them are clear fourteen feet high, supported round poles of equal height, and the lowest of them is above ten feet high; the kind is the *Shrubland Scarlet*. They are wintered in a dry vinery; from the ripened appearance of the wood of these Geraniums, they look as if they might live on comfortably enough for fifty years or more. I forgot to ask how old they are now, but they are certainly very fine objects in a large garden like this; there is even a greater feat than they, however, in the Geranium way, to be seen here; but how shall I describe it? Imagine as many picked men of the Guards as could stand close together in single file along two whole sides of this large square-built palace, and on the off-side of a broad terrace-like walk, next the grass, and a large party of lords, ladies, and gentlemen, walking up and down, and round the corner, between the Guards and the doors and windows of the palace, would that not be a fine sight; well, for the Guards let us say large specimen Geraniums in stone-like vases, and such specimens, too, as Mr. Turner's *Rouena* and *Perfection* Geraniums, at the Chiswick Show, only two or three sizes larger. If Mr. Hayes had taken a score of these vase Geraniums (and he could take them almost without being missed for the day) to the Chiswick Show, instead of his Pine Apples, he might not have got a greater prize for them than he had for the fruit, but the sight would have caused as much garden gossip among country folks as the Queen caused among the more fortunate of the exhibitors who were in "attendance." I have seen enough of gardening, one way or another, but I never saw such as this or anything like it. *Tom Thumbs* and the *Scarlet Queen* were the only ones of that section,

and *Tom* is preferred before the *Queen of Scarlets*, which I never saw before; the old *Scarlet Variegated* was the next kind, reckoning by numbers, and there were some splendid *Uniques*, and one or two more of fancy perpetual bloomers. Not one of these was under a yard in diameter, four feet, by guess, being the general run, and a few even wider than that, and all in full bloom and perfect shapes; but what surprised me more than the rest, was the small sizes of the vases themselves; the smallest size could not hold more earth than a number 16 pot, so that a good deal depends on hand feeding. If the twelve *Scarlet Geraniums* which Mr. Edwards exhibited at the Regent's Park Show, last July, are well housed next winter, and get a little encouragement from next February to May, and be very gradually exposed to the open air, they would soon make specimens for standing out in different parts of the garden for years and years to come.

Now, it is only a question of time, and of head-room in a greenhouse, or vinery, whether one grows *Tom Thumb* into a three-foot-in-diameter specimen, as a dwarf "squat" plant for a vase or rustic basket, or a *Shrubland Scarlet*, alias *Smith's Superb*, up to ten or twelve feet high, to be planted out on the grass, as at Fulham Palace; or *Unique*, and many other of the perpetual flowering class, as Pillar Roses, and as high as seven to ten feet, such as they train them at the Regent's Park Garden, either for the conservatory, or for placing out on the grass; that is, a three-feet-across *Tom Thumb* does not occupy more space in a house than a ten-foot-high plant of any other kind. A dozen specimen Geraniums, trained for exhibition, in the style of Mr. Turner's, or Mr. Gains', plants, would not require more house-room if they were as many feet in height as they are inches across. Then my firm advice would be for all who have a flower-garden to furnish, that if there is only room for keeping ten large Geraniums over the winter, let four or six of them be trained up into pillars for the flower-garden, to be planted out in groups here and there on the grass, or as single plants. Either way they look extremely well, besides stamping a distinct character on the whole place. All kinds of Geraniums for vases, large pots, or rustic baskets, are better trained out as wide across as one can get them, and to be as low as the nature of the kind will allow of; or, if you simply require to plant flower-beds only, let two-thirds of the crop be of old plants. My experience on these points was more than confirmed on visiting Fulham Palace.

D. BEATON.

ODDS AND ENDS.

CHEIRANTHUS MARSHALLII.

"How, when, and where am I to propagate this?" This has frequently been mentioned lately. It is certainly a very beautiful thing, and, I presume, as hardy as the *Cheiranthus alpinus*, from which it differs in its more compact bushy habit, and in having orange instead of yellow flowers. I have a number of young plants, in a raised border, among others of a kindred nature, such as *Saxifrages*, *Sedums*, &c., that were propagated late last season in a cold pit, and kept there all the winter. I intend to get some dozens of cuttings from them in a few days, and will either insert them in pots to be placed in a cold pit, or place them at once under a hand-light. If placed in pots, no assistance will be given to them, except keeping them rather close. If placed under a handlight, they will, most likely, go in company with other things, for which a slight hotbed has been prepared; such as Pinks, Carnations, &c. As other queries lead us to infer that our correspondent has not had much experience, I will shortly describe how

to form such a bed, so useful at this season, for hardy and half hardy cuttings.

Obtain a little sweet fermenting matter, it signifies little what, dung, loaves, sweepings of lawn, flax refuse, tau, or even sawdust fresh, and build it firmly together, a little wider and longer than the number of hand-lights you intend to put over it will cover. Make it from twelve to fifteen inches deep, beat it level on the top, cover that with four inches of rough soil, then with three inches rather fine, and last of all, after previously patting it with the back of a spade, with half-an-inch of the finest sand you can muster. You can easily procure the two kinds of soil as to fineness, by placing the riddings at the bottom, and the finer soil at the top. The upper fine layer should also be mixed with about a third of rough sand. If you can command a little very reduced leaf-mould to mix with the soil so much the better. For such general purposes, the soil obtained from a highway side is as good as any, and the drift sand that can be there picked up at the bottom of rising ground after a thunder shower, is only inferior to the very best silver sand, which you must bring from a distance. If, for the purpose of keeping the young plants slightly protected in winter, you prefer placing the cutting in pots,—and a six-inch pot will hold from nine to a dozen,—fill the pots half up with drainage, and then rougher soil, and then finer, terminating with the sand at the top. So far, as to the *where*; merely premising, that though this slight hotbed, if well shaken, and of sweet, rather dryish material, will so far be an advantage, yet the cuttings will strike equally well, in a warm autumn, in fresh sandy soil, either above or in the place of the common soil removed. In particular cases, and where danger from damping can be avoided—by placing rough drainage beneath the new soil—I prefer removing as much of the old soil as will admit the new with its drainage, as the soil in which the cuttings are placed is less quickly cooled by radiation than when the bed stands above the ground. One word more—and because it is applicable to the whole of the little hardy early-blooming things it may now be desirable to propagate by cuttings,—this *Cheiranthus* thus serving as an index to multitudes—this prepared ground, on a level with, or just an inch or two above, the level of the surrounding surface, will be better than ground raised above fermenting material, as described above, if that is *not* sweet, but sour, and likely to become colonised with worms. In using such a bed for cuttings, it is always advisable to sprinkle a little quicklime, or a little salt, over a thin layer of soil, placed over the dung, and this will prevent the slimy gentry poking their noses upwards. In putting such cuttings into prepared soil on the ground, it is also advisable to place either of these substances as a substratum, as nothing more militates against the rooting process than the moving and loosening of the soil by worms, which thus admit air to the base of the cutting, to exclude which we use firmish soil and a surfacing of moist sand.

I may also add here—as it may not come directly in my way again for some time—that the fineness of the sand on the surface, and its being firmly, and less firmly pressed, must be regulated, to a great extent, by the hardness or succulence of the cutting. For instance; here are a number of small Heath cuttings getting firm at their base, for these we require the sand to be firmly pressed and fine, that the base of the cutting may be kept firm and next to air-tight. But here, again, is a bundle of the Double Groundsel with rather succulent stems, and such fine and compact surfacings would be worse than useless for them; nay, an opener surface, such as that of sand and soil mingled, would suit better than any surfacing of sand by itself; simply, because a cutting stored with such succulence

must have an opportunity of perspiring, as well as inhaling, for the whole of its length; otherwise the too-closely confined part would ferment and decay.

Our correspondent will perceive that the path of safety for the *Cheiranthus* will lie between these two extremes.

Another word still, as to the *where*. It will be seen, that in a fine autumn, supposing you have made up your mind to bed instead of pot, there would be little advantage gained by the slight hotbed over that on the common ground; but as it is best to provide against contingencies, and it is possible that we may have both a cold and a wet autumn, then, the cuttings over the slight hotbed formed of the dryish material will have two advantages;—less liability to damp, as the rains will pass more easily away; and a higher temperature at the roots, produced by the gradual decomposition of the organised material which the entrance of air and moisture will effect.

And then, again, the *position* of such a bed is a matter of some moment. As a general rule, the successful rooting of any cutting removed from its parent plant whilst in a growing state, greatly depends on keeping the whole of the vital forces of that cutting in healthy action; giving it as much, and no more, of direct light and air as will enable it to decompose and assimilate its diminished supply of food; using just enough of shading from sunlight, and a close confined atmosphere, to prevent the cutting from shrivelling and flagging, from the perspiring processes, overturning the balance of its powers to inhale and absorb; but not so much shade and closeness of atmosphere as would weaken or blanch the cutting, or cause it to lengthen itself upwards, without forming root processes downwards. Now, keeping these principles in view, it will at once be evident, that the north side of a hedge, wall, or fence, and so close to it as to prevent any direct rays of the sun falling upon the cuttings, except some rather oblique ones, morning and evening, would furnish the *position* for striking such cuttings, with the minimum amount of trouble and care as to shading; and I am not going to say, but all things considered, this might not be the best position, if the plants did not remain there too long. But supposing that you cannot turn out your plants as soon as struck, and I know of nothing that deserves better a bright sunny knoll on which to expand its golden blossoms, it will be equally evident, that such a site would soon make the plants spindly and filled with watery juices, because deprived of the consolidating influence of that sun in which they so much delight. In plant-culture, therefore, as well as other pursuits, it is seldom that any peculiar advantage is gained without its attendant characteristic drawback. In propagating such things, therefore, that are likely to remain in the beds some time after being struck, I generally prefer an open space, though the trouble of shading thus be increased, in order to obtain greater sturdiness in the plant afterwards. Of course, in such a position, the sun should be watched; a fact which it would be well to express on many a young blue aproner, who too often attends to his shading, just as he minds breakfast and tea time. In such circumstances, I frequently, for the purpose of minimising present care, and securing future robustness, give the cuttings a north aspect in a bed at first, and a south one as soon they can bear it. I have no great love for hand-lights as at present constructed, and would, for most purposes, have the glass in them transferred to sashes, covering wooden boxes of a size to be easily transferable. Well, the bed being made quite level, before the box is set on, the high side of it is first placed towards the south, and when the rooting process is fairly going on, the box is lifted and turned, so that the high part faces the north, or any other point of the compass deemed most desirable. If our enquirer has begun to

generalise as he went on, he will at once perceive, that with the assistance of bell-glass, pit, or frame, he can realise for his few cuttings all the advantages I have pointed out, by dibbling them firmly in a pot prepared as above, watering, shading as required, keeping air from them by a glass covering, or a glazed calico, or oil paper covering, or a very shady place, and placing the pot in more light as growth advances.

Having, for a general object, said this much on the *where*, as the receptacle for the cuttings, should be prepared, watered, and drained, before the cuttings are inserted, let us shortly direct attention as to the *when*. From spring to autumn, cuttings may generally be obtained; but when many are wanted, the best plan is to wait until the plants have finished their chief burst of blooming. When the flower-stems are removed, more strength is thrown into the incipient young shoots, that generally push out in great numbers. Cut these neatly off when about two inches in length—though shorter ones will do—slipping them off as close to the older stem as will not injure it. Remove the leaves for a quarter-of-an-inch, or so, at its base; cut clean across with a sharp knife at a joint there, or at the point where the cutting joined the parent stem. Insert the cuttings round the sides of a pot prepared as above, not nearer than you can place a bell-glass, or a tumbler, over them—underneath which you can give air, and above it shade at pleasure; and, provided you can place that pot then in a cold frame or pit, you will be following the best means as to the *how*, though, as shown above, other more easy means may be adopted when propagation is to be attempted in a wholesale way. Though I believe *Cheiranthus Marshallii* to be hardy, still, as it is not yet very common, I would advise potting the young plants, and keeping them under the protection of glass until the end of March. Where glass is not to be had, a dry place, and other means of shelter, such as glazed calico, branches, &c., should be resorted to for the first winter.

PINKS.

Several inquiries have been made as to the propagating of these. The modes mentioned above will answer admirably. There is only one question that requires a particular answer—"I cannot understand what you mean by slipping out the cuttings, so as to avoid the labour of stripping off leaves, cutting across the base, &c., before dibbling them in beds under hand-lights," &c. Nothing can be simpler. Go to a plant; the flowers will now be nearly gone, and a quantity of young shoots will have grown since planting-time. Decide on the shoots you wish to have for cuttings; seize hold of each, one at a time, with the left hand, near its base, and catch the top between the thumb and forefingers of the right hand, far enough down to reach the second joint of the shoot; give it a brisk pull, and out it comes at that or the next joint, cleaner than any stripping or cutting could make it. Sometimes, a slight film may adhere to the base of the cutting thus extracted, and that should be removed with a sharp knife. With this exception, the pulled cuttings are at once ready for planting. And now, as to the planting in those railway times, when if dispatch is not the order of the day we shall be left nowhere. On a bed, made as described above, smooth, moist, and level, I saw a man dibbling in Pinks, and leaving his work behind him as if a fork, if not a ploughshare, had been there. Supposing that the bed, after being surfaced with a little sand, had been watered the day previously, pat it down gently, and just throw the slightest sprinkling of fine sand over it; then take a small dibber as fine as a lady's bodkin, or finer, hardly larger than the diameter of the stem of the Pink-cutting, and with that make holes in rows across your bed—any clever urchin will make a hundred

while I write a line or two—and into these little holes place the cuttings, and firm them gently with the thumb and finger as you go along. A gentle watering will finish the whole affair, and leave the bed as smooth as a level can make it. The use of the little dry sand will now be seen; it will get into every little hollow round the cuttings, and hold them firmer than any patching with a dibble could effect.

CARNATIONS.

"My *Carnations* are making too short wood for layering. May I not try them by cuttings as Pinks? There are some nice stubby pieces on the stem, too high for layering." By all means. For hardy kinds, the same treatment as for Pinks will do; for those more valuable and tender, more heat will be required. For the most valuable, we would prefer inserting cuttings round the sides of small pots, putting these under a cool frame or hand-light for two or three weeks, giving them shading as required, and then plunging them into a mild hotbed, hardening them off again as soon as roots were formed. The same mode of cutting-making may be adopted as with Pinks; and that in rare kinds will enable you to leave the base of each shoot to break out again; but in the case of stubby little shoots on the stem, it would be advisable to slip them off at once, close to the stem, and insert them at once. These will also stand, and rejoice in a little more heat to encourage rooting than the more succulent ones. R. FISHER.

KINMEL PARK, NORTH WALES.

SEAT OF R. HUGHES, Esq.

It must be very pleasant to the owners of estates near the sea-coasts to find that new or rare trees and shrubs are not injured by the severe frosts of such winters as the last. Kinmel Park is one so happily situated. Standing on a considerable elevation about two miles, as the crow flies, from the sea, which said two miles is a reach of flat, rich ground, producing excellent crops of corn, hay, potatoes, turnips, &c., on the right, you have a view of Rhyl, a watering place close to the sea, and on the left, the pretty little Welch town, Abergili. In both places I noted several neat villas, built and building, with a view to accommodate visitors with lodgings during summer. Directly in front of the mansion is a fine view of the sea, with the hills of Cheshire in the distance. The Chester and Holyhead Railway runs close to the sea-shore, having stations at the two towns above-mentioned. Kinmel Park is well wooded with noble oaks in the lower, and fine beeches and elms on more elevated grounds. These few hints will give the reader some slight notion of the favoured position of this place. The gardens, however, are not so good in site, for the ground slopes to the north, and, consequently, the south wall is on the lowest part, hence, the top water, in heavy showers, runs down the walks and saturates the border more than is good for the Vines, Peach, and Apricot trees, although Mr. Mountford, the gardener, has done all that man can do to prevent and remedy the evil. Before his time, they rarely, if ever, had any Peaches worth gathering; the trees mildewed, and the wood scarcely ripened; under such circumstances it was in vain to look for good fruit. In order to produce good peaches and Nectarines, Mr. Mountford covered 220 feet of this wall with glass; first partially renewing the border, and placing good drains in the walk in front of the border, with upright openings covered with gratings, to catch the water. This was done two years ago. The first year the trees produced a fair crop of good fruit, and, what was of more consequence, healthy foliage and improved wood, which ripened perfectly in the autumn. When I called there last June, the trees had greatly improved (though

many of them were very old), and had on a splendid crop of fruit. The glass projects out at the foot about six feet, and a row of young trees had been planted, and trained to a trellis close to the glass. Even these had on them a sprinkling of fruit, and were making good trees. As the old ones on the wall become too old or exhausted, these young trees are intended to take their place, and would be carefully removed close to the wall, so as not to injure them. There is a proof that glass is in some places almost necessary, in order to produce good fruits of these kinds. In all situations where the Peach does not do well the walls ought to be instantly covered with glass.

There is only one vinery against this south wall. It is intended to put up some vinerics near to the highest part of the gardens, so that the vines here will be more happily situated than at present. In the flower-garden, it is true, there is a long range of glass where the vines are grown well, but this range is intended for plants only. One is to be an aquarium, one a stove-plant house, and the other a greenhouse; at least, I understood that is the present intention in regard to arrangement. The plant-houses will then be in their proper place, the flower-garden close to the mansion, and, in consequence, can be visited oftener, or more conveniently, than the kitchen-garden and fruit-houses which are situated a considerable distance from the mansion. It seems a sacrifice to do away with the vines in this flower-garden; but, for the sake of uniformity and good taste, I think it highly commendable to make the alteration.

The intended situation for the new vinerics is close to the pinerics, melon, cucumber, and forcing pits. These pinerics are just completed; there are three houses, or rather span-roofed pits, with a walk at the back. Each house is thirty-six feet long, and about fourteen feet wide. The cucumber and melon-house is of the same length, and in front of these there are twelve ranges of pits with a walk under the glass; these are used partly for store pits in winter, and for forcing potatoes, kidney beans, &c., One range was filled with Melons when I called, and I noted that the soil inside was closely covered with large pebbles, or, what we call in Yorkshire, boulder stones. I was informed this was found a good point in melon culture, and certainly the plants looked very healthy, with plenty of fine fruit swelling off. These ranges of pine-houses, melon and cucumber, and forcing pits, are as complete an establishment for these purposes as any in the kingdom.

In the flower-garden, I was gratified to find the bedding-out plants looking very well. Mr. M. makes great use of Calceolarias for this purpose; one large bed had a dark variety (*Sultan*, I believe,) in the centre, edged with a dwarf yellow variety, and another had the centre filled with a tall yellow edged with a dark one. Instead of cutting down all the Geraniums that had flowered in the greenhouse, they were planted out in large beds pegged down to the ground, and were already beginning to grow, and showing plenty of fresh flowers. I was told this method answered very well, the plants grew and flowered much better than young ones. Smaller beds were filled with *Cupheas*, edged with dwarf blue *Lobelias*; scarlet and pink *Geraniums* were, of course, planted largely, and most of these beds were edged with the different varieties of variegated Geraniums. The flower-garden is large, and the ground rises; hence, from the walk in front of the plant-houses every bed is distinctly seen, and the whole presents a very bright appearance.

The last winter has scarcely injured a single tree. The noble Deodars from twenty-five to thirty feet high, looked as fresh and green as if there had been no winter at all; also the Araucarias, Cryptomerias, and Taxodiums were uninjured. Even the Laurel, Arbutus, and Lau-

stinus have escaped. Such being the case, it seems a pity that a convenient piece of ground is not set out and made use of as a Pinetum. The reason may be, that there is, and has been, considerable alterations going on for some time, such as building new pinerics, peach-houses, vinerics, &c., besides a noble set of new stables and coach-houses. It is probable, when all these are finished, attention will be paid to improving the pleasure-grounds, forming a Pinetum, &c., &c. Then Kimmel will be even more noble and interesting than it is now. One point, or circumstance, is in favour of the probability that such will be the case; the present owner is rich, young, spirited, and enterprising; fond of gardening and general improvement; and another thing in favour of such improvements being carried out is, that Mr. Mountford, the gardener, is a man of the right stamp, having great experience, and thoroughly understands his business. I trust, therefore, before many years are over to see this place one of the finest in the kingdom.

T. APPELBY.

STOVE FERNS.

(Concluded from page 198.)

SAGENIA.

A GENUS of large growing Ferns of great beauty. Most of them are from the East Indies, and, therefore, require the full heat of the stove. The name is derived from *sagena*, a large net, the leaves being covered with widely spread veins. This genus approaches very closely to *Aspidium*; the chief distinction between them consists, in this genus, of the thinly-spread veins, and the seed-vessels being produced on the top of a small vein.

S. DECURRENS.—A handsome Fern from Ceylon, bearing barren and fertile fronds separate. The barren fronds half pinnate, that is, having a small wing, or leaf, at the base. Fertile fronds, very curiously turned up at the edges, also subpinnate, growing two-and-a-half feet high. The lower part, or wing, runs down almost to the rootstock. Seed-vessels very prominent, and kidney-shaped. Increased by seeds.

S. REPANDUM (Spreading).—A splendid Fern from the Manillas, with two kinds of fronds, barren and seed-bearing. The latter are half erect, repanded, or spreading pinnate; the lowest pinnæ on the side next the soil deeply cut into one, or sometimes two, segments. The barren fronds are pinnated, and of a bright shining green. The pinnæ, or leaves, are large and drooping, often a foot long, with a footstalk to each. The whole plant grows three feet high. This is the handsomest Fern of the whole genus. Increased by seeds. There are only two more species, namely, *S. coadnata* and *S. Hippocrepis*, both very rare.

STENOCHLENA.

A genus of Ferns, divided from *Acrostichum* by Mr. John Smith, of Kew. Name derived from *Stenos*, narrow, and *chlaina*, a hood or cloak, because of the narrow covered margin of the seed-bearing leaves. This is a very well defined genus, and very remarkable. The seed-bearing fronds are pinnated, and the pinnules are long and narrow, with the undersides densely covered with seed-vessels. The habit of the genus is climbing. I have grown the *S. scandens* five feet high.

S. SORBIFOLIA (Sorb-leaved).—A climbing Fern, but not very lofty, from Jamaica. Barren fronds pinnate, with bright green leathery pinnæ. Fertile fronds erect, pinnated, each leaf entire. Increased by dividing the scandent creeping rhizoma.

S. SCANDENS (Climbing).—A handsome East Indian Fern, with the barren fronds pinnated, and each pinnæ, or leaf, a foot long, and beautifully veined with a fleshy margin. The fertile fronds are very curious, bipinnated,

each pinna long, like a whip, the upper end spreading out and covered with seed-cases. Increased rapidly by division.

TENIOPSIS.

Of all the Ferns I have written about this genus is the most remarkable. The name is derived from *tainia*, a strap, and *opsis*, like; the fronds being exactly like a long narrow strap.

T. GRAMINIFOLIA (Grass-leaved).—A West Indian Fern of considerable beauty. The fronds are simple, about ten inches high, long and narrow like a blade of grass, rather erect, but drooping at the end, with wavy margins, and slender at the base. The seed-cases are in a continuous line near the margin, and reaching about half way down the frond. Veins regular and internal. Increased by division.

T. LINEATA (Line-leaved). This is also from the West Indies; and is a remarkable, narrow, long-leaved Fern. Fronds simple, two feet long, and a quarter-of-an inch broad, hanging down over the pot edge; veins thinly strewed, but regular, and placed within the centre of the leaf. The fronds push up thickly from the creeping rootstock; hence, it is a very suitable one for a thin rustic basket to hang up in the stove. Increased readily by division.

This concludes my list of Stove Ferns. I do not, by any means, consider it a complete one, because I have endeavoured only to notice and describe those that are either remarkable for their beauty, or for being exceedingly curious or singular. Generally, I have mentioned the height they grow; and, consequently, growers that have plenty of room may strive to procure them all, whilst others that have only small space may choose the smaller sized species. I trust these papers on these charmingly interesting plants will be found of some use to both Fern cultivators and Fern collectors. When I first commenced to write on Ferns, I stated that I should first give a list of Stove Ferns and then Greenhouse Ferns, concluding with those that are hardy enough to bear the open air of this country; consequently, my next will treat of Greenhouse Ferns, and this part of the subject will, I trust, be more generally useful, inasmuch as there are more greenhouses than stoves in Great Britain, and, therefore, there will be more cultivators that have it in their power to grow them.

T. APPLEBY.

THE CROPS OF MID-KENT.

(Continued from page 339.)

As I have before observed that many of the crops cultivated in this county on an extensive scale form an important feature in the gardening affairs of other districts, I shall continue a few more notes on the condition and general character that each one has assumed in the present season, beginning with that universal favourite—the *Pea*.

This important crop is not so much grown in Kent as in some other counties, save for the early crop, where several fields of it are sown from the middle to the end of November, and not unusually a dry, sandy, or chalky subsoil is chosen for it, and the seed is sown in drills about two feet apart. Care is taken to have, before sowing, the ground cleaned by repeated ploughings, but it is not made a point or rule to follow any particular crop. The routine of cultivation which in many counties forms an important part of the covenant between landlord and tenant is here but little attended to, and Peas are most likely to have a corn crop of some kind or other as their predecessor. This, however, is not necessary to enter into; suffice it to say, that the Peas are sown in continued drills of two feet apart, and the dry ground chosen, not being so likely to abound in

slugs as the rich quarters of a kitchen-garden; they seldom suffer so much that way. Rooks and wild pigeons, however, have to be scared away, in doing which gunpowder is invariably used. Mice do not seem to make so much havoc as they do in the smaller plots of an ordinary garden, but the depredations of game, where closely preserved, often form vexatious subjects of dispute. Nevertheless, if the winter be not a very unusual one, a field of Peas generally looks pretty well, and uniform in growth, by the end of February or so; but as winters of extraordinary severity now and then occur, some growers do not sow before the beginning of December, or even as late as Christmas, which was quite early enough in the winter of 1852-53, for the mildness of the early part of it induced a greater growth than was consistent with the hardihood of the plant, consequently, all the earliest-sown crops were killed by the severe weather at the end of February and beginning of March, while later crops, being only a little way through the ground at that time, were in a better condition to endure it. The last year's severe weather commenced pretty early in autumn, consequently the earliest-sown ones were the best, or rather the forwardest, for their too great progress was arrested by the cold, that many crops, which the preceding season were nearly a foot high the beginning of February, were, this last one, merely showing themselves above ground, both being sown at the same time. But as none of us, even with the help of a "Mooro or a Murphy," can foretell the coming season with accuracy, the time of sowing and so forth must be regulated by the average results of a number of seasons. Garden crops may, in fact, be sown at each season, to ensure a crop; but the farmer, or large growers of this article, do not seem to care about providing for such a casualty, for they, being caterers for the public, grow only for profit, and the loss of a crop in winter, though certainly a loss, leaves them the ground to occupy in other ways. While the private grower, having to furnish the article early and late, necessarily adopts means to secure that object. But, supposing the crop seemingly going on all right, the ground is hoed over in April, and very often a row of Swede Turnips is sown between the Peas sometime about the end of that month or beginning of May. This crop of Swedes is subject to many mishaps; the treading about at the time of picking the Peas, independent of the latter overlying them, renders the crop somewhat precarious. Nevertheless, we now and then see good crops; the benefits being, that the plant has a start over those sown after the Pea crop is entirely cleared off, which is seldom before the middle of June, and any defect in the Turnip crop may be made good then, either by transplanting the Swedes, or by sowing more seed either of that or another kind. However, as this is farming, my object is simply to report that it is done, and the present season having been favourable for Peas, and also Turnips, large breadths of the latter have succeeded the Peas, and look very promising; the Peas having been good likewise.

Potatoes do not form an important feature in the farming products of this district, few being grown except to supply the local consumption, and it is somewhat consolatory to know, that these are really better than they have been for some years, up to the present time; but I hear rumours of disease, and only hope the fine dry weather may continue, so as to enable their ripening; many plots being quite full grown, and beginning to harden in the skin, and others are quite ready to take up. The spring being favourable, and the ground in good order, they were planted early. But as they are only a local crop, I cannot say more than that on the whole they appear satisfactory.

Beans do not form such an important crop in the immediate neighbourhood in which I write as in the

north-eastern part of the county, but what have been grown are certainly not so good as in some years. Insect following a sort of blight has thinned the number of pods very much; while the rains, and dull weather of July, increased the growth of stem so much, as to give that undue preponderance over the few seed-pods that the blight had left, so that the crop is one that will yield more haulm than corn. Only, as I have said, but few Beans are grown here, and those mostly of the kind adapted for horses, but plots of *Windsor* and *Long-pods* may be seen occasionally grown for seed, few being raised for market purposes in a green state.

As but few of the other vegetables which form the "bill of fare" of a Covent Garden market-day are grown around here, the deep, mellow loams near the Thames or the Metropolis being better suited for them, I will pass over to the fruits which do form important features in the cultivation of the district, and, of course, contribute a proportionate contingent to the national wants; and as the most useful one has been glanced at, I will follow on to another, to which a sort of county distinction has been given in other districts, with, perhaps, as much and no more right to do so, than the way many other names are dealt out.

Long before this paper reaches some of our readers, their ears will have been accustomed to the cry of "*Kentish Cherries*;" that is to say, he will have heard that if he has been much in towns where street-hawking is carried on, and little boys, doubtless, envy others of their class whose lot it is to be born and brought up in the county, thinking that the said Cherries must be as plentiful as acorns or haws are elsewhere. This, however, is far from the case, for *Kentish Cherries*, like *Durham Mustard*, *Stilton Cheese*, and many other things, have long ceased to be exclusively produced in the district they receive the name from; for certain it is, that Cherries do not form one quarter the feature that Apples do in Kent. Nevertheless, there are large orchards grown in some places, but they are usually planted alone, and under different circumstances to other fruits. Cherries are almost universally planted on ground that is either in grass, or is very soon after laid down so; for, true to its character as a stone-fruit, disliking much knife-work, or other mutilation, the roots are likewise impatient of the same treatment, and like the repose which an undisturbed green sward gives them. A soil much more stiff than is usual for others is also preferred for Cherries, yet it must be free from stagnant water. The trees are planted in thickness in accordance with their respective kinds, most room being given to *Biggarreus*, and *Black Hearts*, while *May Dukes* being more of an upright growth, and not always very long lived, are planted tolerably close together, and thinned out afterwards as wanted. The kinds mostly grown are *May Dukes*, two or three kinds of *Black Hearts*, including the *Crown Heart*, two or three *Biggarreus*, some having mere local definition, and the later Cherries, called *English*, *Flemish*, or *Kentish*, as the case may be. Certain it is, that the one called *Flemish* is a distinct fruit from the others, which may also differ from each other, and very widely, perhaps, in the way the terms are made use, for it is by no means a fixed or general rule to call any one here "a *Kentish Cherry*." However, I may observe, that the *Flemish* seems to be one of the most useful kinds grown, that I would advise those who have not grown it to try it, not for table purposes, but for the kitchen and preserving, for it partakes too much of the character of the *Morello* to be relished by every one; in fact, it seems a sort of link between that fruit and the *Duke*, and other fine table fruits; only being more hardy than the *Morello*, it bears well as a standard, and the smallness of the stone and large fleshiness of the fruit, in addition to its good colour, give it many advantages. I may also add, that the *Morello* does not seem to

answer well here as a standard, few being grown; neither have the later-improved varieties of the garden found their way into the orchards yet to any extent. I mean such as the *Black Eagle*, the *Tartarian*, and *Elton*, and some others. Although "*Kentish Cherries*" may form the yearly cry of street-vendors, as the season comes round, yet it is not every one that produces a good crop; in fact, it is not more than one season in five or six that does so; the present one being, perhaps, the best since 1847, though nothing like so good as that year. Now, having said the crop has been tolerably good, I may tell our north country readers that they need not altogether envy the *Kentish fruit grower*, for though it would be difficult to imagine anything more handsome than a nice, healthy tree loaded with ripe Cherries, still, there are times when these same trees cut a very sorry figure. The spring of 1853 witnessed them in a deplorable state. A late frost destroyed not only the blossom, but also much of the shoots which had made a little growth, and their withered, blackened appearance was anything but inviting, and such seasons are of more frequent occurrence than those producing good crops.

Plums are certainly a less precarious crop than Cherries, and adapting themselves to circumstances where the Cherry is unsuitable for, they are more a staple fruit of the county than the Cherry; for suffering less from the depredations of birds, they can be planted with advantage amongst other fruits, although it is needless to mention that they, too, prefer the repose of a nice turfy surface. Many sorts are grown, which, having more local names, are of little use to a stranger; suffice it to say, that the crop is, on the whole, good the present year, some of the more hardy kinds being, in fact, heavily laden. But I am reminded that my space is fully occupied, and will leave the further remarks on this subject until another opportunity. J. ROBSON.

THE WEATHER AND STATE OF THE CROPS.

WE had here (Uxbridge), during the last week of July, very hot weather. The thermometer, hung up in a tree, and exposed to the full current of air, indicated, on the 27th, 100°. As yet, we are in this neighbourhood clear of the *Potato disease*, with every prospect of a most abundant crop. *Wheat* looks uncommonly well, crops even, and only in one instance laid. *Oats* are also a good crop, and ripening fast; I saw a field partly cut on Saturday, July 29th. *Barley* also is ripening, and looks promising as a crop. "There never was such a season for blight," said an old labourer to me; and it is true. The *Bean* crop is all but destroyed by the black aphid, and the *Hops* are in the same condition. The *Hay* harvest is nearly over; the crops here are better than was expected, and it has been secured in excellent condition. *Apples* are nearly all gone. There are a few *Pears*; and at *Flackwell Heath*, near *Wycombe*, there is a good crop of *Cherries*. The smaller fruits, such as *Gooseberries*, *Currants*, and *Raspberries*, have suffered greatly by the blight. I find this word "blight," a very convenient one, meaning, as it is usually used, every disease that fruits are heir to; but in this case, this year, the blight is caused by the extensive number of insects, chiefly the green and black *Aptides*. Last year we had a great number of the insect devourer, the *Lady Bird* (*Coccinella*), but this season not one is to be seen, which may partly account for the multitudes of the insects upon which they feed. T. APPLEBY.

THE STRAWBERRY—SIR HARRY.

NOTICING in your number of the 27th of July last some observations made by Mr. D. Beaton, in his account of the exhibition of fruit at the Chiswick Fete, relative to the seedling Strawberry "Sir Harry," shewn by Mr. Richard Underhill of Edgbaston, Birmingham, and having for many years had much experience, and taken great interest in the cultivation of fruit, I called upon that gentleman for the purpose of making more particular enquiries, and possessing myself of some information as to flavour, &c., which Mr. Beaton could not give. Mr. Underhill politely invited me to walk through and inspect his beds; when I was perfectly astonished at the enormous size and deep colour of the fruit, combined with the excessive cropping of the plant. I then tested the flavour with "Kean's Seedling," and "British Queen," (both equally well ripened), when its superiority to either was at once so evident that I pronounce it the most exquisitely flavoured berry I have ever tasted. It is both firm and juicy, and carries its rich red colour entirely through. The other distinguishing characteristics of the plant are these;—its leaves are few, and it spreads its bearing branches out so wide as to thoroughly expose the fruit to the full influence of sun and air. For the information of Horticulturists, and in justice to the excellence of the seedling, I shall feel obliged by your inserting this letter in your next weekly number.—JAMES BOUCHER, formerly Head Gardener to the Lady O. B. Sparrow, King's Heath, Worcestershire.

COMPARATIVE EGG-PRODUCTIVENESS OF FOWLS.

IN these days, when practical men have come to the conclusion that among farming items poultry must hold a more prominent place than it has hitherto done, it seems to me expressly desirable to come to a satisfactory conclusion on the laying powers of different varieties of fowls in a definite time, and if such of your contributors as are in the habit of keeping a daily account of their eggs would give the results of their experience in your very useful journal, it seems to me that it would not only be very interesting to all, but afford some useful data to act on.

I subjoin the results of my own experience, although on a small scale. I have four hens, two *Prince Alberts* (the variety of *Hamburghs* so called), one cross-bred hen from the above by a Punchard Cochin cock, and one pure Cochin hen from Mr. Punchard's strain. They are kept in an enclosed space (about thirty feet by twenty feet), have no grass run, and, therefore, are moderately supplied with green food, have a small dunghill to scratch in, and their food has cost me, on an average, 1½d each per week. The number of eggs laid in the three first months of this year has been—

1st Prince Albert	..	..	..	19	eggs
2nd Ditto	..	..	..	20	"
1 Pure Cochin-China	..	..	..	44	"
1 Half-bred hen	..	..	..	36	"

Total 119

In the succeeding three months, April, May, and June—

1st Prince Albert	..	..	..	67	eggs
2nd Ditto	..	..	..	68	"
1 Pure Cochin-China	..	..	..	22	"
1 Half-bred hen	..	..	..	41	"

Total 198

The eggs laid by the first two hens have averaged two ounces, by the Cochin-China rather over two ounces, and by the half-bred hen two-and-a-quarter ounces. I must add, that during the above period the Cochin-China and the half-bred hen have each been broody once, and brought up, respectively, twelve and eleven chickens. The Prince Alberts have not been broody. I am very anxious, however, to learn the experience of others with *Cochins* in particular, as well as Spanish and Dorking, as *layers*; for although the laying of my Cochin hen during the three cold months was regular, and I may say good, yet there was a falling off in her after-performance, as compared with my others.—A FORMER CONTRIBUTOR, *Edinburgh*.

COVENT GARDEN.—AUGUST 1ST.

CUT FLOWERS in bunches, from 1½d to 1s 6d, of Sweet Peas, Scabiosas, Roses, Stocks, China Primroses, Pelargoniums, Pinks, Cloves, Carnations, Mignonette, Larkspurs, Catananches, Erysimums, Phloxes, Eschscholtzias, Verbenas, Calceolarias, Achilleas, Pansies, Martagon and Japan Lilies, Heliotropes, Ericas. Bouquettes, 9d to 2s 6d.

FRUIT.

Pine Apples, 3s to 5s per lb.	Black Currants, 4s p. hf. sieve
Grapes, 2s 6d to 4s per lb.	Gooseberries, 2s to 3s p. hf. s.
Peaches, 10s to 18s p. doz.	Dessert Cherries, 1s per lb.
Nectarines, 6s to 10s per doz.	Black Heart ditto, 3d per lb.
Apricots, 1s to 2s 6d per pun.	Morello Cherries, 2s 6d p. dz. lbs
Plums, 8d per punnet	Melons, 1s 6d to 6s each
Kitchen Plums, 2s half sieve	Figs, 1s 6d per doz.
Pears, 3s per half sieve	Oranges, 8s to 14s p. hundred
Apples, Dessert, 3s half sieve	Lemons, 6s to 16s p. hundred
Kitchen Apples, 7s per bush.	Cob Nuts, 3s per peck
Strawberries, 1s per punnet	Barcelona ditto, 5s 6d p. peck
Ditto, 6d per pottle	Almonds, 6s per peck
Raspberries, 7d to 11d p. gal.	Spanish Chesnuts, 5s p. peck
Currants, 3s per half sieve	Kilm-dried Walnuts, 3s. p. pk.

VEGETABLES.

Artichokes, 2s 6d per doz.	Ash-leaved Kidney Potatoes, 8s per ewt.
French Beans, 2s per hf. sieve	Scarlet Kidney Beans, 1s 6d per half sieve
Cucumbers, frame, 2s 6d p. pnt	Tomatoes, 1s 6d per punnet
Ditto, hand-glass, 1s per doz.	Chervil, 2d per punnet
Lettuces, 1s to 1s 3d per score	Small Salad, 2d per punnet
Cabbage Lettuce, 1s 6d p. sc.	Mushrooms, 1s per pottle
Potatoes, 5s per cwt.	Shallots and Garlic, 8d per lb.
Red Cabbages, 3s per doz.	Beet, 4d per bunch
White ditto, 9d to 1s per doz.	Celery, 2s per bunch
Greens, 3d per bunch	Leeks, 3d per bunch
Onions, 4d per bunch	Radishes, 9d per doz. bunch.
Carrots, 4s per doz. bunches	Horse Radish, 3s 6d to 1s. p. b.
Turnips, 1s 6d to 2s p. doz. b.	Vegetable Marrow, 1s p. doz.
Cauliflowers, 5s per dozen	Water Cress, 4d to 6d p. dz. b.
Windsor Beans, 2s 3d per bsh	
Peas, 2s 6d to 3s 6d per bsh.	

HERBS.

Mint, Fennel, Savory, Sage, Majoram, Thyme, Lemon Thyme, Tarragon, Parsley, 2s 6d per doz. bunches.

PLANTS IN FLOWER IN GARDENS AND NURSERIES.

ANNUALS.

Campanula pentagonia	Leptosiphon androsaceus
Calendula glauca	Lupinus nanus
Convolyulus minor	" elegans
" major	Malope grandiflora
Centaurea cyanus	Oenothera tenella
Clarkia pulchella	" Lindleyana
" elegans	Phlox Drummondii
Erysimum Perofskianum	Papaver Rhoeas
Gilia tricolor	" somniferum
Godetia rubicunda	Sphenogyne speciosa
Kaulfusia ameloides	Viscaria oculata
Leptosiphon densifolium	

PERENNIALS.

Astrantia major	Pyrethrum parthenium
Aster spicata	Paronychea argentea
Aselepias Vincetoxicum	Phlox triflora
Arenaria cœspitosa	" alba
Aconitum paniculatum	Rudbeckia fulgida
" napellus	Spergula piliflora
Borkhausia fastida	Statice Caroliniana
Carduus heterophyllus	" Gmelina
Campanula lactiflora	Salvia selarœa
Calendrina umbellata	Sedum altaicum
Calceolaria suberecta	" monregalense
Gentiana septemfida	" dentatum
Knautia arvensis	" glaucum
Lythrum roseum	" sexangulare
" virgatum	" anglicum
Lathyrus latifolius	" pulchellum
Onopodium acanthium	Silybum Marianum

HARDY FERNS.

Adiantum pedatum	Lastræa Lancastriense
Asplenium adiantum nigrum	" noviboracensis
(Britain)	Lomaria crispa
" filix fœmina crispa	" spicant
" ruta muraria	Onoclea sensibilis
" " viride	Osmunda interrupta
Aspidium filix mascula	" cinnamomea
Athyrium filix fœmina	" regalis
Botrychium lunaria	Polystichum lonchitis
Cystopteris fragilis & dentata	" lobatum
Grammitis ceterach	" achrostichoides
Lastræa thelypteris	" angulare
" marginalis	" oculatum
" uliginosa	Polypodium Dryopteris
" cristata	" vulgare
" recurva	" achrostenoides
" rigida	" alpestro
" goldiana	Struthiopteris Pennsylvanica
" dilatata	" Germanica
" spinulosa	Scolopendrium vulgare
" oreopteris	Woodwardia obtusa
" filix mascula	Woodsia Perriniana
" " " pumila	

The above Ferns are growing on a raised border, four feet high, sloping to the south, with clusters of burnt bricks used in the soil, and the border is sheltered with walls on the north and west.

QUERIES AND ANSWERS.

GARDENING.

VINES NOT BEARING, AND THEN PRODUCING A SECOND CROP.

"Three years ago we put up a Vinery, in two compartments, in which eighteen Vines were planted; the roots outside, in a border, with which great pains were taken as to draining, &c.

"The two first seasons they were not allowed to bear; this is the third, and from the healthy appearance of the plants we anticipated a good crop, instead of which five bunches divided amongst three vines were the whole of the produce. Not being satisfied, I sent to Mr. Tinney, of Gateshead, near Newcastle, from whom we had the plants, to send a competent person to examine them, as the gardener would not admit there was any mismanagement.

"The person sent seemed to blame the border, which he thought composed of too tenacious a soil, and advised that it should be re-made in the autumn, and several additions, in the shape of brickbats, bones, old shoes, &c., made to it.

"Soon after this circumstance occurred, which ended in the dismissal of our gardener, and the person appointed to succeed him not having any knowledge of vineries, I was inclined, rather than lose the place, to try (with the assistance of my own servant, who is in the stables, and also with that of your useful publication, which I have from the beginning) to manage it. We commenced, and in a few weeks the vines broke out into full bearing, and the present appearance of our house is as follows:—In the first compartment, where all the five original bunches were, is a second crop, near the top of the house; the first colouring, and ripening fast; the second, large, beautiful bunches, with the fruit as large as hazel-nuts and peas; several later fruit-bunches have been taken off. In the inner house, where no fruit was, we kept little heat, till advised that for the ripening of the wood some more would be needed.

"Since we have applied the fire more freely they also have begun to show several bunches; and what I wish to know, is, if we can allow them to come forward without injury to the plants, which are ripening their wood very fast? The bunches are not in flower yet. Would you, also, consider it requisite to disturb the border, which I am unwilling to do; as I fear the principal fault has been with mismanagement.—A SUFFERER."

[There are several circumstances deserving consideration in your communication, to which, without any attempt at order, we will briefly advert.

1. There is something singular in the whole affair, and yet not so unprecedented to our experience and observation as to warrant us in fixing the blame on the gardener, without a knowledge of all the circumstances;—as to means taken to ripen second year's wood; the strength of that wood; the length of rod left; the time at which forcing commenced; the fire-heat at command; the means taken to break the Vines regularly; the precaution to keep the roots in a healthy action, by covering, &c.; securing the stems from sudden alterations of weather; and whether bunches showed and went off, or the buds did not break, or all broke nicely, but only five showed fruit, &c."

2. We are gratified, very much indeed, with your success; it just evidences what the best gardeners in the country can testify, that the best results are generally the consequence of the most ample supervision and attention; and if you take THE COTTAGE GARDENER as your guide, you will, no doubt, soon do greater things even than these; and yet, either owing to our own dulness of comprehension, or a want of clearness in your statistics, we fail, even now, to comprehend your case, which an explicitness of dates, such as when firing was commenced at first, and when under your own auspices a second time, would form a useful index to; as we are left in doubt, whether the *full bearing* you refer to came from buds hitherto remaining dormant, and, if so, testifying, in some way, to mismanagement, especially as forcing was not commenced early; or that full bearing was owing to fruit showing on a strong lateral, or, rather, on the starting of a strong bud belonging to the wood of the growth of the present year, which, at present, we are the more inclined to believe, as it seems this *full bearing* manifests itself chiefly at the top of the house, where the young shoots of this year's growth would be exposed to the consolidating influence of the heat and light which they would receive there, not only from the direct rays of the sun, but also from the radiation and reflection of heat from the top of the back-wall. Now, when the vines are in a good healthy state, and the crop, from any cause, is not heavy, it is no unfrequent thing for bunches to come in this latter way indicated, and when they come as early as your's have done in the forward house, it is usual to keep some of them as a succession crop, provided the vines will not have too much to do. But whether these bunches came on previously unstarted buds of last summer's wood, or from a bud or a lateral from the wood of this season, we do not see, unless a certain defined object was to be gained, how it consists, with recognised modes of good management, that this second crop should be obtained from either of these means, "*near the top of the house*;" as, unless the canes or rods were extra strong, it would have been prudent, in their first year of fruiting, to have cut them back to a third or a half of the length of the rafter, and if that had been done, no fruit from either the second or the first crop would have been so "*near the top of the house*."

3. Taking the fact, however, as it stands;—a few ideas suggest themselves, which, with a reference to some late articles on the vine, will, we presume, meet your case.

1. Whatever amount of bunches your vines individually show, do not allow more than from five to seven, better less than more, to remain to each, and the vine will ripen these without much or any injury to the bearing wood of next season, so far as we can form an estimate of the strength of wood from your present description. It is anything but economy to over-crop a young Vine at first. Many, in your case, would have left only two or three bunches to each, however many had shown, doubling that quantity the next year, and trebling it on the third. When Vines in pots fruit plentifully at an early period, it is rarely that the plants do much more good, at least, until they are rested from bearing for a season.

2. With respect to the bunches in the second house not in flower yet;—we should advise removing them, unless there are so many of them as to be worth the expense of firing to ripen them late in the autumn. In this process you might also run the risk of starting a few of the buds you now say are ripening; but there would be less risk of that, if you allowed the laterals to grow rather freely. Such shows of fruit would present you with nice ripe fruit in the beginning of the year; but, unless very numerous, the expense for

fuel would far outstrip their value; and if so numerous as to be worth that expense, they would injure your Vines for years to come.

3. The presence of these bunches, and shows of bunches, is one of the best evidences that there is no inherent cause of unfertility in the borders, or elsewhere; and, as you state, they have been well drained, we would disturb them in no way whatever; but, if you imagine that, as advised, its materials are too adhesive; you may keep it with advantage forked upon the surface, and add there rough lime-rubbish, burnt clay, brickbats broken small, and bruised bones, if you can procure them. From three to six bushels of bones will not hurt them for one dressing, and several, or yearly repetitions of dressings of the other materials for an inch or two in thickness, will be better than one thick dressing. And, finally, believing there is not much the matter with the border, keep it in good order, and encourage the roots near the surface by means of these dressings, and a protection of litter in winter, taking care, if the situation is low, or the main part of the border is very adhesive, to take means for throwing off a portion of the winter rains from November to April; and if we have not met or divined your case, let us hear again.]

FRUITING PINE-APPLES.

"What distance should Fruiting Pines be planted from each other regularly? but, if you are cramped for room, what is the least distance you recommend? Does it make any difference whether Pines are fruited in pots, or planted out in the bed? What colour do you consider best for the wall of a Peach-house built after Mr. Fleming's plan, or the wall of a lean-to vinery?—W. K. H."

[Pines planted out on the Hamiltonian system require more room than those in pots, and the reason is, that they grow more rampant in the foliage. It may be taken as a principle applicable to all plants in which either seed, root, or fruit is profitable, that the stronger the plant, the more room is requisite. This will be found of universal application, whether amongst our cereals, root crops, or even fruits, up to the Pine-Apple.

It is a common practice to allow about twenty-four to thirty inches between fruiting pines in pots, but four to six inches more may fairly be given when planted out, especially if to remain for years on the Hamiltonian plan. If cramped for room, you must even try about twenty-six inches.

As to the colour of a *Peach-wall in-doors*, we should say a white, or a mellow-looking drab or sound stone-colour; there is assuredly no reason for a heat-absorbing colour here, the trees will be far more likely to need an increase of light than heat; and it is a false principle in gardening to pay an overwhelming attention to the latter, when the former is frequently deficient. White, of course, increases the light of the house.]

PROPAGATING HARDY HERBACEOUS PLANTS.

"How, when, and where, am I to propagate *Cheiranthus Marshallii*? I want to get a stock of hardy herbaceous plants; such as Rockets, Phloxes, Paeonies, Potentillas, Delphiniums, &c.; when should they be moved?—F. E. R., Oxon."

[As to *Cheiranthus Marshallii*, see what Mr. Fish says today. Then, as to propagating Double Rockets, we may observe, that sometimes a few young shoots appear on the main flower-stems, especially if that should be damaged, these slipped off when from one to two inches in length will succeed, as recommended for Pinks. The general mode, however, is to wait until the plants have finished blooming; cut down the flower-stalks, the plants will soon begin to push afresh, and then early in autumn the plants should be raised, and divided into pieces, and planted in light, rich, sandy soil, into nursery rows. Each of these will generally be a nice strong plant before spring, when they should be thinned out, and placed in their blooming quarters. Phloxes, Paeonies, Potentillas, and Delphiniums, may be moved whenever they have done blooming and the leaves are withered. Some of the tender kinds are most safely divided when growth is just commencing in spring.]

PRESERVING GARDEN TALLIES.

"Is there any way of making deal garden tallies last a little longer? Those I marked Crocuses, &c., with, last autumn, have nearly all lost their ends now, so I must mark them afresh. I have tried charring the points, but the remedy is as bad as the disease.—C. S."

[We do not understand how charring is as bad as the injury it is effectual in preventing. The tallies may be charred easily by dipping them into melted lead. A more expensive preservative is dipping the points into Gutta-percha dissolved in Naphtha.]

MILDEWED GRAPES.

"Requested, your opinion of the cause and proper treatment of a disease in vines under the following circumstances—

"Towards the end of June, an appearance like white mould shewed itself on one or two bunches in the middle of a house; in four days it had extended to every berry in that and an adjacent house; they were about the size of large peas, and became completely covered with a white substance, partly dry and flying about when shaken, yet, at the same time unctuous to the touch and resisting water; they appeared as though they had been dipped in flour. The foliage shews comparatively little injury, having only a faint dust upon it, with blotches on a few leaves, like the spots on paper which has lain in the damp; for the last four days strong fires have been applied to the hot-water pipes, which are dressed with sulphur and water, the houses kept close, and perceptibly filled with sulphur vapour, but no change has yet taken place. Where the powder has been rubbed off with cotton wool it has not reappeared.

"The previous treatment of the vines has been uniformly as follows for the last twelve years, and always with success. The greenhouse, rather than hothouse culture is adopted, slight fires only when in bloom, and again as the fruit is ripening, and ripe, if damp weather.

"The system of long pruning has been used, as more ornamental, and certain of shewing the required number of branches properly placed. The plants are rather weak in habit than full, growing in a very light gravelly border, (with a broad walk near), which was not richly made at first, and the fruit has always been well flavoured rather than very large.

"They have always been watered, within and without, rather freely, with slight admixture, sometimes, of guano, or wood ashes, but kept dry as the ripening season advances.

"There has been no deviation from this treatment of this year, unless it be rather more water from the dry season, and a little more guano, and possibly, in my absence, the houses may have been open rather late in the evening, though in hot weather I have often left them open all night. The sorts are Black Hamburgs, Princes, Muscats, and Muscadines; some are planted inside and some outside the house.—VICAR."

[There is no doubt that your Grapes are attacked by the Grape Mildew or Fungus (*Oidium Tuckeri*), and as this pest has devastated the best-managed vineries as well as the Vineyards of all Europe, you need not suspect that the disease has come to you in consequence of your gardening mistakes. The only known remedy is sulphur, or some of its preparations. We have known the most violently-affected Grapes cured of this disease by rubbing them over with flowers of sulphur. A plate full of the sulphur was held under each bunch, whilst the operator dipped it in and rubbed each berry over thoroughly with the sulphur.]

CULTURE OF THE GENUS SCILLA.

"Last spring I had a fine bloom of Squills in pots in my small conservatory; the kinds were—*Scilla praeox*, *S. Sibirica*, and *S. campanulata*. When they had ceased flowering the water was diminished, and when the leaves decayed was withheld altogether, and the pots placed on their sides, on a shelf at the back of the greenhouse. The earth has become quite dry. I intended leaving them there till the autumn, and then repotting them for next spring, but I observe the *S. praeox* is starting. Have I placed them in too warm a situation; and shall I lose the chance of successfully blooming them next spring? The neighbourhood is so surrounded

by smoke, that they failed in the open ground, and this caused their being grown in pots. Will you tell me what to do with them? My small conservatory has been full of blooming-plants since last December, and is now very gay indeed, and yet I am obliged to ask such a question as the foregoing.

"The advice you gave last year respecting *Oxalis Boweii* was so satisfactory that I venture now on another point.—G. T. S., *Stoke-upon-Trent.*"

[The Squills, and *S. præcox* more particularly, ought to have been set in the open air as soon as the flowers began to fade, and to receive water for about a month after the flowers dropped. The pots ought also to be kept out-of-doors till the beginning of December, then to be put under a cold frame till the middle or end of January, after that on a warm shelf in a good greenhouse or conservatory. They do not like much heat or forcing. If the same bulbs are kept from year to year, once in three years is often enough to shake them out of the old soil, and the middle of August is better time than October to pot them. Absolute dryness, when at rest, is not necessary for them, nor so good as having the pots plunged in coal-ashes, where no water could stand about them. Turn out your plants immediately, plunge the pots in a north aspect, and keep them out as long as the weather is at all fine, and do not attempt to pot them this autumn; at least, do not shake off the old soil, but if you see the roots very crowded, put the balls into larger pots soon after the new year. Six flowering roots round the sides, and three in the middle, of a pot of the 48-size, is the right proportion to make an effective show with *præcox*. Mr. Lions, of Foot's Cray, in Kent, has more kinds of them on sale than any nurseryman known. Our own stock of them is from him.]

EVERGREENS FOR A SCREEN.

"I wish to hide some out-building. The soil is a deep, light, dry loam. Please to inform me what variety of Pine or Fir is the most suitable? I should prefer a fast grower. At the same time oblige me by saying what kind of evergreen forest tree is best adapted for a light, moderately deep, and moist soil.—P. B."

[For both purposes the common Spruce Fir is the most suitable and cheapest plant. If the ground is well trenched, and the trees are carefully removed and planted from the middle to the end of September they will grow very fast. They are as easy to move when from ten to fifteen feet high as if they were only two or three feet. They need not occupy much room, as their branches will bear to be cut in just as well as those of the Yew, and they would make a hedge twenty feet high, through which a bird could hardly pass. They are so used in Switzerland, but seldom in this country.]

FOUL PASTURE.

"Knowing that one of the objects of your valuable paper is to instruct the ignorant, I venture to solicit your advice as to the mode in which I should deal with eight acres of (pasture, I was going to say) land. This, adjoining my house, I thoroughly drained and laid down, but the latter part, I presume, was not effectively done, it now appears full of weeds and Coltsfoot, instead of good herbage. I enclose you some of the kinds by which it is overrun. Can it be done by top-dressing, and how? and ought I not, by buying Turnips, Mangold, and grains in winter, to be able to keep eight cows upon it?—J. F., *Walsall.*"

[The prevailing weeds of your pasture are the Common Yarrow (*Achillea millefolia*), Common Creeping Bugle (*Ajuga reptans*), Common Crowfoot (*Ranunculus repens*), and Coltsfoot. The two last would indicate that your soil where they prevail is heavy; and where the other two are, gravelly or sandy. There is no doubt, that by interchanging and mixing the two soils, you might improve both, and if you break up two acres annually, thoroughly cleanse them by fallowing, and laying them down again with proper grass seeds and Barley, after Turnips, you might, in four years, get your eight acres into good pasture. Your eight acres, by good management, ought to find your eight cows in Mangold, Turnips, and Grass.]

POULTRY.

WILL POISONED CHICKENS INJURE THE DOG WHICH EATS THEM?

"I was not able to answer your enquiry in THE COTTAGE GARDENER for July 20th sooner. As regards the puppies, they are all doing well. The three fowls I wrote to you about, the housekeeper at our place said I must have poisoned. I knew I had not done so, and I also thought the fowls were not at all poisoned, so I said I would give the fowls to the pups, thinking, as I still do, if the fowls had eaten any of the strychnine that the same would injure the puppies; for if you poison a rabbit, and give a piece to a fox or cat it will surely die. But the question is, if any thing eats the thing that is poisoned, the same as the chickens I named, will that kill it? I am still of opinion that strychnine will be fatal to any thing that may chance to eat it, if the same has been twelve months in the body. I do not know the nature of strychnine myself.—JOSEPH HURST.

"P.S. The puppies were as hungry as hunters the following morning after eating the fowls, &c."

[If any animal is poisoned with arsenic, and the dead body is given to another animal who eats it, the poison is fatal to this one also. The reason of this is, that the arsenic is a mineral poison, and remains undigested and unaltered in the body of the first animal. Strychnine, on the contrary, is a vegetable poison, prepared from the nux vomica, (*Strychnos nux vomica*), and is digested by the animal poisoned by it, and, consequently, we think, would have no fatal influence on the eater of the carcase. If the chickens were poisoned with strychnine, the above case sustains our formerly expressed opinion, but, of course, we can give no opinion upon the disputed point, whether the chickens were or were not poisoned.]

KEEPING WORMS OUT OF POTS.

In your No. for 3rd August, page 345, is a plan for keeping worms out of plunged pots, and a good plan it is, but a better plan is to put a small pot in the bottom of the hole, mouth upwards, and to place the bottom of your plunged pot over the mouth of the little one; both plans are older than the writer, and the small pot under a large one is the way by which Pine Apple plants used to be kept safe from too much bottom-heat. When you have many plants to plunge, the best way is to open a trench from end to end, and for every pot take two brick-bats, place them on edge, and put your pot over them, and so on with all the pots in the row, then fill up the soil around them.

At page 343 of the same No. the culture of the *Impatiens glanduligera* is given; a better plan, by far, is to sow the seeds in the open ground in the autumn. They are most sly to vegetate in heat, and no frost hurts them till they sprout in the spring, and they never do till it is safe for them.—SENILIS.

HARDY FERNS.

Mr. GRAY's collection of British Ferns, at Hammersmith, contains every species, and nearly all their varieties known; is particularly rich, and contains fine specimens of *Cystopteris montana*, *Trichomanes radicans*, *Hymenophyllum Tunbridgense*, and *unilaterale*, *Asplenium fontanum*, *lancoletatum*, and *marinum*. The varieties of *Scolopendrium supradivinum* *polyschides*, *marginatum*, &c.; *Polypodium alpestre*, *Polystichum lonchitis*, *Lastrea filix-mas* var., *cristata*, *Athyrium filix-femina*. The plants are planted out in rock-work, in a greenhouse, without artificial heat. This and last year they have been infested with a species of *Typhlocyba*, but which has given way to the smoke of tobacco.

Mr. Gray will at all times be happy to show his collection. His residence is in the Grove, Hammersmith. He has a fine collection of dried specimens of Ferns.

HISTORICAL NOTES ON THE INTRODUCTION OF VARIOUS PLANTS INTO THE AGRICULTURE AND HORTICULTURE OF TUSCANY: a summary of a work entitled *Cenni storici sulla introduzione di varie piante nell'agricoltura ed orticoltura Toscana*. By Dr. Antonio Targioni-Tozzetti. Florence, 1850. — (From the *Horticultural Societies Journal*.)

(Continued from page 348.)

THE cultivation of the *Sweet potato* or *Batata* (*Ipomœa Batatas* or *Batatas edulis*) has been at various times attempted in different parts of Italy, but as yet without success, notwithstanding the strongest and repeated recommendations of its importance. In a wild state, it is one of those maritime plants which is found spread over the shores of both the New and Old World, within or near the tropics, but its cultivation appears to have originated with the Americans. It was evidently unknown to the ancients, and the first mention of it on record is by Pigafetta, who found it used as an article of food in Brazil, where he landed in 1519. Its first introduction into Europe was probably by Oviedo, after whose return to Spain, in 1526, it was cultivated at Malaga, and from thence sent out to different parts of Europe. Clusius purchased some fresh roots in London in 1581, to carry with him to Vienna. Since then, various attempts to turn the *Batata* to account, have been made in Tuscany, in Lombardy, at Rome, and in other parts of Italy; but all have failed, either from the ungenial climate, or still more from the difficulty of preserving the roots through the winter. The Marchese Ridolfi is said more recently to have discovered a mode of treatment, by which these obstacles may be in a great measure removed, and to have given an account of it in the Acts of the Academy of Georgofili of Florence. Yet the cultivation of the root is certainly not yet carried to any extent in Italy.

In his note on the *Jerusalem artichoke* (*Helianthus tuberosus*) Professor Targioni repeats the common tale of its being of Brazilian origin, and deriving its French name of *Topinambour* from that of the tribe of Indians occupying the district of which it is supposed to be a native. But this assertion, copied by one writer after another, appears to rest solely on a dictum of Clusius, and certainly no traveller in the land of the *Topinambos* has found anything approaching to it in botanical affinity or in physiological constitution. It is a hardy plant, introduced into Europe from the more temperate regions of North America, and it is amongst the *Helianthi* of that continent, and more especially of the Mexican dominions, that its wild prototype must be sought for. It was carried from France into Tuscany in the end of the 15th or the commencement of the 17th centuries, and is now sparingly cultivated there under the name of *tortusi di canna*, or *cane truffles*.

The *Artichoke* (*Cynara Scolymus*) is a mere cultivated variety of the *Cardoon* (*Cynara Cardunculus*), of which the still more reduced wild form is common over Southern Europe and a portion of Central Asia. What part of this wide district may have been its original native country cannot well be now ascertained; for, like all thistles, it spreads with remarkable facility wherever it finds a genial soil. Carried out from Europe to the gardens of Buenos Ayres, and escaped from them over the country, it is said to constitute that gigantic thistle of the Pampas so feelingly described by Sir Francis Head. To the ancient Romans it was only known in the shape of the *Cardoon*, cultivated as a culinary vegetable, the part eaten being the petioles of the leaves. In Italy, the first record of the artichoke cultivated for the sake of the head, or rather the receptacle of the flower, was at Naples, in the beginning or middle of the 15th century. It was thence carried to Florence, in 1466; and at Venice, Ermolao Barbaro, who died as late as 1493, only knew of a single plant grown as a novelty in a private garden, although it soon after became a staple article of food over a great part of the Peninsula.

Lettuces, *Chicory* and *Endive*, appear all to have been in cultivation ever since the times of the ancient Greeks and Romans, without any record of their first introduction. The numerous varieties of the *Lettuce* have been referred by modern botanists to three supposed species, (*Lactuca sativa*, *L. capitata*, and *L. crispa*), and, as no plants so characterised are now to be found wild in our own quarter of the globe, their origin is vaguely assigned, as usual, to East India.

That country may, however, be well ransacked before cabbage or cos-lettuces are met with growing wild in the mountains. Their prototypes may be sought for with much better chance of success amongst the common wild *Lactuca* of the Mediterranean region, but can only be determined with any degree of probability by a more correct knowledge of the changes produced by luxuriant cultivation on their foliage than we now possess. The cultivated *Chicory* is universally acknowledged to be but a slight altered variety of the wild plant (*Cichorium intybus*) so common over a great part of Europe; the *Endive*, on the contrary, is always enumerated as a distinct species (*Cichorium endivia*) of unknown origin, unless it be "East India." We fear it must share the fate of the Lettuces, be erased from the list of botanical species, and reduced to the rank of a cultivated variety of the *Chicory*.

Umbellifere abound in the hot regions which surround the Mediterranean, and the strong flavour which pervades every part of many species has brought several of them into use in very early ages, either as condiments, or as articles of food. Some of them, either from inattention, or from not being considered of sufficient value to cultivate, have remained unaltered, and their use has not been extended beyond the limited circles in which they are found wild, whilst in others man has succeeded in producing such a development of the tap-root, or of the lower part of the stem and leaves, with a corresponding softening down of the asperity of the flavour, as to supply excellent culinary vegetables. Hence the *Carrot* (*Daucus Carota*), the *Parsnip* (*Pastinaca sativa*), and the *Celery* (*Apium graveolens*), in universal use among European races, and the *Finochio* (*Anethum fœniculum*), more especially appreciated in the Italian peninsula. All of these are indigenous to Southern Europe, and are now found in a wild state in most countries colonised by European races.

Professor Targioni's researches convince him that the *Carrot* and *Parsnip* were both known to, and cultivated by, the ancient Greeks and Romans; but that, until the middle ages, as far as can be traced from the vague descriptions of early writers, the parsnip was very much more general than the carrot, although since then the proportions have been everywhere reversed. The carrot, indeed, appears much more susceptible of improvement under the enlightened cultivation of modern days, and the readers of our "Horticultural Transactions" will recollect, in the second volume of the second series, a paper of Vilmorin-Andrieux's, in which he gives an account of the manner in which he succeeded, in the course of a very few years, in converting the thin, wiry, useless white roots of the wild carrot into a crop of fine, well-shaped, rich-coloured roots, equal to our best garden varieties; whilst in the case of the parsnip he has, we believe, never yet succeeded in effecting any perceptible change.

Celery was known to the ancients, but was considered rather as a funereal or ill-omened plant than as an article of food. By early modern writers it is mentioned only as a medicinal plant. Even as late as the 16th century it is spoken of as such by Alamanni, who praises at the same time the *Maceroni* (*Smyrniolum Olusatrum*) for its sweet roots as an article of food. It is certain, however, that celery was already begun to be grown for the table in Tuscany at about the same time, and has now entirely superseded the *Maceroni* which was once much cultivated in Italian gardens in a similar way.

(To be continued.)

THE "GREEN MARKETS" OF LONDON.

I now proceed to show the vastness, the regularity, and the excellence of the supply of fruit, flowers, and vegetables, to the green markets of the metropolis. The markets employed, on a large and wholesale scale, for the furtherance of the important traffic I am about to describe are Covent-garden, the Borough, Spitalfields, Farringdon, and Portman. Of these the Borough market is the oldest, and Farringdon the most recent. Hungerford market, in its present state, was opened nearly seven years later than Farringdon; but, as it is an old market in a new form, it cannot be classed as recent.

Covent-garden market has many associations connected with it, apart from its character as the first fruit and flower market in the world. On these associations—antiquarian, political, literary, convivial, or theatrical—it is not my intention to dwell, nor even to allude to them further than they may be useful to elucidate my subject.

Covent-garden occupies the site of the old Convent Garden of Westminster Abbey. Perhaps no other church lands, after their alienation, and after a lapse of years, have been applied to a purpose (unconnected with religion) so little alien from their original uses. Where the monks grew their comparatively rude fruits and savoury herbs—for flowers were little cultivated in those days—the choicest fruits, and the profusion of vegetables that adorn the tables of the rich, or stock those of the poor, are sold. These convent lands, after the attainder of the Protector Somerset, their first possessor from Henry VIII., were granted by Edward VI. in 1552 to John, Earl of Bedford; but it was not until two centuries later that Covent-garden market even approached to its present unrivalled celebrity.

In the old times, the principal London market was Stocks market, so called from the stocks—then a common mode of punishment in London, as it was in different parts of the country until the last generation—being placed there. This market was established by Wallis, Lord Mayor of London, in 1282, for the sale of fish and flesh. How long it was devoted to that purpose is not known, probably until the great fire in 1666. Strype, between 1690 and 1700, describes it as a place for the sale, not of fish and flesh, but of “fruits, roots, and herbs, for which it is very considerable and much resorted unto, being of note for having the choicest in their kind of all sorts, surpassing all other markets in London.” Stocks market was pulled down in 1737, and afforded the site of the present Mansion-house. The market was transferred to the space which now constitutes the middle of Farringdon-street, whence in 1829 it was transferred to the present Farringdon-market.

The square (or piazza) of Covent-garden is the oldest square in London. It dates from 1631, and was built at the cost of the then Earl of Bedford, from the designs of Inigo Jones, but Jones's original plan was never fully carried out. It is an oblong of 500 feet by 400. The south side was occupied by the garden wall by Bedford House (the town residence of the family until 1704, when they removed to Bedford House, Bloomsbury, which was pulled down in 1800), and over this wall hung “trees most pleasant in the summer season.” The square became fashionable, and persons resorted to it to sell fruit and flowers under the shelter of those trees. Thus originated the market, and its increase, notwithstanding the superiority of Stocks market, must have been somewhat rapid, as on the 12th May, 1671, Charles II. did “give and grant” unto the Earl of Bedford, “by letters patent, the right for ever to have, hold, and keep a market” in the place called the Piazza of Covent-garden, “for the buying and selling of all fruits, flowers, roots, and herbs whatsoever.” Covent-garden market furnishes one of the many instances how “most poor matters point to rich ends,” for Maitland, some 200 years or more back, mentions that in the square of Covent-garden, “to its great disgrace,” was a fruit-market! During the infancy of Covent-garden market flourished another of the same description—that of Houcey-lane, Cheapside. It was instituted after the great fire, and erected on the ground of one of the burnt churches, not rebuilt—that of Allhallows, Honey-lane. This market was abolished in 1835, and the ground is now occupied by the City of London School. Covent-garden market was brought into charge to the poor's rate in 1679, when 23 salesmen were rated at 2s. or 1s. each. The market is now rated at £4,800. From this time the progress of the market was slow until the removal of Stocks market and the opening of Westminster-bridge (in 1750), gave a great impetus to the traffic of Covent-garden. The area of the market, however, was inconvenient and uncleanly, and although an act was passed in the 53rd year of George III., “for regulating Covent-garden market,” it was found inefficient, and the old open shed and wooden structures, with their concomitant nuisances, were swept away and the present improvements established in 1830, under the authority of 9th George IV., session 1828, Mr. Fowler being the architect.

The market is now apportioned into the “yearly cart

stands,” “potato stands,” “fruit market,” “flower stands,” “casual cart stands,” and “yearly pitching stands,” with proper footpaths and gangways. It is approached by Great Russell-street, James-street, King-street, Henrietta-street, and Southampton-street, Strand. On each side of the exterior of the market is the space for carts, waggons, and general traffic. The exterior is devoted to casual and yearly cart stands, potato stands, and (at the eastern extremity only) flower stands. Within the two exterior lines which run parallel with Long-acre and the Strand, are rows of shops, forming the outward walls of the market, beyond which the roof projects considerably. Immediately within the line parallel with Long-acre, and nearest Great Russell-street, is the fruit market, and a space of equal width and about three-fourths of the length is devoted to pitching stands. In the middle, from Great Russell-street to St. Paul's Church, which stands midway between King-street and Henrietta-street, stretches the avenue, where, in handsome shops, tastefully and temptingly arranged, are displayed the choicest native and exotic fruits and flowers, with a proportion of gold fish, silkworms, nets, labels, and anything proper for gardens. The space between the central avenue and the exterior line of shops, towards the Strand, is occupied by yearly pitching stands. At the Great Russell-street end are two conservatories above the shops.

The purpose of these several arrangements is shown in the following digest of the schedule of tolls, rents, &c., which shows, moreover, by their minute specifications, the importance and value of the market:—

“THE CASUAL CART STANDS.—Every waggon containing wholly or principally carrots, or the contents thereof pitched or exposed for sale, 1s. 6d. Every other waggon containing fruit, flowers, vegetables, roots, or herbs, 1s. Every cart containing wholly or principally carrots, 1s. Every other cart containing fruit, &c., 4d. Each stand on which any person shall place or sell any fruit, &c., such person not being the grower, nor the person by, for, or to whom the same shall be brought, 1s. per day. Each stand used or occupied otherwise, 1s. per day.

“YEARLY CART STANDS.—Each stand let, for every square foot superficial, 1s. per annum. Fruit, flowers, &c., not the growth of the holder, 1s. per waggon, 4d. per cart. Each stand used otherwise, 1s. per day.

“THE POTATO STANDS.—Each stand let, for every square foot superficial, 1s. per annum; in addition to such rent, for every sack of potatoes placed or sold, 2d.; per ton for any greater or less quantity than a sack, 1s. 2d. For potatoes, placed or sold by any person, not the holder, 2d. per sack and 1s. 2d. per ton.—(*Morning Chronicle*.)

(To be continued.)

TO CORRESPONDENTS.

** We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed “To the Editor of The Cottage Gardener, 2, Amen Corner, Paternoster Row, London.”

PLANTING VINES IN VINERY (*An Amateur*).—Plant all the Vines on an inside border. They never should be planted outside if it can be avoided.

SHANGHAI PULETS PARALYSED (*W. Groves*).—Treat them exactly as vertigo was recommended to be treated in a recent number of THE COTTAGE GARDENER.

DORKINGS (*J. Green*).—Write to any one who has taken prizes for Dorking chickens at recent exhibitions.

INSECTS (*J. W. C. Hanwell*).—They are a species of ant. Disturb their nests, and dose them with Scotch snuff until they are destroyed or banished.

NEAPOLITAN GEESSE.—A Subscriber wishes to know where these can be procured.

NAMES OF PLANTS (*H. G. M.*).—Your plant is *Impatiens glandulifera*. It forms a noble autumn-flowering group in borders and plantations. See what *Senilis* says to-day about it. (*Bretinglys Cottage*).—The annual is *Gysophila viscosa*, or Clammy Gysophila; and the sweet-scented perennial is the Costmary, *Balsamita vulgaris*.

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WEEKLY CALENDAR.

D M	D W	AUGUST 15—21, 1854.	WEATHER NEAR LONDON IN 1853.					Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.							
15	Tu	Cryptophagus serratus.	29.994—29.929	65—40	N.	—	47 a 4	22 a 7	10 20	☾	4 17	227	
16	W	Cryptophagus hirtus.	29.780—29.194	65—54	E.	36	48	20	10 44	22	4 5	228	
17	Th	Duchess of Kent BORN, 1786.	29.704—29.507	71—41	W.	—	50	18	11 15	23	3 53	229	
18	F	Tachinus trimaculatus.	29.901—29.870	73—51	S.	—	51	16	15 56	24	3 40	230	
19	S	Aleochara lanuginosa.	29.874—29.822	77—61	S.W.	02	53	14	morn.	25	3 27	231	
20	SUN	10 SUNDAY AFTER TRINITY.	29.864—29.811	76—51	S.W.	01	55	12	0 47	26	3 13	232	
21	M	Sun's declinat., 12° 10' N.	29.977—29.925	73—55	W.	—	56	10	1 48	27	2 59	233	

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 73° and 51.5° respectively. The greatest heat, 92°, occurred on the 18th in 1842; and the lowest cold, 38°, on the 18th in 1851. During the period 107 days were fine, and on 82 rain fell.

NEW PLANTS.

DESFONTAINIA SPINOSA (*Holly-leaved Desfontainia*.)



We incline to the opinion that this genus belongs to the Natural Order of Gentian-worts (*Gentianeae*); an opinion long since recorded by Mr. D. Don. That it does not belong to the Potato tribe (*Solanaceae*), is the decided opinion of

Mr. Miers, who has paid so much attention to it. It belongs to Pentandria Monogynia of Linnæus.

"The species of *Desfontainia*, said Mr. Don, writing in 1838, are shrubs worth cultivating in every collection, for the elegance of their foliage as well as the brilliancy of their flowers. We would recommend them to be grown in pots filled with a mixture of peat, loam, and sand, if ever they should be introduced to our gardens." The need for this last sentence is now removed, for *D. spinosa* has been introduced, and to Messrs. Veitch belongs this one more benefit conferred upon the gardener. Their collector, Mr. W. Lobb, sent it to them from Valdivia, and it was exhibited at Chiswick in 1853. It is a greenhouse shrub of stiff, erect habit; the leaves glossy green, and prickly edged; the flowers are rich scarlet, tipped with bright yellow. It produces a white berry about the size of a cherry.—(*Botanical Magazine*, t. 4781.)

TORREYA MYRISTICA (*Californian Nutmeg*).

This evergreen belongs to the Natural Order of Conifers, and to Dicoelia Polyandria of Linnæus. This, also, is one of Messrs. Veitch and Son's importations, being, also, a discovery of Mr. Lobb's, who found it during 1851, in the Sierra Nevada, of California. It attains the height of from thirty to forty feet, and will, doubtless, prove hardy. Messrs. Knight and Perry thus describe the genus and other known species:—

"The *Torreya* is a genus nearly allied to the Yew, and was named in honour of Dr. Torrey, one of the authors of the *North American Flora*. The type of the genus (*T. taxifolia*) is a tree from twenty to forty feet high, which has a very disagreeable smell when burnt, and hence it is sometimes called in Florida the 'Stinking Cedar.' The wood, though of small dimensions, is very durable, and is not liable to the attacks of noxious insects.

"*T. nucifera* is a handsome tree. In Japan an oil is made from the kernel of the nut, and used for culinary purposes. The species appears quite hardy in the neighbourhood of London.

"*T. Humboldtii*.—If this fine specimen prove hardy, it will be a great acquisition.

TORREYA

nucifera Sieb. and Zucc.

Taxus nucifera Linn.
Podocarpus nucifera Pers.
Caryotaxus nucifera Zucc.

The nut-bearing Torrey

Nippon, and cultivated in Japan

20

taxifolia Arn.

Taxus montana Nutt., not of Willd.

The Yew-leaved Torrey

Florida

30—40

Humboldtii

Baron Humboldt's Torrey

Georgia

Sir W. Hooker says the fruit of *Torreya myristica* is double in size that of *T. taxifolia*, the only species at present

that may be substituted for it, but he adds these other distincts.

TORREYA TAXIFOLIA.

Branches pale, ashy-brown. Leaves one inch long, half a line wide, convex above, grooved beneath from the reflexed margin, and of a paler hue; with a slightly raised parallel brownish line on each side the midrib; mucro short.

TORREYA MYRISTICA.

Branches red-brown. Leaves two inches and often more long, one line wide, nearly plane above and beneath, the under-side rather paler, with a depressed or sunken line of the same colour on each side the midrib; mucro long.

TORREYA TAXIFOLIA.

Male flowers with the scales all acute and mucronated. Fruit scarcely an inch long, somewhat obovate and acute. Wood of a reddish colour, like that of *Juniperus Virginiana* (Dr. Torrey).

TORREYA MYRISTICA.

Male flowers (not by any means fully developed) with the inner scales membranaceous, obtuse and erose. Fruit, the smallest specimen an-inch-and-a-half long, in shape exactly elliptical. Woody yellow, like Box, as seen at Mr. Veitch's Nursery, King's road, Chelsea.

—(*Botanical Magazine*, t. 4780.)

NEXT to the use of pure running water in irrigating the sides of hills and elevated table lands, we have treated of the flooding of lower levels with rain-water not perfectly pure, but holding a certain amount of animal, vegetable, and earthy remains in solution. This is, no doubt, advantageous to the growth of plants; but the effects of the process are not always equally favourable to animal life and health, owing to the risk of mismanagement. The rich alluvial soils of the great historical regions of the world have not always produced races of men equally vigorous with their rich vegetation. The means used to promote cultivation on their banks has not always been accompanied with equal care against the slow, unseen, gradual, lowering influences of the climate on man himself. And it has been accordingly observed, that while the mountain ranges of Asia and of Europe have ever preserved a hardy, vigorous national race, as old as the hills, no race of men has ever preserved itself long in the vallies and on the sea coasts; but has had to be constantly renewed by the fresh blood, whether of peaceful settlers or of conquerors. If what has been observed in our own time agrees with the concurrent testimony of history—if even the natural richness of great rivers cannot be turned to agricultural account without some danger—the danger to health must surely be very much increased where a fluid highly charged with manuring matters is employed. Chemical research goes far to account for the supposed unhealthiness of low situations by proving, first, that Carburetted Hydrogen exists in the air of marshes; and, secondly (according to Professor Way), that the clay of alluvial soils is rich in ammonia, the result of the decay of a pristine order of things.

But, supposing everybody to be now convinced of the danger of using sewerage on the grand scale for purposes of irrigation, is there not yet another chance: cannot these products be again brought into a solid, portable state, by precipitation from water? Professor Way still cautions the agricultural world against buying precipitated manures, on account of their very uncertain strength and value, and the danger of fraud; and he says, that he cannot satisfy himself that any process hitherto devised for the purpose can pay. As the actual value, in an agricultural point of view, of "that-which-has-to-be-carried-out" is really of importance, we must beg, once for all, to offer a few remarks on this part of the subject.

The principle we have adopted has been used in estimating the value of some kinds of fish-manures, and is abundantly simple, and tolerably accurate. It consists in abstracting entirely from the calculation the water held in combination. Well, then, "that-which-is-carried-out" consists daily of about three pounds of water, holding in solution three-and-a-half per cent. of valuable salts, and about a quarter-of-a-pound of more solid matter, whereof only some twenty-five per cent. is manure, the remainder being water. Though analysis does not prove these ultimate resultants to be quite equal to Guano in fertilising qualities, yet they are

nearly so. You thus get about what would be equal to half-a-hundred weight of Guano to each full-grown, well-fed person, annually, supposing that there were no great loss in collection. But loss in collection there must be; and only half of our population are grown up, and still less are they all well fed. The calculation, therefore, must be at once reduced by at least the half. Then the cost of removing a comparatively bulky manure must always make farmers prefer Guano; and, again, we have seen that the precipitation from solution in a large excess of water is not found to be very remunerative.

We have, in a former paper, alluded to the admirable sanitary regulations of the city of Mexico before the conquest; to the great waterworks; and to the employment of 1,000 scavengers daily, in getting out all the filth of the city. This would give *about a day's work in the year for each inhabitant*, the population of the ancient city being more than 300,000; and *this estimate of a day's wages for each person would be about the annual value of the manure*; and such a system of daily scavenging should support itself nearly.

On a cottage-farm, or where an allotment adjoins the house, of course a very complete system of collection may be adopted, and the charge of removal becomes nothing. In such a case, nearly the full value of the manure may be realised. Therefore is an ample allotment of land not only the best ventilator, by insuring sufficient space and isolation, but the soil of the garden, and the very charred weeds and rubbish—nay, the barren subsoil itself, give us at once the best deodorisers and disinfectants with which to mix up and absorb, to render harmless and turn to profit, all the offensive refuse of the house.

To recur to the calculation with which we set out. The vegetable food of each adult person is fairly represented by a quarter of Wheat annually, or the quarter of the produce of an acre of good land. Half-an-hundred weight of Guano for each quarter of Wheat, or two hundred weight of Guano to the acre, might be a sufficient dressing for the Wheat crop, provided that all the straw were consumed along with roots by cattle, and thus a heavy dressing of farm-yard manure provided to insure a good root-crop in due rotation.

Powerful liquid and soluble manures—Guano, and the like—have the property of bringing into action a considerable surplus remaining over in the soil from former dressings, the droppings of cattle, &c., not brought to account at the time of application, but standing to the credit of the farmer in that best of all possible saving-bank—the earth—*justissima tellus*.

Supposing a meadow to have been duly coated with its ten or twelve tons of dung to the acre, chemical analysis and practical experience together tell us that a much more sparing dose of manuring matter, applied in a liquid form, or of Guano, would have given an equally abundant crop of Hay; but, really, the waste is accompanied by some saving, and the apparent saving is not so great as is at first supposed. On the one hand, our land is permanently benefited to some extent by these

repeated large and accumulated dressings—hence the value of old meadows; and, on the other hand, part of the fertilising results of soluble and liquid-manures is not to be called their own, but is owing to their stimulating action on the latent resources of the soil.

Where the liquid is strong, and its application so long continued as to rot upon the surface all the haulm, stubble, and other remains of former vegetation, the process is analogous to the free application of caustic lime; to paring and burning; or to trenching down the surface-soil of unreclaimed land. A new source of fertility can hardly be said to have been added to the soil; but what was previously lying useless is thus brought at once to profit. But it is plain that liming, paring and burning, or trenching, are any of them preferable methods of accomplishing the end in view.

Our conclusions are these. Domestic manure has very similar properties with Guano and liquid farm-yard-manure. Like the latter, it should be collected with every precaution against admitting water, &c., into the receptacle. (Where water is made use of in the water-closet, chloride of zinc, or of lime, should also be employed.) The same substances are the best to mix with each: viz., dry earth, peat, gypsum, or charcoal.* It is best to be covered in immediately when applied to the ground unmixed. For surface-dressing it should be made up into a compost, unless the application be made sparingly in wet weather. Its stimulating properties require to be distinguished from its intrinsic value as a manure. There appear great objections to its application when very largely diluted with water; and most of the advantages of irrigation may be obtained by pure water only. Undiluted, it contains ninety-four per cent of water, and is thus bulky and expensive, as compared to Guano, when it has to be removed some miles before application; and when mixed with rain-water, large cinders, brickbats, and useless refuse of every description (as is commonly the case in large towns), it will hardly pay for getting out and carting away. Yet there can be no doubt that each individual is capable of restoring to the soil what will enable the soil to reproduce his yearly stock of vegetable food.

J. J.

THE variation between the prices obtained by good specimens of the different breeds of Fowls a year since, and those current at the present time, is not unfrequently quoted as indicating a decreased interest in the matters of the poultry-yard. To this, however, we must demur, considering, as we do, that a wide distinction should be always drawn between the several motives that may have influenced purchasers, whether at public sales or elsewhere. The intrinsic value of a fowl that is intended to provide for our own domestic wants, or as the ordinary saleable produce of our poultry-yards, has usually been lost sight of in a large

majority of those cases where prices have been given far in excess of those now reported. But such intrinsic value of the Fowl and its produce, under ordinary circumstances, is, after all, the great point to which the efforts of Poultry Societies have been directed; for assuredly it is their legitimate object, although in some instances it may not have been sufficiently borne in mind.

Hence, one of the main causes of the "disappointment of the Poultry-keeper," who constantly became a purchaser, either from an erroneous opinion of what was likely to meet his wants, or, possibly, still more frequently because a particular breed happened, either from novelty or on better grounds, to be at that time principally in demand. His want of success, and consequent discontent, may often be attributable to one or either of these causes; but even if other reasons are to be sought for, they are at hand in sufficient abundance to account for all such unprofitable terminations of his recently-acquired taste. Good birds, of a suitable breed, may have come into his possession, but at the same time they may be ill-adapted to his conveniences for keeping them: thus, Hamburgs have been seen by us inmates of an area; the Game-fowl pinning in the narrow limits of the back-yard; and Spanish assigned but a closet for their abode, with occasional occupation of the window-ledge for exercise and air. Failure—by which term we would signify unprofitable returns—were here inevitable, and the sooner death terminated disease and misery the better for the poor victims. But poultry casualties and mishaps are by no means limited to owners of narrow means, such as those to which reference has been just made; for lavish expenditure in houses and yards may be, and constantly has been, incurred with no better eventual results as to the condition and health of their inmates. Numbers crowded in an insufficient space, imperfect ventilation, and bad management, the birds stuffed at one time to repletion, at another neglected and without food for hours, are conditions under which many a valuable bird is doomed to exist. Should it be any matter of surprise, therefore, that fowls thus treated should disappoint their owner's anticipated gains?

Thus, it will plainly appear, that poultry-keepers of every grade have themselves to blame in very many of those cases which are too credulously relied on as evidencing the demerits of their fowls. High and low, alike, have thus made one or more mistakes on points such as errors in selection, their means of accommodation, food and management, and, last not least, calculations of sales even before the eggs have been laid from which the chickens are to be hatched. Now, here human—not feathered—bipeds are to blame. If the Spanish, Hamburgs, and Game, had enjoyed wide and healthy walks; if Shanghaes, more adapted to restricted bounds, had not been there overcrowded, and if, in both instances, they had been properly fed and managed, the expectations of proportionate profit to a reasonable amount of purchase-money would have had every chance of being realised.

* Professor Way states that no substance equals newly-burnt charcoal as a deodoriser, and that newly-burnt animal charcoal is the best of all. This brings strongly to our remembrance the "ashes of an heifer newly burnt," which, in the old law, were made use of for purifying the unclean.—J. J.

We are speaking, be it remembered, of the class who look to profitable returns for their poultry, and few, even of "fanciers," will have any objection to be included in this number, however remote their apparent chance of being so. If poultry, however, be kept merely as an amusement, or for purposes of study in Natural History, the gratification will probably have to be paid for; but these are cases of exception not at present before us.

Now, we have two facts generally admitted, viz., that many poultry-keepers are grumbling at losses, while, without their ranks, many tauntingly point their finger to what they would term the "natural termination of the Poultry mania." Both these, we apprehend, are in error,—the premises and conclusion being on both sides disconnected. The disappointed poultry-keeper did not go the right way to work for his success; and the latter inconsiderately argues, from the former's mistakes, to the whole body of those who have kept fowls under other conditions, and with far different results. With poultry purchasers, speculation was too often a powerful motive; capital was invested for which a return was attainable only through a continuance of "fancy" prices, whose permanency was neither probable nor desirable: when these fell, there was aggravation to the other causes of discontent:—sales were forced, and a panic ensued, in exact analogy with what is often elsewhere seen in matters of far greater import.

This subject has now been very briefly touched upon, but there are points to which it may be desirable to refer on other occasions; at present, however, we must record our opinion, that poultry disappointments are far more frequently assignable to the poultry-keeper's errors and want of judgment, than to any short-comings on the part of the birds themselves. W.

The *British Pomological Society* is making good progress. The Sub-Committee have prepared the Rules and Regulations which will be submitted to the members at a general meeting, to be held upon an early day. Very eligible rooms are offered to the Society, and it is in contemplation to have an Exhibition of Fruit in the course of next month.

Now that the Society is formed, we hear one general expression of surprise that it was not established years since. Its strength is rapidly increasing, both by donations and subscriptions, and we believe that it will become one of the most useful of our associations for promoting an improved knowledge of our soil's produce.

THE NEAPOLITAN VIOLET.

As the season is rapidly approaching in which the grave and dignified tints of autumn will remind us of the advance of King Frost, before whose austere aspect Flora, with her choice pets, will retire in haste; it will, perhaps, prove of service to turn our attention, betimes, to in-door matters, and instead of permitting the floral goddess to be completely scared away, to try and find

her an asylum in our greenhouse, frames, &c. Amongst the lovelies of winter, the Violet holds a prominent situation. Who would despise a bouquet if only composed of a group of forced Lilies of the Valley in the centre, surrounded by fine double Violets, and these again by a fringe of Lycopods or Ferns?

There are points in the annual culture of the Neapolitan Violet which must be held as salient points; for on the time and manner of carrying these well out, depends much of the success in forcing them; if forcing it may be called.

First, the obtaining good runners at a proper time; second, the constant removal during their out-door culture of the strings or secondary runners; third, the time and mode of their establishment in their winter quarters. I will remark on these according to the foregoing order.

I have forced the Neapolitan Violet for thirty-five years, and, I must aver that I obtain annually further insight into their habits. Indeed, the very first paper I ever contributed to a gardening periodical was one on the Neapolitan Violet, which is in "Loudon's Magazine" for 1824. However, I must proceed.

As to runners, some people prefer cuttings, thinking they make firmer plants; but I have not found any advantage in this practice; on the contrary, time is lost, and this is most important. My practice is, when the plants are somewhat exhausted with blooming, say in the second week in March, to remove them carefully from the frame to the open ground. Here they are planted with thin balls of earth, and receive a covering of hoops with mats. In the end of the month a little old tan or leaf-mould is introduced amongst them, two inches in depth, and they are, henceforth, watered occasionally. By the end of April, or beginning of May, they are full of well-rooted runners. I consider it quite essential to early forcing that the runners for the next year be planted out for a summer culture by the second week in May. A bed is now prepared for their reception, and summer culture in an open airy situation. They like a generous soil, rather light than otherwise; good kitchen-garden beds, rich with former manuring, will grow them fine; but they enjoy the addition of a little sound loam and heath-soil. The beds should be elevated about six inches above the ground level, and the surface pressed firmly before planting. The plants may be about eight inches apart, and care must be taken in planting to keep their crown above the earth's surface, as in Strawberry planting.

Henceforth they must be watered occasionally, kept clear of weeds, and every runner cut away. There is an old saying, that "what is done any time is never done;" and this is applicable, in a variety of ways, to gardening operations. Indeed, one of the chief requisites in a modern gardener, to be worthy of the title, is an aptitude for administrative matters; which, of course, involves economy of labour and precision. With such things as our present subject, my practice is to tell Will or Tom to cut away every runner once every fortnight. And, to digress for a moment, the same with several things: thus, Have you—as you ought to have—"traps" to your grid-holes which carry away the surface-water of any given walk? If so, tell your man to clean out those "traps" first, twice a-year, Midsummer and Christmas; or, indeed, any other set periods. Thus much as a digressive hint as to general business. Now for the Violets again.

The runners having been thus handled, watering applied in a timely way, and a clean cultural process pursued, we shall, with a little patience, produce a host of young Violet plants with "crowns" like well-grown young Keen's Seedling Strawberries by the middle of September; at which period, my practice is to place them in their winter quarters. I lay the utmost stress

on planting them under glass by the middle of the month, as it is absolutely necessary that they obtain a firm root-hold before winter.

I may here observe, that I consider a little artificial bottom-heat of much importance; it causes them to root speedily, and it is so managed as that it has declined by the early part of November, which, under the dung-system of culture, is necessary. If I had a pit heated in a proper way by hot-water, I should prefer it; one that would sustain a permanent bottom-heat of 55° would suffice, and a top-heat of 45° to 55°, through the dead of winter; but this, be it understood, with liberal ventilation, which is particularly necessary with the Violet. Of course, in a pit with this there would be a pipe for surface or air-heat, it being important to keep the air of the pit tolerably dry through the dark days of winter. I will now state how I should wish to prepare such a pit.

If there be piping for bottom-heat, of course it will be covered with rubble or bricks; and on these might be strewed a few inches of coarse dung, and then the compost. But be this as it may, I should wish the Violets, when planted, to be just five inches from the glass at back, and six inches from the glass at front. They would require nine inches of soil; and I generally place two inches of rich, rotten, and mellow manure beneath the soil. These figures together will give a depth of twenty-three inches from the glass at back, and seventeen inches at front. In other words, such must be the depth of the interior before a particle of the above compost is put on. The bottom, or substratum, must be made firm, incapable of settling.

As compost, I prefer just equal parts of good, sound, turfy loam (chopped to a mince, but no riddling), very old, rotten, and turfy manure, old turfy leath-soil well chopped, and sharp sand; to these may be added a little charred *debris* of the rubbish-heap. These articles must be thoroughly mixed until an uniform compost. And now we are prepared to fill and to plant.

I before observed, that two or three inches of rich, old manure is placed beneath the compost. This imparts much size to the blossoms, as well as promoting their durability. On this, then, about two inches of the compost is laid, and the plants are placed on the latter; filling up as the planting proceeds. The planter begins at the bottom, or south front of the pit or frame, and places a row close to the front wall; he then introduces compost between the balls of earth, filling every crevice as the work proceeds. He thus proceeds with each consecutive row, until he reaches the back of the pit; the plants being placed, on an average, eight inches apart. It is necessary to name here, that every plant is furnished with a good ball of soil, which adheres stoutly to the plant; my balls are generally as large as a good Swede turnip, a consequence of early planting and high culture.

When the plants are all firmly secured, they are well watered with clear and weak liquid-manure, and the lights are put on; the pit or frame shaded with thin canvass or bunting, and little air given for about eight-and-forty hours. After this, the air is gradually increased, and in a week the lights are kept off night and day, if fair; but all heavy rains are studiously avoided, also intense sunshine, for two or three weeks; the frame being sprinkled over every morning.

It will be seen here, that I have been proceeding on the assumption that a bottom-heat had been provided, and that the surface of that source of heat was the precise depth from the light before described. I must now describe how I make the fermenting body beneath, for the instruction of those who have no piping as a heat source, and who desire to have Violets from the middle of October until May, as I have, from one pit, about fourteen feet long by six feet wide.

My fermenting material is about equal part stable-dung and leaves well blended and fermented; such a material, two feet in depth, and well trodden as filled in, provides just the sort of bottom-heat to be desired.

And now, what shall we say as to their general autumn treatment, say from the end of September to the first week in November? Why, that all runners must still be cut away, and that the plants receive all the light and air consistent with their well-being. From the time they are planted in the pit or frame, until November, the bottom warmth will be found to be about four or five degrees, on the average, in advance of the average atmospheric warmth. This is just right; but to explain why, would require a chapter; for herein lies a principle of vast importance in numerous gardening operations.

R. ERRINGTON.

PROPAGATION.

GERANIUMS.

For the whole of this month cuttings of all the strong bedding Geraniums, without exception, will root with less trouble of attendance, and with more freedom from accidents, if they are planted on a warm south border, or on some bed or border open to the sun, than if they were reared in pots. To plant cuttings of them in a shaded place, after the tenth of August, is certainly very bad management. People who understand the thing properly never plant Geranium cuttings out of the sun at all, and never put the least shade on such cuttings let the weather be ever so clear and dry at the time, unless it be for very delicate sorts, such as the *Golden Chain*, *Dandy*, and *Lady Plymouth*; but, strictly speaking, these are not bedding, but edging plants; moreover, such delicate sorts do better from spring cuttings in pots. *Baron Hugel* is the dwarfiest of the kinds that do better from out-of-door-cuttings in the autumn.

The most economical way of all to manage a large or small stock of these autumn cuttings is to plant them in shallow, cold pits, and after the second week in September to put the glasses over them at once; that is, over such as are put in later than that; here they may all remain until the hurry caused by the early frost is over, whereas, those that have been quite in the open air, and not in pits, must be looked to first when the frost comes, causing double the trouble. When the beds are cleared after the frost, and everything else is safely guarded for the approaching winter, one has more time to pot the young stock and take more pains with them; or, if the cold frame could be so covered as to hold against the frost, the cuttings would keep better there without being taken up and potted. Not a day should now be lost in making Geranium cuttings for the beds, if one only wants a score plants next year; and as for the old Geraniums from which the August cuttings are made, they are, of all others, the very best to save for specimen plants when they are taken up and potted by the end of September or later; all the older parts might be pruned off, and the young growths, from under where the cuttings were taken from, will be just in the right state to form handsome frames, so to speak, for future specimens of great size and beauty. I have two specimens of *Lady Middleton* in pots, which I managed this time last year on this very plan, and I thought they were the handsomest Geraniums in England, till I saw the collection of specimens at Fulham Palace, which I wrote about last week; and I was wishing that an August show were now at Chiswick, that I might show the florist how to grow Scarlet Geraniums in perfection, but the sight I had from the Bishop of London took the shine out of my fancy completely, and the moment I got home I cut off all the flowers from these two, and from all my specimens of the whole breed, and I shall

not allow any of them to carry another flower till next year, to see if I can compete with the Bishop of London and his gardener.

If there were bishops in the kirk of Scotland, and if the world had gone right round with the graziers, instead of going right against them, on the fall of Napoleon the First, in 1815 and 1816, I might have been a bishop of St. Kilda myself by this time, as I shall explain in my autobiography, in the coming series, so that my presumption, in the idea of competing with an English bishop, is not altogether so great as it might, at first, appear on the face of it; at all events, I would put all my weight and strength in the urgent advice to each and all in the matter of specimens of the best kinds of the scarlet breed of Geraniums, for placing out here and there about the garden, and always to have them in pairs, or only a single pair, to begin with, if there is no more room to spare at present. I cannot allow myself to say, just try one pair, to see how you will like it, because I have not the slightest doubt, in my own mind, that it is possible for any one, who is at all fond of a garden and flowers, to have two thoughts on the subject.

If I am not much mistaken, Harry Moore's plan of growing them in the same pots, and in the same soil, for years and years is the best, and most convenient, after one gets them on to the right size at first; but I would not advise that plan to begin with this autumn, when selections are to be made of plants now standing out in the beds or borders. I should fix at once, or very soon now, on the best plants I had for that purpose, and would stop them if they had long, straggling, soft shoots, or rather make cuttings of such tops. I would thin out crowded shoots in the centre altogether, and I would clear off very low shoots, or rather, I have done all this last week with such as I mean to train for specimens; I would then leave them out till the first or second week in October, when I would take them up, regulate the heads to my idea of a good round shape, prune back all the stronger roots to one-third their length, and leave the very small roots without any cutting. I would pot them in as small pots as I could get their roots into comfortably, and use only strong yellow loam with a little sand, and no sort of manure, as the present pot, or ball, will be the centre of the future pots, or balls. It is essential that nothing but the soundest loam should be in contact with the stem, collar, and master roots, on Harry Moore's system. Next February, these plants ought to have a shift into pots one size larger, and towards the end of the middle of the May following be placed in full-sized pots, in which the specimen plants were to remain undisturbed for some years, except a fresh surfacing every spring with a richer compost. For the two spring striplings a little rotten dung might be added, or not, according to fancy. I would prefer no dung at all for this kind of culture, as good friable loam alone would be more likely to keep the roots in a firm, healthy state for a longer period; and I would trust to strong water, from April to October, for extra stimulus to throw off large trusses of bloom, and to plain soft rain or pond water during the rest or winter period; and I am quite sure that any one might keep such plants in a very healthy state for many years by these simple means. For drainage, there is nothing better than bones in pieces not longer than Filberts, —say an inch or so of them— and to keep the soil from falling in among the bones, a layer of woollen rags, or old shreds from the fruit-trees against the walls, is, I am convinced, the very best material. Of all the stimulating waters, I believe none are more really useful to the whole tribe of Geraniums than soap-suds, not very thick or strong—that from the hand-basin every morning is, perhaps, the very best that can be used. I have

used it myself for many years—having it as Susan watered Aunt Harriet's Geraniums is an excellent way in careful hands; but it is a dangerous game unless one is very careful. It is not with strong doses, now and then, that we get great and permanent results from liquid-manure, but with the constant use, during the summer months, of a very small addition of strong water to the daily supply. Of course, this does not apply to annuals, as Balsams, Tomatoes, Capsicums, and such like.

Many of our very best gardeners put much stress on the use of clear liquid-manure, clarified, as they say, and I suppose there must be something in it more than mere fancy; but I never used any of it in all my experience, and I never rightly understood the reasons in favour of it. I recollect an instance, in the winter of 1847, which would surprise most gardeners. I had placed thirty-two young plants of *Lisianthus Russellianus*—the worst plant to winter, perhaps, of all we grow—on a top shelf in a stove, also some bulbs, under an experiment. The orders were that the bulbs should receive strong liquid-manure, made on purpose, for every watering during the winter, from fresh horse-droppings from the stables; but rain-water only for the *Lisianthus* on the same shelf. William Cresswell, who watered the stove that winter, was a man whom I could trust to execute an order to the very letter; but the best of us err at times. He mistook my meaning altogether. The *Lisianthus* plants had the horse-dung-water, as brown as could be, all that winter; and in February, when they were taken down for potting, and for hot, moist, frame culture for the spring, there was a thick surface of the small particles of the droppings on each pot, and a "tide mark" of the same round the inside of the rims of the pots. I never had better *Lisianths* before or since; but Cresswell, probably, recollects 'to this day how he escaped the "land-mark" of the lash about his ears for the unintentional experiment.

One more experiment about strong water will finish the subject for this season. I saw it announced very recently, that "colouring-matter will not enter the roots of a plant;" but the fact is not so. I saw crimson-coloured-water rising in a white Balsam, in 1826, with these very eyes; and anybody may prove this in three days. A white Balsam is the best, because the bark and stem is clear: let it go without water till all the leaves droop, then water it in the middle of the day, when the sun is strong on it, with coloured water, and you will soon see the colour rise in the stem as plainly as the mercury when a thermometer is plunged in hot-water, or in trying when the wort is ready for the yeast. In 1834 or 1835, I tried this experiment differently. A Gourd-like plant, in a hot stove, was allowed to droop all its leaves for want of water. The pot was then watered from a dirty horse-pond, where the water was nearly black. I made a cut at the sixteenth joint from the pot a short time after that, and the plant bled profusely into the palm of hand; the water, or bleeding, was still brown, but not quite so dark as that put into the pot. No doubt, many plants may refuse coloured water, and it may be necessary to sponge dry, so to speak, the coarsest plant, before it is capable of taking in coloured-water; but I have the evidence of my senses that it is possible to do the thing, but I have no such evidence that clear water is better than brown water for plants, neither do I know that brown is better than clear water; very likely they are both best according to the ideas of those who advocate the one or the other. I know that clear, or nearly clear, soap-suds will choke up the soil on the surface of a pot as much as brown liquid from fresh or rotten dung. To cure that choking, all that is necessary is to let the soil get dry, and to stir the surface an inch or so, and to give the next watering with soft rain-water only. This is exactly how I manage

with my own pots and boxes, and I look upon the chocking up of the surface, now and then, rather as an advantage, because, without it, ten to one if my boxes, at least, would be stirred on the surface so often as is good for the health of the plants. My next-door neighbours, right and left, are alive to this move, so much so, that they are called the "pinks" of the new town—Surbiton is often called New Kingston.

VERBENAS.

As far as I have seen round London, Verbenas were worse last June than they have ever been so late in the season. I have no doubt that a vast quantity were killed, or much injured, by being out of pits and frames before the late frost in April, and that very late propagated ones, and half-dead ones, had to be planted out in a hurry. Where there is a propagating arrangement to work off Verbena cuttings before the middle of March, I would prefer them before autumn-struck cuttings; but when one cannot have a bed ready for cuttings before the middle of March, that would be too late for Verbena cuttings, if the beds were to be filled and in bloom as early as possible; in that case, autumn-cuttings would be better than late spring ones. From this time, therefore, to the middle of September, is the best time to get a stock up. In short, after the middle of August cuttings of all bedding plants cannot be got ready too soon; and, as soon as they are rooted, they should be exposed to the open-air as long as possible, but certainly not to rain: therefore, a cold-pit with the lights off is the very best place to harden the young stock, if glass is at hand to push over them during rain. The more exposure we can give to autumn-struck cuttings in October, and later, if the frost holds off, the easier they will keep in winter, and the better plants they make in the spring.

There are few plants worse to pot from the beds and borders in the autumn than Verbenas; and to those who need instruction on such points, I would never advise the attempt at all; the very best way, and by far the easiest, is to work off young shoots after the manner of Strawberry runners for forcing; that is, to fill a lot of small pots, (60's), with rich soil, to plunge them round and among the plants, and to put a joint of a healthy strong shoot over the centre of each pot, then to hold it there "by the ear" till it roots; one might get a few dozens, or a few hundreds, or thousands, that way fully established in less than a month, and every one of the plants to be above a foot high, if that was an object; but let us have the whole process in detail.

Take a peck, or a bushel, or a barrow load of some good rich soil, and so many empty small pots, to the Verbena bed, or wherever the old plants are; take, also, a strong dibber, such as they plant Cabbages, with, and you are ready for the short-hand process of manufacturing rooted Verbenas by the dozen, and so on. Now, turn up the first creeping shoot of the particular Verbena, and at the third or fourth joint from the point of it you will find roots coming out; if they are an inch or so long, all the better; make a hole with the sharp-pointed dibber just under the rooted joint; when the dibber is in, move it right and left, so as to make the mouth of the hole large enough to hold the 60-sized pot; let the top of the pot be a trifle lower than the surface of the bed; there will be a cavity below the bottom of the pot, as the pot need not go down so far as the dibber went; this hole below the pot is the grand secret of success, for it makes the drainage so perfect that the rooted joint will take to the pot at once, and grow away as if nothing had happened. The way to fix the joint exactly over the centre of the pot is by turning down one or both of the leaves at that joint into the mould in the pot, and pressing them so as to keep the joint quite firm in its place, where it will soon make all right by

fixing itself by its own roots, just as a Strawberry runner would; this fixing by a leaf, or leaves, gardeners call "fixing, or holding by the ear, or ears." After this, the shoot may grow on as long as time will allow it, or it may be stopped two joints before the pot to make it a bushy plant, and as Verbenas stand a good deal of frost, the end of October will be time enough to separate these runners, if it were a convenience to leave them out so long. In the interval, very long plants, or very bushy ones, could be had for scarcely no trouble at all; and this reminds me of a very good plan they have in some parts of Scotland, which is to have specimen Verbenas in pots from year to year, for training out against walls during the summer. A lady told me, a few years since, that Mr. McDonald, at Drummond Castle, in Perthshire, does wonders in this way; and I have heard of *Defiance*, in another place, being nine feet high and four feet wide, against a wall, and in full bloom, and I quite believe it; and a 12-inch pot, plunged so as to let the roots into the top soil, but not out at the bottom hole, would keep any Verbena as big as that *Defiance* for many years.

D. BEATON.

A FEW WORDS ON STANDARDS.

In few sciences more than that of gardening does the "meeting of extremes" produce such agreeable results. Vegetable phenomena are often chiefly striking in proportion to the diversity of outline exhibited. The majestic Oak in the landscape has its grandeur enhanced by the scraggy, lumpy-headed Thorn, that breaks in upon the level uniformity of the foreground. The elements of physical gracefulness are more enduringly present amid the endless variety of form than in the delicately-beautiful but evanescent attractions of colouring. Buds and branchlets have a charm when the peculiar green of the leaf and the splendour of the flower are sought for in vain. Given, a bank of flowers, where every bloom is arranged with compass-like precision in its allotted place; after the first thrillings of delight were over, would you not gradually begin to wish that a few branches had strayed upwards and outwards, beyond the regular circular outline, that you might feel relieved from gazing on such a monotonous outline of the beautiful? Imagine a score of such dwarf, symmetrical, compact Pelargoniums, as do such honour to a Turner and a Gaines, and that you are to examine them, as your sole floral treasures—not for part of an hour, but for weeks—would there be no danger of experiencing anything of the irksome, when the charms of novelty and variety were alike exhausted, and shift and change as you would, there was nothing to break the uniformity of the sky outline?

Suppose, in such circumstances, that some four or six standards were placed at your disposal, with heads neither so high nor so slender as to resemble a housemaid's spider-hunter, nor yet so low and bushy as to interfere with the beauty of plants placed beneath them; but just of a height, and size and colour, as would vary the sky-outline of the stage or parterre, afford interest by contrast, and secure reposing points for the eye to rest upon, and thus command numberless combinations of the lovely. Would you set these plants down separately and unattached, as they seldom should be, and unattachable, as some contend they are—with anything boasting cultural skill—and imagine you had rewarded them fully for their worth, when, by a witty conventionalism, you had raised a horse-laugh at the poor thing's expense?

It has been said, that nothing is more fickle than public opinion; and yet, granting the truth of the statement, it will often be found, that *time* being allowed, that opinion will end in giving its homage to the right

and the true. The hero of to-day has too often been the neglected and the martyred of the yesterdays of the past. The respect thus *lately* given may be no inducement to court popular applause, for that applause will not continue unless it has something beyond the evanescent to nourish it; but that respect should be sufficient encouragement to every man to advocate what he honestly believes to be right, confident, that if based on the true and the useful, a period *will* come when he will not have to stand alone. The principles which we all hold so dear have passed through such processes of probation. Comparing small things with great, the question of standards, as applied to gardening on the stage or the parterre, has scarcely had enough of opposition to sift out its demerits or merits. The pooh-pooing it one year has been followed by its very general adoption in the next. How to get standards conical-shaped plants, and Lilliputian in opposition to the gigantic, are questions that now stream in with the force of an inundation, and whether we are right or wrong these must be attended to.

Before referring to a few particular cases, allow me to allude to a general enquiry—"When are standard flowering plants most appropriately used as objects of ornament?" This is answered by implication in the previous remarks. A standard flowering-plant should not stand alone, until from its character and size it can command respect. Even then it is often seen to most advantage when constituting a centre to the dwarfier plants around it. The exception to this general rule is, when any person at all acquainted with the subject can at once see the result in his mind's eye from the smallest beginnings, for that result would at once neutralise any fly-flapper appearance of the present. This remark, however, furnishes a hint, that standard flowering-plants, if to command the respect of those who can see little beyond the present, should be kept in the private or nursery department until their very size commands respect. Thus, there are few things more beautiful than a full-grown standard Apple-tree when in full bloom. There is little ornamental in that tree for a year or two after it has been grafted. A Rose-tree, with a head some yard or two yards in diameter, is an object of great interest, alone or in combination with dwarfier Roses. Small heads isolated in conspicuous positions are only tolerated on the supposition that they must be small before they can be large; and the old saying that "Rome was not built in a day," furnishes a stop-gap to the critic who cannot from the present glance into the future.

There is a growing fashion to have something like avenues of Tree Roses by the sides of walks. Ultimate size, individually, must form a chief element of success when standards are thus used. That object attempted and obtained is the best answer to the cavils of a refined taste. And yet, nothing has so tended to throw discredit on the whole system of using standard flowering-plants for ornament as the heedless, indiscriminate manner in which Tree Roses have been dotted, here and there, over a lawn, without one coherent principle of a unity of expression, and constituting nothing but marplots and scare-crows to the otherwise fairy scene; and all this, more especially, when, by the mode of pruning and culture, the head seldom emerges beyond the size of a respectable mop. I have often been taken to admire the Roses on a series of Rose-trees thus dropped down like hail-drops from the clouds; and the beauty of the individual Rose bloom has not kept me from having my finger ends tingle to clear the green carpeted lawn from such a number of disfigurements, and to group these Rose-trees, with dwarfier ones, in a corner by themselves. Let it be remarked, however, that few things are more unsatisfactory than a group of such

standards *by themselves*, arising from the want of contrast and variety of outline.

I recollect alluding to this something like a twelve month ago. A friend, who is famed for his standards, Roses, and other things, had some beautiful groups of Roses from a happy blending of the tree,—the tall bush and the dwarf one. In one conspicuous corner stood a large group of standards, each having its round circle of earth and narrow spaces of grass between I forget now what I said about it. It was a disjointed concern; there was no *wholeness* in it; just because there was little contrast in size or form in the individual parts. I have looked upon that very corner this summer—and how changed. The individual character of the Rose-trees, as respects their heavy sameness, had been destroyed. The ground was dug up between them, and dwarf plants had been introduced that produced a pleasing whole. Our friend poked our side, and said "There, was not that the group you *niggled* so about?" "Well, the cap seems to have fitted so well, that you have used it for effecting a great improvement." One great advantage of gardeners visiting each other, and thus comparing notes, is, that errors are perceived by us that would long pass unnoticed if we had the help of no other eyes but our own. The sensible man is never above borrowing or improving on an idea, come from whence it may. No bantering, or cajolery, would have made that friend change the appearance of that group of Roses had he not forcibly felt the propriety of doing so; and that is only one of the many facts that have come to me during the last twelve months, showing that, gainsay who will, the use of standards out-of-doors and in-doors is destined at least to have a fair trial.

I will now proceed to meet the case of a few inquiries.

HARDINESS OF THE CASSIA CORYMBOSA.

"I saw, last season, a splendid plant of this in the stove conservatory at Woburn Abbey; have often seen it in stoves and warm greenhouses; but fear it will do little good out-of-doors, either as a standard, or otherwise, being a native of such a warm climate." I only wish I had plants large and old enough to give them a fair trial. I presume you allude to the fine plant at Courteen Hall. Well, in the month of May I saw that plant, in company with Fuchsias, Geraniums, &c., standing close to a wall under the shelter of laurels; the position it generally gets, as an intermediate from a cold house to the open flower-clump; and it was all right and safe, when the points of Scarlet Geraniums, and more than the points of the *Fuchsia Corymbiflora*, &c., were blackened and killed by the frosts of the 24th of April, and onwards. This plant grows so quickly, that a fine standard may be obtained from a cutting in a couple of years. When the plant begins to grow, encourage it by as much heat and moisture as it well can stand during summer; rest it a little during winter; but never allow the leading point to be stopped until you have got it high enough. Any side-shoots must be stubbed-in as they appear, leaving a few buds just to give strength to the stem, and remove them clean away when the head becomes of such a size as to secure a full flow of juices without the assistance of side-branches. The general treatment of this plant to suit various circumstances has been previously given.

STANDARD FUCHSIAS.

"How can I obtain some of the hardiest of them, and most easily?" Have you any strong plants or shoots out-of-doors, growing strongly in borders or hedges of *Coccinea*, *Thompsoniana*, *gracilis*, *conica*, *Riccartonii*, *Corallina*, *Sir Henry Pottinger*, *Globosa*, *pallida*, &c.? Thin out the shoots, so as to leave one or two of the strongest, tie these to a stick to encourage upward growth, shorten back the whole of the side-shoots, but leaving leafy

appendages all the way up, and keep topping these as they push again. When a sufficient height is gained, pick out the terminal bud, and give what sun and air you can command to ripen the upper part of the shoot. As that progresses, remove a few of the lower stubbed-in branches, cutting them clean off to the stem. Before frost injures the softer parts lift the plants, divest the roots of all extraneous stubs and long naked rootlets, and either pot, or pack the roots in soil neither wet nor dry, and in either case, pack or place roots and tops in any place such as a dry shed, so covered that frost will not reach them. Leave them there, with scarce more attention, until the advancing heat of spring causes the buds to break; then you must give a little light and air, and yet save them from injury by frost. If destined to go out-of-doors, such plants will be better never to receive any coddling under glass; as the shoots grow, the side-shoots should be again stopped-in, to give more strength to the head, and as that extends and widens, all the lower shoots on the stem should be gradually but wholly removed, so that the end of the season may obliterate most, if not all, the scar marks which otherwise would show where they had been. The same process of keeping must be repeated every winter. I have seen large plants used for this purpose, taken up somewhat carefully, and their roots all packed in a ridge, in a cold house, and the heads protected with hay and mats in cold weather, the house thrown open early in spring, and the plants transferred out-of-doors as soon as the spring frosts were over.

Another mode of getting standard Fuchsias is frequently resorted to. You have been growing your plants on the conical system, and fine, tall plants you have got. You prune back these plants in autumn or spring, resolving to have them more large and beautiful, and similar in shape, the present year; but by some means or other, the lower buds do not break so well as you wish, and your dreams of symmetry turn out to be nothing but airy visions for the present. Now, pruning up these plants gives you a fine occasion for making nice standards in no time, though that time will be lessened than otherwise by not pruning quite up to the terminal point at once, but leaving a few tiers of upper branches shortened-in, and to be finally removed as the head gains size, and thus of itself maintain a relative and correlative action with the roots. Were I to make standard Fuchsias with the least trouble, and yet derive the greatest amount of floral pleasure in the process of preparation, I would grow young Fuchsias in the conical shape one season, not, however, having a wide base for the cone, but narrower, so as to secure smaller branchlets there, and thus encourage the plant to mount; and then, the second season, I would prune these up gradually, and give them the tree-standard character. As something out of the common, a few of these will always create attention; and the best of it is, that, as shown above, a comparative failure in one form may thus be made to assume an attractive aspect in another.

But a third tells me, he has no such resources to fall back upon; that he can command a small hotbed; and wishes to obtain standards as soon as possible from the cuttings he is ready to insert. Well, in that case, you may insert cuttings *now*, and have all the bother of looking after little plants during the winter; but I should rather advise you to husband your resources until the end of February or the beginning of March. You may easily procure cuttings then from one to two inches in length, slipped off with a heel close to the older stems. These inserted firmly round the sides of small pots in light sandy soil, and plunged in a mild, sweet hotbed, watered when requisite, and shaded from bright sunshine, will be ready for potting in small pots in a few weeks. These should be replaced again in the bed, and by-and-by will need a second potting, and after a week

or two of growth will need hardening off by more air, so that the plants may be transferred to a rich piece of sheltered ground out-of-doors by the end of May, shading them a little at first. These would require to stand fully a yard apart, and if well mulched with rotten-dung, and watered with manure-water, they will grow with great rapidity—the standard character being kept in view from the first by the shortening and ultimate removal of all competitors with the leading shoot. These should be raised and packed away by the end of October. Though all Fuchsias, as standards, will, less or more, assume the pendulous habit, those are the best fitted that are of a twiggy habit of growth. R. FISHER.

GREENHOUSE FERNS.

It is one of the mysteries of Nature, that one plant will bear the extreme heat of the tropics, and another, of apparently similar form, and as delicate a structure, will flourish only in the opposite extreme of cold, whilst a third requires a more temperate climate. Though a mystery to us, it is a wise and merciful dispensation by the Creator and Disposer of all things, for by this adaptation to different climates every part of the earth is furnished with plants yielding food, when cultivated, for the use of man, as well as flowers to gladden his eyes, and gratify the love of the beautiful in his heart. Not only are these useful and lovely products of the soil given to man, but also the light of knowledge to collect them together, improve them, choosing some, and rejecting others, according to his wants or desires.

This knowledge leads men to endeavour to bring together plants that may be useful or ornamental from all parts of the globe, and this is the highest effort of a civilised mind. The mere savage contents himself with the fruits only that yield him food, without culture, growing around the place where he was born, and that careless or improvident state of mind constitutes, in a great degree, the difference between the savage and the civilised man. The one lives and feeds like a mere animal, whilst the other labours with his mind and hand, and lays up stores to supply his wants at all times and seasons. In the highest state of civilisation, man not only grows food, but also cultivates some plants merely for their perfume, or for their beauty. Such as produce showy, sweet flowers, are the first that he esteems. Hence, we see cottagers, men without book learning or science, cultivate as flowers such things as the Stock and the Wallflower, whilst others possessing a knowledge of the beautiful flowers and fruits of foreign lands, and having wealth to carry out the power of cultivating them, collect together plants from all parts of the world. Then the mystery I spoke of at the beginning of this essay appears. The man of thought and science finds that some plants are more impatient of cold than others, and wonders why it is so; but finding it is so, he understands that he must adopt some means of protecting them, or, rather, he must create, as it were, an artificial temperature and dwelling for them. Hence, we have our stoves, our greenhouses, and pits, to suit plants of every climate. This provision of suitable habitations for plants has made rapid strides of late years. We have now not only the stove for tropical plants generally, but we have also houses for peculiar tribes of plants; such, for instance, as the Orchid-house, the Palm-house, &c. Then, again, the greenhouse, which, when I was a boy, contained every plant requiring its protection, crowded together in it. Now, as the science of culture has advanced, it is found necessary to have separate greenhouses for single families of plants; such as Heaths, Pelargoniums, Camellias, Azaleas, and that large assemblage termed New Holland plants.

Then, again, it is found desirable to grow the tribe of

plants we have now under our notice, namely, Ferns, in a separate house, though, from their peculiar habit of growing in the shade, many of them can be cultivated tolerably well amongst other plants, in such positions in the shade where the proper inhabitants would not exist; yet, to grow them to perfection, they ought to have a dwelling to themselves.

Following this train of ideas, I am now brought to the class of plants, which, in this highly civilised country, are cultivated for the love of not showy, sweet flowers, but for their beautiful foliage and delicate green colour. I have already written pretty largely on Stove Ferns, and now commence a series of papers on Greenhouse Ferns. These are by no means so numerous as the former, and, therefore, the patience of our readers, who do not care for, or have not the means of growing, them, will not be severely taxed. Indeed, this patience is needful to almost every reader, and it is but fair that it should be so. One class of readers require information, it may be, of Fruits, another of Orchids, another of Heaths, some on Stove Plants, and others on Vegetables; whilst a large class read THE COTTAGE GARDENER because it treats on Poultry and Farm Culture. Let every one gather the information he wants, and be glad there is other information to suit the various wants of his fellow-readers. I write now for the benefit of such as have a greenhouse, and wish to cultivate such Ferns as may be grown in such a temperate clime.

In the first place, I would observe, that this class of Ferns, during winter, may be grown by the sides of the path under the first step of the stage. I have seen them so growing very well. Advantage may be taken of the summer months, when the regular inhabitants of the house are bivouacking and luxuriating in the open air, to place the Ferns on the stages, thus furnishing the house with beautiful green foliage during the summer months, and giving the Ferns a chance to make finer fronds than they would do if kept during the growing season in the comparative darkness on the side of the path. These fronds would be matured before the autumn, and would keep green in consequence longer through the winter. It would be a good time, also, to give them a shift into larger pots and fresh soil previous to giving them more light.

The same materials and method should be used and followed as I described for Stove Ferns. The grand points I will just repeat. Ferns love a loose, open soil, therefore, the compost should not be sifted unless it be to sift out the very finest soil, to be used for some other purpose. The compost should consist of one-third sandy, very fibrous peat, broken up with the hand, leaving all the fine fibres in it, only rejecting large stones or thick, strong roots; one-third fibrous, sandy loam, and one-third half-rotted vegetable mould; these should be well mixed, and a large portion of white sand added. I have found, also, a free admixture of chopped moss very useful in this compost; the roots of the Ferns run freely into this moss, showing that it is a welcome ingredient. The shift should always be a liberal one. No plants like less to be confined at the root than Ferns, whether stove, greenhouse, or hardy, unless it be some of the latter class that grow on old walls or shady rocks.

Then, above all things, the pots must be well drained; stagnant water is almost certain death to the tender roots of Ferns. Lastly, strict attention must be paid to watering; if once the ball becomes thoroughly dry, the roots will perish, and, of course, the plant will die. If the Ferns are exposed to the full sun, shade in summer will be necessary to shelter both roots and foliage from the burning rays.

T. APPLEBY.

(To be continued.)

EARLY-FLOWERING BORDER PLANTS.

(Continued from page 338.)

I AM pleased to find Mr. Fish advocating old-fashioned flowers, and think he is right, especially when proprietors of gardens, like Lady Broughton, and Joseph Stubbs, Esq., and many others, reside at home most of the spring, summer, and autumn months; and his ideas are perfectly right, also, for our public schools, where gardening is practised and kept up for the love of it, as it appears to be at the academy at Riverhead, which he describes so well. Many a boy and girl acquire a love of gardening at school, especially where the master and mistress love a garden, and give their pupils, as a reward, an hour's walk amongst, or an hour's work in, the delightful recreation of cultivating flowers. If I was choosing a school for my children, I should prefer one where there was a well-kept garden, making that idea an index of the teacher's mind. The love of order cannot be better seen than in a tidy, well-weeded garden. I should expect the man or woman who weeded stubborn, fast-growing weeds out of their garden, would, with equal diligence, strive to eradicate the weeds of bad passion out of the minds of the pupils committed to their care. There is a considerable analogy in the culture of the garden and the human mind. Weeds springs up naturally in both, and require a firm and diligent hand to keep them down, as well as to sow good seed to grow up, blossom, and bear fruit, instead of the baleful, good-destroying weeds. I might enlarge much on this subject, but I need not. Every rightly-disposed mind will be able to carry out the comparison more fully than I have either the time or ability to do. I will, therefore, after this little digression, return to my pleasant subject—the Early-Flowering Border Plants.

ARABIS.

This, the Wall-Cress genus, is an assemblage of neat-growing, early-flowering plants, which require pruning-in as soon as they have done flowering, in order to keep them in close, compact bushes. They have the advantage of being evergreen, and therefore ornament the border all through the year. The name is derived from *Arabia*, because they love a dry, arid soil; hence most of them may be grown on rockwork.

A. Alpina (Alpine); this species is a native of the Swiss mountains; flowers in May; height six inches; increased by division.

A. crispata (Curled); from Germany; flowers in May; and grows nine inches high; a curious, pretty species; by cuttings planted in a shady border in June.

A. lucida (Shining); native of Hungary; white; May; increased by division; a neat, pretty species. There is a variety with prettily-variegated leaves.

A. petraea (Rock); native of Austria; flowers white; May. A variety named *Hastulata* (halbert-leaved), has been found in Britain; the flowers are purple. Both increased by division.

A. rosea (Rose-coloured); from Calabria; with rose-coloured flowers in May; six inches; increased by division. There are several more species, but they flower rather later in the year.

ARENARIA.

This is also a numerous family of plants, of low, creeping habit; but the greatest part of them flower in July. The following, however, flower in May, or earlier, and have white, pretty, star-like flowers.

A. biflora (Two-flowered); native of Switzerland; three inches; requires a very dry soil; increased by division.

A. verna (Spring); native of Britain, but not very common; increased by division.

ARETIA.

A genus of plants allied to *Primula*. They are beautiful little plants, but rather difficult to keep. The soil must be very sandy, and quite dry. The best way is to place a few small stones on the surface, filling up the space inclosed with a mixture of sand, peat, and loam, and then place the plant in the centre.

A. Alpina (Alpine); from Switzerland; beautiful pink colour; flowers late in May; growing only four inches high; increased by cuttings and division.

A. Helvetica (Swiss); pure white; late in May; four inches high; increased by division.

A. Vitaliana (Vital's); from the Pyrenees; yellow, with pink spots; very lovely; increased by division.

ASTER.

In this genus of Starworts are the plants which our cottagers call Michaelmas Daisies, because of their resemblance to a Daisy, and flowering about St. Michael's day. There are, however, a few that flower in early spring.

A. Alpinus (Alpine); the flowers grow nine inches high, are large, and a good purple colour. It is a native of Europe, and easily increased by division. There is a variety with white flowers. Both are very handsome when in bloom.

A. Altaicus (Altaic); from Siberia; flowers blue; height, nine inches; increased by division.

A. Alcartensis (Alwart); the colour of these flowers is red, growing a foot high. It is a native of the Caucasian mountains, and is yet rare; increased by division.

A. lusitanicus (Portugal); flowers blue; one foot high; late in May; increased by division.

These perennial Asters will thrive in any soil not actually wet or boggy.

AUBRIETIA.

A genus of dwarf, trailing plants, named in honour of M. Aubriet, a French botanist. They have all purple flowers, and the flowers appear almost the earliest in the spring. I have seen them in flower in February. Increase readily both by cuttings and division, and will grow in any dry soil, but dislike shade.

A. deltoidea (Three-sided); from the Levant; growing only four inches high.

A. Hesperidiflora (Hesperis-flowered); south of Europe; a tiny, pretty species.

A. purpurea (Purple); a native of Greece; four inches high; introduced in 1820.

I find these plants are very useful for small vases in open situations. They trail over the sides, and hang down very gracefully.

CAMPANULA.

A very appropriate name, meaning literally a little bell. These are the bell-flowers familiarly illustrated by the common biennial Canterbury Bell. Though the greatest part of the genus are summer flowers, yet there are a few that bloom early enough to be introduced in this catalogue.

C. glomerata (Clustered); though this grows wild in the chalk districts of Britain, it is cultivated in gardens, and is one of the handsomest of our wild plants. Cultivators have succeeded in producing several varieties. The original species grows a foot-and-a-half high, has violet-blue flowers appearing in May. The varieties are white-flowered, double purple-flowered, and double white-flowered; all desirable border flowers, and easily increased by division.

C. liliifolia (Lily-leaved); from Siberia; flowers in May, and growing two feet high with deep blue flowers; increased by division.

C. pulla (Russet); a pretty Austrian plant; very dwarf and very pretty; increased by division.

C. saxatilis (Rock); Isle of Candia; one foot high; with blue flowers appearing in May; increased by division.

C. velutina (Velvety); south of Europe; flowering in May; colour dark blue; increased by seed and division. A scarce plant.

T. APPLEBY.

(To be continued.)

MUCH MANURING NOT ALWAYS BENEFICIAL.

THERE cannot be a more erroneous idea than the one which is so often given utterance to by many cultivators of high standing in the world—"That ground cannot be too rich for all kinds of vegetable crops." This assertion certainly requires some qualification, for there are crops to which a too generous soil is an evil that ought to be avoided, not but that most of the products of the kitchen-garden luxuriate and grow fastest in such soils, but then there are other considerations besides quick growth which require attention. We all know that the most luxuriant plants are most affected by frost if they should happen to be subjected to that ordeal; while other changes of weather are likewise more or less hurtful to all vegetation which has undergone a previous rapid change which a fast growth implied. *Cauliflower* plants, for instance, are much more hardy when allowed the full action of the autumn breeze, than when coddled up in some glass structure, perhaps supplied with artificial warmth; while the same remark holds good to all kinds of flowering-plants, which, if even natives with us, are, nevertheless, rendered more tender by the shelter they have received, or the heat supplied, and, to a certain extent, they are also rendered less able to endure hardship by having been indulged with a richer soil than nature intended them to have.

There are other crops to which a soil too rich may be an evil; thus there are some plants absolutely not so good when so cultivated, for, independent of the luxuriance extending itself to those parts of a plant not cared for, nor wanted, some productions are deteriorated thereby. So that, although a rich plot or border will, and may, undoubtedly, be in the best possible condition for the major part of vegetables, there are some to which a humbler abode will be more beneficial. This remark is no less applicable to climates than to soils; for while the cold, chilly atmosphere of the northern part of our island produces better *Gooseberries* than the sunny climes of France and Italy, or even of the southern districts of England; in like manner, a piece of rough clayey ground, which has had but little artificial assistance for years, produces a sweeter, firmer, and better winter *Turnip* than the profusely-manured quarter of the kitchen-garden; this, at first sight, may appear strange, but such is the case; ground that is highly manured being induced to enlarge the fibrous or stringy part of the root, without furnishing the more solid or useful portion; hence the complaints of *Turnips* grown on such ground being spongy, fuzzy, or woolly, and deficient of that pulpy matter which forms all that is cared for in the vegetable for table purposes. Now, in order to obtain good, useful *Turnips* for winter, a piece of ground of the above description ought to be selected and sown immediately; for the north of England, somewhat sooner would have been better. The situation ought to be an open one, for a long, straggling top is not wanted to a *Turnip*, which would, assuredly, be the case if placed under the shade of trees. Should such a piece of ground not be available, one of a lighter description would do, only it must not be rich, or the purpose is defeated. If, however, there is no alter-

native than sowing on ground that is what farmers call in "good heart," let it be done under such circumstances as will tend to check undue luxuriance, immediately after another crop, and that without any digging, or but very little of it will invariably lessen the tendency to grow strong, but, in a usual way, some place or other will present itself, where the crop can be put in with a fair chance of doing well; and it is needless here reminding the cultivator of the necessary after-work of thinning, hoeing, and so forth.

Winter Spinach, too, is a plant not wanting a very generous soil, only from a different cause; for though the leaves would, no doubt, be more crisp if quickly grown, yet the plant would not be in such a good condition to resist the cold, and the juicy pores of the foliage expanding with the frost would burst their respective cells, and a damaged leaf would be the consequence; hence the propriety of sowing winter Spinach on ground not too highly manured, and a plant is produced, that by growing gradually becomes inured to the changes going on around it, and, finally, is able to resist more cold than its high-fed neighbour.

Cauliflower plants intended to stand the winter in some sheltered place, without the assistance of glass, had better, also, be planted on a plot not too recently manured, unless they be planted very thick, in which case they will require some nourishment to bring them out; if under glass in winter, a complete exposure to the air on all favourable occasions will partially counteract the luxuriance engendered by a generous soil; for it must be admitted, that climate and other things exercise a wonderful influence on the well-being of each crop, as well as the soil in which it is planted, and a mild winter, by prolonging, or rather continuing the growth of almost all kinds of green crops, unfits them for the severe weather that may follow; this, however, is often rectified by the gradual approach to severe cold which an all-wise Providence usually provides. Nevertheless, if the mildness has been such as to advance the plant beyond the size at which it is capable of enduring cold, its partial or total destruction will follow. This was especially the case with Peas in February, 1853. However, as it is needless multiplying cases here, I will confine my observations to another crop or two which suffer by too high feeding.

It is well known, that while the numerous and important *Cabbage* tribe like high living, there are others whose properties are not exactly of a kind in which grossness of growth becomes their criterion of excellence.—*Herbs* of various kinds being but sparingly used, and that only for the flavour or smell they impart, are much deteriorated in their qualities by being planted in soil which produces them too strong; for as a dry and next to barren bank produces the sweetest Mignonette, so a soil not too nutritious furnishes sweet Herbs having the most odour; consequently, whenever these things want renewing, this fact must be borne in mind, and mere luxuriance is, or ought to be, a secondary consideration. I might also add, that a bright, unclouded summer has a beneficial effect that way, too, for the same reason that it has on fruits,—the grosser parts of the vegetable being held in check. Atmospheric influences favour the better development of the more admired parts, and it is owing to the absence of sufficient sunshine and other causes of a similar nature, that certain products of ours are not so good as those of some continental districts of the same, or, perhaps, a higher north latitude; while, on the other hand, we must not grumble because an all-bountiful Providence has placed other advantages in our hands more beneficial, certainly, and better adapted to supply our wants.

There are certain cases wherein a great addition might be made to the above list of things, that conduce more to our likings when a certain amount of abste-

miousness is forced upon them. I have known a garden too rich to grow *Peas*, except immediately after another crop, and that without much labour bestowed on it. The plant exhausted itself in haulm. Even *Potatoes* are not always benefited by a too liberal application of the good things; their quality is either impaired, or a sort of scabbed outer surface is occasioned, thereby incurring a good deal of waste. This, however, I may observe, is an exceptional case, for *Potatoes* usually are benefited by having a nourishing soil to luxuriate in; but, as will be easily understood, the season acting an important part of the plant's economy, a showery one acting in unison with a good manuring is not unlikely to be more productive of haulm, than of good, sound, useful *Potatoes*. This, of course, is irrespective of disease, which, when opportunity offers, seems to attack all alike, but which, as has been said elsewhere, has been less hurtful the present season, in the district I write from, than for many years. J. ROBSON.

NOTES FROM PARIS.

THE difference of geographical positions, and the greater distance from the open sea, render the climate here much milder than it is in general near London, and this circumstance of itself produces a variety of subjects more or less interesting and instructive to horticulturists on the other side of the channel; the inventive genius of the French people, also, is so striking in almost every department of art and science, that a few observations relating to gardening can hardly fail, I think, to be acceptable to the majority of your readers. With your permission, therefore, I forward the following notes of my visits to gardens, nurseries, and markets in this quarter, and which I shall be happy to continue from time to time.

The state of the crops is everywhere a subject that interests all, and in France it is, for certain reasons, of even greater anxiety than in England. For some time past people have been inquiring as to the prospects of the ensuing winter, and the replies have been very satisfactory. With respect to the harvest, the *Moniteur* of the 5th contained accounts from some of the principal departments, and the result has been a considerable fall in the price of cereals everywhere. At Lille, near Belgium, for instance, Wheat, the other day, fell fully four francs the hectolitre (about a quarter), and the report from Grenoble, which is about the north east extremity of France, states that the harvest is nearly over in that department, and that it has not been so abundant since 1840. The accounts from other departments are equally cheering. When we can state so much respecting farm produce, it is not unreasonable to expect similar accounts as to garden crops. *Potatoes* are plentiful in the Parisian markets at the ordinary average prices, and, on the whole, there is nothing to complain of as to quality; the worst samples I have seen contained only a very few tainted tubers. But still, I have been told, by persons competent to give an opinion on this point, that the disease is more virulent this year than it has been since 1840. The extent of ground planted, however, is very great, and this circumstance may neutralize its ravages; while it is gratifying to know that other kinds of vegetables are very abundant. Fruit too, of all kinds, is very plentiful, and, consequently, cheap enough. The common sorts, such as *Cherries*, *Strawberries*, *Gooseberries*, and *Currants*, have been selling in the market at little more than a penny a quart, and in the streets they are even cheaper. *Apricots*, about the size of pigeons eggs, may be had at from 2d. to 3d. a dozen. A variety of Plum, called here *Prune de Monsieur*, is equally cheap. *Cherries* and *Currants* have been especially abundant in France

this year, and even so early as the middle of May they were plentiful in the markets of Paris. At present, large quantities of Figs arrive from the provinces every other day, and they are selling at about 6d. a quart. These figs are quite green, but the flavour is not unpleasant. I am not yet satisfied as to their real name and origin, though some dealers tell me, perhaps from want of better information, that they are indigenous to the south of France. Most probably, however, they have been introduced from the east, and in form they have some resemblance to the common Turkey Fig grown in the gardens of England. Of Grapes, grown under glass, there is a very good supply, and I have seen some few samples of out-of-door produce from the more southern departments, but even there it will be some time yet before the crops are ripe. So far as I can learn, there is no great cause for apprehension as to the disease this year, though in some places it has been rather destructive. In the gardens near Paris, sulphur is generally applied where this pest shows itself, and the common process is that adopted and first introduced here by M. Gontier, market gardener, at Montrouge, near the capital. The process consists of first washing the vines by means of a force pump, and then applying flower of sulphur through the spout of a bellows. This bellows, if I recollect rightly, was exhibited two or three years ago at a meeting of the Horticultural Society. It may be shortly described as an ordinary bellows, having a long, flat, metal tube, on the top of which, and near the mouth of the blower, is a tin box pierced at the bottom, so as to let the sulphur fall into the tube. There is a thin iron band fixed underneath, and having a piece of iron about half an inch thick at the end, nearly under the tin box. This, by constantly beating against the under surface of the bellows as it is used, keeps the sulphur in continual motion. For this contrivance M. Gontier has been awarded several valuable medals by different societies in France.

The force pump used is also an invention of M. Gontier. It contains from three to four gallons of water, and is supported on the back of the workman who uses it. With one hand the water is pumped, and with the other it is applied in any direction, either upwards or downwards, by means of an India-rubber tube, having a metal spout at the end. It is called the *Pompe Gontier*, in honour of the inventor, who has taken out a patent for it, and who has published a treatise on the disease of Vines. M. Gontier, in his work, does not throw much light as to the cause of the malady, but it is only fair to say, that he rather endeavours to point out the remedy, and in his own case he has been quite successful.

The fruit growers here spare no pains to get their produce into market as early as possible; and even the espaliers in the open ground, are covered with glass in the spring, and forced by means of hot-water pipes. The process of forcing the espaliers in this way is simple enough. The pipes are laid permanently on the ground, nearly right under the trees, and in beginning to force, frame-lights are placed on each side of the espaliers in a slanting position, meeting at the top thus—**A**. This practice, in effect, somewhat resembles the "glass walls" introduced some time ago by Mr. Ewen, of Anglesea. It is not much used, however, except for the finer sorts of fruit, such as Vines, Apricots, Peaches, and Cherries. The vine in most common cultivation near Paris is the Black Hamburg generally known here under the name of Frankenthal. This fact is worthy of note, as agreeing with the decided preference shown for the same variety by all the best fruit growers in England.

By the by, there are two vegetables in common use here which I think must be unknown to most of your readers, and I do not recollect having seen them else-

where, except in Belgium, where, if I am not mistaken, they were first raised. One is a Radish, in size and form not unlike a beetroot; the interior is white, but the skin is invariably almost quite black. It is used as a salad, and is very palatable, especially when of a moderate size. The other is a white Turnip, measuring from four to eight inches long, and from one inch to three inches thick (diameter); this variety is at the present season, as it has been for some months, in very common use everywhere, and scarcely any other is to be seen in the markets. It is called *Rave*. In my next communication I shall forward a packet of seeds, with further particulars as to the real names and origin of these vegetables.

All classes here occupy themselves in the culture of flowers. The comfortable *Rentier*, as well as the poor *Ouvrier*, who works six days and a half out of the seven—all must have their flowers, whether in a plot of ground, or in boxes and pots at the windows and balconies. Some of the balconies, indeed, at the present season, even so high as the sixth or seventh *stage*, may be likened to so many miniature hanging gardens. But then, such balconies, for strength and durability, are only to be found in France, where the houses are built to stand for centuries. No one here need ever be afraid of a balcony giving way; and, accordingly, all sorts of boxes, pots, and ornamental vases, full of flowers, crowd most of the balconies during the greater part of the year. Flower markets, therefore, of one kind or another, may be seen in every quarter. The best, however, are near the Church of the Madeleine, along the Quai Napoleon, and also in different places on the Boulevards. Here the flower-dealers, chiefly females, are to be found every day, with their plants and bouquets neatly arranged under light canvass frames. It is surprising to see the amount of exposure some of our greenhouse plants will endure here. Even so early as March, young Oranges, Myrtles, Eriostemons, Pelargoniums, and Chozemas, all in flower, were to be seen every day exposed to the weather. The French, as is well known, excel in the arrangement of their bouquets, and I have been curious enough to try to find out the secret of their successes in this way. I think I have attained my object, but as a satisfactory account might occupy too much space, I shall reserve what I have to say on the subject for my next dispatch.

Allow me to state, in conclusion, that according to an article in the *Moniteur*, the other day, some clever German has invented a steam digging-machine, which, as far as I can make out from the description, has something in common with that of Mr. Samulson. But it is no easy matter, at any time, to obtain a clear idea of a complicated machine from a mere description. It is stated, however, that the results of certain experiments have been highly satisfactory. In seven minutes, says the official report, this machine dug a piece of ground measuring 148 square feet, or 1188 superficial feet in an hour.—P. F. KEIR

SAWBRIDGEWORTH NURSERIES.

If the early garden literature of this country had been of a periodical kind, and supplied by practical men, what an insight it would have given us to the manners and customs of our ancestors, and what a record we should have possessed of things and places and people which have long ago passed away, and leaving no more tract behind them than if they had never been. If, for instance, we could gather together a history of all the Nurseries which have existed, and do exist; of the men who founded and possessed them; if we could read of their mode of cultivation and management, and of the subjects they introduced and cultivated; what an interesting volume it would make! Such a volume, after a fashion, might be got together by much painful

research; but still it would be far from complete, and it would only be of those old establishments which are still in existence that anything like a continuous history could be obtained. Those who come after us will have many advantages in this respect. It may be, that the work in which we are at present engaged, while it is intended to amuse and instruct the readers of the present generation, may contribute a valuable desideratum to some one like-minded with ourselves in the far distant future; and we trust that in doing so, both the present and future generations will thank us for the few notes we now supply on such an establishment as the Nurseries at Sawbridgeworth, in Hertfordshire.

THE NURSERIES AT SAWBRIDGEWORTH are now among the oldest existing in this country. They were commenced some time between the years 1720 and 1730 by one *John Rivers*, who was a native of Berkshire, and so they have been in the possession of the same family for a century and a quarter, at least. This *John Rivers* was, in all probability, a gentleman's gardener, as most of the founders of nurseries have been, and possessing some amount of enterprise he embarked in the profession of a nurseryman, and laid the basis of that establishment, which, if he were now to see, might induce him to exclaim, like *Domine Sampson*, "Prodigious!" The extent of the grounds at that time, and for many years after, was limited, and might be regarded as an easy-going, common-run sort of country nursery, the produce of which consisted of anything, no matter what, by which an honest penny was to be earned. Fruit-trees and forest trees for the neighbouring gentry, cabbage plants for those who had gardens, and market-garden produce for those who had none; flowers, fruit, and nosegays, were alike in readiness for all comers, and that the tastes of each might be further gratified, one of the staple commodities was a glass of good currant wine. To such an extent did this last branch of the business become, that in 1761, we find his son and successor, *Thomas Rivers*, actually built, for the preservation and maturation of his domestic vintage, an immense vaulted cellar, thirty feet long by ten feet wide,—a fact which he recorded, for the information of subsequent generations, by a square stone bearing the initials of his name, and the date of the year when the event took place. The cellar is still in existence, and is now applied by the present proprietor for the purpose of a fruit room, and a very excellent one it is. The house at that time was known by the sign of "The Fox;"* and the swinging board, which for many years battled with many a summer's breeze and winter's blast, is still in possession of the family, having been converted into an article of household furniture; but the pictorial delineation of "the Fox," and the announcement of the host, "I shall be at home myself every Tuesday, Thursday, and Saturday," have unfortunately been obliterated. This *Thomas Rivers* was the present Mr. Rivers's grandfather's uncle, and was so successful as to die the proprietor of the place he and his father had previously occupied as tenants.

Such is a sketch of the early history of the present vast establishment. From the time of which we have been speaking, it increased in extent, till it acquired the status of a respectable country nursery, supplying the requirements of the immediate neighbourhood, and extending its connection throughout the whole of the eastern counties of England. But it is to the ability and energy of the present Mr. Rivers, and to his nurturing industry, that the Sawbridgeworth Nurseries have become what they are; leading us to say, as *John Evelyn* said of a similar establishment in his time: "Of all I have hitherto seen, either at home or abroad, or found by reading books pretending to speak of nurseries, the very sight of this alone gives an idea of something that is greater than I can well express, without an enumeration of particulars." And now we shall proceed to "enumerate particulars," and record a few observations we made during a recent visit to this remarkable place.

Sawbridgeworth is situated on the Cambridge line of railway, at a distance of twenty-eight miles from London; and to persons proceeding from the metropolis, the Nurseries are

reached most conveniently from the Harlow station, from which they are about one mile distant. The Nurseries are situated on a track of beautifully undulating ground, and cover an extent of upwards of eighty acres, furnishing an example of almost every variety of soil, from light calcareous sand to strong retentive clay, and, consequently, supplying every desideratum for the cultivation of the numerous tribes of trees and plants of which it is composed. It is well known that Mr. Rivers was the first in this country who cultivated Standard Roses for sale. His attention was directed to this subject by a specimen of the old Apple-bearing Rose (*Rosa villosa*) which had been planted by some of his predecessors, and which had, by treatment and age, acquired the habit and magnitude of a little tree. This Tree-rose was the admiration of all who saw it; and the desire, on the part of many, to possess such an object, induced Mr. Rivers to train up some of the same species as standards. This, however, was found to be a tedious process, and the idea of using the wild-briars ready-made from the woods suggested it to his mind. The success which attended this branch is well known: the cultivation of the Roses became as extensive as that of forest-trees, and, instead of being counted by the dozen or hundred, they were reckoned by acres. For years Mr. Rivers took the lead in this department; and although there are many more who now cultivate extensively, he still maintains the position he originally occupied as the authority on this subject, as is well evidenced in his "Rose Amateur's Guide," which, we are happy to observe, has now reached the fifth edition.

The exhibition of Roses in bloom has, this season, been rather indifferent, in consequence of the ungenial summer and the prevalence of blight and insect. We saw sufficient, however, to enable us to judge of the excellent manner in which this department is maintained.

It may be said, that the whole of these eighty acres are occupied with *Fruit Trees, Ornamental Trees, Shrubs, and Roses*; not omitting an extensive and interesting collection of *Herbaceous Plants*, a class which, since the "bedding system" has been introduced, seems to have been almost entirely neglected. And here we venture to express what has long been our opinion as regards the "bedding system" as it has been developed, and as it is at present practised. We think it un-English, and not at all adapted to the generality of English gardens. We allow it to be all very well on a large scale, as practised at such places as *Shrubland Park, Trentham*, and establishments of a similar description, where that great effect can be viewed from a high position, such as a terrace walk, or balcony; but when applied to what may be called *English domestic gardening*, it is a failure; a vain attempt at imitation, without an approach of the thing imitated. Just let us fancy one of those gorgeous pieces of Gobelin tapestry reduced to the size of a cambric handkerchief; or the ceiling of the house of Lords adapted to a room twelve feet by fourteen; what should we think of the imitation, and what opinion should we form of the taste of the imitator? But everybody "beds out" now-a-days. The squire beds out; the clergyman beds out; the lawyer and surgeon bed out; Mr. Brown, who keeps the village shop, beds out; the city merchant, who has a detached villa on the Finchley-road, does the same; and why do they? Just because other people do; and so the finest and most interesting herbaceous plants must give way to Scarlet Geraniums, Petunias, Verbenas, and such like. Where, now, can we see an old English garden, with old English flowers regaling the senses with all that is beautiful and fragrant, and calling up those pleasing associations with days gone by? It is only in imagination, or in the old poets, like *Drayton*, who says:—

"Maids, get the choicest flowers, a garland and cwtine,
Nor Pinks, nor Pansies, let there want; be sure of Eglantine.
See that there be store of Lilies,
(Called of Shepherds Daffodillies),

With Roses damask, white and red, the dearest Flower-de-lis,
The Cowslip of Jerusalem, and Clove of Paradise."

And Old Ben Jonson—

"Bring Corn Flag, Tulip, and Adonis flower;
Fair Ox-eye, Goldylocks, and Columbine,
Pinks, Goulands, King-cups, and sweet Sops-in-wine;
Blue Harebells, Paigies, Pansies, Calamint,
Flower-gentle, and the fair-haired Hyacinth;
Bring rich Carnations, Flower-de-luces, Lilies;
Bring Crown Imperial, &c."

* Many of our readers may not be aware that it was customary in those days, and for many years afterwards, for nurserymen and seedsmen to designate their establishment by such signs. The more common were "The Acorn," "The Rose," &c. *George Ricketts*, at *Hogsden (Hoxton)*, adopted "The Hand;" *Edward Fuller*, in the Strand, "The Three Crowns and Naked Boy;" and *Francis Weston's*, in the Strand, was known by "The Flower de luce."

But the affairs of this world are like cogs on a revolving wheel, while one is up and anon it is down, just to come up again; and so we may live to see the day when that cog will come up again which will bring Mr. Rivers's herbaceous plants into requisition once more—at least, we hope so.

Among the ornamental trees, our attention was attracted by a very fine collection of *Oaks* and *Coniferous Plants*, two families which, if more extensively and judiciously planted, would contribute much towards altering and improving the landscape scenery of some of our noble parks and pleasure-grounds, as they furnish a greater variety of outline foliage and hue than any other two families of timber-trees with which we are acquainted. As an instance of what may be done by attention to the management of such trees, we observed a remarkably beautiful specimen of *Pinus Austriaca*, the natural habit of which is to produce long, wide-spreading, naked branches, but which, in this case, formed a dense and handsome pyramidal tree. The mode by which Mr. Rivers attained this form was by breaking off the ends of every branch, except the leader, when the shoots are about four inches in length, and thereby causing the buds at the base to be developed, which, under ordinary circumstances, would become dormant, and the effect is to produce a habit similar to that so much admired in *Pinus insignis*; such a system applied to *Pinus Lobiniana*, *macrocarpa*, and others of the same section, which generally present a naked and straggling habit of growth, would, no doubt, materially alter, and, we think, improve their appearance.

The collection of ornamental trees and shrubs, including Rhododendrons of the most choice and rare varieties, Azaleas, &c., is very extensive. We observed a large stock of that very graceful tree the new *American Weeping Willow*, which was imported and first brought into notice by Mr. Rivers. It has all the weeping character of the old Weeping Willow, with foliage of a much darker colour on the upper surface, which forms a beautiful contrast with the light shade of the under side of the leaf. It is also much hardier than the old variety, so much so, as to withstand the severest frosts in the most exposed localities. In Scotland, and the north of England, where the old variety suffers so severely, this is found to succeed admirably; a property which all who value beauty of scenery in such districts should take advantage of. We see, also, that great attention is given to the cultivation of that interesting and ornamental genus, the *Cytisus*, the most showy species of which are here produced on standards on a large scale. *Thuja Wareana* is another shrub which seems to form a staple article in this establishment; as many as 40,000 or 50,000 being produced annually for exportation, as well as for home demand. Indeed, everything here is on a large scale, and everything is done well.

Our limits being exhausted, we must leave our observations on the most interesting part of this vast establishment till next week, when we shall devote our attention to a notice of the *Fruit Trees* and *Orchard Houses*. R. H.

THE GREAT QUESTION.

By the Authoress of "My Flowers."

(Continued from page 340.)

IN a beautifully shaded part of the road leading to the old glebe-house, where the Rev. Richard Johnston resided, that gentleman observed, one day, a young man watching him very anxiously, and appearing to be doubtful whether he should advance to meet him, or retreat. Mr. Johnston was on his way to visit a sick parishioner, but plainly seeing the embarrassment of the young man, he stopped and asked him if he had been going to the glebe? The young man replied simply "Yes." Mr. Johnston then enquired if there was anything he wanted? He replied, "I wanted to see if such a hard heart as mine could come to Christ."

Here was the outburst of a heart convinced of sin. When the Spirit of God awakens the soul, there is no rest until it finds out what it must "do to be saved." Mr. Johnston's own words best describe the scene. "He abruptly paused, and fixed upon me the most intent gaze. This question, put in the most decisive manner, with an indescribable wildness in his bearing, looking at me under his eyes, and hanging upon my lips, as if I was about to pronounce a

sentence of life or death, produced the most startling effect. The scene was more like an apparition than a reality; I could scarce trust my senses. Just at the corner of the road, my mind absorbed in other reflections, to be arrested by such a man in an instant, and addressed so abruptly, upon so solemn a subject, was, indeed, startling.

"Never having had such a question put to me before by one in the full vigour of youth and health, or, indeed, by any one under similar circumstances, I began, as Festus in the case of Paul, to think the man insane, out of his senses, and that his insanity had taken a religious turn; that, in short, he was labouring under religious mania. But on conversing a little with him, and asking him a few questions as to how long this anxious concern about his soul had been felt, I discovered my mistake. I quickly perceived, that instead of being mad, he had never been in his "right mind" until then. The fact was, I found before me one awakened of God from the slumber of spiritual death to a heartfelt sense of sin, and that, by God's providence, I had been sent out that day to meet him at that spot, and to tell him 'words whereby he might be saved.' Had I gone but a few yards further, I should have been past the cross-road, and I should then have missed him; but He 'who doeth all things well,' had so ordered that we should meet at the right time, and in the right place. God had a message of mercy to his soul, and it must needs be delivered."

This young man was no other than John Henry, urged onwards by an awakened and terrified conscience to ask the way to Zion. Readers! this is a great question; *the one* great question. Have your hearts ever asked for it? Be assured, unless you have *enquired the way*, you are going wrong. There is but One Way, and we are told, "few there be that find it." Nevertheless, whoever desires to be saved from everlasting destruction must enquire about it, like poor John Henry. Some may ask of men; others ask only of God; but whether they are princes or peasants, they *must* ask this mighty question before they *can* be brought into a saved state.

Mr. Johnston, like all the true servants of Christ, answered him in his Master's name and words. He opened the oracles of God, and brought before him passages of scripture, which no man could gainsay. No "traditions of men" were offered to him; no "profane and old wives fables;" but the pure and precious Gospel was simply preached to him, and it was "the power of God unto salvation" to him. Beneath the shade of trees, by the roadside, the first rays of spiritual light were conveyed to the anxious enquirer by God's messenger. "After I had read and talked with him for some time, setting the truths of the Gospel before him in as plain and simple a way as I could, he seemed to receive comfort. His manner lost much of its excitement; the wild gaze of his piercing eye ceased its stare, and he became quiet and composed." Nothing pacifies the mind but the "unadulterated word." Woe unto him who addeth thereto, or taketh therefrom.

"The progress he made in spiritual things," Mr. Johnston continues, "was very rapid, outstripping many who had been 'in Christ' years before him, attaining an amount of knowledge in the doctrines of the Gospel rarely to be met with. His clear perception of Divine Truth, and his deep experimental acquaintance with it seemed wonderful, when one considers the few opportunities he was privileged with, and the many family hindrances he had to contend against. His father's residence was in a remote part of the country, near the mountains. There was no one near with whom he could have any Christian intercourse. Those about him were too eagerly engaged in worldly gains and occupations to value his earnest piety; they could not understand him; he 'was a wonder to them;' for, alas! 'the natural man knoweth not the things of the Spirit of God.' Regarding him as righteous over-much, they felt no sympathy with him, nor he with them; and yet, notwithstanding his few opportunities, and his many hindrances, he grew daily in grace, and in the knowledge of his Lord and Saviour Jesus Christ."

It has been the experience of churches, and of individual Christians, that trials, difficulties, and hindrances, are good and desirable in spiritual life. Who has not found the quickening nature of such exercises, and the deadening, backsliding carelessness that creeps on in sunny times?

It is the perverseness of the human heart that causes it so to be; but it is the tender mercy of a loving Father that gives us a cross to carry, and opens our eyes at last to see the reasons why. Let no believer murmur at any hindrances from *without*; they will spur him on, and keep him awake, and at his post. It is better to *grow* in the storm, than *wither* in the sun; and I can tell those who have not yet found it out for themselves, that even the renewed heart is a subtle traitor, needing close imprisonment, rough handling, and continual stripes. Churches flourish best in persecuting times, and Christians are most lively when their outward circumstances are the most trying. John Henry was a striking proof of this fact, and Mr. Johnston adds—“The more of hindrances there were in his way, the more closely he seemed to cleave to Christ, and the higher he arose above the deadening atmosphere in which he lived.”

Let us remember our Saviour's own warning parable. It is when we have *no root* in ourselves that “tribulation or persecution because of the word” gives us offence, and causes the seed sown in our hearts to wither and die.

(To be continued.)

OXALIS BOWIEI AND ITS COMPEERS.

This pretty plant is a great favourite with me, and if it were possible for a sympathy of feeling to exist betwixt animal and vegetable, I would say that the feeling was reciprocal, inasmuch as it grows luxuriantly in the grounds which I superintend, and every where else that I have planted it.

Some years since, before the coat supplanted the round jacket as a portion of my gear, I was much delighted at seeing a very pretty, shining, rose-coloured flower, growing on a very dwarf trifoliate plant, in a greenhouse I was passing through. The flower was rather larger than a sixpence, and glistened brilliantly in the sun. I thought it very beautiful, and determined to know something more about it. I afterwards learned its name was *Oxalis rosaceæ*, that it was a bulbous-rooted plant, and not well adapted to grow in pots, as it had a much greater disposition to increase the number of its roots than it had to bloom abundantly. This I afterwards found to be correct, and now think it better adopted for a dwarf bordering than for any other purpose. It does not seem to be injured by cold, beyond having its leaves cut down by the frost. Its foliage grows close to the ground, is very close and compact as long as the spring lasts, and until the roots ripen; is trifoliate, and of a beautiful, glaucous, green colour, and is very pretty, although it is not one-half so well deserving of general cultivation as *Oxalis Bowiei*, or *Bowieana*, which is a most beautiful plant, worthy of the attention of all amateurs and florists, whom I would recommend to get it and grow it. Most of the seed-shops throughout the kingdom are, or ought to be, supplied with it. The London seedsmen will supply it, if any person should fail in being able to get it in their own immediate neighbourhood.

Those persons who have not grown it before will do well—after carrying out Mrs. Glasse's first precept for cooking a hare, of first getting it—to plant the roots either in a dry, warm, sunny situation, in light sandy soil, from three to four inches deep, or to pot them, three in a 48-size pot, in the same description of soil, and keep them in the greenhouse, or cold frame, during the winter months; watering very sparingly, and not alarming themselves if the root does not begin to grow as soon as they think they ought to. The roots sometimes lie dormant for months together; but the less time they are kept out of ground the better. I have had them growing for some years in the same piece of ground, and never think of removing them until I or some of my friends want them.

The roots being potted, and kept dry during winter, watering but once a fortnight or so, they will, in early spring, begin to grow, when they will require to be watered more frequently, and should be stood in a cold frame, with the pot plunged in ashes, or planted out in a sheltered situation, if there is no danger of a severe frost. By adopting this plan you will get them to bloom earlier than if they were planted out in the autumn. The plants will then unfold

their beautiful, green, lanate, trifoliate foliage, pale in colour, and pretty enough of themselves to be worth growing the plant for; then, about May, their flower-spikes will come up, from seven to ten inches high, producing a truss, from seven to fifteen inches high, of beautiful, large, single, rose-coloured flowers, each as large as half-a-crown, and beautifully lustrous in the sun. So much so, indeed, that you would be inclined to go and fetch your flower-loving friends to come and see it, if they had not seen it before: and I can fancy your adding a little to the description I have given of it in the way of exclamation, allowing every person, of course, to give expression to their sense of delight in their own way.

I do not know whether the readers of THE COTTAGE GARDENER will be interested with any further particulars respecting this pretty flower. Some will, no doubt; and this is a sufficient reason for me to go on. I have it growing in a bed thirty feet long, and three-feet-and-a-half wide, running from east to west, and getting greater part of the day's sun. It grows luxuriantly and flowers abundantly. I have sometimes had occasion to dig up some of them in the summer when they had done flowering, and previous to their having finished their seasons growth, and have found thongs attaching the roots together, which seemed to have taken a downward growth, eighteen to twenty-four inches long, and as thick as a carriage-whip thong. What has tended to confirm my opinion as to these thongs taking a downward growth, is the fact, that having found it necessary to remove a part of the bed this summer, I requested the person whom I had desired to do so to dig down as deep as he could find roots; but finding he was opening a very deep trench (two-and-a-half-feet deep) I enquired the reason for his so doing, when he gave me the best of all evidence, *i.e.*, ocular proof that the finest of the roots were down there. “Well!” I said, “they must have gone down there, for we never planted them above four or five inches deep.” “I don't know,” he said, “but there they are;” and there they were sure enough—roots one-and-a-half to two inches long, and some of them as thick as your finger. These thongs must, then, in substantiation of this statement, taking a downward growth, form roots at the extreme end (which they do), and then, having performed the same functions as leaves do to those that are near the surface, wither away, leaving the roots perfected at the bottom. The reverse theory of roots planted or buried accidentally one-and-a-half to two feet deep, coming up in search of light, is of every day experience among bulb-growers; but the produce in point of numbers is always small. *Oxalis Bowiei* seems to have a plan of its own, and it is a very productive one.

But there are other varieties of *Oxalis* besides these, which are very pretty. One of the prettiest little bulbs for pot-culture is *Oxalis versicolor*, and one which attracts as much attention, and calls forth as much admiration, as most plants of such small growth. The only regret that can be expressed is, that it is not larger. It is certainly prettier than anything else so small. It may be grown in the following easy manner:—

Take seven or eight roots and plant them in a 48 size pot in a light soil, composed of half peat, half well-decomposed leaf-mould, and a little sand; planting the root three-quarters-of-an-inch under the surface, and keeping them in a dry frame or greenhouse, and watering sparingly until they begin to grow; when, late in March or early in April, they will throw up thin, beautifully-whorled florets, as regularly striped red-earmine and white, as if they had been painted before and when unexpanded, and of a beautiful silvery white when expanded in the sun. All the varieties of *Oxalis* I am acquainted with expand their flowers to the rising, and close them with the setting sun, displaying their graces only when they can best be seen, and storing their beauties to bask in the sunshine.

OXALIS TETRAPHYLLA is a very pretty four-leafleted variety, producing lilac flowers; worth a place in a border, but not worth crying about if you lost it.

O. ESCULENTA.—A very, fine clear golden-yellow variety, producing five to ten florets in a truss; is scarcely hardy enough to grow out-of-doors, but is very beautiful if a number of roots are planted in a large pot, and placed in an airy part of the greenhouse; they are green all through the winter, and flower early in the spring.

O. SPECTABILIS is a small-growing variety with very thick leaves and bright pink flowers; has been much sought after on account of its name, but is not worth growing, except it be for variety's sake.

O. SPECIOSA is a pretty four-leafleted variety; the leaves are marked with dark brown, which gives the growth a richness of style; the flowers are not produced until August, and are of a claret-red colour with pale yellow centre, produced in trusses of from eight to fifteen florets. The roots should not be planted until February, but must be kept in sand, or dry soil, to prevent them from perishing. I question whether I have this variety correctly named. I have sometimes thought it was either *Darwalliano*, *flava* or *Deppei*.

O. ELEGANS is a pretty rosy-purple variety with black and yellow centre, of much the same growth and requires the same treatment as the last.

O. CRENATA, or the Mexican Potato, is grown and esteemed by some persons as a culinary vegetable as well as a flowering plant. It grows much stronger than any of the other varieties I have enumerated in this paper; the foliage is four-leafleted and the flowers are small and yellow. Some epicures say that the tuberous roots this country produces eat somewhat like a boiled chesnut when subjected to the same culinary process, and are a good substitute for potatoes; that the stems are equal to rhubarb in tarts, and are produced in autumn when the rhubarb season is past; and that the leaves are excellent with salading. I do not think as they do; but any person wishing to prove the correctness of these ideas might easily procure a few of the roots and try for themselves. They are easily procured, and may be readily recognized by their resemblance to the tubers of *Tropaeolum tuberosum*, barring the stripes of red.

These are the names and descriptions of some of the varieties of *Oxalis* which have come under my notice, but there are scores of others. The list of *Oxalis* given in Loudon's "Hortus Britannicus" is a long one. None of the varieties I have seen are to be compared to *Bowiei*, which may be safely recommended by "Qui Que Ce Soit" to the readers of THE COTTAGE GARDENER; and as this is the season of the year to apply for them, and the season for planting them will soon arrive, I thought it might be useful for them to know it.—C. B. S., *Jersey*.

WELLINGTON POULTRY EXHIBITION.

THE very recent exhibition of Poultry held at Wellington, Somerset, on the 3rd and 4th inst., adds still another proof of the danger ever attendant on out-door amusements of this kind, where visitors are exposed to all the sudden changes of our variable climate; for, perhaps, very rarely, if ever, has weather "so truly unpropitious" been endured at any Poultry Show throughout the kingdom. The rain fell constantly, and in torrents. It was from this cause many visitors chose rather to "go back home, as speedily as possible, by the first return train," than venture from the protection of the Wellington railway station to the grounds of the Rev. R. W. Pulman, where the Show was held, and which were situated at some distance; a circumstance very much to be regretted, as the proceeds were designed for the erection of National Schools, in Wellington, and this praiseworthy effort had received the extended sanction and active co-operation of almost every family of distinction in the neighbourhood. We are happy to say, that even under these adverse circumstances, a liberal balance will be added to the funds of this charity; and it is scarcely to be conceived the difference in amount that would have ensued had the weather been favourable, as a fancy fair, the band of the Royal Marines, and a most magnificent display of fire-works, were each, and all, to add to the general attractions of the day. By common consent, almost all the shops were closed; each of the principal streets resembling an impromptu Boulevard. Many hundreds of well-grown fir-trees lined the pathways; whilst triumphal arches of laurels, flowers, &c., abounded everywhere; entailing an expense that must have been very considerable. Every care was taken by the managing committee of the valuable fowls entrusted to them; and, from the tops of the coops being arranged as pent houses, they were but little wet or injured. This Show

proves, however, how much more advisable a plan it is, for a committee to obtain *certain and efficient protection for admiring visitors*, as well as poultry, from the sudden caprices of our summer storms. Mr. Edward Hewitt, of Sparkbrook, Birmingham, at the request of the committee, kindly gave his services as the judge for the poultry on this occasion.

At this season of the year, the adult classes were shown in bad feather, as a natural consequence from moulting. Many of the chickens in the Dorking, and also the Hamburgh and Cochin classes, were, contrariwise, in first-rate condition. We give a short summary, and the list of prizes.

In the adult *Spanish* (prize one), Mrs. Lydia Stowe exhibited a most creditable pen of birds, that called forth universal admiration, and fully maintained her high repute as to this variety. Of chickens, in this class, only one pen was exhibited, and the prize was "withheld." The *Dorkings* were very superior, both as to the chickens and old birds; in the latter class, the principal winners were much better than those usually exhibited, and the chickens, as a whole class, proved that care and attention had not been misplaced. The grey, and white *Dorkings*, however, should compete in different classes.

In the *Grouse*, or *Partridge-coloured Cochins*, only two of the cocks *matched* the hens, and these were, consequently, successful. The aged *Bufs* were (except the prize birds) very indifferent; the chickens were, however, very excellent, as a whole class. The *Whites*, and *Blacks* were not so good. Most of the *Malays* were quite destitute of condition, if we except the first-prize fowls, that were in capital feather, and *matched* exactly. The prize *Game* were excellent, but commencing moult; in these classes many exhibitors lost all chance of success from neglecting the colour of their fowls' legs; white, willow, and yellow, being mated in the same group; whilst others forwarded either one too many, or a fowl too few, to be in accordance with "the rules," and were, consequently, at once "disqualified." Owners, themselves, cannot be too guarded in these simple matters; and their neglect, as we have before frequently stated, will ever cause grievous disappointment. Some of the pens thus *beaten*, by inattention to numbers, were admittedly the best fowls in the whole classes. All the *Hamburghs* were exceedingly good, either of the four classes being superior to those at the generality of our exhibitions. The *Golden*, and also the *Silver Polands*, were very good; the *Black Polands* but ill-represented. In the class for "any other pure breed," the *White Spanish*, and the *Black Hamburghs*, took precedence of the *Brahma Pootras*; the latter, though very beautiful birds, being only "commended." The *Bantams* were numerous, but in very indifferent feather. The *Geese*, and *Aylesbury Ducks*, were of extraordinary merit; the *Rouen Ducks*, inferior, and moulting. In the extra varieties were good specimens of both the *Coll Ducks* and also the *Labradors*, both of which took prizes. In the *Pigeon* classes all were of better character than usual, and the commendations, therefore, numerous; only a single prize being allotted to each variety. All the fowls were despatched homewards directly the exhibition closed.

Class 1.—SPANISH.—Cock and two Hens.—4. First prize, Mrs. L. C. Stow, Bredon, near Tewkesbury. Age, one year. 8. Second prize, W. W. Rowe, Milton Abbot, Tavistock. Age, cock thirteen months, hens two years.

Class 2.—SPANISH.—Pen of four Chickens, 1854.—Prize withheld.

Class 3.—DORKING.—Cock and two Hens.—13. First prize, Charles Harward, Hayne House, Plymtree, Devon. (Grey Dorkings.) Age, fourteen months. 12. Second, extra prize, J. S. Bowden, Marland Cottage, near Wellington, Somerset. (White Dorkings.) Age, cock two years, hens one year. 20. Second prize, Mrs. Lydia C. Stow, Bredon, near Tewkesbury. (Grey Dorkings.) Age, one year. *Commended*.—17. Dr. Rogers, Honiton, Devon. Age, one-and-a-half years. 21. William W. Rowe, Milton Abbot, Tavistock, Devon. Age, cock eleven months, hens two years.

Class 4.—DORKING.—Pen of four Chickens, 1854.—27. First prize, Charles Harward, Hayne House, Plymtree, Devon. (Grey Dorkings.) Age, four months. *Commended*.—23. Francis J. Coleridge, The Cottage, Ottery St. Mary, near Honiton. (White.) Age, three months on day of Exhibition. The whole class meritorious.

Class 5.—COCHIN-CHINA (Brown or Partridge).—Cock and two Hens.—40. First prize, Rev. G. F. Hodson, Banwell, Somerset. Age, fourteen months. 41. Second prize, Rev. G. F. Hodson, Banwell, Somerset. Age, fourteen months.

Class 6.—COCHIN-CHINA (Buff, Lemon, or Cinnamon).—Cock and two Hens.—48. First prize, William J. Channing, Heavitree, Exeter.

Age, cock and one hen fifteen months, one hen unknown. 49. Second prize, William L. Channing, Heavitree, Exeter. Age, cock and one hen twelve months, one hen fourteen months.

Class 7.—**COCHIN-CHINA** (White or Black).—Cock and two Hens.—58. First prize, Cyrus Clark, Street, near Glastonbury, Somerset. Age, cock and one hen seventeen months, one hen unknown. 57. Second prize, Rev. G. H. H. Hutchinson, Charlton, Malmesbury, Wilts. Age, one year.

Class 8.—**COCHIN-CHINA** (Any variety).—Pen of four Chickens, 1854.—61. First prize, Henry Lucas Bean, Ashcott, near Glastonbury. (Buff.) Age, hatched last week in February. 78. Extra prize, Rev. G. F. Hodson, Banwell, Somerset. (Grouse-coloured.) Age, eighteen months. Class meritorious.

Class 9.—**MALAY**.—Cock and two Hens.—84. First prize, Thomas B. Fairhead, Braintree, Essex. Age, fourteen months. 82. Second prize, Charles Ballance, 5, Mount Terrace, Taunton. Age, various.

Class 10.—**MALAY**.—Pen of four Chickens, 1854.—85. Prize, Charles Ballance, 5, Mount Terrace, Taunton. Age, hatched May 6th.

Class 11.—**GAME** (Black, Brassy-winged, Black-breasted, and other Reds).—Cock and two Hens.—87. First prize, J. R. Rodhard, Aldwick Court, Langford, near Bristol. Age, two years and three months. 94. Second prize, Robert Russell Sewell, M.B., Bridgwater, Somerset. Age, various. *Commended*.—90. Henry Sheild, Taunton, Somerset. Age, unknown.

Class 12.—**GAME** (Whites, Piles, Greys, and Blues).—Cock and two Hens.—97. First prize, J. R. Rodhard, Aldwick Court, Langford, near Bristol. Age, two years and three months. 98. Second prize, William Buncombe, Taunton, Somerset. Age, one year.

Class 13.—**GAME** (Any variety).—Pen of four Chickens, 1854.—112. Henry Sheild, Taunton, Somerset. Age, three months.

Class 14.—**HAMBURGH** (Gold-pencilled).—Cock and two Hens.—118. First prize, F. Patteson, Feniton Court, near Honiton. Age, one year and two months. 121. Second prize, Mrs. B. J. Ford, Ide, near Exeter. Age, over one year. *Commended*.—122. William W. Rowe, Milton Abbot, Tavistock, Devon. Age, cock and one hen thirteen months, one hen eleven months.

Class 15.—**HAMBURGH** (Silver-pencilled).—Cock and two Hens.—131. First prize, William W. Rowe, Milton Abbot, Tavistock, Devon. Age, two years. 124. Second prize, Francis Henry Aberdein, Honiton, Devon. Age, eighteen weeks. *Commended*.—129. Thomas Michelmore, Jun., Berry, Totness, Devon. Age, twelve months.

Class 16.—**HAMBURGH** (Gold-spangled).—Cock and two Hens.—133. First prize, Charles Edwards, Brislington, near Bristol. Age, one year. 132. Second prize, Walter Hugo, Albert Villa, Mount Radford, Exeter, Devon. Age, twenty months.

Class 17.—**HAMBURGH** (Silver-spangled).—Cock and two Hens.—136. First prize, Charles Edwards, Brislington, near Bristol. Age, over one year. 137. Second prize, William R. Gec, Stearfield, Paington, Devon. Age, cock and one hen twenty-two months, one hen eleven months. All the Hamburg classes excellent.

Class 18.—**POLAND** (Gold-spangled).—Cock and two Hens.—142. First prize, R. H. Bush, Ashton Lodge, near Bath. Age, unknown. 145. Second prize, Stephen Towan, Plymouth, Devon. Age, unknown.

Class 19.—**POLAND** (Silver-spangled).—Cock and two Hens.—148. First prize, Parkius Jones, High-street, Fulham. Age, two years. 147. Second prize, Rev. James H. Gandy, Old Cleve, near Taunton. Age, two years. *Commended*.—146. Charles Edwards, Brislington, near Bristol. Age, eighteen weeks. Gold and Silver Poland classes excellent.

Class 20.—**POLAND** (Black with White Crest).—Cock and two Hens.—149. First prize, John Buncombe, Wellington, Somerset. Age, unknown. 153. Second prize, Charles Edwards, Brislington, near Bristol. Age, over one year.

Class 21.—**ANY OTHER PURE BREED**.—Cock and two Hens.—155. First prize, William L. Channing, Heavitree, near Exeter. (White Spanish.) Age, unknown. 160. Second prize, Theophilus M. Gunn, Bridport, Dorset. (Black Hamburg.) Age, unknown. *Commended*.—159. John Marshall, Belmont, Taunton. (Brahma Pootra.) Age, pullets hatched February 27th, cock March 9th.

Class 22.—**BANTAMS** (Gold-laced).—Cock and two Hens.—166. Prize, John George Gully, Queen-street, Exeter. Age, unknown. *Commended*.—168. Rev. G. F. Hodson, Banwell, Somerset. Age, various.

Class 23.—**BANTAMS** (Silver-laced).—Cock and two Hens.—170. Prize, Rev. G. F. Hodson, Banwell, Somerset. Age, fourteen months.

Class 24.—**BANTAMS** (Black).—Cock and two Hens.—173. Prize, Rev. G. F. Hodson, Banwell, Somerset. Age, three years. *Commended*.—172. Charles Ballance, 5, Mount Terrace, Taunton. Age, hatched April 26th, 1854.

Class 25.—**BANTAMS** (White).—Cock and two Hens.—176. Prize, John Gough, Congresbury, near Yatton, Somerset. Age, three years.

Class 26.—**TURKEYS**.—Cock and two Hens.—177. First prize, J. R. Rodhard, Aldwick Court, Langford, near Bristol. (American.) Age, above one year.

Class 27.—**GEESE**.—Gander and one Goose.—178. First prize, Thomas Valentine, Preston Farm, Pottery, Devon. Age, gander six years, goose two years. 183. Second prize, William W. Rowe, Milton Abbot, Tavistock, Devon. Age, two years.

Class 28.—**DUCKS** (White Aylesbury).—Drake and two Ducks.—193. First prize, Mrs. B. J. Ford, Ide, near Exeter. Age, over one year. 189. Second prize, Honourable Greville Howard, Lydiard, Swindon. Age, drake and one duck hatched January 7th, 1854, one duck ten weeks old. *Commended*.—187. Henry Lucas Bean, Ashcott, near Glastonbury. Age, hatched in 1852. Whole class meritorious.

Class 29.—**ROURN**.—Drake and two Ducks.—203. First prize, Miss Steele Perkins, Sutton Coldfield, near Birmingham. Age, unknown. 199. Second prize, Charles Ballance, 5, Mount Terrace, Taunton. Age, two years. Class indifferent.

Class 30.—**ANY VARIETY**.—Drake and two Ducks.—210. First prize, John Marshall, Belmont, Taunton. (Buenos Ayres.) Age, four months. 212. Second prize, W. H. Mayo, Taunton. (White Decoy.) Age, nearly five months. *Commended*.—206. D. C. Fox, Swallowfield, Wellington, Somerset. (Buenos Ayres.) Age, unknown.

Class 31.—**PIGEONS** (Carriers).—Pair of any age.—218. Prize, Samuel Summerhayes, Taunton. Age, eighteen months. 224. Prize, Dr. Rogers, Honiton, Devon. Age, two years. 229. Prize, Thomas Twose, Bridgwater, Somerset. Age, various. *Commended*.—213. Charles Richard Titterton, 6, Snow Hill, Birmingham. Age, unknown. 215. William James Square, 14, Portland Square, Plymouth. Age, unknown. 221. Richard Charles Titterton, 6, Snow Hill, Birmingham. Age, unknown.

Class 32.—**TUMBLERS**.—Pair of any age.—224. Prize, Dr. Rogers, Honiton, Devon. Age, two years. *Commended*.—221. Charles Richard Titterton, 6, Snow Hill, Birmingham. Age, unknown.

Class 33.—**RUNTS**.—Pair of any age.—229. Prize, Thomas Twose, Bridgwater, Somerset. Age, various.

Class 34.—**FANTAILS**.—Pair of any age.—241. Prize, Samuel Summerhayes, Taunton. Age, six months. *Commended*.—235. Charles Bluett, Hammet-street, Taunton. Age, unknown.

Class 35.—**POUTERS**.—Pair of any age.—243. Prize, Charles Richard Titterton, 6, Snow Hill, Birmingham. Age, cock two years, hens fifteen months. *Commended*.—247. Samuel Summerhayes, Taunton. Age, unknown.

Class 36.—**BARNS**.—Pair of any age.—248. Prize, C. Bluett, Hammet-street, Taunton. Age, unknown. *Commended*.—252. Samuel Summerhayes, Taunton. Age, unknown.

Class 37.—**JACOBSINS**.—Pair of any age.—255. Prize, Dr. Rogers, Honiton, Devon. Age, unknown. *Commended*.—253. C. R. Titterton, 6, Snow Hill, Birmingham. Age, unknown.

Class 38.—**TRUMPETERS**.—Pair of any age.—261. Prize, H. Child, Jun., Balsall Heath, Birmingham. Age, unknown.

Class 39.—**OWLS**.—Pair of any age.—270. Prize, Rev. G. F. Hodson, Banwell, Somerset. Age, unknown. *Commended*.—264. C. R. Titterton, 6, Snow Hill, Birmingham. Age, unknown.

Class 40.—**NUNS**.—Pair of any age.—276. Prize, Miss Selina Northcote, Upton Pyne, near Exeter. Age, unknown. *Commended*.—274. T. Twose, Bridgwater, Somerset. Age, four months.

Class 41.—**TURBITS**.—Pair of any age.—280. Prize, Charles Bluett, Taunton. Age, unknown.

Class 42.—**ANY VARIETY**.—Pair of any age.—288. Prize, Samuel Summerhayes, Taunton. (Mahomets.) Age, six months. *Commended*.—285. Henry Child, Jun., Balsall Heath, Birmingham. (Archangel.) 286. Dr. Rogers, Honiton, Devon. (Magpies.) Age, unknown.

EXTRA STOCK.—*Commended*.—290. John Buncombe, Wellington, Somerset. (Silver-spangled Poland Chickens.)

THE TAVISTOCK POULTRY SHOW.

THE second annual Exhibition of Poultry, at Tavistock, Devon, took place in the Corn Market, on Wednesday, August the 2nd, in conjunction with the Exhibition of the Cottage Garden Society. The pens, 110 in number, which were hired from the Plymouth Poultry Society for the occasion, were ranged in single rows by the side and in the middle of the market. The poultry shown were mostly from Tavistock, Milton Abbot, and Kelley. The Dorkings, both young and old, were very decent birds; the Spanish were a great improvement upon the birds which used to be taken for Spanish; the Cochins were not very good; the Game mustered in abundance, and some first-rate birds were among them. At this place, as well as at some of the previous shows in the neighbourhood, first class birds were prevented taking prizes by being badly mated. One magnificent grey cock was with two hens of another variety. There were some capital White Aylesbury Ducks, and a pen of splendid young Geese was shown by Mr. Rowe, of Milton Abbot. Many of the prizes were taken, as will be seen, by Mr. E. Cornelius, who is the hind of Mr. Kelly, of Kelly, whose birds were shown in capital condition.

The judges were Mr. Torrell, of Ottery, Tavistock, Mr. S. C. Parkhouse, of Plymouth, and Mr. William Hunt, the Secretary of the Devon and Cornwall Society for the Improvement of Domestic Poultry.

The awards of prizes:—

POULTRY.

DORKING (Coloured).—For the best Cock and two Hens.—First prize, Mr. W. Perry. Second prize, Mr. Ed. Cornelius, Kelley. For the best Cock and two Hens (Chickens 1854).—First prize, Mr. Ed. Cornelius. Second prize, E. H. Scobell, Esq., Tavistock.

SPANISH.—For the best Cock and two Hens.—First prize, Mr. Samuel Gale. Second prize, Mr. James Stannes, Tavistock.

COCHIN-CHINA.—For the best Cock and two Hens.—First prize, E. H. Scobell, Esq. Second prize, Mr. E. Cornelius. For the best Cock and two Hens (Chickens 1854).—First prize, Mr. Josiah Metherell, Tavistock. Second prize, Mr. G. H. Smith, Tavistock.

GAME.—For the best Cock and two Hens.—First prize, Mr. W. Menhennick, Tavistock. Second prize, Mr. Collacott, Tavistock.

MINORCAS.—For the best Cock and two Hens.—First prize, Mr. W. Lillierap, Tavistock. No second prize.

MALAYS.—For the best Cock and two Hens.—Second prize. No prize awarded.

HAMBURGH.—For the best Cock and two Hens.—First prize, Mr. A. Mackey, Endsleigh. Second prize, Mr. E. Cornelius. Equal two first prizes.

POLANDS.—For the best Cock and two Hens.—Second prize. No prize awarded.

BANTAMS.—For the best Cock and two Hens.—First prize, Mr. John Adams, Endsleigh. Second prize, Master Walter Weekes.

HYBRIDS OR BARN-DOOR FOWLS.—For the best Cock and two Hens. No first prize. Second prize, Mr. E. Cornelius.

DUCKS.—AYLESBURY.—For the best Drake and two Ducks.—First prize, W. W. Rowe, Esq. Second prize, Miss Gill (Ottery). Any other variety.—The best Drake and two Ducks.—First prize, Mr. T. Symon's (Coryton). Second prize, Mr. John Spence.

GEESE.—For the best Gander and two Geese.—First prize, W. W. Rowe, Esq., Milton Abbot.

TURKEYS.—For the best Cock and two Hens.—Second prize. No prize awarded.

RABBITS.—For the best Lop-eared.—First prize, Mr. Wm. Doidge. Best of any other kind.—Mr. Luke Doidge.

COVENT GARDEN.—AUGUST 8TH.

CUT FLOWERS in bunches, from 1½ to 1s:—Lilies, Pelargoniums, Roses, Mignonette, Catananches, Sweet Peas, Marigolds, Wall Flowers, Erysimums, Eschscholtzias, Pinks, Carnations, Cloves, Verbenas, Stocks, Calceolarias.

The supply is abundant in culinary vegetables and salads. In the French supply Apples are at present scarce. Potatoes present a clean surface, but the size is evidently below the average of years, consequently deficient in farinaceous quality.

FRUIT.

Pine Apples, 5s per lb.	Apples, Quarantine, 2s 6d p. half sieve
Grapes, Hambro', 4s per lb.	Sugar ditto, 2s 3d p. hf. sieve
Tokay, 6s per lb.	Currants, 2s 6d to 3s 6d per half sieve
Peaches, 7s to 12s p. doz.	Gooseberries, 2s to 3s p. hf. s.
Nectarines, 7s to 12s per doz.	Raspberries, 7d to 10d p. gal.
Melons, 1s to 6s each	Strawberries, 4d to 6d p. gall.
Wall Grapes, 2s per lb.	Morello Cherries, 4s p. dz. lbs.
Green Gage Plums, 1s 6d per punnet	Damsons, 7s per bushel
Wall Plums, 10d per punnet	Apricots, 1s to 1s 6d per pun.
Cherries, 1s per punnet	Pears, 6s 6d per bushel
Jargonel Pears, 4s per doz.	Chillies, 1s 6d per punnet
Kitchen Apples, 2s p. hf. sv.	

VEGETABLES.

Spanish imported Onions, 14s to 16s per hundred	Cucumbers, 1s 3d per punnet
Garlic and Shallots, 8d per lb.	Ditto, hand-glass, 1s per doz.
Greens, 1s 6d per doz. bunch.	Radishes, 4d to 6d p. dz. beh.
Cabbages, 10d per dozen	Horse Radish, 2s per bunch
Cape Broccoli, 8d per bunch	Celery, 1s per bunch
Cauliflowers, 2s 6d to 4s per dozen	Tomatoes, 1s 3d per punnet
Artichokes, 2s 6d per doz.	Nasturtium Berries, 4s p. hf. s.
Onions, 4s per doz. bunches	Radish Pods, 2s per hf. sieve
Carrots, 5s per doz. bunches	Pickling Walnuts, 12s p. bush
Turnips, 2s 6d p. doz. bunch.	Gerkins, 4s per half sieve
Lettuces, 1s per score	Onions, young, 3d per bunch
Cabbage Lettuce, 1s p. score	Water Cress, 4d to 6d p. dz. b.
Peas, 3s per bushel	Rhubarb, 4d per bunch
Beans, 2s 3d per bushel	Leeks, 1s 6d per doz. bunches
Kidney Beans, 2s per hf. sieve	Vegetable Marrow, 1s 6d per dozen
Scarlet ditto, 2s 6d p. hf. sieve	Potatoes, 6s per cwt.
	Kidney Potatoes, 8s per cwt.

HERBS.

Sage, Mint, Thyme, Lemon Thyme, Marjoram, Basil, Fennel, Parsley, Savory, &c., 2d per bunch. Beet, 6d per bunch.

PLANTS IN FLOWER IN GARDENS AND NURSERIES.

St. Swithin has spread havoc in floriculture for a time, especially among Verbenas, Calceolarias, Petunias, Roses, &c., but the Lilies retain their majestic appearance, as do the impregnable, beautiful Heaths, now making their entrance with Gladioluses, Tigridias, &c.

HARDY PERENNIALS.

Adonis fruticosa, pink	Lysimachia ciliata, yellow
Ammobium alatum, white	Liatris odoratissimum, lilac
Achillea nobilis, yellow	Monarda Kalmiana, red
" serrata, white	" Newmanii, pink
Armeria pseudo-armeria, rose pink; in flower all the year	" Kiavaski, white
Allium sphaerocephalon, mulberry	Morina longifolia, pink
Bocconia cordata, white	Phlox Helene, lilac
Betonica hirsuta, purple	" undulata, ruby-colour
" incana, pink	" pyramidalis
Centaurea montana, white	" triflora, white
" " rubra	" longiflora, pink
Crucianella stylosa, purple	" Newmanii, lilac
Centranthus ruber, red	" Kiewaski, white
Chelone barbata, red	" nova, ruby
Coreopsis lanceolata, yellow	" diadem, white and lilac
Campanula pumila	" antagonist, white
" " blue	Peristemon fruticosum
" " white	" " white
Echinops Ritro, amethyst colour	" " red
" ruthenicus	" nitidum, blue
" horidus	" Themesterii, purple
" lanuginosus	" Buckii
Gentiana asepiladea, purple	" Mayana
Galium vernum, yellow	" gentianoides, white
" boreale, white	Pascalia glauca, yellow
Gladiolus communis	Rudbeckia amplexifolia, yellow
" " carnea	" laciniata
Knautia arvensis, blue	Solidago flabellata, yellow
Lilium Canadense pendulifolia	" reflexa
" venustum, red	" canadensis
" superbum, yellow and red spots	Statice eoriaria, blue
" altissimum	" Gmelini
" chalconicum, scarlet	" Carolineana
" eximium, white	Sphenogyne speciosa, yellow
Lychnis chalconica	Scabiosa montana, white
" " double red	" ciliata, blue
" " white	Scutellaria lupulina, blue and white
" " " white	Tigridia pavonia
" " " yellow	" " red
" " " yellow	" " white
" " " yellow	Veronica azurea, blue
" " " yellow	" ueglecta
" " " yellow	" maritima
" " " yellow	" incarnata, pink
" " " yellow	" spicata, blue
" " " yellow	" erinata

HARDY HEATHS.

Erica vulgaris	Erica cinerea, var. alba, white
" var alba, white	" " atropurpurea, purple
" " flore pleno, white	" " rubra, red
" " pygmaea, pink	" " carnea, pink
" " pumila, lilac	" " Ciliaris, pink
" " scoparea, pink	" " Macayana, purple
" " Vagans, pink	" " tetralix alba, white
" " Tortuosa, white	" " coecinea, red
" " cinerea	

QUERIES AND ANSWERS.

GARDENING.

ROSE PRUNING TOO LATE.

"I had a plant of the Rose *Madame D'Arbly* trained on a south wall about eight feet in height, where it grew and flowered most luxuriantly; but from my want of skill it

had got bare at the bottom, except in so far as it was covered by shoots turned down from the top; and so I resolved to cut down the plant, and further (to get, as I thought, a considerable quantity), I resolved on cutting it down as soon as the bloom was over; and accordingly cut it down within six or eight inches of the ground yesterday; but in my wisdom I had not calculated on its bleeding, and this it has been doing *very profusely* ever since.

"I first tried collodion, applied with a camel-hair pencil to the wounds, with no visible effect. Then I burned the cut ends with a *red-hot* iron, and again applied collodion, and still with no visible good result. I next tried Roman cement, rubbed in and laid on as thickly as I could get it to lie, and I think that is doing something to stop the bleeding; but I am afraid that it will bleed to death.—J. A., *Arborath.*"

[You were in too great a hurry; still you have not killed this strong, handsome Rose; but the rash act, at this season of the year, might have killed very many kinds of Roses. We have budded tender Roses at the end of July, which made weak shoots from the buds the same autumn, and they escaped the following winter. That is the best consolation we can offer to you; but on the other hand, we have known hardy Roses, which made a late growth from budded stocks, to be killed by the frost. Your *Madame D'Arblay* Rose will, most probably, push up by the end of the month, or early in September; then see the shoots are not much crowded, and put some boughs against them on the first appearance of frost. Though the frost might not kill these young growths, there is no saying what harm it might do them after such an unnatural shock to the constitution of the plant. After the frost is over, cut down all the young shoots to near the bottom. A little more or less bleeding is of less consequence than most people believe.]

SAWDUST AND ROAD-SCRAPINGS.

- "1.—Would sawdust be an improvement to a stiffish compost for growing Pansies;
- "2.—For growing Ranunculuses;
- "3.—For growing Pinks;
- "4.—For growing Hyacinths;
- "5.—For the kitchen and flower-garden generally;
- "6.—For spreading about the roots of tenderish plants to keep out the frost in winter;
- "7.—For keeping out the drouth from seedling and newly-transplanted plants?
- "8.—Would you recommend (whinstone) road-scrappings for stiff land; and how would you apply them?
- "9.—Would the fine ashes from the kitchen-fire be serviceable for flowers?

"My small cottage-garden is rather stiffish clay, with very fine sand and clayish subsoil, which surface-soil I should like to improve a little at little expense. As I am but a from-year-to-year tenant, and the landlord will do nothing, and for my flowers am afraid of doing much in the experiment way, as this is but my second year of a garden, and I have already experimented a few favourite plants to death, and have laid out a good deal in plants. Sawdust is abundantly to be had here, and I think would answer my purpose well, but hope to have your opinion, as both gardeners and farmers here, generally, are quite pre-possessed against sawdust; but I know of a very successful Pansey-grower (the raiser of *Robert Burns*) who strikes his Pansies and most of his plants in half-decayed sawdust, and finds it answer well; and from its being purely vegetable, chemically nearly the same as leaves, I cannot see why there should be such an aversion to its use, as farmers will scarcely cart away pig-manure where the pigs have been bedded with it. Some actually refuse to lift it for nothing. I think it ought to shorten and lighten the compost, and allow the superabundant wet to pass more freely down through the soil, which is what I expect it to do mechanically; and after decomposing, I expect it to be as good as so much leaf-mould added to the compost or flower-border. Its powers, as a non-conductor of heat, I saw last winter. I had some lying in the garden about three inches deep; and after two or three days, falling a severe frost, I went out to dig a little, and found, that although the frost was entirely out

of the exposed surface, it was only out of about one inch of the sawdust, and that it had not been quite frozen through the three inches, or that it had been thawing from below as well as above.—D. D."

[Sawdust partially decayed we believe to be one of the best of applications to a stiff loam. It decays slowly, and keeps the soil open. Did any of our readers ever use decayed sawdust in a compost for Pansies, Ranunculuses, Pinks, or Hyacinths? We shall be obliged by information on this point. *Road-scrappings*, where the roads are mended with whinstone or other siliceous material, are very good opening applications to stiff soil.

We should put *sawdust about the roots* of plants to keep the moisture from evaporating from them without any fear of injury. We should prefer it rather decayed.]

NAME OF A PLANT.

"I shall be obliged by the name of the plant of which I enclose a leaf, and wish to know if it is likely to be hardy in the climate of the south of Ireland. It was raised from seed under the name of the Celestial Tree. Its tip was touched by frost early in winter, and it was then put in the greenhouse. It is now very strong out-of-doors in a pot.—W. B. G."

[We cannot say what your plant can be from the leaf sent, but we should not think it would be likely to prove hardy enough to live out-of-doors. We should encourage its growth in-doors to flower it, and then let us have a flower of it, and we will then inform you what it is. The Celestial plant is the *Celestina ageratoides*, a very beautiful bedding-out plant. We doubt whether this be a plant of much beauty.

We have shown the leaf to several good authorities, but they have not been able to help us. One of them says:—

"I have not the slightest idea of what it is. The leaf is one only among a thousand of the kind, and yet we have failed to make out what it is—we never saw such a leaf, or a figure of any leaf like it. The leaf of this Celestial tree is pinnated, two pairs and an odd one, the odd leaf is palmate as in some Maple—if that is a constant feature, which we much doubt, it is most curious."]

TO CORRESPONDENTS.

. We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed "To the Editor of *The Cottage Gardener*, 2, Amen Corner, Paternoster Row, London."

WEEDY TURF (*Linda*).—As you can neither sow nor returf your lawn, there is but one remedy; namely, very frequent mowing. A few old women with an old knife and a bag of salt will vanquish many of the weeds for a very little outlay. Let them cut out the weeds deeply, and put a pinch of salt into the wound. Your other question next week.

MAHONIA AQUIFOLIUM BERRIES (*H. H.*).—This shrub is more correctly *Berberis aquifolium*; being merely an evergreen Barberry, with purple fruit. We believe that the berries are as wholesome as those of the common Berberry. If any of our readers have used them as a preserve, or in tarts, they will much oblige us by informing us of the sugar required, and how they proceed in using them.

TOBACCO PAPER (*J. C.*).—This is the most uncertain of all forms in which to apply Tobacco as a fumigator. It is sometimes very strongly impregnated with the narcotic juice of the Tobacco, and at other times scarcely contains any. You must have used too much of some which happened to be strongly impregnated. We know of no house where it can be purchased uniformly good. A weighed quantity of Tobacco rolled up in touch paper, and lighted like a squib, is far preferable to Tobacco paper.

RHUBARB CHAMPAIGN (*Anne*).—Our correspondent will be much obliged by a recipe for making this wine.

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WEEKLY CALENDAR.

D M	D W	AUGUST 22—28, 1854.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
22	TU	Rhipiphorus paradoxus.	29.868—29.811	74—54	E.	67	5S a 4	8 a 7	2 57	28	2 44	234
23	W	Rhipiphorus humeralis.	29.765—29.733	63—45	E.	01	v	6	sets.	☉	2 29	235
24	TH	St. BARTHOLOMEW.	29.800—29.694	66—44	E.	—	1	4	7 a 48	1	2 14	236
25	F	Mycetophagus atomarius.	29.730—29.436	66—54	S.	23	3	1	8 2	2	1 58	237
26	S	PRINCE ALBERT BORN 1819.	29.268—29.116	66—51	S.	49	4	VI	8 16	3	1 41	238
27	SUN	11 SUNDAY AFTER TRINITY.	29.502—29.305	63—47	S.W.	01	6	57	8 29	4	1 25	239
28	M	Latridius transversus.	29.748—29.624	66—45	S.W.	02	7	55	8 44	5	1 8	240

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 71.6° and 50.1° respectively. The greatest heat, 87°, occurred on the 22nd in 1835; and the lowest cold, 32°, on the 22nd in 1850. During the period 114 days were fine, and on 75 rain fell.

BRITISH WILD FLOWERS.

(Continued from page 349.)

DRABA VERNA: Spring, or Common Whitlow Grass.



Description.—It is an annual. Root fibrous, of consider-

able length. Stem none. Leaves several, forming a star close to the ground; oblong-lanceolate, entire, or notched, clothed with simple as well as forked hairs. Flower-stalks one or more, rising direct from the roots, round, wavy, smooth, leafless, each bearing a corymbose cluster of several scentless white flowers. Calyx blunt, pointed, and rather hairy. Petals cloven half way down. Pouch smooth, veiny, terminated by a short, blunt point.

Time of flowering.—March and April.

Places where found.—Very common on walls, dry banks, and other well drained places.

History.—De Candolle added this to his genus *Erophila*, calling it *E. vulgaris*, but the notch in its petals, which induced him to separate it from the genus *Draba*, we quite agree with Sir J. E. Smith in thinking far too uncertain a distinction.

It is mentioned by almost all our earliest botanists. Gerarde writes of it under the name of *Paronychia vulgaris*, observing—"It groweth plentifully upon the brick-wall in Chancery Lane, belonging to the Earl of Southampton, in the suburbs of London, and in sundry other places. When hot weather approacheth they are no more to be seen all the year after. We may call them in English, Nail-wort and Whitlow Grass. As touching the quality thereof, we have nothing to set down, only it hath been taken to heal the disease of the nails called a Whitlow, whereof it took its name." In another place Gerarde calls it "Whiteblow or Whitlow Grass."

Martyn observes of it that by its very numerous seeds it propagates itself prodigiously, and is a weed eradicated with difficulty from dry pastures and the gravel-walks of gardens. Linnaeus remarks that its flowers hang down in the night and in wet weather, and that in Sweden they sow Rye when this plant is in blossom. In some countries abundance of this plant is believed to prognosticate dearth of corn. Martyn adds, this plant may serve as an index of the difference of climates, for in Sweden it does not flower until April; in Germany it is a month earlier; in England, Holland, and France, it blooms in February; whilst in Sicily it is in flower all the winter.—(Smith. Martyn. Gerarde.)

The Bay Tree is the next in the alphabetical list of the plants mentioned in our translation of the Bible; but, we think, there is a preponderance of evidence against that translation being correct in this instance.

The Hebrew word so translated, *Aizerach*, occurs but once in the Bible, and that is in the 35th verse of the 37th Psalm. Our version thus renders that and the following verse:—"I have seen the ungodly in great power, and flourishing like a green Bay Tree. Yet, he passed away, and lo! he was not. Yea, I sought him, but he could not be found."

Aben Ezra, Jarehi, Jerom, and Kimchi, among the more ancient, and Parkurst and Levi among modern Hebraists, consider that *Aizerach* means any widely-spreading tree, flourishing in its native soil, and we coincide with their opinion. Yet, as Sir Thomas Brown

observes, "As the sense of the text is sufficiently answered by this, we are unwilling to exclude that noble plant from the honour of having its name in Scripture." Indeed, it may have been one of the trees contemplated by the Psalmist when he penned the comparison, for no tree is more emblematic of enduring and surpassing prosperity than the Bay tree, when it is growing in a soil and climate that are suitable. It is evergreen, indicative of unceasing success; there are male and female trees, it being diœcious, therefore, especially applicable to the prosperous of both sexes; and wreaths formed of its branches were employed not only to crown conquerors, but in later days as a guardian symbol to suspend before the gates of the Emperor and Pontifex Maximus; to place as a healing charm upon the house-roof of the sick; was used by the Delphic priestess, and in many

other modes was shown to be held as sacred to Apollo, the parent of the art that finds a balm for every malady; and he who wore a garland of it was considered safe from the flash of the lightning. A plant believed to be gifted with such powers might well be selected as an emblem of the prosperous wicked; for with all such powers, yet if unguarded by God, the time, as pointed out by the Psalmist, will come when he will be sought for, "but he cannot be found."

That the Psalmist may have included the Bay Tree with others under the general term *Æzerack*, is rendered the more probable from its being a tree readily within his knowledge; for it is a native of the Levant, and other parts of Asia, as well as of southern Europe.

THE August Meeting of the Entomological Society was held on the 7th inst., H. T. Stainton, Esq., V. P., in the Chair. Amongst the donations announced were additions to the library, received from the Royal Agricultural Society of England, the Natural History Society of Geneva, and the Entomological Societies of France and Stettin.

Mr. Boyd exhibited two beautiful specimens of the rare moth *Limacodes Asellus*, taken in the New Forest, in July; and Mr. Inghen, a large collection of Hymenopterans and Dipterous insects, from South Australia. Also an exotic wasp's nest, of moderate size, the exterior envelope of which was proved, from a microscopical examination of its texture, to be entirely composed of fungus, and not of woody-fibre, which was generally considered to be the nature of the material employed by wasps in the construction of their nests. He also exhibited a portion of the interior of one of the fine old well-known Cedars of Lebanon, in Chelsea Physic Garden, which was entirely coated with a fungus similar to that employed in the formation of the wasp's nest. Mr. W. Wing also stated, in confirmation of this view of the subject, that he had observed a wasp busily engaged in scraping off the woolly matter from the common Mullein.

Mr. S. Stevens exhibited a beautiful drawing of a remarkable variety of the larva of the *Death's Head Moth*, having a large patch of white on the back of the anterior segments of the body. Mr. Westwood stated that a precisely similar variety had been figured long ago in Fuessly's "Archives of Entomology." Mr. Stevens also exhibited a specimen of the very rare and recently-discovered *Trachodes hispidus*, belonging to the family Cureulionidæ, taken near Leicester, by Mr. Plant. A single specimen only had been previously discovered in the New Forest.

Mr. Boddy exhibited a living specimen of the rare *Luluis ferrugineus*, belonging to the family Elateridæ, and the largest known British species, together with its larva, found in rotten Oaks in Windsor Forest. Mr. Westwood noticed that the larva differed from those of the majority of the family, in having the last segment of the body smooth, and destitute of the notched horny

appendages, thus closely resembling the common Wire-Worm, which belongs to the same family.

Mr. Moore sent a second supply of the new Irish burnet moth, *Anthrocera Minos*, for distribution among the members. Mr. Hogan sent, from Dublin, for exhibition, a Lepidopterous larva and pupa, from which a number of *Sphæria*, a parasite fungus, had sprouted; they were very slender, and about an inch-and-a-half long, and several of them had shrivelled up; unfortunately, none of them had developed their organs of fructification, so that it was not possible to determine their species.

Mr. Douglas exhibited a number of specimens of *Grapholitha Nisana*, reared from the eatkins of the Willow and Sallow; by which means he had been able to prove that the species *Rhombifasciana* and *Sticticiana* were only varieties of one species.

Mr. Westwood exhibited, from the Economic Museum of Botany, at Kew, some specimens of a new species of clear-winged *Sphinx*, the caterpillars of which had fed in the interior of large woody galls upon the North American species of Oak, *Quercus palustris*, in company with the true inhabitant of the Gall; specimens of the empty chrysalis-case were still to be seen sticking half out of the Gall. He also exhibited specimens and drawings of a small but very remarkable beetle, recently discovered in ants' nests in Brazil, by Mr. Bates, forming the type of a new genus, which he proposed to name *Gnostus formicicela*. He also described the curious transformations of the singular *Evania appendigasta*, which is parasitic in the egg capsules of the common Cockroach.

Mr. Curtis read a number of detached notes, on two new British species of *Hemerobidæ*; correction of the nomenclature of the species of the same family, figured in his "British Entomology;" on nomenclature in Entomology, and its abuses; on the recent capture of various rare insects; on the species of *Tortricidæ* which attack Fir trees; and on their parasites.

THE BLIGHTS OF 1854.

I do hope that our scientific friends will pardon me for using a heading so lax and indefinite in character, but the truth is, that what the gardening world terms "blight," by a sort of conventionality, is, with all our boasted march of intellect, ill understood up to this period. In fact, the evils that beset either the fruit and the vegetable garden, or the farm, are so numerous, so various, and, moreover, have so much multiplied during the last seven years, that the most experienced cultivators are puzzled, and marvel what may be the upshot of this accumulation of evils. All this plainly tells us how much we have to learn; how much remains for our naturalists, and those who make insect life their peculiar study to investigate. And, certainly, in these stirring times, the thorough investigation of the habits of the insect world may not be left to gardeners: such are not mere closet men; and the duties attached to their profession are so multifarious, and so much increased, that if a man can produce a really good garden—one that is equal to the demands of the day—it may be affirmed that he has little time left for the

minutiæ connected with scientific investigation. But I will address myself to a practical view of the question, and endeavour to deduce some advance in practice, through a consideration of by-gone facts.

I am here tempted to point to a most peculiar kind of coincidence, in the appearance of those numerous evils which we are obliged, for the present, to lump under the term "blights." Most of our readers will remember the appearance of a singular fly, some fourteen years, or more, since. These appeared in such shoals, that the air, in some parts of the kingdom, was thickened with them, and people could scarcely draw their breath without drawing in a host of these flies. They might be, aptly enough, compared to the myriads of spores of the fungi, which are said to ramble "to and fro" in the earth, with an immeasurable degree of liberty. All these things have, doubtless, a high behest to perform; for we find, in Sacred writ, judgment pronounced against nations given up to iniquity, by a threat of "the canker worm, and the palmer worm." However, let us remember, that with certain ills in the animal system, a degree of knowledge and perseverance is implanted in the mind of man to search for an antidote, or a cure; and that, unquestionably, our great Creator never intended such talents to lie idle. We have been told of a certain venomous serpent, the fat from which cures its own bite; and a singular matter it is; and who, forsooth, would condemn his neighbour, being mortally stung, from seizing at once on so ready an antidote.

To return to that singular visitation of flies: I believe that I shall not be singular, if I endeavour to show, that ever since that strange visitation, the evils that beset vegetable life have much increased. The *Potato* disease, that greatest scourge of our time, came on the heels of this fly visitation; and since then, complaints seem annually on the increase; complaints, I fear, but too well founded; not made by a few bilious minds, but very generally by men who do not stand with their arms folded, and who are too "well up" in their profession to need recourse to petty excuses to cover ignorance or neglect.

To turn for a moment more pointedly to these *blights*, let us see what the position of the kingdom at large may be said to have been during the past, or passing, summer. *Apples*, in many places, exceedingly blighted; the aphides, red spider, and American blight, one, or all, in array against them. *Plums*, during June, or the early part of July, were as though they had been scorched, through the ravages of the Plum aphid. They are here laden with fruit, but the fruit became stationary for weeks, through the loss of the foliage. Strange to say, they have now made new foliage, and the fruit is going on kindly again, but the wood and blossom buds for a future year must prove imperfect. Such crops of *Greengages* I never saw, and they are tolerably clean. The former remarks on *Plums* refer chiefly to standards. *Cherries*, too, suffered much; and as to *Pears*, they have suffered exceedingly, in many cases, by a sort of smutty fungus, something like what may be found on the Orange-trees occasionally. But there is, also, a host of small scaly insects of the coccus tribes. These last are new to me; I do not remember to have seen them on the Pear before; for they do not, by any means, carry the appearance of the oyster-scale at present. These last depredators have been followed by thousands of humble bees for many weeks; these have buzzed about constantly from nine A.M. to seven P.M., sucking, no doubt, the sweet and viscid exudation, or excrementitious matter, proceeding from these insects, and which some people are fond of calling "honey-fall." *Black Currants* have been a partial failure almost everywhere. I have been pretty fortunate, but my bushes were much infested with the usual fly. The *Roses*, in many places, I have been credibly informed, have suffered exceedingly; but

here I have been fortunate, for never, in the course of my practice, have I had such a profusion of noble flowers, and foliage, too, without a speck, and free from insects. They have been the admiration of all; and as I have a somewhat peculiar mode of handling them, I must one day endeavour to make a convert or two through the medium of THE COTTAGE GARDENER.

And now I may advert to *Vines*; and here I may at once expose my own short-comings. The *Vines* here broke, blossomed, grew away with unusual vigour this spring, and I chuckled over my apparent success, when, lo! that horrible pest, the mildew, or *Oidium Tuckeri*, paid us a visit. We are, here, unfortunate enough to have houses covered with a glass that must burn, do what you will. These houses were built, about twenty-four years since, by a Birmingham firm, and are metallic, with too sharp a pitch. The party contracted for them, and they professed to have a very superior new glass. Well, everybody was just beginning to go-a-head in those days; and many, as the world can testify, in trying to win by a nose, or "half-a-neck," as our racing friend, Mr. Beaton, cutely observes, dashed their cranium against the front of the winning post, by which said mishap second or third horses have been known to win; yea, mere "out-siders." But I must leave the stable, and get back to the hothouse, crying mercy for this truant whimsie. We then, I say, dropped in with glass which must burn; and having received annual visitations of this burning, less or more, for a score years, I at first attributed the suspicious appearance of the foliage to "burning." I was the more willing to do so, having a great aversion to as much syringing as will deface that bloom which must ever be the concomitant of a perfect bunch of grapes; for even the blackest of the black Hambro's can never wholly satisfy without it. But finding it was, indeed, the *Oidium*, I threw all bias overboard, and got to work with the hydro-sulphuret of lime, so often adverted to in connection with this terrible pest. This hydro-sulphuret, after three applications, set the enemy at nought; but not until he had committed too much havoc to be lightly considered.

To wind up my list, let me observe, that our excellent contributor, Mr. Appleby, has pointed to the fact, that in the course of his perambulations—which are somewhat considerable—he has met with numerous complaints of *bedding flowers* having suffered much from aphides, &c. I cannot, certainly, affix my signature thereto, for I never knew bedding succeed so well in my days; but I do not by any means question the fact. To sum up—after all this matter for reflection, given out, I fear, somewhat discursively—what shall we say as to future progress? The past is manifest, and must constitute the text of many a gardening sermon.

Two things strike me as features in this case:—the one, that *preventives* must take the place of *remedials*; the other, a question as to what period, on general principles, to apply such. I have, myself, found so much difficulty in carrying on a warfare against these lilliputian enemies, in the growing season, that it strikes me most forcibly we might do much more than we do in the rest season by way of preventive. I am the more impressed with this idea, through the success I have for years experienced in out-door Peach-culture, attributable, in no small degree, to the pertinacity with which I have applied preventives. We do know, that with few exceptions, sulphur is a powerful enemy to most of the *Acarus* family, one of which, at least, commonly called the red spider, is but too well known to the knights of the spade. Soft-soap is a severe punisher to most of the *Coccus* tribe; and as for the aphides, I think it by no means unlikely, that some Chancellor of the Exchequer, perhaps, in King James's days, stoutly encouraged the breeding of the *Aphis* family, for they,

doubtless, have done wonders for the revenue, for many years, in demanding so much tobacco.

Now, I do not say these, singly, nor all mixed; I merely point to that which *must* prevail in a given mixture, according to the present position of horticultural experience. Future generations will, doubtless, invent more inexpensive things; but I suppose we may be content with the above, and assiduity in their application. Few men can fairly steal a march on an age ahead.

I must dip farther into this matter by-and-by. I have further suggestions to make. In the mean time, I recommend a study of the case to all those interested in reading "the signs of the times."

R. ERRINGTON.

PLUNGING POTTED PLANTS—ITS USE AND ABUSE.

At page 345, of the present volume, one of our correspondents, "F. W. S.," has given a good receipt for plunging pot-plants into beds and borders, in such a way as to hinder the worms from entering through the bottom hole; this, with the modifications of it, suggested by "Senilis," at page 366, secure more advantages, however, than that of excluding worms. There is a more perfect drainage to pots so plunged, and the roots cannot well get into deep soil under the pots. There is hardly anything which is more hurtful to permanent pot-plants than allowing the roots to pass through the bottom of the pots when they are plunged, and the reason is, that fibrous or feeding roots cease to multiply in the pot as soon as the roots take hold on the free soil, after passing through the bottom of the pot; then, when the pots are taken up, the best part of the feeding roots are on the outside, and must be cut off in most cases; indeed, in all cases when the plants are not to have a fresh shift at the same time as they are taken up, and that seldom happens. If there is one thing which, more than another, contributes to the welfare of a plant, be it stove or greenhouse plant, a fruit-tree or a Cabbage, it is that of keeping the small feeding roots near the surface, and preventing the large roots from going deep into the bottom of a bed or border. All these advantages, at least, are secured by this little-thought-of method of plunging pots.

There are two more ways of plunging pots, besides that way which keeps out the worms, and stops the roots from passing through the bottom of the pot. The first is, to have the rim of the pot level with the soil in the plunging-ground; and the second is, where the rim of the pot is placed out of sight, and an inch or so of the plunging material is put over rim, ball, and all. Now, between these two ways of plunging plants, there is just as much difference as there is between the day and night, and yet the difference seems only a mere trifle, an inch of soil, or sand, or tan, or leaf-mould, or merely sifted coal-ashes; still, the difference is as great in practice as I say.

There are many reasons for plants being plunged, but the chief reasons are only two; to keep the roots from the frost in winter, and from the sun during the summer. This security is got practically, whether the rim of the pot is out of sight or not, but more securely, if the rim is out of sight, as the pot is then deeper, and away from both sun and frost. When you plunge pots to stand over the winter, the best plan is to plunge not deeper than the rim of the pot, and for this reason, that it is easier to get a better drainage, and the whole surface of the plunging site ought to be covered an inch or two, pots and all, with some litter, for greater security against a long frost. For summer plunging, there are two chief reasons; one is, to encourage more growth in

young plants than they could make if the pots were not plunged, and to keep full-grown specimens in better health with less trouble or cost.

I say nothing at present about the more general mode of plunging for temporary expedients, such as for filling up whole beds with potted plants, or making good gaps in beds, borders, or baskets.

There is an universal law, to which I never experienced a single exception, in reference to plunged pots, or pot plants, and that is, if a pot is covered wholly, and a little extra material is over the ball or surface of the pot, feeding or small roots will rise and spread about in the fresh covering, and after a while they will spread all around in the soil of the bed; but as long as the pot is not covered, the plunging offers no enticement to the rise of the roots. Here, then, is a very good reason for plunging some plants over the rim, and against the practice for other plants. It is not desirable to encourage the roots of full-grown specimens to rise to the very surface of the ball, or to spread over the rim of the pot, because they must be destroyed as soon and as often as the pot is taken from the plunging ground; and also, because it is very seldom that small roots increase in numbers in the ball of a pot that is plunged, if part of the roots are allowed to escape by the bottom-hole or over the rim; therefore, such plants should not be plunged over the rim, as a general rule.

Suppose a case, in which the best *Chrysanthemums* were shifted to the flowering-pots early in August; if they were plunged with a provision under the pots for preventing the roots from getting out by the bottom-hole, there is no question as to that being the very safest plan for getting good leaves and large flowers at the least expense, as the roots in contact with the sides of the pot would never get a check, nor suffer if the plants wanted water, or were forgotten now and then in the hurry of other business; but, if these pots were plunged over the rims, the roots would rise and run over in a short time, and form a network in the plunging material, which would give an extra stimulus to the growth of the *Chrysanthemums*, and they would soon look more flourishing than those in pots not plunged, no matter how well they might have been attended to; but this would only turn out, in the long run, to be a deception: the time for lifting the pots comes round at last, and there are as many roots over the top of the pots as, if they could be preserved, would fill pots double the size; but they cannot be kept, seeing the pots are of full size as it is—they must be destroyed, and that just at the time when they are most wanted to help up the flowers and to keep the leaves green and shining under confinement.

Large plants of *Salvia splendens*, put into their flowering pots at the end of June, and plunged to the rim till the end of September, offer another instance of not plunging over the rim; they take up all their roots with them in the pots, and flower uncommonly finely till nearly Christmas; but plunge them over the rims, and they are worse off than the *Chrysanthemums*; their flowers drop off as fast as they open, and there is no beauty in them.

Another *Salvia*, however, does all the better to be plunged over the rim, and to lose the top roots early in October, when the pots are taken up and housed, and this is *Salvia gesneriflora*, which flowers from February to May, and at no other time, and a most useful *Salvia* it is. The sudden check from the loss of so many of the more useful roots puts a stop to the growth of the plant for that season; no other mode could be more successful, and the plant ought, certainly, to be arrested in its growth at that season, in order to rest three months previously to the flowering season; by that time, the rest, thus induced, will cause the plant to flower at every point, without any attempts at fresh growth, as is the nature of this *Salvia*, when it cannot have the right period of rest.

Take *Salvia fulgens* next, and say that those plants of it in pots must be put into the *Salvia* bed in June, because the bedding-plants do not cover the bed so soon as was expected—you are loth to part with your pet *Salvias*, because you intended them to come in late in the autumn, in-doors, when flowers are scarce; but first come, first served, is the rule for the flower-garden. You may go to bed yourself, for the autumn and winter too, and remain there to the end of the chapter, sooner than that *Salvia* bed should look thin and stingy at such a season; but plunge the middle-sized pots over the rim; dung the other *Salvias*, and keep your eye on them for a while, to see they do not want for water; by-and-by, the roots rise, and get over the rims of the pots, and your plants are out of danger, and out of harm's way, till the bed plants increase so much, by the end of August, that you can remove your pot-plants, and welcome. Now, if you have full-sized pots ready to shift them as soon as they are taken out of the bed, you will preserve the top roots, which are the most useful at all times, in this family, and in most plants, and you have better plants for late flowering than you could get up with all your care without plunging.

Thus, I have shewn the use and abuse of plunging over the rim in one genus of plants; at all events, I mean, and I put much stress on it, that all who have to do with plants and plunging, should not only see the difference, but take heed to it, and never forget the use and difference in plunging pot-plants for the rest of their lives.

There is nothing in the world more useful to pot-plants than to be plunged during the growing season; but some plants will not stand being plunged over the rim of the pot, owing to the time and manner of their flowering. I have had hundreds of kinds of *Cactus* plants plunged in cold, dry tan, during the summer, and one summer after another, and they seemed to like the plan as well as most plants. I have seen *Pine-apples* ripened perfectly without bottom-heat, but I never knew any one who succeeded in getting fine fruit of them, without plunging the pots, except Mr. Knight, of Downton Castle, and he kept up such a heat and moisture, where he fruited his Pines on stages, as would stifle most people. I once had a hot bath with him in that house, while he was explaining the philosophy of the thing, and no man ever knew the art of explaining a thing better than he did—you forgot if it was hot or cold the moment he began his lecture. No, there is not a plant on the face of the earth, if it is in a pot, but likes to be plunged for a certain time every year. Those beautiful stove plants which they bring to the shows, the *Rondeletias*, the *Dipladenias*, and *Echites*, and many more of them, are plunged down to the rim in strong bottom-heat for three months in the spring, and I could name a *Rondeletia speciosa* which used to be brought to exhibitions only once in two years, the other year it was kept plunged, from February to the end of August, in very strong bottom-heat, and the flowers were pinched off as fast as they came.

From not knowing the proper rule for plunging, a certain man lost his *Chrysanthemum* flowers one year, and the bloom of his *Roses* the year following, and he made such an outcry against this way of plunging, that half the world ran away with the idea that it was a very dangerous thing, except, perhaps, under the eye of scientific gardeners, to whom nothing seemed to come amiss; but, having taken the subject in hand, I must cry out louder than he, till I convince all whom it may concern, that there is no process in the art of managing plants half so useful as this plunging, provided it is done at the right time, and in the right way, according to the habit and requirements of the different plants so treated. I have even a rule to guide the most inexperienced of all our readers, when any doubts rise

about this or that way of plunging a plant, and that rule is simply this;—if you have any doubts about how a plant ought to be plunged, put the pot no lower than that you can see the rim of it all round; you will then be safe, and you will learn, some time or other, if it would be better for the plant that the pot should be entirely covered over the top or not. Practice is the only sure guide in all such cases, and practice allows, or rather insists on it, that all pots or plants in pots that are used in the flower-garden and about the dressed ground, should be plunged over the rim, so that a stranger would not know they were there. It is an eye-sore to see the rim of a pot above the earth anywhere in a flower-garden, or even in a garden-basket, although many persons never think of hiding the pots in a basket of gay flowers, and so run themselves out of flowers much faster than they can get other pot-flowers to take their places.

At this point of my story, I am myself ready for plunging into the depth of my last communication, where I wrote about getting layers of *Verbenas* into small pots, for making stove-plants to get early cuttings from in the spring; after that is secured, I have a very different plan in my head, which I know will answer exceedingly well, and might be made a feature of great interest in most gardens. It is, to have permanent plants of *Verbenas*, *Petunias*, *Fuchsias*, and *Calceolarias*, and as many other kinds of like nature as one can manage to find store-room for in winter. I have seen *Calceolaria viscosissima* nine feet high, against a wall in the Botanic Garden, at Birmingham, many years since, and if it had been in a pot it might have been there to this day, by taking it in-doors for the winter, and turning it out against the wall in the spring. The pot to be plunged over the rim, the top roots which escaped over the pot to be cut away in October, and a great deal of the summer growth of the plant to be cut or pruned off at the same time; this would balance the head to the number of roots left, and make the plant manageable for tying the different shoots close together, for the accommodation of stowing away the plant for the winter.

A *Calceolaria*, four or five feet wide and ten feet high, against a wall, or wooden fence, and furnished with leaves and flowers to the ground, would be worth a little extra pains and trouble. Last year, I think, I mentioned a *Fuchsia coralina*, in the conservatory at Bank Grove, near Kingston, which was trained over the rafters full thirty feet. Then, say if this, or any other *Fuchsia*, was flat trained for a wall, so much across, and such and such heights, would it not be a splendid object to look at all the season? It might be pruned, roots and branches, like the *Calceolaria*, in October or November, and left without a leaf all the winter, when it would live in a cow-house, if nothing better was at hand. Such a plant might be tied to a ten-foot-pole in the middle of the garden, and be allowed to branch out on all sides, just like the pillar *Roses* at Bank Grove. I had the *Shrubland Rose Petunia*, for several years in succession, about seven feet high and three feet across, against a low terrace wall, and I never knew one single plant, and of so common a kind, cause so much admiration. It was the first and last plant in the garden which visitors never tired of admiring and talking about. If that plant was kept in a No. 16 or 12-pot, plunged, taken up, and pruned, root and branch, after the manner of the *Calceolaria*, it would be a young plant at this moment ten feet high, probably, with a main stem as ripe and as hard as my pen-holder, so that nobody knows how long it might last.

Look, again, at the *Shrubland Scarlet Geraniums*, from ten to fourteen feet high, in the Bishop of London's garden, and say if there is anything like them in all our gardens. The fact is, we go on, from year to year, in the self-same circle, like the exhibitors at the Great Metro-

politan Shows, and have nothing to show, or offer, but the old things, the old plans, and the old everything else, except in a few rare instances, when we find one, here and there, breaking out of the old tract; then we wonder, admire, report, make up our minds to follow, or go a-head of the rare thing; but after a few trials, and a failure or two, we fall into the old ranks again, and tell the piper to play the usual tune of "It can't be done and a' that." But now, while the spirit of our country is roused with this war, let us turn a new leaf, make new plants and plans out of old ones, and never stop till we bring the world and all Russians to the same way of thinking as ourselves. D. BEATON.

THINGS TO BE THOUGHT ABOUT IN PELARGONIUM CULTURE.

"Your directions are very good, but not explicit enough for cottage gardeners. I understand all about ripening the wood of these plants before pruning them back, and then spurting them to an inch or two from the old wood of last season—but how treat them afterwards? If I keep them dry, they shrivel; if I water them, they produce excrecences, with a dozen of gouty shoots in embryo, instead of one; if I pot them at once, into new soil, many bid me good bye. Let us have a little more of 'little matters,' if you please." Most willingly. Servants should ever be obedient in all things reasonable. Many fair ladies explain, to their own satisfaction, the meaning of the word *obey*, when used in a most important epoch of their existence; but no such latitude of meaning can be allowed to those who are honoured to be in the smallest degree the servants of the public. The difficulty, in such a case as ours, is to reconcile the ease and familiarity of the companion teacher, with the courtesy and attention of a servant—a difficulty increased, because we have frequently to guess at the wants and wishes of supporters. Enquiries of correspondents, though often involving an amount of labour little dreamed about, are, upon the whole, most useful to us, as forming an index to the wants of our readers, and need, therefore, be seldom prefaced with apology. On the other hand, enquirers, in the capacity of kind employers, should be *patient*. Few, in these days, pretend to be encyclopædists in knowledge, even as respects the whole departments of a very ramified science—and it may often be desirable, before an answer can be given to any particular enquiry, to submit that answer, or crave for evidence of similarity of view, or extended information from one known to be well versed in that particular branch of the subject. Every time, and these times are far from seldom, that I see THE COTTAGE GARDENER on the tables of some of our first gardeners, is not only a cheering fact in itself, but doubly cheering, when coupled with the consideration, that many of these would feel a pleasure in kindly pointing out an error; or in giving detailed information cheerfully, when requested to do so. Our readers, therefore, may rest satisfied, that no practice, except what is found to be *the best*, will long remain unnoticed and uncorrected, in a kindly spirit, in these pages.

The evils alluded to as respects these plants can easily be avoided by keeping clear of the systems of extremes, by acting on the advice of Father *Sun* to his fiery-headed enthusiastic boy, and thus take a middle course. It has been recommended to keep these plants exposed to the sun, and dryish, rather than otherwise, before pruning them back, in order that the wood may be consolidated before pruning. Something of a similar treatment must be persevered in until the spurs and snags break freely again. They will do this most quickly when kept slightly shaded, or in a shady place;

but the shoots will not be equally robust with those that have burst their young shoots exposed to a more direct sunlight. To obtain that desideratum, and also keep the plants dryish, but not dndst dry, two things will be greatly helpful—a frame, or pit, facing some point of the south, in which to place the plants after pruning, where they may have plenty of sun and air, and yet be defended from sudden showers. Again, the plants will be benefited by standing on the ground, or on a bed of ashes; or if on boards, with moss beneath the pots. In such circumstances, in dull weather they will imbibe almost as much moisture as they require from the bottom of the pot, and in hot, dry weather, it is much better to water the *ground* below, and the spaces between the plants, in preference to watering the plants overhead, or on the surface of the soil in the pots. After a hot, sunny day, and when the young shoots are just beginning to peep, a slight sprinkle over the stems with the syringe, just to moisten them, and hardly damp the surface of the soil, and then shutting the lights for an hour or two, and giving air for the night afterwards, will encourage the shoots to come robust and healthy. A *smallish* supply of water at the root should be given, until the young shoots have got from half-an-inch to more than an inch in length, when they should be repotted.

The cause of some of the tenderer sorts dying when potted, so soon after pruning back, is owing to the double check given to the plant, by depriving it of its foliage, and mutilating, and thus neutralizing root action at one and the same time. Sound policy points to the reverse of this, and by not potting so soon after pruning, the roots, untouched, and allowed to imbibe in the somewhat restricted mode referred to above, exert their influence in nourishing the bare spurs and stems to develop their buds and shoots, and when once these are present, then the roots have the old soil shaken from them, slightly pruned, if necessary, and transferred to a similar, or a smaller sized pot, and into lightish, rich soil, and kept rather close for a few days, until growth is freely proceeding, the young shoots will act reciprocally on the roots and cause them to elongate freely and healthily. Were the laws of reciprocity, which, in spite of all our selfishness, unite man to man in community of interest, as the above principle is recognised by all the great Geranium growers, how still more delightful would this beautiful world become!

CUTTINGS OF PELARGONIUMS.

"In the multitude of counsel, I am bewilderingly perplexed. Mr. A. says, draw drills in the open border, and there insert your cuttings, and leave them to root and take care of themselves. Mr. B. draws such drills, fills them with light, sandy compost, inserts his cuttings, and shades afterwards. Mr. C. is preparing beds by riddling and mixing nice sandy soil, and putting it over a decayed hotbed, to be surmounted with frame and sashes, that the cuttings may be kept shady and close; and Mr. D. inserts his cuttings round the sides of small pots filled half full with drainage; two-thirds of the other half being composed of sandy, gritty soil, and the whole surfaced with silver sand;—Which will be the best for me to adopt?"

Very likely all would be best; according to your treatment, your kinds, or your circumstances. For instance; suppose you can now obtain some strong, stubby shoots of Scarlet Geraniums, some three or more inches in length, and you have cut them across at the bottom at a joint, and removed one or two of the lower leaves, and allowed the base of the cutting to get hardened by exposure for a day or two, while the top of the cutting was kept a little shaded; a border prepared in the mode of A. and B., would answer very suitably, either with or without shade; the drooping of the leaves, and even the

points of shoots or cuttings, in sunshine, being of little consequence, because the juicy succulence of the cutting contains a store-house of vitality; and because that extreme succulence enables the plant to absorb about as much from the dews and the atmosphere at night as it transpires during the following day. Treated in the same way, all the stronger Pelargoniums, with well-hardened stems, and cut into pieces, from two-and-a-half to three-and-a-half inches in length, will answer admirably, with or without any shading. One advantage connected with this easy mode is, that little time is required in getting a great many cuttings put in. Its attendant drawback is, that if you do not move or pot the cuttings soon after they are struck they will soon become so vigorous, and the roots will soon run so far from home, that the young plants will be apt to receive a great check when you do move them. The same evil, however, will be apt to ensue in the plan of Mr. C., unless the cuttings are put in rather thinly, and the rooting has not extended far before the plants are either transplanted or potted. To guard against the double evil of first extra luxuriance—and then the check given to that luxuriance in moving such plants—some friends modify the plan of Mr. D., and insert their cuttings in shallow wooden or zinc boxes, in light, sandy soil, and, as they are short of room, allow them to remain in these boxes until spring, when they frequently assume a stunted appearance. However the plants are propagated, it will generally conduce to their future welfare if they are potted or transplanted into fresh material soon enough after they have rooted to prevent extra luxuriance, and to enable them to root in the fresh soil before the dark days of winter. All things considered, the hardier the treatment given to such cuttings, the more robust will be the future plant, provided that hardy roasting is not carried to such an extent as to debilitate health.

So much in general; now to the questions more definitely. All such hardy, succulent, strong-stemmed Pelargoniums will answer very well in a light, sandy border, without any preparation, and shading may be resorted to just according to your fancy, or as you wish the plants, or rather cuttings, to look fresh all the time, or you are satisfied with the mere good ulterior result, thinking more of that than of the gradations to be passed through. But in all cases where the soil is heavy and strong, and, it may be, rich, if the border cannot be wholly surfaced, it is very desirable to draw shallow drills, and to fill these with light, sandy soil from the side of the highway, or equal parts of loam, sand, and leaf-mould. The reasons for this practice are these: roots form more readily; these, when formed, are not so much tempted to descend deep in search of nourishment, so that you escape the consequences of extra luxuriance and the checks that must be given; and thus encouraged to ramify nearer home, the plants are much easier taken up with small balls, or, at least, with nourishing matter adhering to the roots. But, then, supposing that I had a few kinds rather tender, or a few sorts, novel or scarce, I would as soon think of slying as inserting such cuttings, either in such prepared borders, or even in such beds, as practised by C. I would have some pots, some three to five inches in diameter, filled as mentioned above, and close to the sides of these pots, leaving enough of room for the cuttings not greatly to touch each other, I would place them as neatly and firmly as possible, and just on the principle frequently referred to, that the resistance given to the expansion of the cutting by the sides of the pot would cause roots sooner to be produced; and because, leaving the centre of the pot unoccupied is so far a security against extremes of extra dryness or extra damp. All young beginners in propagating may rest assured that small pots will suit their purpose best, as thus, many cuttings

may be placed in small space, without inserting any in rows in the centre of the pot. The only plan by which large pots, or even pans, may be so used, without much disadvantage, is when the vessels are either so shallow, or the hard drainage so high, that the base of the cutting next to rests upon the porous drainage; but even then, the advantage is not so great as when not only the base is near the drainage, but part of the side, or stem of the cutting presses against the sides of the pot.

“Supposing I strike my Pelargoniums in pots, where am I to set them, especially the more tender and small kinds, such as the fancies? Mr. E. places his in a mild hotbed, but vast numbers of the fancy kinds damp off. Mr. F. keeps his in a cool frame, and many of his seem to spirit themselves away into their primitive elements, as they cannot be seen by material vision. In one case, the little things damp off; in the other, they skeleton themselves off, or leave not a vestige of their sweet selves.”

I have previously alluded to the danger of over-dampness. For some time after the cuttings are inserted they should be gently dewed instead of being watered. Little even of this will be required, where there is enough of organisable matter in the stem to keep up the processes of vitality without any assistance from the old leaves. In that case, air all night, and a little during the day, with just enough of shade to prevent shrivelling, will be nearly all the cuttings will require. In hot, dry weather, the ground should be watered instead of the cutting, and the action of dewing from the syringe be chiefly deferred until the young buds are leaving somewhat freely. But when, as in the case of a slender-growing, beautiful, fancy kind, the stems are neither very numerous, nor very strong, nor very well ripened, and yet you wish to make the most of them, after cutting up your stems into pieces containing two or three joints, and removing the leaves from the lower ones, *quick* success will greatly depend on keeping the foliage left as long as possible in a healthy state, and that healthiness will be greatly owing to keeping the soil, during that period, dryish rather than damp; forcing (by means of shade, &c., and yet a free current of air,) the cuttings to absorb moisture from the atmosphere by which they are surrounded, rather than from the soil in which they were inserted.

Then the question of a hotbed, or a cold-bed, or frame, is quite a relative affair, according to the time the cuttings are made. During the month of August, no artificial heat will be wanted to strike the tenderest and weakest even of the fancies. All that are put in for the first three weeks of that month will do better if they never have anything but a cold frame or pit; little water when striking; plenty of air at night; closer, but not without air in sunshine, but shade them, to prevent rapid evaporation. If I could not get such cuttings of the tenderer, and weaker-growing fancies, until the first or second week in September, to ensure their rooting freely, before winter, I would advise keeping them in a cold frame or pit, as advised above, for three or four weeks, and then plunge the pots in which they were inserted into a slight sweet hotbed, the surface of which was covered with dry ashes, saw-dust, or dry sand, and the top of the cutting kept cool and dry by air being left on night and day. As soon as roots were making freely, the pots should be elevated out of the plunging medium, and the plants hardened off by degrees. Such plants, even after this labour, are not to be so much depended on as those struck early without any coddling. A hint to the wise should, therefore, be sufficient. Similar modes of action will apply to most of the things usually propagated at this season.

R. FISHER.

WOODS AND FORESTS.

THE OAK.

(Continued from page 258.)

At page 258, we left the young plantation, or forest of Oaks, thinned out to eight feet apart, and supposed to be all young, vigorously-growing trees, probably from eight to ten feet high.

It now becomes a question whether there is to be any underwood, or are the Oaks to be the only crop. The large plantations of the Oak, at Welbeck, have no underwood; and I agree with Mr. Robson, that it is much more practical and wise to let the forest be a forest, and the coppice a coppice (this latter is a place in which are grown rods, stakes, hop-poles, &c.), keeping the two quite distinct. In this I am borne out by the Duke of Portland's practice. He would have no underwood in his plantations; and where it is grown, or permitted to grow, the gamekeeper puts in his verdict that it is necessary, as a protection to the game; the hare and the pheasant. Now, I am no sportsman, as will be evident, when I say I wish there was no game allowed to exist at all. There has been more bloodshed and ill will engendered by the game than all the game is or has been worth. I fear, however, that the pleasure or excitement of shooting game will, for generations to come, prevent the repeal of the game laws, and, therefore, let the keeper have his cover of underwood, but let it be by itself, separate from the timber-growing plantations.

In the National Woods and Forests this consideration about game need not, of course, enter a moment into the forester's mind. He is appointed and placed there to produce, as quickly as possible, good Oak timber, and not hares and rabbits. These he ought to have positive orders and ample powers to destroy, to prevent them from barking and cropping the young trees. It is in these forests that my system of sowing acorns, transplanting seedlings, keeping them regularly thinned year by year, and clear from choking weeds and overtopping underwood, could be carried out in a regular, certain, and clock-like system, so that a crop of good, sound timber would be as certain to be produced as our excellent coadjutor, Mr. Robson, could produce his crop of Asparagus or Peas; only, instead of two or three years for the Asparagus, and a few months for the Peas, our Oaks would require at least a hundred years before the main crop could be gathered. Though that is quite true, ought we to be at a stand still and say, "I will not plant for generations to come." Who will be so hardy as to say this? But though it is not said, yet it amounts to the same thing, if the woods are mis-managed so that the timber, instead of increasing in value and producing a fair return, is yearly growing like the cow's tail, downwards; that is, becoming of less value every year. Let these woods that belong to the nation be fairly examined by competent men; their state reported truly; and the needful operations adopted which are required to put them into a progressing and repaying condition, though it may be a hundred years hence; and then, the best method of growing timber, whether of the Oak or any other tree, might be exemplified; and the question I started with, whether it is desirable to have the forest clothed with undergrowth or not, answered practically and demonstratively.

I have mentioned the Oak plantations at Welbeck as being examples of the successful raising of trees from the acorn. No doubt, there are many others in the kingdom, and even some in the national forests. Those at Welbeck have no nurse trees nor underwood, but there the soil is good, and the situation sheltered by older plantations of Oak trees, and the underwood is formed by the Oak itself, previously to the thinning operation. By being so thick, the trees are drawn up with straight stems, to afford good plank timber. The

only thing that struck me as being difficult in this matter, is the exact time when the most profitable time for thinning should take place, assuming that the sowing method is the best, and that the Oak should be its own nurse. To solve this question requires considerable thought and experience. I have thinned woods that have been planted when the branches just began to interlace each other; and that, I am pretty sure, will be found a good principle to act upon as a guide; and with regard to underwood, I would, most decidedly, banish it from the Oak forest, even when young. In very exposed places, I would plant a belt or strip of the Scotch Pine, and the Spruce Fir, in preference to any other, but, in all situations, already sheltered, I would use no nurse trees at all.

T. APPLEBY.

(To be continued.)

BIRMINGHAM HORTICULTURAL EXHIBITION.

On Thursday, the 10th inst., I had the pleasure of witnessing an Horticultural Exhibition in the Botanic Gardens, at Birmingham. I was so much gratified with it, that I took a few notes on some of the leading points, and will write them for THE COTTAGE GARDENER, and hope my remarks may be useful. These beautiful gardens I have mentioned and described lately, and, therefore, I need only say, that they were, on this occasion, in very good order, notwithstanding the unavoidable derangement they suffered from the influx of upwards of four thousand of the working classes on the Monday previous. I would also observe, that gardens like these are by far the most proper place for an exhibition of this kind,—far superior to a room, however large. The day was fine and the company numerous and respectable. In consequence of the fineness of the day, the ladies graced the grounds with their presence in the gayest of dresses, and in all the colours of the rainbow, looking healthy and happy, and enjoying the sight provided for them by the exhibitors, as well as the adjuncts of the music and the scenery around. At the time when the garden was the fullest of company, I stood on the noble terrace walk in front of the conservatories. Directly in front, the ground falls rapidly, and then rises again, forming a valley clothed with the softest and greenest turf. In the centre of this valley an excellent brass band was placed, and a host of garden chairs set in irregular masses around them. These seats were, as soon as the band commenced playing, immediately occupied by the company. The scene, then, was really very pleasing; the sun gently shining, a summer breeze sweetly blowing, the band sending forth sweet strains of music, and the gay company listening and enjoying it, altogether forming one of those happy combinations of pleasurable sensations that one can only see and enjoy on such occasions.

The horticultural and floral productions were exhibited in tents, in a retired part of the garden, and the show was, upon the whole, a very respectable one. At this season of the year, stove and greenhouse plants are generally out of bloom, therefore it is the more creditable to the exhibitors when they bring so goodly a number of plants in bloom as they did on this occasion. I will briefly notice a few of the most striking and best grown specimens.

In *Orchidaceous plants*, a good specimen of *Saccobium Blumei major*, with two fine spikes, came from A. Kenrick, Esq., who lives near here, and has a very large and select collection of these singularly beautiful plants; also *Stanhopea oculata*, with many spikes of its curiously spotted flowers, and a specimen of the rare *Aerides flavum*, a pale yellow-flowered species, very rarely seen.

I. Wilmore, Esq., sent a good plant of *Aerides quinquevulnerum*, with six spikes of its beautiful, fine, spotted flowers; also from the same gentleman there was a good *Allamanda cathartica*, and a fine pot of *Tritonia aurea*, one of the best August-flowering greenhouse plants we possess, though but seldom seen in gardens round London. It is a bulbous plant, producing tall, branched spikes of bright orange blossoms. A noble plant of the rarely seen *Hacmanthus puniceus*, came from the gardens of Sir F. Scott, Bart., and had on it six large heads of orange-scarlet flowers, and was sent by J. Radeliff, Esq., a zealous cultivator of plants close to the Botanic Gardens. He sent also some noble pets of *Japan Lilies*, six feet high, and four feet through, with hundreds of noble flowers upon them.

There was, also, a fine specimen of the pretty *Hoya bella*, with upwards of fifty heads of its beautiful blooms. The plant had been a drooping one, but a few days previously had been trained to a shield trellis, which caused the flowers to face the spectator, and thus fully exposed their beauty. It came from A. Kenrick, Esq.

Heaths were, for a country show, mustered pretty numerously. The gem of the whole was a small plant, nine inches high and as much through, of *Erica Webbiana*. It was densely covered with rosy-coloured tubular blossoms. *Fuchsias* were plentiful and well-grown. The best were *Nil desperandum*, a dark one, and *Duchess of Lancaster*, a light one. *Florists' Flowers* were rather scanty in number, excepting *Verbenas* in pots. The time of the exhibition was rather early for *Dahlias*, and late for *Carnations* and *Pieoteos*.

FRUITS were shown in good order. *Grapes*, black and white, well ripened, and a good colour, both in bunch and berry. There was a remarkably new variety named *Champion*, from S. F. Scott, Esq. The berries are globular, larger than *Hamburgs*, thin skinned, and juicy. It is a desirable variety. *Peaches* and *Nectarines*: Of these fruits there were eight dishes, in fair order. *Royal George* Peach took the first prize; and *Red Roman* Nectarines the other. *Plums* and *Cherries* were very fair fruit. *Blue Gage* Plum was the best; and the *Black Circassian* the best cherry. *Strawberries* were very fine, equal to any I ever saw at the Metropolitan Shows. *Myatt's Eleanor* was the first, and *Elton* the second. The bush fruit was excellent. Finer *Gooseberries*, *Currants*, and *Raspberries*, I never saw.

VEGETABLES.—This Society gives many and liberal prizes for these useful products of the garden; and the consequence is, they have excellent specimens brought to the exhibition. *Potatoes*, as being the most important of all vegetables, took my first attention. There were a great number of examples of the *Fluke*, a newish variety, said never to be diseased. Of this variety there were some beautiful specimens, though not quite ripe. The *Lapstone Kidney* took the first prize; and a fine potato it is.

Peas.—This excellent vegetable, which everybody likes, was shewn in good order for cooking; young, green, and sweet. The best was *Champion of England*, and *Hair's Green Marrow*. *Celery*, very good, well blanched and large, and very solid. Remarkably good for so early in the season. *Cauliflowers*, *Turnips*, *Carrots*, *Lettuces*, *Beans*, and *Artichokes*, were all excellent.

By the above account, it will be seen that this exhibition was rather above the average of merit; showing that the spirit of emulation is abroad amongst the gardeners at Birmingham, exciting them to be on a continual strive to excel in all the products of the garden. The eye accustomed to the great exhibitions near the metropolis may, perhaps, look upon these provincial shows with something like contempt; but to the rightly judging mind, they present the idea of a young, thriving, vigorous tree, not yet in full bearing; when time and experience has given strength, it

may be prognosticated that they will in time rival such as have been long established and more fully developed
T. APPELBY.

SEASONABLE DOINGS IN THE KITCHEN-GARDEN.

ALTHOUGH the preparations of another year may be traced back, in some works, to pretty near the beginning of the present one, it was not until recently that the duty becomes the very important one of the time; for whatever we now sow or plant is for another year; and whatever cultivation be now entered into is for that purpose likewise. Some routine work, in the way of keeping things in order, being all that is now done which has not reference to the future time. Now, as the season has so far advanced as to make it prudent to plant certain crops which are wanted at a certain time, the cultivator must not wait too long for that change of weather which he regards as so beautiful to the planting of his favourite crops; for, notwithstanding the heavy dews with which September abounds, it frequently happens that a longer period of dry weather occurs at this season than at any other. I mean that steady, fine, settled, dry weather which is rarely disturbed by wind or cloud; not very hot, certainly, for that is more likely to bring rain, but autumnal dry days, and nights still more so, in which a lighted candle might be carried for miles out-of-doors without the danger of blowing out. This is not the best for planting in; still, it must be done in some cases; for the time having arrived, and the seedlings taking harm in their present abode, it is not always prudent to wait for that change of weather the planter wishes. *Lettuce*, *Endive*, and the first batch of *Cabbage* or *Coleworts*, will all want planting now, and they must not be neglected because the weather is dry. Watering the ground at the time of planting is generally sufficient, or, if the drought continues, this must be repeated, so as to ensure the plants growing; but, do not by any means over-do this work, for the wet-soddened condition which in some ground is caused by a too copious application of cold rain-water, is anything but beneficial to the plants compelled to endure it; in fact, it may, perhaps, be the worst extreme. Usually, if the roots of a plant reach downwards, as much as four inches, and the tip ends be not so injured as to be useless, they will withdraw sufficient moisture at that depth to serve their purpose, provided the ground be watered at the time of planting. However, as much depends on circumstances, it is only advisable here to caution the inexperienced against too much watering, and again to warn them not to wait too long for that rainy day they are so anxious to secure as a planting-out one.

It would, also, be advisable now to sow a little more of the *Hardy-Green-Hammersmith Lettuce*, and of *Brown* and *Green Coss*, of a good sort; the former being certainly the hardiest. About the first of September will also be a suitable time to sow the principal supply of *Cauliflower*, but more directions that way will be given. *Small salading*, of course, will be sown as wanted; but after this time, it is better in pans or boxes, or in some way or other under glass, as the slow progress it makes out-of-doors renders it tedious that way now.

Herbs of various kinds will also want gathering and drying, the latter process being sometimes done in the kitchen, but when done at home, let them be gradually dried in the shade, and tied up in small parcels; if dried in the sun, the herbage gets so brittle as to break all in pieces, and is thereby deteriorated.

Keep all places neat and clean, removing crops as soon as they are no longer useful, and attending to others that are advancing. Thin and stop *Tomatoes*,

and expose the fruit to the action of the sun by pinching the intervening leaves off, and let the whole wear that air of neatness and order without which a good article loses half its value, while an indifferent one is rendered worse. And while attending to general appearances for the present, do not forget, the principal duties, from this time forward are, "preparing for another year."

J. ROBSON.

SAWBRIDGEWORTH NURSERIES.

(Continued from page 383.)

WE now continue our observations on the SAWBRIDGEWORTH NURSERIES, for which our space was too limited to enable us to complete them in our last.

One of the first impressions which strikes the visitor to this establishment is the very business-like air which it presents. Everything is produced in such quantities as to give one the idea of a large manufactory, which, in fact, it really is; and this is the secret of success, when the article manufactured is in accordance with the taste and requirements of the age. Thus it is that here we see no old, overgrown, and unsaleable stock, which, we regret to say, is too frequently the case in similar establishments; and on the whole eighty acres, we feel safe in asserting, that there is not anything which is intended for sale that is unsaleable. The concluding remarks in our last notice were occupied with the ornamental trees and shrubs; we shall now proceed, as we there stated, to make a few observations on the Fruit-tree department.

For many years *Roses* were the leading features in the Sawbridgeworth Nurseries, and, although their cultivation is still continued, we think it is far outdone by that of the *Fruit Trees*; and in considering this part of the subject, we shall, like the divines, divide it into heads, though not to the same infinitesimal division which those gentlemen of the seventeenth century were wont to reduce their subjects. We shall consider, I. Fruit Trees, as they are cultivated for sale; II. As they are cultivated for Orcharding; III. As they are cultivated for observation; and IV. As they are cultivated under glass.

I. *Fruit Trees, as they are cultivated for Sale.*—We shall not pretend to say how many varieties are grown for this purpose, but we know that there are enough to supply the wants, tastes, and fancies of everybody, and suitable to all soils and climates. We frequently hear those who do not know any better, complaining of the great number of varieties which are enumerated in nurserymen's catalogues. They say, "Why grow such a number? A dozen good Apples, and as many of Pears, with two or three sorts of good Plums and Cherries, are all that are requisite for any garden." But these sort of people only consider their own taste, and their own situation and soil. They may like briskly-flavoured Apples, and a musky-flavoured Pear, whilst others prefer a sweet Apple, and consider the musky flavour of the Pear offensive. Some, again, would reject all of these, and give the preference to an Apple with that peculiar balsamic aroma which is distinguishable in the *Margaret*, and *Early Julien*, and to a Pear with a delicate rose-water flavour. Besides the flavour, the adaptability to soils and climates is to be considered; fruits that succeed to perfection in the warm, loamy soils of Devonshire, would canker and die in the cold soil and climate of Herefordshire, and both are famed orchard counties. The first-rate fruits of the midland counties, if grown in the south, would be regarded as second or third rate; and those of Scotland are, when cultivated in the south, many of them positively worthless. And, again, there are prejudices to be contended with. In the days of our boyhood, there grew in the corner of our paternal orchard a patriarchal Pear-tree, the axis of whose trunk leant with an angle, like the tower at Pisa, and its long giant arms stretched out and away to such a distance, and with such an inclination to the ground, that massive props were necessary, lest the rude winter's blast should rend them. Its form is daguerreotyped on our mind, and its fruit is familiar to our taste, and we fancy there never was such a Pear as that. Years pass away, and after

being buffeted about on the billows of this turbulent world, we calmly settle down to enjoy the evening of our days, before the night cometh. We recall to mind the old tree, and its pleasant fruit, all the pleasanter, perhaps, because it was forbidden; and can it be wondered at, that we should have a prejudice in favour of that tree, and that we should long to possess one of the same? When all these points are considered, the "dozen good sorts" would fall far short of what would be required of them. There is, therefore, in Mr. Rivers's establishment, such a choice as will satisfy the wants of all. And they may be had in all forms and sizes; dwarfs for gardens, standards for orchards, and trained for walls. Mr. Rivers is most indefatigable in overcoming the obstacles arising from his soil and situation; trained Peaches and Nectarines, which, in the warm, loamy soils in the neighbourhood of London, are produced in the open ground by training them to stakes, or temporary trellises, would not succeed if so managed at Sawbridgeworth, the soil being of such a nature as prevents the timely ripening of the young wood; but this difficulty is overcome by the erection of an immense number of dwarf brick walls, four feet high, four-inches-and-a-half thick, and supported by piers at convenient distance, and running parallel to each other, at distances of six feet apart. The young trees are trained against these walls, and produce as fine and healthy growths, with well-ripened shoots, as can be desired; no expense being spared where the object in view can be attained. We observed a large stock of Apples grafted on the Paradise, which is well known to possess the property of rendering these trees of a dwarf habit of growth, and of causing them to produce fruit much earlier than when worked on the Crab. Pears on Quince stocks are also grown to a large extent, particularly some varieties which are in greater demand than others. We were much pleased to see Mr. Rivers had given his attention to one variety in particular, which is little known in this country, and of which he has a large quantity on the quince stock. It is *Colmar d'été*, or, as it is sometimes called, *Poire Claf*. It is a most delicious, early Pear, ripening in September, and possesses the unusual property of most early Pears, of keeping well for three or four weeks after being gathered. The tree is a very vigorous grower, forms a most beautiful pyramid, and bears abundantly. We would recommend those of our readers who are not acquainted with this variety to "make a note of it." We must not omit to mention, before we close this part of our subject, our astonishment at the facility with which the Vine is cultivated in this nursery, and the luxuriance with which it grows in that part of the ground which is composed of pure calcareous sand—literally sand, where nothing else will grow, and where, for years, nothing was attempted to be grown. Mr. Rivers, however, discovered that the Vine luxuriated in such a spot, and now this pit, for literally it was a pit, has had its sides levelled down, and appropriated as a nursery for Vines. We never recollect seeing Vines growing with such vigour, not even in the Vineyards of France, the Moselle, or the Rhine. We are almost afraid to say the length to which they will grow; but we think Mr. Rivers said *Black Hamburgh* would make twenty feet in one season. One part of this great pit has been covered with glass, and some of the Vines introduced; where, without any fire-heat or artificial borders, they produce an abundance of large, finely-coloured, and well-flavoured fruit.

II. *Fruit Trees, as they are cultivated for Orcharding.*—We have, on several occasions, urged in the pages of this journal a more extensive and judicious planting of orchards throughout the country than has for many years past been practised. We have shown how such may be done without sacrificing large breadths of ground, and how, if done judiciously, it may be rendered highly profitable. Mr. Rivers has done so on a large scale. Almost the whole extent of what may be called the open ground is laid out in such a manner, as that at a distance of 120 feet there is a row of orchard-trees, the space between them being employed for the ordinary nursery purposes. Some, who have not seen this system of orcharding, will fancy to themselves all sorts of objections, such as roots spreading to neighbouring crops, branches shading, and causing a "drip," and ever so much valuable ground wasted. But the very reverse is the

ease. The fruits most extensively grown are Pears and Plums. The Pears are all grafted on the Quince, and the Plums are selected of such sorts as preserve a compact and handsome pyramidal habit of growth, while the quality and properties of the fruit are not lost sight of. These trees are not left to themselves, as in most orchards, but are as carefully tended as a wall-tree; their branches and roots being seasonably and properly pruned. The result of such management is, that they may be said to occupy no more space than a well-managed hedge, and they assist in supplying shelter as a hedge usually does. In the judicious selection of fruits for this system of cultivation, two objects should be kept in view—either to have them very early, or very late. Hitherto, the very early and very late varieties of fruits cultivated in this country have, with a few exceptions, been of a very ordinary character. But since more attention has been devoted to raising new varieties of superior excellence possessing these properties, we have now no excuse for continuing the cultivation of any except what are really good. Among the PEARS, there are 2,000 trees of *Louise Bonne of Jersey* grafted on the Quince. Had these been on the Pear-stock, and planted in the same soil as they are now, they would, in all probability, have been dead long ago; but they are the very picture of health and vigour, and when the spring frosts do not destroy the bloom they bear most abundantly. Here and there, we observed one tree showing symptoms of “the yellows;” but this is remedied by digging a trench about it, and raising the roots a little higher towards the surface, afterwards applying a slight top-dressing. We saw several which had been treated in this way, and with the most perfect success. The *Beurré de Capiaumont* is another variety which is grown to a great extent, and here it succeeds to perfection, exhibiting that particularly beautiful colour which has obtained for it, on the continent, the name of *Aurore*. The trees, in fruit years, produce immense crops, and we think Mr. Rivers stated, that one season he received, from his salesman in Covent-garden, £200 for the produce of these trees alone—so much for judicious planting. Another variety which Mr. Rivers had planted largely is *Beurré d'Analis*, a large, melting, and richly-flavoured Pear, ripe in September. This is one of the new introductions which cannot be too extensively planted, as there can be little doubt but that it will become as universal a favourite as *Williams' Bon Chrétien*, with which it is in season, but continues in use rather longer. The sorts of PLUMS are such as are very early and very late. The earliest is a seedling of Mr. Rivers's own, raised some years ago, and is called *Rivers's Early Prolific*; and it is both very early and very prolific. We saw five hundred trees of this variety literally studded with fruit in this fruitless season; all the others being quite bare. This to the orchardist is a very valuable acquisition. It ripens in the last week in July, is of good size, and of a fine dark purple colour, similar to the *Precoce de Tours*, from which it was raised. The *Diamond* is also grown pretty largely, there being one hundred trees coming into bearing. This is one of the most valuable Plums for preserving; of a large size, and dark purple colour. *Coe's Late Red* is another of Mr. Rivers's favourite orchard varieties, and of this there are one hundred trees. *Reine Claude de Bavay* is grown to the same extent. This is a very late variety of Greengage, also valuable, in this respect, to the orchardist. *St. Martin's Quetsche*, a very valuable late Plum, is grown to the extent of five hundred trees. It is a beautiful and handsome pyramidal tree. *Late Orleans*, ripening in October, is another excellent variety for orchard culture, and is grown extensively. And the *Frost Gage*, of which there is a large plantation, promises to be very valuable. It hangs on the tree till the end of October, or, in fact, till the frosts—hence its name.

Again we find our space exhausted, and must, therefore, leave the remaining portion of our observations till next week.

R. H.

(To be continued.)

NOMENCLATURE OF POULTRY.

PERMIT me to say a few words on this subject. Doubtless, my former papers on “Poland versus Hamburg,” published

some time back in THE COTTAGE GARDENER, are not altogether forgotten; and though I have no wish to renew that controversy, still, I beg leave to express my full conviction in what I then stated, and since that time I have endeavoured to trace the origin of the so-called Polands, and I feel still more convinced that the old Polands and the Hamburgs (or “Bearded Polands”) are of distinct origin. I give the following as the most probable history of each:—

First—The old Polands are supposed to be descended from the St. Jago fowl, brought by the Spaniards from some of their western possessions, and by them they were introduced into the other countries of Europe, but they are now nearly extinct. The name Poland, I believe, is a corruption of *Polled-hen*, or of some Spanish word or words having a like meaning. There were two distinct varieties of colour, the one being white with a black topknot, the other black with a white topknot; a third is often noticed, the spangled, a red or yellowish fowl with white topknot, and the body spangled with white, but I rather have my doubts as to the purity of this last; the two first are, however, true, and when pure have neither *comb* nor *beard*.

Secondly—The Hamburg (or “Bearded Polish”) is, without doubt, the offspring of Aldrovands Paduan fowls, so called from the town and legation of Austrian Italy, where they were bred. It is the same as is described by Albin, in 1736, as brought by our merchants from Hamburg. Buffon also describes this fowl by the name of “The Hamburg cock, or Velvet breeches.” These fowls had a topknot, but fronted by a small comb, and were almost always bearded or muffed. This breed is common in Germany; their prevailing plumage is golden or silver-pheasanted; that is, the feathers are tipped with glossy black, but there are now many other varieties of various colours, which no doubt owe their origin to crosses with other fowls. Perhaps it may be said that their topknots are rather larger than the originals, but this is the effect of careful breeding and selection; perhaps, also, to some slight cross of Poland blood.

I think I have said enough to prove their difference, if not distinctness; if I am wrong, I shall feel obliged by any one setting me right—still, I feel at present convinced that if my opponents will take the trouble to search, they will find I am not in error, nor have I too hastily formed an opinion. The name of Poland is, at its best, incorrect, consequently, I rejoice to see that the Dublin Amateur Society have dropped that title, and that they also, in some way, retain the name of Hamburgs for the bearded and tufted birds. “W. W.’s” objection, on the ground of uniformity, is, I think, not sufficient. Admitting that uniformity is very desirable, I ask, is it not much more desirable to have an uniform *correct* nomenclature? I do not, for myself, incline to perpetuate an error because it is fashionable; nor do I consider it likely to be permanent if founded on an error, which must sooner or later be exploded in the present advancing state of poultry literature, and the longer it is deferred, the greater will be the confusion.

The fowls now often called “Hamburgs” or “Hambros” are not really such. A few may have been brought from Hamburg, but so they have from Spain, Turkey, and other countries. Holland is the country we have had most of them from, whence they received the name of “Pencilled Dutch Every-day-layers,” but they have long been extensively bred in England. In the midland counties they are called “Bolton Bays” and “Greys;” in the north, “Chitteprats;” and southwards, as also in Ireland, “Dutch Pencilled fowls.” What right, then, I ask, have these birds to the name of Hamburgs? The Golden and Silver Pheasant-fowls are, from all accounts, an English variety, and, whatever their relation to the pencilled birds, they can have no right whatever to be called Hamburgs. The name, “Pheasant-fowl,” has been objected to, because some ignorant people suppose they are so crossed; but then it is easy to correct such ignorance by reason, without giving a false name to a breed of poultry; and do what one will, some people will still have odd fancies. In this respect, I am pleased to find that other poultry committees, besides The Dublin Amateurs Society, still adhere to the correct names, and I trust the truth will soon be more widely diffused.

There is yet one other error in poultry nomenclature that requires correction, an error which causes much confusion. I allude to the name of “Dorking,” as applied to the im-

proved Sussex or Surrey fowls, improperly called "Coloured Dorkings." Now, may I be allowed to ask two questions? First, why was one of our breeds of fowls called Dorkings? This finds a ready answer, because they were bred at Dorking, in Surrey, and there gained great notoriety. We must bear in mind that a Dorking may be a Surrey fowl, but not every Surrey a Dorking. Let us, then, enquire what sort of a fowl the Dorking is, or was? By careful enquiry it will be found to be a plump, rose-combed, white fowl, with short legs and five claws. This, then, is the true and only Dorking. It was bred in *Dorking*. Where the inhabitants of that town obtained their original stock is not the question; the fact is, they are the fowls bred there, with which the Romans had nothing to do.

The so-called "Coloured Dorking" derives its origin from the old Sussex fowl. These may or may not be originally of Roman descent, but certain it is they are not Dorkings. The improved Sussex or Surrey fowls are of this old Sussex breed, bred to the Dorking standard, in form of breast, toes, &c., but their breeders deny any cross with the true or old Dorkings; therefore, I ask, what right have they to the name? None, I say, and the sooner it is disused the better. Every breeder of them knows how prone they are to produce chickens without the fifth toe, but this is a distinctive mark of a pure Dorking; but it is not every five-toed fowl that is a Dorking; there are many others that have that appendage.

I think it is worth the notice of poultry committees that these fowls should not be called Dorkings, but Sussex, or Surrey fowls. Colour, comb, or toes are no criterion of the breed. This being the farmer's breed, the sooner these absurdities are forgotten the better;—a large breast and short white legs should be their guide.—B. P. BRENT, *Bessel's Green, near Seven Oaks*.

VIEUSSEUXIA GLAUCOPIS.

(IRIS PAVONIA, OR PEACOCK-IRIS OF THE TRADE.)

"S'il ya une plante celeste, ce'st elle," were the words applied to this beautiful little flowering Iris, by M. L. Van Houtte, of Ghent, in one of his catalogues, and well were the words applied, for it is one of the chastest, prettiest, and most prim-looking of little plants that I have seen, when in bloom. Its grass-like foliage is prettily ribbed, and is easily distinguishable from that of other plants, whilst its flower-spikes and spathes have something *tres distingue* about them, and when they expand their first blooms, of which there are several in the same spathe, all florists who have a knowledge of French, and see it, will be inclined to enter into M. L. Van Houtte's line of thought, and say as he did—"If there's a celestial plant, that's it."

This plant is by no means scarce, although not so generally known as it deserves to be. There are quantities of them grown in the Channel Islands, and sent to the London markets annually. And it has become so common with some of the London seedsmen, that they have taken the liberty of creating a new variety, under the name of *Iris pavonia major*, out of the original one (which is, *par excellence*, a much stronger grower, and freer bloomer than the original one), although it is identically the same thing, with the exception of its being a better article of sale, with the word *major* attached to its name. So much for the name of a plant.

It is an easy plant to grow. The treatment Mr. D. Beaton recommended for growing *Sparaxis* and *Ixias* in pots, is applicable to it. Or this plan may be adopted. Growing it in small pots in light, sandy soil, during the winter, and potting it into a larger pot in a richer soil, with good drainage, early in the spring, keeping the pots plunged in ashes, and sparingly watered during the winter months, until the roots are made, and the foliage begins to grow, when it will require to be more abundantly supplied with moisture. The spathes of flowers are produced, and their pretty florets expand, showing its contrasted starch-white and brilliant blue colours in happy contrast, and to great perfection. Six roots planted in a 60-pot, and shifted from that to a 32-sized one for blooming, I have had the gratification to find do well, and please the fancy of the most fastidious.

I grow them in beds in the open air, where they thrive luxuriantly. They require a light soil, and protection from the severest frosts. I plant the rows six inches apart, and the bulbs four inches deep, and three inches from one another in the rows.

The proper season for planting them is September or October, and their season of blooming May and June.

I find that Mrs. Loudon agrees with Mr. Beaton in stating that the true *Peacock Iris* is not this variety, so generally sold under that name; and I take the liberty of linking my opinion unto theirs; but, whilst declaiming against the trade for making such a mistake, would be inclined to overlook their fallibility in this particular, provided they always sent out such pretty flowering plants as this under "good selling names." "There are correct names, and selling names." The name of *Peacock Iris* is certainly a pleasing one, and conveys to the mind pleasing thoughts of great and contrasted beauty, but I cannot help thinking the individual who first named the (*major*) variety, deserves to be snubbed, for endeavouring to increase the confusion already existing in the nomenclature of bulbs, for a secular purpose.—C. B. S., *Jersey*.

FOWLS.*

A SECOND edition of the above work has been published by Mr. Baily, in which the various details of poultry matters are brought down to the present day. The character of the previous edition has been preserved, which necessarily limits the space allotted to the several varieties, but the leading features and characteristics are admirably set forth, and a valuable epitome of poultry excellence is thus formed.

Shanghaes, in their several colours, are most impartially commented on by Mr. Baily, though we must confess our inability to accede to his opinions relative to the specific distinctions of the "Brahma Pootra," or, as we should term it, the "Grey Shanghae." His views, however, are very far from being dogmatically set forth, and even those persons who would be adverse to his conclusions, cannot but assent to the principle on which his observations are grounded.

Careful, unbiassed enquiry, we have long been convinced, will do more for the acquisition of knowledge, in both the Natural History and domestic capabilities of the inmates of our poultry-yards, than will ever be attainable by the means that disputants on this subject are too fond of having recourse to.

In speaking of Spangled Hamburgs, we are glad to find the author upholding "the fully developed dark tail," to the exclusion of the "henny" bird, the more perfect spangling of the latter having always, in our opinion, been too dearly purchased by the absence of the well-plumed tail. Another mooted point, in respect of Poland fowls, viz., the colour of the crest of the Spangled variety, is well disposed of in the following sentence:—"Some admit white feathers, indeed prefer them; others would consider them a grievous fault. I hold with the latter. I have seen Spangled birds with pure white topknots, and they were very handsome, but I still think they should be entirely of the same colour as the fowls; every feather should be laced like those of a Sebright Bantam, though I admit it will be impossible to get them quite so distinct."

A fresh chapter treats of "Ptarmigan," and other fowls newly introduced, or less commonly known; the specific distinctness of the former being prudently left an open question. "Andalusians" receive their due award of praise, and the "Rangoons," a sub-variety of the Malay fowl, are recommended on the score of size.

The present edition concludes with a chapter on "Exhibition Fowls," in which the various points of excellence in the different breeds are concisely stated. This is surely a step in the right direction; and although, to form the poultry judge's text-book, some further additions may be thought necessary, this summary of the merits and defects must, at least, tend to simplify present complications, and avoid those frequent contradictory decisions that now exercise so unfavourable an influence at many of our exhibitions.

* Fowls. By John Baily. Henningham and Hollis, London.

To gain general assent for a common standard of excellence in so numerous a list as the poultry-yard now affords, cannot, indeed, be regarded as an easy task. But, viewed in its most difficult aspect, there is surely nothing to deter from the attempt; and so general is this impression, that, before long, tabular statements of this character must be adopted at all meetings of importance. The judge, that often-times most-unjustly-reviled individual, will thus be enabled to discharge his duties with far greater confidence and consequent accuracy, than when trusting solely to his own individual opinion; and his decisions, by parity of reasoning, must, also, in the same degree, prove not merely more satisfactory to the Society and its exhibitors, but far better calculated for the guidance and instruction of the public.

Judges, their number and selection, and the system on which these adjudications should be made, are the subjects that at present may be considered as most imperatively requiring the consideration of all who are interested in the well-doing of Poultry Societies. Suggestions, therefore, on such topics, will always meet with our immediate attention.

PROTRUSION OF THE EGG-PASSAGE.

IN a recent number of THE COTTAGE GARDENER, I see a case in the Poultry department mentioned by Mr. Tegetmeier, of which case he states, that he had not seen a parallel; therefore I put mine on record.

In the early part of July one of my Minorca hens, in laying, protruded the egg-passage, containing the egg. In her violent efforts to rid herself of her load the membrane ruptured whilst protruded, and immediately the egg passed through the slit. The poor creature presented a most pitiable appearance; head drooping; wings almost reaching the ground; and she was in such an exhausted condition, that I scarcely hoped she could exist. I immediately gave her a dose of tartar-emetie and calomel, as recommended by Mr. Tegetmeier, and repeated it every two hours, for three or four doses, with marked good results; indeed, the next morning she was down from her roost, and ready to eat with the others. I separated her, and gave her soft food, &c., and occasionally a dose of antimony. On the third day she appeared to be quite well again. At this time, the same absence which made me break off my Poultry-yard Report kept me from home for a few days. On my return, almost the first feathers that caught my eye were those on her dead body; and on inquiry, I found that she had been discovered on her nest, perfectly dead.

In this case, there is little doubt that the attempt to lay again was too speedy. Had she been watched carefully, I do not think that she would have died.—H. B. S., *Monmouthshire*.

Another case is as follows—Seeing in THE COTTAGE GARDENER, for 27th, an article on the Diseases of Poultry, and having a case of a somewhat similar character under my own observation, I have herewith enclosed it. Having returned home, after an absence of about four hours, I noticed a Golden-Spangled Bantam pullet standing on her nest, and appearing to strain herself in a very unnatural manner. I went up to her to discover her ailment, and found the egg passage protruding, very much distended, as well as very much inflamed, the blood having assumed a dark purple colour. A very small portion of the egg only appearing, I perceived that there was not the slightest possibility of the egg coming away in a natural manner. I felt puzzled for the moment, and feeling pretty sure that if the egg was not very shortly removed the bird would soon cease to exist, it having been seen on the nest before I went out, I procured a very fine-pointed instrument, and made a hole in the shell, and took it away piecemeal. I then took a feather and anointed the part with olive oil, which appeared to soften it and give immediate ease. I kept the pullet the remainder of the day without any food, and she has now perfectly recovered. The above was her first egg, she still continues to lay without any trouble. If you think the insertion of the above in your periodical will be of use to any of your readers it is at your service.—G. W. K.

FLOWER GARDENING AT THE CRYSTAL PALACE.

HAVING read, with much interest, the remarks which your various contributors have made on the garden and other features of the many noblemen's and gentlemen's seats they had visited, I felt some little anxiety to hear what some one or other of them might say of a place which has assumed somewhat of a national or public character,—I mean the Crystal Palace; but beyond the introductory remark in a leading article, some weeks back, nothing beyond a slight allusion, now and then, has been made to an object which, from its magnitude, was expected to attract universal attention; however, I trust to hear of more being said about it, not only by your departmental writers, but by others also; and, by way of leading the van of the latter class, I herewith send you a few crude notes I made on a visit, or rather two visits, to that far-famed undertaking.

In the first place, I may observe, that, like many others, I never had an opportunity to visit the Sydenham undertaking until it was opened to the public, nor, in fact, until more than a month after it had been opened, consequently, I could not form much idea of its general appearance from the reports of the press, which were generally confined to the interior of the building, or to the structure itself; but, as I went solely to inspect the outside department, and was favoured with very fine days on both occasions, I had a good chance to examine some objects in detail which might escape the observation of the cursory looker on; and in the first place, I may say, that the first sight I got of the grounds was less striking than I expected; and as first sights (like the "first blows" of homely proverbs,) not unfrequently prove difficult to overcome, I confess I walked some distance in before I could shake off the feeling of disappointment.

I remember experiencing a similar feeling when I first visited the great Metropolis. Being at the time young, and acquainted with some country towns of importance, I confess to having felt some disappointment at not seeing anything in London, at first sight, that seemed any better than I had seen before, but a more intimate acquaintance with that great place inspired feelings of another kind. Now, a something like the same impression occurred to me on entering the grounds at the Crystal Palace, from the Railway Station; for, making due allowance for the works in an unfinished state, there is nothing seen from them that strikes the imagination as "grand" or remarkable. The so-called "Temple of Roses," is an architectural affair, to which the name of Roses is by no means yet applicable, and which, though novel, and, perhaps, striking, when seen from other places, is not exactly to my mind, as seen from the Railway entrance. The Palace itself is, however, more so; but remembering quite well what the Palace of 1851 was, I was prepared to conceive what it must be when planted on a hill, and considerably heightened and otherwise improved in other respects. But as visitors are expected to move on, a walk over the lower and unfinished part, and finally landing in succession on the terraces, with a careful survey of both, and the other objects as seen from them, very much improved my opinion of the place, taken as a whole; while I was not less inclined to admire much of the work in detail.

To lovers of gardening in the distance, who have no immediate chance of visiting this fashionable place, I may observe, that the building itself is placed on the crown of a hill, or rising ground, which slopes gently on all sides. The garden side, which has, doubtless, experienced a good deal of wheel-barrow and cart work, is cut into a first and second terrace. The upper, or top one, being a wide gravel walk, or promenade, about eight feet or so below the base of the building, a sloping bank of turf with a narrow flat or landing of the same shutting off immediate contact with the structure by the mass of pedestrians which throng the thoroughfares. I might further add, that the main floor of the building is also several feet above that turf basement, the under floor, or cellar, of the building, not being yet fully occupied; while, of course, the building is elevated some sixteen or twenty feet, in consequence.

In continuation of my narrative. An open balustrade runs along this terrace, broken in certain places by recesses,

and the three flights of steps, opposite the transepts, leading to the Italian garden below. I may here, however, observe, that the building itself is not a plain parallelogram, for on the garden side, a wing, or return at each end, terminating with square towers, extends so far as to enclose both terraces, in addition to the balustrade wall separating the second one from the ground below, as well as the one noted above, between first and second terraces. This second terrace is more especially deserving notice, for the feature being a gardening one, as well as architectural, it is proper to pause and look well over it; and, in the first place, one of the principal features has not yet been added—the water; for which four large basins are provided, and the working material, in the way of jets, &c., are in the course of putting in; these basins forming the centre of each grass plot to which the ground is divided by the three entrances to the building, besides which there will be another basin larger still than any of them, and furnished with innumerable jets, &c., forming the centre to which the middle walk leads; but this being on a lower level need not be mentioned here. Suffice it, therefore, to say, that the three walks alluded to divide the ground into four plots of about equal dimensions, and not far from square; the Italian or Geometric garden, broad walks running all around the whole, as well as the three thoroughfares to the building, and all at right angles to each other, the portion next the wing part of the building being a sloping bank of turf, the same as that which joins the main building, with the difference, however, that a running figure in flower beds is continued along it, which, in contrast with the other features, looks remarkably well.

Whatever may be the merits of the various Italian gardens, which form such conspicuous appendages to the various seat houses to which they are attached, there are few at which the eye is not more or less offended at the distortion to which some of its parts are subjected; trees cut into forms so much at variance with their natural shape, and flower-beds assuming so many acute points, and occasionally an incongruity in the selection of plants by which they are filled, gives to many such gardens a singular, rather than an agreeable, appearance. Now, to obviate this, some have run into an opposite extreme, by attempting to form what they call a garden on the "natural system," in a situation exactly adapted for the "Italian, or Geometric," without thinking that the first-named could be so re-formed as to suit the respective wants of each place. At the Crystal Palace, this is very well accomplished; for without breaking up that regularity which constitutes the class of gardening to which it belongs, the large space of undisturbed turf, with trees that will doubtless be allowed to grow as they like, the whole forms a very correct design pleasing to look upon, and devoid of those whimsicalities which, in other places, are so offending. The flower-beds in this garden are uniform throughout, and consist of only two shapes, linked together by a narrow strip or band; in other words, a series of round beds, alternately with these of round-cornered parallelogram shape, and the two united by a narrow strip of border, form a sort of running chain all around the margin of each of the above four grass plots, the centre containing the fountain basin as above; but being large, a considerable space of unbroken turf is seen. The beds seemed to be about eight feet wide, the long beds being exactly the same width as the round ones are in diameter, and on a line with each other, about four feet of marginal turf separate them from the water. Trees, such as Auracarias, Cedars, &c., form the corner objects, in addition to four pieces of sculpture, but the whole by no means crowded. These constitute the whole of this garden, unless it be mentioned that the vases, at stated intervals along the balustrade wall, be included likewise, as they were well furnished with plants.

And now to the planting of those beds which, forming a goodly number, gave an opportunity to introduce a great number of plants or varieties; but this has not been the case, for the same view by which the garden itself has been simplified in structure, is carried out in the planting; and the flower-garden decorator, who thinks that nothing can be good, unless it consists of an endless variety, will be highly offended at finding that more than two-thirds of the plants used here consist of only two kinds. Yellow Calceolarias and Scarlet Geraniums (I think *Tom Thumb*), the intermediate beds being of Verbenas, Petunias, &c., but the

whole planted out on the massing system, a bed of each colour, and all kept to a uniform height; this latter duty does the young men credit who have the manipulation, for I observed some plants in other parts of the garden, which, in a general way, form the tall beds of a series, were curbed and pegged down in such a way as to keep on the same line as the Verbenas, and other low growing plants; even the *Ageratum Mexicanum*, *Heliotrope*, and other plants, were made to bow to the equalizing laws which govern things at this garden. The stiff-necked *Salvia patens* had even to succumb to this all-levelling spirit, and its spikes of bloom, or rather its shoots were prostrated in such a manner as the bloom should appear no higher than that of a *Neri-embergia* adjoining it; and I may observe, this operation was well performed, unless, perhaps, as some may think, this artificial treatment was carried too far; for, with the exception of the *Tom Thumbs*, I think every thing else was operated upon; even the common bushy yellow *Calceolarias* were tied up, much, I thought, to their disfigurement; for I do not like to see a bed have the appearance of a number of bouquets steeled over it, each tied up as if for a special purpose; however, on the whole, the beds looked well, and the showery weather in June had been duly relished by them, in addition, no doubt, to the freshness of the material in which they were planted; but on a subsequent visit, at the end of July, after some very hot and dry weather, I found that they were not altogether proof against it, any more than such things are in other less favoured places.

As will be known by all, much remains yet to be done in this garden; but I cannot refrain mentioning the generally good appearance that trees and shrubs had, many of which were of large size, and had been planted only one season. I may, perhaps, at another opportunity, refer to some other of my notes on other portions of the garden; but I might here say, that after the second terrace there is another, partaking partly of the geometric, but gently blending with the "desultory," or natural, if it must be called so. This garden, too, is composed of long strings of circular beds alternating with long ones, the ends of which are curved, fine sweeps struck from the centre of each round bed, but they are not united as in the other case. Scarlet Geraniums and Yellow Calceolarias prevail here also; and even some of the shrub-beds have an edging of the latter plant around them. In fact, so profusely is this gay bedder used at the Crystal Palace, that it may safely be affirmed, that quite one-half of the plants used are of this kind. Furthermore, it may be as well also to know, that the old variety is in the greatest abundance too.

As the Official Guide-book contains some very interesting details of the other features, I need add no more here, unless I hazard a conjecture, whether even the Company be able to supply the requisite quantity of water the various water-works will require to work them; for my part, I confess being puzzled as to where it is to come from,—for the magnitude of the works would seem to want as much water as is furnished by the Thames at Hampton-court; and where that is to be had on a dry hill-side, is more than I can comprehend, especially in these days, when speculating water companies lay hold on all supplies that are available. However, it may be unfair to judge too harshly on this part of the undertaking; I only here give utterance to a doubt; and on the merits of the other departments which are in a mere advanced state I will, perhaps, say more hereafter; but at the same time, would advise the young and aspiring gardener to pay the place a visit, and feel how he will be gratified with it.

S. N. V.

THE LE MAUN PEA.—AMERICAN BLIGHT.

THE Le Maun Pea was introduced by me into this country from North America, Rhode Island State Town, Newport. It was there grown as a dwarf Pea, by Messrs. Hazard and Caswell, from whom I obtained the seed, which is perfectly smooth. The pods (with me) are smooth also, and I do not perceive any great difference between them and the seed-pods of "The British Queen," in point of smoothness or roughness. The peas are uniformly of a very large size, when full-grown, and for eating very sweet. On seeding, I will send you some pods.

I have but a small garden of my own, with an orchard of

four acres, English, and though in a most dilapidated and lamentable state of cultivation when I took it, I have been enabled, under the advice of THE COTTAGE GARDENER, and the articles of Messrs. Beaton, Errington, and others, to bring it into something tolerably respectable.

In our Farmer's Club (of which I am a member) we are at present discussing "Whether Guano is a good manure for grass land."

I am about adopting a method with my fruit-trees (all standards) which is much used in America, viz., scraping and clearing them of all superfluous bark, moss, and fungus. Do you approve of this? [Certainly.] In America they get rid of the American (Blight) Bug, by placing a leaden gutter round the trunk of the tree; this gutter being filled two or three times during the summer with lamp oil. This, with scraping the trees, especially at the joints, and a little pruning, constitutes all the care and attention that is paid to them. The Black Currant does not grow well in America.

Plants of *Medicago circinata* (or Caterpillar plant), *Centaurea Americana*, *Sphenogyne speciosa*, *Calceolaria speciosa*, and *Bartonia aurea*, flourish here.

My Indian Corn is in bloom (August 4), and the Peppers have fruit on them, some ready to pick.—W. HARDING WARNER, *Mcrose*.

CHICK AND CHICKEN versus CHICKS AND CHICKENS.

"An't please your honour," quoth the corporal, "I have fed all the *oxen*."

"Call them *oxens*, Trim," said my uncle Toby, knocking the ashes out of his third pipe.

"It is 'ox or oxen's,' please your honour, in your honour's dictionary."

"Thou sayest true, Trim, it is an *ox* or an *oxen*, but when thou speakest of more than one, thou must say *oxs* or *oxens*."

"And yet," continued the corporal, "many writers and others call them *oxen*, though they are alluding to a whole yard full."

"That is the very reason, Trim, that I now point out thy error."

Hull. TRISTAM SHANDY.

In pity's sake, kind reader, do not think that the above absurdity is mine. It appeared in a contemporary journal, where it was inserted with the design of throwing ridicule on those, who, like myself, always use the Saxon word, *chick*, as a singular, with its proper Saxon plural, which is *chickens*; and from whence I have copied it, merely substituting the words *oxs* and *oxens* for *chicks* and *chickens*. The writer who so readily undertakes to inform others, seems, like many other would-be-instructors, to have a profound ignorance of the subject; permit me, therefore, to mention, that *chick* is an Anglo-Saxon word; and that in the Anglo-Saxon tongue plurals were often formed by the termination *en*—thus we have *ox*, *oxen*; *child*, *children*; *house*, *houses*; *brother*, *brethren*; and *chick*, *chickens*; &c., &c., &c. If, therefore, we must have *chickens*, let us be at least consistent in absurdity, and, like stupid *mens* and *womens*, talk of our *childrens* and *brethrens*, our *oxens* and our *houses*.

W. B. TEGEMEIER.

WEIGHT OF STRAWBERRY.

There appeared in a late number of the *Morning Herald* newspaper, an extract from the *Montrose Standard*, to the effect that a Strawberry weighing $1\frac{1}{2}$ ozs., had been grown by Mr. Anderson, of Montrose, and announcing it as something very uncommon. This, I presume, it is; but I have seen this exceeded by a Strawberry gathered by a gentleman in the immediate neighbourhood of Bath, on the 18th of July last, which weighed $1\frac{3}{4}$ ozs., and making the scale to preponderate well. Should this fact be beyond your experience, or that of any of your coadjutors or correspondents, and you deem the thing worth while, and of a corner in your COTTAGE GARDENER, perhaps you will oblige a constant reader by referring it to your constituents. I say nothing of such Strawberries as weigh one ounce, or three-quarters-of-an-ounce, but nothing of the size of the first-mentioned have I ever seen in shop or on table.—SENEX.

POULTRY FACTS AND SCRAPS.

THE DELICACY OF POLAND CHICKEN.

THE tendency of Polands to droop and die just before attaining their full size, is, unfortunately, too well known to the rearers of this beautiful, and, under certain circumstances, profitable variety; there is, in fact, a much greater tendency in them to consumption than in any other family of fowls.

Consumption is, in all cases, caused by the presence of serofulous tubercles in the lungs. When these diseased tunours appear in any other part of the body, the complaint, though essentially arising from the same cause, is not popularly termed consumption. The circumstances giving rise to consumption are, damp and cold, with insufficient and bad food, and, above all, an hereditary predisposition.

The symptoms of this disease are in fowls, unfortunately, not observed in the earlier stages; and it is not until tubercles are formed, and the case is perfectly hopeless, that any serious complaint is suspected. As the disease cannot be cured, it is the more important to endeavour to ascertain if the predisposition to it can in any manner be obviated. The causes which tend to prevent consumption, or other forms of tuberculous disease, are precisely the opposite to those producing them. A residence on a dry, sandy, or chalky soil, not exposed to cold winds from the north or east; a proper supply of sound, nutritious food; and a well-sheltered habitation, are among the chief preventives to be relied on in the case of poultry. Where I suspected a tendency to the disease in any valuable chicken, I should not hesitate to give a small portion (say half to a whole teaspoonful) daily of cod-liver oil (mixed with meal), which would have the twofold advantage of vastly improving the condition of the fowl, and, by its peculiar action, arresting the tendency to this disease; but in advanced cases, where tubercles are really formed, all the oil from all the cod-fish in the sea would not preserve the life of the patient, be he a feathered or an unfeathered biped. Among other breeds, consumption is a much rarer disease than is generally imagined. I have made post-mortems of many hundred fowls, and find, that striking out the Polands, the deaths from tuberculous disease, in any form, are not more than five per cent. Cochins, whether buff or grey, seem remarkably exempt from it; and the complaint that carries off Dorkings during chickenhood is of a totally distinct character.

VARYING APPETITE OF FOWLS.

A Lady once remarked to me, concerning my strong recommendation of worms and insects as the best possible animal food for chicken and fowls, that she thought worms, like oysters, went in and out of season, as they were sometimes eaten voraciously, and sometimes refused, by fowls, especially by Cochins. I have repeatedly noticed, on throwing a flower-pot full of large worms to a number of fowls, that they were greedily devoured by some, and refused by others; and that the fowls who took them most eagerly were the laying hens and the growing chicken. The explanation of this circumstance is sufficiently evident, both growing animals, and those laying eggs, require a large proportion of flesh-forming or nitrogenous food, out of which the materials of their growth, or their eggs, may be obtained; hence, their appetite for such substances; for the natural instinct of animals leads them to select such things as are required to supply their bodily wants, and to refuse that which is not requisite. Even man, whose natural instincts have been modified by artificial customs, is still under their influence; and our liking and loathing of fat meats, in winter and summer, shows that our varying appetites depend upon the variation of our bodily requirements. A useful lesson may be gleaned from this circumstance, namely, that we ought to take care that our laying hens, and growing chicken, have a due supply of flesh-forming or nitrogenous food; the worms and insects they obtain, when they have a free run, certainly form the best mode of supplying such a want; hence, one great advantage of not cooping hens with chicken. Of the various grains used in feeding, rice contains the least, and grits the largest, quantity of flesh-forming materials—hence, the inferiority of the former, and superiority of the latter, as a diet for chicken. A more de-

tailed account of the composition of the various grains would, perhaps, be out of place; I would, therefore, refer those who desire further information on the subject, to the analyses of all the different kinds of poultry food, which are published in "Profitable Poultry."

THE OCCURRENCE OF TWO EGG-PASSAGES.

At page 207, of Volume x., I described the structure of the egg-organs, and mentioned the strange fact, that although two ovaries and egg-passages may be observed in the embryo, yet that one only is developed; the right one being absorbed about the time of the bird being hatched. In a nearly full-grown Poland, forwarded to me some short time since by a very successful breeder of this variety, Mr. T. Jones, I observed, on making an examination, a tube distended with air on the right side, and found that it was the right egg-passage highly developed; the ovary, however, had been absorbed. This circumstance is exceedingly rare. I have opened many hundred dead fowls, and have never seen it before, and the preparation has been thought worthy of a place in the unrivalled Museum of the Royal College of Surgeons. Possibly, some of my curious readers may wish to know the object of such an arrangement, and inquire, why two sets of organs are first produced, one of which afterwards disappears. All parts of the bodies of animals are formed on a perfectly symmetrical plan, each lateral half, in the first stages of development, corresponding with the other. Where the organs on both sides are required, both are developed, as in the case of the eyes, nostrils, lungs, &c.; but where two sets of organs would be injurious, or are unnecessary, then, by one of those inscrutable arrangements which proclaim so strongly the design and wisdom shewn in all natural objects, one set only is developed, and the other, not passing beyond its rudimentary condition, becomes gradually absorbed. Why the right set should be always the abortive one, is beyond our ken; and although I should not be surprised, I should be excessively pleased to find an instance in which the right side was developed, and the left absorbed.

W. B. TEGETMEIER.

BEES.

REMOVING THE PARENT STOCK TO A DISTANCE WHEN PLACING THE SWARM IN ITS PLACE.

On the 1st of June I had a small swarm come off from a stock, and next day I removed the parent stock, and placed the swarm on the parent stock's stand. The old stock was removed only twenty yards, and on the third day the stock showed strong symptoms of weakness, by throwing out grubs and an almost total cessation from regular work. The bees recovered from this in about a fortnight, and are now in a flourishing condition, as far as the showery weather has permitted. No other cast, or swarm, came off from this stock.

I must now give an account of the swarm which was put into a common hive, and having, as our friend "The Country Curate" observed, received a great accession of bees from those which were at work, &c., it increased wonderfully, in spite of the rain. At the end of June, and beginning of July, the hive became very crowded, and, not being willing to trouble myself with enlarging it, it threw out about a quarter-of-a-peck of bees round the entrance; these remained and increased until the 20th of July, on which day they were not watched, and, to my surprise, the swarm left the hive and was lost. Never having seen a swarm later than the 5th, nor hearing of one later than the 15th of July, in this county, I took no trouble about the matter, although this was a swarm from a swarm—a virgin swarm.

I am not fond of experiments with bees, but I must give my full approval of this plan propounded by my correspondent, the Rev. Mr. Filleul, who is now in Australia.

I agree cordially with Mr. Payne, that the transferring system is a bad one, and does not answer once in a hundred times. My worthy friend, the "Country Curate," was angry with me once, for saying that artificial swarms were bad and unnatural; but when I assured him that I had written that remark at least seven years before his letters appeared, he was quite satisfied.

I regret extremely that we have been deprived of his amusing letters, and I sincerely wish him well. I believe he was the first writer who recommended the experiment of removing the parent stock immediately after its swarming, and I think it a good plan in three cases out of four.

We have had another trying season for bees. On the 1st of August I weighed two stocks which ought to have, at least, twenty-five pounds each, but neither of them are more than twelve or fourteen pounds. It is now nearly a forlorn hope to expect an addition to the store, when there is very little white clover or no heath.

The sharp frosts in May damaged the foliage. I find a fine Lime tree of sixty or seventy years growth, in my lawn, without a blossom, for the first time to my knowledge. Probably some of your correspondents may have noticed this sad loss to the bees. The same frost destroyed the foliage of the Walnuts and Oaks; the former has no fruit this year.

We have a great many wasps in our locality; they are beginning to attack the impoverished stocks of bees.—H. W. NEWMAN, *New House, near Stroud.*

THE GREATEST PRODUCE OF CROPS IN THE WORLD.

I BELIEVE that there are no other fields in the world which produce such incessant crops as our chins. Talk of Lucern with its four or five cuttings,—of the six or seven of Italian Rye Grass,—or of the eight or ten crops of the Italian Water Meads,—why, what are all these to the 365 enttings which are annually removed from our chins? It is evident that nothing but clean and good husbandry could accomplish this; but we are now threatened with a new mode of farming our chins; the reaping machine is to be discarded; nothing but a rake is to be used; the crop is to run wild, and Nature is to have her own way. I am a little man, and I feel acutely the ridicule I shall incur, if I am compelled by fashion to let my beard grow. I send you the following little poem, which another little man had the misery of having sent to him, many years since, it was entitled—

ON A LITTLE MAN WITH A VERY LARGE BEARD.

BY ISAAC BEN KHALIF.

(*Carlyles specimens of Arabian Poetry*, p. 116.)

How can thy chin that burden bear?
Is it all gravity to shock?
Is it to make the people stare?
And be thyself a laughing stock?

When I behold thy little feet
After thy beard obsequious run,
I always fancy that I meet
Some father followed by his son.

A man like thee scarce e'er appeared—
A beard like thine—where shall we find it?
Surely thou cherishest thy beard
In hopes to hide thyself behind it.

G. A. T.

COVENT GARDEN.—AUGUST 15TH.

PEACHES and Nectarines from open walls now furnish the market, together with imported Green Gage and other Plums, to make up the deficiency of our native crops.

FRUIT.

Pine Apples, 5s per lb.	Pears, garden, 5s 6d per bush.
Grapes, 3s to 6s per lb.	Violet Plums, 4s per sieve
Peaches, 4s to 8s p. doz.	Green Gage Plums, Foreign,
Nectarines, 10s per doz.	5s per sieve
Apricots, 3s 6d per punnet	Morello Cherries, 3s p. dz. lbs.
Green Gage Plums, 1s to 2s	Cucumbers, frame, 6s per doz.
per punnet	Ditto, hand-glass, 1s to 1s 3d
Orlean Plums, 6d per punnet	per doz.
Strawberries, 8d per punnet	Oranges, 14s to 18s per hun.
Raspberries, 1s per punnet	Lemons, 12s, 14s, to 18s per
Ditto, 8d per gallon	hundred
Jargonelle Pears, 5s p. hf. s.	Cob Nuts, 12s per bushel
Orchard Pears, 4s 6d p. bush.	Barcelonas, 22s per bushel
Apples, 2s 6d per half sieve	Almonds, 24s per bushel
Ditto, Kitchen, 2s p. hf. sv.	Spanish Chesnuts, 20s p. bsh.
Ditto, ditto, 5s per bushel	Kiln-dried Walnuts, 12s p. b.

VEGETABLES.

Potatoes, 5s per cwt.
 Cabbages, 8d to 1s per dozen
 Red Cabbages, 1s 6d per doz.
 Turnips, 1s 6d to 2s 3d per dozen bunches
 Carrots, 3s per doz. bunches
 Onions, 3s per doz. bunches
 Leeks, 1s 6d per doz. bunches
 Lettuces, 8d to 1s per score
 Endive, 8d to 1s per score
 Celery, 6s per dozen bunches
 Radishes, 1s per doz. bunch.
 Water Cress, 6d p. doz. bunch.
 Small Salad, 2d per punnet
 Chervil, 2d per punnet
 Beet, 8d to 1s per bunch
 Artichokes, 2s 6d per doz.

Tomatoes, 8d to 1s per pun.
 Chilies, 1s 6d per hundred
 Gerkins, 1s 6d per doz.
 Peas, 2s to 4s 6d per bushel
 Beans, 3s to 3s per bushel
 Mushrooms, 12s to 15s per dozen pottles
 Kidney Beans, 3s per hf. sieve
 Scarlet Runners, 2s 6d p. hf. s.
 Onions, young, 3s per dz. bch.
 Vegetable Marrow, 1s 6d per dozen
 Cauliflowers, 1s 6d to 3s per dozen
 Brocoli, 6s to 8s per dz. bneh.
 Spanish Onions, 14s to 16s per hundred

HERBS.

Sage, Marjoram, Basil, Tarragon, Fennel, Parsley, Mint, Lemon Thyme, 1d to 3d per bunch. Garlic, 8d per lb. Shallots, 8d per lb.

In CUT FLOWERS, the display was rich in Gladioli, Carnations, Cloves, Pinks, Mignonette, Erysimums, Heaths, Lilies, Verbenas, Sweet Scabiosas, Catananches, Fuchsias, Pelargoniums, Pansies, Lupines, Lychnis, Stocks, Roses, at 2d to 1s 6d per bunch. Bouquettes, 1s to 2s 6d.

PLANTS IN FLOWER IN GARDENS AND NURSERIES.

Philesia buxifolia, red, a new low shrub from Patagonia. Hybrid Phloxes from suffruticosa and decussata, in colours, white, purple, pink, and stripes.

HARDY PERENNIALS.

Anthemis punctata, white
 Achillea filipendula, yellow
 " " white
 Aconitum Nepaleuse, purple
 " paniculatum
 " laxium
 Chrysanthemum frutescens, yellow
 Campanula pyramidalis, blue
 " " white
 Clematis diversifolia, purple
 " integrifolia
 " Viorna, white
 " erecta
 " Florida, white
 " Sieboldi, white and lilac
 " " double
 Delphinium Hendersonii, blue
 Dianthus asper, pink
 Erigeron alpinus, blue
 Epilobium Dodonæi, lilac
 Gladiolus floribundus, pink
 " byzantinus, red and yellow
 " psitticinus, red and yellow
 With hybrid varieties from Psitticinus and Cardinalis;

in colours, from vermilion-red, pink, scarlet, ruby-red and yellow mixed, to white
 Lathyrus tuberosus, purple
 " latifolius, white
 " " yellow
 Matricaria grandiflora, white
 " " double
 Monarda mollis, blue
 Oxalis floribuada, pink
 " nana, yellow
 " lasiandra, yellow
 Enothera prostrata, yellow
 " hybrida
 Potentilla glabra, white
 " birta, yellow
 Psoralea macrostachya, blue
 Peustemon argutum, lilac
 Scutellaria hastifolia, ruby
 " alpina, white and purple
 Santolina pectinata, yellow
 Scabiosa agrestis, blue
 Stevia Eupatoria, white
 Silene shafta, pink
 Tritonia aurea, red and yellow
 Yucca gloriosa, white

will be benefited by associating himself with the "Pomological Society," as, by doing so, he is more likely to know what is going on in the world among a class with whom he seems to have a fellow-feeling. We say in the world, for, although the Society is called "The British Pomological Society," it will have correspondents in every country of Europe, and in America; and information on all that is doing there will be obtained and reproduced in the Society's Transactions for the benefit of pomologists in the country. That, of itself, is surely worth 10s. a year. But there are many other advantages which will be obtained; details of which will now shortly be published, and which, in all probability, will appear in the pages of this Journal. Such a Society is much wanted, and will be of great service to the fruit-growing community; and that its objects may be fully promoted, we recommend all who, either directly or indirectly, have an interest in the subject, to send in their application for membership to "Mr. J. Spencer, Bowood, near Calne," that they may be proposed at the first meeting, which will be held on the 26th instant.]

PEAS ON A PARCHING SOIL.

"Mr. Hogg, in his excellent articles on the various Peas, may be able to give us a few hints as to the best sorts of Peas for growing on the light soils round London. I have been growing the *Champion of England*, and *Knight's tall* and *dwarf Marrows*, but I find, during the late hot weather, the most part of them have died off, as if eaten away at the surface of the ground. Such is not the case. It is caused by the hot nature of the soil under a burning sun; and for some years past I have never been able to find a Pea that will stand. They, in most cases, go off when about half their natural length. It must be a very mild season to get them to stand. And again, in wet seasons there are some kinds that are much more subject to mildew than others. If you can give me any information as to the best kinds of Peas for a hot, dry soil, I shall be much obliged.—A. B. C."

[We have seen similar instances to that you mention in some parts of the neighbourhood of London, where the soil is gravelly and hot. The best remedy for it is, not so much any particular variety of Pea, as a liberal, and, indeed, a good heavy manuring of *Cow-dung* the season previous, or in the autumn preceding the spring in which you sow your crops. Horse-dung is of itself too heating to be applied to such a description of soil; but you may very advantageously use it for mulching over the roots of the peas just previously to earthing them up. The mulch under the earthing keeps the moisture in the soil. You might advantageously add *Bishop's Long Podded* to your list, and also *Burbige's Eclipse*, which you will find are not so liable to go off in the way you mention.]

CALCEOLARIAS.—PETUNIAS.—VERBENAS.—SCARLET GERANIUMS, &c.

"For a stock for bedding, for next year, is it better to lift the old plants, or to depend wholly upon the cuttings made this autumn? If lifting be advisable, please to state the best mode of storing and keeping the old plants; whether packed close in boxes or pots, with a little earth, and when they ought to be lifted or taken up? Pray give as full instructions as you can.

"I find old plants take up so much room as to be inconvenient where there are several hundreds.

"*Ivery's Scarlet Geranium*, with the handsome leaf of *Baron Hugel*, &c., but of a better colour. Do you know this? and is it to be purchased?

A deep pink Geranium, deeper and richer colour than *Lucia Rosea*, with the leaf of *Tom Thumb*. Is this *Tom Thumb's Bride*, or *Princess Alice*?

"*Delphinium Chinense*, for a blue bed, I find difficulty in raising. Should it have a hotbed? All the seedlings put out in May were taken off by some insect. Perhaps, forwarding the plants in a hotbed might enable me to get them stronger, to plant out.—VERAX."

[Old *Petunias* and old *Verbenas* cannot be potted from the beds with success; cuttings of them must be made every year. *Calceolarias* and *Geraniums* lift very well, and are better for being old, in most places, particularly *Calceolarias*; but the question of taking up old plants and storing them

GARDENING.

BRITISH POMOLOGICAL SOCIETY.

"Will the Editor of THE COTTAGE GARDENER inform a 'Country Bumpkin,' what information or advantage he would derive from subscribing 10s. a year to the Pomological Society, because that information might be conveyed to the editors of newspapers in the counties of Gloucester, Worcester, and Hereford, and a considerable number of subscribers obtained?—I.B."

W.

["A Country Bumpkin" is just the sort of person who

depends entirely on room and experience. Pots or boxes will keep them, and no pots or boxes will do, without one has the knack of looking well after them. We do not happen to know *Ivery's Scarlet Geranium*. The pink Geranium is probably *Tom's Rival*. The *Princess Alice* differs nothing in the leaf from *Lucia Rosea*.

Delphinium sinense should be sown in a slight hotbed, in the spring, to get it into bloom by August; but the easiest way is to sow it out-of-doors at the beginning of May, to come in the year following. The seedlings will flower in September and October; and the best of them should then be marked, and their roots taken up and saved over the winter; after that, to sow seeds only from the best sorts, and to keep the best of all the seedlings just as we keep *Sabia patens*. There should be a packet of seeds of it saved every season, as the old roots wear away in time. Of *Dwarf Scarlet Geraniums*, there are none that we know of better than *Tom Thumb* and *Baron Hugel*. The latter does not grow half so strong as *Tom*; but it is an excellent edging plant, and for very small beds. The *Trentham Scarlet*, *Frogmore Improved*, and several others that way, are only varieties like *Tom Thumb*.]

BLACK ITALIAN POPLAR.

"How is it that the cottony-pods on the Black Italian Poplar are so seldom seen? Do all Black Italian Poplars bear them, or only female trees? and if so, how can the female trees be distinguished in their youth?—LINDA."

[All the Poplars and all the Willows, and very many other trees and shrubs, have the sexes on two trees—one tree for the male and one for the female blossoms. The sexes in the vegetable kingdom make no difference in the aspect of the trees. No lords and ladies among them are to be discerned by common eyes; and the reason for this may be, that all the male disciples of Malthus would not grow, or suffer to grow near them, any but male trees only. Another class of persons, found in every well-regulated kingdom and country, would only grow female trees, and between the two, those who have no objection to an increase of population might go without seedlings altogether. As it is, there are many more male than female plants of the Black Italian Poplar in this country; but the female trees only have the cottony-down, and by that we know them.]

ROSES.—VERBENAS.—FUCHSIAS.

"Is it true that the Rose *Blarii No. 2*, is a Rose that will bear very little pruning, and which will not flower if the shoots are too much cut away? (It is quite true, as we have often said.)

"What pink or red Roses amongst the Perpetuals are the fastest climbers? (The old original China Rose, and Felsenberg Noisette.)

"What Roses do you recommend as *underwood*, which might be suffered to grow wild on a poor soil, and under the drip of trees? Are there any Perpetuals which would answer this purpose? (We never recommend Roses for underwood at all. None of the Roses do well under trees.)

"My *Scarlet Verbenas* have not flowered well this year; they were kept in the greenhouse till the end of May, and then planted out. I have since been told that they were probably kept too warm. How much protection do they require in a mild climate, in the south of England, and gravelly soil?

"Is it safe to leave every kind of *Fuchsia* out-of-doors during the winter, cutting the plants down, and protecting their necks with ashes? The common varieties of *Fuchsia* answer very well out-of-doors in this place.—E. H."

[Your case with the *Scarlet Verbenas* is only one instance among many; nine-tenths of them, all over the country, have been very bad indeed, and a black fly took to them in July and made their appearance worse, by far. Your *Verbenas* seem to have been roasted with too much sun-heat in that greenhouse. Most *Verbenas* were scalded by the frost out-of-doors in April. No remedy is now of any avail this season. If the frost is more kept from *Verbenas* it is enough all the winter.

It is quite safe to leave ALL THE FUCHSIAS out-of-doors in winter, with a good protection, but not a tithe of them are worth the trouble. You will see the names of the best in

our volume for 1852-3 and 1854. *Coralina* and *Serratifolia* are the best of them for climbers in a greenhouse or conservatory. *Carolina* and *Riccantoni* are the best for twining out against walls in summer, and to be housed half dry in winter. Plants of them, ten or twelve feet high, and four feet across, look splendid against a house with such white kinds as *Pearl of England* and *Prince Arthur*, planted in stripes between the red ones.]

CULTURE OF ISMENES.

"I have several pots of *Ismene* bulbs of the varieties of *Amaneas* and *Calathinum* the foliage is very strong, but they show no signs of flowering. Will you be so good as to inform me what culture I should pursue with them?—T. C., Colchester."

[The usual bars to the early and free blooming of these beautiful bulbs are, too much heat, and a too generous diet. The open air at Colchester is too hot for them in July, and there is hardly a spadeful of earth, between Mr. Mechi's farm and Manningtree, sufficiently poor and sandy for the proper growth of all the bulbs in this genus. A deep border of pure white or yellow sand, in the open air, would grow *Amaneas* to perfection. Then it would rest from October to May, and flower as soon as it began to grow. *Calathinum*, and the seedlings between it and *Amaneas*, would do better with a fifth part of sandy loam added to the sand-bed for *Amaneas*. All of them will grow enormously in the best loams and richer composts, and stand house and pot-culture to admiration, as far as leaves and bottom thick columns are concerned, but no flowers, or but few of them, are ever produced in this genus under generous treatment; peat is not good for them either. Very sandy loam, or rather very sandy soil, such as from the banks on a common, is the right thing for them; perfect rest in a dry cool place, from October to April; and to be turned out in a south border as soon as the flowers are over, are the main points in their management. Seedlings from them will flower the third, or, at most, the fourth season; offsets will flower the second or third season, according to size, provided the above treatment is strictly adhered to; but not one seedling, nor one offset, out of a score, will bloom under 15 or 20 years if they are treated like loam bulbs and house plants. We have seen *Calathinum* with leaves a yard long, and a cylindrical column nearly six inches long, and all in the utmost health, in a stove-room with *Hippeasters*, and under the name of *Paneratium amicum*; not a hundred miles from Colchester; and one of the best gardeners in that part of the country thought his *Paneratiums* did not flower at all because the house was not hot enough for them! How different from the old *Jacobaea Lily*, from Mexico, which requires exactly the same winter treatment as *Ismene*, but need not necessarily have it so long. The richest and strongest loam, and the heat of a good stove, agrees with it just as well as being turned out-of-doors into a common peach border, when the flowers are over, in May. Many of the best crosses in *Hippeaster* have the like appetites and constitution; no amount of heat seems to affect them if they get a long rest; yet they, or rather a great many of them, are very hardy greenhouse plants. By the way, if you should cross your *Ismenes* when you get them reduced to a breeding condition, we have not the slightest doubt your treatment being "too good by half;" the seeds must be sown as soon as they are ripe, say in the autumn, they will not vegetate till the end of the following spring, at least, you will not perceive that they vegetate till the following spring; but the truth is, they vegetate almost in a week, and form a good sized bulb, without showing or making a leaf or leaves. Then they rest all through the winter, like their parents, and sprout at the end of April like them. Without knowing this, you might throw them away the first winter as soon as you discovered the seeds were gone, without knowing the young bulbs were deeper down.]

AGRICULTURAL.

FATTENING PIGS.

"A Subscriber' will be greatly obliged by an answer to the following Querios, in regard to the best and most economical way of keeping pigs and fattening them. Our pigs have the run of a good sized yard attached to their styes, with

the refuse of an ordinary kitchen-garden of about one acre, and the wash from the house. We cannot give them the advantage of a run in a grass field.

1. Which is the most advantageous; to buy pigs, and then fat them for porkers or bacon; or to keep a breeding sow, selling the young ones that we do not require, and fattening the others as wanted?

2. What quantity of barleymeal per week is required to fat a porker? Should sharps or pollard be given also, and what quantity per week?

3. Is it better to scald the barleymeal, and give it tepid? Do you advise cooking garden refuse?

4. How much barleymeal per week should a bacon pig have, and for how long should he be put up?

We sell the small pigs. Is it more advantageous not to fat bacon pigs at all, but only porkers?

[A full answer to your several queries would involve a treatise on Pig-feeding; the following remarks, however, may be of service to you:—

1. Much will depend on the facilities afforded by adjacent markets, but in your circumstances, without corn grown on the farm, and with every article of food to purchase, kitchen-garden refuse, and wash alone excepted, we should look for better profit from pigs bought in to feed at three or four months old, than from keeping a breeding sow.

2. The quantity of barleymeal for feeding a porker of 120 lbs., would be about four Winchester bushels for the six weeks required for that purpose. Of this quantity, the larger portion would be consumed in the first three weeks. If steamed roots were given, less meal would be requisite. If pollard or sharps are substituted for the meal, it should be in the proportion of a third more.

3. We doubt whether anything would be gained by boiling the barleymeal, which should be given in a dry, crumbling state. It would not pay to steam or boil the ordinary refuse of a kitchen-garden.

4. A bacon pig to weigh, when fat, 240 lbs., would require from eight to ten weeks good feeding, its probable consumption during that period being from ten to twelve Winchester bushels of barleymeal, if fed on that substance alone.

In a case such as you describe, the economy of fattening bacon pigs is very doubtful, and the present high price of barley would, we fear, leave little margin for profit, even in respect of porkers.]

POULTRY.

POULTRY FATTING.

"Can you tell me the best way to go about fattening chicken? I have a coop divided into compartments, and I fed them on barleymeal made into a stiff paste, and also with oats, and rice boiled dry, the oats they can help themselves to. The rice and barleymeal is given at three stated times in the day; they are also kept in a rather dark place, and with all the attention I can give them, I cannot make them fat; after they have been in two or three days they get worse, in place of getting better. I should also state that they have a little water given to them each time they are fed, but they cannot have it when they like, as it is taken away.

"I have noticed in THE COTTAGE GARDENER of last week, a person enquiring what will kill *Black Beetles*. 'The Magic Paste,' made by Mr. Charles Penny, 4, Roseberry Cottages, Dalston, will kill all the *Black Beetles* in England, if it is given to them. After using it a third time, I have offered so much a head for every one that can be found, but never get any; and I always take care to keep a little of it by me, in case any of them should come back. There is not the least smell, nor anything to be seen of them after they have taken it.—A. B. C."

[No operation connected with the poultry-yard requires greater attention and experience than fattening fowls in coops. Oatmeal would be advantageously substituted for barleymeal. The feeding troughs, which must be kept constantly scoured, should be placed before the birds at regular intervals, and when they have eat sufficient, it is better to remove them, placing a little gravel within reach of the coop, to assist digestion. Oats and rice are far inferior to oatmeal in their flesh-forming properties. Keeping the

birds without food for some hours after they are put up, frequently induces them to take it more readily afterwards; but sufficient attention is so rarely bestowed on the various details of preparation and supplying the food, that complaints like your's of the fowls deteriorating in the fattening are far from uncommon. The whole subject is amply treated of in THE POULTRY BOOK. Access to water, in our opinion, is wisely allowed at all times.—W.]

THE "GREEN MARKETS" OF LONDON.

(Continued from page 368.)

"THE FRUIT MARKET.—Cherries, $\frac{1}{2}$ d. per sieve; apples, pears, plums, apricots, peaches, nectarines, gooseberries, and currants, $\frac{1}{2}$ d. per sieve or bushel; strawberries, raspberries, and other fruit of that sort, for every round or head-load, 2d.; walnuts, filberts, and other nuts, $\frac{1}{4}$ d. per sieve, 1d. per maund, 1d. per sack; peas, beans, and French beans, $\frac{1}{4}$ d. per sieve, 1d. per sack; onions, $\frac{1}{4}$ d. per sieve or bushel; asparagus, 1d. per flat; carrots, 1s. 6d. per score dozen bunches; oranges, 4d per chest and 2d. per box. Each stand, to the holder, not more for every square foot superficial, in addition to the tolls, than 1s. per annum. Every stand over the whole of which any covering shall extend, not more for every square foot superficial in addition to the rent before authorised than 3d. per annum (this charge applies to the other stands also). Every person using the scales $\frac{1}{2}$ d. per draught.

"THE YEARLY PITCHING STANDS.—Each stand, let, 1s. per annum for every square foot superficial; fruit, flowers, &c., not the growth of the holder, 1s. per waggon, 4d. per cart. For each stand used otherwise, 1s. per day.

"THE FLOWER STANDS.—For every square foot superficial, 1s. 8d. per annum. Christmas holly and other evergreens pitched, or sold in any part of the market, 3s. per waggon, 2s. per cart. Water-cresses or other spring herbs, not pitched or sold by the holder of the stand being the grower thereof, 1d. per head, load, bag, or basket. Physic herbs and dried herbs, except by the holder, 1s. per waggon, 4d. per cart. Oranges, 4d. per chest, 2d. per box. Flowers or flower-roots, by any person not the holder of the stand, 6d. per dozen."

The specifications of payment by time, as per day or per year, are rent; the others are toll. No packages can be conveyed into the market before one in the morning, nor after ten at night, at which time the market must be closed or cleared. No waggon or cart can remain on any of the stands an hour after it has been unladen. The stands are 8ft. square, and let yearly at from £5 to £10; the daily rent I have stated. The shops on the two exteriors let from 7s. 6d. to 35s. a week. The corner shops in the central avenue are £2 2s. weekly, and the others 25s. to 30s. The market is under the control of a superintendent and collector, an assistant-superintendent, an assistant-collector, three day bealdes, and two night watchmen. An engineman is also employed. The market-days are Tuesday, Thursday, and Saturday, Saturday being the principal day. The retail trade is carried on every day.

On the morning of every market day, and two-fold on the Saturday, carts of every description, mixed with one waggon for every twenty carts, line, one, two, or three deep, all the avenues to Covent-garden market. They stretch from Great Russell-street, up and down Drury-lane, down Bridges-street, Upper and North Wellington-streets; up Bow-street, into Long-acre; up James-street, into Long-acre; down King-street and New-street, to St. Martin's-lane; down Southampton-street to the skirts of the Strand; thick and crowded they stand in Henrietta-street; and stretch up and down Bedford-street. The market opens at five, or somewhat earlier, in the height of summer. In half an hour from its opening the business is at what I heard called "high charge." Active men are seen unloading, or rather unpacking waggons, throwing about heavy hampers with an effort evidently as much the fruit—to use an appropriate word—of skill as of strength. I have frequently heard men thus employed describe it as "a way they've got," or "a knack from long practice." The men engaged in unloading are the servants (receiving generally 21s. a week) of the salesmen to whom the goods are assigned, or of the

grower who brings them to market. If they labour for the salesman, a portion is at once conveyed to his premises; if for the grower, a portion is placed on his pitching stand for the examination of purchasers. As the bargaining proceeds, porters look eagerly on, offering their services. When a bargain is struck, the porter is employed to carry the hamper on his knot to the customer's vehicle (the costermongers, however, except in a hurry, are usually their own porters after a purchase), and as a porter proceeds rapidly along, trotting or half running, and never walking, he calls out the name of his employer as he reaches the street to which he has been directed, and is answered by the man in charge of the vehicle. He then delivers his burden, and trots back again to the market. All this is accomplished with far less noise and less jostle than a person who has not witnessed it would imagine. In the interior of the market, alike in fruit and vegetables, the same scene is witnessed, but as no carriages can be admitted there, the "lots" are all displayed on the ground. Every passing stranger is invited to buy. In one, two, or three hours, according to the supply and the demand, business slackens, the streets show but a straggling of market carts, and many of the salesmen and women, or rather their assistants, may be seen taking their breakfasts out of large white or yellow mugs, with a flank of bread and butter at hand. On my visits I did not see one breakfaster eat a watercress, though two or three tons weight of that "cheap and wholesome salad from the brook" might be in the market. Under the piazza, the labourers surround the many coffee stands drinking the beverage out of mugs, and biting huge bits from slices of very thick bread and butter. Women, with sheep's trotters are standing by, soliciting the coffee-stall customers to "pick a bit" with their meal, or to do so at the public-house with their beer. On my visits the public-houses were little thronged. Business goes on still, but the crowds that stream along the intersecting passages of the market are straggling instead of being so dense and continuous that they can hardly be broken by the crowd wanting to proceed at right angles, and that crowd, when "a break" has been effected, pours along as densely and as continuously, and has to be broken in its turn. In no crowded place that I have visited was there less disorder, less noise, and less wrangling. A few Irishwomen (porteresses) may quarrel in their native Erse, but the others regard that as a thing without meaning, and not worth attention.

The early customers in this market are the costermongers, who buy singly or conjointly in large quantities (and who are quite as readily attended to as the West-end fruiterers or greengrocers, if not more readily, as the costermongers are ready-money men), the fruiterers and greengrocers. Then as the day advances come housekeepers, cooks, and private individuals; and orders are packed up for the country. Lastly come the wealthy, who cater for their own desserts of grapes, filberts, or pine-apples, or who love to purchase the vegetable dainties suited to their tastes.

The system of business is varied. Salesmen receive goods consigned to them direct, all charges of carriage by railway or from the railway station being defrayed by the arrangement of the consigner, and the salesman's commission is 5 per cent., the goods being brought to his door without any trouble to him. Growers bring their own produce to market, sell it themselves, and return to their suburban places, while others are at once salesmen, growers, and dealers. These classes are pretty equally divided, but the salesmen are the most numerous.

The labourers connected with Covent-garden market are male and female ticket-porters. No unticketed porter is allowed to ply for hire in the market, or to carry out goods from it, under penalties, but any person may carry goods made his own by purchase, as in the case of costermongers. The porter's ticket costs 1s. 6d., and as vacancies occur they are filled up by appointment from the superintendant. There are 600 male and 80 female porters. In a slack time the male porters "look out" for work at the docks, or elsewhere. One-tenth of the men are English, the others are all Irish. There were, until two or three years back, a few Welshmen and a few Scotchmen, but there are none now. The usual charge for portage is 1d. "a turn," or load, but some will work for ½d. a turn, to the great anger and disgust of the penny hands. An Irish porter, a keen-looking and

tolcrably well-dressed man, whom I met in the market, and to whom I had been referred, gave me the following statement:—

"Sure then, sir, it's not what it was the porthering. There's so many paupers in it, and they'll slave for a halfpenny a turn. They've come over, so many of 'em from my country—bad luck to them—that there's lots ready to work for ½d. instead of 1d. in the market, and they're slinking outside for jobs. I've never missed a morning in this market, barring the blessed days, since I came to London, just the year after the altering the market. I'd just married in Ireland, and we came over to try our luck in London, and I soon got on here. Its the thruth I'll tell you, sir. I make from 12s. to 15s. a week, from the blessed Aister Saturday to the beginning of November, and 10s. a week taking the average, the rest of the year. Things aint better nor worse with me. I'd aim more once and I live chaper uow. It's my counthrymen that's the ruin of me."

An old woman, whom I had some talk with, considered the improvement of the market the ruin of "porthering, for when it was less 'vanient more porthers was wanted, and now there wasn't that call for them, worse luck." She earned less, she said, since the improvement, or since five or six years after it, by one-third, making 5s. instead of 7s. 6d.

(To be continued.)

TO CORRESPONDENTS.

COKE STOVE (T. K. A.).—The fumes of this, if given off in a greenhouse, or other confined place, would be injurious to plants. It causes an excess of carbonic acid, and of some sulphurous acid in the air, both of which are detrimental.

BEES (Ibid.).—Your Bees, alive in Mareh, but now all gone except a few dead in the hive, were starved to death. They die out-of-doors, whilst in search of food, more frequently than in the hive. You should have fed them in early spring.

FLOWER GARDEN (A Young Gardener).—We believe Mr. Beaton arranges gardens if remunerated for so doing. His direction is "Surbiton, near Kingston-on-Thames." The notes on Ferns will not be published in a separate form.

FLOWER-GARDEN PLAN (J. M. E. G.).—Your plan is very good indeed, and so is all the planting, except the four outside corners, 18 and 19 doubled crossways. Neutral beds so large, and on the outside, diminish the real size of any garden so planted; pink, purple, scarlet, or yellow, ought certainly to be in these beds, then the circles in the bosom of these angle beds would need to be white. No. 1 may be a fountain, a sun dial, or, with Heliotropes, or Mangle's variegated Geranium. You did not say what is in the two beds marked 4; something light—white, grey, or lilac, ought to be in them. The rest are in very good taste indeed. The plan will be engraved.

CUCUMBERS (J. Reynolds).—The variable temperature of spring, and excessive wet, caused the plants to decay at the collar. Hand-glasses are always best kept over the centre of the plants during such seasons.

IRISH MOSS.—Have any of our readers had experience in using this as a food for animals? A correspondent at Abergele writes thus on the subject:—"I am surprised no mention has been made of what I call a very valuable addition to food for animals, viz., 'The Irish Moss.' It is cheap, and gets the animals on better than any grain, particularly to sows with pigs. It ought to be more generally known."

FETE NOIR (Aighurth).—This is the name, and not *Tete Noir*, under which the Pelargonium was exhibited. At least, so say our reporter and others.

FLOATING WATER MEADOWS (R. C. Court).—Our correspondent requires a work on this subject, including directions for making flood-gates, hatches, &c. Do any of our readers know of such a publication?

DIOSCARIA JAPONICA.—*Verax* wishes to know if this edible root, sent from China to the Paris Museum of Natural History, in 1852, can be procured in England? We do not know M. Carlo Minesi's direction.

PRESERVING BUTTERFLIES (W. S.).—Kill them in a wide-mouthed glass bottle half filled with well-bruised Laurel leaves, display them on a piece of flat cork, binding their wings open upon it by thread. A groove must be cut in the cork to admit the body, and a pin through the thorax must fasten it in its place. When quite dry, keep them in a shallow drawer, having a glazed lid, and fasten camphor in a bag into the drawer to exclude insects.

NAMES OF PLANTS (S. J.).—No. 1, *Sollya heterophylla*, a very desirable hardy conservatory or greenhouse plant; indeed, almost hardy enough to live out under a south wall. 2, *Campanula fragilis*, a plant that should have a place in every greenhouse or conservatory; which may either hang down over the pot, as in your case, or be trained upon a wire trellis. (T. M. W.).—*Siphocampylus bicolor*. (A.).—Of all your Pelargoniums and Fuchsias, we can only make out the following:—Your whole list is but second rate; 1. Garth's Perfection. 3. Purity. 4. One in the Ring. 6. Bianca.

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WEEKLY CALENDAR.

D M	D W	AUG. 29—SEPT. 4, 1854.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
29	Tu	<i>Latridius ruficollis.</i>	29.849—29.803	67—43	S.W.	—	9	53	9 2	6	0 50	241
30	W	<i>Latridius rugicollis.</i>	29.972—29.896	68—47	S.W.	—	11	51	9 26	7	0 32	242
31	Tu	<i>Latridius impressus.</i>	29.881—29.816	67—51	S.W.	02	12	48	9 58	8	0 14	243
1	F	<i>Leistus Raulinsii.</i>	29.727—29.625	63—51	S.	80	v	vi	10 a 45	9	0 5	244
2	S	<i>Leistus cæruleus.</i>	29.863—29.710	60—42	N.	44	15	44	11 49	10	0 24	245
3	SUN	12 SUNDAY AFTER TRINITY.	30.201—30.093	62—49	N.	—	17	42	morn.	11	0 43	246
4	M	<i>Pælobius Hermannii.</i>	30.318—30.272	65—53	N.E.	—	19	40	1 9	12	1 2	247

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 70.8° and 43.8° respectively. The greatest heat, 85°, occurred on the 1st in 1843; and the lowest cold, 32°, on the 29th in 1850. During the period 113 days were fine, and on 76 rain fell.

We have selected SIR JOSEPH PAXTON for the first illustration of our Portrait Gallery, not merely because he is the most successful among the men of genius now devoting themselves to the practice of gardening, but because he is the best example we can uphold for imitation to the rising generation of young gardeners. We are often asked by them "What acquirements should we strive for besides a knowledge of the culture of plants?" and we know of no better reply that we could give than—Attain the same acquirements as those possessed by Sir Joseph Paxton. He is a good botanist, a good draftsman, and an excellent engineer, but he has two spirits mighty in promoting progress, presiding over these—the spirit of kindness, and the spirit of perseverance. Every one who has associated with him at once feels that genial courtesy and frankness which are to be expected from such an open brow; and the Duke of Devonshire, who has so long aided and benefited by his efforts, may be accepted as the most competent of witnesses to his perseverance, and has borne this testimony,—“I never knew Mr. Paxton resolve to undertake what he did not fully accomplish.”

Sir Joseph Paxton's entire career sustains that characteristic opinion, and we regret that we have been disappointed in not receiving some promised illustrative anecdotes of his upward progress. Our notice must therefore be brief.

He is descended from Scotch parents, but born, we believe, in Bedfordshire, at the time when his father was a head gardener in that county. Adopting the same profession, after some advance in his noviciate, he obtained employment, to complete his gardening education, in the gardens of the London Horticultural Society at Chiswick.*

It is said that he there first obtained the notice of the Society's President, the Duke of Devonshire, whilst holding a glowing cinder for his Grace's cigar. The Duke finding him intelligent, and hearing of him nothing but good, recommended him to the Duke of Somerset, who employed him temporarily at Wimbledon. When Mr. Paxton thus attracted the notice of the Duke of Devonshire, he was under gardener in the Arboretum department at Chiswick. This was in 1825, and the year following he became the Duke's Head Gardener and Forester at Chatsworth. Here was an arena just suited to his powers, and genius—not only

* He is named in the Report of the Horticultural Society, as one, with many others, who set "an excellent example." *Transactions, New Series*, ii. 455.

was the space, as he said, "unlimited," but so were the funds at his command for its adornment. Writing to Mr. Loudon in 1835, he says:—

“Previously to the commencement of the arboretum, the whole space which it occupies was covered with timber trees: these we have cleared away, so as to suit each genus with light, shelter, or shade, as it might require. The situation, though so much elevated, is yet, by the existing trees, so well sheltered, that, with this aid, our deep trenching, and the supply, when necessary, of peat or sandy soil, the plants, in a few years, will have made immense progress. There are about 1670 species and varieties already planted; and these will be increased, in a year or two, to about 2000. The whole length of the walk occupied with the arboretum is nearly a mile. The various bends in the walk may be accounted for by the unevenness of the ground, and its steepness in many places. The plants of those orders, the lignææ species of which do not grow large, such as Cruciferae, Cistinae, &c., are planted near to the walk, and occupy both sides of it; and the larger ones, although planted similarly along both sides of the walk, are made to extend beyond the others to a considerable distance from it, as the bare inspection of the plan will show. The whole are planted at such distances from each other as their habits of growth require. Should 2000 more hardy trees and shrubs than can at present be purchased in the nurseries be introduced, there is plenty of space on each side of the walk to plant them. It is rather difficult to say exactly how much ground the plants at present occupy, as we have not measured it; but I think the 75 groups cover about 40 acres.

“It is a great feature in this business, that the ground, the plants, the formation of the walk, the labour, &c., have not cost His Grace sixpence; the plants having been purchased, the ground prepared, and the trees planted, and all other expenses paid, with the produce of the trees cut down to make room for the walk and the groups. This you should, in some degree, point out to gentlemen who wish to introduce such an important feature as an arboretum in their country seats. At nine places out of ten, throughout the country, an arboretum might be accomplished on this plan; and I scarcely know a country seat where half the trees round the house do not require cutting down.

“In recommending arboretums to those who have got but a limited extent of ground, you should advise them not to plant varieties. We intend doing so, because our space is unlimited: but, if this practice were to become general, the nurserymen would furnish us with catalogues of 20,000 species and varieties; which would put a damp to arboretums at once, from the impossibility both of purchasing the plants, and of finding room for them: and besides, in a few years, the species and varieties would be so confounded, that they would, in many cases, not be distinguishable from each other. I shall keep a young man constantly examining the trees and shrubs in our arboretum, till I have removed every



Yours truly
Joseph Paxton

thing from it that is not perfectly distinct, and rendered it in every respect as perfect as it can be made."

The next great works he was employed upon were the Water-Works, the Emperor Fountain of which tosses its waters to the astonishing height of 267 feet. This, and all his subsequent conceptions are among "the most surprising in the world."

In 1840 he completed the Conservatory at Chatsworth, the largest ever constructed. It required forty miles in length of sash-bars, and to meet this enormous demand he invented a machine for cutting them, which, to use his own words, "performed the labour of twenty men for one year, and consequently saved in money £1,200."

As a literary man he has appeared before the public advantageously, as the Editor of *The Magazine of Botany*, begun in 1833, but now no longer published; as the author, in 1839, of a little volume, *On the Culture of the Dahlia*; as compiler of *Gardening for Cottagers*, and the *Botanical Dictionary*, the first of which was published about the year 1849, and the other about nine years previously.

We have now arrived at the most brilliant period of his life—the construction of the first Crystal Palace. Of its origin in 1850 we must republish the designer's own account.

"When the six eminent architects and engineers were selected as a committee to choose a design, Mr. Paxton says that he had no intention of offering one, for he took for granted that something worthy of the occasion and of the nation would be selected by them. When the time approached for the production of plans there was a discussion in the newspapers as to the design best adapted, and he must say that the first sketch he saw in a number of the 'Builder' did not inspire him with any exalted notions, or raise any very splendid expectations of the result. It was not until one morning when he was present with his friend, Mr. Ellis, at an early sitting of the House of Commons, that the idea of sending in a design occurred to him. A conversation took place between them with reference to the construction of the new House of Commons, in the course of which he (Mr. Paxton) observed that he was afraid they would also commit a great blunder in the building for the Industrial Exhibition; adding, that he had a notion in his head, and that if he (Mr. Ellis) would accompany him to the Board of Trade he would ascertain whether it was too late to send in a design. He asked the executive committee whether they were so far committed to the plans as to be precluded from receiving another. The reply was, 'Certainly not; the specifications will

be out in a fortnight, but there is no reason why a clause should not be introduced allowing of the reception of another design.' He said, 'Well, if you will introduce such a clause I will go home, and in nine days hence I will bring you my plans all complete.' No doubt the executive thought him a very conceited fellow, and that what he said was nearer akin to romance than to common sense. Well, this was on Friday, the 11th of June. From London he went to the Menai Straits, to see the third tube of the Britannia-bridge placed, and on his return to Derby he had to attend to some business at the board-room, during which, however, his whole mind was devoted to his project; and whilst the business proceeded he sketched his design on a large piece of blotting-paper. He was sorry he had not the original with him, but the fact was, Mrs. Paxton had taken possession of it, and if they were at all anxious to see it, the only possible way of gratifying their desires was by sending for her to the meeting. Having sketched his design on blotting-paper, he sat up all night until he had worked it out to his own satisfaction; and by the aid of his friend, Mr. Barlow, on the 15th he was enabled to complete the whole of the plans by the Saturday following, on which day he left Rowsley for London. On arriving at the Derby station he met Mr. R. Stephenson, a member of the building committee, who was also on his way to the metropolis. Mr. Stephenson minutely examined the plans, and became thoroughly engrossed with them, until at length he exclaimed that the design was just the thing, and he only wished it had been submitted to the committee in time. Mr. Stephenson, however, laid the plans before the committee, and at first the idea was rather pool-pooed; but his plans gradually grew in favour, and by publishing the design in the 'Illustrated News,' and showing the advantage of such an erection over one composed of fifteen millions of bricks and other materials, which would have to be removed at a great loss, the committee did in the end reject the abortion of a child of their own, and unanimously recommended his bantling."

We have but little more to add, for having achieved one, the construction of the second Crystal Palace was comparatively easy. He was justly honoured with knighthood in 1851, and the words accompanying the Queen's smiling greeting in 1854 might have been those used by another monarch to another man of many victories—"If you go on at this rate we shall have to invent marks of distinction for you."*

* Since the above has been in type, we are promised some additions to this notice, and hope to publish them next week.

It is a fact that paper is becoming so dear that many cheap periodicals of limited circulation, either have been, or are about to be, abandoned on that account. Then, again, periodicals of higher price and extensive circulation, find the expense of paper so heavy, that they are compelled to reduce their outlay for literary assistance. Some others have contracted with the paper manufacturer to reduce the quality, or substance,

of the paper, in proportion to the increase of price. Thus are the proprietors of literary property, the writers for the press, and the public at large, one and all injured by this rise in the price of paper.

We hear of rewards offered for a cheap material with which to fabricate this most influential product of our manufacturers; and we also hear of such materials being suggested, one of which materials we happen to

know is unexceptionable in every particular. Yet, the manufacturer makes no effort to remove this incubus from literature. Why is this?—and the answer is now passing our office window in the form of a man about fifty years of age, wearing a fustain coat, broad brimmed hat, with an ink-horn hanging from his button, and a bunch of warehouse keys in his hand. He is the district exciseman—the Torpedo of every manufacture he is legalized to visit.

We have said that we know of a material unexceptionable in every particular for the cheap manufacture of good paper. To be deserving of such a character it must be as tough as flax, readily bleached, easily reduced to a pulp, and very cheap. Such a material is afforded by THE COMMON NETTLE (*Urtica dioica*).

We have before us specimens of this dreaded weed nearly four feet high. We have seen fibres of it bleached as white as ever flax was bleached, and those fibres bore weights which broke fibres of flax. We have seen a pulp made from those nettle fibres, that no paper-maker could distinguish from a pulp made from the best linen rags. Why, then, has it not been made into paper? The answer has been already portrayed. The Torpedo is in the way.

The exciseman benumbs the energy of the paper-manufacturer. Duties being claimed, penalties inflicted, supervisions required in modes and with a stringency that no manufacture is willing to risk; for if the experiment failed there would be no remission of duties; and the hindrances and interferences attendant upon such experiments are too embarrassing to be endured without an imperative necessity. There is no such necessity on the paper-maker, for if the public cannot afford to pay for good paper, they must put up with that of a lower quality, and this the manufacturer can still supply without any risks.

Turning our attention to the only remaining important consideration in the production of Nettle fibre—lowness of price—there is no doubt it can be supplied far cheaper than any other material of equal excellence. No cultivation of the plant is required, and it may be grown in places that will produce nothing else but its brethren in neglect, the Dock and the Plantain. We have seen it growing luxuriantly in masses, on that example of desolation and barrenness—Brandon Rabbit Warren—so well characterised by Miss Edgeworth, when she said that she saw nothing living there except two rabbits, and they were fighting for a blade of grass! Four times in the year, at the least, may the nettle be reaped, and the aggregate weight would double that of flax from a similar space of ground.

Attention was turned to the Nettle as a plant yielding a material for paper from the intimation that for ages its fibres have been used in some parts of the west of England, we believe in Somersetshire, for making a thread, of which a cloth for carmen's frocks is made. This is a coarse and dark fabric, but we are informed, also, that as long since as 1762, a manufacturer of Leipsic made from Nettle fibres a superior and white

thread. "This manufacturer having read in Robinson that he had made ropes and even stuff of Nettles, was tempted to verify the facts, and a great quantity of the stalks still green, though half withered, were dried over a stove, and when the moisture was nearly all driven off, he bruised them so as to be able to separate the wood from the bark. By this process he procured a kind of green hards, which were rubbed and prepared like flax. This being spun, he obtained a greenish-brown thread, very uniform and clear, something resembling worsted. This thread he afterwards boiled, when it yielded a greenish juice, and became more white, uniform, and strong, so that by continuing the preparation, it is to be hoped that an excellent thread may be made, and, consequently, a strong and lasting cloth."—(*Annual Register*, 1760, p. 124.)

Such hope we know has been realised, and Dr. Martyn goes a step further, for he says—"The stalk of the Nettle is found to have a texture somewhat like that of Hemp, and to be capable of being manufactured into cloth, ropes, and paper." The paper to which he thus briefly alludes was probably coarse and dark-coloured, but better bleaching and more careful preparation we know has succeeded in producing from the Nettle fibre a superior paper pulp.

We trust that if the excise duty cannot be taken off paper, yet that the official regulations may be relaxed, and every facility given to the enterprising manufacturer who may be willing to try experiments to improve the quality of cheap paper. Such a relaxation of fiscal rules, and such encouragement are expected at the hands of the statesmen who have struggled consistently, firmly, and successfully, for the diffusion of education and useful information among the poorer classes. Let us hope, also, that if those facilities are given, that the paper-manufacturers will not be backward in their efforts to produce a cheap, good paper. That it is to their interest so to do, needs no other suggestion than that many periodicals, as we have already noted, will cease to be published, if a cheaper suitable paper cannot be produced than is at present purchasable.

"THE Dorsetshire Association for the improvement of Domestic Poultry," proposes to hold its next exhibition at Dorchester, on the 27th and 28th of September next. An alteration, we observe, has been made by this society in the usual form of the prize list, for a distinction has been drawn between "rules" and "regulations," the former being regarded as affecting the details of the constitution of the society, while the latter are restricted to the particulars of the exhibition itself. Such an arrangement, as it may tend to simplify the information on which the exhibitors must act, will, probably, be imitated in other instances, although there are certainly some points to which it may be difficult to assign their exact position from their referring more or less to both of these heads.

Various pieces of plate are to be given by the noblemen and gentlemen residing in Dorsetshire, to the

owners of the best "Spanish," "Shanghaes," "Dorkings," and "Ducks," and these in addition to the ordinary prizes.

The only points in the schedule that appear to require any other special notice are as follows:—"Game fowls" are divided into only two classes, the first consisting of "*Black, Black-breasted, and other Reds,*" the second admitting those of "any other colour."

"Polish," we regret to observe, are limited to the "Black, with white crests," and the "Golden and the Silver-spangled," thus excluding the white, the black, and other varieties, for which, moreover, no opening is made in any "extra" class.

Black, white, and the other Bantams, the gold and silver-laced alone excepted, compete together, nor is any provision made for a "booted" class, which, after the discussions on this point during the last year, would probably have been desirable.

"Geese," as we have long urged, should be represented in their several families; and other "Ducks," beyond the "Aylesbury" and "Reuen," have sufficient merits to justify their claim for admission.

The form of entry, embracing all essential points, is remarkably clear and explicit.

It cannot be supposed that so long as the standard of excellence in fowls, and the principles on which Poultry Exhibitions should be conducted, are matters of discussion, that some points in the best arranged prize list may not invite criticism. The practical experience of Mr. Andrews, the Secretary of this society, leaves, however, as may readily be anticipated, little to object to, and very possibly, the points on which we have taken a contrary opinion, may have been brought about by facts of which we have no knowledge. But, under any circumstances, it becomes day by day a matter of general admission that the common cause that Poultry Associations have in view imperatively requires a definite settlement of these questions. A fixed standard of points of merit is absolutely essential, and this obtained, as sooner or later it inevitably must be, the details of our several exhibitions will also assume a different character from what they now bear.

AUTUMNAL PROCEEDINGS—FRUIT.

A HARD term is this "autumnal," when we have scarcely thought of giving up the joys of summer. But summer, and, indeed, everything that delights the heart, must be given up; it is the condition of our being. In the fruit way, the cultivator will now turn his attention to the stering away these fruits which are adapted to a winter's supply, to a period when we in vain turn our eyes on the fruit-garden for assistance in the dessert. Strawberries, Gooseberries, Cherries, Raspberries, Plums, &c., are all swept away. Apples and Pears are the principal stores, anything else must chiefly be such as require retarding.

About the fruit-room little that is fresh can be said; the fact being, that most gardeners are confined to a given room, the conditions of which are not always very suitable. This is most unfortunate where the gardener is made entirely responsible, and where a long supply is

expected; and he may sometimes be pained to hear that his employer has been heard to remark, that it is singular "How much better Gardener Jones keeps his fruit than Gardener Brown."

Some twenty years since, I obtained permission from my very worthy employer to fit up a long room at the back, or north side, of the sheds, for a fruit-room. In former days they did not think it at all necessary to fit up shelves for fruits, and when I came here, in 1828, I found an old lumber-room had been the Apple and Pear store, the fruit being laid on the floor, as the farmers do, on straw, and when the rats get amongst them a pretty mess was made. Now this room, although a very good one on the whole, is not quite the sort of thing which I should adopt in these days, but we have learned much during the last score of years. At the period alluded to, it was much the fashion to talk of cool cellars and such like for fruits; many averring that any place which would keep ale well would keep Apples well, and so on. But this is not a mere Apple affair; we have a more delicate and important subject—the Pear—to look after; and besides this, several things of much consideration obtain at least a temporary residence here occasionally. So, then, the Apple view of the affair is the very lowest view.

However, I must say what I did in regard of this room. I had the soil taken out to twenty-one inches below the ground level; and finding a clean red sand, I considered it pretty sound. Being of opinion that much underground damp evaporated from the floor of fruit-rooms, I had four inches of well-kneaded clay spread over the bottom, treading up every crevice. On this hard-burned bricks were laid, and the work was finished. I had at the time intended to adept hollow walls, as non-conductors of heat and moisture, but circumstances hindered me, and I soon found that the most serious enemy I had to contend with was these outer walls. Few persons are fully alive to the fact, that soft bricks are such enormous absorbents of moisture, and they transmit it by a kind of capillary attraction with equal facility; water is made to run uphill. Who has not seen the effects of this in some nicely-papered room? The wall is damp, say they. I fancy the general idea is, that certain bricks were built-in wet, forgetting the constant travelling of moisture upwards, through a bad foundation of these absorbing bricks. Now, this floor has certainly accomplished the end in view, but on the whole, the house has been rather too damp for the tender fruits. The object I had in view in lowering the floor was to obtain as low a temperature as possible: this may fairly be termed a retarding principle, inasmuch as it at once proceeds upon the assumption that the ripening must be hindered or arrested. Apples, to be sure, have kept admirably; and as for Pears, some of them have kept too long; that is to say, they have been compelled to pass the period at which that chemical change in the fruit is destined, in the course of things, to take place, and which change we call ripening. This much must be observed, that the increasing demand for late Pears, recently, has caused many gardeners to err in this respect; not through their ignorance, however, but through a desire to meet the expanding requirements of the age. Thus,—such as the *Passé Colmar*, which, when really in fine condition and melting, is a first-rate fruit in December, becomes a regular Derbyshire Spa Pear in the course of February. And the same may be said of many others. The public may thank, in a great degree, trade catalogues for this wrong conception of the keeping properties of Pears. A novice, looking over one of these, would conclude that no man need be a day without a rich, melting Pear all through March and April: but alas! how widely different the fact.

I am quite persuaded that there is a period at which

every fruit ought to commence, at least, that change called ripening; and that such period varies in the same kind, from different situations, and in different seasons. Many collateral circumstances effect this difference; such as the period of setting in the blossom; comparative amount of rapidity in the first swelling; position in regard of insect enemies; amount of light received by the proper foliage of the tree; aggregate amount of heat in the vicinity of the foliage, &c. These, any or all, combined, will be sure to exercise a warping influence, both on the period of ripening and the flavour; as well as the appearance.

It will be seen by this, that the Pear question is a somewhat awkward one to grapple with, and as to quality in the fruit presenting many anomalies. But, to return to my text. I may here advert to Pear gathering as a matter of importance. We all know that to allow fruits to remain too long on the tree is to run the risk of a short period of use, and, perhaps, that condition termed sleepiness; and to gather them prematurely, is to risk deficiency of flavour and premature shrivelling: between these points, then, we must steer our course. If we must, indeed, err, as to our superior keeping Pears, let it be, I say, on the score of over-ripeness, if such a thing be possible with keeping sorts. Indeed, many of these, in our northern parts, at least, need to hang as long as frost will permit them. *Easter Beurré*, however, and the *Althorpe Crassanne*, are exceptions, and so, above all, is *Williams's Bon Chretien*, which must be gathered long before ripe. Table Apples should not hang long after they have acquired their full depth of flavour and a mature appearance outside; they will lose in briskness if kept too long on the tree. Darkness in the room is a most essential thing, and the means for ventilation should be provided irrespective of light. R. ERRINGTON.

ROSE-CUTTINGS.

I MET Mr. Lane and Mr. Paul together, one day, after I wrote so strongly about having Roses on their own roots; so, as there were two of them, and no one with me at the time, I managed to keep on the other side of the way, lest they might be disposed to wage active war upon me. Not wishing them to believe, however, why I happened to be across the road at the time, when they nodded, I nodded too, and asked them plainly, "What about the Roses now?" One of them said "All right—All right;" the other replied by saying, "Go-a-head; you will have your own way."

So, I am quite safe from two of the heads of the Rose-growers, but my next door neighbour, the best Rose-grower in Surbiton, told me, soon after this, that it was disheartening to him, as an amateur, to be told that Roses ought to be on their own roots, after they had made up their collections already so satisfactorily on the different stocks generally in use. He spoke something, also, about a communication on the subject for *THE COTTAGE GARDENER*. Of this I must put him in mind again, for the subject is too good to lose an inch of it.

Last week, a carriage was announced at the door, and after squaring myself a little, I went out, and had a long consultation, which ended by one of the ladies saying, that the purport of the visit was to know the exact time when Rose-cuttings should be made in the autumn; that the Rose-cuttings which Johnny, the under-gardener, put in last October twelvemonths, at such a place, had all rooted and were then in fine bloom, but, that there were only half-a-dozen kinds; and that if October would do for other Roses, as well, it would suit them better, as they were going out for a while.

I said, the latter part of September, and all through October, was about the best time; but when one knew

how to choose the right cuttings, any time, from the beginning or middle of August, was equally good; so we parted. A few days afterwards, I went down to see "Johnny's" Roses, and they were very fine, certainly, but not too close together. They are *William Jesse*, *Madame Laffoy*, *Souvenir de Malmaison*, *Geant des Batailles*, and two other kinds, but their names I could not read, with abundance of *Gloire de Rosamene*, which will strike in all seasons, in the dead of winter as well as in June.

Now, it so happens that I saw "Johnny" making and putting in those very cuttings, and as he hardly lost a single cutting out of the lot, his way must answer with all Johnnies, at least, and with others as well, if I am not mistaken; for when I rang the bell, and inquired about the Rose-cuttings which were planted at such a time, my lady's maid, a pretty little black-eyed Susan, stepped forwards, and said, she ought to know best about these cuttings; that "Johnny" never put a foot into that garden from that day to this, and that she ought to have the credit of them, for she believed the old gardener never looked at them at all, and no blame to him either, for if he was not fit to make Rose-cuttings before a boy like him, he was not fit for his place; but, she added, with increased energy, "I do not see why they make such a fuss about Rose-cuttings, or Geraniums either, for I am sure I could make them myself as well as Johnny; at any rate, if I was once shown, as he was; and I know I can do them after that without any trouble."

Well, I took the maiden at her word; made one *Tom Thumb* cutting to show her how, and one Rose-cutting also; planted both, and cut others, which she made and planted, then and there, out in the open border, and in a row along the side of the walk, that she might not get on the ground when looking after them. No glasses, "no nothing," but the bare border and the open air. But will the cuttings grow? I think they will, certainly.

Now, if this lady's maid, who, as I have heard tell, was only a child till she was past five-and-twenty, according to her lady's opinion, and "Johnny," who was but a "mere boy," according to the new propagator's account, could, and can, grow Rose-cuttings at this rate, surely full-grown people need not hesitate to try their hands at growing Roses from cuttings, and this is just the right season to begin; for if any of the cuttings fail, it will be seen in time to try again and again before the season is out for planting such cuttings.

From the middle to the end of September, I believe to be the best time to put in Rose-cuttings on the following plan; but I have put them in from the first of August to the end of November, the first and the last being free-growing *Bourbons*. Those put in early in August would root before the winter, and the later ones not before the end of April; they would require protection with boughs in the winter, and to be left in the same place till the following October or November. The early ones to be taken up and potted, and kept in cold frames as soon as they were rooted, but sometimes not till the spring following. In that case they would need shelter in hard frost.

Two things are essential to success for this way of growing Rose-cuttings:—Not to plant them on a north or shaded border; and not to place hand-glasses over them, unless they are under a north wall—even then, I should be afraid to use glasses, because they are so liable to cause damp. An east aspect is the best for them, where the sun could reach them till ten or eleven in the forenoon.

To put glasses over any cuttings, in the sun, without bottom-heat under them, I hold to be the very next thing to madness itself. Even a rooted plant suffers, in the long run, if the top-heat is kept at 20° above the bottom-heat—much more a cutting; and that would

often be about the difference between the top and bottom-heat if the sun struck on the glass at all.

If one could make up a mild hotbed, at this season, that would be likely to keep warm for six weeks, or two months, and use *short cuttings* not quite half-ripened, a glass covering would do wonders with Roses; but then, it is sheer folly for strangers to this kind of work to undertake it. A novice, if he or she is over so much in earnest, is as sure to have mishaps with a hotbed and glasses as I am saying so. Gardeners want no rules for growing cuttings, and hotbeds they will have; but that is quite another question altogether. It is only here and there that one meets with an unpractised hand who can manage a hotbed with the help of a tidy labourer; therefore, it seems a pity to throw away good cuttings till you are more sure of success, by practising on more easy subjects till you thus get a right understanding about managing a hotbed and glasses.

All the writing and reading in the world will not insure success in growing cuttings of any kind without some practice; and the simplest practice is surely that of planting cuttings in the open ground, and letting them take their chance, with a little watering now and then, and *cutting off* decayed leaves as they appear. We must never say or allow leaves to be *pulled off* from cuttings, wherever they are, as the force of the pull is sure to disturb the cutting, more or less, and no one can fix a cutting a second time, so as to be sure of it afterwards.

There is another thing in propagation which can never be learnt or taught in books, and that is, the proper state of a cutting, as to ripeness. *Heaths* and *Roses* come more under the rule than any other plants I can think of; it is true, if they are to be in strong heat at once, and covered with glasses, it is no matter how soft they are; but *Heath* cuttings without heat, and *Rose* cuttings for the open air, must be made at a particular stage of ripeness, else it is a mere chance if they do not all fail.

If they happen to be only a little *too ripe*, they will stand and look well for weeks and weeks, without making the least progress for rooting; and before it is over with them the bottoms are so hard that steel pens would root as soon as they. If they are *not ripe enough*, they will rot at the bottom in a week or ten days, in spite of all that one can do for them. If hand-glasses are put over unripe *Rose*-cuttings, that is, unripe for a cutting, and more, if they are put into a shaded place, all the gardeners in England could not keep them from rotting, yet these might be just in the right state of ripeness for planting over bottom-heat. In general terms, we say, *half-ripened* cuttings, and that is about the mark, are to be selected for autumn use in the open air, but there is no sign by which we can tell when a shoot or twig is half-ripe. Every kind of plant has its own particular looks when it is half-ripe, or in a fit state for cuttings. It is from the "looks" that the practised eye can judge so well what the state of the cutting is at the time. Experience, and experience only, can teach the value of the "looks."

There is another very great difficulty in the way of growing *Rose*-cuttings out-of-doors which is seldom thought of, and that is, the natural soil and situation. There are soils on which *Roses* seem to grow without any care; all the land round me here, for miles, looks as if *Roses* ought to perish on it in a year or two. It is little better than black sand on the top, but *Roses* grow and bloom wonderfully well in almost every garden hereabouts. Cuttings of them will grow in this top soil without any sand or compost; but there are plenty of gardens and places where one would not fear to trust any *Rose*, judging from appearance, and yet the most difficult thing about such places is to keep *Roses* in good order, and not a *Rose*-cutting out of a dozen will

strike in these gardens. All this has come within my own practice, and I can vouch for it.

I believe that all the *Hybrid perpetual Roses*, all the *Climbers*, and *Noisettes*, and *Chinas*, can be had on their own roots in all the great *Rose* Nurseries, if they were asked for early enough. I also believe that most of the *Hybrid Chinas*, for Pillar *Roses*, and all the *Hybrid perpetuals*, will root as easily as the *China* and *Tea* *Roses*, but take longer time to do it.

I know that the nature of the season, for the first month after the cuttings are put in, has a great influence on the failures or success. Even the state of the plant from which cuttings are taken has a good deal to do with the business; so that between one thing and another, I have known gardeners in first-rate places, who were not always successful with their *Rose*-cuttings; therefore, it is only but fair that all this should be known, in order not to be discouraged if our first, second, and third attempts should not be so profitable as we reckoned on at starting.

I once had above four hundred cuttings of best *perpetuals*, which I lost one winter, after two-thirds of them were rooted a little, by a heavy fall of snow; the snow-water had no means of escaping except through my cutting-bed, but I never gave that a thought when the bed was made. If I were to make up my mind that I would root ten out of a dozen of *Rose*-cuttings, out of some thousands, in the way of business, the whole to be in the open air, and no glasses were allowed, *the drainage* is the first thing I would take in hand. Next to that, the proper compost, and compactness of it; in the bed all my cuttings should be short, if I could get them so; none would be above four inches long, and all should either have a heel, or be cut just below the part where that shoot started from. I would put them three inches deep in the bed, and three leaves would be all that I would allow for each cutting; but I do not put much stress on leaves at all after the middle of September; but a firm leaf that will hold green for a time is generally valuable in a gardener's eye, whether it is so in reality or not. I have put in hundreds without a single leaf to any of them, and they rooted as well as those that had a few leaves. After planting a lot of cuttings, I would water with a *rose-pot* to settle the soil round them more perfectly, and I would place some boughs between them and the sun for the first three weeks; after that the sun is not so strong, and we never have too much of it. Before the winter set in, I would carefully lay on, between the rows of cuttings, and some distance on each side of them, a layer of small coal-ashes, leaf-mould, or rotten tan, so as to cover them all but the topmost bud. The *Bourbons*, and any which I thought tender, or might suffer from frost, I would shelter with boughs stuck all round and among them. I would put a number, or name, to each kind; and next May I would water the whole bed once a week, whether they seemed to want it or not. The drainage being good, the water could not hurt them, and it might give them an early start.

The cuttings should be in rows as regular as I could make them; four inches from row to row, and two inches from one cutting to another in the row. They would do closer, or wider apart, but there would be nothing gained either way. Leaf-mould and sand, in equal proportions, would be one-half my compost for them; the other half would be from the surface of the lightest part of the garden; the whole should be sifted through a fine sieve, and the bed be ten or twelve inches deep, on a good drainage, and in front of a wall with an east or west aspect. The border between the wall and the walk, for four or six feet from the side of the walk, is the place for them; not the narrow border by the side of the wall. A bed, four feet wide on a six-foot wide border of this kind, would take as many cuttings as any

private grower could wish for, or provide, in one season. Then, if the first few inches of the top of that bed are scraped to one side, then a good spifful or spadeful is thrown out from all over the bed, and the bottom of this is loosed with the spade, it is ready for the compost, after first throwing the top soil that was saved into the bottom, as wall-borders are generally well-drained already. The compost I would press very hard, and make the bed quite full with it; after that, I would go on planting, or putting in the cuttings, from time to time, till the end of October, as they could be had, and as my time allowed. I would not plant one of them with a very soft top to it; and would rather shorten the cutting to less than three inches than use soft green tops, which soon perish with the least mishap. D. BEATON.

STANDARD GERANIUMS.

"SHOULD we grow stocks, and graft, or be satisfied with them on their own roots? What is your experience of placing dwarf compact kinds on the top of strong-growing kinds?" I can say but little of grafting, so far as my own experience is concerned, especially when the scion and the stock were different in habit. I have tried some kinds, such as *Golden Chain*, not very easy to strike, at times, but I had no great success with it, though placed on sticks stronger, and also as weakly-growing as itself. A friend of mine grafted a number of tall shoots of *Smith's* and the *Shrubland Scarlet* with *Tom Thumb*, &c., but, from their appearance now, a person could get as good standards of *Tom Thumb*, in the second year, by striking them early, and giving them the benefit of a close, warm pit during the summer; training them to one stem until they got the necessary height, but leaving as many leaves on as possible, to throw strength into the stem. There is little difficulty in getting huge bushes of *Tom Thumb*—some three or four feet in height, and as much in diameter—when such unwieldy masses are wanted for peculiar purposes, provided you give them time; and when a series of branches can be thus grown, there can be no difficulty in growing single stems. From what I have seen, I should prefer *cleft-grafting* to *side-grafting*; the former secures the scion more firmly, and the junction is less observable afterwards. In *side-grafting*, and especially when stock and scion are very different, I have experienced and noticed, in the case of others, that the junction does not always continue to hold good during the whole space; but that frequently there are openings of daylight between the scion and the stock. All things considered, early in spring is the best time for grafting, when the wood of both stock and scion has been consolidated by the sun of the previous autumn, and comparative dryness at the roots during the winter. A little extra heat and moisture then given will promote union and growth.

Standards have chiefly, hitherto, been adopted among the *Scarlets*, though, no doubt, many of the stronger-growing *Pelargoniums*, on their own bottoms, and many of the fancy kinds, if grafted, would make an interesting appearance, when so used, either for inside or outside ornament. I can say but little on this subject from my own experience; but my ignorance will be no ultimate loss, if it elicits more perfect information on the subject. I was lately honoured with a visit from a gentleman from the neighbourhood of Liverpool, and the sight of standards in beds having brought the subject forward, he stated, that one of the most imposing sights at the Floricultural and Horticultural gatherings there, was a collection of fancy standard *Pelargoniums*, exhibited of great size, as respects the outline of the head, and by the same gardener, year after year. What, however, most forcibly struck my attention was, that the stock used for

these small fancies was the *strong-growing Shrubland or Giant Scarlets*. Few would have thought of trying such a stock. As our friend, Mr. Errington, frequently goes to Liverpool, perhaps he will give an account of a process that is as yet *new* in this quarter. Our visitor informed me, that the heads of the small fancies grew with great luxuriance, and the stems of the stock were strong and straight as lines; the latter property being secured by the plants being raised from seed, instead of from cuttings, the leading point secured, and kept straight until it reached the necessary height. It was also told, that there is little chance of success when either stock or scion, or both, are in a succulent, green state; but that the wood of both should be well ripened, and comparatively inert at the time. Judging from some comparative failures of my own, long ago, I should think that great stress will have to be laid on this latter condition—the *ripeness* of the stock and of the scion.

However successful of people love flowers in the abstract (and I have only met with a few who confessed their want of all relish for the beautiful, in disliking them as trash and weeds), no one can experience the ardent glow of an enthusiastic amateur, who has not worked among his plants and attended, at least, to some of their many wants. Hence it is, that many an humble gardener enjoys the pleasures of the garden in a much higher degree than the lady or the gentleman who employs him. It is well for gardening that this is the case; for, apart from this peculiar zest and enjoyment—this professional enthusiasm—many of the best gardeners would be led to seek a higher remunerating field for their talents than they can ever expect to realize in gardening, unless a desirable change takes place in public opinion. On the same principle, amateurs, for whom we chiefly write, receive the greatest part of their enjoyment from performing many of the necessary operations with their own hands. I know that raising plants from cuttings and seeds are, to them, operations deeply interesting; and that however blue aproners may complain, at times, at the length and minuteness of practical details, there is no complaint on this score from our amateur friends. Now this standarding and grafting of Geraniums are rather new operations, and will, therefore, have all the charms of novelty to recommend it. Besides, if the small fancies can be made to grow on such strong stocks as *Pelargonium giganteum*, or, as in the case above, on the *Shrubland Scarlet*, a very pleasant series of operations will at once be presented to the person whose conveniences are limited, just because one large plant, containing a number of varieties, is more interesting, and requires, on the whole, much less attention than a similar number of small plants in separate pots. Thus I have noticed, that when the Messrs. Lane exhibited their beautiful *Union* plants of Azaleas, so called because two or more kinds, allied in habit, were blooming on one stock, they created less interest among the great gardeners, who could easily find room for a specimen of each desirable kind, than they did among growers with small means and conveniences, because thus they could obtain a handsome plant, and several varieties in a limited space. Now, providing the grafting of these fancy *Pelargoniums* on strong shoots of the *Scarlets* so thoroughly succeeds—and whether they do so or not will not so very long remain a mystery—there will be no occasion for confining the grafting to the standard character, but the stock may be first grown in the pyramidal, or any other form, with so many tiers of branches from top to bottom; and, provided these branches are thin enough, each of them may sustain a different variety; and a large specimen, thus managed, would have many claims to recommend it in small establishments, even in an economical point of view.

But if the question of standards alone, and especially of *Scarlets*, is the chief desirable thing at present, I

would recommend having strong-growing kinds, such as *Smiths* or *Shrublands* on their own bottoms. The hint given above, as to seedlings, is worth attending to, as thus the straightest and smoothest stems are most easily procured. The seeds should be sown in a mild bottom-heat, early in the season; and, however potted and repotted, care should be given to prevent all check or stand still until the single shoot has gained the necessary height. For increasing the size of the stem, no leaf should be removed so long as it keeps green; but when the standard character is resolved upon, all side-shoots should never show themselves, but be removed from the axils of the leaves, with the point of a pen-knife, when in the incipient state of buds. With good attention, fine stems may be procured in one year, and very fine in the second. When grown high enough, the stocks should be rested by comparative dryness and coolness during the winter, and the buds being removed, as stated above, those left at the top will break out into shoots the following spring, after the terminal bud has been removed, on the application of a higher temperature and increased moisture.

Such plants are also easily raised from cuttings, and large pieces may be inserted at once, but the chief disadvantage for standards from cuttings is, that the stand-still, when rooting, predisposes more to side growth, and much care is requisite to have the stock straight and clear. Those who would prefer any outline of the tall pyramidal form, in preference to the naked standard, will find cuttings, in every respect, preferable to seeds. Such pyramids would always present an imposing appearance, and chime in better with many other things than naked-stemmed standards, but then they do not answer so well as prominent points, nor yet, in limited quantity, allow you either out-of-doors or in-doors, to have bloom above and bloom below.

However useful for in-door ornaments, it will be in the flower-garden that these Scarlet Standards will be chiefly used, and there, when of good size, will be very interesting. They must not be expected to be very captivating the first season after planting; when the shoots must come from the incipient buds, though from four to six large trusses, in such circumstances, is far from being cause of complaint. In the second year you may calculate on more. I will now allude to a few points of culture for this object, keeping in view directions to suit the greatest number of growers.

1. When growing, whether from seed or cuttings, use rather rich soil; after the first potting, which should be rather light, plenty of drainage, top-dressings of cow-dung, and manure-waterings once a week, and as high and moist a temperature as you can easily command, provided it does not exceed 60° at night. As autumn goes on give air more liberally, to consolidate growth, and keep the plants dryish, if not coolish, during winter.

2. It will not be advisable to turn out-of-doors until the middle of May, but nothing more than a gentle stimulus should be given to them previously. After the first season's planting-out, the few soft points of the shoots may be removed at raising time in the autumn, and after the plants have been kept rather dry, be pruned farther back in March, if necessary, but from that time until May, no greater excitement should be given than to have the buds breaking into stumpy, hardy shoots. The more they are grown previously, and, consequently, the more tender they are, the more will the plants suffer from cold and sharp winds.

3. Do not keep in pots when turned out in the flower-garden; on the contrary, give them good, rich soil, and the earth to range in, as the beauty of the standard will greatly consist in having strong shoots and fine trusses of bloom. A few manure-waterings will be useful in dry weather.

4. Do not delay taking them up too long, as, if the frost injures the stems at all, the health of the plant will be greatly, if not irreparably, injured. From the middle to the third week in October would, in general, be safe. It would be advisable, in large specimens, to cut the roots round, by degrees, at the distance of eight or twelve inches from the stem, for a month or six weeks before taking up; but if the plants are not large, and fresh lumpy soil has been used at planting time, they may be raised with a fork without the process of preparing.

5. When taken up, they may either be repotted separately, or packed in large boxes; using, in either case, light sandy soil, that roots may be encouraged. A shady place will suit the best for a few days, and syringings over the foliage, instead of frequent drenchings at the roots. A freer exposure to sun and air may, ere long, be given to harden the wood; and if frost is guarded against, the south side of a wall, provided the smaller foliage does not flag, will answer well. By the end of November, they may be wintered beneath the stage of a greenhouse, a warm, light stick-hole, or warm shed, &c. The great thing being to exclude frost, secure a temperature seldom above 40°, and seldom below 36°; and such a state of dryness as will not cause the shoots or buds to progress, and yet will keep the stems and roots from being mummy-dried. By March, the plants may be looked over, pruned, cleaned, and obtain more light; and generally, by the end of that month, or middle of April, a warm, sheltered place, where they can have a fair amount of sun, and be secured from heavy rains and frosts, will be a good position for them until they are planted out.

R. FISH.

JOTTINGS BY THE WAY.

BADORGAN, ISLE OF ANGLESEA, THE SEAT OF OWEN FULLER MEYRICK, ESQ.

THE situation of this beautiful place is peculiarly pleasant, and the climate is so mild that all such Coniferae that have suffered, more or less, in places considerably further south, have not been injured at all by the late more than usually severe winter.

As Mr. Ewing, the excellent gardener, is the inventor and patentee of the elegant glass walls, and has here a good specimen of them, I was glad of the opportunity of seeing them in the summer. The Peaches and Nectarines have a very fair crop of fruit on them, and are as healthy as possible. The Apricots also look well, but were rather thin of fruit. The Fig-tree was very fine, and had a heavy crop of large fruit.

There is no doubt, in my opinion, of the utility of glass-walls, though I consider them capable of some improvement. I would suggest the making them wide enough to allow space for a walk within them, and having the trees planted on each side of the walk, instead of planting them on each side of a trellis in the centre, as Mr. Ewing has done. Then, again, by making them wider, and having a narrow walk down the middle, they might be heated with a double row of hot-water pipes under the footpath, and, to let the heat out, this path should be formed of trellis-work. A further improvement would be to divide the glass-wall into lengths, by fixing glass-doors at certain distances; say, if the wall was one hundred feet long, place two divisions in it, at thirty-three feet and a fraction from each other, and the wall would form three houses;—one of which might be for an early crop; another for a late crop; and the third might be planted with Vines, or Plums, or any other fruit-tree the proprietor might fancy. With these improvements, the glass-wall might safely be considered an ornamental and useful building.

There is in these gardens a splendid Vinery, one hundred feet long and eighteen feet wide. The Vines are planted inside, the front-wall being on pillars to allow the roots to run outside into the border. This plan of inside-planting is by far the best, and no vineries ought to be erected without provision being made for that purpose. I may mention, that at the Royal Gardens, at Frogmore, the Vines are planted inside.

When I was at Badorgan, the Grapes in this house were nearly ripe. Standing at one end, and looking the whole length, the clustering Grapes and healthy foliage had a most beautiful appearance. Amongst them, I was much gratified to see the *Millhill Grape*, a fine, large, black fruit—good bearer and good flavour; it is a desirable variety. The Pineries here are not, strictly speaking, houses, but very wide pits; the back-wall of which is about three feet high. Though not quite so convenient as the low Pine-stove, with a wall behind, yet, with good management, these pits produce excellent fruit.

Mr. Ewing excels in the pot-culture of the Vine. One house was filled with plants preparing for next year. They were planted in square, sixteen-inch boxes, placed on a platform close to the front-wall, and trained straight up close to the roof; most of them raised from eyes, last February, in a hotbed, potted once or twice as they required, and finally planted in the boxes. They were moderately strong when I saw them in June, and will make fine-bearing trees early in the autumn, ready for early forcing; supplying good fruit early in the season, and so preventing the necessity of distressing the Vines planted out in the borders. Pot-culture of the Vine has of late years become better understood; and no family, where there is convenience, need be without Grapes all the year round. A late house, filled with the *West's St. Peter*, or the *Barbarossa* Grapes, will furnish fruit till those in pots are ready.

The noble glass-covered wall, three hundred feet long, which I described fully in a former paper, was furnished, in part, with some Peach-trees, with stems as thick as a man's arm. These had been carefully taken up during last winter, and this summer are bearing a fair crop of fruit, which, under the genial influence of glass, promised to come to perfection. These large old trees are only placed there for the sake of obtaining some fruit till the young trees come into bearing.

The flower-garden here occupies a considerable space. I noted several beds of dwarf Roses, one variety in each bed. The Rose *Duchess of Sutherland* was particularly fine, and also the *Géant des Batailles* and *Souvenir de Malmaison*, together with the dark and bluish China monthly Roses. They were all very healthy, and blooming profusely. The rest of the beds were filled with the usual bedding-out plants. Scarlet Geraniums, edged with Mangles's silver-edged ditto, wore particularly effective. There was also a bed of the *Dahlia Zelinda*, a very dwarf one of a purple colour. I am much surprised this useful bedding variety is not more grown. In large masses it shows off well, flowering most profusely through the autumn months.

In one part of the woods there is a considerable length of natural rock. This is to be formed into a habitation for hardy Ferns, which, when finished and planted, will be a very interesting feature.

T. APPLEBY.

PENRHYN CASTLE, NEAR BANGOR,

THE SEAT OF THE HONOURABLE DOUGLAS PENNANT.

SLATE WALLS.—It is well known that this gentleman possesses the largest Welsh slate quarries in the country. Mr. Burn, his gardener, procured some eight or nine

feet long and two-feet-and-a-half wide. These he has had put up as a fruit-wall; they are kept upright and together with plates of iron (two inches wide, and as long as the slates are high), one on each side, held together with screws; these plates are placed just where the slates meet, covering the joint; on the top, a narrow coping of slate is affixed. This slate-wall being of a dark colour, and that colour, as is well-known, absorbing heat, Mr. Burn anticipates that it will answer well as a Peach-wall, the trees to be trained to a trellis; and, as the slates are little more than half-an-inch thick, the heat of the sun will penetrate through it, and ripen *Morello* Cherries much better than a solid, thick brick-wall. It is but fair, however, to state, that this is but an experiment, the result of which may, or may not, be successful.

Penrhyn Castle gardens are, like the rest of the gardens I have seen in North Wales, favourably situated near the sea, and have, consequently, a mild climate. The late frosts, that cut off the fruits in more inland gardens, have scarcely affected them here. Pears, and Plums, and Apples, whether on the walls, or on espaliers, or on standards in the open garden, had plenty of fruit on them; and also the Peaches, Nectarines, and Apricots, on the open walls, were loaded with fruit. Such crops of bush-fruit I never saw.

Walking along the vegetable garden, my attention was drawn to a row of early Peas, named *Forward Lee Pea*. In the middle of June they were ripening for seed. It is a fortnight earlier than any other, crops abundantly, with seven or eight Peas in a pod, and, I was assured, was of excellent flavour. I believe it came from Messrs. Lawson, the great seedsmen at Edinburgh. It is certainly the earliest and most prolific Pea in cultivation, and is worthy of being inquired for and generally cultivated.

The hothouse fruits here are particularly well managed. The Pine-Apple is grown in pits, and, when a sufficient size, is planted out to fruit in some almost flat-roofed, low houses, with walks on the north side. The air in these houses is kept full-charged with moisture, which causes the fruit to swell to an extraordinary size. I am confident the constantly keeping up a moist atmosphere is more favourable to the Pine than abundance of water at the root. More young, tender roots are destroyed by excess of moisture than by anything else, excepting excessive bottom-heat.

The Vineries here were, as usual, full of excellent Grapes. The *Muscate* house, especially, was quite a marvel. Mr. Burn told me that he had not left nearly so many on as he had the previous year, and did not intend ever to have such a quantity again. In this I think he is right, for wherever there is an excessive quantity they are sure to be of inferior quality. In the same range as the Vinery there was, last year, a Peach-house. This is altered now into a Vinery for late crops, and new Peach-houses are to be erected.

The plant-houses are very properly placed in the flower-garden, a considerable distance from the fruit and vegetable gardens. This garden is well protected from the winds by trees. The ground slopes very much, and is formed by the sheltering trees into a half-circle, the straight side of which is formed into a broad terrace, the plant-houses occupying the centre, with spacious gravel-walks in front. There is a row of formal beds on this terrace, several of which were thickly planted with dwarf Box, forming an evergreen bed; these were unique in their way. The walls on each side of the houses are planted with choice creepers, such as the best Roses, Clematises, Honeysuckles, Jasmines, &c.

The beds in front of terrace are all on turf, and irregularly placed, and of no particular form. Amongst them are some fine choice Conifers, such as Araucarias, Deodars, &c. These break the flat slope surface of the

flowers, and give many a pleasing vista amongst them. There has been many objections to using the *White Unique Geranium* as a bedding plant; I was glad to see it planted out here, and blooming profusely; and also the double *Purple Geranium*, with its fringed flowers, was flowering abundantly.

Bedding-out flower-gardens are too often placed near the mansion, in an open situation, exposed to all the winds that blow; the consequence is, that they do not thrive satisfactorily; whereas, in those gardens sheltered from the wind the plants are quiet, and produce their flowers earlier, and last longer in the autumn.

T. APPLEBY.

(To be continued.)

KEEPING YOUNG FOREST-TREES CLEAR FROM WEEDS.

It not unfrequently happens, that in a showery summer, like the present one, something or other gets neglected. In the garden, dull and wet days impede certain operations very much, while they encourage the growth of weeds and other sources of confusion, and it takes some amount of energy to overcome the difficulties and excess of work which this excess of wet occasions. Now, it is not to be supposed that tall seedling weeds are to be seen in the parterre, or anywhere in the dressed grounds, but the back of the shrubbery may abound in them, and they may find their way amongst vegetables that are not examined every day; and in many odd or out-of-the-way places, weeds and rank rubbish will often be found in greater abundance in damp seasons than in bright, clear, fine ones; but I do not here call attention particularly to these cases, because the appearance which they present will bring the hoe upon them, but I would tempt the manager or superintendent of rural works to some little distance from the scene of his every-day duties, and wish him to examine into the condition of the young plantations that he may be rearing in some part or other of the property.

Probably he will there see that the young and but recently-planted forest-trees are completely overgrown by the rank herbage which the damp season has made more than ordinarily strong. In this case, it is easy to see that something ought to be done to prevent the tree or shrub being smothered in its infancy. Now, it is not always that time can be spared to hoe and clean ground that is planted with forest-trees, probably to the extent of many acres, and that on ground not previously in the best possible condition. In this case, a more quick and expeditious mode must be adopted, which is not badly effected by cutting the weeds or other herbage close off with some sharp tool, as a sickle or hook, and allowing the roots to remain in the ground; not but the tree would be benefited by their removal, but as it is important that all such work should be done quickly, it is better to go over the whole in this way, than do the one-tenth part particularly well. The earlier in the season it is done the better; for as all forest-trees make their growth pretty early, it is important that their growing season be not impeded by any obstruction like the overgrown weeds alluded to.

At the same time, it ought to be fully understood, that weeds, however detrimental they may be at certain seasons and places, are not always so. I once knew a bed of nice *Cauliflower* plants that had been standing untouched in a seed-bed, which had never, in fact, had a weed picked from it, all but quite killed in winter, by an imprudent person weeding and cleaning it (as he thought) the day before the setting in of a sharp frost. The natural consequence was, that the portion of the

plant which was before sheltered or concealed by the wilderness of weeds, being suddenly exposed to the inclemency of the weather, was unable to endure the change, and the consequence was, death or injury to all, while a portion of the bed which had not been weeded remained unhurt. Now, it is easy to see how this case will bear on the forest plantation, though not to such a degree; for here Nature comes forward, and does her duty by hardening and ripening the tree as it becomes exposed, by the gradual dying down of the herbage surrounding it. Nevertheless, it can hardly be expected to have attained that robust growth it would have done had the rubbish been removed as it advanced.

I need hardly say here, that apart from the injury rank weeds do to the legitimate crop where they are, they also injure the surrounding fields and grounds by disseminating their seeds in all directions if they be allowed to ripen. For who has not seen the down of a thistle floating in the air of a still September day a mile or more from the place it started from? And other weeds, though, perhaps, less gifted with locomotive powers, are, nevertheless, spread abroad in many ways. As it is important to prevent such injurious effects, it is absolutely necessary to cut down and remove the cause of such evils before they attain the dangerous size, for be it remembered, that the stem of a plant (a weed especially) has in itself, when cut, the power to forward and partly mature its seed; so that merely cutting weeds before the seed is ripe is not soon enough, a few days earlier would ensure their destruction. It is, therefore, with this object in view, that I herewith call on the manager of such matters to be on the alert.

J. ROBSON.

THE WILDERNESS.

By the Authoress of "*My Flowers*."

(Continued from page 384.)

THE progress John Henry made in spiritual things, in spite of all outward hindrances, was rapid and steady. He searched the Scriptures unweariedly, and next to them the "*Pilgrim's Progress*" was his delight. Whatever book he could meet with which edified or instructed him, he wrote out from it passages which most pleased him; and from Bogatzky's "*Goldeu Treasury*" he copied many pages. In one whose education had been scanty, this was a work of difficulty; but when the soul is awakened, mountains become plains, and rough places smooth—nothing can check the pilgrim on his way.

Perhaps some of my readers may like a sketch from Mr. Johnston's agreeable pen, of the uninviting house of this earnest seeker of "a house not made with hands, eternal in the heavens." "The house was the usual style of an Irish farmer's, containing a kitchen, with a bedroom on either side, together with lofts for storage. The kitchen served for hall and parlour. The door being always open, the only protection the apartments had from the blast of the winds was the small jamb-wall, which abutted about four feet from the side of the fire-place, and which flanked the entrance, so as to form a perfect screen to the upper-end of the kitchen. This wall contained a small window, which commanded a view of the approach to the house, so that persons sitting at the fire could take cognizance of their visitors before they had reached the door. The spinning-wheel, or a reel for winding yarn, stood in the wife's corner, at the opposite side of the fire-place, under the capacious projecting chimney, from whose crane one or two large pots were generally hanging over the blazing turf fire upon the hearth. The side opposite the door contained a few chairs and a large table, usually covered, in the forenoon, with the produce of the farm, which was being prepared for food, either for the family, or their pigs and poultry. A dresser, with its dull pewter plates and dishes, was placed on the side opposite the fire; while the intervening space along the wall to the door was filled with sundry tubs and wooden

vessels used for household and dairy purposes. Long poles, suspended by cords from the roof, contained hanks of yarn which were hung to dry. The churn stood in the middle of the floor, with, at times, a tub or two of steaming turnips or potatoes, which were being mashed for cattle. This apartment of all works was ever a scene of bustle of one kind or other. The sleeping-rooms were never entered by me, but from the glimpse I got of them, through their open doors, I should think they were scarcely more favourable to study. A gloomy and almost sepulchral quiet seemed to pervade them. The scanty supply of light, and their damp clay floors, forbid your wishing to explore them further. The plain and dingy furniture which was visible, seemed only what was absolutely necessary. There appeared nothing in the way of a comfortable chair or convenient table, which could induce one to retire either to read or write; indeed, in such houses, the only writing materials are a solitary quill, and a penny jar of ink, kept in a drawer, or behind a plate, on one of the shelves of the dresser; and yet it must have been in one of these gloomy apartments, and impeded by all these inconveniences, that the subject of this memoir snatched his intervals for self-instruction after his fatiguing day of labour on the farm." What may not—what is not done every day by thousands, to improve their worldly callings? What difficulties are got over! What inconveniences are borne with! What hindrances are trampled down! But the sluggard in spiritual things says "There is a lion in the way: a lion is in the streets." Let such take a lesson from John Henry in his inconvenient house.

Mr. Johnston, in his first intercourse with him, had advised him to attend the Sunday-school, where he might obtain further instruction. With the humility of a little child, this young man scrupled not to obey the recommendation. He never considered it beneath his age and station to sit among the little children that gathered round the clergyman to be taught by him. The smile or the ridicule of those who knew not God were nothing to him. He was thirsting for the water of life, and wherever it was poured out he was willing to drink. "He felt that his salvation was the one thing needful, and that it mattered little how he fared while he remained in doubt and ignorance upon that absorbing subject. * * * As he afterwards said—I felt within myself, at that time, that if mercy was to be had, I would never cease seeking until I found it. With such a resolution, it was easy to overcome any false shame or delicacy which might have troubled him, if, indeed, he ever felt such. But from the first moment he was awakened of God, his earnest perseverance proved him to be one of those 'violent' ones, of whom it is said 'the kingdom of heaven suffereth violence, and the violent take it by force.'"

The great question requires a great answer. There is no rest, no satisfaction, till that great answer comes. We are often wandering for a long time in the wilderness before our feet tread the soil of Canaan. We have seen the promised land—we may have beheld even the grapes of Esheol—and yet our unbelieving hearts keep us doubting and wandering, it may be for weeks, or months, or years, before we accept the blessing—before we can rest on the promises—before we can wrestle with the Lord, and prevail.

At this time, Mr. Johnston found John Henry silent and reserved. He could draw nothing from him but a simple "Yes," or "No"—yet his attention was deep and fixed, and he never seemed weary of listening. It was the same at church. Mr. Johnston says, "During the service, his mind was wholly absorbed in devotion; when the sermon was preached, and the theme happened to be the subject of redeeming love, his countenance became perfectly radiant with delight. Sometimes, when the more awakening subjects of death and judgment were treated of, his attention became so fixed, and he showed such an apparent terror of apprehension, that you would suppose him listening to some terrific peal of thunder, which had not reached the ears of others. Not that he really felt any alarm or terror; far otherwise—death and judgment had lost their terrors for him. No; he was solemnized and impressed, but not alarmed. Comparing his manner with that of those who sat around him, he seemed truly like a being from another world, who had fallen among creatures of a more carnal, earthly nature; so striking was the contrast be-

tween his deep concern, and their comparative indifference."

Readers! "take heed how ye hear." Are you listening as John Henry listened? Are you wandering as John Henry wandered? Are you worshipping as John Henry worshipped? Whatever you may think, unless you feel or have felt as he did, you are still sitting among the flesh-pots of Egypt—you are hugging your chains—you have not even cried to God to deliver you from captivity. Observe his energy—his fervour—his hunger and thirst after salvation; and let them stir you up to seek as he did. His case is just yours, and mine, and every one's. He was no more than we are; in no greater danger than we are; not a whit farther, if so far, from the kingdom of heaven than we are. If he felt so deeply and intensely the terrors of the Lord, and that he must "repent or perish," "how shall we escape, if we neglect so great salvation?" How shall we be saved, unless we "repent and believe the Gospel."

ALLOTMENT FARMING.—SEPTEMBER.

At length our labouring classes are once more enjoying those two greatest of temporal blessings—cheap bread and abundance of Potatoes. Such things are, indeed, a boon to any class in society; but particularly to all those who live by the sweat of their brow. And well it is that a sort of breathing-time comes occasionally, to elevate the hopes and fortify the mind against that sad depression of spirits which is sure, more or less, to occur during periods of scarcity, and, consequently, of high prices. But the patient endurance shown during the last terrible winter, when both fuel and food were scarcely attainable by thousands; together with the spirit recently shown by our army and navy in the arduous warfare into which we have been forced, proves plainly that Britons are indeed Britons still, and have lost neither the pluck nor fortitude for which their forefathers have ever been famed.

It will soon be time for the Allotment holder and the cottager to take up and store his roots for the winter; indeed, hundreds have taken up much of their *Potato* stock before now, through dread of the disease; and good policy too. *Potato* crops, in those parts which are notorious for great breadths, and have been so for generations, are, up to the time I write (August 10th), splendid indeed; perhaps equal to what they were in their most palmy days, some twenty to thirty years since. And, what is a most pleasing feature in their condition is, the restoration of their blossoming and seeding powers, which had been broken up with the corruption of constitution they had undergone. Field after field may now be seen, in crossing the country, covered with blossom, and those more advanced as full of seed apples as in their best days. Every practical man must admit that this is an evidence of returning strength.

Let me strenuously advise a most careful selection of seed for the future year; for in this, and the avoidance of rank manures, must success be sought. I advised this course repeatedly when the disease first broke out, and endeavoured to persuade people that the constitution of the *Potato* had been seriously injured by such neglect and ill-usage as no other crop would have submitted to; but folks, instead of looking to natural causes, soon got the whole affair so shrouded in mystery, that the dust they kicked up soon blinded their vision.

Papers by me to such effect may be found written at the very commencement of the disease, but they were slighted; for folks seemed much fonder of nostrums and quackery, than of simple measures based on the habits of the *Potato*, and manifestly tending to health of constitution. But here the evil chiefly rested; people began to dip deeper into the dunghill than hitherto, and this but aggravated the disease. They fancied themselves indisputably on the right scent when they found their *Potatoes* stronger looking than ever in June, not distinguishing between an artificial or forced strength and natural robustness; the former generally distinguished by long-jointed shoots, with large and thin foliage; the latter, by a sturdy compactness, with thick foliage, as different from the former as light from darkness.

I have had all my early seed *Potatoes* on a dry boarded

floor ever since the middle of August;—some earlier; they are now hard as bullets, almost, and of a bronzy-green colour; the eyes just to be detected in their sockets. All they require, henceforth, until the end of January, is thorough dryness and perfect safety from frost. My latter crops for seed will be up in three or four days, and undergo similar treatment; and I shall have the satisfaction of knowing that there is not the slightest taint of disease in my whole stock.

We may now enquire what the chief features of August are, as concerns allotment plots; and first—

SPARE GROUND.—Let the whole plot once more undergo a close examination, in the very beginning, to see if any spare space yet remain, or any bad or imperfect crop cumber the ground, which could be more profitably employed. Cabbages, or Coleworts, from a June sowing, may now be planted to advantage; indeed, it is a capital time to plant the dwarf kinds sown in the beginning of July for winter Coleworts. It will be remembered, that I long since advised a special eye to this sowing, and urged that a good deal of cash might be made of them at Christmas, if bunched and sold. Let it be remembered, that is the sort, if good, such as *Barnes' Dwarf*, or the *Matchless*; they may be planted as close together as nine inches in such soil as cottagers possess, which is not so rich in manure as our market gardens. Strong plants of *Green Kale* may yet be put out; but for all other greens it is too late. Every decaying, or useless crop, therefore, should be pulled up and used. I have known cottagers silly enough to keep a lot of exhausted half-gathered Peas on the ground, with the idea of saving their own seed: this is nonsense; they will bny their seed, and much more too, with the profit they will obtain if they gather the Peas half-ripened, for stewing with fat bacon, or by giving them to the feeding hog, and then cropping their ground directly. They should remember that Peas occupy more ground than most crops. The same may be said of Broad Beans, unless as mixed crops.

ONIONS, if handled through the summer according to my recommendations, will now be fit to draw, or, indeed, much sooner. Mine will all be off the ground by the 20th August, and the plot will be immediately dug and planted with Coleworts to carry us through a long winter. I never had such a crop of Onions in my time. I shall estimate their produce per pole when removed, and let our readers know.

CARROTS.—These are fearfully grubbed with me, so much so, that I have drawn most of the early crops, and, cutting all the largest roots into the quick, I have bedded them in damp charcoal-dust to preserve them for autumn use; and I sowed a good breadth of the *Early Horn* in the middle of July, in order to endeavour to eke out without buying, if possible. I shall occasionally water these young *Horns* with a liquid-manure, composed of three parts soot, one part guano.

PARSNIPS will be now in full growth; they simply require keeping clear from weeds.

MANGOLD.—Draw up the "bolters," if any, and give them to the pig. Keep the crop clean.

SWEDES.—I have a little garden attached to my cottage in which there is now growing one of the finest crops of Swedes after early Potatoes that ever were seen by any man; and this, too, without any manure except what the Potatoes left. The soil was, however, in fine tilth, and the plants sown in the end of April, in drills, moderately thin, were uncommonly stout, with small bulbs already formed. They have, moreover, been twice mowed over—the tops just pointed with a light hand—and this makes a very stont plant, which will well endure transplanting. Swedes should be once more looked over in the first week, and if any weeds remain they must be all removed.

LETTUCES may be sown in the first week, thinly, to remain where sown; and those sown in the beginning of August must be transplanted where they can be protected in severe weather. At the end of the month the *Cabbages* sown in the second week in August to stand the winter must be pricked out, to strengthen them, on light soil, not too rich.

And now, as parting advice, I say, let the hoe be plied in dry weather wherever the soil is crusty or weedy; and remember the advice so often given—of looking well to manure-heaps, and of collecting materials for a general charring at the end of the month.

R. ERRINGTON.

APIARIAN'S CALENDAR.—SEPTEMBER.

By J. H. Payne, Esq., Author of "The Bee-Keeper's Guide," &c.

THE SEASON.—The season has by no means been a good one. There will be very little or no surplus honey. The early swarms have generally collected only a sufficient quantity to carry them safely through the winter, and late ones will, consequently, require autumnal feeding. Each family intended for stock should be made to weigh at least twenty pounds, independently of the hive, and it had better be done at the end of the month.

Honey is, unquestionably, the best food that can be given, and next to it a compound of honey, loaf-sugar, and water. Barley-sugar is more suited to spring feeding when but little is required. The proportions are one pound of sugar, one-quarter-of-a-pint of water, and one-quarter-of-a-pound of honey, mixed and simmered over a slow fire till the sugar is melted.

May, and the early part of June, promised well for a good season, but the dull, wet weather that followed destroyed all hope of there being any quantity of honey stored. The bright days of July came too late. June is the only month in which much is ever done, when that proves wet and cold no honey can be expected for that year. "None in June, none afterwards," is a true apian axiom.

AUTUMNAL UNIONS.—Late and second swarms containing but five or six pounds of honey will not repay the trouble and expence of feeding, and had better be put two or three together, and fed liberally with the above compound. The union may be formed either by driving or fumigating.

WASPS.—Where wasps abound, it will be advisable to narrow the entrances of the hives with a few pieces of cork.

DURHAM AGRICULTURAL SOCIETY'S POULTRY EXHIBITION.

This took place at Darlington on the 4th instant. The show was small in numbers, for the prizes were low, but the quality of the birds was good generally, the chief exception being the *Shanghai*s. Mr. R. Benson, it is true, exhibited some fine birds in this latter class, but nearly all the rest were gaunt and hideous-looking creatures. Mr. W. Lightfoot, of Newcastle, as might have been expected, carried off the prizes for the *Spanish*, with birds displaying the manifold beauties of that noble breed. The *Dorkings* were of excellent quality—Mr. Spearman's chicken were greatly admired, as were also the cock and two hens exhibited by Miss Wood. The *Game* fowls were not numerous, but the beauty of the plumage of the specimens exhibited found for them numerous admirers. In the Silver and Golden *Hamburgh* class some difficulty was experienced by the judges, owing to the Spangled and Pencilled varieties being classed together, and thus brought into unfair competition. The recommendation of the judges to separate the classes will no doubt be attended to next year. The birds in these classes were very good—the Silver in particular. The remainder of the poultry was of an average quality—a gander was exhibited which weighed 21 lbs., and a goose 16½ lbs.

The judges were Mr. Trotter, of Bywell, and Mr. Newby, of Hallgarth.

SPANISH COCK AND TWO HENS.—First prize, Mr. W. Lightfoot. (Black.) Hatched 1853. Second prize, Mr. W. Lightfoot. Six entries.

SPANISH CHICKEN.—First prize, Mr. W. Lightfoot, Shieldfield, Newcastle. (Black.) Hatched 1854. Five entries.

DORKING COCK AND TWO HENS.—First prize, Mr. Thomas Stockdale, Hilton, near Yarm. Second prize, Miss Wood, Stanwick Park, Aldborough. (Coloured.) Six entries.

DORKING CHICKEN.—First prize, H. J. Spearman, Esq., Newton Hall. (Speckled.) Hatched in April. Second prize, Miss Newth, Kirkbridge. Eight entries.

COCHIN-CHINA COCK AND TWO HENS.—First prize, Mr. William Marshall, Darlington. There were no birds deserving a second prize. Four entries.

COCHIN-CHINA CHICKEN.—First prize, Mr. Richard Benson, Darlington. Eight entries.

GAME COCK AND TWO HENS.—First prize, Mr. J. Dixon, West Brook Place, Bradford. Second prize, Mr. John Charlton, 1, Simpson-street, Newcastle. Age, nineteen months. Six entries.

GAME CHICKEN.—First prize, Mr. Alexander G. Grey, jun., Newcastle. Cock and two Hens. Four entries.

GOLDEN HAMBURGH COCK AND TWO HENS.—First prize, Mr. James Dixon, West Brook Place, Bradford. Second prize, Mrs. Webster, Kelloe, near Ferryhill. Four entries.

GOLDEN HAMBURGH CHICKEN.—First prize, Mrs. Webster, Kelloe, near Ferryhill. Four entries.

SILVER HAMBURGH COCK AND TWO HENS.—First prize, Mr. D. Hume, Marton, near Middlesbro'. Second prize, Mr. Thomas Dobbing, Caldwell. Four entries.

SILVER HAMBURGH CHICKEN.—First prize, Mr. Charles Dearlove, Preston. Age, fourteen weeks. Two entries.

CHITTEPRATT OR CORSICAN COCK AND TWO HENS.—First prize, Mr. James Dixon, West Brook Place, Bradford. Second prize, N. Plews, Esq., Darlington. 1853. Three entries.

COCK AND TWO HENS (ANY BREED OR CROSS).—First prize, Miss Wetherell, Kirkbridge. Hatched in May, 1853. Second prize, Mr. D. Hume, Marton. Four entries.

CHICKEN (ANY BREED OR CROSS).—First prize, Miss Wetherell, Kirkbridge, Darlington. Extra prize, N. Plews, Esq., Darlington. Eight entries.

BANTAM COCK AND THREE HENS (ANY VARIETY).—First prize, Mr. Alexander G. Grey, jun., Newcastle. (Black.) Four entries.

COCK (ANY BREED).—First prize, Mr. Charles Dearlove, Preston. (Cochin-China.) Six entries.

PAIR OF HENS (ANY BREED OR CROSS).—First prize, Mr. John Shorthose, Shieldfield, Green, Newcastle. (Cross between Andalusians and black Spanish.) One entry.

GANDER AND GOOSE.—First prize, Mr. Thomas Stockdale, Hilton, near Yarm. One entry.

DRAKE AND TWO DUCKS.—First prize, Edward Pease, jun., Esq., Southend, Darlington. (White Aylesbury.) Second prize, Miss Wetherell, Kirkbridge. (Rouen.) Three entries.

TURKEY COCK AND HEN.—First prize, Miss Blackett, Low Shipley. One entry.—(*Durham Advertiser.*)

PRESCOT POULTRY SHOW.

THAT those who have throughout vented their ridicule on the "Poultry mania" should be anxious to draw unfavourable inferences from the fact of prices having receded from their previous unreasonable point, should be no cause of wonder, however easy the refutation of such arguments. But when our opponents advance beyond this, and proclaim the decline of Poultry Exhibitions, generally, as a necessary consequent of what is, in fact, a return to a sounder state of things, being at the same time more beneficial to the seller as well as to the buyer, we must altogether withhold our assent from their proposition. For not merely have the Societies of former years advanced in the general character of the birds that have been entered for competition, but new Societies are constantly occupying those districts that were before left vacant. At Prescot, for instance, the first of a proposed series of annual Poultry Shows was held on the 10th of August; and the catalogue with prize list now before us, betoken no want of energy on the part of the Society or its exhibitors, though they certainly appear daring in choosing such a month as August for their first essay. The adult *Spanish*, our informant tells us, were very moderate; the chicken, however, were a better lot. But let us not be too hard on their owners, and thus conclude that the Judges could not altogether banish from their minds the form of Knowsley birds, whose former abode was in such close proximity. Captain Hornby, it should be remembered, has parted with both his *Spanish* and *Dorkings* of last year to Mr. Davies, and is bound by the terms of that sale not to exhibit in those classes before the January of 1856.

The *Dorkings* were carelessly matched, and sadly out of condition. But *Shanghaes* were of great merit; as were also the *Hamburgs* and *Polish*, especially the spangled birds of the former breed. *Bantams* and *Turkeys* good; *Ducks* were shown to disadvantage from their moult; but the *Geese* were excellent, the three prize Goslings weighing together 52 lbs.

Class 1.—**SPANISH.**—For the best Cock and two Hens exceeding one year old.—4. First prize, Mr. William Copple, cottager, Knowsley. 2. Second prize, Mrs. Elizabeth Cooke, Eccleston.

Class 2.—**SPANISH.**—For the best Cock and two Pullets, Chicken of 1854.—25. First prize, Mr. R. Pilkington, Windle Hall, St. Helens. Age, fifteen weeks. 21. Second prize, Mr. G. Fell, Springfield, Warrington. Age, cock hatched 25th of February, pullets 6th of April.

Class 3.—**COCHIN-CHINA (Cinnamon and Buff).**—For the best Cock and two Hens exceeding one year old.—28. First prize, Mr. William Copple, Eccleston. (Buff.) 34. Second prize, Miss Charlotte Hughes, Sherdly Hall, St. Helens.

Class 4.—**COCHIN-CHINA (Cinnamon or Buff).**—61. First prize, Miss Charlotte Hughes, Sherdly Hall, St. Helens. Age, cock 20th of February, pullets 10th of January. 73. Second prize, Mr. R. C. Whiteway, Irwell House, Runcorn. Age, hatched 2nd of March.

Class 5.—**COCHIN-CHINA (White).**—For the best Cock and two Hens exceeding one year old.—81. First prize, Captain W. W. Hornby, Knowsley Cottage, Prescot.

Class 6.—**COCHIN-CHINA (White).**—For the best Cock and two Pullets, Chicken of 1854.—54. First prize, Mrs. Wm. Wright, West Bank, Runcorn. Age, hatched 30th of April.

Class 7.—**DORKINGS.**—For the best Cock and two Hens exceeding one year old.—92. First prize, The Earl of Sefton, Croxeth. 91. Second prize, Mr. John Hammill, Denton's Green, St. Helens.

Class 8.—**DORKINGS.**—For the best Cock and two Pullets, Chicken of 1854.—95. First prize, Mr. John Copple, Eccleston. Age, hatched 25th of March. 103. Second prize, Miss C. Hughes, Sherdly Hall, St. Helens. Age, hatched 25th of March.

Class 9.—**GAME FOWL.**—For the best Cock and two Hens of any age.—103. First prize, Mr. A. W. Cooke, Knowsley. (Black-breasted.) Age, hatched July, 1853. 110. Second prize, Mr. John Jones, Prescot.

Class 10.—**GOLDEN-PENCILLED HAMBURGH.**—For the best Cock and two Hens of any age.—120. First prize, Mr. William C. Worrall, Rice House, Knotty Ash. 118. Second prize, Captain W. W. Hornby, Knowsley Cottage, Prescot.

Class 11.—**GOLDEN-SPANGLED HAMBURGH.**—For the best Cock and two Hens of any age.—125. First prize, Mr. Thomas West, Eccleston Place. Age, two years. 123. Second prize, Mr. George Fell, Springfield, Warrington. Age, two years.

Class 12.—**SILVER-PENCILLED HAMBURGH.**—For the best Cock and two Hens of any age.—140. First prize, Mr. Edward Worrall, Knotty Ash House. 132. Second prize, Lady E. Hopwood, Knowsley Parsonage. Age, eighteen months.

Class 13.—**SILVER-SPANGLED HAMBURGH.**—For the best Cock and two Hens of any age.—141. First prize, Mr. Edwd. Worrall, Knotty Ash House. Age, two years.

Class 14.—**POLAND FOWL (Black with White Crests).**—For the best Cock and two Hens of any age.—142. First prize, Mr. Thomas Beesley, Eccleston. 143. Second prize, Mr. Thomas Beesley.

Class 16.—**POLAND FOWL (Silver).**—For the best Cock and two Hens of any age.—146. First prize, Mr. James Beesley, Yew Tree Cottage, Prescot. 149. Second prize, Mr. Elias Lyon, Eccleston. Age, hatched May 2nd, 1854. Extra prize.—147. Mr. John Hopkins, Latchford, Warrington.

Class 17.—**GOLD-LACED BANTAMS.**—For the best Cock and two Hens of any age.—152. First prize, Mr. G. W. Moss, Liverpool.

Class 18.—**SILVER-LACED BANTAMS.**—For the best Cock and two Hens of any age. 155.—First prize, Mr. G. W. Moss, Liverpool.

Class 19.—**WHITE BANTAMS.**—For the best Cock and two Hens of any age.—158. First prize, Mr. Henry Yates, Halsnead Colliery, Prescot.

Class 20.—**BLACK BANTAMS.**—For the best Cock and two Hens of any age.—160. First prize, Mr. G. W. Moss. Age, chicken of 1854.

Class 21.—**GEESE.**—For the best Gander and two Geese exceeding one year old.—161. First prize, Captain W. W. Hornby, Knowsley Cottage, Prescot. (Toulouse.)

Class 22.—**DUCKS (White Aylesbury).**—For the best Drake and two Ducks exceeding one year old.—165. First prize, Mr. Henry Worrall, Knotty Ash House. Age, one year.

Class 23.—**DUCKS (Rouen).**—For the best Drake and two Ducks exceeding one year old.—166. First prize, Mr. William C. Worrall, Rice House, Knotty Ash.

Class 24.—**TURKEYS.**—For the best Turkey-Cock and two Hens.—170. First prize, Capt. W. W. Hornby, Knowsley Cottage, Prescot. (Norfolk.)

Class 26.—**GOSLINGS.**—For the best three Goslings of 1854.—177. First prize, Captain W. W. Hornby, Knowsley Cottage, Prescot. Age, hatched 20th of April.

FLOWER GARDENING AT THE CRYSTAL PALACE.

(Concluded from page 402.)

I BELIEVE that I mentioned, in my last communication, that amongst the plants used for bedding-out purposes here, the *yellow Calceolaria* stands conspicuous, and I believe I am speaking within bounds when I say, that full one-third of the plants there used are of the various kinds of this colour, and by far the greater portion of these are the "old yellow."

Some people would have an objection to such a preponderance of this one colour, but the grounds here are so large, and the breadth of turf so spacious, that light colours are much wanted to "lighten up" the effect; and having for

many years been an ardent admirer of this useful plant, I am glad to see it patronized so extensively at a place to which, I suppose, we must hereafter look for our leading fashions in flower-gardening matters, considering the extent and means, combined with the high authority, the managers of this concern carry with them in all matters of taste.

I may also mention, that, in addition to the innumerable beds of *yellow Calceolaria* planted in the massing system (for most beds are here planted that way), it is also, in many instances, made to serve as an edging around beds of evergreen shrubs, as *Rhodendrons* and the like, when such plants are grouped together in regular shaped beds, for which purpose its compact and regular habit renders it specially appropriate.

In some places it and *Tom Thumb Geranium*, planted in alternate beds, have an excellent effect, so as to seem that no other colour or plant was wanted; but others are introduced in some of the lines where diversity is required, but they are all made to obey one given rule—"they are all of a height,"—those having a rambling habit being either pegged down, or otherwise checked in such a way as to keep in line with the others.

The *Ageratum Mexicanum* seems to be kept in subjection, so as to run on a line with the *Verbena*, while the aristocratic and stiff-necked *Salvia patens* is also made to bow to the all-levelling laws of the Crystal Palace garden authorities, and if it have not the liberty it is wont to enjoy, it certainly looked very well, and its distinctness of colour gave it a prominent position in a place where the democratic rules of "equality and fraternity" seemed the prevailing orders of the day. The *Heliotrope* was similarly treated, only being more at command than the *Salvia*, its bending down was a matter much easier performed.

In noticing the details, it is only fair to observe that the various beds were, on the whole, a trifle below the level of the turf which surrounded them rather than heaped up, which some flower-beds exhibit to an improper degree; and as everything is kept purposely low, it is needless to say the outline of the whole are thus better maintained. This is also improved by the easy and agreeable shape of mostly all the flower beds, two-thirds of which, I think, are round ones, and no other figure is so graceful.

I cannot help thinking that the artificial treatment many of the plants have been subjected to appears like carrying the system too far. Pegging-down and tying-up may be done to excess out-of-doors as well as in pot-culture, and in this case, I think it is so. Beds of *Calceolaria* of the old yellow, and other stiff, bushy kinds, are tied up into separate tufts, to each of which is assigned a stick. This is done, doubtless, to avoid the evils of a thunder-storm breaking off large branches; but I could not reconcile myself to the treatment as being a prudent one. However, as the plants grow, they will spread out and conceal the braces they have been propped up with. The same remark holds good with regard to undue pegging-down to which certain things are subjected; only it is fair to state, that at the time I saw them they were hardly full grown, and, no doubt, they were intended to do for themselves afterwards.

In the shrubbery way much is yet to do; but there are certain circular beds in corners, and other prominent places, which seem to have done very well since their removal. Some of them have an edging around them of a dwarf good-habited plant. The *Gaultheria procumbens* is so used. Some hardy *Heaths* are also introduced with good effect, as are *Box*, *Daphne Cneorum*, *Dwarf Rhododendrons*, and some other plants of which I omitted to take notes; and now and then variegated plants are used as edging. Even some of the massing beds, in the flower department, had an edging of a plant not then in flower, as the *Blue Gentian*, and something else, which, doubtless, had displayed their beauties at an earlier period.

As it is perfectly fair to take a lesson, now and then, out of a neighbour's book, I may mention, that the mode they have of making walks seems to deserve some attention. The hill side on which the grounds are formed is composed, in many places, of a stiff loam or clay, which, in the formation of the various works, has been much cut into; this otherwise useless substance has been burnt, and is used as the foundation of the walks, some of which are of great width, and, when completed, will collectively occupy a considerable pro-

portion of the surface of the grounds. A good coating of gravel is added at top, this gravel being of the kind which, in common parlance, is called "Kensington gravel," a sharp, hard, good wearing material, and likely to endure the wear of the thousands of pedestrians by which the walks are daily traversed. No shells are used, but it is probable the managers may adopt this coating by-and-by, when the present walks get consolidated and firm.

Of the parts which were not finished, but in progress, a good deal of rustic banks, or rock-work, seem to be the important feature; and in the making of one part the stumps of trees are extensively used, each having their long claws or roots projecting out at good distances. Large breadths of turf, also, waited laying down, either in seed, or by some other plan, and besides which, the stone-work connected with the kerbing, &c., of the fountain basins, and other water-works and water-falls, was far from finished. Nevertheless, the activity generally visible in every department gave token that we may, in due time, look forward to the gratification of seeing this great public undertaking finished.

I need hardly here state, that the parts of the grounds most distant from the building present more the character of park scenery than of flower-gardening.

Good broad walks either do, or are intended to, intersect in various ways; the undulating nature of the ground being in all cases taken due advantage of, and belts of evergreens are planted in sundry places where they are wanted to give effect, and the large pond, or basin, will, no doubt, be a grand feature when completed.

I may add, that a tasteful lodge, or entrance, has been erected at one of the approaches, at a distance from the building, or railway, and other ornamental erections present themselves here and there, so that, on the whole, I cannot but recommend our friends, who are interested in gardening matters, to pay a visit to this important place; for, independently of the magnificent objects inside, much may be gleaned in the grounds; not the least being the good taste displayed in grouping and planting the masses of evergreens, which are done in that agreeable way which nature might be supposed to do if left to work with the fittest materials in her happiest mood. It is widely different from that regularly mixed or massed clump which we too often see. No explanation can describe this, simple as the materials are.

In conclusion, it is only fair to observe that the general appearance of the young men engaged in the grounds, and amongst the potted-plants in the building, was very respectful, and despite the gay and giddy throng by whom they were surrounded, they seemed to attend to their duties with praiseworthy industry, and not at all entering into idle conversation to which the foolish questions of parties ignorant of, and careless about, gardening matters are too often likely to lead. Those who are acquainted with the general absence of all knowledge of plants which characterize the denizens of a town when they begin to enquire about plants, will be likely to forgive the young men for any laconic reply they may give to such enquirers.

S. N. V.

COVENT GARDEN.—AUGUST 22ND.

FRUIT.

Pine Apples, 4s per lb.	Morella Cherries, 6s p. dz. lbs.
Grapes, 1s 6d to 4s per lb.	Gooseberries, 2s 6d p. hf. s.
Peaches, 2s 6d to 4s p. pun.	Currants, 2s 6d per half sieve
Apricots, 1s 6d per punnet	Orlean Plums, 6s p. hf. sieve
Plums, 9d to 1s per punnet	Cocoa Nuts, 3s to 4s per doz.
Melons, 1s to 4s each	Spanish Onions, 14s to 16s
Windsor Pears, 3s 6d p. hf. s.	per hundred
Jargonelle Pears, 4s 6d p. hf. s.	Filberts, 9s per doz. lbs.
Nectarines, 4s per punnet	Oranges, 16s to 18s per hun.
Quarandem Apples, 6s p. bsh.	Lemons, 12s, 14s, and 18s per
Pears, 6s per bushel	hundred
Apples, Kitchen, 5s 6d p. bsh.	Almonds, 24s per bushel
Green Gage Plums, 4s 6d per	Brazilian Nuts, 16s to 20s p.
half sieve	bushel
Violet Plums, 2s 6d p. hf. s.	Barcelonas, 22s per bushel
Dessert Plums in punnet, 9d	Cob Nuts, 12s per bushel
to 1s each	Kiln-dried Walnuts, 12s p. b.

VEGETABLES.

Potatoes, 4s 6d to 5s per cwt.	Celery, 9d to 1s 3d per bunch
Cabbages, 8d to 1s per dozen	Beet, 4s per doz. bunches
Red Cabbages, 3s per doz.	Hand-glass Cucumbers, 1s per doz.
Cape Broccoli, 1s 6d per doz.	Frame Cucumbers, 1s 3d to 2s per punnet
Brocoli in bunches, 9s to 10s per doz.	Water Cress, 4d p. doz. bunch.
Turnips, 1s 6d to 2s per doz. bunches	Small Salad, 2d per punnet
Onions, 2s 3d per doz. bunch	Chervil, 2d per punnet
Onions, young, 4s per dz. bh.	Radishes, 9d per doz. bunch.
Carrots, 4s per doz. bunches	Black Spanish Radishes, 4d per bunch
Kidney Beans, 2s 3d per hf. s.	Artichokes, 2s per doz.
Scarlet Runners, 5s per bush. sieve	Parsnips, 6d per bunch
Cauliflowers, 2s to 3s per doz	Mushrooms, 12s per doz. pot.
Peas, 3s to 5s per bushel	Garlic and Shallots, 8d p. lb.
Beans, 2s per bushel	Tomatoes, 1s per punnet
Lettuces, 8d to 1s per score	Pickling Onions, 2s 6d to 4s per half sieve.
Endive, 8d to 1s per score	Gerkins, 2s per hundred.
Leeks, 1s 6d per doz. bunches	Nasturtiums, 6d per quart.
Vegetable Marrow, 8d to 1s per dozen	Radish Pods, 4d per quart.

HERBS.

Basil, Marjoram, Savory, Tbyrne, Lemon Thyme, Parsley, Tarragon, Fennel, Sage, Mint, Lavender, Rosemary, Corn Salad, from 1d to 4d per bunch.

CUT FLOWERS—Pelargoniums, Roses, Phloxes, Fuchsias, Sweet Peas, Sweet Scabious, Mignonette, Erysimums, Pinks, Pansies, Verbenas, Lupines, Achilleas, Matricarias, Stevias, Catananches, Dahlias, Honeysuckles, Picotees, Stocks, Marigolds, Eschscholtzias, Lilies, Delphiniums, 2d to 1s per bunch. Violets, 1s per doz. bunches. Bouquettes, 1s to 2s 6d each.

PLANTS IN FLOWER IN GARDENS AND NURSERIES.

HARDY PERENNIALS.

Anemone japonica	Funkia laurifolia, lilac
Antirrhinum majus, in colours of white, red, yellow, and purple, with intermediate shades and stripes.	Hypericum proliferum, yellow
Aster concolor, blue	" calycinum
" sparsiflorus, lilac	" Androcemum
" sagittifolius	" pyramidatum
" cordifolius	Inula salicina, yellow
" Sibericus	Lilium tigrinum, spotted
" heterophyllus	Linum flavum, yellow
" pyreneus, blue	Linaria vulgaris, yellow
" preanthoides	Mouarda mollis, blue
" dracunculoides	Oenothera magnifica, yellow
Astragalus creticus, lilac	" macrocarpa
Clematis florida, white	" speciosa
" double	Phlox gracilis, red
" vitalba, white	" speciosissimus, red
" Hendersoni, purple	" Carolina, red
" hybrida, lilac	" paniculata, white
" Sieboldii, white and purple	" imbricata, mixed
" double	" Bourbonensis, lilac
Cedronella cana, reddish	Papaver alpinum, yellow
Crucianella stylosa	Potentilla erecta, yellow
Dianthus asper, pink	Rhexia rubella, reddish; fine for bedding out, or planting for masses
Epilobium augustissimum, red	Saponaria officinalis, white
" angustifolium, white	Scutellaria galericulata
	Silene inflata, white
	" maritima
	Yucca filamentosa, white

QUERIES AND ANSWERS.

GARDENING.

OBTAINING CUCUMBERS AT CHRISTMAS.—FORCING ROSES.

"Will you kindly tell me how I am to manage a three-light pit to get Cucumbers for use at Christmas? When

should I save the seed? and what sort, and what quantity, of dung it will take? I have, also, a quantity of Roses, on various borders, I want to take up for forcing. When would you recommend me to take them up? The sorts I do not know. There are some that have been in the borders for a length of time, but they will make fine specimens for the pot.—A YOUNG BEGINNER."

[Sow your Cucumbers in heat as soon as you can. If you can take a few cuttings of a desirable sort, it will be as well to fill the half of the pit with them, and as they show signs of going off, let the seedlings monopolise their places. Short kinds, as *Cuthill's*, *Stockwood*, and the *Sion House*, are the best for this purpose. The last is the best, where its smooth skin is not objected to. It grows freely in winter in a temperature of from 60° to 65°, though it will stand five or ten degrees more, when most of the longish kinds will do little good under 70°.

We can say little of the quantity of dung, as that will depend greatly on the construction of the pit and the coldness of the winter. Of the former, you say nothing; and of the latter, the greatest philosopher is just as wise as the simplest amongst us. The inference, however, is obvious, that a sufficiency must be in command to keep up the heat mentioned above; and were the dung to be procured for that purpose without an ulterior object of usefulness, it would be found expensive heating; but in most cases the heating costs little, because the fermenting material is thus brought into usefulness for other things. One other thing, however, we may specify. Suppose your pit has so much above the ground, and so much below it, the latter part being pigeon-holed the usual course is to fill the bed to the necessary height, inside with sweet fermenting material, and then increase that heat when it lessened by means of linings. But in this case, it will at once be perceived that you lose much heat in the process of preparation; and then, again, if you use fresh dung as linings, you must be careful that no steam from them find their way inside, or farewell to the health of the Cucumbers. By far the most economical mode is, either to have a close flooring for the soil for the plants to rest upon, with a chamber underneath, communicating with the lining, by arches, so as to have heat without steam, or merely to have such a chamber filled with stones, or empty, and a solid four-inch wall on the sides from top to bottom. With such solid walls, and huge dung-linings up to the wall plate, and turning them, and covering them when necessary, we could command bottom-heat and top-heat pretty well; but we should almost terrify an amateur, were we to give an outline of the loads of litter and leaves that were required during the winter, though the labour just fitted all these ingredients for enriching the kitchen-garden afterwards. Where you can secure dryness, it is well not to have too much of such a pit above the ground.

We fear you will do no great things with your *Roses*. They generally require a summer's growth in pots to do well. However, there is no harm in giving them a fair trial. We have taken up *Roses* with nicely ripened buds in December, and had nice *Roses* from them in spring; but it requires great care, and that, even with much attention, will not always secure against loss and disappointment. *Bourbons* and *Chinas* will do best; then *Perpetuals*; then *Damasks*, &c. When your leaves begin to get rusty, and you perceive the wood is pretty firm, in a month or so raise the plants and pot them carefully. Set them in a shady place, and sprinkle the foliage to keep it from flagging. In a week or so plunge the pots, so as to give them a slight bottom-heat, while the tops are kept cool, and this will encourage the rooting process. Allow them to remain there until you want to commence forcing. Then force but little, and continue to let the roots have more heat than the tops. The secret of our success, when we tried such a plan, was getting the roots somewhat in advance of the buds.]

CAPE ASTER NOT BLOOMING WELL.

"AN OLD SUBSCRIBER would feel extremely obliged if she could be informed why the enclosed Cape Aster blossoms so badly. It was planted out from the greenhouse in May, on a south border. The plant itself looks healthy, but the blossoms have all the withered appearance of the enclosed specimens."

[We cannot make out what is the matter with your plant; for, allowing for the drying by carriage in the letter, there seems to be nothing the matter with the blossom, it being all right as respects size and colour. The plant has many *aliases*. It used to be well known as the *Cineraria amelloides*, and is now generally called the *Agatheu celestis*. In damp seasons, the foliage generally grows rather freely out-of-doors. If the flower-stems have become withered after the blooms were expanded, we should be inclined to attribute your plant's defect to drought. Almost any soil suits it. To make a good bed, it should be plauted thick, as otherwise the bloom comes thin.]

ROSE-CUTTINGS.

"M. E. B. would be obliged if the editor of THE COTTAGE GARDENER would inform her how long Rose-cuttings require the glass over them, as, after keeping it on three weeks, her's rot off."

[Rose-cuttings made in the summer in the open air require no glasses over them at all; at all events, no one but a professed hand can manage them with glasses. See what is said on this subject in another page to-day.]

BANKSIAN ROSE NOT BLOOMING.

"G. F. M. will thank THE COTTAGE GARDENER to advise him what treatment to pursue with a *white Banksian Rose* that will not flower. It has been planted six years, and has grown to the top of the house, south-west aspect, foliage very luxuriant. Root-pruning has been tried, pruning and non-pruning also, but still no flowers."

[The *Banksian* Roses, like your's, which do not flower from over-luxuriance, ought to be thumb-and-finger pruned all the summer months, by stopping every shoot they make as soon as they are six inches long, and they ought not to be touched by the knife, or otherwise, for the rest of the year. The countless numbers of small twigs caused by this mode of pruning all over the plant cannot fail to bloom the following May. Root-pruning is not of much service to this class of Roses; nothing but causing a profusion of small twigs will ever induce them to bloom freely. Root-pruning causes a great loss of vigour, but that is not the point; great vigour in thousands of little shoots is the thing required, and that will certainly cause free blooming in all the *Banksian* Roses.]

SOWING SEEDS IN TURF.

"In volume VII., page 396, of your Journal, you recommend 'Turf' for sowing seeds in. Will you inform me whether it answers as well for autumn-sown seeds as for spring-sown; and whether the pieces of turf, after the seeds are sown, are to be put upon the ground, or upon a stage or framework when sown in a cold-frame?—INCUBATOR."

[You have only to look upon pieces of turf for sowing seeds on as so many pots of equal capacity, and act accordingly. Then, if you choose to sow the seed of a Pear, or a Peach, a Melon, Gourd, or Lily, any month or week in the year, turf is as good for the sowing at one time as well as at another. But there is another question—Are you, or yours, prepared to watch and ward such seeds as well and as easily, during a long winter, in turf, as you would in pots? We certainly should not like to undertake the management of seeds or seedlings on turf during the winter. It stands to reason, that pieces of turf placed on an open framework, like that of common stages for pots, must dry too soon for any useful purpose in the way intended; but if that were the only difficulty it could be soon got over by placing common roofing-slates under the turf on these open stages. That turf itself is a very good thing for sowing seeds on, at the proper time, may be believed, when we say, that a society of Scotsmen, and in Scotland, too, gave a prize to the person who first made the discovery; and, if we recollect rightly, the discoverer was the late Mr. Bisset, gardener at Methven Castle, in Perthshire; and his essay, the first on the subject, is published in the "Memoirs of the Caledonian Horticultural Society.]"

UNFRUITFUL CURRANT-TREES.

"A CONSTANT READER of THE COTTAGE GARDENER requests your advice under the following circumstances:—

Her garden is about fifty years old, the soil is shallow, light, and stony, the subsoil a stiff clay; most of the usual garden vegetables, as Peas, Beans, Cabbages, and Beet-root, grow well in it, but Cauliflower and Brocoli dwindle to nothing, and Carrots are always cankered; but the subject which particularly interests your correspondent at this time, is the deplorable state of her *Currant-trees*. About three years ago she planted the choicest plot in this garden with healthy young Currant and Gooseberry-trees, all reared from cuttings in a garden where the Currants are remarkably fine. These Gooseberry-trees are now in full bearing, but the Currant-trees are all covered with moss, and most of them cankered to the heart, and producing fruit so small and poor as to be not worth gathering. Many of these trees send out one or two vigorous shoots near the roots every year, but the next year these shoots are cankered like the rest. The same has been observed with respect to Apple, Pear, and Plum-trees, and even the common little Scotch Rose, which never perfects its blossoms."

[Your case is just such an one as the writer of this answer was placed in, some thirty years since, on the margin of Wimbledon Common. The only thing you can do to be effective will be to constantly endeavour to improve the staple, by which I mean, apply such materials as will induce a different texture in the soil, rendering that tolerably adhesive which was before loose. Manures, in themselves, have nothing to do with this question. The most eligible materials as improvers this way are as follows:—Marl, waste soil from clay land, pond scourings, ditchings, and even some peat. It is not likely that you can obtain all these things, but they are placed in about the order of their importance, to increase chances. We would plant new lines of Currants, and prepare a special bed for them, using some of the above liberally, with a free use of manure. As to existing bushes, be sure to mulch the surface over the roots of all four bushes, about six inches in thickness, every November. The little *Scotch Rose* must be taken up at the end of February, good, adhesive, and rich soil introduced, and the bushes replanted. You can improve your garden piecemeal, adding the new compost every autumn on the plot intended for the Cauliflower and Brocoli tribes, and giving it a winter's fallow. We would not apply less than four inches, by any means; rather do less in extent.]

MUSHROOM-BEDS.—GRAPE RIPENING.—PEACH SHOOTS, &c.

"W. S. would be obliged if the Editor would inform him if the next month would be preferable to spring for making a Mushroom-bed in a dry shed, at the back of a late Vinery, where he keeps half-hardy plants through the winter, with no more fire than will keep out the frost; and the mode of making the bed, spawning, &c. Also, when he should apply fire-heat to ripen the Grapes, or if any should be applied. They are now about the size of marbles. He has, also, some young Peach and Nectarine-trees growing very rampant, making abundance of laterals; should they be cut off? Would you advise root-pruning? Is it good practice to spur *Apricot-trees* like Plums? How should I store pots of *Strawberries* for forcing through the winter?"

[Your situation is capital for *Mushrooms*. Make your bed next month, by all means. Procure fresh stable-dung, throw it in a heap to ferment. In four days it will be very hot, and now strew it about in an open shed, not to become hot again, only milk warm. Here it must be turned and well shook to pieces, and after being thus handled three or four times, it may at once be built in the bed. It is only necessary to lay it twelve inches thick on the floor, tread it hard, and the moment made bore the spawn holes, not introducing the spawn until the heat is going down; 75° is safe. Lay on fire-heat to your *Grapes* instantly. Do not cut your *Peach* and *Nectarine* shoots, pinch their points. In November take them up, and replant in milder soil. *Apricots* prune like Plums, certainly. Plunge your *Strawberries*, and cover with litter.]

FERNS AND LYCOPODS FOR A WARDIAN CASE.

"Would you say, in your next number, if these Ferns and Lycopodiums, will grow well in a Wardian Case; or if it

would not be too moist for some of them? and oblige—A FERN."

Lycopodium Circinatum	Adiantum Cuneatum
" Ventriculosum	" Formosum
" Arboreum	" Pubescens
" Densum	" " Anstrale
" Cæsium	Blechnum Occidentale
" Formosum	" Orientale
Anemia Fraxinifolia	Diplazium Pubescens
Asplenium Molle	Onychium Lucidum
" Compressum	Pteris Arguta
" Bulbiferum	Phlebodium Aureum
" Ebencum	Gymnogramma Sulphurea.
" Belangene	

[All these Ferns will do equally well for a Wardian Case; but watch for more hardy kinds in the forthcoming descriptive lists from Mr. Appleby. Scientific growers of the Fern tribe never use Wardian cases for them; and as one Fern among the smaller ones is as good as another for the rest of the world, we would never plant stove Ferns in these cases. It is a mistake altogether to suppose, or to believe, that Ferns or other plants ought to be kept quite close in a Wardian case, if it can be helped. If a single blade falls off in one of them it is a sure and certain sign of very bad management, and of too close confinement. In a warm room a Wardian case ought to have abundance of air from bed-time till the family come down to breakfast, all the year round, except in very cold weather, and then once every other day when the room is warmest. More than one-half of what is done and said about Wardian cases is worse than absolute nonsense. They are most excellent contrivances for keeping a selection of beautiful-leaved plants in living rooms; but the monstrous ignorance about living plants living well, without plenty of fresh air, is worse than downright quackery. Plants merely exist on long voyages in closed cases, but they do not live well, nor anything like it. Such cases are greenhouses or stoves on a very small scale, and ought to be regulated accordingly in respect to heat, air, and moisture.]

CANTUA DEPENDENS.

"I have a plant of *Cantua Dependens* that I would gladly see in flower, but am afraid that I cannot manage it. I have observed Mr. Beaton's remarks at page 135 (No. 295), and have there learned to expect the bloom, if any, next season, from the wood of this year's growth.

"My plant is a standard some thirty-six inches in height, and I have no cool frame that would hold it, so that I have set it out-of-doors, at the north side of a wall only a little higher than itself, and have been giving it water only when very dry; and, in consequence, I have now short stubby-looking shoots on it instead of the rampant growth of former years. Do you think that I have any chance of getting my plant to flower next spring in a cool greenhouse?—J. A."

[You seem to be just on the right road for success with *Cantua dependens*. A cold greenhouse will do for it as well as a cold pit, provided you watch it in the spring, and see that the place is not too warm for it, as the least forcing may cause it to run again too much to wood.]

POULTRY.

CINNAMON SHANGHAES.

"Can you inform me whether, at Poultry Shows, prizes are ever given for *Cinnamon* Shanghaes (either light or dark), or whether they are invariably given to the light Buffs? as the class in which they are both exhibited is for *Cinnamon and Buff*.—MANDARIN."

[*Cinnamon* Shanghaes, both of the darker hue as well as those termed "Silver," would unquestionably have equal chances to the favour of a duly-qualified poultry judge with the buff birds. If on the other points they were on a par, colour would be considered as deciding the question; and here the cinnamon too often suffer from injudicious matching, which would transfer the laurels to their adversaries. Buff birds, however, form the great bulk of those exhibited in this class, and hence their more frequent victories; but that "prizes are invariably given to the light buffs, to the

exclusion of cinnamons equal in figure and condition," is a proposition to which our assent cannot be given.—W.]

HAMBURGHS AT LINCOLN.

"Having observed your comments on the class of *Hamburgh* fowls at Lincoln, 'Hamburghs very bad,' I am induced to ask the writer of that article where the bounty consists, as every breeder of that kind is quite at sea, and believes there must be defects not visible. As every person is aware, who keeps the feathered tribe, there is a time when they change the feathers, and previous to this they look to great disadvantage, this happens according to the age of the fowl and kind of food; but judges and critics should be very mindful what they say to the disparagement of these birds, but should, by a well-regulated judgment and practical experience, encourage, and not condemn, first-class birds.

"I am informed, of good authority, that the Golden-pencilled exhibited at Lincoln, were the birds from which the likeness was taken for "The Poultry Book." Some of the Silver-pencilled have taken, I may almost say, dozens of prizes, yet were not good enough in the eyes of the judges. There were two or three pens of both Golden and Silver-spangled which might defy competition. Those that got the second prize for Silver-spangled, were well deserving of the first; and the other pen of Mr. Dixon's, of Bradford, the second. On the Golden I will not comment, but certainly say the awards were very far from right. At Ripon, the same partiality existed, with this difference, that at Lincoln, the judges were in favour of dark, at Ripon, of light birds; but here there was a better show of *Hamburghs* than at Lincoln, there being old and young.

"As in the present variable opinion of judges it will behove the Committee of the Birmingham Show to state the leading features that will decide the judges, as the handsome prizes they offer will be sure to cause great numbers to exhibit, and I trust that their views may be so well propounded that 'they who run may read.'

"Having a very good eye for remembering good birds, when once I have seen them, makes me think I could convince some writers, that what they have praised one month they have called *decidedly bad* within a year.

"Respecting the merits of *Shanghaes*, and Spangled or Pencilled Pheasant fowls, or Dorkings, whatever your opinion south may be, you will find *Shanghaes* go quite out of date in three years. Where you want good table fowl nothing will beat Dorkings, nor as layers the *Hamburgh* fowls; and a keeper of poultry should have some of both, since the pure *Hamburghs* will not sit.

"Farmers near here would not have *Shanghaes* as a gift to keep; I could get very good birds for 5s. to 10s. a piece.—ALFRED GOODMAN, *Gledlow House, near Leeds*."

[Not having been eye-witnesses of the late Poultry Show at Lincoln, we cannot speak on our own authority; the judges, however, were gentlemen with whom "*Hamburghs*" are a well-known class, and the source whence our report was obtained may confidently be relied on for the same accuracy and impartiality. The alteration that a single month may effect in a bird has oftentimes been the source of keen disappointment, and so long as "*condition*" remains, as it must, a recognised point of merit, it will continue materially to influence the chances of success on different occasions.

We entirely coincide with you in the expression of your opinion, that a recognised standard of merit in the different classes is an essential, the absence of which will be no longer tolerated. The concurrent authority of many experienced persons will be required to sanction any such regulations that may be promulgated, but there is surely no cause to doubt the practicability of either obtaining such definite opinions of competent persons, or of subsequently acting on them.—W.]

HOUSEKEEPING.

RHUBARB WINE.

"In answer to the query at page 388:—To every pound of *Rhubarb* stalks, when bruised, put one quart of cold spring water, let it stand three days, stirring it twice a day; then press and strain it through a sieve, and to every gallon

of the liquor, put $3\frac{1}{2}$ lbs. of good loaf sugar; barrel it, and to every five gallons add a bottle of white brandy. Hang a piece of isinglass in the cask, suspended by a string, and stop it up close. In six months, if the sweetness is off sufficiently, bottle it for use, otherwise let it stand in the cask a little longer. The above receipt has been tried with great success, the wine being almost equal to champagne.—H. W."

TO CORRESPONDENTS.

POULTRY SNOWS AND JUDGES (P. G., A Subscriber).—We cannot insert general charges. If you have evidence substantiating your statements—if you can show that a party sold birds, to which he, acting as judge, awarded a first prize a week or two subsequently—you will find us quite ready to publish the fact, and names, be they of whom they may.

MOVING EVERGREENS (A Constant Reader).—As they are in your own garden, and you can, therefore, move them without the roots becoming dry, or having the earth much shaken from them, the last half of September will be a good time for moving the evergreens.

ROUP IN FOWLS (An Inquirer after Truth).—We wish as heartily as you do that we could furnish you with a cure for roup. After inquiring of every authority, we can hear of none; and any reader having such a valuable remedy may command any page of *THE COTTAGE GARDENER* for its insertion. You justly mourn over your losses, and add in conclusion, "surely there must be some mode of rearing fancy fowls in health." You are quite right in such conclusion; but as we neither know your locality, nor your mode of treatment, nor where you keep them, nor even the varieties, neither we, nor any one else, can venture to advise you.

EMIGRATION (A Subscriber, Worcester).—We never advise any one upon this subject. If you only have "a little practical knowledge of gardening," you can in no part of the world be more than an assistant.

ADVICE (F. J. K.).—Much obliged, and will consider over what you say.

FESTOONS OF ROSES (W. H.).—Eight feet will give you the most perfect festoon, but seven feet might do in a pinch; anything closer will only give dumpty folds, instead of free-flowing festoons. Whatever number of plants you use for each pillar, they should be of one sort, and the reason for using more than one is to get the pillars and the festoons between them covered as soon as possible. For the first pillar, take *Felicite perpetuelle*; for the second, *Myrianthus*; for the third, *Crimson Boursault* and *Lucia*, crimson and white; the fourth, *Princess Louise*; and for the fifth, take *The Gartland*.

DIELYTRA SPECTABILIS (A. R.).—We have received your packet of seeds of this plant, for which we are very much obliged.

GARDEN PLAN (Clericus).—Question No. 1.—The two-foot border in front of the shrubbery should be planted with herbaceous plants, at the distances you propose, with spring bulbs between them. Of all modes of planting, none we think so objectionable as that of dividing a narrow border, or, indeed, any straight border, into certain lengths, and then to plant each length, or division, with one kind of plant. Such a border, one hundred feet long, divided into five or ten divisions, and each division to be planted with the best plant of its kind, would just look, for all the world, an experimental ground for trying the strength of so many kinds of chemical manures, and nothing more. No. 2.—The piece of ground C will never do for the least pretension of rock-work; for this reason, that such rocks can only be seen from a higher ground. In nature, you can never look down on a rock without risking destruction by overbalancing over a precipice—a principle as firm as a granite rock. There ought to be a screen of evergreens along the bottom and up one end of this piece, the rest open turf, and specimens of rare and choice trees and shrubs; it would make just a *sanctum sanctorum*, if well managed. No. 3.—The triangular piece of ground by the side of the walk to the kitchen-garden ought to be planted so as to look like the foreground of what is beyond it, looking from the gate. Here is where a stranger to the place would be, more likely than not, in the wrong altogether. Suppose we advised you to plant so and so in that triangle, just to please you for the moment, and suppose some man of taste called there after a time, and was shocked to see how the place was disfigured in that way; and then, suppose the remarks reached your ear, would it not stand to reason that you would exclaim, "A bother on *THE COTTAGE GARDENER* for leading me astray." Now *THE COTTAGE GARDENER* cannot escape from these things like the man who dyed Timothy Titmarsh's hair, who, when he saw the hair green, recommended another bottle to turn it to purple, then another to get it out of the "intermediate stages," and alter that, so many more bottles to get the hair as black as anything.

MINASI'S IMPROVED ARTIFICIAL INCUBATORS.—Mr. Carlo Minasi, of London, has recently applied himself to the study of the processes of artificial hatching, and has constructed an apparatus, the success of which is exciting considerable interest among those persons who concern themselves with this exceedingly interesting and important subject. Every one who is familiar with the expedients adopted by M. Bonnemain, of Paris, during the last century, and the processes practised by M. D'Arceet, at the hot mineral springs; and, indeed, every one possessed of a knowledge of the circumstances under which the natural hatching of eggs is effected, will be aware that a steady heat of a suitable temperature, maintained for a certain number of days, and a sufficient quantity of fluid to supply the place of the aqueous exhalations which pass off from the egg during incubation, are necessary to the success of any attempt to produce the chick from the egg, in a healthy and natural condition. In order to supply these, Mr. Minasi constructs a watertight case or tray of zinc, of about one inch in depth, and fills it with water, which is maintained at such a temperature that a layer of fine sand placed on the upper surface of the case is constantly kept by it at about 107° Fahr. Upon this layer the eggs to be hatched are placed, and covered with a sheet of glass or other suitable substance. In order to furnish the vapour necessary to compensate for the aqueous evaporation from the

egg, which, if allowed to proceed to a great extent without any counteracting action, would lead to the destruction of the chick *in ovo*, the inventor arranges in the incubator a number of short tubes, extending from the under side of it to the upper, and reaching above the layer before mentioned, so that atmospheric or other moisture may pass up from beneath and distribute itself over the whole of the surfaces of the eggs. The lamp employed is fitted with certain improvements, also effected by Mr. Minasi, by which naphtha is burned, without the use of a wick, so as to keep up a constant temperature for several weeks without any attention. And in order to economize the heat obtained from the lamp, the former is made to traverse a spiral flue, to the sides of which a portion of it is continually transferred, a minimum quantity passing off through a pipe opening into the atmosphere. The heat transferred to the flue, as just described, is communicated to the water; and by the simple expedient of raising one end of the incubator, a continual circulation of the heated water is kept up throughout it. The under side of the zinc case is corrugated, in order that the chicks which are reared in a chamber, of which it forms the upper part, may the better nestle against it. We have seen about 150 chicks, hatched and reared by this apparatus, from two hours to ten weeks old, which were in an exceedingly good condition. At the first experiment made with the incubator, Mr. Appleyard, of Harrow, marked forty-eight of the eggs placed in it, and from this number, thirty chicks were hatched and reared. When this fact is added to the further one that while the cost of other far less successful incubators is about twenty guineas to every hundred eggs they are capable of hatching simultaneously, Mr. Minasi's will not exceed five guineas, we think there is but little doubt that that gentleman has effected great improvements in a process which will probably become very extensively and profitably practised. We shall probably publish engravings of the apparatus in a future number.

NAMES OF PLANTS (H. K.).—Your Ferns are as follow:—1. *Asplenium adiantum nigrum*. 2. *Polystichum angulare*. 3. *Blechnum boreale*, (the barren frond of). 4. Appears to be the *Lastrea filix-mas*, in a young state. 5. *Polystichum aculeatum*. 6. *Scolopendrium vulgare*. 7. *Doodia caudata*, a pretty greenhouse species. 8. *Asplenium trichomanes*. 9. *Lastrea oreopteris*. 10. *Cassechera hastata*, a pretty greenhouse species. They are all British except 7 and 10. (*Lancastriensis*).—Your plants are *Aloe verrucosa*, or Warty Aloe, and *Cineraria maritima*. (Thomas).—Your plant found near Stamford Court, we think is *Stachys germanica*, or Downy Woundwort. We could have been certain if you had sent a flower.

CALENDAR FOR SEPTEMBER.

FRUIT FORCING.

AIR, give freely in all houses. AIR-MOISTURE, reduce the amount gradually. BOTTOM-HEAT must gradually decline; say at least one degree weekly until November. CUCUMBERS, for winter work, must be got forward with similar attention as in spring. CHERRIES for forcing may be potted or shifted. CLEANING: let all glass be thoroughly cleaned this month; all painting, lime-washing, done also. FIGS, water late crops. FORCING (EARLY), prepare for by getting things to rest. FLUÉS, clean. GRAPES, watch ripe berries, use the scissors, remove laterals from. INSECTS, of all kinds subdue. LININGS, attend to. MELONS, late, give spring culture to; beware of damps. NECTARINES, see *Peaches*. PINES, continue forward culture; water late swellers; repot last successions; and harden off the latter class in snug pits. PEACHES, remove late laterals; stop remaining leaders; syringe freely; and water at root moderately. PAINTING, carry out. REPAIRS, complete. RED SPIDER, subdue. STRAWBERRIES, in pots, give high culture to; keep them plunged above ground level. VENTILATION, attend well to. VINES; progressively remove laterals from late crops; apply fire-heat daily in all dull weather. VERMIN, destroy. WASPS, destroy nests. R. ERRINGTON.

FRUIT GARDEN.

APPLES, gather as they are ready. APRICOTS, stop all growing wood and remove all spray which shades the buds. BERBERRIES, gather. BUDDING, slacken bandages. CURRANTS, cover to preserve. CHERRIES, late, beware of birds and wasps. CRANBERRIES, collect. DAMSONS, gather. FIGS, stop all shoots, and thin out spray. GOOSEBERRIES, destroy caterpillars, and retard late kinds. INSECTS, subdue. MULBERRIES, gather. NUTS, gather and store. NECTARINES, see *Peaches*. PLUMS, protect from wasps. PEARS, stop all shoots, reduce coarse breast wood. PEACHES, stop all shoots, remove foliage from ripening fruit. STRAWBERRIES, plant; destroy runners. TOMATOES, stop growing. VINES, stop every shoot and reduce laterals. VERMIN, destroy. R. ERRINGTON.

FLOWER GARDEN.

ACONITE (Winter), plant c. ANEMONES, plant best, e.; sow b. ANNUALS (Hardy), sow, b. AURICULAS not shifted in August now remove; water and shade; prepare awning to protect in autumn and winter; sow, b. BUD perpetual Roses to the end of the month. BULBOUS-ROOTS, plant for early blooming, e. CARNATION layers remove. b. CHEYSANTHEMUMS, plant cuttings &c., b. CUT ROUND THE ROOTS of large specimens intended to be taken up next month, b. Cut in large specimens of Geraniums &c., in the beds to be potted, as soon as they break, to make specimens of, h. CUTTINGS of evergreens, put in, b. DAHLIAS, number and make list of, while in perfection, describing their colour, height, &c. DRESS borders assiduously. EDGINGS, trim, plant. EVERGREENS, plant, b.; make layers. FIBROUS-ROOTED perennials, propagate by slips, parting roots, &c. GRASS, mow and roll; sow, b. GRAVEL, weed and roll. GUERNSEY LILIES, pot. HEARTSEASE, plant cuttings; trim old. HEDGES, clip, e; it is the best time. MIGNONETTE, sow in pots, to shelter in frames. ROOTED PIPINGS of Pinks, &c., plant out for blooming. PLANTING EVERGREENS, generally, commence, e. POLYANTHUSES, plant. RANUNCULUSES, plant, best, e.; sow, b. DOUBLE ROCKETS, divide and transplant. ROSES, cut down, which must be removed at Michaelmas, ten days before taking up. SEEDLINGS, plant

out. SEEDS, gather as ripe, and keep down seed-pods in flower-beds. TRANSPLANT perennials, e. TUBEROUS-ROOTED plants, transplant. TURF, lay. VERENAS, cut the roots of favourite sorts six inches from the stem; water them, and in three weeks they may be removed safely to be kept in pots; a few plants thus treated are better than many cuttings. WATER Annuals and other plants in dry weather. YUCCAS, in, or showing for, bloom, give abundance of water to. D. BEATON.

GREENHOUSE.

Air, give freely night and day, unless when very stormy. ANNUALS, such as *Collinsia*, *Nemophila*, *Schizanthus*, of sorts, sow towards the end of the month, for blooming in spring and early summer. BULBS, pot for early blooming, such as *Hyacinths*, *Narcissus*, *Tulips*, &c., also *Lachenalia*, *Erodiums*, &c. CAMELIAS, still expose, but defend from heavy rains. CUTTINGS may still be made, and buddings proceeded with. CINERARIAS, sow for late blooming; prick off seedlings for spring flowering; shift into flower-pots for winter flowering. CALCEOLARIAS, sow seed; propagate by cuttings under hand-lights, and shift small plants already struck; shrubby kinds for the flower-garden will be time enough after the middle of the month. ERICAS and AZALEAS, get under shelter, ready to be housed by the end of the month. GERANIUMS, MYRTLES, SALVIAS, &c., propagate by cuttings, shift into larger pots, to be established before winter, and prepare for taking up out in the open border by cutting round the roots, doing only one half at a time. When there is not plenty of room, cuttings struck early will answer better than old plants taken up, and will also save much labour. GLASS, FLUES, &c., clean and repair. PLANTS, clean, tie, arrange. POTS, free from moss and filth, and fresh surface with suitable compost. In using new pots for hard-wooded plants, let them all be soaked, and then dried, before using. SEEDLINGS of all kinds prick out as soon as they can be handled. PROPAGATE all half-hardy things, such as *Geraniums*, *Fuchsias*, *Salvias*, and especially *Calceolarias*, *Petunias*, *Verbenas*, &c.; the last three named will do better than if struck earlier; the smallest pieces will do best. They may either be planted in light sandy compost, in pots or in a bed on a shady border; if on a north aspect, no shading will be required. WATER will still be abundantly required for plants growing freely, and those intended to bloom in winter, such as *Primroses*, *Cinerarias*, and *Chrysanthemums*, should have manure-water given freely. Whenever you observe the first flower-bud of a *Chrysanthemum*, though no larger than a pin's head, you may give the clear manure-water freely. Water should be given sparingly to plants that are to be put into a state of rest, just keeping them from flagging. All SUCCULENTS will now do better next season the less water they receive, provided their stems are not rendered very limp and soft. TROPÆOLUMS with tuberos roots pot whenever they begin to vegetate; they do not like shifting, therefore give a good-sized pot at once; give very little water until the pot is getting filled with roots, as they cannot bear sour sodden soil; let the pots be well drained. CLIMBERS will soon require cutting that have been growing rather naturally, in order that more light may be given to the plants below. If the house plants can be kept out of the house for a month longer, the creepers, to be beautiful, will require ample waterings.

R. FISH.

ORCHID HOUSE.

Air, give only on bright sunny days, from 10 o'clock till 3. BLOCKS, continue to syringe morning and evening, the first half of the month; the latter end in the mornings only. BASKETS may be kept rather drier, excepting such as *Stanhopeas* that are growing; let these be dipped in tepid water once a-week, at least, using discretion, according to the state they are in as to being wet or dry. DENDROBIUMS: many species will now have perfected their pseudo-bulbs for the season; let such be immediately removed into a cooler house, and have no water given them. Other kinds will require the same treatment as soon as the full growth is attained. GROWING PLANTS may still be retained in the warm, moist atmosphere of the orchid-house, and be kept moist at the roots. HEAT in this month may be reduced a few degrees. Sudden changes are always dangerous; by gradually reducing the heat, the plants become inured to the change. INSECTS, search for diligently, and destroy; every one destroyed now will prevent myriads from being bred next year. LELIA AUTUMNALIS will be growing rapidly; keep it well supplied with water, as, upon the strength it acquires during this month, will depend the number of flowers on the spike in October or November. REST, give to all plants that have made their annual growth; without this they would continue to grow and never flower. SHADE may be much reduced now, except on very bright days during the beginning of the month. WATER, continue to give to growing plants till the year's growth is completed, then withhold it, excepting from a few species with pseudo-bulbs, which, not having that storehouse of food laid up, must have occasional dampings and sprinklings.

T. APPLEBY.

PLANT STOVE.

Air, give abundantly on all favourable occasions. ACHIMENES going out of bloom, place in a cold pit, giving water to induce them to go early to rest. ACHIMENES PICTA, continue to grow on, to flower at Christmas. CLIMBERS, on the rafters, commence to reduce greatly, by pruning off all superfluous shoots, tying the rest in neatly. In pots trained on trellises, these would be greatly benefited by being placed out-of-doors, in some sheltered nook, for a week or two at the commencement of this month; when set out, lay them on one side on a grass plot, and give the leaves on the under side a severe syringing. This would clear them of the red spider, at all events. FRAMES containing stove-plants must now be covered up every night with double mats; uncover early, and lift up the light for a minute or two to let out the foul air, and let in fresh and sweet; give these plants water only in the morning. GESNERA ZEBRINA: those started early will now be in flower; keep the rest growing by keeping up a heat of 72° or 76°, and supply water in a tepid state in due proportion. Other kinds of GESNERAS and GLOXINIAS gone out of bloom place in cool frames, and withhold water, to cause them to grow gradually to rest; plants of this kind struck in the spring will now be in flower; keep them in the stove, and give water. PLANTS, generally, that have bloomed, give less water and heat to. WINTER-BLOOMING PLANTS, give every encouragement to, to cause a

fine bloom. SOILS, procure and prepare for use by frequently turning them over; keep them clear of weeds at all times. T. APPLEBY.

FLORISTS' FLOWERS.

ANEMONES, plant in rich light soil. AURICULAS and POLYANTHUSES, remove towards the end of the month into winter shelter; take the opportunity to cleanse and top-dress slightly. CARNATIONS and PICOTEES, take off layers and pot them in pairs in four-and-a-half-inch pots; such layers as have not rooted, pot, and place in a frame; kept close, till they root. CHRYSANTHEMUMS, give liquid-manure to; place in the greenhouse a few that show bloom, to flower early; protect from early frosts, should any occur. CINERARIAS, pot, and advance a stage. DALLIAS, continue to protect the blooms from sun, rain, and insects; keep them well tied in, to prevent the autumnal winds from breaking off the side-shoots. FUCHSIAS, in pots, gone out of bloom, remove out of the greenhouse, and place in a situation where severe frosts will not reach them; under a stage in the greenhouse, or in a cold pit, will do. IALIS (bulbous), plant latter end of the month, in rich borders and beds. LAYERS of Carnations, Pansies, and Pinks, take off as soon as rooted, and pot. PINKS, prepare the bed or beds, to plant out layers in; mix freely the soil with well-decomposed littery dung and leaf-mould, plant the pipings or young plants out towards the end of the month. RANUNCULUSES, if not all taken up, must be done instantly, or the autumn rains will start them into growth prematurely; examine roots of, taken up previously, and if mouldy lay them in the sun to dry more effectually. ROSES cut off all decayed blooms as they occur. TULIP-NED, prepare, by adding dung to the soil, if not exhausted, or by making an entire new bed; see that it is well drained, and place two inches of cow-dung over the drainage. T. APPLEBY.

KITCHEN-GARDEN.

ANGELICA, thin out, and earth-stir in the seed-bed, where the plants may remain until the spring. AROMATIC POT HERBS finish gathering. ARTICHOKEs, break down stems, and keep clear of weeds. ASPAAGUS-BENS, weed. BALM, cut, and dry. BEANS, keep clear of weeds, and seed collect, and dry off well; store them away in the pods. BEET, take up as wanted. BORAGE, earth-stir amongst, and collect seed. BORE-COLE, plant out, and use the hoe freely amongst. BROCOLI, plant, and keep the earth stirred in fine dry days. BURNET, plant. CABBAGES, plant out; keep the seed-beds free from weeds, and earth-stir. *Red Dutch Cabbages* are ready for pickling. CARDOONS, earth up well in dry weather. CARROTS, attend to thinning and earth-stirring the August sown crops. CAULIFLOWER PLANTS, prick out in rich, open, warm borders, so as to have a good choice of plants to stand the winter. CELERY, earth-up freely in dry weather; let the earth be well forked-up and broken to pieces previously to spading it up to the rows, and plant out successional crops, which will be found very useful to the cook during the winter and spring months. CHERVIL, sow. COLEWORTS, plant out. CORIANDER, sow. CORN SALAD, sow. CRESS, (American), sow and plant. CUCUMBERS, attend to in pits and frames, top and clear away all decayed leaves, &c.; strike cuttings of favourite kinds, or sow seeds for winter and spring growth. ENDIVE, plant out plentifully; tie up, or otherwise cover up to blanch. FENNEL, plant and cut down. HOEING, attend to in all cases in dry weather, and be the more attentive to this between heavy showers. HYSSOP, plant. JERUSALEM ARTICHOKEs, keep clear of weeds; do not injure the stems; take up roots if required for use. KIDNEY-BEANS, earth-stir among, and collect seed; put away dry in pods. LEEKS, plant and earth-stir. LETTUCEs may still be sown in warm borders, but attend to those which were sown at proper time; prick out from the seed-beds; keep them clear from weeds, so as to have a good winter supply of sturdy plants; tie up full grown. MELONS, be sparing with water at this season; give plenty of air to ripening fruit; keep up warmth by backing up with linings, &c.; shut up early. MINT, still cut and dry. MUSHROOM SPAWN, collect; this is often found when breaking up old hotbeds: put it away in close dry sheds until wanted. MUSHROOM-NEDS make; this is the best season in the whole year for making Mushroom-beds in any way, from the proper mushroom-house to the common span-roof bed in the open air to be covered with straw. NASTURTIUMS, gather as they become fit for use. ONIONS, press down to promote their bulbing, and take up those that are ripe; dry well before storing away for winter; attend to the August-sown; weed and earth-stir. POTATOES, take up and store away, and should be looked over shortly and often, after being taken in until all the diseased ones are removed. PARSLEY, cut down and transplant in some warm corner for winter supply. PEAS, look after birds and collect seed of, dry them well, and store them away in their pods. PENNYROYAL, cut and dry. MARJORAM, the same. RADISHES, sow in warm borders. RIHARB, clear from weeds. SAGE AND SAVOURY may be planted. SAVOYS, plant and earth-stir. SEAKALE-BEDS, keep clear from weeds. SEEDS, gather of all kinds as they ripen. SMALL SALADING, sow. SORREL, plant. SPINACH, sow in warm border; attend to thinning-out the August-sown crops from six to eight inches apart in the rows. TANSEY and TARRAGON, attend to if required. THYME, plant. TURNIPS, sow of the best early kinds; thin and hoe advancing crops. WATERCRESS, plant. WATERING, in dry weather, must be particularly attended to previous to planting, or pricking out any kind of young plants, or sowing the same. Water well, both before and after. ATTEND to earthing-up, earth-stirring, and hoeing in general, in dry weather; the rake may be advantageously used in many cases after the hoe at this catching season of the year. Many good managers only plant CABBAGES in one week of the whole year, and that in the first week in September, and from plants sown about the 21st of July; the soil to receive them should be made thoroughly rich. Others make a good planting at this time, and another in March, which will give an excellent supply for the whole year. T. WEAVER.

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WEEKLY CALENDAR.

D M	D W	SEPTEMBER 5-11, 1854.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
5	TU	Cryptophagus phærrhæus.	30.373-30.304	68-50	N.E.	—	20 a 5	37 a 6	2 38	13	1 22	248
6	W	Cryptophagus ruficollis.	30.280-30.219	68-44	N.E.	—	22	35	rises.	☺	1 42	249
7	TH	Ips 4-pustulatus.	30.108-30.017	67-43	N.E.	—	23	33	7 a 18	15	2 2	250
8	F	Aleochara cinnamomea.	29.937-29.904	64-45	N.	—	25	30	7 33	16	2 23	251
9	S	Meloe autumnalis.	29.866-29.753	65-46	S.E.	10	27	28	7 47	17	2 43	252
10	SUN	13 SUNDAY AFTER TRINITY.	29.818-29.669	67-41	S.	02	28	26	8 4	18	3 4	253
11	M	Coccinella 12-punctata.	29.961-29.886	57-56	S.	—	30	24	8 22	19	3 25	254

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 68.7° and 48.1° respectively. The greatest heat, 83°, occurred on the 7th in 1846; and the lowest cold, 30°, on the 6th in 1850. During the period 102 days were fine, and on 87 rain fell.

ON the 26th of August a Meeting of the *British Pomological Society* was held at their Rooms, 20, Bedford Street, Covent Garden. The meeting was held specially to receive and determine upon the Rules for the Society's governance, drawn up by a Sub-Committee appointed at the previous meeting. After some verbal alterations they were adopted as follows:—

I.—The Society shall be designated the **BRITISH POMOLOGICAL SOCIETY**.

II.—The objects of the Society shall be to examine and report upon all Fruit Trees, whether indigenous to Great Britain or introduced from foreign countries; to determine their nomenclature and synonyms; to investigate their physiology and diseases; to promote their classification, cultivation, and improvement; and to ascertain their economical uses, and adaptability to the various latitudes, soils, and exposures of Great Britain.

III.—For the purpose of carrying out the objects of the Society, it shall consist of three classes of members, viz., Ordinary, Honorary, and Corresponding. The number of Ordinary and Corresponding Members to be unlimited, but that of the Honorary Members not to exceed eighteen.

IV.—Ordinary Members shall consist of those who are engaged in the study and cultivation of Fruits and Fruit Trees, or who are desirous of promoting the objects of the Society. They shall on their election pay to the Society an entrance fee of ten shillings, and one year's subscription; and on the 1st day of August in each year subsequent to their election, the annual subscription of ten shillings shall be due and payable, and every member shall be liable to pay such annual subscription until he gives notice of his resignation; such notice of resignation to be delivered to the Secretary before the 1st Mouday of August, or the member be subject for the subscription of the current year.

V.—Honorary Members shall consist both of natives of Great Britain and of foreign countries who shall have distinguished themselves as pomologists. For the election of such members it shall be necessary that they be nominated at one of the regular monthly meetings, and their election shall take place by ballot at the first monthly meeting subsequent to their nomination, a majority of two-thirds of the members present being necessary for the election of the party proposed for an Honorary Membership. Honorary Members shall be entitled to attend and take part in all the meetings of the Society, but shall not be required to contribute the fees payable by ordinary members, nor shall they have a vote on any question affecting the management or decisions of the Society; but such of them as contribute to the funds according to Rule IV. shall be entitled to all the privileges of ordinary members.

VI.—Corresponding Members shall consist of persons residing in various localities of this country and abroad, who shall have opportunities of advancing the objects of the Society; and particularly of those in orchard districts, with whom the Society shall establish correspondence with the view of obtaining all the information attainable respecting the varieties of Fruits cultivated in these districts. Such corresponding members shall possess the same privileges, and be subject to the same rule as Honorary Members.

VII.—The Office Bearers of the Society shall consist of a President, four Vice-presidents, a Council, a Secretary, and a Treasurer. The President, Vice-Presidents, and

Council, to be chosen at the first Annual General Meeting to be held in August in each year.

VIII.—A Sub-committee of five members shall be appointed to act as judges of the merits of Fruits. The decision of three of the members of such sub-committee to be considered as final. Such sub-committee to be appointed annually at the first General Meeting to be held in August.

IX.—A Secretary and Local Committee, not exceeding five in number, shall be appointed for every county of England, Scotland, and Ireland, and for the Islands of Guernsey, Jersey, Wight, and Man.

X.—Three Auditors of Accounts shall be elected annually from the General Committee, and to which office the Secretary and Treasurer shall be ineligible.

XI.—The Society shall hold its ordinary Meetings on the first Monday of every month, at the Society's Rooms, 20, Bedford-street, Covent Garden, to conduct business, and receive and read communications, and report upon subjects submitted for examination. At such meetings five shall form a *quorum*.

XII.—In addition to the ordinary Meetings, there shall be four Extraordinary Meetings, to be held in July, September, November, and March, for the purpose of exhibiting collections of Fruits, and reporting upon their merits.

XIII.—Strangers shall be admitted on the personal introduction of a Member to any of the Ordinary or Extraordinary Meetings.

XIV.—The financial year shall close on the 31st day of July in each year; and on the first Monday in August the Annual General Meeting shall be held, when new office bearers shall be elected.

XV.—A Special General Meeting may be called at any time by a requisition signed by not less than twenty members, and forwarded to the Secretary, who shall forthwith give fourteen days notice of such meeting, and the purport thereof to each member; and no other business except that mentioned in such notice shall be entered upon at that meeting.

XVI.—All elections shall be by ballot; and two thirds of the votes of the members present shall be necessary for the election of the candidate.

XVII.—The Society shall publish its Transactions quarterly, each member being required to take a copy at a charge of sixpence. The price to non-members to be one shilling.

XVIII.—No alterations shall be made in the foregoing Rules, except at the Annual General Meeting of the Society, or at a special Meeting called for that purpose in accordance with Rule XV.

W. Stephens, Esq., was elected a Vice-President, and Robert Hogg, Esq., author of "The British Pomologist," was elected joint-Secretary with Mr. Spencer, the latter gentleman wishing for the aid of some competent coadjutor resident in London.

Many very influential names were added to the list of members, including Mr. Fleming, of Trentham, Mr. Glendining, and others as well known to gardeners; and the Society now includes by far the greatest part of the best horticulturists of England. Many amateurs are also included among the members, but we hope for

a large increase of these. The Society, of course, will be useful in proportion to the strength of its funds, and as it is to amateurs that its usefulness will be greatest, it is to these that we look for such aid. We look to the improvement of our hardy fruits as of the greatest national importance; yet none have been more neglected. The field has been but little cultivated, and we are confident the Society will gather a rich harvest.

WHAT we call a self-sown tree was formerly styled by the inspired writers, "a tree that the Lord hath planted," and we are now told by naturalists, that uncultivated plants, and those which are commonly said to grow of themselves, do not in reality do anything of the sort—but are sown and manured, take root, increase and multiply, according to pre-ordained laws. In addition to an appropriate soil, and a supply of food and moisture, a certain amount of heat is requisite for the due development of the germs and seeds of wild plants. Humboldt has mapped out the globe by certain lines of equal heat, which do not precisely agree with the parallels of latitude, but are modified by the height of places, their nearness to the sea, and other causes. Between these lines of equal heat, certain classes of wild plants flourish in situations and under circumstances favourable to their growth. Beyond these proper bounds, their seeds never vegetate nor thrive, *unless introduced and established by artificial cultivation.*

The laws which govern the spread of the "materies morbi" [disease-producing element] of cholera, bear some analogy to the laws of the spread of minute organised substances diffused throughout the atmosphere; and accordingly, a certain degree of heat, amongst other things, is found to be absolutely requisite to the maturation and increase of this otherwise latent principle. The outbreak at Leeds, *during winter*, in a great, hot, mill (near a filthy canal, and with an accumulation of manure hard by), was an exceptional illustration of this; and it is found that even in northern climates the disease, once introduced, will establish itself inside the close, stoved, almost air-tight houses. In the Baltic fleet, it is the steamers alone which are notably affected. In general, it was found during the epidemics in London and Berlin that the rise and fall of the thermometer constantly foreshadowed an increase, or diminution of mortality. This general law, and these apparent exceptions, must surely be intelligible enough to our readers, who can understand how Tiberius grew his Cucumbers in winter, and how little country lads in a village school can cultivate Melons by the help of a thermometer.

The recent hot weather has brought with it another access of Cholera Morbus, which shews a disposition to assume an epidemic and very malignant form. Under these circumstances, and seeing the apparent paralysis of Government, and the utter hopelessness of looking to Hercules for help, it behoves every individual to put his own shoulder to the wheel—be he magistrate, clergyman, guardian of the poor, policeman, surveyor of

highways, parochial officer, or medical officer, or member of a local Board of Health; it behoves every individual whatever, on whom a certain amount of public responsibility devolves, to see at once to the state of his own neighbourhood.

Let voluntary associations of all such persons be at once got together, even in remote places; let them collectively visit the district; let them make strong collective representations to owners of property respecting all bad sanitary arrangements; let them impress upon occupiers the importance of an almost ceremonial observance of all known laws of cleanliness and purification: such as cleansing twice-a-day all their premises with the aid of cheap absorbent substances, and removing far from their dwellings, and carefully covering over with earth and lime, all large accumulations of manure. Let all lingering and loitering at fairs, markets, feasts, and public assemblies, be put a stop to. The place of attack of the disease being the external skin, and the mucous membranes, or internal skin, considered as one whole surface, it is absolutely requisite to keep these susceptible surfaces in a vigorous state by dry and clean clothing, by personal cleanliness, by proper food, by exercise, avoiding fatigue, and by ventilation; of which more hereafter.

A general inspection once made, let each member of our Committee of Health have his proper duties assigned him. To the clergy, and opulent classes, it will be a duty to minister at once salutary personal advice, and something more; for this is not a time to merely say, Be clean; be ye fed; be ye clothed. The local and parochial authorities must provide brushes, whitewash, chloride of lime and of zinc, an organised band of daily scavengers with proper carts, barrows, boxes, &c. They must do more. If an attack be really apprehended, and the neighbourhood *be specially liable to an access of the disease*,* the means of timely flight must be arranged beforehand, and temporary places of refuge bespoke in case of need; a well-conducted retreat being often the best generalship. Not the least difficult of duties is that of public prosecutor; but some one, either the clerk to the Board of Guardians, or an active professional man, specially retained, must be set to bring into stringent operation all the powers of the Highway Act, or Local Act, or of the Public Health Act, or the Nuisances Removal Act. Lists of unhealthy places will be in the hands of the clerk to the Board of Guardians, and the necessary evidence will have to be procured from the police, and the medical officer of the poor, who must be paid for his services, and countenanced and supported in doing his duty.

After all, our own experience says, we must look most to the clergy. If they consider these subjects scarcely

* All private or public rooms are crowded where each inmate has not his 500 cubic feet of air. Any large town is crowded where there are more than 120 inhabitants on each acre of land, and where the streets are not twice as wide as the houses are high. All greatly overcrowded places are unhealthy which are raised less than thirty yards above the level of the sea, near the mouths of important tidal rivers whose waters "carry out" much more of filth than the incoming tide furnishes chlorine, &c. (suff) to deodorize. Let the cholera, or the choleraic diarrhœa once get established in such places, and there is no remedy but clearing them out—by main force if needful. In the time of cholera, the Habeas Corpus Act should be considered a dead letter.—J. J.

fit topics of remonstrance from the pulpit; if they deem it not meet to cry, as of old, "Why will ye die, ye honso of Israel?" or, "the Lord is in the camp, therefore put away every unclean thing;" at least, let them exhort men in lectures, and in house-to-house visitation. The efforts people will make when their principles are effectually appealed to, and when a sense of duty is at last stirred up—duty to our neighbour and to our kind, and surely that is a religious duty—such efforts are, if once aroused, infinitely more to be relied on than the fear of the stringent provisions of a cut-and-dried Act of Parliament, or the very last well-written circular bearing the signature of the clever Secretary to the Board of Health.

J. J.

THE PLANTING SEASON.

WE all remember what a contention there was, some eight or ten years since, about the best period for planting, some being all for the spring, others as stoutly contending for the autumn. I can fancy, however, from the general tone of articles in our gardening periodicals, and otherwise, that the spring-planting men have undergone a slight change of opinion. How any man can prefer March to October, I am at a loss to imagine. I grant, that in a showery and shady March (which surely is the exception), shrubs, or trees, planted then, or in February, will succeed well; perhaps leave nothing to be desired; but surely, gardeners ought not to take their stand on so narrow a foundation. The average of seasons is the good gardener's aim; he has no thirst for conceits, whims, or mere assumptions.

There are two distinct classes of shrubs and trees, however, which, in this argument, require separate consideration, viz., the Evergreen and the Deciduous. As to the argument applied to evergreen planting, I have not a single doubt of the propriety of autumn, ay, and *early autumn too*; under some circumstances, as early as the second week in September. With deciduous things, however, the case slightly differs; they are approaching a state of greater dormancy; still, there appears no reason for alarm on this head. It must be admitted here, that the balance is in favour of evergreen planting; and why? Evergreens, in October, possess fully-developed foliage in high functional condition, and since the doctrine that "leaves make roots, and roots make leaves," is universally recognised, it will at once be seen that as these noble leaves cannot remain entirely supine, they will necessarily be employed in promoting that granular process, termed callosity, which is at once a healing and a reproducing process—reproductive of new fibres, even as we find in cutting-striking.

Deciduous things, of course, are, at this period, approaching their highest point of dormancy, if such it may be called, although it is extremely doubtful if ever there be such a thing as a perfectly dormant condition in shrubs or trees; if there be, it must, I think, occur when there is disease or great prostration of energy. So, then, we see, that in the case of deciduous trees or shrubs, whether we transplant or no, a season of what we call rest naturally supervenes; and if we transplant when the roots are at their lowest absorbent point, why we cannot be said to interfere much with the natural functions of the tree. The fact is, there is little doubt but we hurry forward that condition, and shorten the period of rest in the root at least, by inducing speedily the granular process.

But, be this as it may, the best of the tale in favour of autumnal planting remains to be told. We all know that transpiration, or, in more common phrasology,

perspiration, is in plants a mighty agency for weal or woe, according to conditions. Thus, in the spring time, we talk of the want of sunlight; we have taken every conceivable means to furnish the absorbent powers of our crops, almost to repletion, through the agency of high manurial applications, &c.; but we soon find that light and heat are requisite in conjunction with a lively root action, in order that aceretive matter be added to the system, through the medium of elaboration, involving, of course, a considerable amount of perspiration. But observe similar crops in the garden in July and August, during a hot period, and after an over-rapid development of the foliage of a plant through a past period of much solar warmth, with liberal showers! Here we see. Cauliflowers, Brocoli, &c., flagging with only one hour's sunshine, especially if that pestering enemy, the "club," has been in the least degree busy below. Here, then, we see, by illustration, the character and effects of perspiration through the foliage, in its relation to the absorbing powers.

As evergreens perspire considerably during sunshine and the prevalence of dry winds, it is obviously the better policy to transplant when the perspiratory actions approach its lowest point, rather than the reverse; and of seizing on that peculiar period when such is the case. That period, then, taken in conjunction with some other matters, is the end of September or October; not but that perspiration is still less in winter, yet, when we take into consideration the propriety of enlisting a ground-heat in our favour, we shall do well not to defer it a day later. The ground warmth in October will probably be found to range somewhere between 55° and 60° in fair situations; and at 55° rooting will be much facilitated. I need scarcely add, that on speedy rooting most of the success depends.

I wish here, however, to refer more particularly to the previous provisions which should be made for transplanting, especially shrubs or trees of any size, and in important situations. Compost-yards should be examined, and, if there is any old tan, leaf-soil, or, indeed, any loose and generous material to spare, it should be scraped together and duly mixed. There is always something of this kind to be had, and even the very shovellings of such spots will be found useful. Anything that has once been a living vegetable will help to swell a compost of this kind; and if a little ordinary waste soil can be spared to blend with it, or even sand, so much the better. With such a heap of "priming," as we call it, one of the chief steps towards a successful issue is provided. In the removal of all large specimens, it is, doubtless, excellent practice to excavate round those trees or shrubs to be removed a good while before removal. This causes the wounded extremities to commence rooting in the interior of the ball—a useful provisional step towards a safe removal. A month of this kind will do much, and if the cheek tend to subdue pride a little, so much the better. In removing large evergreens, if any late growths should prevail, or, what is termed the "midsummer growth," which means a second growth out of the first, let it by all means be cut back to its starting point; and, indeed, there can be no doubt that where there is an ample amount of foliage, it is good practice to thin away judiciously any inferior shoots that can be spared. This, however, must be done with a cautious hand, and with reference not only to planting principles, but also with due respect to the style and shape of the tree. And here let me protest against what I may term the "levelling" mode of pruning. Set a half-fledged, jobbing, town gardener to prune a large evergreen, and ten to one he gives you the exact model of a fine Tulip; such a form as those imperious gentlemen, the florists, insist should be stamped on everything; for I verily believe, that if they could have their own way, they would have even three-

cornered cocked hats worked in circles. But then, the globe itself is nearly round, and why not everything else? But a sensible pruner of a tree or shrub of some size will first cast his eye over the general outline, and see if nature has not impressed a style or mode of growth destined, by fair encouragement, to give it an *express character*; and on the seeking out and well sustaining such an individual impress on the trees and shrubs of a pleasure garden, the interest thereof is much enhanced by this delightful and playful variety of form.

As to the pruning of deciduous trees or shrubs when autumn planted, the practice is, I think, very doubtful. We all know that there is a reciprocity of action between the root and the terminal points of deciduous trees betimes in spring, and that through this the sap ultimately gets into full play; we know, also, that there is a greater sympathy between the terminal buds in general and the root, than attaches to the axillary buds, as yet but incipient germs. I do think it well, therefore, to suffer the terminal points to remain until they are about to be developed in April, and then to prune back with a rather sparing hand, carrying out and completing the operation in the succeeding winter or spring, if requisite.

On the removal of large shrubs, &c., let me advise that plenty of labour be at hand, and that it be made a maxim to keep the fibres sprinkled constantly during the removal—they must not be dry one minute, not, however, wetting the ball until planted. The holes should be prepared ready, and some of the compost placed on one side to fill in amongst the fibres; and being made six inches deeper than requisite, and the subsoil broken, the six inches may be covered with old leaves or rotten rubbish-heap material; the ball set upon it. When the soil is filled in just to the top of the ball, the whole should be flooded with water, and when this is settled, the remainder filled in, leaving a hollow basin at top, but no treading.

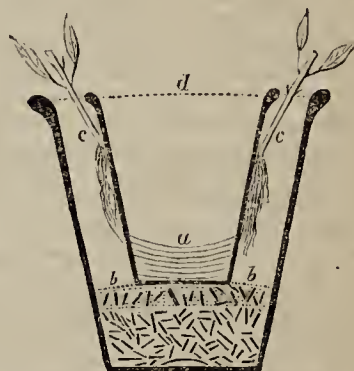
R. ERRINGTON.

PROPAGATION.

AFTER all, there is nothing about gardening, from beginning to end, half so interesting to most people as striking cuttings and rearing seedlings from seeds of their own saving. The older a gardener gets, the more foolish he becomes in these two divisions of his craft. I am not an exception—people wondered what on earth I could do, or be fit for, without a garden, when I left Shrubland Park; but, if I could redeem half of the idle time I spent there, and add it to all my time here, I should consider that I had but about one-third of the time which my garden would require from my own hands and head, and yet, compared with the Shrubland Park gardens, it is not bigger than a good sized flower-pot. The surest way of proving this, however, is to tell that I have just made a flower-pot of it this week, and for the first time; but to prove this proof, I must go back more than twenty years, and say, that in 1835, one of our number, and the best writer of our class at that time, had given a woodcut of a way of striking all sorts of cuttings by double pots. He is, happily, alive to this day;—he reads THE COTTAGE GARDENER now and then;—and his name is—Mr. Forsyth. I never saw him, to my knowledge, but he will put me right if I do not explain his plan properly.

All gardeners are well acquainted with the plan now, which seldom, if ever, fails in the most difficult cases, when we apply it in hothouses, pits, frames, and hand-glasses; and I am firmly of opinion, that a slight alteration in Mr. Forsyth's plan of striking cuttings will answer extremely well for *Rose cuttings* out in the open air. That alteration I have tried myself this week, for the first time, and by so doing, I changed my garden, in effect, into a flower-pot; a proof positive, sure enough.

The plan is thus described by Mr. Forsyth, in the *Gardeners' Magazine* for 1835, page 562:—"Take a wide-mouthed 48-sized pot, crock it in the usual manner; then take a wide-mouthed *small* 60-pot, and put a piece of clay in the bottom of it to stop the hole; then place it inside the other on the crocks, which must be of sufficient depth to bring the rims of both pots to one level; then fill in the space between the pots with sand, or propagating soil; and let the cuttings be inserted in the manner here shown, with their lower ends against the side of the inner pot. Plunge the pot in a cutting frame, or under a hand or bell-glass, in a shady place out-of-doors, according to the nature of the cuttings, and the season of the year; and let the inner pot be filled and kept full of water." "The advantages," he says, "are the regularity of the supply of moisture, without any chance of saturation; the power of examining the state of the cuttings at any time without injuring them, by lifting out the inner pot; the superior drainage, so essential in propagating, by having such a thin layer of soil; the roots being placed so near the sides of both pots; and the facility with which the plants, when rooted, can be parted for potting-off, by taking out the inner pot, and with a knife cutting out every plant with its ball."



a. is the clay-stopping of the inner-pot.
b. b. is the drainage of potsherds or broken crocks.
c. c. the sand, or soil, in which the cuttings are inserted.
d. the water in the inner pot.

Every one of those advantages have been since proved to be quite true to the letter in a thousand instances. In short, a better system than this has never been invented; and he says himself, that Pink-pipings, and slips of Wallflowers, will grow this way easier than by any other mode; and I believe it, from what I have seen done with extremely difficult cuttings by the same process. Now, that I have to shift for myself, and pay the piper as well, I pay more for experiments than I ought to do, but I put in all my in-door cuttings on this plan, because there is no bother with them. I can leave them for days without any fear, and I seldom ever water them between the pots, except now and then in the height of summer.

This week I have tried a modification of the plan, out-of-doors, with *Rose* cuttings, that are to be rooted in the open air and without glasses, and if my application of the plan succeeds out-of-doors, as I have every reason to believe it will, I am satisfied it will simplify the striking of *Rose*-cuttings, and many other cuttings, out-of-doors, ten-fold. It is a practical illustration of necessity being the mother of invention. I am so convinced that all *Roses* ought to be grown on their own roots, except standards, that we should hear less and less every year about blights and green eyes, and less of all other complaints about *Roses*, if we had them on their own roots; that almost any kind of garden soil would grow *Roses* on their own roots; that the budding of dwarf *Roses*

should be confined entirely to new kinds; and also, that the rearing of Roses, in the nursery trade, might be less costly than at present; although I can hardly expect the prejudice of the age will go along with me so far just yet.

All this, I say, I am so convinced of, that I have been considering, for a long while, about the best practices of propagation in the open air, so as to bring the question home to every one who hears of it, and cares anything about it; and the result is, that I have been forced to make out a new plan on purpose, out of the two best practices of modern times known to me. I have tried the experiment this week, as I have just said, and will report on it, if I am spared so long; and I want to hear the result of other trials of it, all over the country, next spring, if only with cuttings of one hybrid perpetual Rose. But even then, should the reports be two to one against it, I shall still hold the opinion, that we, ourselves, are to blame, rather than that the new plan is not according to the soundest practice, and founded on a principle which we cannot gainsay.

The first part of the plan I borrowed from Mr. Forsyth, and made it still more simple and less troublesome; and the second part—that about the cuttings—I learned from the late Mr. Knight in his own garden, at Downton Castle, in 1830. Long before then, he published this system of making cuttings, in the “Transactions of the Horticultural Society,” but, singularly enough, gardeners either forgot it altogether, or never heard about it; and I never saw it mentioned in any of our popular works; therefore, let no one suppose, that in looking-out earnestly for a sure and simple mode of striking cuttings out-of-doors, I was so foolish as to attempt a new process, while all that I could desire was ready to my hand.

The mode of preparing cuttings, in a particular way, was tried by Mr. Knight, so far back as the autumn of 1812; this experiment succeeded perfectly, and is recorded in the “Transactions of the Horticultural Society,” vol. ii., page 117. Instead of cutting across under a joint, as we all recommend a cutting to be prepared for general purposes, when the bottom is to be placed on the soil or sand, he cut the bottom of his cuttings *on the slant*, so as to look more like a heel cuttings; the slant part he placed in contact with the pot, and the parts fitted as well as if the cutting had grown out from the pot itself.

Now, we know that when the ends of some woody cuttings touch the drainage, and rest upon it, they strike much faster than when they rest in the soil. We know, also, by Mr. Forsyth's plan, that when the ends of the cuttings rest against the side of the inner pot they root much sooner than if they were merely inserted half way between the pots; and, moreover, a heeled cutting, which is the same thing as a “slip,” it being slipped from the branch, will get a better hold on the side of the pot than one cut right across, and will root sooner, on account of this very hold, so to speak, than the other. Then, there is no denying the fact, that being in close contact with the side of the pot hastens the rooting of a cutting; when the pot is constantly kept moist, as in Mr. Forsyth's plan, the rooting is sooner, and the cutting is a great deal more safe from harm. Last of all, when the end of the cutting is sloped, as by Mr. Knight, the whole is in that condition which they call *ne plus ultra*.

Those, therefore, are the foundations on which I propose to establish a *ne plus ultra* system of growing Rose-cuttings in the autumn out in the open air, and without the help of anything besides, and as many other cuttings as one chooses to try that way. But, first of all, let us not waste cuttings in learning how to make them so as to fit to the side of a pot; rather take an empty pot, any size will do, and a handful of Laurel

cuttings, and practice a-while, till one gets into the exact cut: put the knife across the cutting exactly under the last bud, and cut downwards slantwise; then fit the slant to the *outside* of the pot, just two inches below the rim, and if the bark fits the pot all round, as if with a graft, you have hit the nail upon the head at the very first start; but try two or three more to make sure work of it. The exact length of the sloping cut does not matter much, so that it is not too low, nor very short; at least, I think not; but I am as young in the fancy as any of you. My slope is about the same length as the heel to an ordinary Rose-cutting—a little more or less. My cuttings are hardly four inches long, and they are nearly three inches deep when planted, and I left two leaflets to each of them, the one to the top bud is out of the ground, and the next just within the surface; by the time I finished, you could not pull one of them out without a good pull; they stand close together, but that is not the better for them, only that I got more of them into a small space.

Here is the way I did it, and the space they occupy: I made a hole in a west border with a trowel, nearly ten inches deep and only two inches wide at the bottom; I then plunged a No. 24-pot in the hole, letting the rim of it be a little lower than the surface of the border—there is a good cavity below the pot, which is to make sure of drainage in the winter. I then opened a ring round the outside of the pot, three inches deep, and nearly filled it with soft yellow sand and light soil from the surface of the border—half-and-half; then, without a dibber, I began planting the Rose-cuttings in this trench, or ring, outside the pot, using only my hands, the left one to hold the slant of the cutting exactly against the outside of the pot, and the right-hand to draw and fix the sandy-compost right earnestly against both the cutting and the pot—and so on all the way round. There is clay in the bottom of the pot, and I shall keep it full of water till the end of October, or later, if the weather is dry. After that, the damp of the season will keep it in the right state for suckling the cuttings; but I shall keep an eye to it, and learn as I go. Now, my garden represents the outside pot in Mr. Forsyth's plan; I only took his inside pot, and I might put lots of drainage under it, as he did, but I wanted the hole for the outer pot; and how was that to be got, without cutting through right on to New Zealand? and that would be the hardest cutting to strike of all the cuttings we ever heard of.

Last spring, when I was planting out something, I found a bundle of Rose-cuttings I put in by the heels last autumn and forgot them, the most of them were caliced at the bottom; but forgetting all about them, I thought the best thing would be to throw them away; then it occurred to me to try an experiment with them, and that experiment was the outset of the *ne plus ultra* system. The experiment was this;—there was a soft “place brick” in the garden wall behind me, the only brick of the kind I could see, and the frost took to it, as it was “between wind and water” as we say, or half in and half above the level of the border. I placed two of the cuttings against this brick, and another two against a dry “stock brick” next to it; but the matter which formed at the bottom, and from which the roots would come, would not admit the cuttings being put quite close to either brick which I wanted to do, to see the effect of what Mr. Fish says about the sides of a pot hindering the accumulation of matter at the bottom of cuttings, and so cause them to root faster,—a most valuable suggestion. The two against the dry brick perished from too much sun-heat in March; but one of the two against the soft brick rooted, and is now nearly a yard high, and proves to be some hybrid perpetual. I am now sanguine about the effect of the damp pot on my last cuttings; but I have no doubt about their

rooting; and I shall report progress whether they root or not

D. BEATON.

VINES IN POTS.

A VARIETY of enquiries having reached me, I slip a little out of my usual path, and endeavour to meet them, by a short reply to the following questions:—

1. "The inside of my greenhouse is paved; I cannot form a border there, nor yet conveniently make one outside the house, but I am anxious to obtain a few Grapes; could I not procure them from Vines in large pots, as sometimes recommended, training the Vines either up the rafters as creepers, or round several stakes, in balloon fashion, so that I could move Vines, pots, and all, when done fruiting?" Undoubtedly you may. Allow me, before going farther, to venture a hint to our kind correspondents to give a reference to page, or at least number, when they advert to what has been previously said on a subject, as this would greatly ease the labours of editors and departmental writers. Often the terms, "late number," "recent number," have caused me to strain my eyesight over ever so many numbers, and then not find the passage referred to after all. In these days, when railway speed is carried into all the affairs of life, a little attention in this direction would be a great favour. But I have still another, and, perhaps, a greater favour to ask, namely, that inquirers will excuse all such indefinite terms as "recent number," with us, and for two reasons: first, a solution to a problem will be none the less valuable and forcibly impressed if the indices of several numbers have to be turned up to find it; and secondly, because such explicitness as giving chapter and verse in all those matters would often, from the time taken up, necessitate many inquiries to remain long unanswered.

Now, there are two ideas that strike our attention as important in this simple question. The first is the perfect possibility of obtaining good Grapes on the rafters of a greenhouse from Vines planted in large pots, or, rather, boxes. The reason we would prefer boxes is, that there is not the same chance for getting the roots cooled inordinately at one time, and extra heated at another, as when grown in hard, and yet porous, earthenware pots. In such boxes, some two, or two-and-a-half feet every way, Vines will produce fair crops for years. A very heavy crop one year would next to paralyze them for bearing in the succeeding one. This may be considered a rule of universal acceptance in the fruiting of Vines in pots, whether plants of one, or several years' of age, be used. Future and continued prosperity must be obtained by so much of a present seeming sacrifice. Hence, many growers in pots grow one year, and fruit the next.

Although, when planted out, Vines delight in a wide border, it is a mistake to suppose that they cannot be grown without that amplified space. I have seen fine crops when the roots could only range over a very limited space; but then fresh manuring agents were presented to them every year. Just so with the Vines in these huge pots, or boxes, in the greenhouse. After duly feeding them with manure-water, re-potting, or re-boxing them is not to be thought of in spring; but as much of the surface-soil should be removed in March, or earlier, as can be got hold of with a pointed stick without injuring the roots, and the place be supplied with fresh, rich compost. This being watered often with manure-waterings will so shrink and consolidate, that several rich top-dressings may be required during the season; and, provided there are abundance of fine, healthy roots, and these have access to the enriching food they require, it matters little to them whether they obtain that nourishment in a cubic yard, or by sprawling over some large portion of a square acre. In the

latter case, however, the Vines may almost be left to shift for themselves, taking wind and weather as they choose to come; but in the former more artificial state, much will depend upon thorough drainage, a rich and yet open compost, and an unflagging zeal in wielding the water-pot whenever it is necessary.

Such large pots or boxes would be difficult to move out and into the house, and there need be little occasion. Supposing that every encouragement was given, by as high and dry a temperature as possible, in the autumn, to ripen the wood, the leaves would soon fall, and then, the Vine being pruned and dressed, what was left of it would not be large enough to attract much attention during winter. At that period, it would be desirable that the soil about the roots should be just moistish, in opposition to *very dry* or *very wet*. The latter contingency is chiefly to be guarded against, and it easily may, even though the box or the *huge pot* be made, as in such circumstances we would advise them to be made, into stands for plants, as the Orange tubs at Wilderness Park, or a shallow tin or zinc pan might be made just to slip down inside, with a hole at one corner, fitted with a cork, to let out extra water, and then that tin might be filled with small plants, such as Primulas, Hyacinths, &c., and the *large* box, or pots, thus suitably placed, might easily be converted, during winter, at least, into a stand or a vase of flowers with but little trouble, and no detriment to the roots of the Vines.

In growing Vines in this manner, besides avoiding over-cropping with permanent plants, care must be exercised to drain the receptacle well, and for this purpose nothing is better than from two to three inches of clean charcoal; over that place a thin layer of clean, fresh moss, and then the roughest of the compost, consisting of brownish fresh loam, with a little brick-rubbish, leaf-mould, and bones broken small. The compost added in after years may be richer in organic materials; and when the Vine is growing in summer, one of the safest of the artificial manures, either as top-dressing, or dissolved in water, will be the turnip-manure of Lawes, or the superphosphate of lime, made by dissolving bones to powder by sulphuric acid and water; when I speak of this, I by no means undervalue other more common manures, such as soot, sheep and deer droppings, cow-dung, borse-dung, &c. When any of these are used as top-dressings, it is safest to apply them several months old, as otherwise they are apt to be too rich in ammoniacal matter. When used in water, let it be weak rather than strong, and often applied; and if mixed in a barrel, say a bushel to the hogshead, accompany it with half a spadeful of quick-lime, and though by this you will lose a portion of the ammonia; it will not be so much as some imagine, as it will partly be retained by the film of chalk that forms on the surface of the liquid, and you will have the pleasure of applying, not a thick dirty liquid, but one as clear and sparkling as bottled Alou ale.

The second idea suggested is, that unless you grow plants one year, or two years, to fruit them in the second and third, you will not easily succeed with Vines in pots, when you move them out of the house directly you have cut the fruit from them. As much of the success in fruiting Vines in pots and boxes, one year after another, depends on the thorough ripening of the wood, and swelling of the buds the season previously, a result which could rarely happen with Vines in a greenhouse, if the plants were moved outside while there was a particle of green in the foliage. It might and would be different, were these Vines brought forward in pits, or other houses, with or without the assistance of bottom-heat, and were then merely brought into the greenhouse to perfect their fruit. In this latter case, the season of growth would be lengthened, and when the fruit was cut, the front of a south wall before the leaves fell, and the back of it, or a

north aspect, would be a preferable position to the greenhouse. In either of these circumstances, if common red pots are used, it will be advisable to screen them from the sun's rays in summer, and to plunge them to escape frost in winter. It should, however, be borne in mind, that many of our best growers in pots fruit only in the third season from the eye, and do little more with them, because they prefer younger Vines to those older; while others, more expeditious, grow one year and fruit the next; but make little or no more use of such plants. For instance, from buds inserted from the beginning of February, I have had good crops in May twelvemonth, or little more than fifteen months; but then every attention that hotbed and pit could render was given to them. Such a thing could not be done with the assistance of a greenhouse *alone*. Allowing you had the assistance of a cucumber box to start your buds, it would require two summers' growth before you could expect wood strong enough to fruit in the third summer. A friend of ours, who does Vines in pots very well, told me his plants have fruited beautifully this season; but this was the third summer of all his plants, and he rarely fruits them younger, or a second time, without, at least, giving them one season's growth to renew them.

2. "I have noticed how some half-dozen or more bunches, in good condition, are exhibited, growing in pots, at the Metropolitan exhibitions. I think of trying Vine-culture in pots, on the *score of economy*; but would like your opinion on the matter, before I so far committed myself to the system, by obtaining a dozen or two of plants fit for fruiting next year. It seems to me, I should have a house of *fruit*, instead of so much of it being now taken up with leaves. Of course, the plants when procured, with a little advice, would be equally fruitful year after year." I fear that the conclusion of the last paragraph will have done much to damp the ardour of all such aspirations in an economical point of view. I have no notion whatever of the economy of Vine-culture in pots, when, carried out in a wholesale way, and a house, or houses, are to be devoted to that object alone; though it may, and is often desirable and economical to bring in a number of plants so cultivated as adjuncts, and for definite, more than *economical*, purposes.

Let us just glance at some of the reasons why its general adoption would not be economical. You would require large pots or boxes to ensure plants fruiting year after year, as a certain luxuriance in the wood of a vine, as well as its being well ripened, is necessary to its continued fecundity, and this would also presuppose very moderate crops, as from six to twelve bunches a year generally so monopolizes the organisable matter of the plant, that it breaks and shows very indifferently the next. Allow that, by moderate cropping, and a proper system of lateral removing, and disbudding gradually, as some time ago recommended, you contrive to keep your plants in a fruitful state, year after year, how many more buds and eyes can you expose to the full agency of light from Vines in pots than from Vines on rafters? I ask not whether your edifice be pit or house, lean-to roof or span roof; but this I say, that you can depend little on the wood of this year fruiting in the next if the foliage has not been exposed to the full agency of light. Our friend seems to calculate how many plants his pits or shelves would hold, trained similarly as they are exhibited, and then at once rushes to the conclusion—What a weight of Grapes I shall have! Now, though by moving pot-plants round frequently, a greater number of Vines may be fruited in a place than it is possible to submit to direct sunlight, it cannot be too clearly and forcibly enunciated, that in *preparing* these Vines for fruiting, the unobstructed access of the foliage to direct light, and con-

sequent fruitfulness, are, to a great extent, cause and consequence of each other.

From some notes that have reached me, it would appear that some friends are apt to get into error, by carrying to an extreme what has lately been said of standard flowering plants, and what has and may yet be advanced of conical-shaped plants, &c., so far as to imagine they may have a house filled with standards, and yet have as many dwarfs in it as if there were none; and that, provided the base of a conical-shaped plant was no wider than the base of a squat flat one, a sloping stage would contain and grow equally well as many of the one as of the other. Now, though a few standards in a light house could exercise no prejudicial influence, a *thicket* of them would soon make havoc of all plants beneath them, unless those that naturally delight in the shade; and though there will always be found suitable places for conical-shaped plants, yet neither upon flat table, or stage with sloping shelves, can an equal number of these tall plants receive an equal amount of light, with a similar number of equal-diametered-at-the-base squat ones; just because the tall ones will shade each other. The mere standing room will be the same in both cases—the access to light of the various parts of the plants wholly different.

Just so with many who are anxious to try Vines in pots, or have tried, and find it anything but remunerative. One grows his Vines in wide pits, two or three rows of them, and never thinks the one shades the other. Another has Vines on his rafters, and a pit in his house that used to be employed for Pines; and in that pit, with a deep shade over them, he has grown Vines in pots, with fairish stems and largish leaves; and then, when he tries to find these same plants, he wonders how he cannot get hold of the secret, so as to get fruit to come to his mind. That secret is just this, that in addition to good foliage and fair-sized wood there must be unshaded light acting on that foliage. "Why, then, I could have no more than one row of pots even in that pit, and bring the shoots so near the roof of glass as to have nothing above them; what economy can there be in that? I might as well plant them out at once." I cannot help it—reported wonderful savings are often one thing; the result, all things considered, frequently very different.

Again, so far as this economical aspect is concerned, I have been so far writing as if it was possible to fruit these plants, year after year, when thus obtaining direct access to light; and—though from sheer want of room I have not tried the plan for many years—I have no doubt it could be done, if only the half or the third of the crop generally taken was considered sufficient, as I have several times proved. For instance, on a *Muscadine*, little more than a twelvemonth from the eye, I have had from eight to twelve tidy little bunches, but no coaxing would entice it to do any good the following year: while on other plants, somewhat similar, that were allowed to carry three or four bunches, the vigour and prolificacy did not seem at all diminished. So far as I am aware, however, this is not at all a mode that is adopted by those who principally follow the system, and, in fact, it would not greatly commend its adoption, unless to those who would grow everything in pots, as though six or eight bunches make a fine display, the half or third of that number, unless very fine, would scarcely arrest attention. As previously noticed, the common mode is to grow the plants one or two years from the bud; then fruit them, and then throw them away. Now, I know, personally, that it requires great care to get plants strong enough during one summer, and, I presume, that the success of two-year-old plants, that is, fruiting the third spring or summer after having two summers growth, will chiefly depend on the unshaded light the plant enjoys during the second season; and,

therefore, before I can admit the growing of Vines in pots in such a manner to be *economical*, I should like a clear statement of the shiftings, the waterings, the movings, the amount of space under glass which such plants demanded, contrasted with those planted out, and the result in the two cases, keeping in mind, that in common circumstances, planting out you get a crop every year, while, by the common mode of managing Vines in pots, you must be content to grow a year or two before you can expect to be paid with fruit. It is true, that when you plant out young Vines to supply a house, you must wait a similar or longer period before you can fill the house and obtain a full supply, and in such circumstances, Vines in pots would be a useful auxiliary, as will be noticed by-and-by; but this waiting for years takes place, in such circumstances, only once in a series of years; while with pots, the process must be repeated season after season, and you thus obtain a regular succession of crops, if you follow the best growers, only by varying and bringing forward a succession of plants. I am, therefore, inclined to look upon any general wholesale culture of Vines in pots more in the light of a pleasant exhibition, and as demonstrating great undertaking, and a good amount of horticultural skill, rather than as a mode to be recommended for its *economy*. I have had, and seen, such results, as would be very likely to deceive the inexperienced in this respect, but the consideration of the previous year's attention dispelled the charm.

There are many circumstances in which Vines in pots will be useful, saving, and so far economical, when used as *auxiliaries* in filling a house; but the mentioning of these, as well as taking into consideration the enquiry of a correspondent, as to whether the main shoot should be stopped or not stopped when growing, to which only a short answer has been given; and a short outline of the mode of culture for fruiting such plants expeditiously, must wait for another opportunity.

R. FISHER.

GREENHOUSE FERNS.

(Continued from page 378.)

In describing or enumerating the species of Ferns hardy enough to live through the winter in a greenhouse, I need not repeat the generic characters of such as are already given in the first division, namely, Stove Ferns.

ADIANTUM.

ADIANTUM ASSIMILE (Assimilated).—A New Holland Fern, of great beauty, continuing green all the winter. Fronds thrice divided, or tripinnate, with the leaves of a rhomboid shape, and the margin slightly cut. The cover of the seed-cases is kidney-shaped. The rhizoma creeps very freely, sending up fronds all over and round the sides of the pots; hence it is easily increased by division.

A. CAPILLUS-VENERIS (Venus's Hair).—Though this beautiful Fern is a native of Britain, yet it is too delicate to bear the open air in our gardens. It is identical with *A. Moritzianum* of some authors, who mistook it for a different species in consequence of its growing much larger in warm countries, Madeira, for instance. I have had large patches of it from that island, under that name, but I invariably found them, when treated in a similar heat, to assume the character of the true *A. capillus veneris*; and then, again, when transported into the stove or orchid-house, they returned to, or produced the large fronds of, the so-called *A. Moritzianum*. This species loves shade and moisture, and, therefore, a close, shady part of the greenhouse is necessary to grow it satisfactorily. Fronds bi-tripinnate, that is, twice thrice divided; growing in a greenhouse

six inches high; pinnæ, or leaves, wedge-shaped, bright green, and cut at the edges. Requires a light, sandy, fibrous soil, intermixed freely with potsherds, or small pieces of sand-stone. Increases freely by division.

A. FORMOSUM (Handsome).—A New Holland Fern, remarkable for beauty and size. I have grown fronds two feet high, and a foot-and-a-half across. Fronds four times divided; pinnæ small, rhomboid-shaped, dented at the edges; stem of the fronds hairy; seed-vessels small and rarely seen. Creeps freely, hence, easily increased by division. A handsome, desirable species, and by no means rare.

A. HISPIDULUM (Hairyish).—A pretty little Fern, from New Holland, remarkable for the various forms the fronds assume, the lower branches being bi-pinnate, and the upper pinnate, thickly covered with hairs, and growing about six inches high, in a close, upright manner.

A. PEDATUM (Bird's-footed).—This species is a native of a cold country (North America), yet it will not thrive well except in favoured spots in this country. I have it now growing splendidly in an intermedial house, but in rockwork, or the open border, I have frequently lost it. It is a truly elegant Fern, growing a foot high before the branching begins, then spreading its five divisions almost horizontally, something like the claws of a bird. Fronds pedate; pinnæ rather oblong, with a wavy edge, slightly cut. Seed-vessels oblong and solitary. Increased readily by division.

A. PUBESCENS (Downy).—This very common, yet pretty, Fern is from New Zealand. Fronds a foot high, covered with short silky wool or down, in form pedate. The branches long and narrow, with the leaves closely packed to each other; pinnæ slightly cut, or crenate at the edges; seed-vessels thickly placed round the margin, and kidney-shaped. Increases very freely by division.

ALSOPHILA.

ALSOPHILA AUSTRALIS (Southern).—A Fern rare in cultivation, from Van Diemens Land, requiring the warmest part of the greenhouse. It is a tall plant, growing three feet high. Fronds bipinnate; pinnæ long and narrow, with smooth edges. Stems scaly, growing on an upright stem or root-stock, forming a little tree. Increased by seed sown on sand-stones under a bell-glass in a frame.

A. CAIENSIS (Cape of Good Hope).—This is also a tall Fern. Fronds three feet high, bipinnate; form oval lance-shaped; pinnæ, or leaves, also lance shaped, with wings at the base; edges deeply cut; stems scaly; seed-vessels small; root-stock not creeping, but forming a little tree, with the fronds seated on the summit. This is sometimes very curiously covered with short deformed leaves. Increased by seeds only.

ANTIGRAMMA.

A genus of Ferns with broad leaves and regular veins at the back. The name means *anti* against, and *gramma* a line, the seed-cases being arranged opposite to each other on each side of the midrib.

A. RHIZOPHYLLA (Leaves-rooting).—A North American Fern, of a dwarf, compact habit. It will live in a cold frame, but is safer in a good greenhouse. Fronds simple, growing nine inches high; heart-shaped.

ASPLENIUM.

There are no less than twenty-two species of this genus that require greenhouse treatment. Some, certainly, grow more freely in a stove, and others will exist in the open air, *A. Marinum*, for instance; but the more tender ones may be placed in the warmest part of the house, and the others in the coolest.

A. APPENDICULATUM (Appendaged).—A Fern from Van Diemens Land, of great beauty. Fronds tripinnate, a foot high, or more, and rooting at the extreme point;

pinnae, or leaves, oval-shaped, sharply cut into segments at the edge. Seed-vessels oblong, covering the under surface of the leaves. Stems scaly and winged. Root-stock creeping, but slowly increased by division, and the root-bulbs formed at the ends of the fronds. As several species propagate themselves by these self-formed appendages, I may just as well describe for all how to manage these proliferous leaves. When the tufty bulb or knob has become a moderate size, fill a small pot with the proper compost, and place it so near to the proliferous frond as to allow the end just to reach the centre of the pot. Then either peg it down with a hooked stick, or lay a small stone upon the frond, just behind the knob, pressing it down close to the soil. Then water gently, and let it alone till roots are formed, and young fronds have made some progress. Then cut it off, and place the young plant or plants under a bell-glass till fairly established, then give a little air, and gradually inure them to bear the open air; afterwards repot them and treat them exactly like the old-established plants.

T. APPLEBY.

(To be continued.)

EARLY-FLOWERING BORDER PLANTS.

(Continued from page 379.)

CARDAMINE.

DERIVED from *Kardamon*, watercress; having the same sharp taste. A genus of plants that grow chiefly in marshy ground; but will thrive in any garden soil not too sandy or rich. The Double Ladies Smock, or *Cardamine palustris pleno*, is a well-known plant in our gardens. It is, in its single state, called the Meadow Cuckoo flower.

C. PALUSTRIS PLENO, a garden variety; flowering in April; growing a foot high, and of a light purple colour; increased readily by dividing the roots after the blooming is over.

C. TRIFOLIA (Three-leaved); native of Switzerland; growing two feet high, with white flowers, which appear in May; increased by division.

C. ULIGINOSA (Bog); a plant from Tauria, with white May flowers; growing a foot high; requires a moist situation.

CHEIRANTHUS.

The derivation of this name is rather curious; it is from *cheir* the hand, and *anthos* a flower; in reference to the custom of carrying the Wallflower in the hand for a nosegay. The literal translation would be "the Handflower." All the species, which include the Wallflower, like a sandy dry soil.

C. ALPINUS (Alpine); native of the south of Europe; flowering in May; of a pale yellow; growing six inches high; increased by cuttings under a bell-glass in a cold frame.

C. LINIFOLIUS (Flag-leaved); native of Spain; flowers in April; growing two feet high; colour purple; increased by cuttings. A plant or two should be kept in a cold frame through winter.

C. MARSHALLII (Marshall's Wallflower); a garden hybrid. This is the prettiest of all the genus; colour deep orange-yellow; flowering in April; growing nine inches high; increased by cuttings, in sand, in heat, without a bell-glass, if shaded from the sun. It should be grown largely as it is so very ornamental. As an early bedding-out plant it stands unrivalled for its clear bright colour. I have not mentioned the common Wallflower (*Cheiranthus Cheiri*), because every lady knows it so well, and understands its culture.

CONVALLARIA.

C. MAJALIS (Lily of the Valley); native of Britain.

This lovely flower is everybody's favourite; but its culture by the million is but imperfectly understood. It requires a light soil, and a shady situation, not too moist. Prepare a narrow border behind a north wall by mixing the soil with leaf-mould, or very well-decomposed stable-dung. Dig it deep, and then draw drills, five inches apart, across the border. Take a batch of roots and divide them. Lay them along the drills rather thickly, and cover them two inches thick with light soil from the compost heap, press it down with a garden rake, and they will require no further care excepting keeping clear of weeds. In this border they may remain several years, and will produce plenty of flowers, especially when the roots have spread and covered the border in a compact mass.

Forcing.—The Lily of the Valley forces well, and may be brought into flower as early as February. Take up as many roots as may be required for that purpose, choose such as have round plump buds; these contain flowers. Plant six or eight of these buds, with their roots attached, into five-inch pots, in good rich soil. This should be done in November, and the pots placed in a cold frame to cause them to put out fresh roots. Make up a gentle hotbed towards the end of December, and as soon as the heat is moderate, cover the surface with coal-ashes, and place the pots upon them. Water them as they require it, and give air freely in moderate weather, covering up closely during severe frost. With this care they will do well and bloom freely, and will serve to ornament the greenhouse with their beautiful foliage and lovely sweet-scented blossoms. Where the flowers are only required for cuttings, the roots may be taken up in large squares, and placed *en masse* in the frame, and allowed to bloom there.

There is a double-flowered variety, and one with pale purple flowers, both desirable and worthy of cultivation.

CORTUSA.

CORTUSA MATTHIOLI (Matthioli's); native of Austria; flowers in April, pale red in colour, growing a foot high. This is a very pretty early flower, but rather tender. As it produces seed freely, it is desirable to sow a little every year, and keep a few plants in pots under a cold frame. It thrives best in peat and loam, and planted in a warm south border. It is a deciduous perennial; that is, loses its leaves in the autumn.

CORYDALIS.

A tribe of early-flowering plants, some of which are bulbs, and some others are transferred now to the genus *Dielytra*. The name is derived from *korydalos*, the lark, the hinder part resembling the spur of the lark. I intend to give a few papers on early-flowering bulbs, and, therefore, shall defer the bulbous species of this genus till then.

C. FLAVULA (Yellowish); native of Russia; flowering in May; colour yellow; height six inches; increased by division.

C. PÆONLEFOLIA (Pæony-leaved); native of Siberia; flowering so early as February; growing one foot high; with purple flowers; increased by division.

CYNOGLOSSUM.

This is usually known as the "Hound's Tongue." Name derived from *kyon*, a dog, and *glossa*, a tongue. A large genus of plants containing annuals, biennials, and perennials, the prevailing colours of the flowers are blue and purple. There are only a few that bloom early.

C. APPENNINUM (Apennine); from Italy; flowering in May; growing six inches high; with reddish-purple flowers; increased by seeds. Little better than a biennial.

C. ANCHUSIOIDES (Anchusa-like); latterly introduced from Cashmere; has blue flowers, appearing in May;

growing a foot high; a desirable plant; increased by seed and division.

C. TOMENTOSUM (Downy); from Italy; flowering in May; with violet-coloured flowers; increased by division.

C. VIRGINICA (Virginian); colour rich blue; height one foot; flowering in June.

CZACKIA.

A genus of plants named in honour of Czaek, a Russian botanist. It is the *Anthericum liliastrum* of the older botanists.

C. LILIASTRUM (Liliaster); native of the South of Europe; flowering in May; with white blooms; the flowers resemble transparent silk; it is very hardy, and readily increased by division. T. APPLEBY.

(To be continued.)

THE FRUIT-ROOM.

NOTWITHSTANDING all that has been said on the matter, it too frequently happens that many things besides the legitimate occupants of the fruit-room find their way thither; hulbs, seeds, lumber of various kinds, and other litter, all, more or less, are too often crammed into the fruit-room; and as all these things are no doubt useful in their way, we must not be too severe in our censures on those who have no other place to stow away such things, only it is right to call attention to the sacrifice their presence there occasions; for, be it remembered, that a quantity of fruit, bulbs, and roots, deposited all together, are widely different from a like quantity of manufactured goods, wood, or iron; for these last named, being divested of all vitality, do not give off any of those gases or exhalations which contaminate the premises they occupy; not but that certain chemical substances do so, and often to a hurtful extent, but, in a general way, the exhalations from such things are more injurious to animal life than to other manufactured goods in their immediate neighbourhood; but such is not the case with vegetable substances when piled together, or brought near each other, and placed under circumstances so as to be compelled to absorb, to a certain extent, each other's impurities; for instance, let us take two articles both useful in their way.

Let us suppose that large bunches of Sweet Herbs are either drying in the fruit-room, otherwise, placed there for want of a better place, at the same time some Pears are also ripening for table; now, when the atmosphere is charged with the odour arising from Lavender, Sweet Marjoram, and other strong-smelling plants, it is only fair to suppose that a delicate fruit like a Peach, or a Pear, just in mellow order for table, should be tainted with it, either more or less, and its flavour impaired. I know, to a certainty, that Pears partake largely of the flavour of any substance they may have been packed in, where they have been so kept and confined in the same as musty hay, sawdust, and other substances; and as the fruit imbibes, in that instance, the flavour of the substance by which it is surrounded, it is only reasonable to suppose that it will likewise do the same from the atmosphere when that is loaded with impurities of a kind which, if not in itself obnoxious and offensive, is certainly at variance with what nature intended for it, and, consequently, must be fatal to the conservative properties of the fruit, if it does not impart an improper flavour likewise. Now, taking all these things into consideration, it is easy to comprehend the point that ought to be attained. A sweet, well-ventilated atmosphere, such an one as our worthy farm-house dames like to place their milk in,—cool, yet fresh and sweet; for, as milk imbibes any noxious exhalation by which it is surrounded, so, likewise, will fruit, though,

perhaps, to a more limited extent; consequently, if the fruit-room could be so contrived as to be out of the reach of such things, so much the better; at all events, do not let it be encumbered inside with substances likely to create what is not wanted.

Much has of late been said about fruit-rooms, and the proper keeping of fruits; but, after all, much of the best fruit that finds its way into Covent Garden Market is kept in a very homely way; heaped up in some shed or out-house (very often, in fact, in the hop-kiln). Apples are turned out from there in March and April, in a condition which those having more ample means have much difficulty to exceed; nevertheless, there is much loss amongst them, and the smaller quantity which private growers usually have to deal with, enables them to keep their's in a manner wherein they can see and examine the stock daily, in order to see what needs removing. For, as most fruit-rooms are fitted up with shelves, and are sufficiently capacious to hold all the fruit required, without being more than two thick, any decayed one is much easier discovered. But prior to the fruit-room being used, it is proper to say a few words on it, beginning with its construction.

I think it has been already mentioned in this work, that this building should not stand in an open, exposed place, with windows to the south, but, if possible, it would be better to shade it from that side, and render the other as open and well-ventilated as possible, and be sure to have such ventilation at top as will enable all noxious gasses to escape as they are generated; apertures at the bottom of the house will also be necessary, so that the room is fed by a continuous influx of good fresh air, and the tainted portion driven off by the same means. This top and bottom ventilation is especially required, and we know of nothing worse than a close-ceiled room, with no apertures for air save the windows mid-way up the side. A fruit-room, to be a good one, ought to have as much ventilation as a place intended for public meetings, as, in fact, a church or chapel. It may, perhaps, be urged that these latter are not in all cases furnished with openings, but then their loftiness is such as is capable of containing a large volume of heated or impure air, which, as those meetings are not always continuous, get emptied of their improper contents, and refilled with fresh, pure atmospheric air before the building is again wanted; but such is not the case with the fruit-room—there the evil is often a continuous one, so that the fruit, or other object inside, gets tainted, either more or less, unless, as above, a stream of cold, fresh air is always pouring in, so as to displace the bad ere it assumes a too vitiated character.

The best keeping fruit-room ever I had stood behind a high garden wall—its north side being furnished with the two windows and a door, while its ends abutted into other buildings—it was not lofty, but, having a lean-to roof, it was plastered and ceiled inside, the same as the roof, and a ventilation was formed at the highest part by an opening in the aforesaid garden wall, not leading through to the south, but going upward, like a chimney, in fact. Small openings were also made at the bottom of the opposite wall, whereby a large current of cold air was sucked in, which, circulating through the room, finally ascended at the back and out at the top, followed by another current the same way: in this room fruit of all kinds kept well; the fittings were the ordinary shelves all around, and a large table inside, which was also often loaded with things for immediate use; the fittings are of less moment, as every one can arrange them to suit his or her own convenience; the leading principle of how to act, seems more especially called for here.

Much as has been said about the fruit-room, &c., it must also be borne in mind that the seasons are not always alike for rendering the fruit capable of enduring

the changes by which it is surrounded; but, in a usual way, it is best to let Pears and Apples remain pretty long on the tree, unless they fall very much, or are, in some other way, in a dangerous condition, for after the first few weeks are over, the packed-away fruit keeps much better than it does at first. Cold weather setting in, and other matters tending to check perspiration, the fruit does not so quickly attain that period of maturity which is identical with a speedy decay; in fact, it is only one form of the same, and that tendency must, if possible, be arrested.

It is well known that certain fruits give off exhalations different from others, and from each other. *Williams's Bon Cretien* Pear is, perhaps, the most offensive of any, where any considerable quantity of them get mellow together, and assuredly, the strong odour from it cannot do otherwise than hasten all that it is in contact with down the road to destruction; at all events, it would be highly improper to allow it to remain in the same place; other things that are equally strong ought also to be guarded against, and, of course, all decaying fruit, or other matters of that kind, ought to be removed as soon as discovered, and all dirt, &c., cleared away, so that the fruit-room, when furnished with its winter store, may be rendered as decent and healthy as its crowded state will allow; and with a judicious ventilation, and other means, combined with good, well-grown fruit to begin with, a fair share of success may be expected, and the various kinds will no doubt keep as long as their specified term of existence is allotted them, and all premature decay and other destructive tendencies arrested, so that good Apples and Pears, I do not mean those hard, wooden ones, which some late kinds deserve to be called, but if good mellow fruit, said to be in season in January, can be kept until March, it will be much better than the kinds reported as being in season then, while a premature ripening has a contrary injurious effect.

J. ROBSON.

SOUTH HANTS POULTRY EXHIBITION.

This took place on the 30th and 31st of August, in a marquee, erected for the purpose, on the Antelope Cricket Ground, Southampton. This was a fortunate change from the Victoria Rooms, where the show was intended to have been held. The heat and smell in those rooms would have been excessive, for even with all possible openings in the marquee, the temperature was above 80°, and the most easily excitable birds, such as the Spanish, Hamburgs, Games, and Malays, were gasping and uneasy. It would have refreshed both the birds and the visitors to have had the canvass sprinkled with water, as they do the tatties, or grass-made shades, in India.

It is not often that we have to report of a poultry show under canvass that the weather was too hot for the event; and the good people of Wellington, in Somersetshire, and of the Surrey Zoological Gardens, remembering what happened to them, under similar circumstances, will be apt to exclaim, "Is it possible!"—Yes, it is possible, as shown by the results at the show now under notice, for the intense heat of the weather must have kept many people away. Nor was the time of the year without its effect in reducing the amount of the receipts; for in August—the end of August—the most influential members are away in yachts, on the moors, preparing for the stables, and for anything rather than sweltering in pent up exhibitions.

Let us observe, also, that from the middle of August until the end of October is the worst of all possible times in the year to exhibit adult poultry; for during that period they are in some stage or other of their moult. This was most strikingly apparent at the show now under consideration, for among the old fowls, with one exception, it is not too much to say, that they were all disfigured by being in moult. The exception was the *Pile Game Cock*, in pen 174, the property of Mr. T. P. Mew, of Cowes. The bird was in beautiful condition, and one of the best specimens we ever saw.

There were about 390 pens, and of their occupants we will observe in numerical order, that the *Spanish* classes were very good, and the best testimony is, that the two prize pens of *Chicken* found a ready sale at ten and fifteen guineas. The *Coloured Dorkings* were generally good, but not in good condition; even the chicken class suffered in appearance from the extreme heat. The *White Dorkings* were not above an average, and every year we seem to notice a falling away in them. We very rarely see among them a stout-framed bird. In *Buff and Cinnamon Shanghai* chicken there was a considerable improvement over recent shows, but with the exception of the two prize pens of *White Shanghai*s, there was not one good one of either the white or black. The *Grey Shanghai*s, falsely called *Brabma Pootras*, were much as usual; pretty looking pullets, and coarse, ugly brutes of cocks,—pea-combs and single-combs were alike awarded prizes. The *Game* and *Malay* classes were very indifferent, and the *Hamburgs* and *Polands*, with a few exceptions, were not much better. The *Gold-laced Bantams* were good, but the other colours were very badly represented. In *Turkeys* there was only one pen, for those in pen 259, though they came from Bristol, might be held up as warnigs. The *Geese* were few, but good; *Aylesbury Ducks* were also good, as were the *Buenos Ayres*, but the *Rouen Ducks* were very indifferent. The *Pigeons* were scarcely above the average.

The heading of Class 28 was unfortunately worded. It was for "Any distinct breed," and not, as it should be, for "Any other distinct breed." In it, therefore, were admitted a pen of Malays (235), but we think the judges might have disqualified the pen as being misnamed, for they were called "Rangoons." Malay cocks, as they become old, often acquire more white feathers at every moult; and the one we are now noticing had scarcely any at one time, if he is the same bird as Mr. Sayers used to exhibit, which we are told it is. It is curious to see how some birds change their names when they change owners. Thus the birds in Pen 241* were exhibited as "Tailless Persians," but we remember them under some more outlandish title at the Metropolitan Shows.

There were a few other sales besides those we have mentioned, and the most noticeable was 133*, a two-year old *Buff Shanghai* cock, which was taken at the upset price of four guineas.

The *Silver Cup*, for the taker of the most first prizes with fowls of his own breeding, was awarded to Mr. H. D. Davies.

The judges were E. Hewett, Esq., Sparkbrook, Birmingham, and Mr. J. Bailey, Mount-street, Grovesnor-square, London; but before giving a list of the prizes they awarded, we must express our sense of the good management of the show generally. The catalogues and prize-lists were ready when the show commenced, and every care seemed to be taken of the birds. Those on the ground benefited by the grass; but they did not appear to so much advantage as they would if nearer to a level with the inspector's eye.

Class 1.—SPANISH.—Birds exceeding one year old.—5. First prize, H. D. Davies, Spring-Grove House, Hounslow. Aged. 6. Second prize, H. D. Davies, Spring-Grove House, Hounslow. Aged. 8. Highly Commended.—The Right Hon. Lady Margaret Macdonald, Woolmer Lodge, Liphook, Hants. Age, two years. Commended.—3. John Clark, Shrub Cottage, Hartley Row. Age, unknown.

Class 2.—SPANISH.—Chickens of 1854.—16. First prize, The Right Hon. Lady M. Macdonald, Woolmer Lodge, Liphook, Hants. Age, eighteen weeks. 15. Second prize, The Right Hon. Lady M. Macdonald, Woolmer Lodge, Liphook, Hants. Age, eighteen weeks. Highly Commended.—9. John G. Ramsden, Ivy Cottage, Twickenham, Middlesex. Age, five months-and-a-half. Commended.—10. John G. Ramsden, Ivy Cottage, Twickenham, Middlesex. Age, five months.

Class 3.—SPANISH.—For the best Cock of any age.—17. Prize, most unusual merit, H. D. Davies, Spring-Grove House, Hounslow. Aged.

Class 4.—DORKING (Coloured).—Birds exceeding one year old.—25. First prize, H. D. Davies, Spring-Grove House, Hounslow. Aged. 24. Second prize, H. D. Davies, Spring-Grove House, Hounslow. Highly Commended.—22. Mrs. Henry Fookes, Whitechurch, Blandford. Age, cock fourteen months; hens sixteen months. 26. J. W. Finch Noyes, The Cottage, Salisbury. Aged.

Class 5.—DORKING (Coloured).—Chickens of 1854.—51. First prize, H. D. Davies, Spring-Grove House, Hounslow. Age, seven months. 35. Second prize, Robert Loder, The High Beeches, Crawley, Sussex. Age, four-months-and-a-half. Very Highly Commended.—50. H. D. Davies, Spring-Grove House, Hounslow. Age, seven months. Highly Commended.—27. W. G. K. Breavington, Hounslow, Middlesex. Age, six months. 40. H. F. Fisher, Blandford, Dorset. Age, five months. Com-

mended.—46. Thomas Dutton, Streatham Common, Surrey. Age, five months. 53. J. W. Finch Noyes, The Cottage, Salisbury. Age, four months and three weeks. 55. Christopher Smith, Durnford, Salisbury. Age, five months.

Class 6.—DORKING (Coloured).—Cock of any age.—62. Prize, H. D. Davies, Spring-Grove House, Hounslow. Aged. Highly Commended.—58. Robert Loder, The Beeches, Crawley, Sussex. Age, five months. Commended.—59. Robert Boys, Eastbourne, Sussex. Age, four-months-and-a-half.

Class 7.—DORKING (White).—Birds exceeding one year old.—66. First prize, Joseph Clift, Dorking, Surrey. Age, two-years-and-a-half. 67. Second prize, — Besant, Milbourne St. Andrew, Blandford, Dorset. Age, seven months.

Class 8.—DORKING (White).—Chicken of 1854.—70. First prize, Henry Bone, Avon, Ringwood, Hants. Age, cockerel, five, and pullets, four months. 68. Second prize, Joseph Clift, Dorking, Surrey. Age, about four months.

Class 9.—DORKING (White).—Cock of any age.—77. Prize, Wm. Manfield, jun., Dorchester. Age, one year.

Class 10.—COCHIN-CHINA (Buff, Cinnamon, or Brown).—Birds exceeding one year old.—83. First prize, John Fairlie, Chevely Park, Newmarket. Age, fifteen months. 86. Second prize, F. C. Steggall, Weymouth. Age, fourteen months. Highly Commended.—78. Joseph Goodenough, Godmanstone, Dorchester. Age, fifteen-months-and-a-half. Commended.—93. The Right Hon. Lady M. Macdonald, Woolmer Lodge, Liphook, Hants. Age, two-years-and-a-half.

Class 11.—COCHIN-CHINA (Buff, Cinnamon, or Brown).—Chicken of 1854.—118. First prize, John Taylor, jun., Hounslow, Middlesex. Age, seven months. 119. Second prize, G. W. Johnson, Winchester. Age, five months. Highly Commended.—97. Joseph Goodenough, Godmanstone, Dorchester. Age, eight months and three weeks. Commended.—96. W. G. K. Breavington, Hounslow, Middlesex. Age, five months. 114. Elizabeth George, The Rookery, Chaldon, Croydon, Surrey. Age, four months.

Class 12.—COCHIN-CHINA (Buff, Cinnamon, or Brown).—Cock of any age.—133*. Prize, William Saunders, Egypt House, Cowes. Age, two years.

Class 13.—COCHIN-CHINA (Black or White).—Birds exceeding one year old.—Prize withheld.

Class 14.—COCHIN-CHINA (Black or White).—Chicken of 1854.—142. First prize, H. D. Davies, Spring-Grove House, Hounslow. Age, five months. 143. Second prize, H. D. Davies, Spring-Grove House, Hounslow. Age, five months.

Class 15.—COCHIN-CHINA (Black or White).—Cock of any age.—149. Prize, W. F. Flight, Winchester. Age, six months.

Class 16.—BRAMAH POOTRA.—Of any age.—157. First prize, H. D. Davies, Spring-Grove House, Hounslow. Aged. 155. Second prize, William Cave, Hartley Row, Hants. Age, six months.

Class 17.—BRAMAH POOTRA.—Cock of any age.—164. Prize, H. D. Davies, Spring-Grove House, Hounslow. Aged. Highly Commended.—161. Charles H. Crosse, M.A., New Square, Cambridge. Age, about two years. 162. F. C. Steggall, Weymouth. Age, six months.

Class 18.—GAME.—Of any age.—169. First prize, Robert Way, Carisbrooke, Isle of Wight. Age, twelve months. 173. Second prize, Charles Edwards, Brislington, Bristol. Age, nineteen weeks.

Class 19.—GAME.—Cock of any age.—174. Prize, T. P. Mew, Cowes, Aged.

Class 20.—MALAYS.—Of any age.—178. First prize, Wm. Manfield, jun., Dorchester. Age, eleven months. 179*. Second prize, James Leighton, Cheltenham. Age, cock, two years; hens, fourteen months.

Class 21.—HAMBURGH (Gold-pencilled).—183. First prize, Robert Fookes, Milton Abbas, Blandford. Age, cock and hen, fifteen months; one hen, twenty-seven months. 182. Second prize, Miss Fowler, Whitechurch, Blandford. Age, twelve weeks.

Class 22.—HAMBURGH (Silver-pencilled).—188. First prize, Francis Patteson, Feniton Court, Honiton, Devon. Age, eighteen months. 185. Second prize, Thos. Parker Mew, West Cowes, Isle of Wight.

Class 23.—HAMBURGH (Gold-spangled).—197. First prize, George C. Adkins, Edgbaston, Birmingham. Age, unknown. 194. Second prize, Mrs. H. Fookes, Whitechurch, Blandford. Age, six months.

Class 24.—HAMBURGH (Silver-spangled).—210. First prize, H. K. Venn, Honiton, Devon. Age, cock hatched April 5th, two pullets April 26th. 202. Second prize, W. Symonds, jun., Milbourne St. Andrew, Blandford. Age, cock five months; pullets five months.

Class 25.—POLANN (White-crested).—214. First prize, Thomas P. Edwards, Lyndhurst, Hants. Aged. 215. Second prize, G. C. Adkins, Birmingham. Commended.—215. Thomas P. Edwards, Lyndhurst, Hants. Aged.

Class 26.—POLANN (Golden).—222. First prize, R. H. Bush, Ashton Lodge, Bath. Age, unknown. 223. Second prize, Charles Edwards, Brislington, Bristol. Age, eighteen weeks.

Class 27.—POLANN (Silver).—228. First prize, George C. Adkins, Edgbaston, Birmingham. Age, unknown. 230. Second prize, Charles Edwards, Brislington, Bristol. Age, eighteen weeks. Commended.—226. Thomas P. Edwards, Lyndhurst. Aged.

Class 28.—ANY DISTINCT BREED.—235. First prize, H. D. Davies, Spring-Grove House, Hounslow. (Rangoon.) Aged. 236. Second prize, W. Manfield, jun., Dorchester. (Rumpless.) Age, two years. Commended.—232. Chas. Coles, Farcham. (Corsican.) Age and breeder unknown. 238. Thomas Moore, West-street, Farcham. (White Ptarmigans.) Age, sixteen months. 239. Thomas Moore, West-street, Farcham. (White Ptarmigan.) Age, three-months-and-a-quarter. 241.

Wm. F. Flight, Winchester. (White Polands.) Age, sixteen months. 241*. Miss Russell, Totton, Southampton. (Tailless Persians.) Aged.

Class 29.—BANTAMS (Gold-laced).—242. First prize, Joseph Goodenough, Godmanstone, Dorchester. Age, cock and pullets, unknown. 243. Second prize, Joseph Goodenough, Godmanstone, Dorchester. Age, three months and three weeks. Commended.—249. George C. Adkins, Edgbaston, Birmingham. Age, unknown.

Class 30.—BANTAMS (Silver-laced).—251. Second prize, Robert Loder, The High Beeches, Crawley, Sussex. Age, three-months-and-a-half. First prize withheld.

Class 31.—BANTAMS (Black).—255. First prize, George C. Adkins, Edgbaston, Birmingham, Age, unknown. 253. Second prize, Wm. Dray, Farningham, Kent. Age, pullets, twenty-one weeks; cock, thirty-six weeks.

Class 32.—BANTAMS (White).—256. First prize, Thomas Parker Mew, West Cowes, Isle of Wight. 257. Second prize, George C. Adkins, Edgbaston, Birmingham. Age, unknown.

Class 33.—TURKEYS.—258. First prize, Miss Julia Milward, Newton St. Loe, Bath. (French.) Aged. Second prize withheld.

Class 34.—GEESE.—262. First prize, Mrs. H. Fookes, Whitechurch, Blandford. Age, unknown. 260. Second prize, W. G. K. Breavington, Hounslow, Middlesex. Age, eighteen months. Highly Commended.—263. Thomas P. Edwards, Lyndhurst, Hants. Aged.

Class 35.—DUCKS (Aylesbury).—278. First prize, H. D. Davies, Spring-Grove House, Hounslow. Age, four-months-and-a-half. 265. Second prize, W. G. K. Breavington, Hounslow, Middlesex. Age, eighteen months. Highly Commended.—273. William Henry Green, Walton-street, Aylesbury. Age, four months and twenty-five days. 279. H. D. Davies, Spring-Grove House, Hounslow. Age, five months.

Class 36.—DUCKS (Rouen).—288. Second prize, Mrs. H. Fookes, Whitechurch, Blandford. Age, sixteen weeks. First prize withheld.

Class 37.—DUCKS (Any other variety).—294. First prize, The Right Hon. Lady M. Macdonald, Woolmer Lodge, Liphook, Hants. Age, five months. 295. Second prize, The Right Hon. Lady M. Macdonald, Woolmer Lodge, Liphook, Hants. Age, five months.

PIGEONS.

Class 40.—CARRIERS—A.—Prize, John Walter Gray, Bishop's Waltham. Age, thirteen months.

ALMOND TUMBLERS—B.—Prize, George C. Adkins, Edgbaston, Birmingham. Age, unknown.

BALDS, BEARNS, AND MOTTLED TUMBLERS—C.—Prize, John Colson, Winchester. Age, unknown.

OWLS—D.—Prize, George Adkins, Edgbaston, Birmingham. Age, unknown.

NUNS—E.—Prize, Henry Child, jun., Sherborne Road, Balsall Heath, Birmingham. Age, unknown.

TURBITS—F.—Prize, Charles Bluett, Taunton, Somerset. Age, unknown.

ARCHANGELS—G.—Prize, George C. Adkins, Edgbaston, Birmingham. Age, unknown.

JACOBINS—H.—Prize, Charles Bluett, Taunton, Somerset. Age, unknown.

FANTAILS—I.—Prize, Charles R. Titterton, 6, Snow Hill, Birmingham. Age, unknown.

TRUMPETERS—K.—Prize, John E. Mapplebeck, 106, Moseley Road, Birmingham. Age, unknown.

POUTERS OR CROPPERS—L.—Prize, Henry Child, jun., Sherborne Road, Birmingham. Age, unknown.

BARBS—M.—Prize, Charles Bluett, Taunton, Somerset. Age, unknown.

RUNTS—N.—Prize, George C. Adkins, Edgbaston, Birmingham. Age, unknown.

DRAGONS—O.—Thomas James Cottle, Pulteney Villa, Cheltenham. Age, unknown.

ANY OTHER NEW OR DISTINCT VARIETY.—Prize, C. R. Pettatt, Ashe Rectory, Andover Road. (Helmets.) Age, one year.

A PROLIFIC PEAR TREE.

A TREE of the kind called *Cuisse Madame*, growing not far from Maidstone, is reported to have produced the enormous quantity of sixty-three sieves of fruit this season; and as some of your distant readers may not know what a sieve is, it is right to inform them that is a trifle less than a bushel, although it is often quite that much. Now it is a tolerable large Apple-tree that produces twenty sieves of fruit. In the neighbourhood, generally, Pears are far from being a full crop; but some kinds do well; the variety now noticed not having borne with me for some years before; but I am not aware whether that is the case with the one in question. At all events, it is an extraordinary produce, and I should like to know if it has been equalled, or excelled, by any other tree in the kingdom, Pear or Apple.—L. S. D.

THE VICTORIA LILY BLOOMING IN A SMALL SPACE.

THE great drawback against the more general growing of this interesting plant is the great space it occupies, which keeps it from all but the richest lovers of flowers. Mr. Weeks, though showing its comparative hardiness, did not do much to increase its general diffusion, because, though many could get an out-door tank, few could command as he did the hot-water pipes to heat the water. A correspondent, (August 21st), informs us, that Mr. Hewitson, gardener at Flitwick house, Beds., (a place famed by Loudon for the Arboretum formed by the enthusiastic proprietor,—Brooks, Esq.), has bloomed it successfully in a slate tank, nine-and-a-half feet by nine feet, and three-and-a-half feet deep, the leaves being five and-a-half feet in diameter, and reaching over the tank on all sides, the same tank also containing *Nymphæas* in bloom. We are given to understand, that the seeds were sown in March; that the plant travelled a long distance in April, and was planted out on the 14th of that month in strong turfy loam, encircled with a good portion of well-decayed cow-dung. The *Nymphæas* have had a similar compost, and the tank has had only a minimum of fire-heat. We have received no information as to any or what mode was adopted for changing and stirring the water, or the mode of heating adopted; but if done upon any very simple plan, it would be worth knowing, and I trust our correspondent, or Mr. Hewitson, will enlighten us.—R. FISH.

[Flitwick Manor, is the general name given.]

MAGGOTS IN DISEASED POTATO STALKS.

I HAVE perceived slight symptoms of disease in my Potatoes for a fortnight past; but within the last three days (Aug. 18th) the haulm has decayed rapidly. On examining the rottenest pieces of haulm to-day with a glass, I perceived that the outer integument of the stalk was destroyed, and the under substance resembling a jelly, but more transparent, preserving its green colour, nevertheless, while the leaves were black and dead.

On the jelly-like substance of the stalk I observed swarms of very small maggots of a most delicate and transparent structure, which were evidently feeding upon the substance of the stalk, having, as I suppose, previously eaten away the integument.

Now, whether this is a cause or a consequence of the blight, I, of course, do not pretend to determine, nor am I aware whether or not the same circumstance has been previously observed. If it has, there is an end of it; except that (unless it has been already done,) it should be inquired whether the maggots are the cause, or merely the consequence. At all events, it seems to me apparent that the eggs are deposited on the plant whilst it is, or seems to be, unaffected, and in perfect health; and it further appears that the leaves blacken and die, in consequence of the destruction of the integument or outer skin of the stalk; such destruction of course comprising the sap-vessels of the plant. The tubers are, meanwhile, unaffected, for the decay has not yet reached them in its journey down the stalk.

It is with the utmost diffidence that I offer this simple description of what I have seen, and I am only encouraged to do it by the reflection that not a stone should be left unturned in the investigation of a subject of such national importance.—THOMAS STANDBRIDGE, *Edgbaston, near Birmingham.*

THE SUN-FLOWER.

THE great variety of valuable properties belonging to the Sun-flower seed has been more neglected than any other, when it ought to be paid more attention to, for its properties are so various and important that it ought to be—if it is the wish of the farmer in these free trading days to ensure increased profits—to be generally cultivated.

No plant produces such fine honey and wax, now becoming more valuable, arising out of the Russian and Turkish war, from whence very large quantities in times of peace are im-

ported. When this seed is crushed as linseed is, it will produce the very finest oils in larger quantities in proportion to any other seed, for the table as well as the painter, particularly in mixing green and blue paints. Sir Allen Croekden, of Seal Grove, by Seven Oaks, has for many years cultivated the Sun-flower, for the purpose of feeding his sheep, pigs, poultry, rabbits, and pigeons; and Mr. Henry Leonard, Ironmonger, of No. 22, High-street, has imported very large quantities of Sun-flower oil from Russia; it makes most beautiful soap, particularly softening to the hands and face, and is most delightful to shave with. The cake is superior for fattening cattle than linseed; the oil makes the very finest soap, very softening to the hands and face, superior to any other for shaving. Sheep, pigs, pigeons, rabbits, poultry of all sorts, &c., &c., will fatten rapidly upon it and prefer this seed to any other, pheasants in particular, causing them to have a much more glossy plumage and plumper in body.

This seed, when shelled, makes, when ground, the very finest flour for bread, particularly tea-cakes. No doubt the ladies will patronize it largely, it is so sweet. It will grow in any corner that may be vacant, make all farms have a most agreeable garden-like appearance. It should be planted about six inches apart, and about one inch deep, and when about one foot high should be earthed up; it then will require no further attention. Every single seed will produce one thousand or more; the main head generally produces 800 to 1000 seeds, and there are generally four collaterals, producing fifty or sixty seeds each. Another great advantage this seed has over any other is, that when ripe it turns its head downwards, so that no rain can affect the seed. But it is not the seed only that is so valuable, the stalk is most so, for by treating it exactly as flax is, it will produce a fibre as fine as silk, and that in large quantities. And now that rags have become so valuable, arising from the very unprecedented demand for paper, the stalk might be made useful for that purpose. On some grounds, two crops may be growing at the same time, for when the farmer has given his early potatoes their last hoeing, plant this seed twelve inches apart in the ridges. Some three or four years ago, one or two farmers cleared nearly forty pounds by their honey hives only. What would this be now that each of these bears so much higher price arising out of the Russian war? Then why, gentlemen farmers, will you not march a little out of your old beaten track, and plant the Sun-flower seed, that has all these most valuable, important, and profitable properties? The Chinese have it by thousands of tons, and worship it. There can be no doubt that many of their silk goods have a large portion of the Sun-flower fibre in them.

The writer, Mr. C. Osbourne, hopes to see the time arrive when Sun-flower seed will be brought into Mark Lane, and sold by the quarter, as Wheat, Oats, Barley, &c., &c., are.

COVENT GARDEN.—AUGUST 29TH.

GOOD Potatoes remain at a steady price, but the garden produce, in general, is far from rendering remunerating prices, consumption being checked owing to the dread of the cholera.

FRUIT.

Pine Apples, 40s to 56s per dozen lbs.	Kitchen Apples, 6s per bush.
Hothouse Grapes, 2s 6d to 3s 6d per lb.	Figs, 2s 6d per punnet
Sweet Water Grapes, 9s per dozen lbs.	Filberts, 8s to 9s per doz. lbs.
Peaches, 2s to 3s 6d p. pun.	Violet Plums, 4s per sieve
Nectarines, 2s to 3s per pun.	Green Gage Plums, 3s 6d per half sieve
Apricots, 1s 6d per punnet	Oranges, 12s to 14s per hun.
Dessert Plums, 5s per hf. s.	Lemons, 14s to 16s per hun.
Williams' Pear, 3s per hf. s.	Almonds, 6s per peck
Windsor Pears, 6s per sieve	Kiln-dried Walnuts, 4s p. peck
Kerry Pippin Apples, 3s per half sieve	Brazilian Nuts, 5s 6d p. peck
	Barcelonas, 5s per peck
	Cob Nuts, 3s per peck

VEGETABLES.

Greens, 1s 9d p. doz. bunch.	Beet, 6d per bunch
Brocoli, 4s per doz. bunches	Vegetable Marrow, 8d p. doz.
Onions, 3s per doz. bunches	Mushrooms, 1s per pottle
Carrots, 3s to 4s per doz. b.	Celery, 1s per bunch
Cabbages, 7d per dozen	Brussels Sprouts, 2s p. hf. s.
Cauliflowers, 1s 6d to 2s per dozen	Radishes, 1s per doz. bunch.
Leeks, 1s 6d per doz. bunches	Water Cress, 4d to 6d per doz. bunches
Peas, 2s 6d per bushel	Tomatoes, 2s per half sieve
Scarlet Kidney Beans, 6s per bushel	Cucumbers, 1s to 3s per doz.
Dwarf Kidney Beans, 3s per half sieve	Red Cabbages, 1s 6d per doz.
Lettuces, 1s per score	Gerkins, 2s per hundred.
Endive, 7d per score	Chillies, 1s 6d per hundred
Artichokes, 2s per doz.	Small Salad, 2d per punnet
	Chervil, 2d per punnet
	Garlic and Shallots, 8d p. lb.

HERBS.

Parsley, Sage, Thyme, Tarragon, Basil, Marjoram, Fennel, Lavender, Mint, Black Spanish Radishes, Burnet, &c., from 1d to 4d per bunch.

The CUT FLOWERS consisted of fine varieties of Dahlias, Verbenas, Pelargoniums, Gladioli, Pinks, Carnations, Cloves, Phloxes, Mignonette, Sweet Peas, Roses, Fuchsias, Catananches, Pansies, Erysimums, China Asters, in bunches from 1d to 1s 6d. Violets, 1s per doz. bunches. Bouquettes, from 1s to 2s 6d each.

PLANTS IN FLOWER IN GARDENS AND NURSERIES.

PERENNIALS.

Acanthus spinosissimus, purple and white	Gentiana pneumonanthe, blue
Anthemis punctata, white	Govenia leptostachys, white
Astrantia major, grey	Grindelia squarrosa, yellow
Asclepias phytolaccoides, purple	Helianthus fulgidus, yellow
Biota orientalis aurea, yellow	„ hirtus
Corydalis lutea, yellow	„ multiflorus
Dianthus sauvis, lilac	Phlox Spencerii, purple
Echinops, Gmelini, blue	Penstemon roseum, red
Gaillardia pinnatifolia, orange	Psoralea macrostachya, blue
„ aristata	Silene Shaftii, pink
	Stenactis speciosa, blue
	Trachelium cœruleum, blue

PERENNIAL SHRUBS TRAINED TO WALLS.

Ceanothus papillosus, blue	Magnolia grandiflora, white
Escalonia rubra, red	Solanum jasminoides, white

HARDY SHRUBS AND TREES.

Althea frutex, rosy	Clethra alnifolia, white
Bignouia capreolata, white	„ Mexicana, white
Clethra nana, white	Spiræa Douglassii, pink

HAMPSTEAD HEATH.

"*Amo profanum vulgus*" * would, we feel sure, have been the exclamation of Horace had he been composing an *Alcaic* ode on the subject of Sunday amusement. But little did the graceful and joyous worship of ancient Italy present in common with the Pharisaic austerities of the present day. With the ploughman of Capua several days in each week were Sundays, and every Sunday was a genuine holiday; and it would almost appear as if the Sabbatarians thought they could best preserve the distinction between Christianity and Paganism by doing away with that one characteristic of all true religion, *i.e.* that its "yoke is easy and its burden light." However this may be, the Sunday pleasure-seekers—the *profanum vulgus* of this city—are a class not to be despised; and it has been with no small dismay that we have read lately of certain insidious schemes for blocking up one of their main resorts—one of the chief windows of the metropolis—Hampstead Heath. Actuated by these feelings, one fine morning we conveyed ourselves to Tottenham Court Road, and in due time mounted one of the dingy vehicles, which are covered all over with the names of

* *Odi profanum vulgus.*

Hampstead and Highgate, and other north London villages. Our ride was a pleasant one. By our side sat an old gentleman deeply versed in the statistics of insanity and on his way to Colney Hatch to look on at a lunatic merry-making. But he was also well acquainted with the neighbourhood; and after informing me that I had come by the wrong 'bus for 'Ampstead, good-naturedly offered to show me the way from Highgate to the 'Eath. We dismounted from the omnibus together, and climbed Highgate Hill by a pretty winding path, leading us past Holly Lodge, the residence of the famous Duchess of St. Albans, originally Miss Mellon, once an actress, then Mrs. Coutts, and afterwards a peeress. On emerging from the footpath, we found ourselves in front of Highgate Church, and a little further on, by the famous "Gate House," the hostelry where that mystic ceremony, entitled, "being sworn at Highgate," was once, we presume, enacted. My companion, after pointing out my nearest way, left me to pursue his investigation of lunacy at Colney Hatch. I stood and gazed for a little time at the old-fashioned public-house, entitled, as above, "The Gate House," and pondered on the origin of the queer old oath which had become so famous—"Never to drink small beer when you could get ale, unless you liked small beer best;" leaving you, as the old gentleman remarked, perfectly free to do which you liked, a point of which he seemed to think a great deal. Verily, if certain modern legislators could take an hint from this very tolerant sort of test act, it might be none the worse for the country.

But to my walk. The road from Highgate to Hampstead runs at nearly right angles to the Gate House; and after winding under Caen Wood, the pretty seat of Lord Mansfield, where we are told there are still some pheasants, probably the nearest game preserve to London, brought us out at the "Spaniards" Tavern and Tea Gardens, sacred to the memory of Mrs. Bardell. From this point, as indeed along the whole road we had traversed, the view is very charming and verdant—stretching far into Hertfordshire—with newly-mown meadows and fields of wheat and beans in the foreground. Ascending the hill beyond the "Spaniards," we came full upon the Heath; and it now became our object to discover from what point the Lord of the Manor was commencing his siege-like approaches. Londoners will be glad to learn that the danger is as yet very distant. Those of our readers who know Hampstead will recollect that on looking towards London from the middle of the Heath, they have upon their left hand Highgate, with its conspicuous church; behind them, at some distance, the village of Finchley; and on their right hand an apparently unbroken sweep of meadow and corn-fields as far as the horizon extends. Through this low ground runs the road from London to Barnet, passing, further on, through the village of Finchley; and a remarkably pleasant footpath leads from the bottom of the Heath on this side into the high road in question, at a point which is just about halfway between the village of Hampstead and Hendon, a continuation of the footpath leading on to the latter. It is just at this spot, then, where the footpath cuts the London road, and about three-quarters of a mile from the Heath, that the actual building has commenced. We confess at first we were very much astonished to find how little had really been done—how very small the narrow end of the wedge was. There are about three half-finished houses on the Hendon side of the road, which seem to be going to ruin, and as many wooden cottages up a lane a little nearer to Hampstead. All round about here lies the "Finchley Road Estate;" and even with the fullest powers, it will take the Lord of the Manor a very long time to build up to the edge of the Heath. However, the attempt would, if it could, be made; and judging from the great number of black boards stuck up every where between Hendon and Hampstead, to warn off trespassers from the most unmitigable and well-trodden footpaths, the invasion of the people's rights would be systematically carried on. We cannot conceive what pretext there can possibly be for closing up these paths, for the more noisy frequenters of the Heath are not the class who would care much to stroll along these quiet fields; while to those who come out purely for the sake of a little country air, they are a most valuable possession. As I sauntered along the meadows, I could well have imagined myself 100 miles from London, in the centre of some remote rural district—the haymakers and mowers

were all busily at work, and the smell of the new-mown hay was most grateful to nostrils long fatigued with the odours of the Thames factories. London itself was completely hidden from view by the hill on which Hampstead is built; and up to within a hundred yards of the spot frequented by donkey boys, busses, and broughams, the fields are as quiet and secluded as the most fastidious hermit could desire.

I returned to the Heath with a sincere imprecation on the would-be-disturber of this pleasant nook; and as I wandered among the cool little villas, with which the hill is dotted, catching ever and anon the tinkle of a piano from behind the long green blinds, or a glimpse of fascinating muslins from some open window, I became more and more convinced of the gross iniquity of intruding on this happy land. Not, however, I suppose, wholly happy. The occupiers of these dear little houses have doubtless their cares. Charles stays so long in that horrid city—Bob has been seen flirting with a pink bonnet at Richmond, on the very day, too, which the wretch averred he was compelled, much against his will, to spend with his grandmother—Arthur declares he will not buy that silk dress; and so on. Moralising in this way, I reached "Jack Straw's Castle," the head waiter of which famous house is a model of self-possession and solemnity. He brought me a pint of beer with perfect affability; and thanked me,—ay, positively said, "Thank you, sir," for my gratuity of one penny. He gave the history of Sir Thomas Wilson's proceedings with the same voice and manner as he would run through a bill of fare—fatly, gravely, and severely. The "Castle" and the "Spauiards" are usually thronged with customers on Sunday afternoons in the season, of all grades and classes, from the stockbroker, with his champagne dinner in a private room, to Bill Sampson and his wife, with their tea and shrimps in an arbour. Honest Bill's hands are none of the cleanest, and Susan, perhaps, does not buy her bonnets in Regent Street; but they are very happy for all that; and what they would do without the "Eath on Sunday afternoons, lawk a mercy," they observe, "only knows." Here, from the reeking alleys of Gray's Inn Lane, from dismal Clerkenwell, from sweltering Holborn, pour an unceasing tide of pallid mechanics, whose lives it is, perhaps, not too much to say, are indefinitely prolonged by this hebdomadal draught of wholesome air. Who will have the heart to take it from them? We rejoice to find no one will be permitted to do so. The Crystal Palace, were it open on Sundays, would doubtless be an attractive object to the class I am speaking of, but could never obviate the necessity of such places as Hampstead, which lies, as it were, at their own doors, and where their children can get healthy and unrestrained exercise, without fear of damaging plants and statues. Long may Hampstead flourish; and may the first man who encroaches on its boundaries be like unto him that removeth his neighbour's landmark.—*Home Companion.*

QUERIES AND ANSWERS.

GARDENING.

ASPHALT COVERS.—VINE FORCING.

"Can Mr. Fish, or any other person in connection with the COTTAGE GARDENER, tell me the probable cost of the Asphalt Covers he saw on his visit to Wilderness Park, as compared with the straw hurdles he gave directions for making last year; and where the asphalt is to be had? Am I right in supposing the material felt?"

"I have seven *Vines* in a greenhouse Vinery, the principal part of them were obtained from Rivers as three-year old plants, and this is the second year of their growth with me; the rods are the thickness of a good-sized walking cane, are said to have done well, and it is my intencion to fruit most of them next year, and I should like to ripen the wood by *early* autumnal firing, as advised by Mr. Fish. When would be the latest time at which I ought to commence the firing? My greenhouse plants are yet in the house, and I should wish to drive it as late as I cau, for the sake of them; but I would do it at any time.—AMATEUR."

[The chief advantage of the straw hurdles is being able to

get them on the place when the owner of a garden is also the owner of a farm. It is the Asphalt Felt that is used at Wilderness Park; and if you calculate the pieces of wood necessary to support it as a covering, you can at once calculate the whole expense from a penny per foot to ninepence per yard. The appearance of these at Wilderness Park gave hopes that with proper attention they would last a number of years; and there seemed a great quantity for an outlay of some seven pounds for Felt. As they were made to secure a wide vine-border, as well as for cold, straw-walled pits, and covering glass sashes, the wood was stronger and heavier than there would be any occasion for wheu used solely for covering pits, one light at a time.

The wood of your *Vines* is not yet mature; do not lose a day in giving them a little fire with air to assist them. One such fire in the end of August and the first part of September is worth two or three during October. Unless you go to excess, you will not much injure the plants, for all those intended for winter and spring, or nearly all, would ripen their wood more perfectly in a sheltered place out-of-doors, or in a cold pit. With plenty of air on in the house, and plenty of light, you will do little injury by fire-heat, unless to the plants in bloom. Be moderate in your crops next year. We can speak feelingly ourselves, and could tell of instances where a heavy first crop prostrated for ever the constitutional energies of the Vine.]

ERECTING A GREENHOUSE ADJOINING A RESIDENCE.

"I see your patience so inexhaustible in answering questions, that I am induced to hope you may find time to afford me some of your esteemed advice upon the subject of a Greenhouse which we wish to build. I must first say, our wish is that it should serve for a Vinery as well as Greenhouse. The front of our house stands as nearly as possible due south; and our wish is, to have the Greenhouse on the lawn, at the east side of the house; the wall at this part of the lawn stands back from the front line of the house thirty feet; we wish this wall to form the back of the intended Greenhouse, the latter to face the south, and we fear, perhaps the house may shade the Greenhouse too much, as the greater part of it would lose the sun after two o'clock in the day; and again, we fear the vine-bed may be a very unsightly thing upon the lawn. Can anything be done to remedy this?"

"The end of the house *would* be an admirable place for it, so far as convenience goes; but then it faces the east, and this, I am told, is highly objectionable.

"Supposing you to be kind enough to give me your advice as to situation, I should, I fear, have to trouble you for some, as to what you think would be a good size (the *end* of the house is thirty-five feet in length), the height, depth, length, &c.; whether iron or wood is *most economical*; and *which* is *best* for flowers and vines.

"I have just measured the ground, and fancy that twenty-six or twenty-eight feet either way, east or south, would be a convenient length for the Greenhouse.

"Can you name any one that would give us plans, and estimates *economically*; or give me the slightest idea of what the expense would be likely to be?—MARIANNE."

[It is a very difficult thing to combine several advantages in one position. After all we could say, you must, in a great measure, decide for yourself. A few observations will, perhaps, enable you to do so with more present and ultimate satisfaction.

1. As we understand it, there is at present a wall facing the south, running in the same parallel with the back-wall of the house. It is advisable that *Vines* should have as much of the midday sun as possible; but if against this wall you constructed a house from eighteen to twenty-six feet wide, and had a glass end for the sun from the east, the *Vines* would answer pretty well, as after two o'clock they would receive a fair amount of diffused, though not direct, rays of light.

2. Following out such a plan, with a house, say thirty feet long, and twenty or more wide, the border would not at all disfigure the lawn, because, if well drained, it need not rise above the lawn-level, and if you should deem it desirable to raise the border at the house, to give it a good slope, alike

to command the rays of the midday sun and to keep it dry; and suppose that a walk went along, parallel with the front of the mansion and the front of the border, you might render that border very ornamental, without at all interfering with the roots of the Vines, by placing on it raised baskets, or raised clumps of small size, by using wood, or flint, or grass edgings.

3. It would add greatly to the enjoyability of such a house if you could at once enter it from the mansion; and if that could be done, our plans would be greatly regulated to suit that contingency.

4. We know nothing of the means for shed room, and fixing hot-water, or other heating medium, beyond this wall of which you speak; but did not the economical question of the existing wall come in as a *great* consideration; and did good Grapes, as well as showy plants, prove desiderata; and did the beauty of the house, and its architectural unison with the mansion, come in as matters of thought, as in such circumstances we think they should do; then we would advise that the front line of the greenhouse should only be a few inches or feet, if at all, farther north than the front line of the mansion; that on this supposition, a new back-wall would have to be erected; that this wall need not be higher than the front sashes, say six to eight feet, and that from these front sashes, and that wall, respectively, a hipped roof should meet in the centre of the house, some twelve or fifteen feet in height; or if Grapes were more a consideration than plants and creepers, the hipped north roof should only be one to two, or one to three, as respects length, to the south one. In this case, the front wall of the house would have to be built on arches, and a small border made beneath the walk, which we presume would run parallel with it, but the area of the house, especially for two-thirds of its breadth, ought to be the chief border for the Vines, which, under such circumstances, we advise to be planted inside, while the back-wall, and the hipped-roof on the north side, we would clothe with evergreens and creepers. Following out such a plan, and supposing the house was eighteen, or twenty, or more, feet in width, there would still remain a very useful place behind it for setting greenhouse plants in summer, and many other purposes. Now, had we both Grapes and plants in view, and could we thus get into the house by a door from the mansion, this we would try and adopt.

5. But, supposing that Grapes were not the chief consideration, that plants were as much or rather more of a desideratum than they; that there could be convenience beyond the present north wall, or even inside the mansion, for a stock-hole, and that economy must be a necessary condition as to building at all; then, as the wall of the mansion and the north wall are already there, we would at once make the first the back-wall of our house, and the present wall its north end. This would give a house thirty-five feet in length, the width of the mansion. Various circumstances come here, again, under consideration. First, were this house to be an economical one, with a lean-to roof, for the growing and storing away of plants, then a narrow one of from twelve to more feet in width would do, with a stage in the house, a walk round it, and a broad shelf in front. The front at the roof in front might be six feet, and twelve feet at back. Under such a supposition, however, the end parallel with the mansion could have little architectural effect, and Vines could only be expected to grow nicely for two or three rafters at the south end. But, secondly, as our correspondent thinks nothing of twenty-six or twenty-eight feet in length, and evidently desires the produce of the Vine, and has, also, an eye for the neat and the orderly, and wishes to use this end wall of her mansion, why not have a house from twenty to more feet in width, standing north and south, the south end nearly or altogether parallel with the front of the mansion, and which these might assume, by means of pilasters on light columns, an architectural appearance. In such a case, we would have a two-and-a-half feet wall on the east side, glass three-and-a-half feet, and for an equal height on the west wall, or higher on that wall (the east wall of the house), and the rafters in front, we would have a low hipped-roof, some twelve or fourteen feet to its apex from the clear. In such a house, so much sunlight would enter the house from the hipped-roof, and the glass in the south end, that Grapes

would flourish for more than the half of the length of the house next the south side, especially if planted inside, and the roots attended to. Of course, even adopting this plan of the hipped-roof, the house need not be made so long as the width of the mansion, or if so long, it might be fourteen or sixteen feet, instead of more than twenty; or it might be made at first the whole length of the width of the house, and arrangements made to keep the south end, by means of divisions, much warmer than the north end. Something of this plan, with a broad shelf all round, and a platform in the centre, would do extremely well for plants. In fact, were I to build a plant-house to grow plants, and show them off to the best advantage, I should have a span-roofed house some fifteen feet wide, and so arranged, the centre apex about ten feet from the floor, and a trellised-table about three-and-a-half feet from it. But, as I have said already, were Grapes a primary consideration, I would have the front of the house parallel with the front of the mansion, and standing east and west, as mentioned in N. 4.

6. We do not like to recommend builders. Several trustworthy ones have advertised in these columns. The great thing is to have everything clear beforehand, and nothing left for *extras* afterwards. As to the expense, we have already gone as far several times in that matter as we can prudently go, not being practically engaged in building lately. When you determine on a plan, a bricklayer would tell you, within a little, what his services would cost; a carpenter could tell, within a few shillings, what light, sound rafters and wall-plates would come to; and the glass and wood-work would range, on an average, when completed, somewhere about 15d. per foot, and iron piping, according to size, from 10d. to 14d. per lineal foot. So that a rough guess might easily be arrived at, and as to engraved or fine drawn plans, little of that is necessary,—a few strokes of a pen being amply sufficient for such a purpose; though if you want fine drawings, you can easily have them by paying for them.

7. The size is, therefore, a mere matter of convenience and expense, and much may be gained from what has thus been incidentally stated.

8. As to whether iron or wood is most economical and best for flowers and Vines, we have not a spark of doubt on the matter; and, provided the rafters are made light, we would unhesitatingly prefer wood, as preferable in both respects. In a wide house, and where lightness is an object, we would prefer the pillars necessary being of iron, and even small rafters, but as a general principle, for everything connected with the roofs of plant-houses and forcing-houses, we prefer wood to iron. True, some of the finest productions in the country are grown under iron houses, but that does not prove iron to be the best material. Its liability to rust, and, therefore, the expense of painting oftener, and consequent extra expense, and its conducting properties, which causes it to be so hot in summer and cold in winter, occasioning often additional expense for fuel and glass, crackage and breakage, ought to be thought over by every man putting up iron houses. We know that when kept well painted these evils are lessened, but not removed. And then, suppose you cannot or do not choose to paint the interior of your house often, the drip from unpainted wood will do no harm to your plants, but from unpainted, rusted iron, it leaves its scathing mark wherever it falls. A number of years ago we were consulted as to building a conservatory. The owner had set his mind upon iron, as more lasting, &c.; we urged all these matters in order to have wood, but when we could not positively state that the expense of the iron would exceed that of wood, in the article of fuel alone, £20 per annum, it was decided to have iron, and there it is incessantly getting rusty on the roof, and the dripping spotting every leathery leaf on which it falls, it being scarcely possible to keep such plants as Camellias in a healthy state beneath it. They think, too, of the bother of ever and anon emptying houses to get the inside painted, which you must do *often*, in the case of iron, if it is to be kept from rusting. Why, a wooden roof, when well done, does not require painting inside so often in a lifetime, if frequently and properly washed. Then, again, as to the expansion of the metal, and the breakage of glass in consequence; we know that much depends on the glazing, giving the glass ease enough, but in a house well painted the previous summer, and so far neutralising its conducting

properties, we have gone out on a cold, frosty night, after the wee short hour, when there was just enough of heat to keep the temperature a little above freezing within, and have heard the panes crack and chip in dismal chorus, when those under similar circumstances on a wood roof never made so much as a chip. In such houses, where no heat was applied, the matter was even worse, when wood roofs wholly escaped, where there were no large laps in the glass. Good, sound *deal*, say we, for all dimensions and kinds of glass roofing.—R. F.]

UNPRODUCTIVE APRICOT.

"I have a *Moor-Park* Apricot against a wall, south aspect, and greatly admired for its beauty and productiveness. I strictly follow the directions given by you in regard to protecting in the spring, disbudding, &c. At the middle of June I stopped the young shoots that were not wanted for training in, and the second shoots are looking as though they had been dipped in a mixture of whiting; the leaves have just the appearance of a plant growing in a cellar with but a few rays of light admitted. There is an abundant crop of fruit now ripening, and the first leaves are very healthy and vigorous, and a good supply has been given of liquid-manure.—WEST NORFOLK."

[Your Apricot's case is common enough, if we quite comprehend the affair. It is a case of mildew; and had it been put to us when the secondary spray was first commencing growth, we should have said sulphur heavily. As it is, we say, prune off all the mildewed portions, leaving, however, every primary leaf of healthy character. This is advised on the assumption that the wood in question is simply what is called Midsummer growth.]

HEATING A FRAME.—CUTTINGS.

"I have a frame twelve feet by five feet six inches, and I find that stable-manure is not able to keep up a proper temperature in winter to preserve half-hardy things. Please tell me how to obtain a healthy artificial heat. Some suggest a furnace at one end, with a common brick ten-inch flue passing through the centre of the pit. This is, I suppose, economical, but will it answer? Your advice will much oblige myself and several friends.

"It may interest your readers, if unacquainted with the plan, to know a mode I have practised, with complete success, of striking cuttings of all kinds, except Roses, which I cannot manage, and which you promised, in reply to my application, to tell me.

"I make a common hotbed of stable-manure. In it I plunge large pots filled with sawdust; in holes in the sawdust I insert small pots (60's) full of cuttings of Verbenas, Petunias, &c., and cover with a large bell-glass, the rim being imbedded in the sawdust just inside the edge of the large pot. The moist heat is not impregnated with the noxious effluvia of the dung, and there is little trouble required in taking up the large pot and replunging it in fresh dung when the first begins to cool.

"Some time ago Mr. Beaton began 'Rudimentary Gardening,' which was much liked. Is it to be continued?—W. F. G."

[Dung-heat is dangerous at all times to preserve half-hardy plants in pots such as your's; a small flue might do very well, if you can get one along the middle, or better if you pass it all round the sides, and making the wall of the pit one side of the flue, which might very easily be done; a bricklayer knows how to manage the covering of such a flue, he would splay or bevel the side of the covering tiles next the wall, and fit them that way; the fire-place ought to be at one corner behind, then the side of the flue, along the first end, ought to be a brick thick; after that, brick on edge; and the angles at the corners to be rounded; but a bricklayer knows all that, if you only tell him exactly what you want.

You will see, in another column to-day, that your discovery in propagation with double pots has been in use for twenty years, and that all the great gardeners agree with you as to its superiority over every other mode; you will also see that Mr. Beaton has returned to the subject of "Rudimentary Gardening," and we shall keep him at it for a long while. He is now on his own *shifts*, therefore his plans and experiments

cannot fail of being useful to such as you; but it appears we were in error at page 408, in saying that he "arranged *gardeus*, if remunerated," as he says, he has not sufficient time to attend to his own garden as he would like.]

POULTRY.

ROUP—WEIGHT OF PULLETS EGGS.

"I have this year reared a number of Cochins, healthily, and up to the last week nothing has ever ailed them. I now regret to discover that several of them are suffering from an affection of the head or throat, I hardly know which. They make a noise between a cough and a sneeze, jerking their heads at the same time, and which sounds something like the word 'pink,' or 'spink.' I have noticed the same kind of complaint in fowls in cold, damp seasons, but it has generally gone off after a time. Is it Roup, or what? and what treatment will be most likely to check it? I do not perceive any discharge from the nostrils, but there seems to be considerable *itching*, the chicken every now and then giving their nostrils a hearty scratch with their claws. Their appetite is good, and I feed them principally upon Barley, Potatoes, and Sharps; occasionally they get a bit of flesh meat, and I take care they have a supply of green stuff two or three times a week. They have the run of a largish sandy-bottomed yard, and their roosting-house is warm; six feet by seven. I have entered three pens for the Malvern Show, and am anxious to keep them in good health.

"It may not be uninteresting to inform you that one of my pullets, which commenced laying at Christmas last, and was then five months old, laid me seventy-five eggs before she wanted to sit, many of them being double-yolked, and weighing nearly four ounces.

"Another pullet's *first* egg was a double-yolked one, and weighed three-and-a-half ounces; her eggs were always larger than her sister's, but she did not lay above two-thirds in number before she became broody.—AN OLD SUBSCRIBER."

[The symptoms described are those, that, if allowed to run on, will terminate in Roup. There is no specific for this most troublesome complaint; but I have certainly seen more benefit from dropping a few drops of a solution of ten grains of blue vitriol to an ounce of water into the nostrils, after pressing out the discharge, than from any other remedies. Warm housing is necessary, and a little peppered food may be given.—W. B. TEGEMEIER.]

THE "GREEN MARKETS" OF LONDON.

(Continued from page 408.)

These porters, male and female, live in the courts and narrow streets about Drury-lane. One court near Great Wyld-street is full of them, and few live at any distance from the market. The court I speak of is one of those which never seem to be dry. In the drought of summer, dirty water flows or stagnates in the gutter. Barefoot children run about the court, and babies are in the care of mere children, all dirty and scantily clad. To ask a question of one of these children, of the boys especially, is to draw forth the request, "Give me a halfpenny." The women, whom you see at the windows, or at the doors, never look young, unless in mere girlhood. Dirt and foul air, and probably spare diet, make them look so prematurely old, that it is difficult to guess whether one of them be 30 or 50. They live, I was told by one of them, principally on tea or coffee, bread and butter, and cheap fish. In conversing with some of them in the market, they begged importunately, or rather those who gathered round any one singled out for conversation, begged vociferously—"Will you give *me* nothing, sir?" There was not one I saw but had her string of complaints of the hardships of the times, ill or well founded. At the time of my visits to Covent-garden employment was slack, and certainly many of the poor women were very badly off. Some of these—perhaps a quarter, or not so many—are the wives of porters in the market. All the Irishwomen, I was assured by a gentleman familiar with the neighbourhood, and one by no means prejudiced in favour of its Irish inmates, were far more chaste in their conduct, and

more deceit in their language, than the same class of the English. Their very wranglings—which were neither brief nor unfrequent—were not conched in the blasphemous and abominable words hardly to be alluded to, which characterise the lowest English blackguardism; but their threats were often horrid, and their volubility, all talking together, was far beyond that of the English. I called upon an old woman, who may be called the mother of the market, as regards the portresses. She occupied a large room, in a large house, which, from its size, the width of the stairs, the carving of the balusters, and the height of the building, showed that in the times when Covent-garden was a fashionable quarter, when court gallants revelled there in the days of Charles II., it had been one of no mean note. In its present state it holds a family—at least, so I was told—in every room. I found a woman who had the appearance of extreme age in the room to which I was directed. She was full of complaints of wretched health—evidently well-founded—and reiterated them before she even asked my business there. She was large-boned and stout, and not so untidy in her dress, though it hung loosely about her, as others I saw in the court. The room was wretched in its dirt. It had that peculiar look of discomfort given to any apartment by the want of a fender, the ashes being spread on the hearth and trampled about the floor. There was a wretched bed in one corner of the room, and in other parts were a table, two or three chairs, and some unwashed pots, while along the room was hanging some yellow-looking lincin to dry. The size of the room made its wretchedness more conspicuous. The old woman I saw, who seemed incapable of any labour, was the daughter of the woman I wished to see. I found the mother in the market, and found her a cheerful-looking, quiet-spoken old woman, and looking ten years younger than her own daughter. Her hair was white, her form spare, and her appearance still healthy. She had far less whine about her than some women not half her age, who were with her. Her brogue was little distinguishable. I saw the old woman afterwards and she said:—

“For nine and forty years I’ve been in this market, sir. For thirty-two I’ve been a widdur, and I’ve had five daughters and two sons. One daughter I have to keep now, and a sore fight we have of it. I’ve seen many changes here, sir, and tho’ it’s all better and improved times, it’s worse for such as me. But I’m near the end, and I’m getting tired of my life. Oh, yes, I can carry a good weight still, glory be to God. In the old times every body wanted a porter. There was rough goings on, and often fightings in the old times, and in the ’lection times when it was ‘Burdett and liberty,’ every minute; but there was better pay. Gentlemen and ladies would give a shilling then for a job sometimes, and very often a sixpence, and now they look twice at a penny, indeed they do, sir. The ’lections was often great hindrs to bus’ness; and after the morning’s work was over, it was often dangerous to go into the market by the church, you was so crushed. It was a very dark place in the winter nights, was the market when I knew it first. There was oil lamps; but it’s so long ago I almost forget; but times was far better then for the poor, or me and my children might have starved—yes, might we. I earned twice then what I can now. I can’t say how long it’s since, but I’ve been here 49 year, and 32 a widdur. I can tell you quite faithful what I make now—6d. on a bad day, and 1s. on a good, and a had day follows a good; sometimes I make 18d. But some good people keep me a little, though I’m badly off in my old age, as I have myself to depend on. But I can’t be long for this world, and what’ll become of my daughter then I don’t like to think of. I’m 87 as is very well known. I’m sure, sir, I’m 87, and can prove it. My best friends are ladies I wait on when they come to the market, but there’s nobody in town now.”

I believe that none of the wives of the porters work for slop-tailors or shirt-makers. In fact, a needle seems an unknown implement to the mass of them. They are hawkers, or out-door saleswomen of some kind, their children being left with bigger children or “wid a nabur, sure, sir.” Not one in twenty, I was told, could write. All—at least I could hear of no exceptions—are Roman Catholics, and tolerably regular in their attendance at mass on Sundays and the great festivals of the Church—the only times some of them, I was assured, ever wash themselves. All the family’s washings of clothes seem done in the one room.

Crowded as is the capital of England, and many as have been the statements of its “going out of town”—which many a statute, before the Revolution of 1688, was passed most bootlessly with an aim to check—three-fourths of its vegetable supplies may be classed as suburban, for they are grown within a radius of twelve miles from Covent-garden itself. Another eighth is grown within a radius extending to fifteen miles, and the remaining eighth comes from the country, or from parts more distant—even from Yorkshire. It is customary for the experience or partiality of travellers, who observe the culture of a county, to specify this vale, or that plain, as the garden of the shire; but the vale of the Thames may be said literally to be the garden of London, for within the radius of fifteen miles from Covent-garden are 200,000 acres in the hands of gardeners, all labouring for one market—London.

I now present the returns of the sales in this great Green Market. They have been prepared as were the others, and their correctness has been fully tested, and is admitted by the most experienced persons connected with the market.

The following are the returns of the yearly sales at Covent-garden, all of home grown produce:—

- “Apples—360,000 bushels.
 - “Pears—230,000 ditto.
 - “Cherries—90,000 ditto.
 - “Plums—280,000 half-sieves, or 93,000 bushels; three half-sieves go to a bushel.
 - “Gooseberries—140,000 bushels.
 - “Currants—Red, 70,000 sieves; white, 3,800; black, 45,000, or 178,200 half-sieves; being the produce of 1,069,200 bushes, as 6 bushes on an average fill a sieve.
 - “Strawberries—58,000 half-sieves, or 638,000 pottles; 11 pottles go to a half-sieve.
 - “Raspberries—30,000 sieves, or 22,500 bushels.
 - “Filberts—1,000 tons.
 - “Walnuts—20,000 baskets, each 1½ bushels, or 25,000 bushels.
 - “Cabbages—16,000 loads, 150 to 200 dozen each, or 33,600,000 cabbages.
 - “Turnips—10,000 loads, 150 dozen each, or 18,800,000 turnips.
 - “Carrots—5,000 loads, 200 doz. each, or 12,000,000 carrots.
 - “Onions—500,000 bushels.
 - “Brocoli (including cauliflowers)—1,000 loads, 150 dozen each, or 1,800,000 heads.
 - “Peas—135,000 sacks. A sack is two bushels.
 - “Beans—50,000 ditto.
 - “Celery—1,500,000 rolls of 12 each, or 18,000,000 heads of celery.
 - “Asparagus—400,000 bundles of 150 each, or 60,000,000 buds.
 - “Endive—150,000 scores.
 - “French Beans—140,000 bushels.
 - “Potatoes—83,000 tons.
 - “Watercresses—21,060 hampers, or 26,325 cwt., each hamper being 1¼ cwt.”
- Concerning potatoes, I may add that when the supply is short, about 200 tons are sent daily from Huntingdonshire, Cambridgeshire, Norfolk, and Lincolnshire.
- The Borough market is directly opposite St. Saviour’s Church, near the Surrey end of London-bridge. It is covered in, and presents a rather gloomy and confused appearance, as the roofing is not so elevated as at Covent-garden, or Farringdon, and is used in many parts for lofts, so that the light is obstructed. A passage, which is a considerable thoroughfare independent of the market, runs obliquely from the exterior fronting St. Saviour’s to Park-street and to Barclay and Perkins’s brewery. Alleys, connected with this thoroughfare or with the streets bordering on the market, and leading to High-street, Southwark, intersect the whole of the market, which is greatly crowded. There are shops such as butchers’ and public-houses on one side of the thoroughfare I have spoken of, and surrounding the market. The produce sold is the same as that of Covent-garden, except in the choicer and costlier fruits and vegetables, while that in flowers is insignificant. The retail customers are all the inhabitants of the neighbourhood; the wholesale ones are the green-grocers and costermongers, who buy in large quantities.

The Borough market was established by charter in the time of Edward VI., but at that time its contents could be packed in five carts. The market was first held in the High-street Southwark, but as the traffic of that great thoroughfare increased, and as the market itself increased, it was found so inconvenient that in 1754 an act of Parliament was obtained for its removal to its present locality. Commissioners were appointed to carry out the provisions of the act as regards the purchase of the ground and buildings, for which they were authorized to borrow money (first £6000, and then £2000 additional) on the security of the tolls and rents. The property was not very valuable, as the names of the places purchased somewhat import—"To wit, a piece of ground in which is contained a spot called a triangle, abutting on a place called the Turnstile, on the backside of Three Crown-court, eastward; Fowle-lane buildings in Rochester-yard, and Dirty-lane, northward; and towards Dead-mans-place, eastward."

The Borough market was enlarged by an Act passed in 1829, and is about to be enlarged again. It now covers 3 acres, or 130,680 square feet, and is the property of the parish of St. Saviour. It contains about 200 stands, rented at from £1 to £30 per year. After the wholesale trade of the market is completed, which is seldom later than ten o'clock, the stands are occupied by retail sellers, at the rate of from 6d. to 1s. per day, according to their size and situation. There are from 60 to 70 in the wholesale, and about 100 in the retail business. The tolls are—on every basket of fruit, $\frac{1}{4}$ d. and $\frac{1}{2}$ d.; boxes of fruit, $\frac{1}{4}$ d.; chests of oranges and lemons, 1d.; carts 4d., &c. The tolls and regulations do not materially differ from those of Covent-garden. The occupiers of shops for general purposes pay 14s. per week; the innkeepers £30 per year. There are about nine shops and one inn on each side of the market, and over the market are about fifty lofts, used as warehouses, averaging 1s. per week. The market days are Tuesday, Thursday, and Saturday, but the market is open every day for retail sale. It is under the management of the churchwardens and overseers of St. Saviour's, and of eleven inhabitants appointed by the vestry. Half-yearly reports are published. The one published on the 25th of March last shows these receipts:—Yearly rent of houses due at Michaelmas (less income-tax), £233 12s. 3d.; ditto due at Christmas, £254 9s. 1d.; half-year's tolls (leased to Mr. Robinsou), £378; half-year's rent of casual stands (leased to Mr. Palmer, jun.), £95; twenty-six weeks' rent of weekly standings (let to tradesmen and others), £418 8s. 6d.; half-year's dividends on £1,811 2s. 9d.; stock in bank, £28 11s. 5d.; one year's rent of cart stand, £2 2s.

The sum of £1,157 8s., "Cash at banker's, as per last report," gives a total of £2,567 11s. 9d. By the 4th of George IV., it was enacted that, after providing for the payment of debts, &c., the rents and profits of the market "should be applied in diminution of the parochial rates," so that the chief disbursement was to the overseers, being £1,157 8s. 6d. The other payments are for gas, assessed and land taxes, pavement, water, and sewer rates; Christmas gratuities, £3 3s.; the Bishop of Rochester, one year's rent, £38 16s. 8d.; the same to the Bishop of Winchester, £5 11s. 2d.; £27 10s. for tradesmen's bills; the scavenger, two quarters cleansing, £10; beadle's salary, and sundries, £37 10s.; clerks half-year's salary, £30; collector's half-year's salary, £10. These payments, and a "balance at banker's" of £1,067 7s. 10d., balance the account. There are in this market 8 ticket-porters, who act as night watchmen.

The following returns show the business transacted in the course of the year at the Borough market. In all the returns "cauliflowers" are included under the head "brocoli."

"Cabbages—8,000 loads, 200 dozen to a load, or 19,200,000 cabbages.

"Turnips—2,000 loads of 200 dozen each, or 4,800,000 turnips.

"Brocoli—1,576 loads, of 200 dozen each, or 3,782,400 heads of brocoli.

"Carrots—442 loads, 300 dozen each, or 1,571,200 carrots.

"Potatoes—36,000 tons.

"Peas—25,000 sacks.

"Beans—10,000 sacks.

"Currants—30,000 bushels.

"Cherries—45,000 bushels.

"Strawberries—10,000 bushels.

"Gooseberries—35,000 sieves.

"Apples—25,000 bushels.

"Pears—10,000 bushels."

This supply is derived from Surrey, Essex, and Kent, and is sent by railway from the more distant, and by cart or waggon from the nearer places of growth. At early morning the crowd is very great, sometimes so great as to render locomotion next to impossible. On a wet morning it is peculiarly uncomfortable, from the jamming together of so many people soaked with the rain on their way to the market.

Spitalfields, more than any other, is the market of the poor. It is 327 feet on the north, 349 on the south, 380 on the west, and 345 on the east. This space is covered irregularly with buildings, some of them of wood, and very dingy. Where there are no buildings, the ground, which is not remarkable for cleanliness, is occupied with stands, or heaps of baskets which are piled on all sides. Up the centre of the market runs a covered avenue with shops on both sides, somewhat after the fashion of Covent-garden, but very different in its character, as those shops which display good fruit are mixed with retail butchers, shoemakers, milliners, tailors, &c., such as supply small quantities, or low priced articles. Of these shops there are 27, letting at an average rent of 10s. weekly. The market is situated between Union-street and Lamb-street, on the north and south, and Crispin and Red-lion streets on the east and west. It is the property of Mr. Spurling, a private gentleman. The market was established by charter in the reign of Charles II. The tolls are $\frac{1}{2}$ d. per bushel on fruit; and $\frac{1}{4}$ d. per sieve on potatoes, or 1s. 6d. a ton. A good portion of the supply to this market is grown on property appertaining to the Duchy of Lancaster, not many miles distant, and the consignors, it appears, claim and obtain one of the privileges of royalty, and will not pay toll. The wholesale market days are Tuesday, Thursday, and Saturday. The market is under the superintendence of a clerk and the police. Porters (unticketed) are the only labourers, and they, in rotation, act as night watchers.

One of the principal salesmen favoured me with the following communication:—

"In your letter on Spitalfields-market, you will perhaps notice that many, very many, of the things brought thereto are not subject to toll [my informant then states the privileges of the tenants of the Duchy of Lancaster]. In many of the yearly stands, only a nominal toll is taken. The classes of purchasers are—First, the shopkeepers, who come from Limehouse, Bow, Bromley (in Middlesex), Stratford, Homerton, Clapton, Hackney, Stoke Newington, Islington, Kingsland, City, Ratcliff-Highway, Mile End, Whitechapel, East Smithfield, Wapping, and Blackwall. Those (and of course from places within these radii, and adjacent thereto) from the river-side purchase largely for the shipping. Many persons, however, connected with vessels, come here and supply themselves. The second class are the costermongers, who supply all parts of London and the adjacent districts; indeed, it is only by their agency that many persons, five or six miles from London, directly adjoining to market-gardens, are supplied. At times, the Covent-garden, or 'Garden' people as they are called, come here to buy—also the 'Boro.' We of the 'fields' (our technical designation) occasionally return this compliment. The supply of our market is thus derived. Many things come from Kent; our principal supply is from Essex and Middlesex. Very large supplies of fruit come from Cambridgeshire, and, generally speaking, all the northern and eastern counties send us a good deal of their produce. The goods on commission are generally conveyed by the Eastern Counties Railway. Vast quantities of commission goods from Middlesex and from Essex, from places not at too great a distance, are also conveyed by waggon and cart, and are unloaded in the salesmen's warehouse or on his stand. The goods sold by the growers themselves come by cart and waggon; these vehicles stand in the market-place, and the goods are sold therefrom. Two of our market salesmen import largely—one of them imports vast quantities of foreign fruits. Much of this they dispose of at the water-side, and some of it comes here. The 'vast' importer will sometimes have 3,000 packages on the wharf at one time,

all of which are sold and cleared away in, perhaps, three or four hours. I see I have run from the buyer part of the question—to conclude which, let me state, that the servants of many respectable persons living adjacent, many of such persons themselves, and large numbers of the labouring classes living near, are our customers. Orders, too, are often received from Manchester, Liverpool, Birmingham, Glasgow, and Edinburgh for our goods. In the course of an average season, perhaps 50,000 sacks and 5,000 sieves of peas may be sent and brought and sold here. The quantity of potatoes that our growers themselves may sell in the course of the year may be 1,500 tons. Probably from 5,000 to 6,000 loads, (carts and waggons) of vegetables, principally cabbages, turnips, greens, and carrots, may be sold in this market in a year. A waggon load of good-sized cabbages is 130 dozen; of small cabbages 200. Good cabbages have been sold this season at 2d. per dozen. Little better, last season, fetched 15d. and 18d. per dozen. The average price is about 9d.; 6d. or 7d. is supposed to pay the grower £20 an acre."

Of the commission salesmen, or potato merchants, in this market, there are 25; of another class, who buy of the salesmen to supply the retailers, there are 15; and of retailers, 27. There are 100 stands for growers, the rents of these stands averaging £1 14s. a year. After the wholesale business of the growers is over, these stands are hired by retailers, at from 3d. to 1s. a day. There are 143 houses, inns, shops, &c., upon the outer and inner boundaries, and in the four short streets leading into the market. The houses average £35 a year—the inns more and the shops less.

The following is the business transacted in Spitalfields in a year, all home-grown:—

- "Potatoes—55,000 tons.
- "Peas—50,000 sacks.
- "Beans—5,000 sacks.
- "Cabbages—5,000 loads, 200 dozen to a load, or 12,000,000 cabbages.
- "Turnips—2,000 loads, 200 dozen to a load, or 4,800,000 turnips.
- "Carrots—1,000 loads, 200 dozen to a load, or 2,400,000 carrots.
- "Broccoli—1,200 loads, 200 dozen to a load, or 2,880,000 heads.
- "Cherries—15,000 bushels.
- "Apples—250,000 bushels.
- "Pears—83,000 bushels.
- "Plums—45,000 bushels.
- "Gooseberries—91,500 bushels.
- "Currants—45,000 bushels.
- "Strawberries—12,000 bushels.
- "Raspberries—2,500 bushels."

It is a curious fact connected with this market, that whatever produce is sent to it from Enfield in Middlesex is subject to neither turnpike nor market tolls; an exemption granted to Enfield because, during the Plague in 1665, vegetables and fruit were sent almost exclusively from thence—of course at the risk of the lives of all who ventured into the pest-stricken city.

Spitalfields is the great potato market, but the great stores of potatoes are on the river side, in Tooley-street; and again, but not exactly, bordering the river, in Rotherhithe (for shipping). These stores are brought by sea from Yorkshire (the best quality), Scotland, Lincolnshire, Guernsey and Jersey. From these places 1,200,000 sacks are supplied in an average season. The "water-side" potatoes are all weighed on delivery, 168lb. constituting a sack. "Dr. Colquhoun," says Mr. McCulloch, "estimated the entire value of potatoes annually consumed in Great Britain and Ireland, at the end of the late war, at sixteen millions sterling. But it is needless to say that there are no materials by which to form an estimate of this sort with any pretensions to accuracy. The one in question has been suspected, like most of those put forth by the same learned person, of exaggeration; and we incline to think that had he estimated the value of the yearly produce of potatoes in the empire at twelve millions he would have been nearer the mark. But on a point of this sort it is not possible to speak with anything like confidence."

(To be continued.)

TO CORRESPONDENTS.

** We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed "To the Editor of The Cottage Gardener, 2, Amen Corner, Paternoster Row, London."

SKELETON LEAVES (S. H.).—Our correspondent will be obliged by some one sending an approved recipe for preparing these.

LIQUID MANURE (A Constant Reader).—You may apply it very diluted to the roots of all fruit-trees that are ripening their fruit, if they are not already too gross. You will find it of great service, also, applied to your Asparagus, Celery, Rhubarb, and Spinach. We should not deodorize it with chloride of lime, but by mixing it with a little charcoal. In fact, the drainage from a stable requires no deodorizing. The soil purifies it very rapidly.

EGG-HATCHING APPARATUS (J. Wignall).—We cannot describe one; they are private inventions. Read Mr. Cantello's pamphlet. Rabbits will destroy Strawberries.

GERANIUM SEEDLING (Argentum).—It is impossible to give an opinion of its value without knowing its habit. The leaf is remarkably regularly and very broadly edged with a pale straw-colour, and the petals are a very bright scarlet; but the length of stalk, so as to know whether the trusses are good, and stand up well above the leaves, must be known before we could say what are its merits.

BOILED ROOTS (J. W.).—Potatoes, Swedes, and Mangold, are all more rapid in fattening pigs when boiled than when given to them raw.

BALSAMS (J. S. K.).—It matters little whether they are selfs, or variegated, provided the colours in the latter case are bright, clear, and distinct. It is impossible to give any average height for them; compactness of growth, with moderate stature, is most considered. Of course, the flowers must be very double.

HERBS (R. Buchanan).—We know of no modern hook with coloured plates of native medicinal herbs.

MUSHROOM RINGS (An Old Subscriber).—We know of no mode of getting rid of these from your lawn, except by cutting out the turf, and replacing it with fresh. You may kill the fungi by a plentiful application of salt, but the grass will come again of a much deeper colour.

PANSIES (An Amateur).—If "the flowers are too heavy for their stalks," we know of no remedy but giving them some kind of support. Manures to strengthen the plant would enlarge the flowers also.

FUCHSIAS, &c. (J. B.).—If we understand you, the Fuchsias and Geraniums will do with the Strawberries in the spring, provided you do not increase the heat more than is good for the Fuchsias and Geraniums. The latter ought, certainly, to be fresh potted in the autumn.

MEASURE WORK (T. L.).—"For an essay on this subject the Royal Agricultural Society of England awarded a prize. I wish some of your readers would give us some information on this head in horticulture, such as the contract prices paid by the market gardeners, including the proportion of hands to every 1000 feet of glass; early vineries; Pine stoves; ordinary vineries, &c.; and, where day-work is adopted, the number of hands per acre.

FEEDING BEES (Honey Bee).—"Sweet-wort" will not keep them. We know of no better food than that for which Mr. Payne has given a recipe in a late number of THE COTTAGE GARDENER.

NAMES OF FRUITS (A Young Amateur).—Apple, Summer Golden Pippin. Pear, too immature to be identified. Plums—No. 1. Royale Hative. No. 2. Washington. Your soil is a very strong and stiff loam, abundant in vegetable matter, and with a good proportion of sand; it is, therefore, one of the best soils for all sorts of fruit-trees.

NAME OF PLANT (W. K. W.).—Your plant is either *Lonicera involu-crata*, or *Lonicera Ledebourii*, if there is any difference.

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WEEKLY CALENDAR.

D M	D W	SEPTEMBER 12-18, 1854.	WEATHER NEAR LONDON IN 1853.			Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.	
			Barometr.	Thermo.	Wind.							Rain in Inches.
12	Tu	Coccinella 16-guttata.	29.996-29.874	70-54	S.	03	31	21	8 44	20	3 45	255
13	W	Coccinella globosa.	30.052-29.961	63-45	N.W.	07	33	19	9 13	21	4 6	256
14	Th	Coccinella 5-punctata.	30.081-59.912	70-50	S.W.	—	35	17	9 50	22	4 28	257
15	F	Coccinella 22-punctata.	29.987-29.934	61-55	N.E.	19	36	14	10 37	23	4 49	258
16	S	Coccinella 13-punctata.	29.953-29.916	65-54	N.	04	38	12	11 35	24	5 10	259
17	SUN	14 SUNDAY AFTER TRINITY.	30.063-30.008	69-43	N.E.	—	39	10	morn.	25	5 31	260
18	M	Chilocorus 4-verrucatus.	30.198-30.100	70-42	N.W.	—	41	8	0 41	26	5 52	261

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 67.2°, and 46°, respectively. The greatest heat, 84°, occurred on the 12th, in 1841; and the lowest cold, 29°, on the 17th, in 1840. During the period 100 days were fine, and on 79 rain fell.

To our readers, who are accustomed to have certain reasons adduced in support of all the directions given them for the proper care of their dumb and inanimate favourites, we have endeavoured to explain, by analogy, the leading principles which it may concern them to understand respecting cholera and epidemics in general, borrowing our illustrations from the laws of life, of health, and of condition, in wild plants, in cultivated plants, and in domestic animals. Following out these principles, we will venture now to offer a few remarks on diet, or, rather, on those articles, whether of food or medicine, which are supposed to maintain the system in "good condition," a condition not easily misunderstood, in which a good, clear, blooming complexion gives evidence of a healthy, sound state of the internal surfaces to correspond.

We feel the importance of the awakening national desire for small investments in land, for the economical management of the soil, and for out-door employments, as conducive to health and morality. We have ever maintained that "cottage gardeners," men of simple, homely tastes and unsophisticated habits, living apart from crowded places, caring little what they shall eat or drink, or wherewith they shall be clothed, have the least to fear from the class of diseases in question, and have about them the best, because the plainest, means of prevention and purification. But, whether or no any of our friends may, by accident, be exposed to an attack of the epidemic, beyond doubt, all are more or less liable to suffer some inconvenience from the depressing influences of the season. Nay, more: the disregard of all warnings, human and divino, on the part of men "drest in a little brief authority"—neglect of the poor; neglect of daily scavenging: the first enpoisoning of our rivers by ill-planned drainage-works, and then giving the water to the people to drink, and allowing its unwholesome vapour to corrupt the air; neglect of at once clearing out, and, if need be, pulling down, all ill-constructed, over-crowded, low, damp, habitations; the contempt of medical precepts altogether; may, in some fated spot, lead the cholera to assume an aggravated form, in which it may, like scarlet fever or typhus, spread into suburban and remote places.

To counteract any subtle, unhealthy, material influences in the air and in the food; and to restore the lost tone of the system, men have, from the very earliest times, held a certain class of vegetable productions in high repute. These are aromatics and condiments;

not only "myrrh, aloes, and cassia," but saffron, ginger, cloves, allspice, mace, and likewise mint, thyme, marjoram, sage, horse-radish, and other simples, which both poor and rich now too much neglect, contenting themselves with Cayenne pepper and mustard for the most part. "The soup makes the soldier;" so say the French, and most Frenchmen being proprietors and cultivators of the soil, each small allotment affords its owner a ready supply of all the priceless ingredients which flavour his daily meal. With these ample materials has arisen a taste for cookery. Commonly, how often do we see the badly-cooked meal washed down with stimulants of another sort, not grown in the cottage garden!

Not less general has been the use of salt as a purifier. History (ancient, and we regret to say modern) shows us how all laws restricting its free use have brought national afflictions in their train. As an article of diet, then, salt should be freely used.

As the earth is the best natural absorbent of corruptible matters out of the body, so have we in good dry bread, not new, an admirable internal absorbent. For a similar purpose, and as a correction of acrid humours, also, we use lime internally in the shape of chalk. The common chalk mixture which is in such demand at present, is little more than a combination of aromatics and absorbents. It is principally relied on for moderating the common bowel complaint of the season, and for restoring the lost tone of the bowels. The watery, painless, invidious choleraic diarrhoea, is a different thing; and for this a different remedy has come into repute, namely, the sulphuric acid treatment, to which we may have to refer by-and-by.*

But, it would now appear that not only the aromatic mint, but the vinegar also, has its use in our mint sauce to lamb; and the same holds good for the acid juice as well as the pungent rind of the slice of lemon which accompanies our outlet. Sorrel, the medicinal shamrock of St. Patrick, and even apple sauce, are coming into favour with the faculty. Some deeper reason than the mere force of habit is now assigned for the inveterate use of these traditional correctives of a class of viands, the wholesomeness of which depends upon their being readily assimilated in the system—a property which is accompanied by a certain proneness to putrefaction.

An able medical contemporary republishes this year

* It may be well to state here that the common vinegar of the shops contains sulphuric acid, and that sulphuric acid is sometimes added to common beer, when it is deemed desirable to impart a certain "hardness" to it.

the protest of the Colloge of Physicians against the interdiction on fruit. Well-dressed vegetables and good ripe fruit are still pronounced not only harmless, but wholesome. There may be something in Mr. Soyers' theory, that for delicate stomachs, even ripe fruits should be properly prepared by cooking; and at this season, on the great apple-pie question—plain or spiced—our own private judgment would be in favour of the addition of lemon-peel and cloves.

The Epidemiological Society have lately approved an excellent paper on the use of vegetable and mineral acids in cholera and other diseases of the bowels. It has been observed that the peasantry in cider countries never have cholera. A like immunity is said to attend the consumption of hard, sub-acid ale and beer at Birmingham and other places. Other and weightier reasons, of course, are added to these; and, as it would be difficult to find cider and lemon-juice for all London, the author concludes by recommending the use of vinegar, citing the ancients, among whom vinegar is said to have been a common drink. "Dip thy morsel in the vinegar," said Boaz to Ruth. The books give a French receipt for camp vinegar, evidently of great antiquity; whether it be the same which enabled Hannibal's army to cross the Alps is still a question. It contains a certain proportion of indifferent wine, and has infused into it a variety of the staple productions of the garden, which the poor conscript could not carry with him, to flavour his food. The vinegar said to have been the common drink of the Roman soldiers was a rough, common, sourish wine, nearly allied to our hard cider, or harder beer. Roving Englishmen, who have been accustomed to strong Port and brandied Sherry, are apt to characterize all the wine they drink abroad as vinegar. Such gentry have before this stigmatized our own oldest and choicest Claret as nothing but vinegar—so much raspberry-vinegar. Well; raspberry-vinegar itself may not be a bad thing to mix with our water when the latter is not altogether fresh, and when a lurking suspicion of its poisonous nature still haunts the mind.

One word on this vexed affair of the water, on which so much seems to depend. The highly-gifted physician of the Millbank Penitentiary, finding that his patients were drinking Thames-water during the cholera, had this changed for the water from an artesian well; but without any perceptible change for the better. But the happiest results have providentially followed the removal of hundreds of the prisoners far away from the exhalation from the sewers on the banks of the Thames near the prison-walls.

We have before us, in a review, an account of the medical missions in China. The Chinese system of irrigation has always been referred to as a model by those who would yet further improve the present state of things by conducting the sewerage of towns to the low lands adjacent, so as to have the latter "in a state of perpetual irrigation and manure."

"Thin pasture lands, in a state of perpetual irrigation and manure, become, at seasons, so many vast plains,

from which the most noxious miasm arises, and are, *at all times, the unfailing sources* by which scrofula, ophthalmia, cutaneous affections, remittent, intermittent, and typhus fever, are endemically perpetuated." J. J.

THE principle on which Poultry Nomenclature is founded is mainly that of their original geographical dispersion. In several classes this is sufficiently authenticated; but in others, from the little attention, in former days, bestowed upon the subject, and the difficulty of recognising present races in the usually vague and indistinct accounts of the few early writers on this branch of Natural History, great uncertainty necessarily prevails. Malays, and the other Asiatic fowls, Bantams and Shanghaes, we are enabled to trace satisfactorily from their primitive habitats; hence, indeed, our often-expressed unwillingness to accept the erroneous designation of "Cochin-China," a district from which few, if any, specimens of the last-named fowls appear to have been derived, while Shanghae is clearly the headquarters of the breed. The same reasoning sanctions the employment of the term Dorking to the five-clawed fowls that had their origin in the districts around that town, or were, at least, those first brought into general reputation. Hamburgs, again, in the "Pencilled" variety, are fairly referable to that locality, though far, we must acknowledge, from being so exclusively; more especially in recent years, when our main supply has been received from Holland. The "Spangled" Hamburgs, however, are justified in claiming that title solely from certain features common to them with the pencilled birds. But, at the same time, the various synonymes that are suggested in lieu of their present generally-received designation, are all and each of them open to equal, if not greater, objections than that they now bear. Regarded in this light, the Polish fowl has a still worse case, and the principle of an original geographical position is here unsupported by any trustworthy evidence. If usage, therefore, be considered as insufficient authority for the name they now bear, we must confess our inability to afford any clue to a better designation founded on the same ground. So that, if we depart from the present system, to style them simply "*tufted fowls*," seems the only alternative left to us.

Game fowls were emphatically called, by no less an authority than Buffon, the celebrated French naturalist, the English fowl, and, indeed, if an uniform geographical system be insisted on, we do not see how they could be better described, although the derivation would here proceed from the circumstance of their having been brought to the highest state of perfection, not from having been the aboriginal fowl in this country.

Lastly, as respects Spanish, the type of that breed is pre-eminent in Spain, though common, in a greater or a less degree, throughout various regions on the shore of the Mediterranean Sea.

The various alleged distinct breeds that make their

appearance in the "miscellaneous" class, may, for the present, be omitted in the enquiry now before us. Those already mentioned are, confessedly, the great divisions of the species; and, if we are not mistaken, the remainder, Silk fowls, and one or two others, at the utmost, alone excepted, it will be difficult to make out their claim to any distinct and separate origin.

Polish and the Spangled Hamburgs are, therefore the cases where the principle of geographical disposition fails to warrant the names of our fowls. Many and laboured have been the efforts to assign the primitive abode of the former; but, however plausible and ingenious, none have hitherto carried conviction to our own mind; and a majority of those who have turned their thoughts to the same subject are probably of the like opinion. But the main object of any name applied to any object, animate or inanimate, is to specify and distinguish it from others; if, indeed, the name so given has a manifest tendency to mislead to important erroneous conclusions, a grave objection is at once evident, and proof of a more accurate designation should at once cause the disuse of the misnomer. But, as before said, unless we substitute "*tufted fowls*" for Polish, and, perhaps, "*rose-combed, spangled fowls*" for the present Spangled Hamburgs, we see no solution for our difficulty; and if this be done, geographical disposition ceases to be our guide.

In these remarks, the opinions of a gentleman, a frequent and valued contributor to these columns, are not forgotten, or in any way slightly passed over. Mr. Brent, indeed, however on this point we may happen to hold views adverse to those so ably advocated by him on several recent occasions, has well earned, and deservedly receives, our best attention for the result of his many years experience. Few, indeed, we have good reason to believe, have more carefully studied the history of the domestic fowl, and none have ever drawn their inferences more impartially. One result of the observations of this gentleman has induced him to draw a distinction between the Polish fowl, and what he terms, the Tufted Hamburg, including, under the latter designation, all the bearded Polish. To this our assent cannot be given, convinced, as we are, that objections of at least equal weight may be urged against the application of the name "Hamburg" to any top-knotted fowl, as exist against its present use in the classes now so called.

An accurate designation of a species, either animate or inanimate, has frequently been unattainable till after many changes and revisions. Botany, and other sciences, afford us many instances of such alterations; we need not, therefore, be surprised if the "*nomenclature of fowls*," a subject on which general attention has only so recently been bestowed, should, as yet, labour under the same difficulty.

Efforts, however, have been made of late to reduce the previously confused and contradictory system to some degree of order, and the assent of an overwhelming majority of Poultry Societies has been accorded to the classification promulgated at Birmingham. Nor

do we see how any better example could have been followed.

Our decided impression, from all that has been advanced on this subject, points to the retention of the present system, founded on geographical disposition as the basis for the nomenclature of fowls; some modifications, it is true, may be desirable, and, in certain cases, the evidence may not be altogether satisfactory as to the original locality. We look around, however, in vain, for any other better principle of classification, and, furthermore, confidently anticipate that the care that is now being bestowed on the points of merit of the different breeds will also conduce to the most correct nomenclature, for which authorities may be attainable.—W.

THE monthly Meeting of the *British Pomological Society* took place, at their Rooms, 20, Bedford Street, Covent Garden, on the 4th instant. The meeting was chiefly employed in considering the Rules proposed by the sub-Committee appointed at a previous meeting. Some slight alterations, expressing more fully the intentions of the Society, were adopted; several new members were proposed for election, and an Exhibition of Fruit early in November next was determined upon. Of this fuller particulars will be advertised.

The Society meets the first Monday in every month; and we recommend any one seeking for reliable information about fruits, or having any pomological facts to communicate, to write to one of the Secretaries, directed as above. The Rules are now printed, and may be had free of cost if applied for similarly.

FLOWERS, FLOWER MASSES, &c.

BEFORE I offer a few straggling thoughts on such matters, I am strongly reminded of the truth of an old saying, viz.,—

"The difference is as great between
The optics seeing as the objects seen."

And, verily, if this applies to anything it does to flower-gardening. Let us suppose a dozen first-rate men each to arrange the colour and style of a garden devoted to the grouping system; men, who, to a thorough practical knowledge of plants, added correct taste, refined by the study of the principles of harmony, contrast, &c. Would any two of their plans agree? I think not: and why? Is it because of the multiplicity of flowers considered eligible? No: for, granted that they were all confined to a given selection, yet, it is almost certain that no two of their plans would be similar. If this be true, it plainly shows, that what is called taste, in these things, is of so erratic a character—I had almost said capricious—that, in spite of recognized principles, the mind desires and enjoys a kind of truant playfulness, which, when dominant, speedily thrusts aside cramped, or starchy notions, albeit, dignified by the high sanction of science. This, indeed, is no marvel, when we try a parallelism between this taste and that for poesy. What two literary characters ever handled the same subject alike, although ever so well agreed about the chief principles of composition and style? The fact is, "many men, many minds;" and in all these things the subject takes a colouring from the peculiar bent, or make, of mind of the party. And such it is that gives a chequered impress to all human affairs, without which, even the highest order of science would become insipid,

and distract, rather than refresh, the mind. I have deemed it necessary to urge these things, inasmuch as it may appear a sudden bound on my part from the Fruit into the Flower-garden. But, in good truth, the line of demarcation, as our great men would call it, or what we gardeners would call, in our phaseology, the slip hedge (which not unfrequently divides such departments, and as frequently has a blemish in some part), is easily broken through by a man of metal.

This period, the end of August, is, perhaps, a better time to think about flower-gardening, past, present, and prospective, than any other. Our wondrous scheming, in April and May, on which we laid so much stress, is still fresh on the memory. The fruition of our plans is before our eyes, and fresh suggestions, consequent on successful results, or absurd miscalculations, must, of necessity, tread close on the heels of any close consideration of the subject. And there is nothing like "proof impressions;" nothing like dotting ideas down, when, as Burns said—

"My Barmie Noddle's working prime."

The past summer has been, on the whole, a good one for flower-gardening; the man who persists in calling it a bad one must be a Grumbletonian indeed.

I have, this season, more than ever proved the benefit of thoroughly working deeply, and pulverising, beds for masses. I had them in high ridges from the beginning of February until the middle of March, when they were turned again in dry weather to the bottom, well broken, and again thrown in ridges; and in the first week of May they were turned again, and thoroughly pulverised. What dressings were necessary for the flowers were then added, and forked in within six inches of the surface; and most of the masses have succeeded admirably. The chief points in successful bedding, as far as the soil is concerned, is to break the soil very deep, and thus to sweeten and pulverise it, and to keep the fresh dressing near the surface. By these means, the plants start freely at first, and on reaching the ordinary soil, which is, of course, of moderate quality, they grow more compact, blossom freely without heavy foliage, and, through a very deep-rooting medium, continued to work steadily in defiance of droughts: this saves much waterpot-labour.

I may here point to a few beds, which have been much admired; their combinations may be familiar to some, but may also furnish hints to others. A bed of fancy Geraniums, in full bloom, when planted out on the 20th May, received a band or edging of Pansies, three colours, nearly selfs; viz., blues, yellows, and purples, alternately. This has been one of the richest beds in the garden—always gay. The fancies were a row of the *Diadematum* down the centre, and an outer row, all round, of *Statuiskia*, *Deora*, *Sidonia*, *Nosegay*, and *Lady Flora Hastings*; the Pansies being kept from touching, and, indeed, the Geraniums so staked out at first, as to be each a distinct bush. These are flowering as fine as ever now, the beginning of September. A bed of the old Clove Carnation, planted in groups; three strong pots, with three each in a group, had a band of Mignonette around the margin, and strong plants of the *Viscaria Oculata*—a *Dianthus*-looking thing—between every two groups of the Clove. This has been, and is, a beautiful bed; quite the favourite with the ladies.

A bed of German Stocks, the most double I ever had, has a band of Mignonette around it; the latter not entering amongst the Stocks, but forming an exterior fringe uniformly round the bed to the grass-margin, which in no case, however, is suffered to be quite reached; a distinct edging being sustained in this and all the beds.

A gold and blue bed, which, indeed, has been second

to none in gaiety and beauty of outline, has a row of *Salvia patens* down the centre, a row of *Calceolaria complexicaulis* all round the Salvias, and an edging, or band, of Heliotropes pegged closely down. But the Salvias were managed as my worthy friend Mr. Beaton has suggested; the plants were got very forward, and were several times pinched, until disposed to be squat bushes, or stools, and the first leaders were then pegged closely down. This bed makes the finest outline without staking that I have seen; the Calceolarias are so interwoven with the numerous shoots of the *Salvia*, as to need no support, and the whole appears as if no storm could disarrange it. It is, and has been, for many weeks, one uniform mass of gold and blue, and gay in the extreme. I never knew *Salvia patens* so comely before.

A bed of scarlet and white is thus composed: *Lobelia fulgens* in groups down the centre, and the *Shrubland White Petunia* all round; it was to have had a band of *Robinson's Defiance Verbena* round, but we had not plants enough; the Lobelias have not been so strong as I could have wished, or, had they been fine, with a band of *Defiance* around, this would have been a rich bed, and of good figure. As for the Petunias they are admirable bushes.

A bed composed of the carmine shades of *Horse-shoe Geraniums*, such as *Beaton's Cream-Coloured*, *Cherry Check*, and a bronzy variety, had a band of Musk around; the Geraniums so dwarfed as to be all blossoms nearly, has been a very gay and tasty affair. *Rouge-et-noir*, with a row of silver-striped Geraniums, and edge of Musk, make a very nice mass; but I should have preferred a band of *Eurotheca missouriensis* around. By-the-by, this last plant is a capital thing for a band, kept well pegged down whilst young. Verbenas alone, in mixtures, make beautiful beds, putting all the shades of puce, purple, blue, lilac, &c., in another; both beds receiving a regular sprinkling of white, such as *Mont Blanc*, through them.

And now, a few words on those old-fashioned beds composed, in the main, of herbaceous plants, filled up occasionally with plants of character from the reserve ground. However many an old gardener, in the midst of the bedding mania, which has so much prevailed during the last seven years, has lamented the fate to which those favourites of his earlier days, the Phloxes, Asters, Gentianas, Delphiniums, Dracocephalums, Coreopsis, Rudbeckias, &c., &c., have been subjected, in consequence of the monopoly claimed by those more dashing things of recent introduction, in the rage for a clearance, we have well-nigh lost sight of plants, many of which will outlive these gaudy pets of the day. Some have receded into the most inferior positions in shrubby borders; some have slunk away into kitchen-gardens; and not a few to rubbish-yards. I do not dispute here, that a garden, rich in mass flowers alone, is more suddenly attractive, and better adapted to surprise, than the herbaceous tribes, many of which are what are termed cold colours; but for those men of high taste, with whom a mere dash of glowing colours is second in importance to richness of detail and dignified outline, a miscellaneous garden, in which many of our best herbaceous tribes are still enabled to hold a prominent position, proves, I believe, more suggestive, more satisfactory.

Then the Annuals. I have a marginal border here, in a capital situation, and of good soil, in which well-grown annuals prevail, mingled with strong specimens of half-hardy things of considerable size, and possessing distinctness of outline and individuality. This border is, to me, far more gratifying than the richest masses. But so much depends on the arrangement of borders of this character; for, say what they will, the general outline of a bed, or border, is a thing of importance; an accessory to delightful impressions, albeit the mind of the observer may not be sufficiently cultivated to be able to tell why he is pleased.

In borders of this kind, which may be about five feet wide, there are two or three points deserving special attention. In the first place, I take it for granted that low and prostrate forms should prevail at the margin; that spirey or pointed forms, such as the *Clarkia elegans*, *Antirrhinums*, *Salvia patens*, &c., should be allowed to rise above dense and bushy flowers of half-height, and to give expression to the upper outline, that flowers of majestic habit, as Hollyhock, Dahlias, &c., be allowed to rise occasionally towards the back, and that the above lining, all placed at considerable intervals, so that no two touch—a sprinkling of flowers of bushy habit be introduced here and there, as a sort of undergrowth, to relieve the stalkiness of the taller forms. My border, which I so much like, has Hollyhock at the back, tree Roses in the second row, and the prostrate forms in front; there being but three rows, and, of course, the other form suggested interspersed through them. And to satisfy those who fear to recognise form and outline, for fear of losing colour, I may add, that these borders are universally covered with flowers of all hues, and no lack of fragrance from the Mignonette, Rose, Musk, &c., combined with rich colours.

R. ERRINGTON.

GATHERING SEEDS.

EVERY one in the country gathers seeds of some plant or another, and most people think they know how to harvest a few garden-seeds; but there is not one in ten, according to my experience, who has any knowledge of the natural law about saving seeds at all, or of the best and easiest way of managing this branch of domestic economy. Go where I will, I see evidences, at this season of the year, of very bad management in the seed way. A bundle of *Clarkia* drying here—another of Larkspurs, of Candytuft, of Mignonette, or *Nemophila*, and so on—the under side of each bundle is either too damp and rotting, or the whole bundle has been so turned and harvested that all the best seeds are scattered about or lost altogether; in the next place, you see large sheets of paper or old newspapers put under the different bundles as they are gathered; perhaps on the stages of the greenhouse, as they would do in Germany, and other places on the Continent, where, if reports be true, they turn their hothouses or their old conservatories into so many barns at the end of summer. Here, in England, the most that the untidiest gardener will attempt is to hang up a bundle of some seeding plant in a dry vinery; the conservatory is too much under the eye of fashion ever to be littered in this way. But, if it is true that one black sheep taints the flock, I must begin shearing; for I have seen and heard of places, and many of them, where THE COTTAGE GARDENER is anxiously looked for every week, and where flower-seeds have been actually dried, this very season, on the stages of the conservatory, where ladies go through in and out to the drawing-rooms. Well, one hears of strange things occasionally, but this is past strange and strangling; it is mean and slovenly; it is also very bad management—seeds are roasted, not ripened, in this way.

In farming, the straw is a valuable part of the crop, and must be saved as carefully as the grain. In the seed trade, part of the crop keeps best in the pod, and the pod is easier kept on the dried herbage of the plant than in any other way. Both the farmer and the seedsman, however, are too much up to the mark of their calling to need being told their best way of proceeding; not so a generation of garden amateurs, who ought to save every possible shilling in one part of the garden so as to lay it out on another part. All these save part of their own grown seeds every year, and as it has come to my eyes and ears that they do not

go the right way about it, I write to mend matters, without apology.

In the first place, therefore, I give the natural law on sowing seeds in my own way, which is this:—the germ, or living part inside, say a Pea or Bean, or Mignonette, is completely finished, and fit for its own office of growing, a long time before the walls or the body which covers it, is ripe; and if we could preserve this germ without ripening that which incloses it, the germ would sprout in one-half the time it takes to get it to do so now; this is a very singular thing and ought to be minded; it has been known in practice, and by men of science, for ever so long; but the great bulk of people, taking their ideas from the grain harvest, have an idea that the *body* of the seed, and not the germ, is the great thing to look to and get ripe; no such thing, but only a popular fallacy. In flower-seeds, all we want is a renewal of the different plants. In farming, they want the body of the seed for bread, beer, and whisky, and other things, so they look for the perfect ripening of the body of their grain, from which alone these things are made; then, when some of this grain has to be sown for another crop, it takes a much longer time to come up than it would if the body of the grain were not so ripe; and the reason for this delay is, that so much time is lost in bringing back, as it were, the body of the seed to that state, or nearly to that state, in which it was a certain time before it was ripe in the field.

Science gives this explanation in a very different way; but it all comes to the same meaning, and my way is the easiest to understand and to remember; as to the thing itself, there is not the smallest doubt about it, it belongs to the rudiments, or A. B. C. of gardening. At what time the germ of the different seeds would sprout before the body of the seed itself was ripe, no one knows rightly, because experiments have not been made to prove the thing; so that the youngest readers of THE COTTAGE GARDENER might make themselves even-handed with the oldest gardeners on this very curious subject; but much more useful to know, than curious.

Now if we call this part A., the next part of the subject, B., is more difficult. It does not follow that because the germ of a seed is fit to grow before the body of that seed is ripe, that the germ could be kept alive for a long period if the body round it were not ripe. Here, again, if we did but know it, the different kinds, no doubt, have different periods to which the germ could live without a ripe body; even with a ripe body, some seeds are short lived, and others seem not to lose their life for many generations, and we might reasonably suppose that those seeds which "keep" the longest after being ripe, would do so with an unripe body; but that is not so sure, perhaps it may turn out to be the contrary; at any rate, we have had no trials to prove it one way or the other.

Here, again, we are on the same level, which brings me to C. the third letter; and C. is very easy indeed, representing a simple way of gathering and preserving the more ordinary garden seeds for general use; and we begin with *Mignonette*, as being the only one of our ordinary seeds which is always gathered half-ripe, three-parts ripe, and all ripe. You never buy a packet of it without samples of the three stages of ripeness; the dark seeds of *Mignonette* are those which were full ripe when gathered, and the light seeds are those in the stages of half or three-parts ripe, yet the one grows as well as the other—a lesson for all, but not one out of a thousand ever thinks of learning from it that seeds not quite ripe may be kept for two or three years without danger. It may be asked, What advantage is there in saving any seeds till they are fully ripe? The answer is just the point I am driving to; it is of the greatest consequence to all who like to see the

garden tidy. In the first place, one may save a whole season by getting up seeds a few weeks before his neighbour. Two hot-heads get hold of a new plant called *Rhodophrensy*; it seeds with both, and both strive who will be first in the market with it; the one gathers the seed, and has them "up" before the other thinks they are ripe enough; and after they are thus ripe, he must needs dry them thoroughly before he thinks it safe to trust them to the earth; but all this care goes for nothing, and is worse than useless; the season is too far gone; the seedlings take a long time in coming up, the winter kills the half of them, and the other half are such weak things that he cannot begin cuttings from them for a whole month after the first man has rooted the first batch of cuttings from his more forward and much healthier stock. But a race with a new plant is not of every-day work; and we may pass over it without more explanation, and come to that which concerns us all. Without going into the nicety of the thing, I may say, that for all ordinary purposes, I do not know a single garden-plant whose seeds must, of necessity, be quite ripe before it is gathered; and I hold it as a consequence of this, that neither in the kitchen-garden, nor in the seed-nursery, much less in the flower-borders, need we suffer seeding plants to remain to be eye-sores nearly as long as we have been doing. I have, myself, taken up whole beds of annuals before they looked "seedy," and yet ripened the seed sufficiently for my purpose; not by making hay of the plants, however, but by keeping them from the sun, and with more sap in the stems than they could have if left longer in the bed in the full sun. Instead of bundling the stems, and drying them in the sun, or in a greenhouse, I did the reverse—watered a piece of ground on the north side of a wall, and laid the straw, so to call it, thinly and leaning against the wall, and had it watered once a day, for a week, or longer; by that time, and by keeping the sap in the plants, or straw, instead of drying it, the seed would be quite ripe enough, or as ripe as *Mignonette* seed, and not one-half so liable to fall out of the pods as it does by a *standing* ripeness in the beds or borders. In a smaller way, the best and easiest way is to cut off as many stems from a seeding plant as you think will carry sufficient seeds for your purpose next year, bag these in a paper or canvass bag, heads downwards, tie the bag closely, and hang it up in a cool place, or shed, this may be done, quite safely, one whole week before such seed would ripen naturally; the sap in the stems and seed pods will not escape so fast from the bags as it would under a hot sun out at large, so that a provision is here made for ripening the seeds nearly as much as if it were ready to drop from a standing crop, if it were necessary, which it is not for such small quantities as one wants for self-use.

See, then, how easily it is to save seeds; to save appearances in the flower borders; to save your seeds from scattering about; and, above all, to save one from being thought slovenly in other things, if you are caught drying seeds in a greenhouse, or even in an open shed, in the usual way. But a few instances will render my meaning plainer still; take *Mignonette* again, and say you wish it to flower and keep green to the end of the season; then, in that case, the rule is this,—when a shoot of it was seeded three inches, or say four inches, from the bottom, cut it off, and go over all your plants of it once a-week, and serve every seeding branch in the same way; when you have a handful of these shoots, cut away the top parts with one cut, but leave half the flowers on each shoot. The pods are very succulent, and so are the stems; bag and tie them at once, and keep them cool to the end of the season, and you never saw such beautiful seeds in your life; no trouble, no littering, and drying, and shrivelling, and dusting overy thing and overy body who comes near them

or yourself; all as clean as a pink, and done with as soon as thought of. *Larkspurs* next; in the whole race of them you have only to open a pod now and then, and long before the seeds are ripe, and so soon as you see the seeds turning colour, pull them up, cut off the roots if they are annuals, and strip the leaves between your fingers, bag and tie, and be off to the *Candytufts*; the best reddish-purple, the large flat white, and the pyramidal white-headed, are the only sorts worth keeping; they belong to the same order as the Cabbages, and I believe every plant in this order would ripen seeds in a bag if it was half-ripe when gathered; but have your own way, perhaps you would like this seed riper than I would gather it, and perhaps you are right; who knows? But perhaps to *Eschscholtzias*, everybody likes *Eschscholtzias*, and they are best as annuals, from seeds every year—they, and the *Clarkias*, are a great bother if you allow the pods to ripen on the plant; open both as you did the *Larkspur*, and act accordingly; keep the pods cool and out of sight, in a close bag; those paper bags you had at the grocer's, or with the pie-nie biscuits, are the very best bags for all kinds of seeds. You have only to write or number the name on each of them, and get them out of sight as fast as you fill them, so that if anybody calls, even a seedsman, now and then, he will not dream for a moment that you are so thrifty, or that any hay, or straw, or litter is ever seen in *your garden*, or about *your houses*, as some people have them every year of their lives. Peas, Beans, Radish pods, Cabbages, Turnips, Lilyworts and all, may be, and ought to be gathered and saved, and nothing seen of them, or said about them, from first to last, except the bags, and perhaps some of the ends of the stalks hanging out of them.

D. BEATON.

LOOKING AROUND US.

WE have now had a treat of splendid weather, enough to make the heart of the husbandman rebound with joy. Many are the gratitudes and thanksgivings breathed from cottage hearths. War, with its attendant horrors, has been felt by many of our countrymen, and the pestilent cholera has been rapidly traversing the earth, sweeping its victims from all lands and climes; but how much more perilous would our situation have been, if to these had been added the dire calamity of bread at famine price. I envy not the human being, who, without the blending of the joyful and the thankful in his heart, could have looked upon the fields so loaded with precious grain, and on weather so suitable for the ingathering of the fruits of the earth. The only shape that even a spiec of complaining has reached my ears, has proceeded from the difficulty that some of our great routine brethren of the plough have experienced in finding suitable places in which to store the wonderful crops!

The first part of the season was a trying one for the gardener. Cold and insects, and sun, without mellow heat, made sad havoc amongst us. Much of the mischief will be neutralised by the present splendid weather. As in the ease with ourselves, it will make sad inroads about our usual calculations to a continuous supply of green Peas; but how beautifully will the buds of our fruit trees be ripened. Disappointments, many had, with their flower-gardens in the first part of the summer, but how brilliant will most of them appear now. Many beds, in despite of previous drawbacks, have a compactness and a brilliancy seldom witnessed, and the longer this bright sunshine lasts the better they will be.

Before going farther, allow me prominently to mention what has been for two months, and likely to be some time longer, the gem of the flower-garden this season, the name being taken down by some scores of ladies,

and likely to be well called for the ensuing season, having rivetted the attention of hundreds when other gay things were passed by with common notes of admiration! The where to get it, and how to grow it into such beauty and symmetry, are questions so endlessly reiterated within two months, that to save a vast deal of trouble, I thus say all the little I know about it in *THE COTTAGE GARDENER*. Many, no doubt, are imagining that this is some scarce, expensive, wonderful new plant, if it has created such a sensation; and I am really not half sorry if I must disappoint them, by saying it is nothing more nor less than a rather common annual, the

Saponaria calabrica.—I first saved some seeds of this in a border, from seeing it highly recommended some years ago by Mr. Beaton, and being in small patches, its small pink flowers made no great sensation. I next tried it as an edging round a purple bed, and as such it delighted many besides myself; but the autumn being wet, though the beauty of the bed was not impaired, I did not save a seed, there not being one to save. I resolved to have another trial of it, but the seed I obtained for it turned out a miserable little thing of the *Silene*, or the *Lychnis* family. I obtained a packet of good seed this spring from Mr. Veitch, and from that packet, besides the two large beds, so much admired at the respective ends of a large group, I have two smaller beds, and detached pieces in the shrubbery, besides what have been given to others. These large beds, not only presented a mass of bright pink, but from the smallness of the individual flowers, and the airy gracefulness, and light and shade all through the beds, made up an indescribable charm that arrested every visitor's attention, while some of our best gardeners pronounced it most lovely—employers and employed thus recognising its beauty.

The plant is quite hardy enough to be seen in the open air in April, but whether others, by a different mode, will excel me next season, or not, I shall describe the process I employed, leaving others to vary, or not, as they think proper, merely remarking, that I have followed the same process for years, every now and then forgetting hardy annuals to help in the furnishing of the flower-garden, experience having shown me that I could place little dependance on those sown out-of-doors in autumn, unless the winter was both mild and dryish. The mode itself has been varied so far, that sometimes the sowing took place above an exhausted hotbed, and at other times on a common border; and in both cases the result was equally satisfactory. The border being fixed upon, and on a south or west aspect, it is well forked over in the beginning of March, repeating the operation several times during a fortnight; then a little of the dry pulverised surface matter is scraped off, to the front and the back, the thickness of a couple of inches of half-decayed leaves, or rather more decayed dung is placed over it; this is slightly incorporated with the points of a fork, and slightly beat; over this is thrown the soil removed at first, and then a coating of an inch or two in thickness of light, rich, sandy soil. Previously to putting on this last layer, the materials are well watered if they are at all dry, and when dry on the surface the light soil is added. In this upper stratum, slight drills are drawn with a pointed stick to receive the small seeds, the drills, according to the sorts, being from four to six inches asunder, and the seeds are sown rather thickly than otherwise. The watering before sowing is to avoid much watering afterwards. Before sowing, small poles are laid lengthwise, back and front of the bed, and on these, sashes are placed within a few inches of the soil. These are slightly shaded in a bright sunshine, and protected in very cold nights. In little more than a week, the sashes may be dispensed with, and protection given at night and in cold weather by mats, hurdles, &c. The

Saponarias are only one of many things thus treated. After standing unsheltered some time, they were nice little plants by the 10th of May, and were then taken up with a trowel, in little patches, the earth and leaf-mould adhering nicely to them, and were at once turned out into the beds about six inches apart all over. In these little patches there might be one, two, three, and sometimes more plants, just as they broke into pieces. They received several waterings in May or June, never saw a tie or a twig, and are now so completely, though lightly, woven together, that a common shower, and a common wind would do no harm, both passing so easily through them. When sown in a border, in patches, the plant seldom rises above a few inches. In these beds it mounts to the height of a foot in the centre of the beds. Whether after this very hot weather it will continue in beauty to the very end of the season may be a little doubtful. Formerly, edgings kept good until the cold, wet weather did away with out-door gardens in the flower-garden. When a limited quantity of plants are wanted, the above mode offers several advantages.

1. A saving of seed, and the certainty of getting plants if the seed is good. A few square feet of ground would raise enough of plants for several large beds.
2. The saving of protecting annuals in winter.
3. The getting the beds well dug, and aerated before planting out in the end of April or the first weeks in May.
4. The securing by these means a uniform outline in the beds.

Leptosiphon luteus.—This is truly a sweet little thing for an early small bed or edging, its yellow and golden little flowers being very attractive, but, tried on the above plan, it is already withering.

Sarivalia procumbens.—As many of our subscribers are asking after plants for small beds and edgings, I can confidently recommend the above trailing annual, producing great quantities of small yellow flowers, with black protuberant centres, something in the way of the old *Rulbeckia*. Sown and treated as described for the *Saponaria*, it keeps good the whole season, and is very useful, though laying no claim to the light, airy elegance of its pink rival. As seeds are sometimes scarce, it is easily kept over the winter, in the state of small cuttings, inserted thickly in a box of sandy soil in September.

Cinerarias.—Those for winter-blooming should, as soon as possible, have their final potting into good, light, rich soil. Until the cold nights come these plants cannot now be too cool. A north aspect, with plenty of a free circulation of air, will suit them best. If in pits or frames, with a south aspect, they should stand at least one-and-a-half to two-and-a-half feet from the glass—the glass be shaded in the fiercest sunshine, but plenty of air back and front. On a shadier aspect they will want no glass in such weather as we now have; but, if heavy rains come, they should not be washed mercilessly. It is quite time enough to sow for plants to bloom in April and onwards, and good sorts intended for the same purpose should now be divided into small pieces, or the small suckers that generally throw up after the plant has been cut down and planted out, taken up and potted separately. We advise all who have a real taste for floristry to consult lists lately given by Mr. Appleby. To those with humbler aspirations, and whose estimation of the beautiful is not sufficiently refined to suit a florist's fancy, who, in fact, can see elegance in many a shape beside the circular in outline, and can admire one colouring even though the petals be somewhat starchy, in imitation of the spokes of a wheel, and whose means of gratifying their taste consist more in the attentions of head and hands, than in prolificacy of £ s. d., to procure at once a packet of *Cineraria* seeds, sowing part now and part again in the spring.

Calceolarias.—Herbaceous.—If these have been sown and pricked out, keep them in the coolest place, and sprinkle and water them with the coolest water you can

find. Take means to prevent a heavy shower, when it comes, drenching and tearing them out of their pans or pots. The smallest of these plants, if grown on, will be large enough for early spring blooming, and it is always difficult to get them to look well in the dog-days, just because the weather is too hot for them. April and May are the months for seeing good plants in all their glory, though in a cool season they will be found good in June. Complaints are coming in of not getting the seed up, and for the somewhere about dozenth time I repeat the process. Take a six-inch pot, or any other according to your fancy, fill it half full with drainage, then a third of the remaining portion with rough, lumpy pieces, the size of Beans, of sweet earth, such as peat and loam, then an equal quantity of finely-sifted, rich, sandy soil, half a quantity finer sifted still, with more sand in it. Press these firmly down, and there will be half-an-inch or so left to the top of the rim of the pot. Then water them thoroughly; nothing is better than allowing the pots to stand up to their rim in a tub of water for an hour; then set the pots cut, and allow them to drain thoroughly for the best part of twenty-four hours; then scatter the least quantity of silver sand, or any other, fine enough, on the surface; press slightly again with a board, sow the dust-like seed, scatter the merest slight quantity of silver sand over them, press again, and place a square of glass over the pot, and if the seed is worth anything, you will know all about it before many seven days are over. "But where put the pot when thus sown?" Aye, that is something. In August, and a warm September, you can scarcely have a place too cool. I sowed some three weeks ago, everything just as described above, then a handlight was set on gravel behind the north side of a fence; the handlight had a moveable head, to lift off and on; the lower part was merely filled with rough coal-ashes. In these the pots were plunged, and the square of glass placed over each pot, and the top of the handlight over all. In a day or two, the ground outside the glass was watered, and every other day or so, as it was hot, the cinders inside got a soaking from the spout of a small watering pot, but never a drop went into the seed-pots until they were up and fit to prick out an inch apart or so. Now from this judge of your conveniences, and act accordingly. Succeed thus with the *Calceolaria*, and a great result will be gained, and you will have little difficulty with any other dust-like seed. The system is based on the principle of supplying the seeds with all they want for becoming plants, without drenching them and washing them overboard by a streamlet from a water-pail, though the clever wight who handled it might so keep the secret to himself, that seed and seedsman might be held guilty, when all the crime lay in another quarter. If even trusty Friday is not thoroughly initiated, you must hit upon a plan for keeping him and his water-pot from the near neighbourhood of such small seeds, or we hold out small hopes of your ultimate satisfaction.

About a month ago, my noighbour, Mr. Fraser, had a fine quantity of seedlings coming up in a snug corner out-of-doors, just where two walls met with an acute angle. The respective pots were covered with squares of glass. His flowers last season were striking from their variety, beauty, and goodness of form; and if care in hybridising will take us back to, or beyond, the results that Mr. Kinghorne reached, we may expect something good next season.

Hard-wooded Plants.—This is just the season for ripening the wood of Azaleas, Epacris, Heaths, &c., but while they receive plenty of air, and an almost unshaded sunshine, see that the pots are protected from the sun's rays, by plunging—putting a piece of matting on a board in front of them. Large hardier plants, set out-of-doors, may be easily protected with mounds of earth, sand, ashes, &c., piled on the south, and a little to the

east and west sides. This allows the air freely to circulate round the most or all of the pot, according to the care exercised, and yet prevents the scorching heat drying and parching the roots.

Nerium Oleander.—If the directions given in previous volumes have been attended to, there will be rare flowers on this plant next spring and summer. Keep the plants now as much in the sun as possible, and give no more water than will keep the leathery leaves from getting flaccid. Secure the pots from the intense heat. A clever young blue aproner will be apt to recollect all about this; and if he had been a Northerner, he would set to scratching a bump above the left ear in desperation. Some plants had been grown on the succession system—so many shoots to bloom this year and so many the next. The shoots done blooming were to be cut out, and the rest retained and tended accordingly. But this was a round-about mode, and the knife soon stumped the whole concern, and large plants too. Our readers will recollect that the bloom is produced this year on the well-grown and well-ripened shoots of the preceding year, and that, therefore, according to the treatment, the same plant may bloom every year, or every other year.

Cactus.—A similar remark applies to this tribe, especially all the more succulent and thick-stemmed ones. Guard the pots from the sun, and you can scarcely give them too much direct and powerful sunlight, while the watering, if given at all, must be reduced to a very minimum. A sprinkle over-head gently with the syringe late in the afternoon will be preferable to lashing much water at the roots.

R. FISH.

ENVILLE HALL.

THE SEAT OF THE EARL OF STAMFORD AND WARRINGTON.

The large conservatory at this place is progressing rapidly, and will be ready for the plants before Christmas. It is to be a noble building, and, if I am spared, when it is finished, I shall, I hope, have the pleasure of seeing it, and giving a description of it for *THE COTTAGE GARDENER*. Large Orange-trees, Camellias, and Azaleas, and various other suitable plants are all ready in other houses, so that it will be furnished at once, as soon as it is finished. As far as I could judge by its present appearance, it will be unique, and present some points quite new, even in this age of Crystal Palaces.

The grand attraction here, now, is the Flower-garden, and, as I conceive there are few to surpass it in the kingdom, I shall endeavour to give a full description of it. That part more especially devoted to the bedding-out system occupies, as far as I could judge, about three or four acres. The beds are round, of sizes varying from five feet to ten feet diameter.

A winding broad walk leads from the mansion to the conservatory. On the upper side of the flower-beds another serpentine walk leads on the lower side, leaving a broad margin of turf, and a border of flowers and shrubs below it, next the boundary. A winding walk runs across the flower-garden near the centre. The beds are slightly grouped, surrounded with beautiful green, soft turf, or lawn. The upper side of the upper walk is occupied chiefly with groups of large trees with drooping branches creeping on the ground. These are fine objects, but—as I described them fully in a former communication I shall not repeat the description again. Close to the walk, I noted some small beds with three *Humea elegans* in each. These had a very beautiful effect, their rich brown feather-like branches of flowers waved gently with the slightest breath of air. The placing of this elegant plant in groups of three, on the sides of a winding walk, has much better effect than a formal straight

line. To cover the bottom of the stems, Verbenas were planted, which took away the nakedness of the soil, and hid in a measure the stems of the Humeas.

In the space I have described between the walks, I counted between sixty and seventy beds, furnished with the following plants. I took the names as I came at the beds from the mansion.

1. Geranium, *Hendersonii*; a white free-flowering variety.

2. Geranium, *Sidonia*; well-flowered.

3. *Bouvardia splendens*; a fine scarlet, but does not bloom well.

4. *Calceolaria superba*; a large flower, a hybrid between Sultan and Kentish Hero.

5. Phlox, *Mayii variegata*; a striped variety of the *Drummondii*.

6. *Calceolaria*, Gem; a peculiarly rich, shaded, dark, shrubby variety.

7. Geranium, Tom Thumb; finely bloomed. Mr. Aiton recommends old plants, as flowering more freely than young ones.

8. *Verbena*, Mont Blanc; white.

9. Phlox *Drummondii*; rose-coloured variety.

10. *Calceolaria amplexicaulis*. This is the hardiest and most free to flower of all the yellow *Calceolarias*.

11. *Heliotropium corymbosum*; the best for bedding.

12. Phlox, *Rhadetzki*. This is a splendid thing for a small bed, the flowers are in the way of *P. Mayii*, but of a purer white, and more brilliant scarlet stripes. Every body ought to have it, either for pot culture or for bedding.

13. Geranium, *Lucia Rosea*; Tom Thumb's Bride is better.

14. *Calceolaria*, Gem.

15. Geranium, Purple Nosegay.

16. *Calceolaria*, *Phœbus*; suitable for small beds, because it is very dwarf, with small, shaded flowers.

17. *Verbena*, Emma; a good old blue variety.

18. Geranium, Mountain of Light. The most effective of all the striped or variegated Geraniums, at least, it was so here. It is impossible to describe the rich effect it had. The glowing scarlet flowers, on the most pure white and green foliage, gave it such a rich appearance, that all the other beds were quite put into the shade. I considered it the best bedding-out plant in the garden. Mr. Aiton plants this and all other strong-growing Geraniums out *in* their pots; this prevents their making gross growth, and causes them to flower more freely.

19. Geranium, White Unique; well bloomed.

20. *Verbena*, Etoile de Venus; a light variety, with dark eye, truss and flowers very large.

21. Geranium, Boule de Nieve; a good white variety.

22. Geranium, Cerise Unique; deep rose, with transparent stems.

23. *Verbena*, *Hendersonii*; dark.

24. *Verbena*, Emma.

25. Geranium, Tom Thumb.

26. Geranium, Pink-flowered Ivy-leaf.

27. *Petunia*, Shrubland Rose; the best for bedding.

28. Geranium, *Lucia rosea*

29. *Oenothera macrocarpa*; with large yellow flowers, very fine.

30. Geranium, *Virginianum*; pure white, large flowers. When this is cheap it will be much sought after.

31. *Verbena*, Etoile de Venus.

32. *Ageratum mexicanum*.

33. Geranium, Mangles's Silver Bedding.

34. *Calceolaria amplexicaulis*.

35. *Myosotis arvensis*. This was covered with its tiny blue flowers, and was very effective when close to it.

36. Geranium, Tom Thumb; a scarlet.

37. *Calceolaria*, Gem.

38. Geranium, Mountain of Light.

39. *Verbena*, Emma.

40. Geranium, Flower of the Day; very fine.

41. Geranium, *Lucia Rosea*.

42. Geranium, *Conspicuum*. This may be called the Crimson Unique.

43. Geranium, Unique—the Purple or Rollinson's; a fine variety.

44. Geranium, Mountain of Light.

45. Geranium, Flower of the Day.

46. *Lobelia erinus grandiflora*; a very dwarf variety.

47. Geranium, the old *Variegatum*.

48. Geranium, Shrubland Pet; flowering freely, and the cause was it being planted out *in* small pots.

49. *Calceolaria*, Gem.

50. *Calceolaria*, *Frostii*; a yellow variety; a fine bloomer.

51. Geranium, Tom Thumb.

52. *Nicrenbergia gracilis*.

53. Geranium, Harkaway; a small red-flowering variety—

54. *Verbena*, Perfume Madeliene; dark and good.

55. Geranium, Commander-in-Chief; a better scarlet and finer flower than *Cerise Unique*.

56. *Verbena*, Etoile de Venus.

57. *Heliotropium*, Triomphe de Liege; a large grower.

58. *Verbena*, Mount Blanc.

59. Geranium, Trentham Rose; a beautiful new Rose-coloured variety, with large trusses.

60. *Verbena*, *Hendersonii*.

61. Phlox, *Drummondii*.

62. *Calceolaria*, *Amplexicaulis*.

63. *Heliotropium*, *Voltaireanum*; too dark leaves and flowers to be effective in beds.

64. *Lobelia erinus grandiflorus*.

65. Geranium, Flower of the Day.

66. *Calceolaria*, Gem.

67. *Calceolaria*, *Phœbus*.

68. *Verbena*, Orion; a light variety, spotted with maroon.

69. *Verbena*, Emma.

On the upper side of the upper walk there were some large beds, which appeared as if they had straggled away from the others. There were, 1. Geranium, Tom Thumb. 2. *Lobelia*, Prince Leopold. 3. *Lobelia*, Queen Victoria, in the centre, and St. Clare on the outside. These *Lobelias* belong to the tall variety, and were well-grown and finely bloomed.

In the higher parts of the pleasure-ground there are large clumps of shrubs, such as *Rhododendrons*, in masses, Portugal Laurels, *Laurestinus*, Common Laurels, &c. These clumps are of irregular forms, and placed at wide intervals from each other, leaving large plots of lawn between them. On these breadths of turf there are several circular flower-beds planted with similar flowers, with this difference, that many of them are edged with variegated Geraniums and white-leaved *Alyssum*. I believe it is intended, another season, to carry out this edging system throughout the whole of the beds. At Trentham, and some other places, the Ribbon system of planting-out bedding-plants has been practised for several seasons, but chiefly, if not entirely, in straight lines, by the side of straight walks. At Enville, the same system is carried out very largely, with this difference, that they follow the walks and borders, which are all curved. This is certainly more beautiful than the formal straight lines, though that, in one instance, may be seen here too. The following are the plants made use of for this purpose:—1st. Ribbon, front row; Golden Chain Geranium; next *Lobelia racemosoides*; next yellow *Calceolaria*; next Scarlet Geranium; next white Phlox. 2nd. Ribbon, in a different part of the ground; Golden Chain Geranium; scarlet *Verbena*; yellow *Calceolaria*; *Lilium Lancifolium*; backed with very tall Scarlet Geraniums. 3rd. Ribbon; Variegated *Alyssum*; Scarlet Geranium; yellow *Calceo-*

laria; backed with the purple Dahlia, Zelinda. I thought this last had the best effect of them all, chiefly, perhaps, because the plants were all in bloom together at the time I saw them.

The above is a very slight sketch of the flower-gardening at Enville. The extent is really amazing. It is only in such extensive grounds that the bedding-out system is really handsome and effective. The only regret is, that the season for blooming is so short, lasting only in perfection from July to the end of September.

The beds of *Geant des Batailles* Rose were just putting out a second crop of their splendid high-coloured blossoms. To take away the naked effect of the stems, Mr. Aiton had planted the beds with the different varieties of German Stocks. These were in good bloom, and the practice is, I think, good, and worthy of imitation wherever standard Roses are grown in beds.

An old tree stump was completely hidden by summer creepers, such as *Tropaeolum canariense*, *Lophospermums*, *Cobæas*, &c.; thus an unsightly object was rendered very beautiful. In different parts of the pleasure-ground, I saw three Larch poles, with short stumps left on them, placed about two feet apart at the bottom, and meeting at the top. Up these were trained the *Tropaeolum canariense*, which had reached the top, and hung down in graceful festoons. At what a slight expense beautiful objects may, by the hand of taste, be created. In one place, I saw a large tent formed with bended rods, clothed with the *Fuchsia Carolina*, with its charming scarlet and purple blossoms hanging down in great profusion.

The beds of shrubs referred to above have been planted about seven years, and have grown most surprisingly for the time. I was informed that the ground had been trenched two or three feet deep for them, well drained, and that was the cause of their great luxuriance. They are valuable now for transplanting, where immediate effect is wanted. Amongst them had been planted many of the upright growing Coniferæ, such as *Cupressus Lambertiana*, *Juniperus excelsa*, *Thuja Siberica*, and others. The evergreen shrubs sheltered them, and they are now fine specimens. Other Coniferæ, of different habits, had towered above the shrubs, especially a fine *Pinus macrocarpa*, which, in the seven years, has attained twelve feet in height, and several *Deodars*, also, had made equally rapid progress. This great success in the culture of shrubs and trees shows, practically and demonstratively, the wisdom of duly preparing ground for such plants. It is even economical in the end, not only because the trees thrive well, but also because such plantations soon require thinning, and furnish excellent trees and shrubs for future plantings on other parts of the ground.

The Pleasure-grounds here are situated on a rapidly rising ground, and then the great advantage of planting such rather tender trees as *Taxodium sempervirens*, *Cedrus deodara*, *Cupressus Goveiana*, *Cryptomeria japonica*, on elevated positions. In the lower parts, these have suffered from the late severe weather, but in the higher ground they have not a twig injured.

A landscape gardener might take many a useful lesson from the manner in which the grounds are laid out here. One front of the mansion is occupied by the flower-garden described above; another, by the shrubberies and ornamental water; whilst the entrance front is simply devoted to the carriage drive, with an extensive lawn, and distant views of the hanging woods and groups of noble trees, judiciously disposed so as to give light and shade. The poet Shenstone, some hundred years ago, displayed his taste in planting and arranging these trees, and they show what genius can accomplish when directed to embellishing natural scenery.

This fine place has been thrown open to the public, free of charge, every Tuesday and Thursday, and the

liberal and noble-minded proprietor must be highly gratified to see the numerous groups of happy faces preambulating the beautiful grounds, and truly enjoying the sight of lovely flowers, beautiful shrubs, and noble trees, so beautifully displayed to their delighted eyes. I was there on one of those days, and really the sight was astonishing. The towns of Birmingham, Dudley, Stourbridge, Wolverhampton, sent forth their hundreds of the working classes to have a holiday indeed. What a different scene for them to their every-day occupation. The poorest mechanic, the collier, whose days are spent in the dark bowels of the earth, the smelter of iron ore, and all the other health-destroying occupations in the *black country*, here meet together to enjoy the pure air, the green lawn, the lovely flowers, and the quiet shade of the forest and the mountain. Surely, such a sight is most highly interesting to a philanthropic mind. Such scenes must have a tendency to make such people happier, and improve their taste and morals. With the very fewest exceptions, the people conducted themselves with the greatest propriety. I was glad to see some of the higher classes amongst them, mixing with them, and, by their presence and conduct, no doubt restraining any improper behaviour which the less-informed might have displayed. The jets of water which Lord Stamford has, at a great expense, formed, were, unfortunately, not playing, some little improvement in the machinery being going on. I was sorry it so happened, as I was told the effect is very fine.

I took a long ramble in the extensive woods and forests near to this place, belonging to the noble proprietor. I found in one large tract an open space left, and formed into a winding race-course, independent of which use it is a most delightful promenade or drive. In walking round, I noted several varieties of the common Scotch Fir, very distinctly marked; one had short leaves and a dwarf habit, very much like *Pinus pumila*, with a more upright habit; another had long leaves, of a rich silvery hue, approaching *Pinus excelsa*; whilst a third had dark green foliage, and a strong habit, like *Pinus Austriaca*. These were self-sown seedlings growing in the open glades between the old woods. The space of the country occupied by the race-course and Fir plantations was formerly an open moor, covered with the wild Heath. The soil is thin and poor, yet the trees have grown well, and the country is now clothed with them. Is not this an encouragement to gentlemen possessing large tracts of such apparently useless land, to plant it, and thus embellish and render more valuable such wastes—making the wilderness to shine?

In another part of the estate, I was delighted to find a goodly forest of noble Oaks, from sixty to eighty feet high, the ground on which they were growing was of a stronger texture and deeper tilth; hence, the Oak had prospered.

The new Kitchen-gardens are approaching now to a finish. To take away the raw appearance of the brick-walls they have been washed over with Roman cement, which gives them a soft, subdued effect. The fruit-trees are making good growth, considering that they were planted rather late in the spring.

In a secluded part of the grounds, I came, unexpectedly, upon a small flower-garden, a unique greenhouse, a pheasantry, a rustic pigeon-house, with the under part devoted to a collection of the varieties of the rabbit. This part is especially for the private amusement of the Countess of Stamford, and is managed chiefly by herself.

To sum up the whole, Enville Park is certainly a most delightful place, well worthy of a visit. I spent two happy days there, and cannot let this opportunity pass, of paying deserved praise to Mr. Aiton, the skilful gardener, as well as to the liberal spirit of the owner. Together, they have made Enville so attractive, and, when all the

intended alterations and improvements are completed, there will be few, if any places that will surpass it.

T. APPLEBY.

ENDIVE FOR WINTER SALAD.

THE improvement in the varieties and culture of winter Lettuce, has, in a great measure, driven this salad herb into disrepute, or, rather, it has been driven to find a place in some less favoured situation than the one it formerly held. Sheltered gardens, in the south of England, in which Lettuce will stand the winter when of a good useful size, seldom have so much Endive in them as they used to have some twenty or thirty years ago, unless it be in some of those cases where it is grown for some particular purpose; while in cold, late, or exposed situations, where the prospect of carrying Lettuces through the winter is very uncertain, Endive is planted to as great an extent as ever. It stands most winters, when in a small or half-grown state; yet it also keeps well when in that full-grown condition which makes it fit for table. It can then be taken up and stowed away in a cool, dry place without much detriment to its quality. This is one of its most useful features; for it does not only furnish our tables with a nice looking Salad at all times during the winter, but it may be carried right through until spring; in fact, up to the period when Lettuce may be looked for again; for, after all that has been said in its favour, it is, at least, only a substitute for the more popular Lettuce.

To have a constant supply of Endive, seed must be sown every ten days, from the first of June to the middle of August; the latter sowing may, however, be omitted, when there is a chance of Lettuce standing that was sown at that time.

Like many other garden vegetables, this plant delights in a deep, rich, loamy soil, not wet, certainly, but sufficiently deep and moist to ensure its thriving well during the warm month of September, when that month is so. The planting-out may be accomplished at any time, whenever the plants are sufficiently large for the purpose, and the weather favourable.

There are two distinct kinds, each divided into minor varieties; but these are not so prominently different as the former; for *Batavian* and *Green-curled* Endive have little resemblance to each other; the last-named being certainly most grown, it being capable of blanching, so as to present the most showy feature at table. Nevertheless, the other one is also useful, and, being more hardy, is of great service in the spring, so that both kinds are grown, generally, by all those who require winter salading. One thing, however, must be borne in mind,—both these plants require attention in the way of blanching at the proper time, and as good a plan as any is to cover each plant with the pan of a flower-pot. Pan-tiles are not bad things that way, and even commoner articles are sometimes made use of, the object being to seclude the interior of the plant from air, light, and wet, at the same time taking care that the process is not continued too long, otherwise, the vital powers of the plant fall a prey to the ordeal it has to undergo, and decay and destruction are the result; it is, therefore, prudent only to cover up a sufficient quantity for the use of the time being; and to continue doing so from time to time, and in about a fortnight it will be fit for use; in fact, it will be ready sooner than that in spring, when the fine weather accelerates its growth; but in mid-winter, when the plant is all but in a dormant state, a longer period is wanted to enable the blanching or bleaching purpose to become perfect.

Endive is often grown on ground that has previously had a crop of Peas, Beans, or Potatoes, any of which crops it prefers to follow rather than any of the Cabbage tribe; but whichever it is, a good dunging is wanted,

otherwise the greedy appetite of the plant is not satisfied, and a corresponding want of crispness is the consequence. This, however, is not alone the result of the ground being too poor, but may arise from the blanching process being delayed, and, probably, the admission of a greater quantity of light into the centre of the plant than is consistent with the quick bleaching purpose in view, while, at the same time, the plant being allowed to feed on the atmosphere, it struggles to maintain that colour which all natural objects of the vegetable world, more or less, strive to attain; this accession of light, and of water, must, therefore, be arrested, and the plant promptly covered up as above. At the same time, endeavour to have the plant in as dry a condition as possible at the time of covering up.

Supposing there is a sufficient quantity of such plants ready blanched by the middle of December, and things seem to betoken hard weather, it is then advisable to take up a quantity with good balls, and lay them in some dry, airy place, as a back shed, or out-house. Very little light is required, as it would be better to leave the covering pan on still. Sand is a very good thing to plunge them in, as it is less liable to encourage decay than soil, and, as will easily be seen, the growing period is over before they come here, except so far as the blanching is concerned, which can hardly be called a healthy growth, since it is evidently the first process of that dissolution which ends in the death of a plant, which process is either hastened or retarded as the blanching is performed quickly or slowly. The latter is most commonly the case in mid-winter, when the vital action of the plant is so sluggish.

Although, at the time I write, nothing in the way of blanching Endive is needed, yet it is time that a good breadth should be planted; and, believing it to be a particularly wholesome article in the salad way, it is advisable for all who have not grown it to commence doing so at once, and procure a few plants from some one having them to spare. In a mild autumn it continues to grow very late, and the *Batavian* kind will endure very severe winter, but is certainly better when the cold is not so severe. For the kind wanted in early spring, a south border is usually allotted; but this is not absolutely necessary for all; in fact, the mere winter crop is, perhaps, better for not being planted so, only it is prudent that the position chosen be an open, airy one, where the plant will have a fair chance to get dry every fine day. In all other respects there is nothing particular required, and the plant will grow and thrive in most situations, when a sufficient stimulant has been applied to its roots; but, as has been observed in a former chapter, this is not so necessary with the winter-standing crop as with the autumn-growing one. J. ROBSON.

HARDY BORDER PLANTS.

GALEGA.

This genus belongs to the natural order of Leguminous plants.

GALEGA OFFICINALIS, commonly called *Gout's-Rue*, is a native of Spain, and was introduced into this country in the year 1568. This plant forms one of the most ornamental bushy bunches that we can have in our borders. It is a strong and free grower. Its fleshy roots are long and tapering, but the plant is by no means a spreader; and once well planted it might stand and form a very compact ornament in the same spot in the borders for several years; care must be taken, however, not to injure its roots at the times when the borders are being dressed off, and any soil or situation suits it. Its height depends upon the richness of the soil and the situation it is planted in, varying from two-and-half to even four feet, flowering equally freely in either case. Its blossoms are of the most lively light

blue colour; they are produced from the axils of the leaves, in clusters or bunches upon long flower-stalks, making the plant altogether useful where nosegays are in much request. It commences flowering about the first of July, and continues growing and flowering until the end of September. So long as the plant continues to grow, so long it continues flowering; and should it appear to grow too large it bears to be nipped in, or some portion of its side-shoots or tops shortened in so as to suit the situation, or prevent its overshadowing other plants. It should be planted as a back or middle-row plant in the borders; and it will require to be supported by a strong stake and neat tie in due season of its growth. It is readily increased by root division in open weather during the spring months. At the same time, we may remark, that this good-natured plant might be planted at any season.

GALEGA OFFICINALIS ALBA, is a white variety of the preceding species, and is a plant equally desirable to possess. Indeed, I know of no two plants that are more desirable to have in a flower-garden as back or middle-row plants. They are of handsome growth, well clothed with neat pinnated leaves, and produce a profusion of bloom for a great length of time.

GALEGA ORIENTALIS, or Eastern Goat's-Rue.—This is nothing like such a handsome and desirable plant as the previously noted species, though one likes to have it for the sake of variety, where plenty of room and a love of flowers prevail. Its blossoms are of a deep and pretty blue colour, produced in a spike-like form. Its leaves are larger than in the *G. officinalis*, and it is of a run-about habit at the root, particularly in light soils; therefore it requires to be oftener taken up, and replanted, in order to keep it in compact bunches. It is a native of the Levant, and was introduced to this country in the year 1804.

CORONILLA.

CORONILLA VARIA.—This, the hardy herbaceous Coronilla, also belongs to the natural order of leguminous plants, and a very desirable hardy border plant it is. It is a native of Europe, and was introduced to this country in the year 1597. Its flowers are produced in round heads upon rather long flower-stalks, very similar to the common *Coronilla glauca* of our greenhouses; but they are of a pale purple or pinkish colour. It is a very free-growing plant, and also a very free bloomer, continuing flowering for a long time, from July to the end of September. It is of a spreading habit at the root, particularly in light, rich soils; but of such run-about plants the suckers should be continually pulled up as they appear, unless a few should be required to give to a friend, or for increase. The main plant should be attended to in due time, as to sticking and early tying up, as it is of a decumbent habit, and when once its stems have been allowed to run about of its own accord for a time, and then comes to be tied up to a stake, the result is, the plant is then very much deformed, and seldom ever looks tidy all the season. When tied up in time, and again when it requires it, and the suckers kept clear away from it, this plant forms as neat and compact a bunch in the borders many years in the same spots without having any occasion to replant it; and rises from one-and-a-half to three feet in height, serving well as a second-row plant in the borders. If this plant is neglected it will soon run over a whole border, and have the whole to itself. A small bed of it would not look amiss, but quite the contrary; and I have seen it so. But where I have a selection of mixed hardy border plants, I like to see them in medium-sized bunches, and all partaking of an equal share of air and light. Therefore, to carry out this purpose, attention must be paid to early sticking, trimming, and keeping free from suckers and the like.

T. W.

POLAND *versus* HAMBURGH.

An article from the pen of Mr. Brent, in *THE COTTAGE GARDENER* of August 22nd, refers to the old subject of "Poland *versus* Hamburg." The argument there employed embraces several distinct points: in the first place, "Polands," and "bearded Polands," which Mr. Brent would style Hamburgs, are regarded as of distinct origin.

This is, of course, opposed to the now general system of bringing all the regularly-tufted fowls into one class as "Polish" (a more correct designation, by the way, under any circumstance, than "Poland"). To justify the proposed alteration, it should, therefore, be required, that strong evidence of the individuality of the two species should be forthcoming. But Mr. Brent, in his recent paper, adds little to his former arguments against the present system. We strongly object, however, to his derivation of Poland, as a corruption of "polled-ben;" to "poll," being given in Johnson as equivalent "to cut off hair from the head," "to clip short," "to shear;" it is difficult, therefore, to conceive how such an epithet could ever have been applied to a fowl conspicuous by its exuberant topknot.

Careful examination, and continued enquiry, reassure us of the correctness of the opinion, that the early history of the "Polish" fowl is most unsatisfactory, and that facts are altogether wanting to bear out the presumed distinction between the birds so-called, and those which Mr. Brent would term "bearded Hamburgs."

Uniformity, beyond all doubt, would be far too dearly purchased by the sacrifice of truth, or the misrepresentation of a single positive fact. When we have, therefore, urged the advantage of adherence to what has now become the generally-recognised system of nomenclature of nine-tenths of our Poultry Societies, numerically considered, and of nineteen-twentieths of them, if we regard their relative influence and importance, it will be evident that any resignation of the principle of "uniformity with all attainable accuracy" was most remote from our intentions.

But Mr. Brent has strong objections to the application of the term "Hamburg," to the fowls commonly shown under that name. So far as the Pencilled birds are concerned, "Hamburg" seems by no means an inappropriate name. For although Holland may now be the principal source from which our markets are supplied with them, the city whence their designation has been taken, was, in former days, the scene of many exportations. Whence they might have originally come there, we have no certain data on which to form an opinion; they might, possibly, it is true, have been brought from Spain or Turkey; but that, again, is a mere surmise, and an appellation on that ground would be liable to still graver objections than the one they now bear. But this suggests the consideration, that if we get rid of the name "Hamburg" (we are speaking simply of the Pencilled birds), we must supply its place; and is this to be effected in any way without still more exposing ourselves to this charge of inaccuracy? "Dutch Every-day-layers," "Creoles," "Prince Albert's Fowls," "Bolton Bays and Greys," "Chitteprats"—these are all synonymes; and will the use of any of them avoid the objections to which the term "Hamburg," in this case, may be open; or will any new designation be more apt in this respect?

Let us now pass to the Spangled birds. Here, indeed, little can be said as respects their geographical title to the term "Hamburgs." Whatever may have been their origin, for a long time past it is certain that they have ranked as peculiarly an English breed. But, even in this instance, it may be fairly asked, what good is likely to result from the adoption of any one of their various synonymes? for even our opponents in this matter will hardly tolerate the application of more than one, if, at least, any definite classification be their object. "Gold and Silver-pheasant fowls," "Moonies," "Red-caps," and "Mop-fowls," are the principal synonymes in use; and is the substitution of any one of these likely to be favourably received, or to clear away existing confusion? We think not; and if it be objected, that at the best this is merely negative evidence for the continuance of the term "Hamburg," we reply, that the formation of the comb, the colour of the ear-lobe, as also of the legs, their properties as non-sitters, with the common distinction of the two colours into which each race is subdivided, point to the possession of common features, which, in the absence of a better-grounded designation, may, at least, tolerate the common name hitherto applied. Our opinion has been often expressed as to the entire absence of any "relationship" between the Pencilled and Spangled birds, so that our meaning can hardly be misunderstood. The synonymes we have just mentioned, are, in some instances, erroneously drawn; in others, they are mere pro-

vincialisms, or vulgarisms, deriving their origin from some single feature in the bird. Mr. Brent, admitting the objections against their being called "Pheasanted" fowls, says—"It is easy to correct such ignorance by reason without giving a false name to a breed of poultry." But we hardly see how reason is to correct the error, if the admitted faulty nomenclature should be persisted in. Few will be capable of continuing the use of a name without, more or less, retaining, at the same time, the erroneous reasons that led to its use; and the mass of the people being those for whose information all such systems must be designed, are also those who would be most likely to derive such false impressions.

Mr. Brent, lastly, alludes to the alleged misnomer of the "coloured Dorking." Our views coincide with his own, in thinking it highly probable that the progenitor of the Dorking race was "a white bird with a rose comb." But is this fact so established as to do away with any pretence, on the part of the coloured birds to the title they have so long borne? Scarcely, we think, can it be so considered, unless it is capable of proof that none but white birds were, at any specified period, in former years, called Dorkings; and this evidence, so far as we can learn, is wholly wanting. Custom, therefore, manifestly sanctions the assumption of this name by the coloured variety; and without stronger arguments for the exclusive ownership of the term by the white, and its rejection from the other variety, we are content to abide by present rules, which, to say the least, are uncontradicted by the usage of very many years, and are, moreover, reconcilable in every respect with our present knowledge of the breed in question.

The term "Surrey" or "Sussex fowl," our readers need hardly be reminded, is applied to birds of the Dorking character, but minus the fifth toe.

Thus far, in justification of the present application of the word "Dorking;" but, as with the Hamburgs, let us see how, and in what manner, the proposed change of name might be effected; for surely, the argument that would disprove the use of a given term in reference to any object, requires its advancer to state his opinion as to what should take the place of the exploded appellation. "Surrey or Sussex fowl," would be substituted. But ambiguity, from the indefinite character of such an application, it will be observed, would be thus perpetuated, and the peculiarity that has been recognised as characteristic of the Dorking race, the additional toe, would also be thus at once swept away. The white Dorking, we imagine, cannot be identified with the town that gives the name, any more than its coloured cousin, which, however originally descended, has been long known by the title it now bears, and, so far as credible authority exists, appears justified in its retention of it. Here, however, as before, usage is a material witness, and the Natural History of fowls having only very recently been considered a worthy subject of study and enquiry, the chances of additional light being thrown upon the subject from well-authenticated accounts of the practice and opinions of former days is so remote, that little, if any, aid can be thence expected. In this emergency, we take the name as we find it, seeing no prospect of bettering it, unless, indeed, to avoid controversy, we adopt the term "five-clawed fowls," subdividing these into white and coloured. But the present classification is sufficiently distinct, and by it the merest tyro in the poultry-yard ascertains the many distinctions by which he recognises the Dorking of either breed.

If we hesitate, therefore, as to any advantage from disturbing the present arrangement of the Hamburg classes, still more doubtful are we of the policy by which a similar change would be effected with the Dorkings. If, however, facts should hereafter be elicited, which may throw further light on the original descent or habitat of either one or the other, we shall never be found reluctant to give them due weight, in the reconsideration of this or of any other question.

But after all, unless we are greatly mistaken, the "specific distinctions of the various breeds of fowls" is a subject on which the opinions of many of our most experienced poultry-keepers would be at variance. What constitutes such individuality, however, is a topic that would lead us far beyond our present allotted limits.

- SOWING WHEAT EARLY.

IN addition to our main breadth of Wheat grown this year, at one foot apart, which is extraordinary fine, with most ears containing from eighty to one hundred grains, not yet thrashed, and, therefore, we are not able to give a result of at present; we have experimented on one square yard of *Piper's Thicket*, at six inches apart, or eighteen plants, equal to something less than one peck of seed per acre. The result is, one plant failed, and the remainder produced 466 ordinary ears; one plant inadvertently crept in close to another, which produced only six weak ears, whilst the other sixteen averaged about twenty eight ears, at forty grains each (not extraordinary). The exact produce is one quart, equal to eighteen quarters seven bushels and one peck per acre! This was sown at the end of August, with our main breadth. The stubble is reserved for the inspection of anyone who may doubt this statement as being correct.

N.B.—We also sowed a small plot last July, which proved productive, in a superlative degree, with ears surpassing any we had ever before seen, but, unfortunately, the birds devoured it all, notwithstanding it had been netted to protect it! It stood the winter well! We sow this day for main crop next season. September 1st, 1854.—HARDY AND SON, Maldon, Essex.

NOTES FROM PARIS.—2.

FRENCH BOUQUETS.

BESIDES the general fête days, such as Easter, the Napoleon anniversary, &c., for which business and work of all kinds is suspended, the Parisians observe, more or less, such religious fêtes as are dedicated to particular patron saints, as St. Louis, St. André, St. Pierre, and other personages illustrious in ecclesiastical history. These occasions, however, cause but little interruption of ordinary business, though they afford extra exercise for the duties of the clergy, and others disposed for religious ordinances. But there is one circumstance connected with these fêtes which is worth notice, as it has a direct bearing on the cultivation of plants and flowers, and because it explains, at least, one of the reasons why their sale is so extensively carried on in every district of Paris.

Suppose, then, that it is the fête of St. Louis (which happened only a few days back), all persons bearing the name of *Louis* are entitled, on that day, to receive the felicitations of their friends, accompanied with the presentation of a bouquet, or a flowering-plant. It may be readily understood, then, that flower-dealers make extra preparations for such occasions, and, of course, they do not forget to set a higher value on their merchandise than they would be warranted in doing at other times. A large and beautiful bouquet may be had on ordinary days for twenty sous (10d.), or, at the very most, thirty sous (1s. 3d.); but on fête days these figures are nearly doubled for similar articles. It is pleasant to see with what care and neatness the flowers are arranged under the light canvass covering which protects them from the hot sun, and where *la marchande*, a jolly *commère*, or a blooming country girl, sits watching the enquiring gaze of every fresh comer, and eagerly soliciting an inspection of her varied stock-in-trade. And here, as elsewhere, market people are importunate enough in trying to entice purchasers. But it is not only fête days that contribute to the general commerce of flowers in Paris; for birthdays also require a like profusion of floral offerings, and it is no uncommon occurrence for the room in which an evening party is received, on the occasion of a lady's birthday, to be half filled with bouquets and flowering-plants in pots. No person goes to a birthday party without, at least, one bouquet, some take more, and even five or six as large and beautiful as can be had, are not more than etiquette sanctions. It often happens, indeed, that a lady will receive some twenty or thirty bouquets from the members of her own household alone, for the husband generally contributes "a good dozen," as the French say. Suppose, then, that the party includes twenty or thirty friends, each bringing, on an average, three or four bouquets or flowering-plants, some idea may be formed of the display which a birthday party presents in respectable society here. Hence, in the flower-

markets, we may often see smartly dressed gentlemen buying as many of the best bouquets and plants as a man can carry on his back. But the custom pervades all classes, more or less, and nearly all the year round the flower-gardeners in the vicinity of the capital are in full activity to keep the markets supplied. Orange-blossoms, for obvious reasons, and also young Orange-trees, are in much request at all seasons. Other sorts are taken as they come. At present, the commoner kinds of what we would call green-house plants are in great abundance, many of them trained in a variety of fanciful ways. Fuchsias in the form of little trees, Pelargoniums, Roses, Myrtles, Myoporum, Neriums, Veronicas, Dahlias, and Asters, are among the ordinary sorts. And now for a few observations on the preparation of bouquets, for which the Parisians have so much fame; and it would be somewhat strange if the French, who excel in everything relating to ornament, did not display particular taste and fancy in the arrangement of their flowers.

The Parisian bouquets may be ranged under two distinct classes—the *natural*, and the *artificial* arrangement. Both are constructed according to the same model, in the first instance, but not to the same extent; or, rather, at a certain point the one deviates from the model of the other, and in their general appearance they are very different. In the one form the flowers are more naturally placed, and more varied in their character, than they are in the other form, in which they appear as flat and formal as possible, and, consequently, only particular kinds of flowers are suited for this latter arrangement. Both are pretty, but the one is much more agreeable than the other. In the artificial form, all the flowers have a broad, flat surface, more or less; and as examples, the following may be named:—China Aster, Dahlia, Daisy, Scabious, Roses, Camellias, and similar sorts. These are arranged closely together in distinct circles, and the whole bouquet has an even and uniform surface, more or less convex. No leaves are seen, and, indeed, the flower-heads seem so packed together, so to speak, as to leave no room for leaves. But that is the object. These circles, however, are not always made up of one kind of flower, or of one colour, for different flowers, or different colours of the same flower may alternate in the same circle, provided this does not spoil the effect of the circle near it, and the evenness of surface required.

In the natural form the flowers are not packed close together by their heads, and although the same round convex outline must be preserved, uniform evenness of surface must be avoided. The flowers are not all equal in size; they are not all broad and flat, as in the other arrangement, for here such kinds as the Orange, the Myrtle, the Boronia, and the Veronica, are admissible. But they are arranged in circles, in precisely the same way, only the difference of the materials, and the presence of leaves, produces a very different effect.

The general form of a French bouquet is almost invariably round and convex, gradually falling from the centre to the circumference. It is never one-sided and sloping. The flowers are arranged in circles, and the number of circles, even in large bouquets, rarely exceeds six or seven. A large and conspicuous flower forms the centre, and fern fronds the outer circumference.

Besides the two forms of arrangement which I have described, and which may be taken as the types of French bouquets, there is a third form, which though it does not possess anything like a distinct character, it is yet more common than the others. Instead of a single row of flowers in every circle, small flowers are grouped together, so as to make each circle about two inches in width, and instead of one large, conspicuous flower in the centre, several are also grouped together. In this form the flowers are neither flat and broad like the Aster, or Camellia, nor graceful branchlets like the Orange, or Boronia, &c. They are usually such as Rose-buds, Fuchsias, Violets, Verbenas, and similar small kinds grouped together in the circle. But in every case the great object is to arrange the colours of each circle so as to give an agreeable aspect to the whole when finished. In general, strong contrasts prevail in the artificial form, but the natural form admits of greater harmony of colour, because the materials are more varied; the former is more or less *pretty*, at least, striking, but the latter is often more *beautiful*, and I think the distinction may be easily under-

stood. Foreigners, however, have a fancy for stiff uniformity. This is seen in their parterres, their clipped trees and shrubs, and the same fancy extends to their bouquets. It is only when a more than ordinary degree of good taste is exercised that we find a judicious compromise between extremes. In this case, the result is admirable, and it is shown in what I call the Parisian bouquet, *au naturel*, in which the flowers are selected with care, and the colours agreeably mixed, yet every circle preserved distinct.

The French bouquets afford much scope for the fancy in their construction, and this is, perhaps, more particularly the case with the strictly artificial form than the others, because the whole surface is even and regular, presenting, as it were, a flower carpet of Mosaic work in miniature. But though the Parisians have a lively fancy for contrivances and inventions, especially in matters relating to beauty in form and colour, they are tenacious enough of what they once adopt, and the "grouped bouquet" which I have noticed as the third form, is that most commonly seen, for it requires but little skill and time in its preparation, and is subject to no rule, except that of the circular arrangement.

With one or two exceptions, which I shall notice more particularly by-and-by, the following examples which I have only recently noted, belong, more or less, to this mixed class.

As I have already observed, it is usual to put a large and striking flower in the centre, and in order to fill up the space below the surface, a circle of small wild flowers, as "Forget-me-not," is formed as the first circle, but, of course, the flowers used for this purpose must be determined upon by the centre, which, in fact, forms the key to all the other circles, which, in the two first classes, are composed of larger flowers, all placed single in the row; but, as has already been hinted, the circles of the third class are made up of several small flowers grouped together.

EXAMPLES.

- No. 1.—Centre, *dark blue*, a group of large Pansies.
 1st circle, *bright blue*, mixed wild flowers.
 2nd do., *white*, Pinks and Rockets.
 3rd do., *purple*, Pinks and Rockets.
 4th do., *blue*, China Asters, with a white Rose-bud at every second or third flower, and placed between the last two circles.
- No. 2.—Centre, *red*, Rose-buds.
 1st circle, *white*, Pinks.
 2nd do., *blue*, Pansies.
 3rd do., *red*, Fuchsias.
 4th do., *white*, Pinks or Rocket.
 5th do., *red*, Pinks.
 6th do., *blue*, Centaurea cyanuse.
- No. 3.—Centre, *white*, Dahlia.
 1st circle, *blue*, wild flowers.
 2nd do., *red*, Pelargoniums.
 3rd do., *blue*, deep, China Asters.
 4th do., *red and white*, Fuchsias.
 5th do., *yellow*, Dahlias.
- No. 4.—Centre, *white*, Roses.
 1st circle, *scarlet*, Verbenas.
 2nd do., *white*, Pinks.
 3rd do., *purple*, Pinks or Rockets.
 4th do., *blue*, Centaurea cyanuse.
- No. 5.—Centre, *blue*, Forget-me-not.
 1st circle, *white*, Rocket.
 2nd do., *blue*, deep, Pansies.
 3rd do., *blush*, Roses.
 4th do., *red*, Pelargoniums.
 5th do., *yellow*, Dahlias.
- No. 6.—Centre, *white*, Roses.
 1st circle, *blue*, Forget-me-not, &c.
 2nd do., *white*, Pinks, with red Pelargoniums alternating.
 3rd do., *yellow*, Dahlias.
 4th do., *red*, Roses.
 5th do., *mixed*, Dahlias of different colours, and alternating so as to preserve the different tints well balanced and distinct.
- No. 7.—Centre, *red and yellow*, Gladiolus.
 1st circle, *white*, Roses.
 2nd do., *blue*, Centaurea.

- 3rd circle, *deep crimson*, Scabiosa.
 4th do., *yellow*, Dahlias.
 5th do., *red*, Roses.
 6th do., *blush*, Roses.
 7th do., *scarlet*, Verbenas, &c.

The last two examples, which make some approach to the bouquet *au naturel*, contain a number of small sprigs of Jasmine, Orange, Boronia, Euphorbia, and similar kinds. These are raised about two inches above the general surface, and placed at certain distances between the circles. They thus relieve the flatness of the other flowers, and, when well placed in respect to colour, they give the whole bouquet a particular charm. But only small-leaved flowers are selected for this purpose, or when, as in the case of the Orange, the leaves are moderately large, they are taken off, or arranged so as not to be too conspicuous. These raised flowers are also placed alternately in the circles at every second or third flower, and so as to form, at the same time, distinct cross or transverse lines, without in any way concealing the flowers of the primary circles. Considerable skill and patience are required in the formation of such a bouquet, but when well done, nothing can be more beautiful and artistic.

Some of the other examples are pretty, but none of them are sufficiently decided in their character. Such as they are, however, they are not bad examples of what are to be seen on the Boulevards, and along the *Quai Napoleon*, at the present season, nearly every day. Fern fronds form the outer circumference, but in winter, a circle of club moss is used instead; and at all times the under part of a bouquet is enveloped in clean white paper.

If it will not be overstepping your limits, I shall close this communication with a few observations respecting the practice which prevails in Paris of planting rows of trees in the leading thoroughfares. This is a custom which is by no means confined to Paris and other French towns, for it is common enough in Holland, Belgium, and Germany, though it may be a question whether the same custom could be introduced with advantage to London and other large towns of Britain. In Paris, it is true, there are no gardens similar to our Squares, but gardens on a small scale are very numerous behind the houses, in almost every district, especially towards the circumference of the capital; and, indeed, the Professor appointed to give lectures and demonstrations on the pruning and general culture of fruit-trees, receives his pupils at his own residence, not a great way from the most crowded quarters. The trees in the streets form one of the charms of a residence here, and the extensive alterations which have been going on for some time have greatly increased the work of the planter. Where the climate is so dry and warm as in Paris during the summer, these trees, placed at about ten or twelve feet apart, form a cool and agreeable shade. In general, they are not more than fifteen or twenty feet high, and for the most part they are composed of broad-spreading kinds, as the Acacia, the Birch, the Elm, the Lime, and the *Rhus typhina*. The Alder, Maple, and Plane, are also somewhat common. The Oak and Ash, however, are rare. The "Boulevards" between the east and west extremities, that is, between the Bastille and the Madeleine, form a very spacious line of thoroughfare, and at several points the pavement is so wide as to admit of several rows of trees; but where there is only space for one row, the trees are planted near the kerb stone, leaving pedestrians ample walking room under their branches.

In this way, every wide or leading street in Paris has its rows of trees.

P. F. KERR.

P.S.—With reference to the vegetable noticed in my former dispatch, I learn that the long Turnip is called *Navet de Vertus*, having been first introduced to general cultivation by a gardener at the village of Vertus, situated about three miles out of Paris. This variety of Turnip is grown extensively in France, for summer use chiefly, and it is a great favourite.

The Black-skinned Radish (*Radis noir*) has a strong acrid flavour, and makes an excellent ingredient in a salad. The green Fig, so common in Paris, at present, is called *La figue blanche d'Argenteuil*, from the fact of its being chiefly grown in the plains at Argenteuil, a small town a few miles from the capital.

K.

CHEAP PIT.

As the season for building pits is fast approaching, I beg to offer you an account of a pit which I had the opportunity of seeing erected, and which I have also seen in operation, and as it is both simple and efficacious, I thought an account of it might, perhaps, be of service to some of your readers who contemplate building one this season.

It is built entirely of turf, the sods being cut about eighteen inches by two feet, and three or four inches in thickness (it came off a common producing Heath and Furze in abundance). It is about twenty feet in length, by about five feet in width, inside measure. The back-wall is four feet, and the front one two-and-a-half feet in height, and cost in erection about £1. The turf was had for the cutting. It is covered by six lights, which cost £5, and is heated by a very simple furnace. At one end an old ironing stove was set inside the pit and covered with paving tiles set in cement; over this is built an air chamber, extending the length and breadth of one light, near the top of which is an opening into the pit, a small hole about three inches square, to let the heated air into the pit, and on the bottom beside the furnace is a small hole to let the cold air into the chamber. The flue extends right along the pit, at front, and one end, and the smoke goes out at the back. The pit is divided into two compartments; one of two lights near the furnace is used in the opening to propagate the bedding stock, and afterwards is filled with soil for Melons. The other four lights are used as a Vinery; and excellent bunches of Grapes are grown there; some weighing three-quarters of a pound have been cut this season, and the Vines are quite free from all disease. In the winter, the rods of the Vines are tied to the back wall, and the pit is filled with Geraniums, Calceolarias, and other half-hardy plants, which do well in it.—A. A., *Beckenham*.

GARDEN NOTES FROM OVER THE BORDER.

I HAD much pleasure in perusing "R. H.'s" account of the Sawbridgeworth Nurseries, in your No. 307, though somewhat too short for my satisfaction.

About four years ago, I had a few acres of ground at the coast on the Frith of Clyde, and in laying it out, I was desirous of following Mr. Rivers's suggestion, and form a "miniature fruit-garden" on part of it, and, consequently, applied to him for several varieties of root-pruned pyramidal Apple, Pear, and other fruit-trees. These blossomed abundantly the first year, but produced no fruit, which did not surprise me; they are continuing to grow and flourish to my heart's content, but still as unfruitful as ever. I begin to think that my soil is too rich, a deep brown alluvial one, for the Paradise and Quince Stocks, &c., on which they are grafted. Should I root-prune them again?

My chief reason, however, for addressing you at this time, is to express my thanks for the information conveyed in the article alluded to, viz.—that "*herbaceous plants*" are to be procured at Mr. Rivers's establishment from "an extensive and interesting collection," which is more than can be said in these parts. I also agree with "R. H.," that the "bedding system" is quite out of place in the cottager's garden, and maintain, although the matter was latterly advocated by my friend, the late Mr. Loudon, that the mixed system is not desirable in a small garden. My flower-beds, the natural accompaniment of a fruit-garden, are formed on a sloping bank in front of the cottage, both single and in pairs, and continually remind me of my professional first lesson in craniology. A perpendicular oval in the centre for the nose, a geometric Pine on either side, with the point downwards and inwards (about six feet apart) for the eyes, and a horizontal oval of a larger size farther down for the mouth, whilst the verdant lawn stretching onwards to the road, and sideways to a brawling rivulet, is dotted with ever-green and deciduous trees and shrubs, all of which have stood the severity of last season's protracted frosts. *Arbutus*, *Laurustinus*, Bays (broad and narrow-leaved sweet-scented), *Arbor Vites*, Cedars, Olive, Junipers, Hollies, Yews, *Quercus Gramuntia*, *Buddlea*, Guelder Rose, Lilacs (new), *Spiræas*, *Berberis aquifolium*, *Cotoneasters*, Maples, red-flowering Chestnuts, Thorns, red Beech, &c.

The nose bed is planted with a double-flowering Myrtle in the centre, surrounded by plants, in pairs, of different colours; at the opposite sides, ends, and angles, Scarlet Geraniums, Heliotropes, Fuchsias, Verbenas, Cinerarias, Petunias, Calceolarias, Mimuluses, interspersed with Stocks. The eyes are each planted in a similar order, from a standard Rose, *Geant des Batailles*, on the one, and *Duchess of Sutherland* on the other, in the centre of the bulbous extremity of the Pine; their stems growing, as it were, out of the midst of a Hydrangea reaching half way to the summit, and covered with its blue and pink flowers; proceeding onwards to the point, are, first—*Aucuba Japonica*, *Arbutus Andraehne*, *Rhododendron ferrugineum*, dwarf *Erica*, name unknown, and at the extreme point of each, a half-standard Rose, *Duchess de Montpensier*, in the one, and *Angelina* in the other, with a *Clethra alnifolia*, now showing a profusion of blossom-spikes, on the grass, in the centre, between the two points, and the two ovals. The edges (concave and convex) are filled up with Californian Annuals, German Stocks, Asters, &c., with Carnations and Pinks. Now, my object is to supplant the Annuals with small herbaceous Perennials of various and showy colours, but such has been the rage for growing bedding-out things, that I can hardly find even a specimen plant in any of the Nurseries here, so that I am unable to keep up a constant supply of flowers in the borders of a straight central walk, having a hedge-row on each side, fencing it off from the small fruit-garden on the one hand, beyond the cottage, and on the other, from the lawn in front, and miniature orchard on the left-hand side. Seeing, therefore, that you answer your correspondents so much to my taste, I would take it as a particular favour, if, from your own recollection of these things, you would name a few, such as you perceive I want. I should prefer seedlings, when seed is procurable, as I am fond of watching the varying features of the first opening flower-buds. Some years ago, I was instrumental in getting prizes given for seedling Hollyhocks, as I found they were fast dying out, and I am happy to see that they are now more in vogue than ever. I was not so successful in getting the good, old, white, double Rocket of the last century re-established, and which used, in my boyish days, to grow in my grandfather's cabbage-garden, I may say, without culture of any sort, to the size of a grenadier's feather of the olden time, in alternate clumps, with armsful of the double white Narcissus, both of which it was my privilege to cut across, close to the soil, with a rusty corn-sickle, when the flowers had faded, to the no small danger of the little finger of my left hand. I am afraid that this good old flower has given place to the loose-spiked purple-and-white double French (?) Rocket, things which very frequently come from the seed of the common *Gillyflower* that grows in every Kail-yard.—*MEDICUS EDINBURGENSIS.*

N.B.—Avoid road-scrappings for any soil when the road is near Coltsfoot, as when wet it catches the winged seeds when a shower is followed by high winds. No eradicating this foul weed when once sown.

[The "yarn" is well spun, but we protest against the very idea of French Rockets, or English ones either, ever coming from the seeds of the Gillyflower in the Kale-yard. We, too, have joined the throngs from Auld Reekie, down Cannon Mills, and on through Inverleith, to the lecture-room at the Botanic, but we never heard the doctrine insinuated there, or elsewhere, about the transmutation of species.

We agree with you, however, about the mixed, in preference to the massed, system of planting cottage gardens; but we can no more influence the cottager from his endeavours to imitate my lord, than we could hinder the housemaid from cutting a pattern for her new dress from my lady's best silks and satins. These things had better be left to individual choice, and time will cure all fancies and follies in the long run. In two or three weeks we shall furnish a choice selection of showy "mixtures."]

COVENT GARDEN.—SEPTEMBER 4TH.

FRUIT.

Pine Apples, 2s 6d to 3s 6d per lb.	Plums, 6s per sieve
Grapes, Hamburgh, 2s 6d to 3s 6d per lb.	Damsons, 4s per half sieve
Wall Grapes, 6s per doz. lbs.	Windsor Pears, 2s to 2s 6d per half sieve
Peaches, 2s to 8s per dozen	Filberts, 4s to 6s per doz. lbs.
Nectarines, 2s to 6s per doz.	Melons, 1s to 3s each
Figs, 2s per punnet	Apples, Dessert, 7s per bush.
Plums, 8d to 1s per punnet	Apples, Kitchen, 5s per bush.
Green Gage Plums, 3s per half sieve	Almonds, 6s per peck
Williams' Pear, 2s to 3s per half sieve	Brazilian Nuts, 4s per peck
Dessert Apples, 2s 6d to 3s per half sieve	Cob Nuts, 3s per peck
	Kiln-dried Walnuts, 3s p. peck
	Lemons, 8s to 16s per hun.
	Oranges, 16s to 18s per hun.
	Barcelonas, 5s 6d per peck

VEGETABLES.

Potatoes, 4s 6d to 5s per cwt.	Beet, 6d per bunch
Greens, 1s 9d p. doz. bunch.	Vegetable Marrow, 8d p. doz.
Cabbages, 8d per dozen	Radishes, 1s per doz. bunch.
Red Cabbages, 1s 6d per doz.	Water Cress, 4d to 6d per doz. bunches
Broccoli, 4s per doz. bunches	Spanish Black Radishes, 4d per bunch
Cauliflower, 1s 6d per dozen	Onions, 3s per doz. bunches
Brussels Sprouts, 1s 9d per half sieve	Mushrooms, 1s per pottle
Onions, Foreign, 12s to 16s per hundred	Tomatoes, 4s per half sieve
Horse Radish, 2s 6d p. bunch	Pickling Onions, 2s 6d to 3s 6d per half sieve
Peas, 3s 6d per bushel	Gerkins, 2s per hundred
Beans, Runners, 5s per bush.	Small Salad, 2d per punnet
Kidney Beans, 2s per hf. s.	Chervil, 2d per punnet
Celery, 1s to 1s 6d per bunch	Garlic and Shallots, 8d p. lb.
Lettuces, 1s per score	Carrots, 3s 6d per doz. bnch.
Endive, 9d per score	Turnips, 1s 6d per doz. bnch.
Cucumbers, 1s to 3s per doz.	
Artichokes, 2s 6d per doz.	

HERBS.

Parsley, Sage, Thyme, Lemon Thyme, Burnet, Rosemary, Mint, 1d to 3d per bunch.

CUT FLOWERS.—Roses, Mignouette, Catauanches, Verbena, Pansies, Sweet Peas, Sweet Scabiosas, Pelargoniums, Cape Jasmine, Dahlias, Violets, from 1d to 1s per bunch. Bouquets, from 1s to 2s 6d each.

QUERIES AND ANSWERS.

GARDENING.

UNFRUITFUL PEAR-TREES.

"I have a Pear-tree against a south wall, apparently in a healthy condition, but producing no fruit. It was well attended to last fall and this spring. It did not show any blossom. It has made good, healthy shoots, to which the gardener paid attention at the proper time. What treatment would you recommend this tree to have to render it fruitful? In this month last year, I troubled you with a few lines: in your reply (p. 472, No. 60.), you recommend the removal of the Pear-trees on the low trellis, as a means of accelerating their fruitfulness. I adopted your suggestion, and removed them to the opposite side of the walk, and had them planted in stations composed as nearly as possible according to Mr. Errington's directions; but the result has not equalled my hopes, I had only a few blossoms and no fruit on any of trees. Pray what attention will these trees require during the autumn? They cover from ten to fourteen feet each on the trellis. I thank you for the hint respecting Gooseberries. The young bushes have borne a few fine Gooseberries this year; I trust, should next season prove favourable, to have an abundant supply. The Currant-trees have yielded badly, particularly black Currants. My Asparagus-beds, though they were said to be three years old, did not produce a single cutting. What treatment should they receive? The result of carrying out your suggestions has been the great improvement of my garden.—R. G. M. near Dublin."

[You say that "in this month last year" you removed barreu Pear-trees, and they have not borne fruit. Do you not know that to organize buds for fruit, and to reap a crop in consequence, requires, of necessity, two seasons? When we talk of root-pruning we do not wish it to be understood that root-pruning (or removal, if you will,) can cause any tree immediately to produce a crop; it is but a means to an end, and, of necessity, requires a given time; otherwise, the practice would not be scientific, but actual conjuration. "The knowledge of a disease is half its cure;" and we may just repeat, that over-grossness is best met by a check; the tree must have less root-action, or less nutritiou. Their autumn treatment should be the let-alone system, providing you have followed our constant advice of disbudding in time, and piuching every shoot in July and August. *Asparagus* must grow two years on the spot, before a single shoot may be cut, whatever the age, if durable beds are expected.]

DISEASED MELONS AND CUCUMBERS.

"I have been unfortunate with my Melons; I should like your advice upon the subject. They are in a pit heated by hot-water pipes, top and bottom; they are planted in good, sound loam, without mauure. The soil is about eighteen inches deep, with some rough stones on the top of the bottom pipes. The first crop planted was in April, they went on well, ripened about a dozen fruit, then all of a sudden the leaves became blotched, the stem went soft and withered, and about eight or ten fruit never ripened at all. After some time I pulled the old plants up, and planted fresh ones; they grew as well as could be wished, swelled the first set fruit to a fair size (3lb), the last set never swelled, and not one of the lot has ripened. I keep them about from 70° to 90° with about 76° bottom-heat; there is no canker. I have asked several first-rate gardeners, and one and all tell me it is "the disease;" what surprises me is, they look so well for a time, and then to go off so quickly and suddenly. *Cucumbers*, in the same pit, only partitioned off, do well for a short time; cut fruit two feet long a fortnight ago, and now they are all dying off at the ends. This is the third time the *Cucumbers* have served me thus.—APPLE-JOHN."

[Your case is by no means siugular; we have suffered as badly as yourself. The fact is, a grievous disease has prevailed amongst *Cucumbers* for a few years, and it progresses, we believe, annually; it threatens extirmination, unless we find means to arrest it. It has extended to *Melous*; and we have no doubt, that before a couple more seasons have passed, it will produce almost as great a sensation as the *Potato* disease. We have tried various things, but have met with no success hitherto. It is, doubtless, one of those fungi which, because they are microscopic and insidious in their operations, are not to be lightly esteemed. It is evident that your temperatures are not to blame, neither your soil, and as for other processes, we defy any man to produce those effects by neglect or mismanagement in the absence of positive disease, providing the temperature is right.]

FUCHSIAS FOR BEDDING.

"Please to say the kinds of *Fuchsia* proper for a large bed to grow in a *mass*. Some planted out for that purpose have disappointed, for though good *Fuchsias* as to flower, this is hid under the mass of foliage. The old *Gracilis* I do not often see.—J. S. L."

[*Gracilis*, *Globosa major*, and *Microphylla*, are the three best *Fuchsias* for beds. The last-named is too tender to stand the winter. *Globosa major* and *Microphylla* are the best two, and *Globosa major* the best. All these are very common in most parts. *Fuchsia Riccartoni* is the best for a hedge *Fuchsia*, and *Gracilis* the next best hedge plant. *Coralina* is the best for training against a house or wall, and that is the best way of using it out-of-doors. We have many *Fuchsias* this season under trial as bedders; and one called *Glory* is the best of them. It reflexes very much; the inside is bluish-purple, and the habit is nearly that of *Gracilis*, but more succulent, and not so strong. There are hardly two *Fuchsias* that will quite agree in a *mass-bed*, and the rage for that style of growing them is happily over. The true use of *Fuchsias*, on a large scale, out-of-doors, is as single plants, in mixed borders; for which a hundred kinds of them are more suited than most of the herbaceous plants

of the last generation; but which are really the very best for borders, is a question which experience has not yet decided. All experience is against massing them together.]

SCARLET RHODODENDRONS NOT FLOWERING.

"I have in my Garden three or four *Scarlet Rhododendrons*: they have been planted with me about three-and-a-half years; but some of them are much older. They were carefully planted in peat mould, which has been since removed. They seem to be in good health; and have made, this season, a luxuriant growth of foliage, though their first shoots were greatly injured by the frost in April: but they have never flowered, with the exception of one; and that one not since the first season after it was planted. Should I do anything to them in order to insure or assist their blooming in spring?—Q. R. E., Co. of Wicklow."

[There are two causes which hinder these *Scarlet Rhododendrons* from flowering as they ought; the first of which affects your plants. Your warm, moist climate, and the prevalent rain since they were planted, have caused a second growth in August and September; and no *Rhododendron* in our climate flowers on a second growth made in the open air. In the autumn of 1852, we have seen whole beds of the best hybrids in full growth at the Botanic garden at Kew, not one of which could bloom in 1853. The way to meet this kind of failure, anywhere, is to take up the plants just as they have done flowering, and plant them, at once, not quite so deep as before. We know a garden where most of the best bed *Rhododendrons* are taken up every other season, for the double purpose of affording room, and to get them to bloom. When they fail from poverty—the second great cause of not flowering—fresh peat laid round the roots, large doses of water in May and June, while the annual growth is going on, and mulching, are the best and only remedies. If this autumn holds dry, perhaps your plants will bloom next year; but you cannot help them now in the least. About midsummer is the right time to remove them.]

PRODUCTIVE CUCUMBER PLANTS.

"I have, from three plants, in a bouse eight feet high from the bed, grown more than four hundred *Cucumbers* this summer on a trellis. The first *Cucumber* I cut was on the 4th of April. About six weeks ago I pruned off all the leaves, and a beautiful new foliage and new crop have been the result. Now, why should I plant new plants when, apparently, I can carry these plants bearing, by proper pruning, throughout the winter. Can I do so? and if not, Why not? I use pipes and hot water.—A WORCESTERSHIRE MAN."

[There is no reason why you should plant afresh if the old plants continue growing, blossom, and produce fruit. Indeed they will bear the winter treatment under glass better than newly-raised plants. We shall be glad to hear the result; how late in the year the plants continue to be productive, and the amount and quality of the crop. Cutting the fruit somewhat younger than usual prolongs the productiveness of *Cucumber* plants.]

SEEDLING PICOTEES.—GERANIUM FOR A STANDARD.

"After reading Mr. Beaton's interesting account of raising seedling *Geraniums*, and his advice to sow the seed the day they are ripe, I am desirous of learning if I shall be able similarly to effect the saving of a season in the blooming of *Picotees* by sowing the seed as soon as ripe.

"May I beg the favour of your stating, at the same time, what is the name of the best *Scarlet Geranium* for a specimen or standard?—A COEKNEY AMATEUR."

[We are not aware that this experiment has been tried, but we think the thing could be done as easily as with *Scarlet Geraniums*. We could always prove *Hollyhocks* the next season by sowing the seeds as soon as they were gathered, and placing them in a hot-bed, to get them up quickly nurse them on with a gentle heat till late in November; keep them in the greenhouse till March; then plant them out, and they would show what was in them the following August and September. We think, therefore, that *Cloves*, *Pinks*, and *Picotees* might be treated just in the same way. Our stock of this lovely tribe consists of a nice *Pink* from

Stirling Castle, an *Anne Boleyn Pink*, from a friend, and an old Clove from a cottage, the sweetest of all the race. We keep the plants ever so long. It is all a mistake to believe that these plants want renewing every two or three years—nothing of the kind; if our Pinks and Picotees do not last twenty years it will be our own fault. The way we do them may be of use to you, and as you will “esteem it a favour,” we cannot hold back. As soon as the bloom is over, we cut in one-half of the herbage to very near the ground, that half looks then like an old, worn-out heather scrubbing-brush, but your grass soon appears, and when that is half-an-inch long, we cut back the other half of the bush, for bushes they are. In the spring, we thin out the grass, and when the flower-spikes show, we select so many of the strongest and best placed, and cut off the rest; just before the flower-buds begin to open, we water the plants abundantly several times, and every other year we transplant them with a little earth about the roots, to a piece of the border that was trenched in the winter, we would not allow a particle of manure to touch them for the world, and when we move them, we dock the roots a good deal. Our flowers are first-rate, and reached excellence by this plan.

The *Shrubland Scarlet*, alias *Smiths' Emperor*, and half-a-legion aliases besides, is the very best *Geranium for a standard* or pillar; But the whole of them are very difficult to manage as standards if the stem is above a foot or eighteen inches; they are more suited for pillars. For a dwarf specimen, there is none better than *Tom Thumb*; but there are half-a-dozen as good.]

INARCHING CAMELLIAS.

“I have an old single Camellia, the plant is in *good health*, and a *large specimen*. I wish to inarch different Camellias of the freest blooming kinds on it. Is it practicable to inarch six different varieties on one plant? Which varieties do you recommend? I have to buy them, and wish for a good contrast in colour, of good double varieties, such as flower freely every season. What is the best time for inarching, where one has every convenience for doing it?—L. P.”

[It is quite practicable to have a dozen sorts of Camellias inarched into one plant, if it were desirable. The old double white, and the *Fimbriata*, are the two best white Camellias in the world. *Lady Hume*, when well done, is the best blush among all Camellias. *Albertus* is one of the best variegated; and *Tricolor* is the next best variegated, but, being a slender grower, it ought to be at the top. There is not a better rose Camellia than *Elegans*, nor a better crimson than *Imbricata rubra*, and, perhaps, *Coralina*; but there are numberless kinds in the crimsons and scarlets; and, what goes a great way in these days, most of them are new, that is, new as compared with the best of the old kinds as above. Look at the indexes of our two last volumes, and you will see the best of these now ones reported on. You will please to inarch the kinds according to your own notions of contrast and conformity. Some nurserymen inarch Camellias late in the autumn, to save time in the spring; but the spring is the right and best time, just before they begin to grow. Those Camellias that are inarched after this time in September cannot be separated with safety before those that shall be inarched next March and April. So you see there must be a good deal of bother in having the inarching on hand all through the winter.]

POULTRY.

METROPOLITAN POULTRY SHOWS.—SHANGHAES.

“Will you be so kind as to inform me if the *Winter Metropolitan Poultry Show* will be held as last time? Also, if the Surrey Zoological will have one? From there being no summer shows, I am fearful these shows are given up; and this belief is strengthened from Mr. Fox having purchased all the wire-fronts, &c., belonging to the former.

“I hope I may be mistaken in my supposition; for their being abandoned will cause much regret to many.

“It seems to me, now next to almost useless to continue rearing the once highly-favoured Shanghaes; they seem so little cared for, that even choice birds as to colour, &c., meet with no purchasers, even at a small price. Do you think the

great merit of their laying eggs throughout the winter season is likely to bring them again into fashion?—A CONSTANT SUBSCRIBER.”

[We shall be glad to be informed by Mr. Fox, or by any other authority, whether a Poultry Show, either in or near the Metropolis, is purposed to be held this winter. It is quite certain that last year the returns fell so far below the expenses, or, in other words, that the committee of management suffered so heavy a loss, that none but those who either can “hope against hope,” or who are willing to suffer in pocket, will venture again upon such an undertaking, except upon a better self-supporting system. We believe, that if the committee of the Smithfield Club would manage one they would obtain a protective support.

Neither Shanghaes, nor any other variety of poultry, will ever be sold, in our days, at such enormous prices as they were sold at during 1852-3; but good specimens will always fetch good prices so long as the praise-worthy taste for breeding and exhibiting superior birds prevails. It will, probably, prevail long, and revive with more vigour when the present reaction has ceased. Excessive indulgence in any taste is always followed by exhaustion; but the taste as invariably revives, and is then better regulated. Poultry shows, concluding from these premises, will be fewer in number and better supported next year than they are in this year.]

SMALL YOLK-LESS EGGS.

“I have a Cochin-China Hen which left her chickens about three weeks ago, and commenced laying; but the eggs are not bigger than Spanish nuts—perfectly shelled, but without a yolk. She has layed sixteen of them. You will oblige if you can tell me how to cure her. She was, previous to her sitting, an excellent layer.—DONOVERNUM.”

[In this case there is evidently an undue action of the egg passage, without a corresponding action of the ovary, in which the yolk is formed.

As a means of cure, I should suggest that the present irregular mode of laying be stopped, in the expectation that when the hen resumes laying it may be in a natural manner. This may be done by giving her one grain of calomel, one-twelfth of a grain of tartar emetic, with low diet for a few days. I should be glad to hear the result.—W. B. TEGETMEIER.]

DISEASED PULLET.

“We have a grey Dorking Pullet, which, for a month or six weeks, has appeared in a delicate state of health. It eats heartily, but derives, apparently, no benefit from its food. It was hatched late in March. When it eats it mostly lies down; and when it stands its legs tremble. It is a handsome bird, and we would save it if we could. It seems not to get better or worse: though it lives well, it is only skin and bone.

“Can you suggest its disease, and, what is more to the purpose, a cure?—O. W. W. T.”

[The symptoms, as far as described, evidently indicate some disease of one or other of the digestive organs, but are not sufficiently detailed to enable a satisfactory opinion to be pronounced. In the absence of further information, I would suggest one grain of calomel as an alternative, and then a teaspoonful of cod liver oil daily afterwards.—W. B. T.]

INTERNAL HEMORRHAGE, OR BLEEDING.

“About a month ago, I lost a Shanghae hen suddenly; she had chicken round her at the time. I had seen her not three hours before in apparent health. I did not open her; but, in about a week, one hen was found dead on their perches. I was prevented, by a variety of engagements, from opening her. She was hung up for the flies, and when taken down, quantities of blood came out of her. I mention this, as it bears on the subsequent cases. A fortnight does not elapse before another hen is found similarly placed. I opened this hen, and found the cavity of the body full of darkish blood. It was evident that a vessel had given way somewhere, but whereabouts, I could not determine. The liver had a few tubercles scattered through it. Sunday morning, to my dismay, I found my best hen—(she had chicken round her)—dead on the floor of the house. I had weighed her the night before, remarked her good condition,

&c. I opened her, and find the same state of affairs: three or four ounces of blood; the liver had larger tubercles scattered through its extent; its base was very softened; and had portions, as it were, gorged with blood, and covered, here and there, with coagula; so that I should fancy the vessel had given way somewhere about this part. They were all Shanghaes, pullets of last year, placed under similar circumstances with my Spanish and Dorking fowls. Is such sudden death usual to Shanghaes? Are they predisposed to disease of vessels?—H. B. S., *Monmouthshire.*"

[In these cases, I think that the internal bleeding must have arisen from the presence of the scrofulous tubercles in the liver. I have seen a few similar cases; one in a very fine Dorking cock. The disease can only be treated by preventing the formation of the tubercles, which are the exciting cause. The remarks which I made on the prevention of tubercles in Poulds, at page 403, are equally applicable to these cases, and, therefore, need not be repeated.—W. B. T.]

BEEES.

JOINING HIVES.

"I shall feel thankful if you will inform me how it will answer to join a flight of bees to another standing some few yards distant? Is it imperative they should stand side by side? I find the general complaint among beekeepers is, that little honey is stored this season, and flights very abundant and pretty early. I could not succeed this year in preventing swarming, either in a Taylor's Bar Hive, or the Cottage Hivo. I drew the slides of the Bar Hive (to admit the bees up to the top box, with the comb of the previous year on the bars, and quite clean) the latter end of April; as the bees did not appear inclined to ascend after a few days, I closed the slides, and let them remain till the bees began to cluster at the mouth of the hive, I again drew the slides, having previously smeared a little honey over the comb. The bees soon filled the upper box, and continued for a week or ten days, and then threw off a swarm (June 10th), and a second on the 23rd. I have stated these particulars fully, as the hives were similarly treated as respects super-hiving, and find there were two supers on when the flights occurred. I always follow the plan suggested, some time since, in your Journal, by, I think, "The Country Curate," of setting the flight in the place of the old stock, which is removed a short distance off. I have never had a second flight, and each party can support themselves, and, generally, the flight spare ten or twenty pounds of honey. They have done so this season, and I am anxious to put some second flights and weak stocks to my old ones, which are not beside them. My stocks are very full of bees, but light of honey; and at present, I think there would not be room for my first companions, as during wet days I find clusters on the outside, although drenched by rain. The plan of uniting I pursue is from Mr. Payne's advice. I turn up the hive on a fine morning, and cut clean out all the comb, and return the skep to its place, and the bees, to all appearance, work on as happily as ever. At night I lay a board in front of the hive they are to be joined to, then give the skep containing the bees a smart jerk upon the board, and *dredge them with flour*, and set the other skep over them; very early next morning, set the skep in its former place, and all goes on merrily. Before using the flour, I used to find much fighting going on. Is there any better plan, and when should it be done?—WEST NORFOLK."

[Unless bees intended to be joined stood side by side, much loss of life is sure to follow; but if one of your stocks is placed on a moveable stand immediately, and advanced about twelve inches every other day towards the other, till the boxes are in contact, all will be well. The end of September or beginning of October will be the best time for effecting their union.]

THE "GREEN MARKETS" OF LONDON.

(Concluded from page 448.)

I have already mentioned the circumstances which led to the establishment of Farringdon market. It stands on an

area of 67,876 square feet, between Farringdon-street and Shoe-lane. It is the property of the Corporation of London. There are about 78 stands and 50 pitchings, rented by the year at £1 per stand and £2 a pitching. There are about 42 wholesale salesmen, and upwards of 50 retailers. It has been instituted about 22 years, and is chartered and incorporated. The tolls upon the various commodities are:—For every waggon, or cart, or pitching stand, 9d. per square foot; for every waggon, or its contents pitched (except potatoes), 1s. per day; every cart, or its contents pitched (except potatoes), 9d. per day; every waggon or cart stand, without a pitching stand, 1s. per day; every pitching stand without a waggon stand, 1s. per day; potatoes, 1s. per ton; potatoes, 2d. per sack; baskets of more than a sieve, 1d. per basket; baskets of less than a sieve, ½d. per basket; oranges per chest, 4d.; boxes, 2d.; hampers of watercresses, 2d. per hamper; pitching stands under the roof, if let to tenants of opposite shops, 2s. per week; pitching stands under the roof, if not tenants of opposite shops, 5s. per week; for the use of the scales, ¼d. per draught. The shops surrounding the market, which is square, more than half of them being shut up, let from 2s. to 10s. per week. These shops are occupied by general dealers, but those of the fruit salesmen average 12s. per week. The market-days are Monday, Wednesday, Friday, and Saturday. All classes are purchasers at this market. It is superintended by a clerk, beadle, and assistant. The labourers are ticketed and unticketed porters. The market is cleansed by contract. It slopes to Fleet-ditch, and is well drained. There is a sort of covered or shedded central avenue. Farringdon is the great watercress mart. In the winter, poor, shivering, half-clad boys and girls surround the dealers' stands, and buy one, two, or three handfuls. Five handfuls are 1d. These they string on neighbouring doorsteps, the snow sometimes falling on their numbed fingers.

The following are the returns of Farringdon Market for the year:—

- "Potatoes—14,000 tons.
- "Peas—7,000 sacks.
- "Beans—1,200 sacks.
- "French Beans and Scarlet Runners—3,000 bushels.
- "Cabbages—3,500 loads of 200 dozen each, or 8,400,000 cabbages.
- "Broccoli—1,300 loads, or 5,320,000 heads.
- "Turnips and Carrots—700 loads, averaging 60 dozens a load, or 504,000 turnips and carrots.
- "Onions—6,000 bushels.
- "Gooseberries—12,000 bushels.
- "Currants—5,000 bushels.
- "Cherries—12,000 bushels.
- "Plums—3,000 bushels.
- "Apples—35,000 bushels.
- "Pears—20,000 bushels.
- "Strawberries—450 bushels.
- "Watercresses—46,800 hampers, or 58,500 cwt."

There are also 60,000 flower roots sold in a year. The supply is from Middlesex, Surrey, Essex, Kent, Cambridge-shire, and Bucks. It is sent by railway, cart, and waggon.

Hungerford market was built by Sir Edward Hungerford, in 1680, and rebuilt in 1831. In Pennant's time there was "on the north side of the market-house a bust of one of the family in a large wig." It is now divided into three departments or areas. On the north, or open space, a number of omnibuses stop the entrance to the middle or grand hall, and to the south area, or fish market. The whole market stands upon an area of 52,890 square feet, and is situated opposite Charing-cross Hospital, or between the Strand and the Suspension-bridge. There are three promenades—one at the western side of the market, another on the eastern, and a third through the middle of the enclosed part. Before this enclosure (occupied by general shopkeepers), which was made four or five years ago, the *Quarterly Review* pronounced this portion of the market closely to resemble the interior of an ancient basilica. Each promenade leads to the Suspension-bridge. On the western side there are 9 butchers, 1 tripe-seller, 6 dealers in game and poultry, 2 butter shops, 1 pork, 1 milk-seller, and 7 fishmongers, 1 cook shop, 1 ginger-beer seller, 2 toy shops, 1 print-seller, 1 basket maker, 1 confectioner, and 2 taverns. On the eastern side are 1 tavern, 1 hair-dresser, 1 glass shop, 1 meal-man,

3 potato shops, 11 fruiterers, 3 fruit and vegetable dealers, 2 greengrocers, 2 ginger-beer sellers, and 6 fishmongers. In the middle avenue there are 1 dealer in wardrobe clothes, 1 boot and shoe maker, 1 grocer, 1 hair-dresser, 2 picture frame dealers, 2 milliners, 1 artist (profilist), 1 parasol and archery shop, 1 haberdasher, and 1 fishing-tackle maker; altogether, 74 shops and 3 taverns in the market, and 6 shops in the arcade leading to the market. The fishmongers, 13 in number, pay each £2 per week rent; the outside corner shops, 10s. 6d. per week; shops in the enclosed part on the east and west side, from 11s. to £1 per week; those in the grand hall, from 4s. to 8s.; and the shops with dwelling-houses attached to them pay £60 per year. The whole of the shops are retail. This market was opened by authority of an act of Parliament in 1833. There are no tolls except for landed goods, neither is there any particular market-day. The market is superintended by a superintendent and 1 beadle. There are 10 ticket porters belonging to the company, who are employed in taking passenger's luggage to and from the cabs to the steamboats or other places. The purchasers are generally the higher classes of society, though the market is visited by all classes.

Portman market stands upon an area of $2\frac{1}{2}$ acres, or 108,900 square feet; on the north and south run Huntsford-terrace and New Church-street, and on the east and west, Salisbury-street and Carlisle street. This market is the property of Lord Portman. There are 40 stands for growers, who pay £7 10s. per year. These stands are also used by other parties, who rent them from the growers, and pay 1s. per day. There are also four wholesale and 20 retail dealers. The market was instituted in 1830 by act of Parliament. There are no tolls paid in this, as in other wholesale markets. Monday, Wednesday, and Friday are the market days. All classes of society frequent this market. A clerk is the only person who superintends it. The only class of labourers are ticket porters, of whom there are but four. The cleansing of the market is done by contract.

The returns for a year are—

“Potatoes—6,602 tons.

“Currants—20,000 sieves.

“Strawberries—6,000 sieves.

“Raspberries—4,000 sieves.

“Cherries—15,000 sieves.

“Apples—16,000 bushels.

“Pears—10,000 bushels.

“Cabbages—7,280 loads of 200 dozen each, or 16,472,000 cabbages.

“Broccoli—1,820 loads, or 546,000 head, the supply being only for three months.

“Turnips—40 loads of 60 dozen each weekly, for six months, or 748,800 turnips.

“Carrots—30 loads weekly of 60 dozen each, for six months, or 561,600 carrots.”

To these returns must be added the sale of 12,000 bushels of oranges; also of between 300 and 400 flower bushes.

Carnaby market has been abolished since 1820. It was situated at the back of Carnaby-street. Its area was $1\frac{1}{2}$ acre, or 65,340 square feet. At the time of its prosperity (about 30 or 40 years ago) it belonged to Sir T. Carnaby, from whom it took its name. Since that period it fell into the hands of the Craven family, to whom it still belongs. The square upon which the market was built is now formed into shops and private residences. There are 25 houses and shops, paying a rental averaging £55 per year. Craven Chapel takes up full one-third of the space upon which the market formerly stood. The market was instituted about 150 years ago by act of Parliament.

Finsbury market stands upon an area of 14,400 square feet, and is situated at the back of Finsbury-square, between Worship and Clifton streets. It is private property, and was instituted by charter in 1822. This market flourished about two or three years after it was first opened as a wholesale market. It then began to decline, and became a retail market, but gradually dwindled away to nothing, so that all that remains of it is the houses. These are let to various tradesmen and private individuals, some of whom

sublet the rooms to other parties. The rental averages about £25 per year for each.—*Morning Chronicle*.

TO CORRESPONDENTS.

BUTCHER'S BROOM (M.A.).—This (*Ruscus aculeatus*), is common on bushy heaths and in dry-soiled woods. If you tell us where you live, we may be able to point out a neighbouring locality. It may be found in almost every county south of the Trent.

CLIANthus PUNICUS (A.B.C.).—How can we tell whether this, or any other plant, will grow in your vicinity against a wall, when we do not know whether you live in the Orkneys or the Isle of Wight?

LEGS OF SHANGHAES (A Beginner).—Feathers on the legs are absolutely necessary if you aim at success in the exhibition pens. Select the best of those you have “well-feathered to the toes.”

BOTTLING BEER.—A *Subscriber* will be obliged by directions for bottling a cask of strong ale for long keeping.

INCUBATORS (W. Lesman).—We shall be very much obliged by the communication of your experience with these. We do not intend to publish any plates of them. We are glad you approve of the portrait.

HOLLYHOCKS (A Subscriber).—You may either buy plants; or you may sow seed in the spring; or you may raise plants from cuttings of the stem. Buy Mr. Paul's little pamphlet, “An Hour with the Hollyhock.” Move *Raspberries* in November.

POTATO WATER (J. Newland).—There is no truth in the notion that the water in which Potatoes have been boiled is injurious to pigs or other animals. They eat Potatoes raw with benefit, and the Potatoes have then in them all that the water can extract. There is no poisonous matter in the tubers of Potatoes, although there is in the stems. We shall be glad of an answer to the following queries, by the same correspondent:—“Is it true that Mangel Wurzel leaves or root purges pigs? and what is the best mode of giving Mangel Wurzel, Swedes, or Turnip Cabbage, to pigs? if cooked, or raw; and if mixed with any other kind of root, corn, or water? I think if it was more generally known that *Turnip Cabbage* is a first-rate vegetable for table use, more would be grown; it is sown here (Jersey) in May, and treated exactly the same as Swedes, either transplanted (which it stands well) to eighteen inches either way, or thinned out to that distance.”

SQUARE NET.—A.B. is obliged to Mr. Tegetmeier for the directions given in *THE COTTAGE GARDENER* some time since, for making a square net, and hopes he will shortly give the further information then promised.

FLOWER-GARDEN PLAN, AND A GENERAL PLAN OF A PLACE (R. R.).—You say, “advice upon the whole arrangement will be most thankfully received;” but as we do not know whether you are at the North or South Pole, at Gibraltar or Jamaica, or in her Majesty's dominions anywhere else, we cannot tell you anything but guesses that would be of no use to you. The north, south, or middle, of any county or shire in the three kingdoms would be sufficient guide to us. Your plan is familiar to us—a slight alteration on one published by Loudon, we think, many years back. The plan of the flower-garden is better suited for gravel, and the beds to be edged with box. Make it a gravel edge by all means, but not lower than eighteen inches; the sides not to be a “gentle slope,” but one of forty or forty-five degrees in the angle, with three steps down to the level of the gravel at the four opposite sides, if possible. The six-foot walk on the top will then be a terrace-walk all round, and the whole will look well, and be artistical throughout.

GENERAL INDEX (Q. R. E. and others).—We have often thought of this, and had it asked for, but the expense renders it inexpedient.

NAMES OF PLANTS (Philo).—Your plants are *Salvia Grahamii*, *Mesembryanthemum coccineum*, and *Medicago arborca*. (*Lancastriensis*).—Probably *Silene effusa*. (*Violet, M. L.*)—The field flower is *Gnaphalium sylvaticum*, alias *G. rectum*; your Fern is *Asplenium Ruta-muraria*. (*J. Deegan*).—1. *Thuja*, we do not recognise which. 2. *Berberis fascicularis*. 3. *Juniperus phœnicea*. 4. *Taxodium sempervirens*. 5. *Thuja orientalis, var. Tartarica*.

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WEEKLY CALENDAR.

D M	D W	SEPTEMBER 19—25, 1854.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
19	Tu	<i>Chilocorus bipustulatus.</i>	30.244—30.110	70—49	S.W.	—	42 a 5	5 a 6	1 52	27	6 13	262
20	W	EMBER WEEK.	30.057—29.931	62—41	S.W.	—	44	3	3 5	28	6 34	263
21	Th	ST. MATTHEW.	29.937—29.834	65—44	W.	—	46	1	4 19	29	6 55	264
22	F	Sun's declination, 0° 21' N.	29.839—29.754	67—54	S.W.	08	47	v	sets.	☉	7 16	265
23	S	<i>Gomphocerus rufus.</i>	29.754—29.704	61—41	W.	—	49	56	6 a 37	1	7 37	266
24	SUN	15 SUNDAY AFTER TRINITY.	29.743—29.687	60—34	W.	14	51	54	6 52	2	7 57	267
25	M	<i>Ælia melanocephala.</i>	29.330—29.083	64—45	S.W.	02	52	51	7 8	3	8 18	268

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 66.3°, and 45.8°, respectively. The greatest heat, 82°, occurred on the 25th, in 1832; and the lowest cold, 30°, on the 23rd, in 1845. During the period 98 days were fine, and on 91 rain fell.

RECENTLY, being at Surbiton, in Surrey, our attention was directed to a plant growing in a greenhouse there, belonging to Mr. Howitt, the florist, and it is no exaggeration to say, that it is one of the most beautiful of all our modern introductions. We can best convey an idea of it by describing it as a plant having the leaves of the Chinese Primrose, and the flowers of *Bartonia aurea*. Not having time to examine it particularly, we left it, without any fear of disappointment, to that "chiel," well skilled in "taking notes," whose name is appended to the following:—

"This plant is quite new, and it is not new—if you can make out how that could be. It is a particularly good plant for a particular purpose, which is, to be grown in pots for the living-rooms, or for the conservatory, or show-house, for late autumn, or, say all through August, September, and October, just when pot-flowers are scarce. It will probably make a good bed also, and flower a month or six weeks, like many of them; but I only saw it in a pot, for which, it seemed to me, to be made on purpose, and I vouch for the flowers being very handsome indeed that way. It is a Surbiton plant, and everything in Surbiton is good: good water, good air, good neighbours, and a good distance from London, together with good examples of all the good professions, from the clerical to that of the florist.

"Mr. Howitt is our newest florist; and before he was here ten days, a lady called on me to ask if I had seen 'that beautiful yellow plant' in the new show-house, or if I could tell the name of it? The plant was not for sale; but she wished much to possess one for her own greenhouse at Esher. I did not see it then; but I said I would, and let her know. It was new to me, and the name was rather countrified in the spelling; but, between it and the flower, I made it out to be a *Loasal* plant. I took the names as they were, and compared them with all the names of the Loasads in the 'Vegetable Kingdom,' but not one of them was at all like my new name; but, in 'A Supplement of Additional Genera,' at the end of that most useful book, I found a Loasad, named by Zuccarini, with which I could reconcile my novelty, by the usual process of addition and subtraction of certain letters. The next steps were to write three letters about it—to the first florist in the country, the first nurseryman near London, and the first seedsman in London itself.

"The London nurseryman had 'heard of the plant, but never saw it.' As a specimen of the way I am

always met by the trade, I give his concluding sentence: 'at any time I shall be only too glad to tell you all I know.' I never yet met a single instance in which a nurseryman wished to keep anything about plants a secret. The florist was equally liberal; and respecting the new annual he says, 'there is now plenty of it in this country, and it has been very freely distributed by the seedsmen for two seasons past.' In one sense, therefore, it is not a new plant. But let me finish the story, and see what the London seedsman has to say. He gives me the very proof of this by sending a packet of the seeds, marked 'H. H. A., Yellow, one foot high,' which, being interpreted, means, 'Half-hardy Annual, with yellow flowers, and grows about a foot high,' 'with J. C.'s respectful services.'

"That was all that was in the letter, and quite enough; but, in a large pot, the 'H. H. A.' does not grow more than six inches high with Mr. Howitt; but it is nearly a foot across. If it was not in bloom, you might pass it ten times without knowing it from a Chinese Primrose; but that is not exactly the style of growth, and the leaves are not so much jagged round the edges. The flowers come one only on a stalk, and, like all Loasads, it is nearly as large as the flower of *Eschscholtzia crocea*, but does not open so wide. The colour is pure yellow all over, of a tint between that of *crocea* and *Calceolaria amplexicaulis*; the flowers rise just above the leaves, and no more, and there is a large tassel of stamens longer than the flowers. The name is *Euenida Bartonioides*. Anybody who can grow it as well as it is grown in Surbiton, may calculate on one of the best pot annuals in England for coming in from August to October. How it may answer for a bed is hard to say; the leaves seem too big and too soft to stand much hardship; but, as the plant is so low, I would try it in the same bed after *Sphenogyne speciosa*, which, if sown at the beginning of April, will be done flowering by the end of June. In the meantime, the *Euenida Bartonioides* might be got forward in pots to succeed it. But, being such a good pot-plant, that is the way I should prefer it. There is no doubt but it will be advertised in all the seed-lists next spring, and that will be time enough to ask for it, as it is now too late to do much good with it this season.—D. BEATON."

This *Euenida Bartonioides*, of Zuccarini, was shewn by Dr. Walpers to belong to the genus *Microsperma*, and, as *M. Bartonioides*, it is figured in the "Botanical Magazine," t. 4491. It was introduced to Kew Gardens

by Mr. Booth, of the Floetbeck Nursery, Hamburgh, in 1850; and Sir W. Hooker describes it as flowering through the summer months. Although not so stated in the magazine above-named, it is a native of Mexico; and the excellent superintendent of the plant-culture in Kew Gardens has observed, "We fear it will not succeed out-of-doors as a summer border plant, on account of its soft, succulent nature, which makes it liable to injuries by heavy rain and wind. We, therefore, consider it best to treat it as a tender annual, sowing the seeds in a frame, and, when the plants have sufficient strength, planting them singly into pots, using a mixture of light loam and leaf-mould, or sandy peat. The pots must be properly drained, and care taken not to over-water in damp weather, and to admit plenty of air, so as to keep the plants from becoming weak and drawn up. As they increase in size, they will require to be shifted into larger pots, and when they begin to show flower they should be removed into the greenhouse."

THE next illustration of "Our Portrait Gallery" will be a likeness of Mr. GEORGE FLEMING, the well-known gardener of the Duke of Sutherland, at Trentham, and we are promised some biographical notes from the pen of one who has "known him ever since he was spade-handle high."

We take this opportunity to express our regret that we have not yet been favoured with the additional notes promised us relative to SIR JOSEPH PAXTON; but we will add a few particulars and corrections to what we have already published.

We must confess to some feeling of satisfaction at learning that he is *not* of Scotch parentage, because we feel that the list of English Gardeners needs a few such additions as Sir Joseph to balance somewhat more equally the long array of Great Spadils that are in our Garden annals from the other side of the border. The brother under whom Sir Joseph received his rudimentary instruction in horticulture was Mr. John Paxton, successively gardener, we believe, to Sir G. P. Turner and Earl Hardwicke. This gentleman recommended the young gardener to Abel Smith, Esq., and through the latter's influence he was placed at Chiswick. Owing to some misunderstanding with the Council of the Horticultural Society, Sir Joseph was about leaving their service, and proceeding to America; but whilst this intention was just on the point of being carried out, the Duke of Devonshire, as we have formerly mentioned, befriended him. So near were we to losing the Crystal Palaces.

THE September Meeting of the Entomological Society took place on the 4th inst. The President, Edward Newman, Esq., in the chair. A number of donations to the Library and Museum were announced, from the Royal Societies of London, Madrid, and Van Diemen's Land, the Royal Academy of Berlin, the Society of Arts, Messrs. Schaum, Jekel, Lubbock, &c. The splendid

volume on the *Coleoptera* of Madeira, one of the most valuable contributions to the science, recently published, was also presented by its author, T. Vernon Wollaston, Esq., nephew of the celebrated philosopher of the same name.

The President read a communication from Professor Edward Solly, F.R.S., who is at present engaged in organizing the Museum of Industrial Arts and Manufactures, under the direction of the Society of Arts, requesting the contribution of specimens of either obnoxious or beneficial species of insects from the members.

A great number of recent captures of rare or new species of insects, of different orders, were exhibited by various members, including a very beautiful *Noctua*, quite unknown, taken in North Wales, by Mr. Evans, of Darly Abbey.

Mr. Samuel Stevens exhibited specimens of *Agrotis valligera*, and other species, from Freshwater, Isle of Wight. Also, a box of very interesting *Coleoptera*, just received from Mr. Wallace, who has recently started on a Natural History expedition to the Islands of the Eastern Archipelago. Those exhibited were the first which he had sent, having been captured at Singapore, and amongst them were a great number of new and interesting species.

Mr. F. Bond exhibited specimens of *Æthosia hyperborea*, from Perthshire, *Rugeria tenebrosa*, from the New Forest (being two very rare species of *Noctuidæ*); also, various rare moths from the Isle of Wight.

Mr. Edward Shepherd exhibited a box of rare *Coleoptera*, from the New Forest, including *Phloiotrya rufipes*, *Platypus cylindrus*, *Triplax anea*, *Biophilus dermestoides*, &c. A box of insects, of different orders, captured by Mr. Foxcroft, in Perthshire, and intended for distribution among his subscribers, was exhibited, including *Spalotis catalauea*, *Nomada xanthosticta*, *Andrena simillina*, &c.

Mr. Hudson exhibited a singular gynandromorphous specimen of the common blue butterfly *Polyommatus Alexis*, the wings and antennæ on the right-hand side being female, and those on the left being male. Mr. Edwin Shepherd stated that he possessed a specimen of the same species, in which this arrangement of the wings was reversed, the latter being the more ordinary condition exhibited by this class of monstrosities, the right-hand side having been considered as possessing higher powers of development, and, consequently, as more generally developing the male characteristics.

Mr. F. Smith exhibited various rare or new Hymenoptera, recently taken near Southend, including several species of Ants and Bombs, in all their states, having been generally taken from the nests of those various insects. Mr. Oxley exhibited several boxes of insects of various orders captured in the neighbourhood of the gold diggings in Australia. Many of the species were very rare and interesting.

Mr. Curtis presented specimens of the male of the curious insect which he had figured under the name of *Acentropus Garnonsii*, and exhibited specimens of the

female, from the collection of Mr. Dale. The species is of considerable interest, having been regarded by Curtis and Stephens as Trichopterous, whilst Mr. Westwood regards it as Lepidopterous. The last-named member stated, that he had been informed by a correspondent, that the crop of White Mustard seed, near Ely, was at present infested by a small blue beetle, *Phædon Betula* which attacked it in myriads, gnawing the rind off the stems and seed-pods, and then injuring the seed. He also exhibited drawings of a species of *Acarus*, which had been found in great masses at the foot of a recently made hay-rick, re-appearing again after having been cleared away; likewise specimens of a species of *Chelifer*, which he had received from a correspondent, by whom they had been found in considerable numbers upon Melons growing in frames, and which had, consequently, been regarded as injurious to the fruit. Messrs. Curtis and Walker, however, considered that their object was to feed upon other insects infesting the plants, and ought rather to be considered as beneficial.

Mr. Walkeys communicated a note in which the common Wasp was stated to have been observed gnawing off the outsides of the dried stalks of nettles; and W. F. Smith stated, that he had had a nest of *Vespa rufa* for two or three months, the workers of which were repeatedly observed gnawing off the outside of his deal store-boxes in order to obtain materials for their nests, which are thus evidently not always formed of fungoid matter, as has recently been asserted by several members of the Microscopical Society.

Mr. G. F. Wilson communicated some seeds from Ceara, of the *Copernicia cerifera*, or wax palm of the Brazils (from which is obtained the Carnahuba wax), the interior of which had been devoured by the larvæ of *Caryopemon Bactris*, a large species of Bruchidæ, a family allied to the Weevils, having similar habits to those of the Pea-Weevil, *Bruchus Pisi*.

MANURES—THEIR USE AND ABUSE.

It may seem rather strange, at first sight, to enter into a discourse on *Potatoes* as a preliminary to an examination of the question which stands here for discussion, but before I have concluded the little advice I have to offer, I hope some meaning will attach to this seemingly erratic course.

It is really lamentable, when we look around us, to observe the misconceptions that exist with regard to the application of manures. Writers who cater for the gardening public, and who, in doing so, of course, examine into every question with a critical eye, as in duty bound, sometimes deem it necessary to recommend the use of high stimulants, and then, forsooth, turn round and talk about checks, about the necessity of subduing luxuriance or grossness. Such will, very naturally, appear to "blow hot and cold" to those who have not had the same chance of penetrating nature's secrets. They, perhaps, recommend a liberal use of liquid-manures; they may point to guano as a most convenient and powerful combination of most of those elements which are eminently qualified to give strong impulses to vegetation in a needy state, and almost before their ink is dry, they may glance over some account of a most gross misapplication of stimulating,

enough to cause them to dread the responsibility of having written so strongly. And what shall we say? Perhaps quote the old saying, "Children should not play with edge tools." I hope, however, the apparent rudeness of this quotation may be pardoned for the sake of the object in view. We are all excessively ignorant of something, and we must bear to be taught on that subject, and now and then to receive a home thrust or two.

After all the *pros* and *cons* about Potato culture, necessarily much modified by the altered position of this root, all the world now, I believe, agrees that late sorts of Potatoes, and late planting, must be repudiated in the most decisive way. As to early planting, it is equally well known, that for main crops Potatoes should not break ground before the second week in May. Here, then, are, I conceive, the two points on which the Potato case turns. Now, it is quite manifest, that since the disease has annually visited us about the middle of July, the Potato has a very limited period in which to spring from the soil, become a strong plant, and mature a crop of tubers; it is evident, therefore, that no time may be lost when the Potato rises above the soil. These things admitted, it becomes us to ask, what kind of manure, compost, or culture, is best adapted to attain the end in view. And this brings me to the point I wish to direct attention to, viz., the vast difference between a slow and long-acting manure, and one that is more sudden in acting, and, by consequence, sooner exhausted. Such a manure as the latter I have abundant proofs of in guano; ordinary horse-manure, or, indeed, that of any cattle containing much organic matter in a somewhat raw state, is of the former character. I have before stated, in these columns, I believe, that guano, if good, has been found to accomplish the prime objects of Potato culture as here suggested, and has proved itself, in a majority of cases, much safer than farm-yard manure. It has been found, that crops principally stimulated by guano made a strong plant in less time than by ordinary manure, and that this precocity extended to the tubers; that the haulm, moreover, does not continue to ramble so late in the summer, or, in other words, that a crop of good-sized Potatoes come earlier to hand.

Now, from this a hint may be taken as to other crops; for it must be admitted, I suppose, as a principle, that every one who has to do with garden or field crops, should so calculate his matter as that any given crop should have the right amount of the right kind of manure; and that time requisite for the perfecting of the crop be taken fully into consideration. Thus, a gardener is preparing beds for Asparagus; he wishes his beds to be of a permanent character, and he buries manure, in various stages of decomposition, to a considerable depth; knowing full well, that although he may lose a little quality through the soluble portions, the plants not being fully prepared to appropriate it, yet, that the slowly-decomposing character of the organic matter will, for years, furnish at least a kind of humus, which will prove of abiding utility. But what would be thought of the same person if he were found making the same preparation in March for a bed of summer Spinach, one of the most ephemeral of our garden crops? Why, any one acquainted with crops, and the capabilities of manures, would, in true Beatonian style, pronounce him "daft." This, by way of illustration, and in order to pave the way to a perception of the subject; for these things, we may be assured, are but ill-understood by the million. Certainly, if any man, a complete master of his profession, so manures and crops a given plot of ground, as that by a well-judged forecast he can foresee the capabilities of this dressing to carry out a given rotation, all very well; but not every man has this skill, which is the result of long experience, for I grieve to say science has done but little for us as yet.

It will be seen, that one of my chief objects in thus handling this subject has been to draw a line between what are called organic, and the other inorganic, manures; or, in the language of some, natural and artificial manures. By such a distinction, properly recognized, much economy will result, and about the propriety of economizing, with all our might, in the manure question, in these times, no man of sanity would doubt. It is not against the proper use of manures that a discerning public has raised its voice; it is the lurking jealousy, but too well founded, of a fearful amount of prodigality in by-gone days. Science has at least done thus much for us; it has shown us, that not in manures alone must success be sought in culture; and that it is quite possible to throw away a high percentage off those we employ, through a misconception of the condition of the soil, or of the character of the manure.

There are numerous crops of the kitchen-garden, to say nothing of the farm, which may be produced in superior style with a very moderate amount of manure, and in the most economical way imaginable; but I much fear the practice I pursue will appear too simple for some persons; be that as it may, the practice is of much importance. The crops I allude to are mainly of the shallow-rooting class, and, for the most part, things which do not remain above two or three months on the ground. I may here quote a few as in point, viz:—Lettuce, Spinach, Endive, Turnips, Horn Carrots, Radishes, Kidney Beans, Cress, Corn Salad, Chervil, &c. Most of these require a speedy stimulus, rather than such a depth and power of soil as we should deem necessary in July for a plantation of Spring Broccoli. Now, to manure for them in the ordinary way, is to prepare, rather, for other and succeeding crops, than for the present one. I, for one, am of opinion, that a farmer or gardener is by no means in duty bound to manure for his grandsons; let them, I say, manure for themselves. In other words, I do not call that the highest order of gardening or farming, which manures, "hap-at-a-venture," for three or four crops in succession; as I before observed, there is ever some portion of the manure in a soluble state, and, if not taken up by crops, must pass off during wet periods into the nearest ditch. Of course, there are some well-known rotations in farming matters, well approved, by long experience, and in general adapted to some system, which, as a whole, cannot be compromised with impunity. Also, in gardens, some of our really experienced gardeners have points of this kind which I have not the temerity to impugn. But, where no special reason, founded on experience, exists, I say, that as a general rule, it will be best to apportion the manure, or compost, and culture, to the crop it is intended to produce. The only real exception that can be made to this practice, as far as I am aware, is this, that by the very frequent use of artificial composts to the partial exclusion of organic matter, such as the strawy materials in dung, &c., the soil is apt to become too fine, and averse to the free transmission of moisture, &c.

By the help of tree-leaves, however, sawdust and weeds, slightly charred, I find that I can readily repair this damage.

To come to the point, then, as to the carrying out such a practice by system; I say, let every one regularly char slightly all weeds, as I do, and collect the residue into a heap, in a conical form to exclude rain. Let sawdust be added to it, as much in volume, or nearly so, as the charred material, the whole well turned and mixed; and as the compost is required for any given crop, sow a little Peruvian guano on the portion to be used immediately, and some dried soot; half-a-gallon of the guano, and about a peck of soot, will suffice for a cart-load of the compost. I am this day (September 6) going to sow Turnips—the *Dutch*, on some narrow borders, by this

mode, the ground undug. The fact is, they are fruit-tree borders, and may not be dug; and I find I can raise as neat and good-flavoured Turnips on the manuring of these as the field can produce. We merely draw a broad drill with the hoo flat, about three inches deep; the compost is then covered in the drill by hand, and the seed on this compost. I have, this summer, produced as fine a crop of Kidney Potatoes by this compost as by a good dressing of manure; indeed, finer. Having two divisions of wall-bordering, facing the south, and wishing to obtain some nice early *Ash-leaved Kidneys* for the cook, I manured one division, and used compost in the other, and the compost division was at the least equal to the manuring, though the cost could scarcely be a quarter as much.

In many cases it will be found where the soil is not very solid and intractable, that a deep drill, with about an inch or so of this compost, will produce very respectable crops of such things as I have quoted here. As for Turnips, I never dare dig for them in the kitchen-garden; they are even better in the drills here alluded to.

It must not be supposed, that in this discursive view of the manure affair, I have settled the question, or left it in the most satisfactory shape; the matter has wide bearings, and will bear another chapter or two, in due time. Let me hope to put other and longer heads to the consideration of this useful theme. R. ERRINGTON.

PYRAMIDAL PELARGONIUMS.

"THE constant dropping of water wears away the hardest stone," but a far more beautiful process, by the constant action of water on very hard stones and rocks, has never, as far as I know, been the subject of an adage. I have often bathed in a natural vase, made by the rushing of torrents of water falling over the rocky bed of a river, and I have caught trout which were trapped in such vases—the sides and bottom of the vase being quite as smooth as the skin of a salmon; I have also urged the plan of having pyramidal plants of the different kinds of Geraniums, or Pelargoniums, ever since I heard of it, without being aware that my appeals had made any impression till this very day; but it seems that the "constant dropping," or the rushing, has, at last, worn away the prejudice in favour of "squat" plants, and I am appealed to, at last, to smooth the process, as if by the rushing of waters, so as to make it plain and easy for our correspondent "Verax"—Truth himself, to have a dip into it.

Those who have the power of a hothouse, might very easily lay the foundation for a pyramid Geranium during the next winter. That is by far the easiest way to get a young plant, struck this summer, to run up in a short time with one leader, and that was the way I acted with the framework of those beautiful pyramids and standards which I mentioned this time last year, in my account of a visit to Shrubland Park.

In a former volume, I told of a lot of young plants of the fancy Geranium, called *Queen Victoria*, which I wintered in a stove; and between August and May, that is, from the rooting of the cuttings till the time they showed the first bloom, and had them up above four feet each. I wanted them for standards, and when once they got into bloom, I had some difficulty in keeping down side-shoots, and in getting them much higher that season, as this, and all the kinds of "fancies," show bloom at every second or third joint of young growth all through the summer. However, there they are to this day; some as standards, some as pyramids; and all of them seven or eight years old, and as healthy when I saw them at rest, last September, as any plants need be; so that no one need fear that his plants would soon wear out from the over stimulus. But why talk only of Geranium pyramids?

There is hardly a plant going which my successor at Shrubland Park does not train to that form. Before I left him, he had lots of pyramidal wire frames on the spot to begin his training, and he was at it as closely as ever when I called there two years after. Perhaps, the finest pyramidal plant then in Europe was one of my old full-grown Chinese Azaleas, which he converted in that short time to this style of growth. Noble as are those grand Azaleas, for which they give such high prizes at the London shows, they look bungling as compared to this high style of art in training.

Many plants cannot bear the jolting of carriage and from these shows, without being flathaired; and we shall never get rid of that style on that account, nor is it desirable that we should, if we could; but I have said all along, and I still affirm, that those great shows have done an untold amount of harm to gardening in our country, by holding out systems of training a particular set of plants as the perfection of our art and collections; while it was, and still is, only as a drop in the bucket, as compared to what we could do if the prejudice of the age had not been enlisted against us in these exhibitions, and tied us down to set rules, just as our soldiers were dandified till it came to the last push. Mrs. Grundy had the full sway over the animal and vegetable kingdoms in this country for a very long time indeed; but it is high time the good lady was booked for China or Australia, that we might have it all our own way for the next generation or two; but fortune and good luck never go on all-fours; the timid will be timid still; those who have been led by the nose, this far, will go out of this world no other way; and such as put their faith on "*what they say*," shall never have a shirt-button on; but by that same law and rule, if all the writers, editors, and all their books and journals, were drowned in the Red Sea together.

To return to pyramidal Geraniums. Let us, in the first place, advert to the Scarlet breed. These, when well managed, make the handsomest of all pyramids. This is a good time to look out for the best plants in the beds on open borders, and select so many of them for training at once; choose such as have grown the strongest during the last summer, and see which of the shoots is best placed for a centre or leader, and place a good strong stake against it, as long as itself; then begin tying it to the stake, at the bottom, getting hold of the old part of the stem first, and drawing that old bottom part close to the stake for the first tie; this may draw the top part farther from the stake, but that does no harm. You must keep on all the way up drawing in at every tie as near to the stake as the shoot will bear without splitting. Now is the time for the grand secret; a good centre shoot is secured, but there are three or four more shoots almost as strong, and it seems a pity to cut them; but we must have no seemings, or pities, or anything, but a firm resolution; every shoot on the plant, except the centre one, must be cut, unless it be a very short one indeed, and well placed; the lowest shoot, or shoots, must be left longer than those above them, and if any of them have been growing too upright for this style of training, they must be so bent down as to face out from the centre shoot, like a fruit-spur on a trained Pear-tree. And as all kinds of Geraniums are liable to split from the older wood when young branches are being bent, and also knowing that Geraniums do not heal over when split as readily as other plants, the surest way is first to tie the shoot which is to be bent to the mother branch, very near the bottom, and then to bend it down to the required position, and have it tied to a short stake before it is cut; then cut it half-way between two joints, and let the last eye be on the under side; no matter how short, or how long, the shoot must be cut; you must not cut to any eye but an underside one, for the first start, for this kind of training; the reason for

that is, that an eye on the under-side will make a shoot more at right angle with the main stem than any other eye can do; and the reason for cutting half-way between two joints is to give time to that soft part to dry, and while it is drying the juice in it will go to feed the eye, and cause it to make a stronger shoot than if the cut was made close to it; besides, a fresh wound close to an eye might fester before the eye pushed, and if it did, that of course would weaken it; but when the eye has pushed, and the shoot from it is three or four joints long, there can be little harm from a wound, and the stump may then be safely dispensed with.

Here, then, we see three things, each of them small enough in itself, but the three put together make up the grand secret of training pyramids in this family; the first is to secure the bottom from splitting; the second, to have the growing, or last, eye on the under-side of the shoot; and the third is, not to cut close to the eye till the shoot from it is long enough to be out of harm's way. Whatever may be the length of the shoots that are to be thus cut in, they should not be left longer than five or six inches, and if any two of them grow close together, or come one directly above the other, the higher one must be cut clean off; it is absolutely necessary that the primary, or foundation, shoots should be at good distances apart, so as not to crowd each other for the next twenty years, at least. This way of close cutting, at first, will soon tell in bulk, every one of these first side-shoots will represent a plant in a pot after a few years, and will, or ought to, have heads accordingly. But here is the image of the thing; stick a broom handle in the ground, and suppose twelve full-grown Geraniums, ready cut after flowering, and the earth and roots taken away, and the bottom of the stems grafted into the broom-stick, at what distances do you suppose the grafts should stand apart, so as to allow a full head to the twelve grafted heads? Some will suppose one thing, and some another, according to the size they have been accustomed to grow them in pots. There is not the smallest chance of the side-shoots being too far apart at starting, all the chances are the other way; but if we keep the fundamental rule in mind, the rest is easy enough; and that rule is, to consider every side-shoot as an independent plant, then prune it, and train it just as you would were it in a pot, and sure enough it will spread on all sides to meet the branches from the other independents. My only fear is, that in their haste, some will make secondary shoots of the primaries, then there is no chance of escaping a dead failure, and they will call me all manner of names for having caused such a mess.

In the old way of training, the plants had to be thrown away just when they were getting into their prime, because they would come naked at the bottom; but in this pyramid way, and keeping the first, or primaries, in the same way as if each of them was an independent plant, they must get naked and more naked year by year; and it is in that that the great beauty of the pyramid consists; all the growth is on the outside face, and the nakedness in the centre is hid entirely. The heads of all the first shoots meet, and make a whole face all round; as the plant gets up, the shoots are younger, and their heads are less in proportion—just the right way for a pyramid.

On the supposition that the fundamental rules are understood, we shall proceed to let the first-cut plants remain in the beds as they are till the frost threatens us; then all the stakes must be loosed, the plants taken up carefully; about one-half of their leaves must be cut off; the top of the plant just stopped, and no more, and the roots pruned as close as you would with a pot-plant in August; the soil to be good, but sandy, and the pot as small as the roots can be got into; then the centre stake to be put in, and the principal neatly tied to it; then water, and put the plant under cover.

A moderate heat of 50° would now be useful for six weeks; but a green-house treatment will do all the winter. Towards the end of January the plants should have a shift into pots one size larger, and a rich compost of loam and rotten dung, with a little sand; and a month after this shift, all the growth which is not wanted ought to be cut away; if the eyes on the leader are not started by this time, the leader must be stopped, to cause more eyes to push. A month before greenhouse plants are turned out, or say, at the end of April, the plants should have a liberal shift, which is to last them till September. The month in-doors after this shift will be sufficient to establish them in the large pots, and they will do better out-of-doors from the end of May, then to be plunged to the rim full in the sun, and to be turned round occasionally, so as to get them full-faced all round.

The rest of the treatment is merely to thin out where they grow close or crowded, and to stop such shoots as grow stronger than the rest, so as to get a well-balanced growth on all sides. The leader must not be allowed to flower all this season, nor allowed to grow above six or eight inches long, without a sufficient number of eyes breaking to form the pyramid, as it goes on. In September, the pots should be unplunged, and the plants left short of water, to prepare them for the annual close pruning, as with the old plan. Every side-shoot is still to be looked on as an individual plant, and is to be pruned accordingly, and kept thin at the bottom: without this, confusion comes, and a world of bother with sticks and training. A little training out of the shoots all the summer, and a few stakes, cannot be avoided altogether; but the eye, the fingers, and the point of the knife, ought to work together, so as to render as few sticks as possible necessary for Scarlet Geraniums; the greenhouse ones are not so strong, and must have sticks and training, just like single plants, on the old system.

For the first three years all the soil is to be shook from pyramids as from squat plants, and the roots as closely pruned; the last ten days of September will be early enough to cut Searlets for the season; but August is the best time for cutting greenhouse sorts, that is, for the first three years; after that, much depends on their times of flowering; but I would not have permanent plants like these to be pressed too much by late autumn flowering, or run the risk of a late cutting and shift; it is far more dangerous to cut Scarlet Geraniums late in the autumn than greenhouse ones, and, like fruit-spurs on horizontal shoots, it is very difficult to make up for a lost shoot in a pyramid. As all the greenhouse Geraniums in pots are cut by this time on the old system, we must pass them for the present; but any of them now out in the borders may be dealt with, as near as possible, like the Searlets.

I shall have a great deal to say about this way, and I thank "Verax" for breaking the ice. D. BEATON.

STANDARD FLOWERING PLANTS, FOR EITHER OUT-OF-DOORS, OR IN-DOORS.

SALVIA SPLENDENS.

The treatment of this as a conservatory flowering-plant has been given in an early volume. Few things are more handsome, as a greenhouse plant, in the autumn months, when the plants are grown on in summer, from cuttings inserted at the end of spring, and either kept in pots all the time, in a cold pit, after they become some size, or are plunged in the pots in an open compartment, or are planted out towards the end of June, and raised and potted towards the middle of September. Under the latter process, unless considerable care is exercised, the plant is apt to be deprived of a portion of its foliage.

In the vicinity of London, I have had this plant, and south and west of London, I have seen it very ornamental out-of-doors, in summer. A large specimen, saved over the winter, without great care, pruned-in a little in spring, grown on, and planted-out at the end of June, as a single plant on a lawn, has been a perfect blaze of scarlet in a sheltered place for a month or two. If my memory is not treacherous, I have also seen it do equally well out-of-doors in summer, in the Carse of Gowrie. These facts would show, that there are many circumstances besides latitude that influence climate. I have tried the plant repeatedly here, rather exposed, it is true, and never could get it to remain long in a healthy condition. I have some standards now that have not freely expanded their blooms, even in this extra warm summer.

Something like twenty miles east from this, in the same county of Hertford, I saw, two years ago, about this time, an avenue of standards of this plant, by the side of a walk, flourishing beautifully, though there seemed to be no difference whatever in the treatment given. Our readers will, perhaps, recollect the account of a bed of the *Erythrina cristagalli*, in the same gardens of Earl of Cowper, under the care of Mr. Thomas Dawson, such a sight as is seldom to be seen. The *Erythrina* plants which I tried were young, but, making every allowance for that, I question if that splendid coral plant will ever do so well here without shelter. Strong old roots, in any case, must, in this instance, constitute an element of success. When, at any time, the terms *south* and *north* are used, as to the position in which a plant will thrive, much must be allowed for the position and comparative shelter of the place. For instance, though here, in a rather high exposed place, we are only about thirty miles north of London, from the public papers I learn that vegetables and fruit from the open air find their way to the Edinburgh market sooner often than I can get them here. While, from private sources, I find that hardy fruits and vegetables, unassisted with any mode of fostering protection, are obtained about as early as here, on the banks of the Beany, near Inverness. There is, therefore, no reason why this *Salvia* should not be tried in many places far north of London, both in the bush and standard form out-of-doors, as where it will succeed, it will be found, taken all-in-all, to be the prince of Sageworts.

When the object is to obtain standard plants for the greenhouse in autumn, they may be obtained from three to five feet in height, and with nice, compact little heads, from cuttings struck in April in a hotbed. After the first and second pottings, the plants should be replaced in a rather close and warm place, to encourage them to grow freely, and by the middle of June the cold pit will furnish all the closeness necessary. Towards the end of July they will require a free admission of air, and from first to last, until the flower-buds are allowed to remain, a free application of the syringe to keep the red spider at a distance. During the first part of this period, the young plant should be grown to one stem, allowing every leaf to remain as long as it will hang, but removing every aspiring side-shoot, and keeping all weakly ones shortened-in to one bud as they grow. This will add to the strength of the stem more than removing them altogether at once; and if your fancy should lead in that direction, you may ultimately choose whether you would prefer a stem perfectly clean, or with rings of small leaves at the joints. I find that on *Fuchsias*, and *Scarlet Geraniums*, such green garniture, of what otherwise would be naked stems, is rather desirable than otherwise.

When the main shoot gets as high as you consider necessary, its top should be pinched out, leaving about half a dozen buds to break and form the future head, all

others lower down being slipped out with the point of a penknife as they appear, but without hurting the foliage. The shoots from these buds may be stopped again, a time or two, to make the head more compact and bushy, in order to furnish a sufficient number of shoots to produce the blooms on their points. To have fine large spikes of bloom, it is not desirable to stop the shoots after the middle, and, at the latest, the end of August.

While all this has been going on, the plant must be attended with pot-room, shifting it as the roots get the least matted. A 12 or 14-inch pot will grow a very nice specimen. Equal portions of heath-mould and loam, and rather rough, will grow them admirably, provided plenty of weak manure-water is used, or, what will answer rather better, a good coating, say half-an-inch thick, of one-year-old cow-dung laid on the surface of the soil, in the pot, watering with a rose over it, and removing a portion and adding more as the virtues are washed out of it. A sprinkle over the foliage with clear soot-water will also be beneficial. "But how get this clear soot-water?" I answer this in a sort of parenthesis, because several friends cannot get their dry soot, nor get their dry sulphur, to mix with the water at all, and we have had considerable trouble to get assistants to do it in the very easy way, though of course involving a very little trouble, which does away with all the difficulty. Whatever the quantity of the dry powdery matter, use no more water at first than will be sufficient to beat it up, with broom, brush, or flat stick, into a thick paste, and this done, the water added afterwards will amalgamate freely; but if you do not do this, you may beat and flounder away for hours before you will get the dry powder to amalgamate with the water. The above mode will secure the mingling, and a little quicklime added will secure the *clearing*, so that after removing the scum, you will get a clear liquid in twenty-four hours. For instance, here is a thirty-gallon barrel; a shovel full of soot is put into it, genuine stuff, not three-parts dust, or sawdust blackened; rather better than a quart of water is added, and thoroughly incorporated with it, until not a particle of dry soot is to be seen; then half-a-shovel-full of quicklime is added, and the barrel filled with water, and well stirred with the broom, and in the time specified above it will be as clear as brandy.

For plants to bloom out-of-doors, it will be preferable to use such plants as above, after keeping them over the winter, or bush plants that bloomed in autumn and winter, after being kept under the stage of a greenhouse, may be pruned up to a single stem, the old soil shaken from the roots, fresh potted, encouraged to grow with a good place in the greenhouse, or where there was more heat, hardened off by degrees by the beginning of June, and planted out towards its middle and close. Those who have been so fortunate as to see this plant do well out-of-doors will not regret the little trouble, even should they be partly beaten in gaining a high success at the first trial.

SALVIA FULGENS.

This, and the variegated-leaved variety especially, is a splendid thing for beds out-of-doors, from the middle of August until sharpish frosts come to visit us. Being much hardier than the above, standards answer admirably out-of-doors, and are no unpleasant feature in a greenhouse in winter. To have them in full bloom at that period, and also in the spring of the year, the points of the shoots must be pinched out in August. It may be managed from a cutting, exactly as described above for *S. splendens*; but where beds of it exist, the quickest way to obtain possession of standards would be to fix upon some strong shoots, give them a little training for that purpose, and then lift and pot them before the stems are injured by frost, and keep them

in any out-of-the-way place, beneath the stage of the greenhouse, a dry shed, &c., where frost would be excluded. The leaves, of course, would fall; but if the buds are kept uninjured, the returning warmth of spring will cause them to expand, when the plants must get a better place, be encouraged to grow, and then hardened off for out-door practice by the first of June. Loam should form the chief ingredient in the compost of this plant; cow-dung, or horse-droppings in a decayed state, may be used as a top-dressing, when more strength is required. Additions of peat-earth and leaf-mould are apt to make the plants grow thin, instead of robust and compact.

SALVIA GESNERÆFLORA.

Whatever course of treatment I have adopted, I never could get this to bloom in any thing like perfection, except in the spring months: as an out-door plant, it is, therefore, of little use. I have turned out large plants in May, but they were not worth their room. Somebody else may be more fortunate, as, next to *Splendens*, this seems to me the most beautiful of the family. It will answer admirably as a standard in the greenhouse, and in that style escape an objection against its use when grown as a bush. It seldom does well in a small state. A huge bush does not only look best, but the flower trusses are much finer generally than are smaller plants with a few shoots. This very size militates against its use from the room it takes up, and giving you nothing all the winter to look at but a mass of green foliage. Obtain a fair-sized head on a stem, some four or six feet in height; and then the space it occupies is not lost, as it may be filled with smaller plants beneath it. As remarked, however, the other week, to secure the advantage of this, the use of standards in a house must be moderate. Cuttings inserted in spring will make good standards in a twelvemonth. A bush intended for blooming next spring may be pruned up and grown as a standard the year following. After the beginning of June, the plants will get on better, plunged or planted, out-of-doors, than in any position under glass. In the one case, care should be taken to prevent the roots getting through the pot for any distance, by placing the convex side of a crock, or piece of broken pot, over the hole at the bottom, and loose drainage above it, and also leaving a hollow space beneath the pots. It is better to encourage surface-rooting, by plunging the pots several inches beneath the surface, and saving the roots that are produced there, by inserting them and the old ball in a larger pot by the middle of October. When planted out, a little lightish soil should be placed round it, and then the soil of the garden, or border, be allowed to remain rather firm and poor, and then the roots will not proceed far from home, and the plant will lift with a good ball. In this case, the plant should be raised by the end of September, and be set in an airy, shady place, for a few weeks, until the roots were growing freely in their new quarters; shortly after which, the plant will want the protection of the greenhouse, or any airy place, where the temperature seldom falls below 48°.

SALVIA INVOLUCRATA.

This is the last of this genus I shall name. Now and then you will meet with a bed in August and September, owned by people who do not despise old things, that rivets your attention by the beauty of its pinky-red flowers, produced in great profusion. It is not much more hardy in winter than *Splendens*, though in most places it blooms freely out-of-doors in the autumn months. It is grown with equal facility, and requires just less care in its earlier shiftings. I only tried it as a standard once, and found that the stem is even more brittle than that of *Splendens*. A plant, several years old, with a large head, supported by the Gardnerian

mode described last year, will have a fine effect out-of-doors, or in the conservatory. I do not, however, consider it equal for this standarding to these already named. The compost should, so far as Heath soil is concerned, resemble that for *Splendens* in its earlier stages, but for large plants it should consist nearly wholly of good fibry loam.

I find that many other plants must wait. Before getting thoroughly into this standard question, read what was lately said of the circumstances in which they should be used. There are many positions out-of-doors, such as in dwarf beds, that a tall, conical-shaped plant, or a very dwarf standard, would be far preferable, as a gaze point, to a tall, leggy standard. R. FISK.

GREENHOUSE FERNS.

(Continued from page 437.)

ASPLENIUM AXILLARE (Axillary).—This Fern has been transferred from *Aspidium* and *Allantodia* by Mr. Smith, of Kew. No doubt it is a true *Asplenium*, by its linear seed-cases, placed on the upper side of the veins. Fronds oval, lance-shaped, bending forwards, thrice-cut, growing two feet long, of a beautiful lively green; pinnæ wide apart; leaves narrow and sickle-shaped, cut at the edges; seed-cases narrow, sometimes two on a vein; root-stock thick and creeping, by which it may be easily increased by dividing the rhizoma across, with a frond beyond the cut. It is a native of Madeira.

A. BROWNII (Mr. Brown's), named so by Mr. Smith, in honour of Mr. R. Brown, the eminent botanist, who spent many years in New South Wales, of which country this Fern is a native. Fronds two to three feet long, dark green, lance-shaped, and rather drooping, and partly thrice-cut; pinnæ lance-shaped, with the leaves, or pinnules, largest next the stem, sharp-pointed, and cut at the edges into oval segments; stem scaly; sori, or seed-cases, oblong, with a rising cover or indusium; root-stock thick and creeping. Increased by division.

A. BULBOFERUM (Bulb-bearing).—From that great storehouse of Ferns, New Zealand. Fronds two feet high, erect two-thirds of their length, then gracefully bending downwards, partly thrice-cut, producing living plants plentifully on the leaves, to manage which, see *A. compressum* below. This Fern is remarkable by having the under-surface of the leaves covered with small heart-shaped scales of a dark colour.

A. COMPRESSUM (Compressed).—A Fern from the rocks of St. Helena. Fronds two feet high, pinnate, very stout and leathery, main stem winged; pinnæ broad and compressed, nearly every one producing plants, bluntly cut at the margin, root-stem erect. Increased by the young plants produced on the leaves. These should be taken off, and laid on the soil, and covered with a bell-glass, and when fairly rooted and fresh fronds produced, they should be potted off into small pots, and repotted as they require it. All the viviparous Ferns should be treated in a similar way, in order to make sure of good plants quickly.

A. DIMIDIATUM (Halved).—The *A. formosum* of gardens. A beautiful Fern, from the mountains of Jamaica, but hardy enough to bear a greenhouse treatment. Fronds slender, a foot high, and pinnated; pinnæ oblong, overlapping each other and sharply cut at the margin; seed-cases narrow; several pairs on each leaf. This is a dwarf, lovely Fern, though it is rather scarce. Increased by seeds only.

A. DIVERSIFOLIUM (Various-leaved).—A Fern discovered by the late A. Cunningham, in Norfolk Island. The fronds of this Fern are very variable; some are broad, others partly so, and others all quite narrow; I have

them now growing in all the stages. The narrow ones are generally fertile, but the others also bear seed sometimes, so that they cannot be divided into barren and fertile fronds. By this peculiarity it is easily distinguished from any other species. Increases readily by division, hence it ought to be in every collection.

A. EBENEUM (Ebony or Black-stalked).—The habitat of this Fern is rather wide. It has been found at the Cape of Good Hope, in Mexico, and North America. It is a neat, rather dwarf species. Fronds nine inches high, long, lance-shaped, and pinnated; pinnæ overlapping, heart shaped, rounded at the top, and notched at the margin; stems black, shining, and rather hairy. Increases readily by seed.

A. FLACIDUM (Feeble).—A new Zealand Fern, of a drooping habit, hence it may be grown in rustic baskets. Fronds long, lance-shaped, two feet or more long, often tripinnate, and dark green; pinnæ very long and narrow, producing plants on the apex and ends of the segments. Increased by division, as well as by the young plants on the leaves.

A. FLABELLIFOLIUM (Fan-leaved).—From New Holland. This is also a drooping or rather weeping Fern, and is proper to be placed in baskets, to hang from the roof, or it should at least be placed upon a tall pot turned upside-down, to allow room for the fronds to droop, and be seen their full length. Fronds long and narrow, growing a foot long, pinnated about two-thirds of the length of the frond, the rest being naked. It produces roots, and a plant at the end of each full-grown frond; by these it must be propagated.

A. FURCATUM (Forked).—A Fern, from the Cape of Good Hope, of great beauty. Fronds bipinnate, or twice divided, growing a foot high; pinnæ sharp oblong; leaves wedge-shaped, with a deep incision at the top; stems covered with brown scales; root-stock round, slender, and creeping. Increased by division.

A. LUCIDUM (Shining).—Native of New Zealand. Fronds two feet long, leathery and shining, pinnated and lance-shaped; pinnæ with long-stemmed leaves, wedge-shaped, and serrate, or cut.

A. MARINUM (Sea-side).—Though a native of Britain, on the rocks near the sea, this Fern never thrives well in gardens in the open air. In the greenhouse, on the contrary, it grows remarkably fine, much larger than it is ever found wild. I have had plants with fronds eighteen inches long. At Sion House, the seat of the Duke of Northumberland, it may be seen forming quite a bush, two feet high and as much through. It is found, also, in the Channel Islands, the south of Europe, Madeira, Teneriffe, and the north of Africa. Fronds long, lanceolate, pinnate, and dark green; pinnæ oblong, rounded at the apex, sharply cut at the edges; stem winged. Increased by division.

A. MONANTHEMUM (One-seeded).—A scarce Fern, from the West Indies and Cape of Good Hope. Fronds pinnated, one foot long, and bright green; pinnæ half-cut, partly overlapping, round at the top, and bluntly cut on the upper margin. Seed-cases narrow, and solitary; stems black, placed on a non-creeping rhizoma; hence it must be increased by seed. I believe this Fern is only in cultivation at Kew.

A. OBTUSATUM (Blunt-fronded).—A very handsome Fern, native of New Zealand. Frond rigid, erect growing, leathery, bright green, and pinnated. It is a dwarf species, seldom growing more than nine inches high; pinnæ bluntly oblong, rounded and serrated at the margin; main stem always winged; stems of the leaves covered with scales. A very remarkable and well-defined species. Messrs. Osborne, of Fulham, cultivate this handsome Fern on the floor of their greenhouse very successfully. Increased by division.

A. PALMATUM (Hand-shaped).—A handsome Fern; native of the Canary Islands; fronds simple, but deeply

divided into five lobes, hence its specific name; growing only ten inches high. Increased by dividing the creeping root-stock.

A. POLYODON (Many-toothed).—Another handsome Fern from New Zealand; fronds pinnated, lance-shaped, growing two feet long; pinnæ nearly square, with long stems; each leaf is divided into segments, and each segment has two divisions or teeth, hence its name—Many-toothed; stems scaly. Increased by division.

The remainder of greenhouse *Aspleniums* are—*A. præmorsam* (Jagged-pointed). *A. pubescens* (Downy), and *A. umbrosum* (Shade-loving); all worthy of cultivation.

T. APPLEBY.

(To be continued.)

EARLY-FLOWERING BORDER PLANTS.

(Continued from page 438.)

DALIBARDIA.

This is a commemorative name in honor of M. Dalibard, a French botanist. The genus has only one species, and it must be grown in a dry south border, or on rockwork facing the south.

D. VIOLÆOIDES (Violet-like).—A pretty white-blossomed plant, growing six inches high, flowering in May. From North America.

DELPHINIUM.—LARKSPUR.

This well-known tribe of hardy perennial flowers are generally great favourites in every garden. I am glad to record a few that flower in May. The name is derived from *delphin*, a dolphin; the spur or heel of the flower being supposed to resemble the head of that fish.

D. CHEILANTHUM (Lip-flowered).—From Siberia; a charming plant, with deep blue flowers, appearing in May, and growing two feet high. Increased by seeds and by division.

D. FLEXUOSUM (Zig-zag).—Lately introduced from the Caucasian mountains; colour blue; height two feet, and flowers in May. Increased by division.

D. INTERMEDIUM LAXUM (Loose-flowered).—A garden variety.

D. INTERMEDIUM LEPTOSTACHYUM (Slender-spiked).—From the Pyrenæes. These two are tall growers, reaching often from four to six feet high. Both have blue flowers, and appear early in the year, about the latter end of May. They require rich soil, and a warm, sheltered border. Increased by division.

DENTARIA.—TOOTHWORT.

A genus of plants, with very pretty flowers, but they are seldom seen in gardens; why, it is difficult to say, unless it be that they have tuberous roots; and are planted in open borders, in dry soil, exposed to the full sun, which is sure to be fatal to them; plant them, therefore, in shady, moist, situations, and they will thrive and flower well. The name is derived from the tooth-like roots.

D. BULBIFERA (Bulb-producing).—Found, but rarely, in England; grows a foot high; bears purple flowers, in April. Increases by dividing the tuberous roots, and by seeds.

D. DIPHYLLA (Two-leaved).—From North America; with white and purple flowers, in May; nine inches high. Increased by division.

D. ENNEAPHYLLA (Nine-leaved).—From Austria; colour of the flowers pale yellow; a foot high; appearing the latter end of April. Increased by division.

D. GLANDULOSA (Glanded).—From Hungary; flowering in May; colour light purple; a foot high; and increased by division.

D. MAXIMA (Largest).—A rather tall species, from North America; two feet high; large purple flowers, appearing in May. Increased by seed and division.

D. PINNATA (Pinnated, or Winged).—From Switzerland; growing a foot high; with pale purple flowers, appearing in April.

The rest all flower in May, and, excepting the last, which is white, have all purple flowers, and all grow about a foot high.

D. POLYPHYLLA (Many-leaved).—Hungary.

D. QUINQUEFOLIA (Five-leaved).—Tauria.

D. TENUIFOLIA (Slender-leaved).—Siberia.

D. TRIFOLIA (Three-leaved).—Hungary.

DIANTHUS,—THE PINK.

Liko *Delphinium*, this is a large genus; the greater part of the species flower in the summer months, and are, therefore, not within my prescribed limits; there are, however, one or two that flower early.

D. DUBIUS (Doubtful).—A garden production, flowering in May, with white and rose-coloured flowers. Increased by cuttings and layers.

D. FISCHERI (Dr. Fischer's).—From Russia; with red flowers, appearing in May; and growing a foot high. Increased by cuttings in sand, under a hand-light, or by layers.

D. POLYMORPHUS (Many-formed).—Native of the Crimea; flowering as early as March; colour deep red; growing a foot high. Increased by cuttings and seeds.

DIELYTRA.

This is, comparatively speaking, a newly formed genus, and the name is very happy and appropriate. Derived from *dis*, twice, and *elytron*, a sheath; the parts of fructification being sheathed or covered by the two sepals. They all flower early. I have seen *D. spectabilis* in flower, in the open air, as early as the middle of April. The species are all allied closely to *Fumaria*.

D. BRACTEOSA (Bractea).—A North American plant, with white flowers; growing a foot high. Increased by division as soon as it has flowered, or very early in spring.

D. CANADENSIS (Canadian).—White flowers; growing nine inches high. Increased by division.

D. CUCULLARIA (Hooded).—White; nine inches high; native of North America. Increased by division.

D. EXIMIA (Choice).—This was formerly *Fumaria eximia*, and is a handsome hardy deciduous perennial; from North America; with pink flowers. Increases freely by division.

D. FORMOSA (Handsome).—Excepting *Spectabilis*, this species is the handsomest in the genus, with pretty pink flowers, produced freely amongst the handsome Fern-like foliage; the flowers grow a foot high. Native of North America. Increased freely by division.

D. SPECIOSA (Showy).—Pink flowers, growing a foot high.

D. SPECTABILIS (Remarkable).—This fine Chinese plant is perfectly hardy. I saw, this summer, in the gardens at Wilsick Hall, the seat of T. Walker, Esq., so far north as Yorkshire, a plant that had stood out several winters in the open air, and had no protection. It was the largest plant of the kind I ever saw, measuring five feet high, and six feet diameter. It was the first week in July when I saw it, and had then many flowers upon it. The gardener, Mr. Robinson, an old friend of mine, assured me that six weeks previously it was a perfect blaze of flowers. This is one of the best plants Mr. Fortune has introduced from China. It forces admirably, and flowers well in the greenhouse as early as February; but it is advisable to plant such forced plants out in the open border to make a summer growth, then take them up about October, re-pot them in larger pots, and they will be much stronger and

flower finer the following year. I saw, also, this last spring, a long row of strong plants, in Mr. Mountjoy's nursery, at Ealing, that were in full flower in the open air, on the 23rd of April. The frost that was so remarkably severe on that night partially cut the tops, but afterward they broke out afresh, and flowered well in May. Increases readily by dividing the strong, fleshy roots with a crown to each, and also by young tops, planted in sand, under a hand-light, or a gentle heat. Everybody that has a garden ought to grow this plant.

D. TENUIFOLIA (Fine-leaved).—From the cold country of Kamschatka; produces pink flowers; grows a foot high; and is increased by division.

DIPHYLLEJA.

Derived from *dis*, twice, and *phyllon*, a leaf, the plant having two leaves on one stem.

D. CYMOSEA (Cyme-flowered).—This is a pretty plant, seldom seen, but is worthy of being sought after. It has white flowers in May; grows nine inches high; native of North America; and is increased by division. It is, strictly, a rock-plant, but will thrive on a peaty, dry border, rather shaded.

DODECATHEON.—THE AMERICAN COWSLIP.

The English name is probably given to these plants because they flower in heads, or clusters, like our common Cowslip, and because the flowers appear about the same time. In no other respect have they any affinity with that plant. The generic name is an ancient one, applied by the ancient Roman author, Pliny, to a plant with similar leaves. The plants all require a warm, dry, sandy loam; and are increased by dividing the crowns of the roots. They are very handsome.

D. INTEGRIFOLIA (Intire-leaved).—From North America; growing half a foot high; with flowers of a light purple colour appearing in April.

D. MEADIA (Meadia).—Of this handsome species there are several varieties, namely:—*Albiflora* (White-flowered); *Elegans* (Elegant); *Giganteum* (Gigantic); and *Lilacina* (Lilac-flowered). They all flower in May, grow a foot high, and are increased by division.

DORONICUM.—LEOPARD'S BANE.

This is a tribe of early-flowering plants which will thrive in any soil, and almost any situation, but are rather weedy-looking plants. I shall select one or two of the best.

D. ALTAICUM (Altaic).—White flowers, growing a foot high, and appearing in June. Increased by cultivating it for a year, and then dividing the roots.

D. CAUCASICUM (Caucasian).—Yellow; flowers in June; growing a foot high; a rare species. Increased by division.

D. COLUMNÆ (Columna's).—Golden yellow; two feet high; flowers in May. Increased by division. This makes a good early bed, or large patch in a mixed border.

DRABA.

A genus of the dwarfest of plants, many of them growing only an inch or two high. They are chiefly useful as rock plants, but will thrive in a dry soil, in a warm, sheltered situation.

D. AIZIODES (Aizoon-like).—This little yellow flower is occasionally found on the mountains of Wales. It flowers as early as March; growing three inches high; with yellow flowers. Increased by division.

D. ALPINA (Alpine).—From the cold regions of Lapland, where its pretty yellow flowers appear as soon as the snows are melted by their short summer's sun. In our gardens it flowers early in May, growing only an inch high; colour yellow. Increased easily by division. This plant, though a native of so cold a

country, cannot bear our dry frosts, because it has not the snow to protect it. It is advisable to keep a duplicate or two in a cold frame.

T. APPLEBY.

(To be continued.)

THE TOMATO.

THE well-being of a plant usually depends on all its parts being kept in a healthy, working action, and in such a way that each may be duly balanced to its compeers; for instance, a proportionate amount of root is allowed to a corresponding quantity of stem or foliage, and to curtail either, so as to materially destroy the proper "balance of power," is attended with ill effects to the plant as a whole. This is so well understood by our Grape-growers, and others, that it forms one of the most important features in their mode of management. But, while this judicious "balance of power" is so essential in the cultivation of plants having what may be called a permanent existence, it is not always advisable in others having a more limited period of endurance: in the latter case, the object in view is to obtain as much as possible of what we esteem the most useful part of the plant before we part with it, and in so doing, we do not scruple in sacrificing all the other features about it. For instance, we do not leave any more of the foliage on the Melon than is necessary to keep the plant in that healthy condition required to perfect the fruit we aim at obtaining, while it is true, we too often see that system carried to excess, for a certain amount of foliage is requisite to the well-being of the plant; but the exact quantity to leave on forms one of the nice points in gardening, and is, in fact, one of those cases where the "balance of power" may be said to be in force, only in another form to the one noted above.

There are other purposes for which this balancing principle may be sacrificed, or rather, where an "unequal balance" is sought for and obtained. Some plants flower best when punished to an extent that is hurtful to their health, and we never hesitate to do that where it suits our purpose; while, sometimes, a contrary course is taken to secure health. In the latter case, a good example is found in picking off the immature flower-buds of Camellias. This enables the plant to direct its undivided energies to the formation of wood-buds, calculated to burst forth, at the proper time, with increased vigour—only, this must not be carried to excess; a few flower-buds must be left on, otherwise the plant will, in its endeavours to form others at an improper season, do itself more harm than it would have done had it not been meddled with; while, by leaving a few (if ever so small a quantity), the energies of the plant are concentrated in perfecting these to an improved degree, so that flowers of more than ordinary fineness are the result.

Acting on the principles embodied in the above remarks, we now come to treat on a plant having but a brief existence—in fact, an "annual." The *Tomato*, whose fruit, being the only useful part, is of some importance to have in as great abundance and as good in quality as possible; and here we have only to look to the present time; there is no necessity here for that judicious thinning which is necessary to put in force with the Peach, and other crops, so as to insure fruit another season; for here we have a plant to deal with whose existence will be at an end as soon as the fruit is gathered. In this case, therefore, a considerable portion of both top and root is sacrificed, and now-and-then some of the late fruit likewise, in order to hasten the ripening of those that are left, so as that they may attain the greatest perfection before the severe weather sets in. Now, in doing this, nothing more is wanted

than thinning-out the shoots well, securing those that are left to the wall, and otherwise checking that redundancy of sap which is directed more to the production of wood than ripening the fruit. Some other conditions, however, must be borne in mind at the same time, which it would be prudent here to notice.

Believing that the Tomato is, in most instances, planted against walls, or close fences of some description, the above remarks are mostly intended that way; but they are sometimes grown as standards, tied to a stake, like Raspberries: when that is the case, the thinning and tying up must be equally attended to, as well as stopping the shoots and thinning the fruit, otherwise an overgrown mass of foliage will be the result. Now, this thinning and stopping is, no doubt, detrimental to the plant, as shown above, but that we do not care for, so long as we obtain fruit in a good condition; and, further to encourage that object, or, rather, perhaps, to check the other, we adopt the necessary plans to limit, or check, the growth of un-called-for wood and foliage, by attacking the roots as well. This process is also very simply done—for, thrusting a spade down all around the plant, at the distance of about eighteen inches from it, its principal feeders are cut, and the plant, deprived of the principal means of increasing its dimensions, is forced to apply its remaining energies in perfecting the fruit allowed to remain on, which, with now and then picking off a few leaves, will allow the plant to indulge its fruit with all the sunshine the season affords, and its swelling and ripening may be depended on with more certainty. Small fruit may also be picked off as they show themselves, if it should appear not likely for them to ripen, for they only weaken the plant, and divert it from directing its whole energies to the perfection of what fruit it ought to ripen.

It was long thought this plant was almost proof against either insect or disease, or, at any rate, was seldom afflicted with either to the extent that others were. This, however, must now be received with a qualification; for I have seen plants which seemed to be strongly tinctured with the Potato disease, or something very like it—certainly not this season; but last year it was so, and, in many places, very few good fruit were saved, even where everything seemed to tend to their advantage, save the season, which, as will be remembered, was a very bad one for such things. Now, as the plants showed every symptom of disease, it is not unlikely to visit us again, when everything conspires to make it do so; but, whether it had any analogy with that to which its near relative was afflicted with, or whether it was a premature decay, caused by the ungenial climate it had to endure, I leave for others to determine; but the suddenness of the attack, combined with other circumstances, would favour a belief that it was related to the former in other respects.

The Tomato seems capable of struggling against any other enemy it is likely to encounter—unless it be king frost, whose arrival is death to it; but a careful cultivator will sometimes save his plants for a little time by some homely covering, in order to perfect their ripening; for, though that can, in a manner, be done by hanging the full-sized fruit up in some warm place, still, it is not so good as when done on the plant, neither is it at all so well for the fruit keeping; but, when necessity calls for the fruit's removal, a dry vinery, or other place, will do to hang them in, and it is surprising how full-sized green ones will attain colour, without withering so much as might be expected; but, of course, they are not so good as those ripened sooner on the plant, and fully exposed to the mellowing influence of sunshine and air.

After writing thus far I may mention that, as far as I am able to learn, the crop of Tomatoes seems very

promising in most places, the fine sunny weather we had the latter part of August, and beginning of the present month, having, in a great measure, compensated for the dull and cold season of Midsummer; and I need hardly say, that other things have benefited equally by the agreeable change. But, as the Tomato requires all the heat that our summers afford, it frequently happens that, in a very dull and cold one, it refuses to ripen its fruit entirely, unless when placed under advantageous circumstances. This led some cultivators to try the plan of rearing their young plants the preceding autumn, and, carrying them through the winter, they thought something might be gained that way; but I have never been able to obtain fruit any earlier by so doing, and the many mishaps the plants are subject to at that inclement season renders it a matter of much doubt whether it is worth the trial or not, and, as the seeds easily vegetate in the dark days—say after the new year—young plants, of any reasonable size, may be had by the planting-out time; in fact, they grow so fast that they speedily become too large for their pots, and for the space allotted them; for it must be remembered, at that important season every nook and corner is filled with something or other, so that room for bulky plants of Tomatoes cannot well be spared.

Although there are several varieties of Tomato, the *Large common Red* is the one most grown; but there is a yellow one held in some esteem for certain purposes; but, as the habits and other features of the plants are the same, one description will do for all. One thing, however, is necessary to say, that when large, fine fruit are wanted, it is advisable to save the seed from such as are really fine, for where this plan has been followed out for a number of seasons, a decided improvement is perceptible; and, although I am not prepared to say that any advantage arises from selecting the earliest ones, yet it is reasonable to suppose that such an advantage does exist. Keeping the fruit in dry sand during the winter I have found a better way than by washing out the seed and putting it away in papers, besides being a less troublesome one; and, I need hardly say, that for seed purposes, damaged fruit are quite as good as sound ones, only, as stated above, they ought to have been originally large and fine.

J. ROBSON.

WELLINGTON, SHROPSHIRE, POULTRY SHOW.

THIS annual meeting was held on the town Bowling Green, September 6th, and following day. No exhibition of poultry could have improved more rapidly than the present one over that of last year. The arrangements were very complete, and effective; the committee providing every possible comfort for the poultry exhibited, and also for the numerous visitors. The whole of the extensive Green was surrounded with a double tier of pens of poultry, over which a sloping wooden-roof extended some eight or nine feet from the fronts of the pens, affording every necessary shelter from the excessive sunshine, as it would, also, from rain, had it unexpectedly occurred. This plan was the subject of much commendation, as was also the great promptitude with which the fowls were returned to their owners at the close of the exhibition; features well calculated to add to the success of future meetings. Many of the most highly-reputed amateurs contested for the prizes, and the result was, in almost every class, the competition was extreme. The adult *Spanish* were, from moulting, considerably out of condition, but the chicken of this class were, both in plumage and character, far superior to those generally exhibited; both the prizes in this class, it will be seen, were secured by birds, the stock of E. Simons, Esq., of Birmingham, whose repute in this variety is notorious. In *Grey Dorkings*, where all were so excellent, it would be almost unjust to particularise, they have rarely been equalled. Edward Gwynn, Esq., taking both prizes in birds of this

year, and among the unsuccessful, many pens of very unusual merit remained. It will be seen by the prize list that "the whole class was meritorious." Among the *Dorkings*, however, we must not forget to make most favourable allusion to a pen of excellent Greys, that were the winners of the "Cottagers Prize," given by the judge. They were a trio that would have borne out a very respectable position in any exhibition, and were a great matter of attraction, both from their really intrinsic excellence, and also from the great emulation that had prevailed among the neighbouring poor to secure this premium. Several other competitors for this prize exhibited most creditable specimens, and it is intended, from *this result*, another season, to have similar inducements held out to the surrounding agricultural labourers, to improve their domestic comforts, by the culture of poultry; as, certainly, there was not a single pen in the whole exhibition that were forwarded in *higher condition*.

The *Cochin* classes have generally, of late, been but badly represented; in this instance, it was directly the reverse—the Buffs of Lord Berwick, and those of the Rev. and Hon. H. W. Hill, of Berrington, though unusually excellent, being very closely rivalled by some of the other competing pens. Great attention seems to have been paid in this district to the *Cochin* classes. The *White Cochin Chicken* were singularly beautiful and deserving specimens; the entries of Miss C. Alcock, of Edmond, Shropshire, were four of the most perfect pens we ever yet saw; indeed, the visitors congregated continually around them. They were highly-conditioned, truly characteristic, and *exceedingly* clean specimens. The *Partridge* and the *Black* varieties were indifferent. The old *Game* birds were sadly out of feather, but the chicken class abounded with most excellent specimens, and great enthusiasm prevailed among their respective owners, the whole class being most excellent. The *Hamburgs* were very superior, of every variety; almost the whole of the prizes being secured by most extraordinarily deserving specimens belonging to Josiah B. Chune, Esq., of Coalbrookdale. The *Polands* were very good. Among the *Bantams*, the prize pens were such as are rarely met with; the successful *Sebrights* being complete gems, but carefully secured from change of ownership by the really prohibitory demand of four hundred pounds! The *Geese* were very good, as were also the *Aylesbury Ducks*. The *Pigeons* were a splendid display; eleven prizes being allotted to the celebrated collection of G. C. Adkins, Esq., of Birmingham.

Nothing could exceed the good feeling and admiration expressed by the assembled visitors, as to the general appointments for both their own comforts, and also of the poultry, and the exertions of the acting committee cannot be too highly extolled.

The judge was Edward Hewitt, Esq., Birmingham.

Class 1.—SPANISH.—For the best Cock and two Hens.—Birds exceeding one year old.—1. First prize, William Pointon, Burslem, Staffordshire. 2. Second prize, William Pointon, Burslem, Staffordshire. Highly Commended.—5. S. T. Smith, Park-lane, Madeley.

Class 2.—CHICKEN OF 1854.—For the best Cock and two Pullets.—7. First prize, E. Simons, Speedwell Road, Birmingham. 8. Second prize, E. Simons, Speedwell Road, Birmingham. Commended.—12. Joseph Busst, jun., Walsall, Staffordshire. 14. R. Peplow, Church-street, Wellington.

Class 3.—DORKING (Coloured).—For the best Cock and two Hens.—Birds exceeding one year old.—16. First prize, J. B. Chune, Coalbrookdale. 17. First prize, Edward Tuscan, Tern, near Wellington. (Cottager.) Given by Mr. Hewitt.

Class 4.—CHICKEN OF 1854.—For the best Cock and two Pullets.—19. First prize, Edward Gwynn, Wem, Salop. 24. Second prize, Edward Gwynn, Wem, Salop. Highly Commended.—20. George Jukes, Beslow, Salop. 26. Lord Berwick, Cronkhill, Shrewsbury. 30. T. W. Davies, Sugdon, Salop. Commended.—31. T. W. Davies, Sugdon, Salop. 29. Miss E. Steel Perkins, Sutton, Coldfield. (Whole class meritorious.)

Class 5.—DORKING (White).—For the best Cock and two Hens.—Birds exceeding one year old.—34. First prize, H. J. Taylor, Haygate, Wellington.

Class 6.—CHICKEN OF 1854.—For the best Cock and two Pullets.—35. Second prize, J. Pritchard, Charlton, near Wellington.

Class 7.—COCHIN-CHINA (Cinnamon and Buff).—For the best Cock and two Hens.—Birds exceeding one year old.—39. First prize, Lord Berwick, Cronkhill, Shrewsbury. 40. Second prize, C. Felton, Wem, Salop.

Class 8.—CHICKEN OF 1854.—For the best Cock and two Pullets.—43. First prize, Hon. and Rev. H. N. Hill, Berrington. 42. Second prize, Miss C. Alcock, Edmond, Newport. Highly Commended.—43.

Miss C. Alcock, Edmond, Newport. Commended.—55. T. Smith, Stableford, Bridgnorth.

Class 9.—COCHIN-CHINA (White).—For the best Cock and two Hens.—Birds exceeding one year old.—63. Second prize, E. Simons, Speedwell Road, Birmingham. (First prize withheld.)

Class 10.—CHICKEN OF 1854.—For the best Cock and two Pullets.—65. First prize, Miss E. Alcock, Edmond, Newport. 66. Second prize, Miss E. Alcock, Edmond, Newport. Highly Commended.—68. Miss E. Alcock, Edmond, Newport. Commended.—67. Miss E. Alcock, Edmond, Newport. (Highly meritorious.)

Class 11.—COCHIN-CHINA (Partridge or Dark and Black).—For the best Cock and two Hens.—Birds exceeding one year old.—74. First prize, T. Smith, Stableford, Bridgnorth. 73. Second prize, C. F. Nelson, Lozells, Birmingham.

Class 12.—CHICKEN OF 1854.—For the best Cock and two Pullets.—77. First prize, T. Smith, Stableford, Bridgnorth. 79. Second prize, Peplow Cartwright, Oswestry, Salop.

Class 13.—GAME (Black-breasted and other Reds).—For the best Cock and two Hens.—Birds exceeding one year old.—84. First prize, E. Farmer, Greet, Sparkbrook, Birmingham. 82. Second prize, Richard Tew, jun., Admaston. Commended.—83. Richard Tew, jun., Admaston.

Class 14.—CHICKEN OF 1854.—For the best Cock and two Pullets.—99. First prize, W. J. Bentley, Wellington. 92. Second prize, R. Roden, Marsh Brook. Highly Commended.—91. R. Roden, Marsh Brook. 95. A. Haynes, Admaston. Commended.—90. R. Roden, Marsh Brook. 93. T. W. Jones, Wellington. 98. E. Farmer, Greet, Sparkbrook, Birmingham. (Excellent class.)

Class 15.—GAME (Duckwings and other Greys and Blues).—For the best Cock and two Hens.—Birds exceeding one year old.—101. First prize, William Dunning, Lawley Bank. 100. Second prize, William Anslow, Eytan.

Class 16.—CHICKEN OF 1854.—For the best Cock and two Pullets.—103. First prize, G. Wycherley, Admaston Road. (Cottager.) 104. Second prize, Richard Tew, jun., Admaston.

Class 17.—MALAY.—For the best Cock and two Hens.—Birds exceeding one year old.—105. First prize, W. Lorth, Gt. Heath, Tenbury, Herefordshire.

Class 18.—CHICKEN OF 1854.—For the best Cock and two Pullets.—No entry.

Class 19.—GOLDEN-SPANGLED HAMBURGUS.—For the best Cock and two Hens.—Birds exceeding one year old.—106* First prize, J. B. Chune, Coalbrookdale. 106. Second prize, G. C. Adkins, Edgbaston, Birmingham.

Class 20.—CHICKEN OF 1854.—For the best Cock and two Pullets.—107. Second prize, G. C. Adkins, Edgbaston, Birmingham.

Class 21.—SILVER-SPANGLED HAMBURGUS.—For the best Cock and two Hens.—Birds exceeding one year old.—109. First prize, J. B. Chune, Coalbrookdale.

Class 22.—CHICKEN OF 1854.—For the best Cock and two Pullets.—112. First prize, J. B. Chune, Coalbrookdale. 111. Second prize, J. B. Chune, Coalbrookdale. Highly Commended.—113. T. B. Gwynn, Wem, Salop.

Class 23.—GOLDEN-PENCILLED HAMBURGUS.—For the best Cock and two Hens.—Birds exceeding one year old.—115. First prize, J. B. Chune, Coalbrookdale. 114. Second prize, J. B. Chune, Coalbrookdale.

Class 24.—CHICKEN OF 1854.—For the best Cock and two Pullets.—117. First prize, J. B. Chune, Coalbrookdale. 116. Second prize, J. B. Chune, Coalbrookdale.

Class 25.—SILVER-PENCILLED HAMBURGUS.—For the best Cock and two Hens.—Birds exceeding one year old.—119.* First prize, J. B. Chune, Coalbrookdale. 119. Second prize, J. B. Chune, Coalbrookdale.

Class 26.—CHICKEN OF 1854.—For the best Cock and two Pullets.—121. First prize, J. B. Chune, Coalbrookdale. 122. Second prize, J. B. Chune, Coalbrookdale.

Class 27.—POLAND FOWL (Golden or Silver).—For the best Cock and two Hens.—Birds exceeding one year old.—125. First prize, G. C. Adkins, Edgbaston, Birmingham. 126. Second prize, E. W. Haslewood, Bridgnorth. Commended.—127. E. W. Haslewood, Bridgnorth.

Class 28.—CHICKEN OF 1854.—For the best Cock and two Pullets.—130. First prize, E. W. Haslewood, Bridgnorth. 131. Second prize, E. W. Haslewood, Bridgnorth. Commended.—132. C. E. Macmichael, Bridgnorth.

Class 29.—POLAND FOWL (White-crested).—For the best Cock and two Hens.—Birds exceeding one year old.—136. First prize, G. C. Adkins, Edgbaston, Birmingham. 137. Second prize, G. C. Adkins, Edgbaston, Birmingham. (Class meritorious.)

Class 30.—CHICKEN OF 1854.—For the best Cock and two Pullets.—142. First prize, E. W. Haslewood, Bridgnorth. 143. Second prize, G. Lamb, Tettenhall Wood, W'hampton.

Class 31.—FOWLS OF ANY OTHER DISTINCT BREED.—For the best Cock and two Hens.—Birds exceeding one year old.—150.* First prize, J. Jordan, Wheeler-street, Birmingham. 146. Second prize, E. Simons, Speedwell Road, Birmingham. Highly Commended.—147. C. T. Nelson, Lozells, Birmingham. Commended.—150. T. W. Davies, Sugdon, Salop.

Class 32.—CHICKEN OF 1854.—For the best Cock and two Hens.—158. First prize, T. Smith, Stableford, Bridgnorth. 159.* Second prize, H. J. Taylor, Haygate, Wellington. Commended.—152. G. C. Adkins, Edgbaston, Birmingham. 153. G. C. Adkins, Edgbaston, Birmingham.

Class 33.—BANTAMS (Gold or Silver-laced).—For the best Cock and two Hens.—161. First prize, Matthew Leno, jun., Hemel Hempstead,

Herts. 162. Second prize, Matthew Leno, jun., Hemel Hempstead, Herts. Commended.—G. C. Adkins, Edgbaston.

Class 34.—BANTAMS (Black or White).—For the best Cock and two Hens.—163. First prize, G. C. Adkins, Edgbaston. 161. Second prize, G. C. Adkins, Edgbaston.

Class 35.—TURKEYS.—For the best Turkey Cock and two Hens.—166. First prize, T. W. Jones, Wellington. 165. Second prize, W. A. J. Buffery, Wigmore, Herefordshire.

Class 36.—Ditto hatched in 1854.—167. First prize, T. W. Jones, Wellington.

Class 37.—GEESE.—For the best Gander and two Geese.—168. First prize, J. B. Chune, Coalbrookdale. 169. Second prize, T. W. Jones, Wellington.

Class 38.—Ditto hatched in 1854.—170. First prize, J. Pritchard, Charlton, near Wellington. 171. Second prize, T. W. Jones, Wellington.

Class 39.—DUCKS (White, Aylesbury).—For the best Drake and two Ducks.—175. First prize, Lord Berwick, Cronkhill, Shrewsbury. 179. Second prize, J. Purcell, Admaston Spa. Commended.—177. J. B. Chune, Coalbrookdale. 178. T. Jukes, Tern, near Wellington.

Class 40.—DUCKS (Rouen).—For the best Drake and two Ducks.—182. First prize, H. Evert, Chapel House, Wellington. 180. Second prize, Lord Berwick, Cronkhill, Shrewsbury.

Class 41.—DUCKS (Any other variety).—For the best Drake and two Ducks.—185. First prize, J. B. Chune, Coalbrookdale. 187. Second prize, T. Taylor, Burleigh Villa. Highly Commended.—189. Miss E. S. Perkins, Sutton Coldfield.

Class 42.—PIGEONS.—For the best Pair (any variety).—190. Prize, G. C. Adkins, Edgbaston, Birmingham. (Carriers.) 191. Ditto. (Pouters.) 193. Ditto. (Barbes.) 194. Ditto. (Owls.) 196. Ditto. (Fantails.) 198. Ditto. (Almond Tumblers.) 199. Ditto. (Runts.) 200. Ditto. (Brunswick.) Highly Commended.—192. Ditto. (Trumpeters.) Commended.—195. Ditto. (Jacobins.) Highly Commended.—197. Ditto. (Turbits.) 207. Prize, J. B. Chune, Coalbrookdale. (Trumpeters.) 220. Prize, C. Felton, Wcm. (Jacobins.) Commended.—211. Ditto. (Pouters.) 213. Prize, Henry Child, jun., Birmingham. (Turbits.) Commended.—216. Ditto. (Pouters.) Commended.—201. E. Simons, Birmingham. (White Fantails.)

ALTRINCHAM POULTRY EXHIBITION.

THE Poultry here exhibited formed part of the annual meeting of the Manchester and Liverpool Agricultural Society, and took place on Friday, September 8th, at Altrincham. The competition, so far as regards the poultry, was very superior to that of the two preceding years; and the arrangements for both the comfort of the birds, and their exhibition to the public, were of the highest possible character. One only drawback remains for explanation, and, we trust, its simple mention will altogether prevent its repetition in future years. Many of the pens were still unpacked at the time the public were admitted, and, consequently, the judges, whilst awarding the prizes, were crowded upon on all sides by the interested and contending exhibitors—a plan, from numerous causes, highly calculated to produce manifold annoyances. The pens in which the various poultry were exhibited were of an entirely novel construction, being of galvanized wire-work, shaped like a bee-hive, each coop being about a yard high by two feet six in diameter. The effect produced was exceedingly light and airy, and showed the birds to the greatest possible advantage.

The *Spanish* were a very superior class, and rarely are chicken to be found so perfectly white-faced as the first-prize pen, which received also an additional prize of one pound, from the "local" board, for "unusual merit." It will be well here to mention that the "local" prizes were perfectly independent of those of the society, and, from their liberal amount, no doubt greatly forwarded the interests of this exhibition. The *Dorkings* were excellent; the competition close and extended, so much so that many pens, that at the general competition of our poultry shows would have certainly procured premiums, here only gained "commendations."

The *Geese*, the *Aylesbury* and the *Rouen Ducks*, were decidedly superior, and to both varieties of Ducks, extra prizes were awarded from the local funds. The exhibition passed off very pleasantly, the town being literally filled with strangers, and it was only with the greatest difficulty beds could be procured. A public dinner was held at the Railway Station, which was very tastefully fitted off for the occasion, about five hundred sat down to an excellent entertainment, presided over by the Earl of Stamford and Warrington; and the general success of the day's exhibition was fully admitted by all parties. The judges were Mr. Hewitt of

Birmingham, and Mr Lloyd of Weaverham. We subjoin a list of the successful exhibitors.

POULTRY.

101 and 102—(27 claimants)—For the best DORKING, of any colour, and for the second best. Local prizes. John Copple, Eccleston, near Prescott, coloured Dorking. John Copple, Eccleston, near Prescott, coloured Dorking, extra prize. George Chambers, Albert Square, Bowden, Dorking fowls, commended.

103 and 104—For the best SPANISH, and for the second best. Local prizes. G. W. Hardy, Warrington, extra prize. George Chambers, Albert Square, Bowden, commended. George Potter, Manchester, pen of three chicken, commended.

107 and 108—(23 claimants)—For the best COCHIN-CHINA, and for the second best. Local prizes. Wm. Charlton, Sedley, Manchester, pen of Cochin-China Chicken, highly commended.

109 and 110.—For the best HAMBURGH, of any colour, including Bolton Greys, Bolton Bays, &c. W. Coberton, Sale, near Altrincham, fowls of the Silver-pencilled breed. Second prize, Lady Eleanor Hopwood, Knowsley Parsonage, near Prescott, poultry of the Silver-pencilled Hamburg breed, local prizes. George Fell, Warrington, poultry of the Golden-spangled Hamburg breed, second extra prize.

111 and 112—(9 claimants)—For the best POLAND, and for the second best. Local prizes. James F. Greenall, Grappenhall, near Warrington, fowls of the bearded Silver Poland breed. Aged about two years. (Entered also for the Society's prize 61.)

115 and 116—(9 claimants)—For the best GESE of any breed, and for the second best. Local prizes. William Charlton, Sedley, Manchester.

117 and 118—(17 claimants)—For the best DUCKS of any breed. Local prizes. Thomas Burnett, Hutton, near Preston, ducks of the Aylesbury breed. Aged about one year. Second best, Thomas Burnett, Hutton, near Preston, ducks of the Aylesbury breed. Aged nineteen weeks. W. C. Worrall, Rice House, near Liverpool, Ducks of the Rouen breed. An extra second prize was awarded to these Ducks. William Charlton, Sedley, Manchester, pen of Aylsbury Ducks. Aged one year and four months, extra local prize.

FOWLS.

56—(11 claimants)—For the best speckled or grey DORKING. Gilbert Greenall, M.P., Walton Hall, near Warrington, Fowls of the Dorking breed. William Wright, West Bank, Widnes, pen of Poultry of the grey Dorking breed, commended. Mrs. Thomas Townley Parker, Astley Hall, Chorley, Dorking Cock, commended.

57—(5 claimants)—For the best SPANISH. Peter Eden, Cross-lane, Salford, Manchester, black Spanish Cock, bred by Mr. Openshaw, and hens bred by himself. Elizabeth Cook, Eccleston, near Prescott, black Spanish Fowls, highly commended. William Copple, Knowsley, near Prescott (cottager), Poultry of the Spanish breed, commended.

58—(4 claimants)—For the best GAME Fowl. Henry Worrall, Knotty Ash House, near Liverpool.

59—(9 claimants)—For the best COCHIN-CHINA. William Wright, West Bank, Widnes; George Fell, Warrington, Poultry of the buff or cinnamon Cochin-China, or Shanghai breed, highly commended.

60—(3 claimants)—For the best Golden-pencilled HAMBURGH. W. C. Worrall, Rice House, Liverpool, Cock and two Hens.

61—(2 claimants)—For the best Silver-pencilled HAMBURGH. Mr. Coberton, Sale, near Altrincham.

62—(5 claimants)—For the best Golden-spangled HAMBURGH. George Fell, Warrington.

64—(7 claimants)—For the best POLAND. James F. Greenall, Grappenhall, near Warrington, Fowls of the bearded Silver Poland breed.

GEESE.

66—(7 claimants)—For the best GESE. Mrs. Thomas Townley Parker, Astley Hall, Chorley, Geese of the common breed.

DUCKS.

67—(6 claimants)—For the best AYLESBURY. Thomas Burnett, Hutton, near Preston.

69—(5 claimants)—For the best of any other variety. Henry Worrall, Knotty Ash House, near Liverpool, white Ducks of the Call breed.

TURKEYS.

70—(2 claimants)—For the best TURKEYS. John Davenport, Altrincham.

YOUNG POULTRY.

71—(2 claimants)—For the best four GOSLINGS. Mrs. Thos. Townley Parker, Astley Hall, Chorley, Goslings of the common breed.

72—(6 claimants)—For the best four DUCKLINGS. Henry Worrall, Knotty Ash House, near Liverpool, Ducklings of the Rouen breed.

73—(17 claimants)—For the best four CHICKEN (one cockerell and three pullets) of the Dorking breed. Gilbert Greenall, M.P., Walton Hall, near Warrington. S. B. Chadwick, Daresbury Hall, near Preston Brook, and John Copple, Eccleston, near Prescott, coloured Dorkings, highly commended.

74—(5 claimants)—For the best four CHICKEN (one cockerell and three pullets) of the Spanish breed. Peter Eden, Cross Lane, Salford, Manchester. John K. Farnworth, Alderley Edge, Cheshire, an extra prize. Richard Pilkington, Wandle Hall, St. Helens, highly commended; very meritorious

75—(18 claimants)—For the best four CHICKEN (one cockerell and

three pullets) of the Cochin-China breed. William Wright, West Bank, Runcorn, the buff breed. George Fell, Warrington, chicken of the buff or cinnamon breed, commended. Robt. C. Whiteway, Irwell House, Runcorn, highly commended.

76—(4 claimants)—For the best four CHICKEN (one cockerell and three pullets) of the Bolton grey breed. John Forrest, Stretton, near Warrington. Lady Eleanor Hopwood, Knowsley Parsonage, near Prescott, commended.

EXTRA STOCK—POULTRY—(7 Claimants).

W. D. Sanderson, Mulberry Street, Manchester, Cockerell of the Cochin-China breed, a prize awarded. Joseph Crompton, junior, Woodlands Park, Timperley, near Altrincham, Bantams of the white breed, a prize awarded.

BURY AND RADCLIFFE POULTRY EXHIBITION.

THIS show of Poultry was held at Radcliffe, on Monday, the 11th instant, under the auspices of the Bury and Radcliffe Agricultural Society; the poultry department consisted of about one hundred coops, of the same construction as those used, the week previously, at the exhibition at Altrincham. The weather was most favourable, and, combined with the light character of the wire-work of the coops, gave the poultry a very distinct and pleasing appearance, and caused them to be the most noticed of any portion of the live-stock in the whole show-yard. It is worthy of remark, that whilst at Altrincham, on the preceding Friday (though only about sixteen miles distant), the *Dorkings* were extraordinarily excellent and numerous; at Radcliffe, it is hardly possible to imagine a class more deficient; the five-shilling prize was, consequently, the *only one* awarded, and was evidently given rather to encourage the numerous competitors to perseverance, than as the merited reward of the fowls themselves. The *Hamburgs* were a very highly meritorious class, being the especial favourites in the neighbourhood. The first-prize chicken (*Silver-spangled*) were unusually good, and many of the Pencilled birds were excellent. Great attention seems here paid to every development of these birds, and from the formation of local "Hamburg Clubs," every characteristic is duly considered. It was a matter of surprise, that not one single "Hen-tailed" cock presented itself for competition throughout the whole class, when, from the great efforts now being used to *push* them into notoriety, the contrary might have been expected. Inquiry, however, proved the reason that such being the case was not accidental; they had been purposely avoided, not only as show-birds, but also as brood-stock, and in this neighbourhood had become the objects of general disfavour.

The *Game* prize chicken were very superior, in the highest possible condition, of first-rate character, and true to feather. The constant throngs (the whole time the exhibition was open around these pens) of admiring spectators, proved the high estimate, in Lancashire, held by the *Game* fowl. The *Spanish* were an excellent class, and the first-prize chicken received an additional tribute to unusual merit in the gift of an *extra* silver medal from the Society. The *Buff Cochins*, and the *Black* ones, were very good; the *Whites* indifferent, most being at once disqualified from competition by green legs. The *Aylesbury Ducks*, as well as the *Rouens*, were excellent; as were also the *Geese*, the *Toulouse* being the only variety exhibited; and to a pen of surpassing merit in this class was awarded, not only first prize, but also the Society's silver medal, "for the best pen of poultry, of any description, in the show-yard."

The exhibition proved very successful, being well-attended; but, as was the case at Altrincham, the fowls were *not all penned* prior to the public admission; consequently, the judges, Mr. Edward Hewitt, of Birmingham, and Mr. Roscoe, feeder to the Earl of Derby, had to fulfil their duties under the immediate eye of contending exhibitors. A trifling forethought might prevent its again taking place at future meetings, if the acting committee would cause the fowls to be cooped a few hours earlier; and such arrangements would amply repay the extra trouble entailed.

The fowls were very carefully attended, and returned from the exhibition to their owners the same day, without any accident or mistake; and the improvement displayed in the

poultry now exhibited over the collections of former years, was the subject of very general congratulation.

The following is the prize list:—

SPANISH CHICKEN OF 1854.—First prize (and extra Silver Medal for annual merit), Mr. Peter Eden, Cross Lane, Salford. Second prize, Mr. Michael Potter, Prestwich, Manchester. (Highly meritorious class.)

ADULT SPANISH.—Prize, Mr. Peter Eden, Cross Lane, Salford.

DORKINGS (Chicken of 1854).—First prize withheld. Second prize, Mr. Michael Potter, Prestwich, Manchester. (A very bad class.)

ADULT DORKINGS.—No birds sent.

COCHIN, CINNAMON OR BUFFS (Chicken of 1854).—First prize, Mr. R. Edward Ashton, Ramsbottom. Second prize, Mr. R. Edward Ashton, Ramsbottom. Commended.—Mr. Wm. Charlton, Seedly, Pendleton.

ADULT BUFF OR CINNAMON COCHINS.—Prize, Mr. T. Openshaw, Unsworth Lodge, Bury. Highly Commended.—Mr. Wm. Wanklyn, Green Bank, Bury. Mr. Robert Worthington, Manchester.

COCHINS, BROWN OR PARTRIDGE (Chicken of 1854).—First prize withheld. Second prize, Mr. George Potter, Manchester.

ADULT BROWN, OR PARTRIDGE COCHINS.—Prize, Mr. W. Wanklyn, Green Bank, Bury.

COCHINS, BLACK OR WHITE (Chicken of 1854).—First prize, Mr. W. Wanklyn, Green Bank, Bury. (Black.) Second prize, Mr. W. Wanklyn, Green Bank, Bury. (Black.)

COCHINS ADULT, BLACK OR WHITE.—Prize, Mr. Thos. Openshaw, Unsworth Lodge, Bury.

GAME (Chicken of 1854).—First prize, Mr. Wm. Lomase, Ringley, near Bolton. Second prize, Mr. James Fletcher, Ringley, near Bolton.

ADULT GAME.—Prize, Mr. David Henderson, Topo'th' Lee, Shuttleworth.

GOLDEN HAMBURGS (Chicken of 1854).—Pencilled or Spangled.—First prize, Mr. Wm. Lomase, Ringley, near Bolton. Second prize, Mr. Chas. Shuttleworth, Hardman's Fold, Prestwich. Commended.—Mr. Thos. Wood, Radcliffe.

GOLDEN HAMBURGS, ADULT.—Spangled or Pencilled.—Prize, Mr. James Fletcher, Ringley, near Bolton.

SILVER HAMBURGS (Chicken of 1854).—Pencilled or Spangled.—First prize, Mr. Benjamin Baxter, Marsden Hall, near Burnley. Second prize, Mr. T. Holt, Unsworth, Pilkington. Highly Commended.—Mrs. Mally Partington, Whittle. Commended.—Mr. Samuel Whittles, Buckley Mill, Milnrow.

ADULT HAMBURGS.—Pencilled or Spangled.—Prize, Mr. Benjamin Baxter, Marsden Hall, near Burnley.

POLANDS (Chicken of 1854).—First prize, Mr. James Fletcher, Ringley, near Bolton. Second prize, Mr. Edwin Turner, Kearsley, near Bolton.

ADULT POLANDS.—No birds sent.

BANTAMS, ANY VARIETY (Chicken of 1854).—The prizes withheld.

ADULT BANTAMS, ANY VARIETY.—Prize, Mr. Wm. Wanklyn, Green Bank, Bury.

TURKIES, OF ANY AGE OR VARIETY.—Both prizes withheld.

GEESE, ANY AGE OR VARIETY.—First prize, Mr. Wm. Charlton, Seedly, Pendleton. Second prize, R. Kay, Esq., Bass Lane House, Bury. Highly Commended.—Mr. G. F. Cooke, Trafford View, Eccles. (An excellent class.)

DUCKS—AYLESBURY, OR OTHER WHITE VARIETY, ANY AGE.—First prize, Mr. Robert Worthington, Manchester. Second prize, Mr. David Henderson, Topo'th' Lee, Shuttleworth.

BEST HATCH OF AYLESBURY DUCKLINGS (Not less than four).—First prize, Mr. Robert Worthington, Manchester. Extra prize, John R. Kay, Esq., Bass Lane House, Bury.

ROUEN, OR OTHER DARK VARIETY (Any age).—First prize, Mr. Edwin Ashton, Ramsbottom. Second prize, Mr. D. Henderson, Topo'th' Lee, Shuttleworth. Highly commended the whole class.

FOR THE BEST HATCH OF ROUEN, OR OTHER DARK DUCKLINGS.—First prize, Mrs. Henderson, Topo'th' Lee, Shuttleworth. Highly Commended.—Thos. Statter, Esq., Stand, Pilkington. Commended.—Mr. Richard Ainsworth, Bolton-street, Bury.

THE SOCIETY'S MEDAL FOR THE BEST PEN OF POULTRY OF ANY KIND.—Mr. Wm. Charlton, Seedly, Pendleton. (Toulouse Geese.)

CABBAGES WITH MANGOLD WURTZEL.

ABOUT four years since I took an acre of land in the worst possible condition, as far as poverty and weeds were concerned, and knowing nothing practically of agriculture, my first step was to order of a bookseller THE COTTAGE GARDENER, and next, to procure from Winton, of Birmingham, one of his steel digging forks, with which, following the monthly remarks of the above-named journal, I have produced crops thought fabulous before.

I was obliged, at first, to suffer the taunts and jeers of the (would-be-called) practical agriculturists about employing a fork for field purposes, the absurdity of ridging in winter, and the certain loss which would accrue. But my object is

not to write of the difficulties, but the success, of the plans adopted, one of which I have never seen recommended, but which I have tried two years with perfect success.

I sow Mangold about the last week in April, in drills, two feet apart; and having always a quantity of Cabbage plants sprotbore on hand to fill vacancies, I plant some about two or three yards apart in the side, the root in the dung, and the plant lying flat, with its head midway between the drills, no two being opposite, which, when rooted and growing, are pushed with liquid-manure, and when ripe are cut off close to the ground.

As this is the time to prepare plants for another year, I thought a hint from you might induce others, who, like myself, have to provide bacon for a family, to do likewise, as it produces a large quantity of food for a pig at a time when it is scarce, without deteriorating the crop of Mangold.
—R. GOUGH, *Chawleigh, Devon.*

NEW PLANTS.

SPIRÆA GRANDIFLORA (*Large-flowered Spiræa*).



This hardy shrub was sent from China by Mr. Fortune, who named it *Amelanchier racemosa*. It bloomed in May of the present year, at the nursery of Messrs. Standish and Noble, Bagshot. Its flowers are large, white, and very conspicuous, rendering it a welcome addition to our early-flowering shrubs.—(*Botanical Magazine*, t. 4795.) It must be much like *Spiræa cærulescens*, which we remember to have seen in India.

GARDENIA GLOBOSA (*Globe-fruited Gardenia*).

This fragrant, white-flowered, greenhouse, evergreen shrub, is a native of Natal, in South Africa. It blooms in June. It was first discovered by Dr. Kranss, and has reached this country through Messrs. Backhouse, of York Nursery.—(*Botanical Magazine*, t. 4791.)

CATASETUM NASO (*Proboscis Catasetum*).

This Orchid is a native of Caraccas. Sepals and petals pale dull green outside, slightly pink inside, richly spotted in irregular bars with deep crimson-purple.—(*Botanical Magazine*, t. 4792.)

BUDDLEIA CRISPA (*Crisped-leaved Buddleia*).

If this shrub be as hardy as *B. globosa*, which it is said to be by Sir W. Hooker, then will it stand our winters unsheltered, if grown on a light, well-drained soil. We grew, in Essex, for many years, the *B. globosa*, in such a

soil, on a bank sloping to the south, and sheltered by buildings from the north and east winds. *B. crispa* is a native of the Western Himalaya, at elevations between 5,500, and 7,500 feet. Its flowers are lilac, with a yellow eye, and very fragrant, blooming from the beginning of February to the same period in May. It attains the height of twelve or fourteen feet.—(*Botanical Magazine*, t. 4793.)

CLEMATIS BARBELLATA (*Small-bearded Traveller's Joy*).

This is a hardy climber, from the Western Himalaya, where, at an elevation of 10,000 feet, it was found by Dr. Royle and Mr. Pakenham Edgeworth. It is very pretty, "bearing numerous, large, chocolate-coloured flowers, with cream-coloured borders to the sepals." It was first raised in this country by Mr. Moore, of the Glasnevin Botanic Garden, Dublin, from seed sent thither by Major Madden. It blooms in May.—(*Botanical Magazine*, t. 4794.)

THE TIME WHEN POTATOES SHOULD BE TAKEN UP.

ALLOW me respectfully, through the medium of your valuable Journal, to offer to the agriculturist a few remarks on the general neglect of gathering in at the proper time that most important of all vegetables, the Potato, and the serious consequences that often result from it. This dilatoriness I have observed for years, in travelling through the different counties of England in my professional pursuits; and, as the Potato season is already at hand, the suggestions I have to offer will, perhaps, now be most opportune and serviceable. I made similar observations a few years ago, but I feel the importance of the subject will be a sufficient excuse for touching upon it again. It is generally, but erroneously, supposed, that the Potato is not ready until the top appears completely decayed or withered up; whereas, it is unquestionably ready as soon as the leaves have ceased to act: the tuber then derives no further nourishment, and can be no better for lying in the ground; consequently, as soon as the Potato tops become exhausted, that is, have lost their vigorous greenness, and are evidently turning to a languishing yellow, the tuber has reached the height of its growth, and can derive no additional good by remaining longer in the ground, and should, therefore, be got up the first favourable opportunity, in fine weather, in as clean and dry a state as possible. Many crops will be found ready now, and by the end of this month the whole ought to be got in. Instead of this, hundreds of acres, every season, remain ungathered at the end of October, and many in November; the natural consequences of which neglect are, deterioration in quality, and inevitable loss in quantity; many being seriously damaged by the heavy autumnal rains, or by frost, both as they lie in the ground, and in taking up. It is gratifying, however, to know, that, although the Potato disease prevails to some extent in all parts of the country, yet its prevalence is likely to prove to be far less this year than last; therefore, if dry weather continue until the crops are reaped, we may confidently expect a fair average supply of good, healthy Potatoes, which, last season, were not only scarce and dear, but very deficient in quality.

Let me caution all Potato growers against the erroneous notion of preventing the disease by cutting off the tops on its first appearance; for if the practice even proved a remedy, "the remedy would be worse than the disease," for such treatment would render the whole worthless, and unfit for the table. I was shown a crop of strongly-grown second early Potatoes, at the end of July, which had had their tops cut off nearly close to the ground, with a view of arresting the disease, but, in spite of the precaution, the better half of the crop was affected about a week after. I had a few of the healthy tubers boiled, but they proved worthless, which I was not surprised at, as the leaf, stem, and root, are all equally essential to the perfect ripening of the tuber.—
JOSHUA MAJOR, *Knowsthorpe, near Leeds.*

STUPIFYING BEES BY CHLOROFORM.

THE necessary dose is a quarter-of-an-ounce, or two teaspoonfulls, poured into a piece of rag doubled twice, and placed on the floor-board of the hive, which must be lifted up for the purpose, the entrance-hole being carefully secured. In about two-an-half minutes there will be a loud humming, which lasts about one minute, when all is quiet. Let the hive remain in this state for six or seven minutes longer, making altogether about ten minutes. Remove the hive, and you will find the greater part of the bees lying senseless on the board. There will still be a few clinging between the combs, some of which may be brushed out with a feather. They return to animation in from half-an-hour to one hour after the operation. The expense is three-pence per hive.

This plan possesses a great superiority over the usual mode of brimstoning, as the bees are none of them killed; and over the more modern plan of fumigation by fungus or puff ball, inasmuch, as it is far less trouble, and the flavour of the honey is not injured, as in the latter case, by the fumes. J. R. N.

COVENT GARDEN.—SEPTEMBER 9TH.

FRUIT.

Pine Apples, 2s 6d to 4s p. lb.	Pears, 3s 6d per half sieve
Grapes, Hamburg, 2s 6d to 4s per lb.	Filberts, 9s per doz. lbs.
Tokay, 6s per lb.	Plums, 5s per sieve
Peaches, 3s to 6s per dozen	Damsons, 4s 6d per half sieve
Nectarines, 3s to 5s per doz.	Green Gage Plums, 3s 6d to 5s per half sieve
Wall Grapes, 6s to 9s per doz. lbs.	Oranges, 12s to 14s per hun.
Figs, 2s per punnet	Lemons, 8s to 16s per hun.
Dessert Apples, 2s 6d per half sieve	Almonds, 24s per bushel
Apples, Kitchen, 4s to 6s per bushel	Kiln-dried Walnuts, 4s p. pek
	Brazilian Nuts, 5s 6d per pk.
	Barcelonas, 5s per peck
	Cob Nuts, 3s per peck

VEGETABLES.

Greens, 1s 9d p. doz. bunch.	Kidney Beans, 2s per hf. s.
Brocoli, 4s per doz. bunches	Scarlet Runners, 3s per sieve
Cauliflower, 1s 6d to 2s 6d per dozen	Celery, 1s to 1s 6d per bunch
Artichokes, 3s to 5s per doz.	Cabbages, 8d per dozen
Turnips, 1s 6d to 2s 3d per dozen bunches	Red Cabbages, 1s 6d per doz.
Carrots, 3s to 4s per doz. b.	Mushrooms, 1s per pottle
Onions, 3s per doz. bunches	Chillies, 1s 6d per hundred
Leeks, 1s 6d per doz. bunch.	Beet, 6d per bunch
Water Cress, 4d to 6d per doz. bunches	Vegetable Marrow, 8d p. doz.
Brussels Sprouts, 1s 6d per half sieve	Small Salad, 2d per punnet
Tomatoes, 3s per half sieve	Chervil, 2d per punnet
Gerkins, 2s per hundred	Cucumbers, 1s to 3s per doz.
Peas, 3s 6d per bushel	Spanish Black Radishes, 4d per bunch
	Garlic and Shallots, 8d p. lb.
	Lettuces, 1s per score
	Endive, 9d to 1s per score

HERBS.

Parsley, Sage, Thyme, Basil, Mint, Burnet, 1d to 3d per bunch.

CUT FLOWERS.—Dahlia, Pelargoniums, Verbenas, China Asters, Fuchsias, Roses, Pansies, Mignonette, Violets, from 1d to 1s per bunch. Bouquets, from 1s to 2s 6d each.

QUERIES AND ANSWERS.

GARDENING.

MOVING POTTED PELARGONIUMS AND ROSES FROM THE BORDERS.

"I have been examining, for the last few weeks, your articles on Pelargoniums; but not finding one to suit myself exactly, I take the liberty of stating it to you, and asking your advice on the subject.

"Last winter was so much more rigorous than usual with us in the north, that I, for one, got three-fourths of my greenhouse plants destroyed; it was, in some measure, a natural consequence, my house enjoying the heat from a

flue attached to a public work, and, of course, subject to a diminished temperature on Sunday. For the two or three previous years, I found I could still save my plants; but last year told a different tale, and, of course, I was obliged to get all replaced one way or other. I bought a number of *Pelargoniums* in flower in the spring, from which I took cuttings at the time; this, along with other cuttings, I kept growing in a cold frame during summer; but, about six weeks ago, I had occasion to use the frame, and could think of nothing better for the cuttings than turning them out into the ground in their pots; in consequence of the roots being allowed to run in the ground through the bottom of the pots, they are now strong, stubby plants, in five and six-inch pots; by-and-by, however, they must be lifted, and what to do with them is my difficulty. Had they flowered, I would have understood the ease: but not having flowered, I am at a loss whether or not to prune them, and what size of pots to put them in.

"I have also another difficulty, which I may state, and after what you have said about Roses, of late, you may think I ought to have none. I have about a dozen *Roses in pots*, six-inch; they are composed of different kinds, and as I see you have different times of pruning, and more or less of that, according to circumstances, I am much puzzled how to act; among the kinds are *Devoniensis*, *Madam Bosanquet*, *La Reine*, and such-like; I do not yet know the different kinds, such as *China*, *Bourbon*, &c.; but the way I treat them is very similar to the *Pelargoniums*; after they have done flowering I put them out in their pots, and allow them to stand exposed to the weather, then prune them, and put them into a cold frame till the end of November, then repot, or renew the soil, take them into the greenhouse, and, with the help of a little guano, I find that I can compete with the gardeners at our local flower show in the spring.

"You will perceive, I have nearly lost sight of the object of this communication in the mass of extraneous matter with which it is mixed up; you will understand, however, that the *Pelargoniums* and the *Roses* are my present difficulty. After all I have said, I still feel inclined to draw upon your patience, and as I have ample opportunities of witnessing your powers of endurance in that line, I think I shall just give you a sketch of my sayings and doings since my last communication to you, which happened about four years ago, when I mentioned my intention of putting up a greenhouse in connection with my house; the enjoyment I have since derived from it has far exceeded my expectations. The heat I derive from the flue is constant; but as it is very gentle, I do not find it injurious, as I suspected it would be, in summer; it is only such that I am enabled to keep the sashes open day and night from the beginning of May till the end of October; this appears to me to be a most desirable object, for although the house is not adapted for growing large specimens, still, the first word uttered by gardener and amateur on coming in was, "How healthy the plants look!" and this from January to December. I am quite sure any person having the same opportunity would never regret availing themselves of it.

"The only person I never could impress with the beauty of my flowers, was a gentleman from Van Diemens Land, who admitted the variety and quality of the selection, but still it was necessary to see them growing with him; all I had in my greenhouse he had in his grounds, and reserved our hothouse plants for his greenhouse. I could only express my scepticism, which he agreed to satisfy by sending me home some varieties which would astonish me. As he is now on his way to that country, and should he not have forgotten his promise, perhaps I may be able to reward you with the cutting of a blue *Geranium*, or some such rarity, for your Job-like quality in listening to such an elaborate epistle from—W. B."

[We are exceedingly pleased with the success that has attended your efforts. Your and similar letters, cheer us in our labours. The first thing you should do with your *Geraniums*, is to go to them immediately, and give them a twist round, which will just stop the roots from going further, then give them a good watering, and in a few days, in the meantime having procured larger, or, at least, clean pots, and fresh compost, go round with a fork and lift all the plants, pots and all, and as much of the roots outside the pot as you can get. In a few cases, you may have to make

the hole of the pot a little larger, to let the roots freely through. Then, after removing a little of the old soil, pot in the fresh compost, and set the plants in a cool, shady place for a fortnight, not saturating the soil, but sprinkling the foliage frequently, to prevent rapid evaporation. A few leaves may droop, but not many, and these plants not more touched as to pruning, will make fine flowering-plants next season, when you may treat them as other Pelargoniums. It would have been as well if you had shifted the plants before plunging, or left a hollow place beneath the bottom of the pot.

We fear to enter the lists with you as to *Roses*, as your beating the gardeners is no small test of the propriety of your practice. The sorts you instance are continual bloomers, and, provided plenty of nourishment is given, and the older decayed flowering-wood extracted, they will bloom most of the season, except the winter, and even then if heat enough be given them. For having them bloom in profusion at one time, your plan is the best; rusticating them to make fine-ripened wood during summer; the older, worn out pieces being previously removed. After this *summering*, comparatively little pruning will be required if you were to grow large specimens. Instead of stading out-of-doors, let us advise plunging with a hollow beneath the pot, or if the pot stands on the surface, place a mound of earth in front of it, just to keep the fierce rays of the sun from the pot.

We believe that much in the way of gardening could be made of the heat now wasted from factories, &c. We almost forget your ease, but are very glad you have had such success. All that the New Zealand friend said may be true, and if true, why should it lessen the gratification you enjoy from your gardening pursuits? We cannot perceive that your friend will have a partiele more pleasure in his hot-house plants, than you have in your greenhouse ones. Nor do we believe that we can have more pleasure from both, than that sweet boy, who was lately tending the wants of a daisy, can have from his employ. The sense of the beautiful, and the gratification of that sense, will impart a happiness that no mere idea of costliness or rarity will ever produce.]

GRAPES NOT COLOURING.—PEACHES FALLING.

"A CONSTANT READER of THE COTTAGE GARDENER, in county Dublin, has charge of a Vinery thirty feet long. The Vines appear to be in good health, with a fine crop of fruit on them. The berries of the *Hamburghs* are not colouring well, there are some of them nearly black, and others brown, with a greenish hue through them. The Vines are on the spur system. I took young canes from them last year. I let them bear in half the house this year; the bunches are a fine size, but the berries are nearly white, with a red streak on them. The fruit all swelled to a fine size. The fruit on the last year's wood is the worst colour. There are two Vines of the *Muscato of Alexandria*, also, in the house, with a good crop of fine-swelled fruit. There are not more than a dozen of good-flavoured berries on each bunch, the rest of the berries are a pale colour, and quite sour. There is also one Vine of the *Black Lombardy*, with a good crop, and well coloured black. The *Hamburghs* are of fine flavour; those that are anyway brown I was thinking might be a *Brown Hamburgh*. They grow very stroug, with the leaves very large and sappy. The young wood will grow the length of the roof, which is eighteen feet, as strong as a nice walking-stick. I intended to cut the old Vines away this year, as the spurs are getting too long, and leave those young ones in their place. I put fire to the honso on the 5th of May, when the Grapes were coming into blossom. I lighted the fire at four o'clock in the evening, and kept the house at 65° at night, while in blossom, and from 55° to 65° at night, while swelling, and from 75° to 85° during the day. No fire in the day, except when wet and dark. They commenced to colour on the 8th of July. I gave two inches of air at the top of the house to each sash at night, for a fortnight, and then I gave a little more at top and bottom, and continue to do still, with air in the day also.

"There is another house adjoining this, thirty feet long, also planted with *Frontignans*, *Hamburghs*, and *Black Lombardy*. The fruit used to shank away when ripening. I thought they might be too deeply planted in the border. I

examined the roots, and found them five feet deep in the border; I took the Vines all up, and cleaned the border out four-and-a-half feet deep. I put in nearly two feet of good size granite stones in the bottom, and covered them about three inches with rubble, filling up all crevices, and then put a sod, with the grass-side down, over that, leaving the border two feet deep. I filled in the border with the old stuff, putting some rotten dung and limo rubbish. Through it I planted the old Vines about nine inches deep, or a little better, covering the roots with old tan, lime rubbish, and fresh mould, all worked well up together.

"It was on the 26th of October, 1852, that I took them up. I was not allowed to cut them down until the 5th of May following, as there was a crop of fruit expected from six of them that year. They grew nearly the length of the roof last year, and I cut them back to three eyes last winter. There are three of them that have made five canes this year, but the remainder of them did not grow so strong. About the latter end of June, I noticed the foliage turning on two *Frontignans*, and a *Black Damascus*, but they have got quite green again, and commeneing to grow. The vines that are not colouring are planted in the other half of this border, I think they must be too deeply planted also. If I could receive any information through THE COTTAGE GARDENER respecting the vines that are not colouring, I should be for ever thankful. I was thinking, if I was to force them early in the season, that they might have a better colour. I have a large *Peach-tree*, it is twenty-one feet each side of the stem, and has forty dozen of fruit on it; it appears to be in fine health, the fruit is commeneing to fall off it before they are ripe. It is the late Newington Peach, the fruit falls every year before they are ripe."

[Some of the best gardeners of the day are in somewhat of a similar predicament as yourself as to Grapes not colouring, and frequently this happens when the berries are particularly well swelled. We believe that in your case it chiefly arises from a deep, rich border. Unless you exercise some controul over that border to keep it dry and warm, as adopted, by asphalt covers, at Wilderness Park, or other means to keep wet out, we do not think that early forcing would mend the matter; more firing, we think, would be effectual, so far as more throughly ripening the wood. Your system of giving air and the temperature is all that could be desired, only, that for *Muscats*, it might be higher at night, by a few degrees, when in bloom, and seldom below 60° afterwards. There are several modes you might try. First, raising the vines, which would check their luxuriance, give you, perhaps, smaller berries, but better coloured ones. But what you have tried does not seem to have answered well. A neighbour of ours had young vines that shanked considerably, though producing large berries and bunches. They had only been a few years planted, and on borders not at all deep. Last season, after taking the fruit off them, he undermined and lifted the roots near the surface, and this season he has a full crop, and not a shanked berry, and the border within six inches of the surface is full of young rootlets. Secondly, resort to the disbudding system in spur-pruning, so as before pruning to remove the most of the buds of the short shoots, except the one at the base. We speak chiefly of doing this, on the supposition that you let the border alone as it is. Thirdly, substitute, for a time, rod-pruning, or growing for the spur method, and give more fire to harden that wood in the autumn. Protect the border, also, from autumn and winter rains. We should be inclined to try these one year before raising the Vines, and, in addition, see that there is a drain deeper than the border.

Would you tell us the age of the Vines you found so deep, and which did so little good afterwards? If young, they ought to have done better; if very old, it would have been almost as well to have planted young ones at once. Did you resort to any means to encourage root-making at once, by covering the border, &c.? The appearance of the leaves almost denoted a coldness at the border; and the warm weather after June seems to have given a stimulus to the roots.

We should imagine that the *Peach-tree* often in the habit of shedding its fruit prematurely, should be more thinned, leaving little above half the number you mention; and in

such a dry season as this has been, mulching and frequent waterings would be an advantage.]

FORCING MUSHROOMS, RHUBARB, &c.

"I have, in my malt-house, an arched passage by the side of the kiln: there is a temperature of 45° throughout the winter. Can this place be adapted, in any way, to the growth of Mushrooms, Rhubarb, and blanched Turnip-greens? If so, you would oblige a Subscriber by telling him how to proceed.—G. H. K."

[These are just the sort of questions we feel a delight in answering, as it shows a disposition to make the most of circumstances. We suppose you have doors to this passage, to open and shut at will, as there might be weather when it would be advisable to let heat out, and keep cold out—and also to let light in. The Turnip-tops will be best not totally dark, but approaching darkness. They make a most delicious vegetable; and if cut only once, injure the Turnips no more than allowing the tops to grow to any length in the field in the spring. An average of 50° would bring them quickly in fine perfection. If you should hardly have enough of heat, a little sweet dung, dry rather than otherwise, in which to set the Turnips, and cover them with a little hay, or a cloth, until they begin to spring, would soon start them into growth, when the covering should be removed. The same may be said of the Rhubarb. A temperature of 45° will not cause it to shoot much before its usual time in the spring; but the addition of from 5° to 10° at the roots will do so, and yield you a nice supply. From twelve to fifteen inches of well-wrought dung, from which the rankness has departed, packed about the roots, and not allowed to get too hot, would enable you to have a supply all the winter. The roots had better be packed in earth in a box, so as to move it up and down, and out and in, at pleasure. Without the dung, you might very possibly manage by placing the box, or large pot, next the heated side of the passage, and enclosing a space all round it by means of another box, &c., as the heat will thus be concentrated instead of diffused through the passages. For Mushrooms, recent articles would show you that you must have fermenting material, in rather a dry state, in the shape of stable dung, if to be got. Nothing is better than horse-droppings, with nearly an equal portion of the shortish litter, or the long cut small; but we are not at all particular, having used all fermenting substances for heat, and dryish, littery dung, or horse-droppings, for the spawn to run into. Half-decayed matter for hotbeds is as good as any. We have also been very successful by the following mode:—Take horse-dung as it comes from the stables, shake out the very largest; dry the remainder considerably; build it then in a bed firmly some eighteen inches at back, and some ten inches in front. If it should heat very violently, pierce it with a number of holes; as soon as the heat begins to decline, beat it again firmly; and the air, being so far excluded, the heat will abate. Keep trying it every day; if a little warmer than new milk, shake your head at it, and wait a bit. When you get heat like that, insert pieces of spawn, about the size of walnuts, every eight inches square, and beat firm again. Keep trying your watch-stick, and if the heat does not increase, you may encase the bed all over with a few horse-droppings, or a little moist cow-dung. Try again in a day or two, and, if all right, earth up with one inch-and-a-half in thickness of the freshest and stiffest loam you can find, beat it firm, wet the surface, and draw a clean spade over it. There will now be no danger of heat; but you may require a slight covering of hay to keep it in. A temperature in the bed of from 70° to 80° at spawning time, a temperature of from 60° to 70° in the bed afterwards, and a top temperature of from 50° to 60°, are the most favourable circumstances for Mushroom growing; and with such a passage, and a little manure for the bed, no place would answer more admirably than this passage. It will at once be seen, that a small bed all the length of the passage would just suit the three things you wish to grow, and none of them care a pin about the light. Seakale would answer equally well, and so would Endive and Chicory, but without the dung. We have grown Mushrooms at all times, and all places mostly, and with many make-shifts, such as would make amateurs stare again, who are too apt to imagine that

professed gardeners have everything they wish for to carry on their operations; and, therefore, we shall be glad to give definite advice upon any definite circumstance. If there is much heat in the wall, separate the bed from it by means of a board, or the bed might get too hot and too dry.—R. F.]

MISMANAGED AZALEAS.

"I have a few Azaleas, all of which are looking poorly. I have them out-of-doors at present. They are large, old plants, and I do not know when they last bloomed. I shall be much obliged by your telling me what to do with them.—A.D."

[If you had asked advice in the spring, we could have done more to assist you. As it is, the season being fine, you may have bloom next season. See they do not want for water, and get them under glass by the end of this month. Keep them from frost all the winter. If flower-buds are formed, they will begin to swell as the days lengthen in the spring. Whether they bloom or not, by April and May, keep them rather close and warm, under glass; an average of 60° will not hurt them, and sprinkle them every afternoon with milk-warm water from a syringe. If there is any thing like vitality in them, this treatment will cause them to make fresh shoots, and these, when an inch or two long, if exposed to more air and light, will, technically, set their buds for blooming. If put out-of-doors, let the place be sheltered in August and September, and house again in good time. We must add, that as in all likelihood the soil is getting exhausted, you had better shift them into fresh soil, after growth has freely progressed next spring. Never mind, if you use even smaller pots, after shaking away the old soil. Use heath soil, mixed with charcoal, silver-sand, and crocks broken small.]

FLOWERS IN A CONFINED YARD.

"PRISCILLA D. C. BURLINGHAM, resident in a house in High-street, Lynn, is desirous of planting flower-borders on two sides of a yard, opposite the parlour window. The yard is about forty-two feet long, from east to west, and twenty-one feet wide from south to north. Borders might be planted along the north and west walls, and creepers raised against them. The former would, of course, be shady, but the latter has plenty of sun. Though there are no manufactories near, the kind of coal used here causes a good deal of smoke, and P. B. does not expect to succeed, except to a very limited extent; yet, as the sight of a few flowers and a little green would be a great source of pleasure, she wishes to make the attempt."

[You have given a fair account of what you want, the name of the place you write from, and the nature of your position, in a few words. If others would but follow the same rules, we would willingly do our part to advise them; but statements without heads or tails, and from this, or the other side of the moon, are sore puzzles indeed. Such letters do give trouble, and plenty of it. If you were to buy strong plants in pots of the *Irish Ivy*, not shorter than six feet, plant them against the north wall, just two feet apart, and nail the shoots to the wall, you would have the most pleasant green all the year round. As soon as the Ivy was nailed, if you were to buy so many of the original *China Rose*, and plant them three or four feet apart, and in front of the Ivy; then nail them to the wall for the first two or three years, and after that to tie them loosely here and there to the spurs and breast-wood of the Ivy, and water the whole once a week, from May to September, for the first two years, you would have the best wall-clothing for that kind of wall and situation that the art of man or the ingenuity of woman could contrive. After the Roses were up seven or eight feet, begin to bud other climbing Roses on them, and you might soon have a collection of Roses. Spring bulbs and common Scarlet Geraniums are the only fit plants for the border. For the west wall many things will do, as *Cotoneaster microphylla*, *Forsythia viridissima*, *Aucuba*, *Corchorus*, *Pyracantha*, and some evergreen climbing Roses, with a few pot plants in summer, and spring bulbs.]

PYRAMIDAL GERANIUMS.

"THE COTTAGE GARDENER of June 6, page 254, has a communication from Mr. Beaton, on Pyramidal Geraniums of five to six feet high, which interests me much, and I beg to

submit a few questions with the view of obtaining information to enable me to train some plants in this form. 1. Are the plants alluded to strictly Geraniums, *i.e.*, Scarlet Geraniums, or are they Pelargoniums? 2. How are they pruned and trained? 3. Must this pruning and training be begun 'ab initio?' that is, from a cutting, or will old plants of good *bushy* form train thus gradually? 4. Are these large plants ever cut down or shifted, or are they left in the pots, 'more Harry Moore?'

"I have some large Scarlets, *Smith's Emperor, Meyler, &c.*, which are always left in the pots, but hitherto *not cut down*, and I rather think are naked in consequence. Should they not be cut down every autumn, though not shifted?—*VERAX.*

P.S.—Will you give a list of a few Verbenas of creeping habit, which approach the nearest to *blue* as deep-lilac violet-blue? The colour of *Celestina ageratum* would be showy, if such exist."

[A list and description of the best new Verbenas is given at page 230, and all the best old ones are in former volumes. All kinds of Geraniums, or Pelargoniums, Scarlets, florists' fancies, and all, can be trained pyramidal, as we have said over and over again, but some of the sorts are better adapted for the purpose than others. To begin at the beginning is the easiest way to get them into the true shape, but old plants can be brought to the proper shape by degrees. Pyramidals need not, necessarily, be kept on Harry Moore's plan, but when they are of the full size, they should be turned out of the soil every year, like dwarf plants. *Smith's Emperor* is the strongest kind, but not the best for a regular pyramid, as it is more difficult to get it to branch, and to heal the cuts where pruned, than any of the Scarlets. Mr. Beaton gives the ground work of the process in another column to day, and we shall not lose sight of it.]

WEIGELIA ROSEA AND YELLOW JASMINE NOT FLOWERING.

"A *Weigelia Rosea* did not flower; the soil is rich, and I suppose that is the reason: it is very flourishing, as far as leaves go. Shall I dig it up now, and replant it with sand and rubbish mixed with the soil, or what? A *Yellow Jasmine*, on a wall facing the south-east, does not flower; it is in stiffish soil, and in full leaf, quite healthy; was not pruned last autumn or this spring at all. Caterpillars come regularly at this season, and demolish the leaves of the Scarlet Geraniums in beds. Is there any way of killing them? Is there any chance of layering *Petunias* in pots, sunk round a plant in the border, as advised with *Verbenas* a fortnight ago? Is it now too late in the season?—*U. R. S.*"

[If the *Weigelia* and *Yellow Jasmine* do not flower from being too luxuriant, all that you need do is to take them up at the end of October, and plant them in the same soil and situation; that will check them enough for two or three years without brick rubbish. More than half the world spoil their *Yellow Jasmies* by neglecting to stop the young growths all through the summer, just as they do their *Banksian Roses*; and, as sure as a *Yellow Jasmine*, or a *White Jasmine*, or a *Yellow or White Banksian*, makes long, soft growths, so sure will they not flower very freely. All the side-shoots of a *Yellow Jasmine* should be stopped before they are quite six inches long, until the plants flower so abundantly that they cannot make long shoots at all: and it is a mistake altogether to weaken them by starvation, root-pruning, and brick rubbish. What would a *Grape-vine* be worth if it were transplanted every two years; or without transplanting, how soon it would go to ruin if treated as most people treat the *Yellow Jasmine*. Climbers are very different indeed, in this respect, from *Apples*, *Pears*, dwarf *Roses*, and such-like plants. In the wilderness, all climbers go as far as their growth can carry them; they soon exhaust themselves that way: then very sparing growths come forth all over—immense long leaders—and that is what nature teaches us. Let the leaders go ahead ever so far; but if side-growths come, we must stop, stop, and stop, again and again. There is no practicable way of killing these caterpillars but picking them off and crushing them: we never saw them so numerous on the *Geraniums* before. *Petunias* will not do at all as you suggest; the more's the pity.]

POULTRY.

NEW KIND OF PIGEON.

"Would you be kind enough to tell me, if possible, from the following description, what sort of Pigeons they are to which I refer. They are about the size of a Tumbler, or, perhaps, a little larger; the man who possesses the parent birds is a dealer; he calls them East India Pigeons. I never saw any anywhere else, excepting at the Bury Show, last September, where they obtained a first prize. They belonged to a gentleman, from whom this dealer got his stock. Their colour is a glossy black everywhere except the wings, which, when the birds are young, are of a deep orange, but this colour is changed, at the age of four or five months, to a creamy white. Their plumage is very apt to be injured by handling, as the feathers hang very loose. The coo of the cockbird is very different from that of any other pigeon I have ever heard. They run very much like partridges. Their bill is about the length of a common pigeon.—*Bury Boy.*"

[We are unable to reconcile your description with any known species or variety of the domesticated "Columbidae." It is very possible, however, that they may be a distinct breed, and that the designation, "East Indian," may have been correctly applied to them. The "Archangel" pigeon, so distinct a variety, found no place in our pigeon catalogues till within the last few years, and others, probably, may be able to claim admission as we become still better acquainted with the natural history of remote countries. How much, for instance, have we learnt on this very genus from the Australian birds of Mr. Gould? Careful observance of the birds themselves, and the features reproduced in their progeny, would, of course, be requisite to satisfy ourselves that they are a distinct species, or, at any rate, a permanent variety. Some of our correspondents, however, may be better able to give the desired information.—*W.*]

TO CORRESPONDENTS.

THE COMMON FERN.—"H. L. will be much obliged if the Editor of *THE COTTAGE GARDENER* will tell him, in the next number, the best way for planting a piece of ground with the Common Fern (*Pteris aquilina*). Whether it can be transplanted; by doing which the roots must be cut? and when is the best time for sowing it?" We never expected, among all our varied queries, to have one relative to the cultivation of the Common Fern, or Brake, and certainly have no experience in cultivating it. We think it could not be transplanted, but the seed, or spores, might be collected, and sown as soon as ripe. It will not grow in any soil that does not contain a very large proportion of sand.

PARSCOT POULTRY SHOW.—We are obliged by having it pointed out to us, that the first prize for *Rouen Ducks* was awarded to H. Worrall, Esq., Knotty-Ash House, Liverpool, and not to W. C. Worrall, of Riee House.

PREVENTING PEACHES RIPENING.—A *General Reader* wishes for information, if there is any mode of checking the ripening of Peaches. *White Dorking* fowls should have rose-combs. You will find full descriptions of them, and of the *Aylesbury Duck*, in "The Poultry Book." They are too long to extract.

CREAM CURDLING (X).—The richer and the nearer to the state of butter, the more apt is cream to curdle when mixed with any watery liquid. Its oily constituents will not unite with the water. The more tannin and gallic acid there is in the tea, so much the more will it promote the cream's curdling. They acidulate the water, and acid, in any form, makes the buttery part of cream separate from its watery part. Thus black Bohea tea curdles cream, which is not so affected by Green tea. The first-named tea contains much more tannin.

FUND FOR INDIGENT GARDENERS (Rev. J. W. N.).—We know of no fund for them except that of The Gardeners' Benevolent Institution. We are not surprised at your not knowing of this, as they do not advertise in our pages. Mr. Cutler, its Secretary, 97, Farringdon-street, will give you any information. King James incorporated the Gardeners', and we hear that they have some endowments. Can any one give us information about this Company and its funds?

SEEDLING POTATO (W. Jeffries).—Your seedling Potato seems a very good variety; skin white, thin, and clean; form a flattened oval; and eyes few and shallow. If it is, as you say, "very early, and has been grown two years without any diseased ones among its produce," it is worthy of general cultivation.

IRISH MOSS (A Country Clown).—Our correspondent wishes to know if this can be bought for fattening pigs. Apply to any seedsman in London, and give a reference, or offer to prepay. *Berberis aquifolium* would not grow under Cedars where Grass will not exist. Apply to Messrs. W. S. Orr and Co., Amen Corner, Paternoster Row, to send you *THE COTTAGE GARDENER* by post.

POULTRY FOR CONFINED SPACE (C. L.).—No variety will do so well there as *Shanghaes*, either partridge-coloured or buff. They lay just as well without a male bird; and if you have fresh pullets annually, they will lay through the winter.

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NEW BULB CATALOGUE.

E. G. HENDERSON & SON, of the Wellington Nursery, St. John's Wood, London, in presenting their Annual Catalogue of Dutch and other Flower Roots, beg to say their Collection is selected with much care, and would draw particular attention to the Hyacinths, which have been proved in their Nursery to possess those properties for which this tribe is celebrated, viz., brilliant colour, close compact truss, and good habit. (The Dutch collections having such a number of cheap varieties which are offered to the London Market, that it is requisite for them to be proved before being offered to the Public.)

Among the other Lists of Bulbs they would call attention to the *GLADIOLUS*, particularly to Section III., (hybrids of "Gandavensis") and can recommend such as "Fanny Rouget," "Monsieur Blouet," "Courantii Fulgens," as possessing first-rate merits.

THE HYACINTHS MARKED THUS * ARE MOST ADAPTED FOR WATER.

HYACINTHS.		s. d.	s. d.	s. d.	
DOUBLE RED, ROSE AND PINK.					
each.					
1 Belvedere, fine dark red..	2 6	48 Pourpre Superbe, dark purple.....	0 9	97 Reine d'Hollande.....	
2* Bouquet Royal, deep blush salmon, dark eye, compact	0 9	49 Prince Frederick, pale porcelain, extra fine, bold flower, large and stout..	1 0	98* Victoria Regina, splendid white, large.....	
3* Comtesse de la Coste, deep blush, pretty.....	0 9			99 Voltaire, French white, large and good.....	
4 Fleur de Marie, fine pink	2 0	DOUBLE YELLOW.		SINGLE BLUE.	
5 Flos sanguinea, fine pink bells.....	1 0	50* Bouquet d'Orange, 1st size, orange and pink, good.....	0 9	100* Baron van Tuyl, purple blue, large trusser.....	0 9
6* Grootvorst, 1st size, light blush.....	0 9	51 —, 2nd size.....	0 6	101 Camper, fine, like Orondates.....	1 0
7 —, 2nd size, light blush	0 6	52 Gothic, finest yellow....	3 6	102 Canning, large.....	1 6
8 Honneur d'Amsterdam, pink, good truss.....	1 0	53 Heroine.....	1 6	103* Charles Dickens, light blue.....	1 0
9 Lord Byron, fine.....	1 6	54 La Grandeur, citron, tall	1 6	104* Emicus, dark blue, light centre.....	0 9
10 — Wellington, extra fine pink, waxy, fine truss....	3 6	55 Ophir d'Or, large pale yellow, late.....	0 9	105 Fleur parfait, dark.....	0 6
11 Mathilda, neat blush, pink, Grootvorst style of flower.....	0 9	56 Pure d'Or, semi-double, pretty.....	1 6	106* Graaf van Nassau, light blue.....	1 0
12 Milton, large Waterloo flower.....	3 6	SINGLE YELLOW.		107 Grand Lilas, porcelain blue, large.....	1 6
13* Panorama, fine marbled pink, compact.....	0 9	57 Alida Jacoba, pure yellow	1 6	108 — Vidette, light porcelain, extra.....	1 0
14* Waterloo, 1st size, deep red.....	0 9	58 Fleur d'Or, good yellow..	0 9	109 Gumal, purple.....	0 9
15 —, 2nd size, deep red..	0 6	59* Heroine, very fine yellow, green tips, good truss, compact.....	1 6	110 Iris, fine light blue.....	1 6
DOUBLE WHITE.		60* King of Holland, best yellow orange.....	1 6	111* L'Ami du Cœur, blue, 1st size.....	0 9
16* Anna Maria, blush white	1 0	61 Pompe Triomphante, clear deep yellow.....	1 0	112 —, blue, 2nd size....	0 6
17 Hermann Lange, blush white, purple eye.....	0 9	62 Vanqueur, splendid yellow extra.....	3 6	113 La Belle Africaine, deep purple.....	1 0
18 La Déesse, white.....	1 0	SINGLE RED, ROSE AND PINK.		114 Napoleon Bonaparte, dark blue.....	1 0
19 — Tour d'Auvergne, fine	1 0	63 Aimable Rosette, pretty delicate pink.....	0 9	115 Niurod, light blue.....	1 0
20 — Vestale, creamy white..	1 0	64* Appellius, bright red, free and compact, extra.....	1 0	116 O'Connell, dark.....	0 9
21 — Virginité, blush white, dwarf and fine.....	1 0	65 Bride of Lammermoor, deep red.....	1 6	117* Orondates, light porcelain blue, fine.....	1 0
22 Lord Anson, fine truss..	1 0	66 Charlemagne, fine deep red.....	1 0	118 Porcelain Sceptre, fine..	0 9
23* Minerva, creamy white..	0 9	67 Diebitsch Sabakansky, bright deep red, fine....	1 0	119 Prince Albert, dark purple	0 9
24 Miss Kitty, fine large bells (violet eye).....	1 6	68 Duchess of Weimar, fine	1 0	120* — Oscar, dark blue..	1 6
25 Ne Plus Ultra, black centre.....	1 0	69 Frederica Brunn, bright carmine.....	0 9	121 Professor Lindley, dark	1 0
26* Prince of Waterloo, white, blush eye.....	1 6	70 Jenny Lind, fine.....	2 6	122 Radetzky, good porcelain blue, nicely shaded.....	1 6
27 Pyrene, white, tipped with green.....	0 9	71 Fireball, fine.....	1 6	123 Richard Cobden, large dark.....	0 9
28 Queen of England, pretty, white, bright pink eye..	1 6	72* L'Ami du Cœur, dark red, 1st size.....	0 9	124 Robinson, mottled, porcelain blue, distinct, light centre, extra fine.....	1 6
29 Sceptre d'Or, yellowish white.....	0 6	73 —, dark red, 2nd size..	0 6	125* Tubalcain, extra dark purple, close truss.....	0 9
30 Sphæra Mundii, blue centre.....	0 9	74 La Balcine, blush, large bells.....	1 0	126* Vulcan, fine.....	1 0
DOUBLE BLUE.		75* Le Franc van Berkley, dwarf, close truss, bright red.....	1 0	127 William the First, dark blue.....	1 0
31* A la mode, light porcelain blue, dark stripes.....	0 9	76 La Ville de Frankfort, good truss, bright red... 1 6		128 Zriny, extra fine, deep blue, close, large truss.. 1 6	
32 Blocksberg, light porcelain	1 6	77* L'Unique, violet puce....	1 0	MIXED HYACINTHS.	
33 Bouquet Pourpre, dark purple, tipped with green..	0 9	78* Lord Wellington, large	1 0	per doz.	
34 Comte de la Prieste, pale porcelain blue, fine.....	1 6	79* Madame Hodson, extra fine pink, close truss... 2 6		129 Single Red.....	4 0
35 General Antink, fine light porcelain, purple eye, good	1 0	80* Mars, deep red, compact, extra.....	1 0	130 — White.....	4 0
36 Globe terrestre, large bells.....	0 9	81 Marie Catherina, bright red, excellent truss, good	1 6	131 — Blue.....	4 0
37 L'Abbé de Verac, porcelain, fine truss.....	2 6	82 Marie Theresa, fine truss	1 6	132 — mixed, all colours 3 0	
38 Laurens Koster, dark violet, extra fine.....	1 6	83* Mons. de Faesch, good truss, light pink.....	0 9	133 Double Red.....	4 0
39 Lord Wellington, in the style of A la mode.....	0 9	84 Norma, pink, large bells, style of Lord Wellington	1 6	134 — White.....	4 0
40 Madame Marmont, extra, pale lavender, fine double black eye.....	1 6	85 Sans Souci, bright red, with light eye.....	1 6	135 — Blue.....	4 0
41* Mehemet Ali, good double violet, extra fine.....	1 6	86 Tubiflora, pink, fine truss, extra.....	1 6	136 — mixed, all colours 3 0	
42 Martinet, good porcelain, marbled.....	1 0	SINGLE WHITE.		NARCISSUS.	
43 Morillo, light porcelain blue.....	1 6	87 Bridal Bouquet, fine truss	1 6	Potyanthus Narcissus: the flowers are exceedingly fragrant, and may be grown either in glasses or pots.	
44 Orondates, fine light porcelain.....	2 6	88* Grand Vainqueur, 1st size, extra.....	0 9	each.	
45 Othello, black.....	1 6	89 —, 2nd size.....	0 6	137 Apollo, fine yellow, self..	0 6
46 Pasquin, light porcelain lavender, with dark eye, very pretty.....	1 0	90* Grande Vidette, fine....	1 0	138 Bouquet Triomphant, white, orange cup.....	0 6
47* Passefout, light porcelain blue.....	0 9	91* Hercules, blush white, close truss, stout.....	1 0	139 Grand Monarque, white, extra fine.....	0 9
		92* La Candeur, dwarf, compact, white, good.....	1 0	140 — Prima Citronnier, fine.....	0 9
		93* Madame Talleyrand, pure white.....	1 0	141 — Soleil d'Or, orange, fine yellow cup.....	0 4
		94* Marie Veronique.....	1 0	142 — Sovereign, white, fine.....	0 4
		95 Premier Noble, good, white and rose.....	9 0	143 Gloriosum superbum, extra fine, new white....	1 0
		96 Prince de Galatzin.....	0 9	144 Juno, yellow, orange cup	0 6
				145 Medio lutea de France, white, orange cup.....	0 6
				146 Minerva, pale yellow, orange cup.....	0 6
				147 Paper-white, pure white	0 4
				148 Queen Victoria, white, orange cup.....	0 9
				149 Roman, very early double, yellow and white.....	0 4
				150 States-General, lemon-colour.....	0 4
				JONQUIL NARCISSUS.	
				per doz.	
				151 Double, large size.....	2 6
				152 —, small size.....	1 6
				153 Single, sweet-scented....	1 6
				154 Large Single Campenelli	0 9
				DOUBLE NARCISSUS.	
				For the Garden.	
				per doz.	
				155 Alba plena odorata.....	1 6
				156 Incomparable.....	2 0
				157 Orange Phoenix.....	3 0
				158 Pumiia plena, double yellow, 6 inches.....	8 0
				159 Sulphur Crown.....	3 0
				160 Tratus Cantus, double orange, 8 inches.....	1 6
				161 Van Sion (Double Daffodil).....	1 0
				SUNDRY NARCISSUS.	
				For the Garden.	
				per doz.	
				162 Biflorus (two-flowered), white, yellow cup.....	1 6
				163 Bicolor.....	6 0
				164 Bifrons (Bête d'Or).....	4 0
				165 Bulbocodium (Loop Petticoat).....	6 0
				166 Calathinus (Petticoat), straw, orange-yellow cup	1 0
				167 Campenelli.....	0 9
				168 Cernuus.....	1 0
				169 Compressus.....	1 0
				170 Dubius (Totus albus)....	6 0
				171 Incomparabilis (straw-yellow).....	1 0
				172 Maximus (Trumpet), deep golden yellow, large.....	1 0
				173 Mosechatus (Sulphur Trumpet).....	3 0
				174 Multiflorus.....	1 0
				175 Nanus major, yellow gold cup.....	1 0
				176 Obvallaris.....	1 0
				177 Orientalis, white and orange cup.....	4 0
				178 Propinquus.....	1 0
				179 Pseudo-Narcissus (Sion)	1 0
				180 Radiflorus.....	1 6
				181 Recurvus.....	1 0
				182 Telamonius plena.....	1 0
				183 Triandrus.....	6 0
				184 Tenuifolius.....	0 9
				EARLY TULIPS.	
				The following beautiful collections of Single and Double Tulips are highly recommended, their brilliant colours rendering them the most attractive feature for the decoration of the Greenhouse and Flower Borders during the early spring, at the same time affording an opportunity of clearing them out of the beds in time to turn out the usual bedding plants in May.	
				per doz.	
				185 Alba regalis, white.....	3 0
				186 Belle Alliance, fine crimson, white flake.....	3 0
				187 Canary Bird, fine yellow	3 0
				188 Claremont, white and rose flake.....	6 0
				189 Duc van Tholl, red and yellow, early sweet-scented.....	1 0
				190 —, scarlet.....	6 0
				191 —, rose.....	4 0
				192 —, major.....	2 0
				193 —, gold stripe.....	12 0
				194 —, yellow.....	3 0
				195 —, white.....	12 0
				196 Franciscus primus.....	3 0
				197 Golden Prince, fine deep yellow.....	3 0

CONTINUED ON NEXT PAGE.

WEEKLY CALENDAR.

D M	D W	SEPT. 26—OCT. 2, 1854.	WEATHER NEAR LONDON IN 1853.				Sun Rises.	Sun Sets.	Moon R. & S.	Moon's Age.	Clock af. Sun.	Day of Year.
			Barometer.	Thermo.	Wind.	Rain in Inches.						
26	TU	Berytus tipularius.	29.810—29.562	57—32	N.W.	—	54 a 5	49 a 5	7 30	4	8 38	269
27	W	Myodocha tipuloides.	29.901—29.894	63—47	S.W.	—	55	47	8 0	5	8 58	270
28	TH	Membracis genistæ.	29.892—29.854	66—44	S.W.	02	57	44	8 39	6	9 18	271
29	F	MICHAELMAS DAY.	29.935—29.835	65—45	S.W.	25	59	42	9 37	7	9 38	272
30	S	Small Tortoiseshell Butterfly.	29.991—29.916	61—38	N.W.	20	60	40	10 50	8	9 57	273
1	SUN	16 SUNDAY AFTER TRINITY.	29.631—29.601	61—34	W.	—	VI	v	morn.	9	10 17	274
2	M	Sphodrus collaris.	29.860—29.730	54—27	N.W.	—	4	35	0 14	10	10 36	275

METEOROLOGY OF THE WEEK.—At Chiswick, from observations during the last twenty-seven years, the average highest and lowest temperatures of these days are 64.1°, and 45°, respectively. The greatest heat, 81°, occurred on the 26th, in 1832; and the lowest cold, 24°, on the 27th, in 1828. During the period 85 days were fine, and on 104 rain fell.

WHERE a series of facts, to be comprehended, must needs be held together by a nice little bit of theory, we have ever selected the simplest which would answer our purpose, and remembering the saying of the father of Physic, "Do not talk of mysteries to the uninitiated," we have tried to write what it might be possible for our least-informed readers to make out. We have preferred considering cholera as a skin disease, using the one term to signify both the external and internal skin. One office of this extended sensible surface is to get rid of the used-up particles of the system, and wash them away by means of pure air. When this supply of pure air falls short, these large surfaces are badly washed, the blood is imperfectly oxidised and renewed, and various signs of ill-condition are manifested, all depending, more or less, on a want of power in the atmosphere to cleanse these surfaces, or on a want of vitality in the system, the cause or also the consequence of the bad state of the air. With respect to the relation between Asiatic cholera and common diarrhœa, we hold the former to be no new disease, but an exaggerated monstrous variety of an old one. Mankind are vastly indebted to their own improvements upon the simple, but inexorable, laws of Providence, for the acquisition of the main conditions necessary to make a cholera case out of an ordinary bowel complaint. These main conditions we have often explained to our readers; remove the principal of them, and the specific disease either dies out, or gradually loses its specific characters, and assumes a commonplace aspect, like many a garden-flower run wild.

It is consistent with what we know of other organised beings to admit, further, that a foul atmosphere, and a corrupt state of the secretions together, may bring to life certain very minute organisms—like the blights, the fungi, the mouldiness, the mildew, the parasitic animalcules which infest the skins of unhealthy, dying, or dead animals and plants; these diffused in the air may be a means of tainting those places fitted for their reception.

The importance of understanding the principles upon which to treat a case of common diarrhœa cannot be overrated. It is either stopped at once by a class of medicines termed astringents, such as catechu, kino, &c., which contain a certain conservation principle called tannin, the use of which is indicated by the name; or by these combined with sedatives, such as opium and lead; or it is thought sufficient to absorb the offending secretions by chalk, and restore the good humour of the

irritated surface by aromatics; or the whole disturbance is deemed an effort of the constitution to clear itself of something which must be got rid of, and a mild purgation, such as castor oil or rhubarb, is selected, which will cause the least possible after-annoyance. Now, a shrewd farmer's wife should be quite up to this. Six or eight fatted calves are not put up together in a loose box for a month at a time with perfect impunity. They are liable to diarrhœa; and this is treated variously by astringents, opiates, chalk, and not unfrequently by castor oil. Great attention is paid to cleanliness, fresh, dry bedding, wholesome food and ventilation. But if the plague becomes fixed, and the little patients take to dying, there is only one plan, to clear out the infected house and abandon it. Everything must depend on the common sense, the intuition, sagacity, or the dear-bought experience of the attendant. The most careful directions will not make up for the want of these. So much for diarrhœa, and now for the proper treatment of malignant cholera.

It has been attempted to account for the specific virtues of oil of vitrol, calomel, and corrosive sublimate, by maintaining that they act as poisons, and communicate to the patient a new and severe disease, but a curable one. This is like what military men call effecting a diversion. No two diseases, says Hunter, can co-exist; one is enough at a time. Indeed, the old name, pharmakon, signifies both a medicine and a poison; and the old proverb is to the same purpose, which says, the remedy is worse than the disease. Hippocrates is still read for the valuable information which he gives us respecting the history of epidemics, but he is silent as to their cure. The old medical treatises of the Egyptians consist almost exclusively of rules for maintaining the health, not for curing disease; and the grandest code of health, the oldest of all, has nothing to say on the medicinal treatment, even of epidemic leprosy. The name of Physician signifies an expounder or student of Nature's laws, and no more.

But we have to point out another way of accounting for the efficacy of the medicines in question, rather less paradoxical. Sulphuric acid, and, indeed, most acids, owe their existence to the presence of oxygen, whence the name (oxygen, a generator of acids). Oxygen is precisely the element which a corrupted atmosphere is no longer adequate to supply for the purification of the blood, or, which the weakened energies of the patient no longer have power to appropriate. The boasted

specific, therefore, may be an useful palliation, and no more. Besides the acid treatment, we have the saline, and the mercurial. Calomel and corrosive sublimate in the latter, and chlorate of potash, and common salt in the former, contain another powerful agent, closely allied to oxygen, namely chlorine. The office of this gas is not to renew the blood of the living organised beings, but it corrects, neutralises, and finally reduces dead and putrefying animal and vegetable excretions and offal. All the remains of all living created things in the world, carried down by our rivers into the sea, are there at last reduced to an elementary condition by this universal solvent. But chlorine exists in a very dilute state in the water, and watery vapour of the sea, and of tidal rivers; no wonder that, thanks to our embankments and weirs, and excessive population, and excessive filth, these river mouths are distinguished not for their excess of chlorine, but for an utter inadequacy of supply to meet the enormous demand. Hence, their unhealthiness.

But it is not enough to propose chlorine as a remedy for the putrefaction, decay, and turning to death, already commencing inside the body; the thing is, how to convey it to the seat of war. We have in calomel just the sort of combination to pass, unaltered, along the healthy surface of the bowels, until it reaches the place where the vital resistance is weakest, and where chemical changes, and putrefaction, and decomposition begins to assert the inferiority of physical over vital laws. We prefer to consider the metal in calomel as acting nearly the part of a conductor to the curative agent chlorine.

We are, therefore, still a long way off discovering a true antidote for cholera; and there may not be so very great a difference after all between the high science of the hospital physician and the old routine plan of combating the symptoms as they arise; if there be a bad smell, use chloride of lime; if looseness, give an astringent. If the skin gets cold, apply heat—hot bricks, hot flannels sprinkled with turpentine; if there be great depression, give brandy, &c.

Science can tell us how to prevent disease; it can help us a little to do away with its effects, to palliate its injuries, to gain time to enable Nature to rally; but the cure, the event must greatly be left to Him in whose hand are the issues of life and death. It is useless to repine at the limited extent of our knowledge, so long as we do not act upon the knowledge which we profess; and with respect to the differences of opinion among physicians, the same holds good that Jeremy Taylor has said respecting divines. Instead of making so much to do about the few points on which some differ, let us make rather more of the many points on which all are equal.

J. J.

THE CRYSTAL PALACE.

ABOUT this time two years back people began to ask me, "Have you been to the Crystal Palace yet?" and, as I take it, they did so on the same principle as they do in Scotland; when a "body meets a body," and wishes

to draw him into conversation, he brings out the snuff-box. Some were surprised, "of course," to find that I was not more curious, or more interested, in the progress of the work. "Of course" I could obtain free admission from Sir Joseph Paxton, who never "turns his back" on an old acquaintance. But, "of course," all this is but the old story over again, about your having a friend at court, in parliament, or in the vestry, and your particular interest ought to be his peculiar study, "of course." But, "of course," also, "Auld Lang Syne" was never meant to cover impertinence. I would much rather ask favours of a perfect stranger than of Sir Joseph, under the circumstances, on the plea of "birds of a feather," than on the strength of old acquaintance-ship from any one. Besides, all the great details were given out in the newspapers as early as the autumn of 1852, and from time to time subsequently—and such details, too, as were more complete for the mind's eye than those which were detailed in the first Guide Book, at the opening of the Crystal Palace, to the eyes of any of us. With the exception of the steepness of the grounds, the undulations in it, and the general elevations of the Palace itself, I had as clear an idea of the whole, from these reports, as I have now after spending two days there. I shall, therefore, recapitulate the heads of those details for the use of such as have not yet seen the Crystal Palace.

Early in the autumn of 1852, we were told that the Crystal Palace would stand east and west, on the crest of a hill, facing the south, and looking over a large extent of a finely wooded country; that there would be three transepts at right angles with the ridge of the hill; that two long wings would stretch out into the grounds, one from each end of the building; that the "court" thus formed by three sides of the Palace would be laid out in "an enormous parterre, enriched with statuary and fountains;" that the main walk would lead down from the front door of the Palace, in the centre of the middle transept, by flights of granite steps, through the terrace-garden, and right down to the bottom of the ground, where it would "lose itself" round a large circular basin at the bottom; that both sides of this principal walk would be alive with devices of water, and embellished with statuary and flower-beds; that after passing from the terrace-garden into English landscape, this centre walk would be intercepted by a grand circular basin, placed in the very middle of it, in which basin the grandest of all grand displays of "water-work" would be exhibited; that, passing onwards, two temples of iron and glass would rise a little in advance of the grand fountain, one on each side of the grand leading walk; that these iron-and-glass temples would cover groups of statuary, and would be covered themselves, in part, by climbers, and at times by thin films of water, returning from a gushing in the dome; that a wide "step by step" cascade would run down hill, on each side of the grand walk, from the bottom of the temples, and "tumble over" at the bottom, in the shape of waterfalls, into two great reservoirs, which would stand at right angles with the central walk; that to the right and left of the Temples of the Cascades, and at some distance from them, would rise two conical hills, that to the right would be surmounted by an "arcade of arabesque iron-work," for "twining" Roses (but Roses never twine, they climb); the other, by a similar arcade, for "innumerable" climbers (and most of them *will* twine); that parallel to the grand central walk, two secondary walks would lead from the upper terrace-walk opposite the side transepts, down through the terrace-garden and "transition" ground, to two circular basins, not quite so low down as the grand circular basin in the middle walk; that, thus, one great geometrical line ran right through the whole garden, from the front door of the Palace, and two parallel lines

from the upper terrace-walk to the termination of that space which claims the Italian and the English style of landscape gardening, alike; that geometrical accompaniments follow these three straight lines on either side of them; and that the English style of landscape gardening would begin "gradually" to assume the "bold and free" slopes of grass, winding walks, large and small masses of trees and shrubs, with free sweeping outlines, and all the rest of it. The measurements were also given to the last inch; so, as I said before, that the whole could be as easily grasped in the mind, without seeing it, as the main features of a new country from a good map.

Well, I never went near it till I was sure the first planting of the flower-beds was at its prime for the season. I met with no delays on the way from London, as I expected from the reports in the newspapers; got a splendid view of the gardens and Palace out of the train, passing round the "Geological Island;" saw the "beasts before the flood" panting for water, at the bottom of the ground, and the first, second, and third class lions, feeding near the top, and under the shadow of the right wing of the Crystal Palace itself; the seeming relish, mixed with the savory perfumes from the kitchen, the store and still rooms, the cellar and the larder, made my "teeth water;" and I was obliged to feed too. Ten days after this a lady took me in her carriage to see it a second time. I was her ladyship's "guest for the day," and got homo scot free.

Now, from the rapid sketch I have just given of the place from the newspapers, a gardener could see at a glance where the key lay for examining the details of the garden,—just at the front door, in the centre of the middle transept. In the open gallery, exactly above the front door, is the proper place to study the composition; there is no other spot, high or low, where it can be so easily "construed," as the Dominic would say. If I had been brought here blindfolded, and had not seen the building in Hyde Park, I should have wondered why blue and white flowers were not as freely planted in the terrace-garden before me, in proportion to the yellow and scarlet ones. Blue flowers, it is true, are not so telling as scarlet and yellow ones, in a large space, or at long distances from the eye; that *might* be the reason; and *one* good reason is better than ten lame ones; but then, white flowers are more telling at a distance than either yellow or scarlet. Why is it, therefore, that not a single white flower, for contrast, or for combining, is seen in this garden, which is said to be nearly one-third of a mile long, and above five hundred feet wide? Nothing can be more clear, and easier accounted for. The whole area, or nearly the whole, is already bounded by blue and white; the whole of the back-line and both ends of the garden, up to the skyline, is one entire mass of blue and white, in the elevations of the Palace itself, the long, horizontal, light-coloured lines of the terrace-walls and walks, the pure white marble of the statuary and flower-vases, which surmount these walls all round, and similar groups round the fountain-basins along the centre of the garden, would, of themselves, drown all the beds, so to speak, were they all planted with blue and white flowers. Add to this, all the fountains at play on a clear summer day, the water shooting up to a great height, in sky-blue jets and columns, and returning in foam and torrents, in broad blue sheets, or glassy films, or spray, sparkling in a thousand shapes, and clear as crystal itself; I say, only imagine all this for an instant, and then say, "if thou can'st tell it," how tame a proportionate balance of blue and white, to the yellow and scarlet flowers, would render this magnificent garden; and then, also, if you understand the drift of my story, let me never hear such silly questions again, as—"Don't you think they have too much scarlet and yellow?"

All the shades from blue to white, as the different gay Verbenas, Heliotropes, and Ageratums, together with the pink and purple shades in Verbenas and Petunias, with the *Lucia rosea*, and *Unique* Geraniums, also, *Salvia patens*, subdued, and blue Anagallis, and dwarf Verbenas, as neutral corners or centres to start from, are all introduced here in judicious proportions, except, perhaps, the purples, and we all know they are most difficult to deal with in a new arrangement. You must actually see the effect of purple shades, before you can possibly assign its own station to each.

It is marvellous to me how they escaped at the Crystal Palace, with hardly a failure to speak of, in the arrangement of the different designs and beds. There is one original idea (twice repeated, however), in the centre of this terrace-garden, which is radically in opposition to the law on which the garden is laid out; I mean the three circular Rhododendron beds—in each of the two pannels surrounded by a chain of *Tom Thumb* and *Calceolaria* being placed in corners forming right angles; but a slight alteration in the angle of the banks will rectify that without any prejudice to the angle formed by the two walks with which the banks correspond. But the effect produced by these circular beds, in causing the chain of beds to make two angle links (beds), and a festoon (of beds) round each Rhododendron-bed, is most exquisite, and just like grace notes, by Jenny Lind, in your favourite tune. Perhaps we may engrave one of these pannels some day to show what I mean; and also to exhibit a suitable plan for enriching the design by another style of planting, or rather of connecting the beds by a different colour—differently laid, as an artist would say. At present, this chain-pattern of Yellow *Calceolaria* and Scarlet Geranium, the links or beds being in double circles and an oval alternately, with each link joined to the next by a dark purple band, a yard long and two feet wide, of the *Emma* Verbena, is the richest pattern of the kind in England; and the nearest to it in the three kingdoms is at Drumlanrick Castle, in Scotland, one of the seats of the Duke of Buccleuch, where part of the gardens must be seen a long distance off, and, therefore, must necessarily be planted only with the strongest colours.

Strictly speaking, this is the only pattern-planting in all the garden, the rest of the beds being either angle beds or accompanying beds to promenade walks. The angle beds, both on the terrace and in the transition garden, just under the terrace, are well managed; there are four of them in each end pannel of the terrace-garden planted with the *Compactum* Scarlet Geranium, the eight are edged round with a purple Verbena, redder than *Emma*, and the effect produced by the two shades is extremely poor. *Compactum* is not quite a scarlet, but a shade between orange-scarlet and pink; it never "comes to a head," as we say; that is, never makes a flat surface like a bed of *Tom Thumb*. The purple Verbena, which I object to round *Compactum*, does not come to a head either. The style of growth was, therefore, well considered; but the two shades neutralise each other. The planter was put out, also, by a purple in the centre of the terrace. The third bed from the upper corner beyond the *Salvia patens* does not agree with its match on the other side.

With these slight exceptions, which are not worth mentioning, I would challenge the most angry critic to point out a falso step from first to last. The sloping green bank, on which the Palace seems to stand, follows the ground line of the wings at each end; and where the two banks meet at right angles, evergreens are planted in groups to soften the severity of the posts at both ends of the upper-terrace-walk; below that, and opposite each end of the terrace, the sloping banks in front of the wings are planted in rich drapery of *Cloth of Gold*,

edged with crimson. The upper line of this magnificent curtain is straight, to correspond with the line of the building; and the bottom line is formed into horse-shoe arches, with sharp points between, or inverted festoons, a crimson drop hanging down from each point; face either end of the terrace-garden, at any point within it, and you have one of these splendid draperies right before your eyes, covering so much of the bank the whole width of this garden. A magnificent conception, carried out in grand simplicity. It was meant to have a scarlet fringe along the top line of these Cloth of Gold-covered banks, but the Scarlet Geranium row, intended for the fringe, did not rise high enough this season to show above the Calceolarias from the garden side, and a stronger-growing Geranium must be planted there for the future.

The best kind of hybrid Rhododendrons are planted in beds round the squares at both ends, formed by the wings and the two secondary walks; and these Rhododendron beds are edged with yellow Calceolaria, of which they use three varieties of *Rugosa*, the broadest leaved one being the best. It is very near, if not the same, as the Horticultural Society grow in large pots for the Conservatory at Chiswick. They have *Angustifolia* also, and *Amplexicaulis* in other parts of the garden; also a good, tall brown Calceolaria, called *Pluto*, of which two match-beds stand as you descend into the transition-garden by the grand centre walk, which is here much raised above the grass, and is supported by balustrades, over which you look down on the line of beds which accompany the walk on either side, down to and round the grand centre fountain, where the more dressed ground ceases in that direction. Besides *Pluto*, you have two match-beds, at the top of the line, of *Fuchsia Carolina*, which surprised me, as I thought all the world heard from this pen that *Carolina* could not be made a flower-bed of. It makes a good neutral bed, however, as it stands here, for they have no want of flowers; indeed, perhaps it was intended as a neutral. If so, it was a good idea; as a pair of neutral beds of dwarf Rhododendrons stand lower down, at the bottom of the steps leading out on two sides from the area enclosed for the grand fountain. Two more match-beds were filled with the old *Globosa* *Fuchsia*. The plants were too young this season, and they must be kept over the winter indoors, or else *Globosa major* to be substituted for them another year. Lower down, another pair of match-beds were filled with the dwarf yellow *Oenothera prostrata*, looking gay, and not all with too much foliage.

D. BEATON.

(To be continued.)

USEFUL COOL HOUSE AND GREENHOUSE AT THE GAS-HOUSE NURSERY, HITCHIN.

THE above Nursery is situated within five minutes walk of the Hitchin Station on the Great Northern Railway, and though of no great extent, the lovers of flowers, who may have a short time to spare, will find it well worthy of their inspection. A beautiful stream of water runs through the ground, which is rendered interesting as well as useful, and a stranger can scarcely fail to notice that Mr. Fells manages the concern with a happy combination of the actively industrious, the neatly kept, and the studiously economical. It is not my intention to give anything like a description of this little Nursery, but I may notice, in passing, that there is a good collection of the better sorts of evergreens, Pinuses, and shrubs, chiefly in a young state, and which seemed to be moved every or every other year; a good collection of the hardier *Gladiolus* and other bulbs; a goodly number of the best herbaceous plants, such as *Phloxes*, *Delphiniums*, &c.; and among other things I noticed this

season, was a splendid quarter of the double Red *Anemone*; another of the double blue, not so large; and during summer a large mass of the fine old mule *Pink*, not grown half so much as it ought to be.

With the exception of a few Ferns, the pot plants are chiefly those that are used for bedding, and for small greenhouses; and for growing large quantities of these, there are a number of economical pits and small houses, besides a large span-roofed house, planted with Vines, but which, in the meantime, forms a splendid storehouse for keeping and growing great numbers of *Geraniums*, &c., for bedding, during the winter and spring months.

As some of the novelties in the bedding way are generally tried out-of-doors, the careful purchaser will have a better opportunity of judging what will suit his purpose than he would acquire either from a florist's drawing, or even a truthful advertisement. Among other things worthy of being better known, I observed a rose-coloured *Verbena*, called *Virginus*, or *Virgilius*; a compact dark purple one, with a white eye, named *Favourite*; a stubby, upright-growing blue *Lobelia*, named *Compacta*; a large, dark, good-substanced *Petunia* seedling, though to my fancy it was just rather large; and a very nice, stubby, light (the nearest to white of any I had seen) *Heliotrope*, named *Perfection*, though Mr. Fells assured me it was not at all new. It would make a good neighbour to *Corymbosa*, if it maintains the same small leaves, rather upright growth, and compact habit, and would be much more lightsome than that compact variety. I may also add, that there is a good collection of *Roses*, and just now a fine show of *Hollyhocks*, established favourites and seedlings.

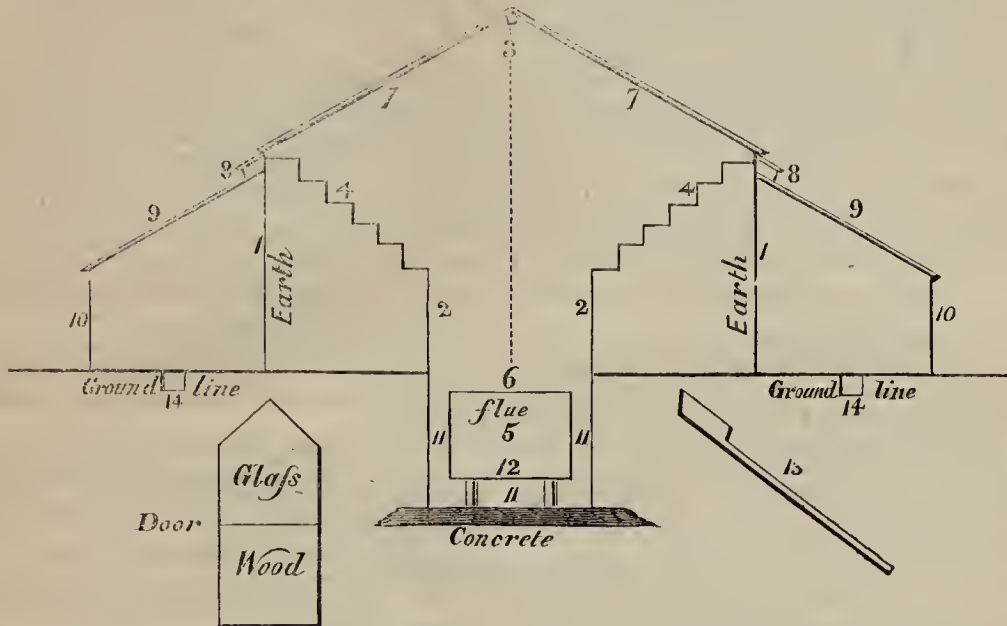
If the bedding system has done no other good, it has created a demand for flowering plants unknown before. To meet the increasing demand in the neighbourhood the house was constructed, to which I wish to direct the attention of readers, who, though they love their plants, find they must be economical; and for the details of which I am indebted to Mr. Fell's kind courtesy. The objects of the building, as a whole, seem to be chiefly threefold. First, the storing and keeping in safety as many plants in small pots as possible, as well as giving them sufficient light to grow in spring without being drawn. Second, a convenient means of hardening off these plants, before exposing them to the open air, so as to be economical as respects the time and labour necessary. And third, a means of securing a certain amount of protection for many plants, which, though nearly hardy at all times, or hardy as they get old, will not bear the vicissitudes of our winter when young; such as the better kinds of evergreens, Pinuses, herbaceous plants, &c., and which, while protected from rains, &c., will not be likely to suffer from confinement nor from damp, guarded against by the live-fence wall, and the simple construction of the sash-bar, by which there is a continual draft of air without any trouble of sash moving.

The plan will at once be understood by the description of the accompanying section.

- 1 Side walls, four feet six inches high.
- 2 Ditto inside, three feet six inches from section of flue.
- 3 Height inside, six feet six inches from top of flue.
- 4 Six shelves of earth, supported by a brick on edge.
- 5 Depth of flue, outside, one foot.
- 6 Width ditto, one foot three inches.
- 7 Length of sashes, six feet six inches.
- 8 Air for the lean-to at top.
- 9 Roof of lean-to, sash bars, fixed, no separate sashes, six feet six inches.
- 10 Hedge, or wall, of living *arbor vite*, clipped, two feet six inches in height. The sashes resting on a neat wall-plate, supported by posts.
- 11 Space for air to pass round the flue.

- 12 Sand on the floor of flue, inside, to prevent the slate at its bottom from cracking by the heat, near the furnace.
- 13 Sash-bar for the lean-to; the upper jutting-out-part being glazed; there is an opening all the length, to admit air, and to exclude all but very driving wet.

Width of the house, inside, ten feet six inches.
 Ditto lean-to, six-feet.
 Door, two feet six inches in width; height, five feet six inches,
 The furnace is at the end opposite the door.



The sashes on the roof open easily, by pulling them down by the hand, inside, and are pushed up from the outside, by means of a stont rod, with a notch in the end of it; the operator standing in front of the lean-to house.

The paving that covers the flue forms the path of the house.

The flue is a few inches below the ground level. I forgot to say, that

14 represents a narrow sunk path in each of the lean-to's, for examining, watering, &c.

The length of the house is forty-two feet, and the whole, house and lean-to, is glazed with sixteen-ounce sheet glass, in squares seven by five. Our readers may easily form an idea of the quantity of plants, in small pots, such a house, with its twelve shelves, could hold. It will at once be seen that large pots would not stand on these shelves. When I saw the house early in the spring, it was crammed full of nice healthy plants of Geraniums, Fuchsias, Heliotropes, Verbenas, &c., chiefly in 48 and 60-sized pots, and it would have been difficult, in the same space, to have kept an equal number, equally healthy, by any other combination, that would also have admitted of an equally economical superintendence.

As many will now be thinking of building for saving their pet plants, a few thoughts may be worth noting, where economy must be kept in view.

1. A pit, or house, in which artificial heat may be used, when wanted, is always more desirable than one unheated. Many simple modes of heating have already been adverted to.

2. A pit, or house, however low the roof, intended for cultivating, or keeping plants, will always yield most satisfaction, and provide best for the plants well-being, when there is a pathway, however narrow, inside. It was shown, sometime ago, how this could be done with pits of a moderate height, by having a trench dug down at the back for a path, either with or without a hipped roofed over the path, and that roof opaque or glass; and, in the later case, if the path-way is deep enough no room need be lost, as a shelf for small plants might be seenred over head above the path.

3. Where growing of plants, pleasure of examining them, and economy in all the arrangements, must form first matters of import—then, instead of having two ranges of pits, however short, it would be advisable to place the lights end-to-end at the apex of a roof, and the other ends resting on side walls, as in this Hitchin house. It will also be observed, that in such a hipped-roofed house there is no occasion for the space over the pathway being open; as, provided the flue, or pathway, was a foot deeper, or the apex of the roof a foot higher, a broad shelf might be suspended over the path; or a late Vine, or other desirable twiner or climber, grown there.

4. There is nothing new in advocating earth platforms or stages for such houses to the readers of this work. I have known cases in which great dampings and discouragements to gardening enthusiasm have been accomplished, because, when everything was arranged satisfactorily as to the price of constructing a neat little house similar to the above, the idea of platforms and stages was entirely overlooked, and the additional expense they created gave a souring influence to the whole affair. In most cases, an earth platform, with a brick-wall to keep it up, would have cost less by much in the first instance, and might be supposed to last a life-time, or as long as the house would stand together, and, if either vitrified on the outside, or painted with good anti-corrosive, the walls would always be nice and clean. Then, on the other hand, independently of the trellis and shelves wearing out, and the frequent brushings and washings they will require to keep them clean and neat, and the repeated paintings, to efface the effects of the scrubblings, all coming as so many drains to the pocket; there is one fact more, of much importance to the amateur, who must leave his plants for many hours at a time, namely, that these shelves will retain no moisture, unless there are saucers beneath the pot, and that, in inexperienced hands, will at times be apt to make a marsh plant of one that requires very different treatment. When plants stand on a bed sufficiently porous to allow extra moisture to drain away, it will be a long time before a plant in such circumstances will greatly suffer from drought, owing

to the absence or carelessness of the manager, as the bottom of the pot, in the hottest days, will long be kept moist by capillary attraction drawing up the moisture from the bed of earth beneath.

5. "Allow that from the sinking of the house-floor foundations there would be no difficulty as to the earth required, still, from having these earth platforms, I lose all the available space I now have for storing many things beneath my flower platforms that remain in a comparatively dormant state during winter." Very true; and it is right that all that should be thought about. But, on the other hand, from the damp alone and unless great care is taken in watering, fear the unavoidable drip that takes place. Plants will not long remain there in a healthy state; and in a majority of cases, the plants so kept could be as easily kept in a shed or hay-loft, from which frost could be excluded from them, and a little light admitted, especially when the weather was fine.

6. "Would not the same purpose be gained by a fixed roof—much in the way of the lean-to, with but half the number of rafters—having an opaque part at the apex, and a sort of lanthorn covering over it, and ventilators there, which would prevent wet entering?"—Yes, very well, where a rather close atmosphere was required; but unless the ventilators were large, or there were openings near the top of the side walls, there would not be air enough for such half-hardy plants.

7. "The shelves are so narrow, that a pot of any size must partly rest on the brick edging, and so far the benefit of absorbing moisture will be at the least." Very true; but you may have slips of wood for the sides of these shelves, though not lasting; or narrow slips from refuse slate, which will take up but little room. Again, you may make three shelves instead of six; and if you incline to fair-sized plants, make a level platform at once, and it will look very neat, though you cannot hold an equal quantity of small plants, and give them individually an equal amount of space and light.

8. "Neat, indeed! Surely we must be retrograding, if we set the bottoms of our pots among earth and worms." Gently, there is no occasion. You may, and should have some porous substance, as clean cinder-ashes, small stones, &c., for a few inches on the surface, and over these you should throw a fair sprinkling of salt, and it will be long before worms will trouble you, and over this open matter have an inch or two of clean sand, or those pretty little shells that are now being used for walks near London, and what could look neater? A brush will always clean it, and when it gets dull or earthy-looking, a slight sprinkle on the surface will make it sweet and fresh-looking as ever. I noticed that Mr. Fells had sawdust on his warm shelves between his bricks, on edge, but I would advise our amateurs to have nothing to do with it, for such a purpose, unless the most temporary make shift, and chiefly for two reasons. First. You are almost sure to be presented with spawning hordes of funguses, as the sawdust decays a little. And, secondly, when plants are set upon it, and great care is not taken, it will so work itself into the bottom hole of the pot, that drainage will be effected, much in the same way as if you had daubed up the hole with mortar. Sawdust is most useful when used as fuel, or charred for manuring purposes.

R. FISHER.

EARLY-FLOWERING BORDER PLANTS.

(Continued from page 478.)

EPIMEDIUM—BARREN WORT.

THE Epimediums are all curious, pretty plants, flowering in April and May. The flowers always appeared to me to have a considerable resemblance to

those of that singular tribe of plants, the Orchids. They are but little known in cultivation, which is a matter of regret, for they are exceedingly interesting, and when once established are not easily lost. They require a sandy loam, with the exception of *E. alpinum*, which should be planted in moist, peaty soil, at the foot of rock-work, or on an American border.

E. ALPINUM (Mountain).—Found, but rarely, in England; has crimson flowers; growing nine inches high; blooming in May. Increased by division.

E. DIPHYLLUM (Two-leaved).—From Japan, with red flowers, growing nine inches high, and blooming in May. Increased by cuttings of the young shoots, in sand, under a bell-glass, in a gentle heat, and also by division.

E. GRANDIFLORUM (Large-flowered).—From Japan; with white flowers; a foot high; appearing as early as April. Increased by division and by cuttings. A very handsome, striking species.

E. HEXANDRUM (Six-stamened).—The others have only four stamens. From North America; with lilac flowers; growing nine inches high; blooming in May. Increased by division.

E. MACRANTHUM (Broad-flowered).—An April flowering species, from Japan, growing a foot high, with violet and white flowers; a very handsome species. Increased by cuttings and division.

E. MUSSCHIANUM (Musschl's).—From Japan. The earliest bloomer in the genus, the flowers appearing in March. They are pure white, growing six inches high. Increased by division.

E. PINNATUM ELEGANS (Elegantly pinnate).—From North America. This species has yellow flowers; a peculiar colour in this tribe. It grows rather tall, often reaching two feet in height. The foliage is very handsome. Increased by division.

E. VIOLACEUM (Violet-coloured).—From Japan. The flowers have a violet-coloured ground tipped with white, appearing as early as April, growing six inches high. Increased by division. This species is rather tender. It is advisable to keep a plant or two in a cold pit in order to be sure of keeping the species. It is, however, hardy enough to bear our ordinary winters, and, perhaps, might be always preserved by placing some dried fern above the roots, and placing a hand-light upon it. It is excessive wet in winter that destroys this and many other similar plants.

EREMURUS.

From *eremos*, solitary, and *oura*, a tail; the flower-spike is single, and has the appearance of a monkey's tail. A small genus of plants with yellow flowers. They require a dry, sandy loam, and will grow in any situation not under the drip of shrubs or trees. Rare in cultivation.

E. CAUCASICUS (Caucasian).—From the mountains of that country, growing a foot high, and flowering in May. Increased by division.

E. SPECTABILIS (Beautiful).—From the cold regions of Siberia, growing a foot-and-a-half-high, and flowering in May. Increased by division.

ERINUS.

A well known genus of very early-flowering plants. At Lady Broughton's, Hoole House, near Chester, the *E. alpinus* scatters its seeds on the rockwork, and clothes it with its pretty blue flowers in March. This is the best way to propagate it. I have seen old garden walls, also, covered with this pretty alpine; but it will grow well in a dry border, in sandy loam.

E. ALPINUS (Mountain).—From the Pyrenees, flowering in March, and growing only three inches high; with pale blue flowers. Increased by self-sown seed, and also by division.

E. HISPANICUS (Spanish).—Though this is very similar to the preceding one, yet they are easily distinguished by the former being quite smooth, whilst this is hairy. From Spain, with reddish-blue flowers, growing three inches high, and flowering in March. Increased by self-sown seeds and by division.

FICARIA.—PILEWORT.

From *ficus*, a fig, which the roots resemble. I introduce this plant amongst my early border-flowers because it is so pretty, and will grow anywhere, even under trees. As a cultivated plant for the choice border, the following is well worthy of culture:—

F. VERNA PLENO (Double-flowered Pilewort).—Garden variety, with beautiful double flowers, of a golden-yellow colour, appearing in May, growing only three inches high. Increased by division when at rest.

GENTIANA.

This is a large genus of handsome flowering plants, one of which, the *G. lutea*, produces the bitter called gentian.

G. ACAULIS (Stemless).—Found in Wales. Has large, intense blue flowers, appearing in May, and growing only three inches high. Increases freely by division. This species forms, in sandy soil, a beautiful edging, and when in flower, no edging has a more splendid appearance. My friend, Mr. Weaver, at Winchester, uses it as a bedding-out plant, and very effective it is at such an early season. It requires, however, replanting in fresh soil every three or four years.

G. ALTAICA (Altaic).—A beautiful species, with deep purple flowers, growing a foot high, appearing in May. Increased by division, and by seeds sown as soon as it is ripe.

G. PUMILA (Dwarf).—From Switzerland; flowering in May; growing only three inches high, and has a rich blue flower. This is a little gem, and, as yet, rare in cultivation. Increased by division.

G. VERNA (Spring).—Found on the top of Ben Nevis, in Scotland, and formerly on some of the English mountains; but the ruthless collectors have nearly banished it from our wild native plants by gathering every root they could find—a proceeding that cannot be too severely condemned. Whoever finds a rare wild plant should always make it a point of honour to leave some for future botanists to find and admire. This lovely little plant has deep blue flowers, not more than two inches high, appearing in May. Increased by division; requires a peat border, in a shady, cool place. I once saw a border of it, two feet wide and ten feet long, behind a low brick wall, thickly set with plants, all in flower. This sight was most beautiful. It was in a nursery in Yorkshire—now, alas, all bricks and mortar; what became of the plants I never could learn. There is a white-flowered variety; but it is valued only on account of its rarity. The remainder of this beautiful genus flower later in the year.

HACQUETIA.

H. EPIACTIS (Epipactis).—A curious plant, from the Alps, with yellow flowers, growing three inches high. Increased by division.

HEDYSARUM.

An ancient name. This is another large assemblage of plants, some few of which flower early in the year, and are worthy of culture. They grow in common garden soil, and are very hardy.

H. ALPINUM (Mountain).—From Siberia; flowering in June, with purple flowers; growing two feet high. There is a variety with long flower-stalks. Increased by division, and by cuttings in spring.

H. ARGENTEUM (Silvery).—From Siberia; flowering

in May; colour purple; height one foot. The leaves of this plant are almost white, giving it the appearance of frosted silver—hence its name. Increased by cuttings and division in spring.

H. CANDIDUM (White).—From Tauria; growing six inches high; flowering in May; the flowers are purple, it is the leaves that are whitish-green. Increased by division.

H. GRANDIFLORUM (Large-flowered).—From Tauria; growing a foot high; blooming in June; with purple flowers. Increased by division. T. APPLEBY.

(To be continued.)

GREENHOUSE FERNS.

(Continued from page 477.)

BALANTIUM.

BALANTIUM CULCITUM (Cushion).—A curious, scarce, handsome Fern, the only one of the genus in cultivation. It is a native of Madeira. I never saw but two plants—one at Kew, and the other at Knight and Perry's Nursery, at Chelsea. The fronds are many times divided, technically described as trinquadri-pinnate, growing three feet high. The leaves are nearly triangular, with a sharp point, and deeply toothed at the edges. The seed-cases are curious, in the shape of an oblong purse; hence the generic name, *balantium*, a purse. The root-stock is decumbent, or laid down in the earth, is very thick, and rather creeping. By this it may be increased wherever there is a bud formed below the leading shoot.

BLECHNUM.

The genus *Blechnum* is well defined, and easily distinguished by its seed-cases, which run in continuous lines on each side of the midrib of the fertile leaves. The genus *Lomaria* has the seed-cases in the same way; but the fertile fronds in that genus are contracted, that is, turned up at the edges; whereas, in *Blechnum*, the fronds are all even and flat.

B. AUSTRALIS (Southern).—A Fern found at the Cape of Good Hope, with fronds growing a foot high. They are pinnated, slender, and lance-shaped, pinnæ stalkless; the lower part sickle-shaped, the upper narrow and long; root-stock creeping. Increased by division. This is a handsome Fern, but rare.

B. CARTILAGINEUM (Fleshy-edged).—A New Holland Fern, of considerable size; fronds three feet long, lance-shaped and pinnated; leaves, or pinnæ, longest at the base, gradually shortening upward; the lowest eight inches long, cut sharply at the edges, and of a light green. Increased slowly by dividing the thick creeping rhizoma.

B. HASTATUM (Spear-headed).—A Fern from Chili. Fronds a foot long, and pinnated; pinnæ narrow, lance-shaped, light green; the lower ones spear-shaped; the upper sickle-shaped. Increased by dividing the creeping root-stalk.

B. TRIANGULARE (Triangular).—A Mexican Fern, of great beauty. Fronds a foot long, triangular in form, pinnated. The pinnæ are generally alternate, without stems; the end one is entire, running out very narrow. Increased by division.

CASSEBEERA.

A name adopted by Mr. Smith, to commemorate J. H. Cassebeer, a German botanist. The plants arranged under this name have been collected from *Pteris* and *Cheilanthes*, to which they are closely allied. There are a few handsome species which will thrive well in a greenhouse.

C. CUNEATA (Wedge-shaped).—From Mexico. A Fern of considerable elegance. Fronds nine inches high,

twice cut; barren fronds wedge-shaped, fertile, sharp-pointed and oblong; seed-cases long and narrow; stems black and shining. Increased slowly by dividing the slow-creeping root-stalk.

C. HASTATA (Spear, or Halbert-shaped).—This is the well-known *Pteris hastata*, a native of the Cape. I once raised from seed a variety with very broad leaves, and I find now this variety frequently appears amongst seedlings of the true species. It is in a much larger habit in every way, and I value it more than the species. I have now some plants of it that are really noble specimens. The species are also very handsome. I find them both thrive well in Wardian cases. Fronds from a foot to two feet in length; bipinnate pinnæ, the lowest heart-shaped, the upper halbert-shaped; seed-vessels situated on the margin, narrow and continuous; stems, very dark brown; root-stock short and creeping. Increases plentifully by seed; also by dividing the creeping root-stock.

C. INFRA-MARGINALIS (Bordered-beneath).—This is a most beautiful Fern, from Mexico, requiring great care in cultivation; is easily killed by overwatering, or by being allowed to become too dry. I found it thrive best on a shelf, close to the glass, but shaded from the hot mid-day sun. Fronds a foot long, bipinnate above, and tripinnate below; oval, lance-shaped pinnæ, cut at the edges, sharp-pointed and narrow; seed-cases placed on the underside; stems smooth and dark-coloured. Increased, but slowly, by division.

CHEILANTHES.

Name derived from *cheilos*, a lip, and *anthos*, a flower; the seed-case cover being that shape. A very handsome tribe of Ferns, deservedly favourites with all Fern-growers; but they require close attention, and should have no water over their leaves at any time of the year. The soil they do best in is very sandy peat, with small pieces of potsherds and charcoal intermixed; the pots to be well drained, and rather under-watered, when not growing in winter.

C. MICROMERA (Small-parted).—A dwarf, Mexican Fern, very neat, and of a pleasing green colour. Fronds nine inches high; bipinnate pinnæ, short and narrow, deep milky green; the sterile leaves are notched at the edges; seed-cases long and narrow; stems black and scaly. Increased by dividing the slowly creeping rhizoma.

C. MICROPTERIS (Small-winged).—From the hills of Mexico, and a neat, beautiful species. Fronds pinnated, six inches long, very slender and hairy; pinnæ small, almost round, and thickly placed on the stem; stems dark brown and smooth. Increased by division.

C. ODORA (Sweet-scented).—This is a European Fern, but is not hardy. Fronds bipinnate; growing six inches high; pinnæ on the fronds; when dried, the fronds give out a pleasant odour, hence the specific name; stems thickly covered with long, narrow scales. Increased chiefly by seeds, the root-stock creeps so slowly.

C. TENUIFOLIA (Slender-leaved).—From New Holland; growing a foot or more high. Fronds die down in winter, when the plants must only be kept moist enough to keep the roots alive; they are tripinnate, of a beautiful milky green; pinnæ long ovate, and very beautiful. Increased by dividing the creeping rhizoma.

CYRTOMIUM.

From *Kyrtos*, convex; the veins being prominent and in that form. There is only one species, and a remarkable handsome Fern; it is perhaps the finest of all the greenhouse species.

C. FALCATUM (Sickle-shaped).—A Fern from Japan. Fronds two feet high, spreading, and of a bright shining green, twice cut; the pinnæ are broadly falcate, very stout, and slightly waved at the edges; veins very con-

spicuous, convex; with the seed-cases on central veins. Increased readily by seeds only. I have seen them coming up freely under the stages, if the floor becomes mossy or is formed of earth.

DICTYMIA.

From *dictyon*, a net; the veins are very much netted.

D. ATTENUATA (Attenuated).—A New Holland Fern, of great beauty. Fronds simple, that is, not divided; growing a foot high; thick and leathery; narrowed or attenuated at the base; the veins of this fine Fern are very beautifully and regularly arranged; the seed-cases are in rows, on the upper part of the frond; root-stock creeping. Increased by division.

DRYNARIA.

From *Drys*, a tree; it lives in woods. This large genus has been formed out of *Polypodium*; the distinguishing characters are the naked seed-cases and the crooked veining. There are only two greenhouse species.

D. BILLARDIÆRI (Billard's).—From New Zealand and Van Diemen's Land. This Fern creeps so fast that it is useful to cover naked damp walls, rockwork, or stumps of trees, or to plant in rustic baskets, in any of which positions it will thrive well, if frequently syringed. Fronds simple and pinnated; seed-cases large and round. Increased readily by division.

D. PUSTULATA (Pimpled).—From New Zealand; a very dwarf Fern. Fronds from a few inches to a foot long; simple occasionally; pinnated veins, obscure and immersed; seed-cases round, and in one row or series. Increased by division.

T. APPLEBY.

(To be continued.)

THE GARDEN CROPS OF THE PAST SEASON.

TOWARDS the end of summer is not a bad time to take a retrospective view of the season, and the quality, or otherwise, of the various products it has furnished us with: for, while it is pleasing to hear, on all sides, that the most important of all cultivated productions, "the wheat and other bread corn," have been more than usually abundant, we may take a survey amongst minor matters, and see how far the season has favoured the growth of the general occupants of a garden; for, be it remembered, that although garden products receive, generally, more attention in the shape of artificial assistance, in some way or other, than the majority of agricultural crops, still, the effects of season and climate are equally on them, and always exercise their influence on the crop, despite all the assistance we can give. A late spring will be a late spring, in spite of all the digging, manuring, and other items of good cultivation; but, in the absence of these, "a late spring" would be still later. However, as my purpose was to decide what the season has really been, I herewith begin with one of the most important of garden crops.

PEAS.—The earliest of them being sown last November scarcely showed themselves above ground until the middle of February, but the setting in of fine, dry weather then, a steady and healthy growth brought them forward, so that by the end of April they were quite as forward as on most occasions. May and June, being dull months, favoured their growth rather than hastened their maturity, so that the first crop, which should have come into use by the middle of May, was somewhat later; but all after-crops benefited by the dull, cool, growing season which followed; and it is needless to say the crop of Peas was everywhere good, so long as the dull, moist, growing weather lasted, which, with us,

continued longer than was thought useful for all other crops; however, at length dry weather and sunshine asserted their supremacy, and, as a natural consequence, Peas no longer continued to thrive, but gradually assumed that white, dusty appearance which mildew wears; showery weather again gave a little vigour to them, arresting their downward path to destruction, but the quantity of useful, good Peas was much diminished by it; and fine dry weather setting in again, early in August, Peas presented but a poor aspect after it had been a fortnight fine and sunny; and afterwards they died off very much, with only here and there a few better situated as to moisture than the rest; but, on the whole, the latter crop of Peas has been anything but good; and, at the time I write, there are but few indeed, and the prospect for those coming on is anything but cheering; as nothing but a change to dull, showery weather can prevent their assuming the fatal white livery.

CAULIFLOWER has been abundant and good, unless, perhaps, in cases where the plants had suffered in an extraordinary degree during the last winter; but where sufficient care was taken to preserve them at that period, the spring being, on the whole, favourable to their growth, rather than to their maturity, the first crop of the season attained a large size, while the nice, growing showers that followed at intervals, during the summer, has been equally favourable to this and other crops of a similar kind; so that few gardens, even small ones, have ever been without this useful vegetable; the earliest of which followed so hard on the heels of winter or spring Brocoli, that there was not a full week between the two. Cauliflowers have also been good, in a general way, this season; there being fewer heads of that broken or flowery character, which may be regarded as untrue, than usual on such occasions, and it is hardly right to blame the seed entirely for plants degenerating; for, as we all know, that perennial plants do not every season flower alike in all respects, we may, with as much propriety, blame the season for the Cauliflower not always coming true, as excuse a Rose or a Peach-tree for being less prolific in bloom certain years, entirely on account of the weather then or previously. It is needless, however, saying further, than that Cauliflowers have been a successful crop.

ONIONS, I believe, are not in every case plentiful; the coldness of the spring thinned them very much on some cool soils, but on others of an opposite nature, the rains of early summer continued a growth which ended in a capital crop; and as the growth of them is mostly from the middle of May until the end of July, the many useful rains we had then were of great service in augmenting the crop which, eventually, turned out one of the best on record, in some places, while, in some others, an insect attacked them towards the end of July which injured them much; yet, on the whole, I believe, that in the best Onion-growing districts there will be an abundance of this bulb in as good condition, as regards the harvesting and other things, as can well be imagined; for, as I have before stated, the worst crops are these on stiff, heavy lands of a cold, ungenial nature, where but few are grown except to meet the demands of the place; the soils of an opposite nature growing the bulk of the article required by the "million."

POTATOES.—I am sorry at not being able to give so satisfactory a report on this vegetable, which went on as well as could possibly be wished until the middle of July, or even later, when some heavy rain, after a period of tolerably dry weather, either occasioned the disease, or, at least, gets the blame of doing so, inasmuch that they have become lately as bad as I ever remember to have seen them, the early ones with me being most affected, and that after they have been taken up and stored away. But I believe, on the whole, Potatoes are

more plentiful this season than last, and the disease seems to have sported in a sort of capricious manner amongst different crops, attacking, here and there, a plot with great severity, while other places were comparatively free from it; but on all sides I hear of the produce being abundant, and the quality good, and by the market price at which they are selling, it is fair to conjecture the crop a better one than we have had for some years.

DWARF AND RUNNER KIDNEY BEANS.—The former of these did not succeed well with me at first, but the after-crops have been all that could be desired. *Scarlet Runners*, on the contrary, have never been more abundant, and, where everything favoured their growth, they have attained an unusual height, and kept bearing exceedingly well. The failure of the first crop of the dwarf varieties was, in many instances, owing to the badness of the seed, last year being a poor one to save seeds of most of our delicate vegetables; in fact, it was bad for all, otherwise there has been nothing in the past summer at variance with their well-doing.

CARROTS, and other root-crops, are tolerably good; these are, perhaps, more affected by the attention the ground receives than is any other crop we have; and, in like manner, the same may be said of *Celery*, which is also one of those articles whose quality is, in a great measure, in our hands. *Turnips* have been good, and on all sides they seem pretty good as an agricultural crop, except on stubble lands, which the dryness of the season, coupled with a harvest not at all early, did not allow of being sown in time. Other minor crops of a like nature have been mostly about an average quality, and rather above than below that.

It is needless mentioning such things as *Asparagus* and *Globe Artichokes*, which, being perennials, their well-being is mere due to the previous season than to the present one; but, if it be necessary to particularize, I may say the first-named has not been at all good; and the latter, though early enough, has not been otherwise remarkable. They, however, stood the winter pretty well with me, but did not grow so luxuriantly afterwards as they have done in some seasons.

It is also needless entering into the other details of this department further than to say, that in a general way most things have done well; and, as my worthy coadjutor, Mr. Errington, has reported the condition of fruit, &c., I can only wind up this chapter by saying, that the last winter, though severe, was not attended with much loss here, as many plants which I heard of being killed elsewhere stood with us tolerably well; but I will, on a future occasion, describe these, and some other features in the season, which, though as stated above, has been on the whole successful, has, nevertheless, been a remarkable one, and certain periods of it have been much complained of; and I believe we have, in this county, had as much reason to complain of the absence of sunshine, until the last six weeks, as our brethren of the midland counties had of the severity of the winter frost; but as both now are past, we might exchange friendly notes, and see who has most reason to be thankful to a bountiful Providence for the plenty vouchsafed to all.

J. ROBSEN.

ALLOTMENT FARMING.—OCTOBER.

AFTER nearly a month of such harvest weather as the most aged have seldom experienced, we are at last arrived, or arriving fast, at that period, when that glorious luminary, the sun, the life-giver and sustainer of our globe, must be oftentimes concealed from our view by clouds and mists; and when the Ice King will begin to proclaim his vigorous and tyrannical reign; at least, judging from the past, such may fairly be anticipated.

However, we justly hope for many intervening days—may

it be weeks—of an open and genial character; still, we must not allow ourselves to be lulled into a state of false security, —the fool's paradise. It is manifestly our duty to base our practices rather on the average of seasons, than on almanacks, individual conceits, or even a good weather-glass, "*Safe bind, safe find*;" is a wholesome old maxim, and there are few matters connected with the welfare of man but will bear a close application of this maxim.

To nothing, indeed, does it more aptly apply than to gardening and farming; or why take so much pains to thatch stacks, to provide a good supply of litter, or to place our valuable roots in such a condition, as that we can not only get at them with facility when the earth is ice-bound, but also, that they may be safe from the rigours of a hard winter?

And here I cannot help remarking, that this kingdom has reasons abundant for the highest degree of thankfulness to God for such amazing blessings as we are likely to experience during the approaching winter; at least, as far as the products of the land are concerned. Such crops of grain in general as we have seldom seen; secured, too, in high condition; root-crops almost every where abundant; and added to this, such information from foreign parts, as assures us that the future winter is not only safe from the miseries of famine, but almost certain to be one of plenty to both man and beast, at home and abroad. Such impressions and feelings, I am persuaded, are not confined to an individual, to a parish, or a family; they are, and must be, national.

And now about POTATOES. In these districts there has been most abundant crops, which are now in the main secured, or very shortly will be; an increased breadth has been planted. We have had a visitation of the disease, quite enough to make people look about them, but still, neither so lamentable in its virulence, nor yet so early in commencing its ravages. We have some new kinds in this district which bid fair to supersede the old ones; this shows the importance of both raising new kinds, and of importing, occasionally, from Ireland or Scotland. The importance of raising new kinds from seed is a self-evident affair, for our old kinds of half-a-century ago are almost unknown, and it is clear they have been fairly pushed out of cultivation by new kinds; and whence new kinds, but from seed? So that it is useless to slight the idea of raising seedlings on the plea that they have been known to suffer as well as the old kinds; the chief fact (just alluded to) still stares us in the face. We have enquired of some neighbouring farmers, who have been examining their pits or hogs of Potatoes which have been pitted about three weeks, and they report about ten per cent. loss in that time; not absolute loss, however, for they are all worked up for live stock of some kind. We have a kind called, locally, *King William's*, which have suddenly become a great favourite; these appear to be an offspring of the old blue *Farmer*. We have, also, imported an excellent Irish Potato from a select stock; this, too, has proved a valuable assistance. Then the *Fluke Kidney* has attained an immense degree of importance, and deservedly so; it is an extraordinary thing, and an immense cropper, and it possesses the valuable property of continuing longer in growth than any other with which I am acquainted; in other words, the haulm and foliage better withstand the disease. I advise those in other parts, who find their own sorts slipping through their fingers, to try some of the kinds here recommended next spring. I will, with pleasure, put them in the way of getting them, if required, from this neighbourhood; and I really think that no part of England excels us in Potatoes.

The *York Regent* is probably one of the best eating Potatoes in this kingdom, or any other, but it is sadly liable to disease; I think the worst we have in that respect. I have grown them for four years, from a stock of seed procured from the high clay lands of Derbyshire; a tolerably select stock; but all this will scarcely do, and I fear I must relinquish them. To those who put Potatoes in pits, I would say, be sure they are carefully picked from all tainted ones before they are covered; also, let them lie on a floor, if possible, for three or four days previously, so as to be dry when pitted. In addition, I recommend the trial of a mixture of *fresh lime* and *fresh wood ashes*, in about equal parts, dusted over every layer. And as another caution; by all means pro-

vide little chimneys or apertures along the ridge of the pit; one about every four or five feet. No man can doubt the propriety of liberating the steam which is sure to generate. Those kept in outhouses, sheds, or on floors, should be in a moderate body, not more than half-a-yard in thickness; and after they have been in-doors for a fortnight or so, they should be carefully turned upside down, and every suspicious one removed. They should be kept *quite dark*, and should have some covering *constantly*; something which will keep off the action of the air, and yet let fermentation pass freely; here, too, the wood-ash mixture may be tried; but let it be *burnt to hand* quite fresh, but not put on too warm.

SWEDE TURNIPS AND MANGOLD WURTZEL.—Accounts from all parts represent this crop as unusually abundant; so that whatever may be the failure in Potatoes, the Swedes and other successful root-crops will meet them in consumption. It will be good policy, as far as possible, to suffer the Swedes this season to be what nature intended them—a long-keeping root; and, as the season has been so propitious, I should hope that our allotment friends have strained every nerve to obtain common Turnips after other crops, or, indeed, anything which will enable their wives to *keep their hands off the Swedes* until spring advances, for they will then be more valuable. And besides, the Cottager wants to push on a store pig in spring, and to do this, he should always have a few Swedes to cook with every meal; for Potatoes, Carrots, &c., will prove too valuable for this purpose. Towards the middle of this month, some of the coarser leaves may be plucked away from both this crop and the Mangold, for the cow or pigs, but this must be done carefully, a few at a time. As to lifting and storing the roots, there is no occasion to do so until the first week in November, unless the ground is required for some operation. Where, however, following rotations, or the introduction of such a valuable crop as spring Cabbages, render possession of some ground necessary, I should not hesitate to remove Mangold by the middle of October, and Swedes at the end; in fact, where a crop of early Cabbages is valuable, I at once recommend it; or even where land requires draining, or other important operations. For it must be remembered, that the class of men whom we here attempt to advance, will not be able to apply over-hour time until the following March; therefore, they must of necessity beg a day from their regular occupation, and that day should rather be an October one, than a short day in damp and dark November or December.

CARROTS.—These have suffered fearfully from the grub in these parts, and many garden crops are taken up long since. Whenever they are thus infected, the sooner they are up the better, and their plot reoccupied: sound crops, however, may remain until the last week in October, but their tops may be cut off, and used progressively for live stock from the middle of the month.

THE CABBAGE WORTS.—These must now be of full size, and yielding both material for the house supply and for the pig, &c. I have before recommended that they be frequently looked over, and all the brown leaves plucked away, as soon as they turn in the least yellow: much useful stuff may be got thus for the pigs. The Coleworts [from July sowings must have the hoe run through them, for the last time, in the beginning of the month; and the seed-beds of Cabbage sown in August should be clean weeded, and some of the more forward plants drawn and pricked-out in an open situation; or, if a plot be ready, some for the best early Cabbage planted out finally. The latter may be in rows about ten inches apart, the plants eight inches apart in the rows; and this with the view of pulling up every other row and every other plant in April, and pushing them into the market as good Coleworts. What remains, having now double distance, will make capital May Cabbage; the kind, however, must be of dwarf, early, and compact habit. At the end of October, it is well to cut some of the heads of forward Green Kale; this leaves the plants to produce very early sprouts in the spring. Some of the *Brussels Sprouts* might be served in a similar way.

ONIONS, of course, harvest; care must be taken to keep them dry, and to draw out decaying ones.

PARSNIPS.—These are better left in the ground until February; as they decay, their foliage may be collected for use.

LETTUCE.—Those who want early Lettuce should plant some in warm places, on good soil, in the early part of the month, from an August sowing. Those sown in the beginning of September may be pricked-out very thickly at the end of the month, to be planted out in spring.

RHUBARB, to be fine, may have the old leaves stripped off at the end of October, and receive a covering of rich manure four inches thick; this will protect the crowns and enrich the soil.

CHARRING.—Let not the gardening campaign close for the year without using every effort to collect and char all the weeds and other refuse possible. The produce should be packed away in some dry place, or otherwise, piled up in a conical heap, and well beat to keep out the rain and snow. Such will be of much value in the spring, to help to form the basis of a compost for drill or other crops.

MANURE-HEAPS.—Remember, that not a shower of rain can freely enter them without carrying off a portion of their powers. Let, therefore, our former advice be at once practised; let all manure not wanted till spring be thrown together, and covered with soil; the whole presenting a round surface to the elements, and patted firm to throw off the rains. As parting advice, I again suggest, that (the natural season being nearly past,) our friends, the small holders, emulate the spirit of the age, which has, at last, breathed on the soil, by considering how they can permanently advance the character of their land.

R. ERRINGTON.

THE PILGRIM'S PROGRESS.

By the Authoress of "My Flowers."

We are twice told in the Bible, that "The fear of the Lord is the beginning of wisdom; a good understanding have all they that do his commandments." We may observe the truth of His declaration every day of our lives, if we are so happy as to be in the company of real Christians, though beggars by the road-side. It is really wonderful to notice the strido of a man's mind, when he has passed "from death unto life"—when he has been taught of the Spirit, and brought to the knowledge of the Truth! However ignorant he may be about every thing else, "a mouth and wisdom" is given him in spiritual things; and, in general, among the poor, there is such an unction in their discourse, that the simple language they make use of possesses a grandeur that is not felt when we listen to a "Master in Israel."

John Henry is no exception to this rule. His struggles and convictions were many and severe; but he was sitting at the feet of a Teacher who perfects His works, and the simple, beautiful description he gives of his feelings must be given in his own words to do it real justice: It may be the means of encouraging and comforting some doubting or seeking soul; or it may, by the blessing of God, convince some unthinking or stubborn heart, that in the things of God there is *reality*—that they are *facts*, and not *fancies*; and that no man living is "in his right mind," until he sits "at the feet of Jesus." In a letter to Mrs. Johnston, for whom his attachment appears as strong as to his excellent Vicar, John Henry says—"Not coming aright, trusting in Christ Jesus for my all, I found no acceptance with God. I began to hearken to the enemy in unbelief; my heart began to harden; I forgot the right way, and the enemy, getting advantage over me, kept me firm in his chains for about four or five weeks. My dear Madam, I was sinning against a just God, and obeying a wicked enemy; yet I strove to get out of my sins, but had no power. I even hated God, and could not love Him. It is true He is love, and long suffering with sinners. He then put His arrows within my soul. I expected every day to go to hell. It was grace that kept me from it. I had no comfort, only in reading 'The Sinner's Friend,' it still bidding me never to give up prayer. I was afraid to pray. O how often I did wish I had never known any good! Often did I cry out, 'O Lord, if there is any mercy for me, give it me!' There was no answer—all hope was cut off. One evening, going to the glebe in this state, I went before my brothers, intending to speak to the Rev. Mr. —; but when I got to the kitchen, I asked where he was; I was told the room. They asked if I wanted to see him; I then, thinking my die was cast, said, I did not

care; so I did not acquaint him with my sorrow. Next Sunday he was away in Dublin; the Rev. Mr. S. preached from Hosea xi., 8, 9—"I will not give thee up, Ephraim, for I am God, and not man." This discourse strengthened me. On that evening I went into a field alone, and, falling flat upon my face, I confessed the whole of my state before Him who knoweth the thoughts and intents of my heart. I arose with some confidence of mercy, and, as I knelt down at my evening prayer, my soul was full of joy unspeakable. I was in doubt again, until April, 1846. As I was in deep distress of mind, I tried to lay hold on some of Christ's words, particularly, 'Him that cometh unto me I will in no wise cast out.' This was a strong invitation; but still something said, 'This is not for you.' I was led to see it was the enemy. I was working alone; I stopped, and cried to God for Christ's sake to send the enemy away. Though I was standing upon my feet, I believe He answered my prayer; yet it was with all the strength of my body and soul that I prayed. If I tried to put away any temptation, I looked to Christ for strength. That word in Heb. xiii., 5, 'I will never leave thee, nor forsake thee,' is my comfort since in every temptation or doubt. It is better to me than gold. What beautiful words are Christ's words, as, 'Behold, I stand at the door and knock;' 'Ask, and ye shall receive;' 'Him that cometh to me I will in no wise cast out.' These are all encouraging texts of Christ.

"Dear Madam, I will show you now, by the help of God, where I am striving to build my hopes for heaven. It is not in my works, nor in long prayers; but in Jesus Christ and Him crucified. I think much on Jesus, even the whole of the day. I watch only sometimes. I hear too much of the world, then my heart fain would join in the conversation. But I have, as it were, an hungering soul after Christ; it complains of the heart. I believe there are two natures in man, as St. Paul saith, 'When I do good, evil is present with me.' I believe the natural heart of man is still striving to overcome the new-born soul. I think the soul is as a new heart, when it finds the knowledge of God and eternity. It finds Jesus Christ to be a help in time of need; it sees its own emptiness and Christ's greatness and love. It hungers after him for some food, it cannot be satisfied yet; but there is still something to keep us from Christ. If I watch Christ all day long, and think much on him, I will meet some temptations and evil thoughts; but this only makes my soul hunger and wish for more of Christ, as He is the food for the soul. I judge myself to be unworthy of any blessings; but I see Jesus by faith darkly, as it were, covered with righteousness, and me standing beside Him naked. He is striving to cover me with His righteousness, which I so much need. O that I saw more of my own emptiness and Christ's fulness; I am a poor sinner, Christ a rich Saviour. I find by comparing my own poverty to Christ's riches, that I sometimes would wish to be hid in Christ. He is the Way; O that I could but find Him, and continue in Him! I am a poor sinner, sinning every day. O for that blood of Christ that cleanseth from all sin! May it be sprinkled upon my heart and conscience every day! My dependance is upon Jesus Christ. I have nothing of my salvation of my own; I look to Christ by faith; only it is sometimes weak, if I do not be looking to the crown often. It keeps me in employ to have my mind stayed upon Him; this is my fighting the most part of the day."

Here was spiritual growth, rapid indeed! Here was a pilgrim's progress of great and unusual speed! It seemed that Canaan was already reached, and now, that the soul had already possession of the promised land! Mr. Johnston's astonishment at the enlarged and deepened experience of the writer was extreme. It showed an advancement in divine life beyond all expectation; and was a proof of the *reality* of the change of heart, and of the Spirit's presence with him. It is not every conversion that is so immediately and plainly manifested. Some are of slower growth; but all *must* be, all *will* be, plainly and distinctly discerned, sooner or later. The root and foundation are the same; "the builder and the maker" is the same; the teacher and sanctifier are the same; but the soil and the material varies. O that all were led as earnestly and as powerfully as John Henry was to seek the road to Zion!

Reader! you may be rich, respectable, great, noble, royal; yet you must *all* be "converted, and become as little

children," before you can *possibly* enter the kingdom of God! You must understand the meaning of John Henry's letter, or else you are not in a safe state; nay, not even in the road that leads to it! "Do not err, my beloved brethren;" a mighty work *must* be done; a mighty change *must* take place before you can say "I look to Christ *by faith*." You may look by custom, by the precept of men, by the talk of the lips; but you must be wholly and effectually converted to God, when you can look to Christ *by faith*.

APIARIAN'S CALENDAR.—OCTOBER.

By J. H. Payne, Esq., Author of "The Bee-Keeper's Guide," &c.

PRESUMING the directions given in the Calendar for September as to unions and feeding have been attended to, but little attention will be required this month, beyond guarding against depredations of *wasps*, which are unusually numerous this season.

WINTER PREPARATIONS.—Glasses, small hives, and boxes, should now all be removed from stock-hives, where it can be done without reducing the store below twenty pounds; the stocks should be also well defended against wet for the winter. The stands, likewise, where wood is used, should be examined; and if found to be at all unsound replaced with new ones.

THE MOORS.—Where bees are kept in the vicinity of the moors, or where they have been removed to them, an abundant supply of honey will be obtained from the heather during this unusually fine weather, an advantage quite unknown to the bee-keeper's of the eastern counties.

WASPS—I find that for destroying wasp's nests, gas-tar is even better than turpentine, and their destruction effected with much less trouble; it being only necessary to put a small quantity into the mouth of the nest and cover it with earth, digging out the nest, or anything further being done, is quite unnecessary.

THE STRAWBERRY—ITS PROPAGATION AND CULTURE.

I AM induced to write and publish this short treatise on the above subject, in compliance with the numerous applications I have had to do so, and also having just introduced to the public my seedling Strawberry, "*Sir Harry*," which has made its own way with such unrivalled success, without any effort on my part, other than exhibiting it this season; the fruit speaking for itself.

The Strawberry, the Latin name of which is "*Fragaria*," supposed to be significant of its fragrance, is indigenous to Britain, and, in its wild state, is chiefly found in woods and shrubby banks, and very small in size. It grows in great abundance on the rocky mountains in Norway.

Till within the last thirty years, but little attention was paid to its cultivation, and there was not above five or six sorts known; the largest of these was the *Hautbois*, so called from being originally found in the high *bois*, or woods of Bohemia. Now, by crossing, change of climate, and situation, there are, and have been, as many hundreds, for they can be multiplied indefinitely by skilful inoculation of the varieties. Till lately, *Kcen's Seedling* ranked first as an early Strawberry, both for bearing and flavour, and *Myatt's British Queen* for a later crop. To the cultivation of these two sorts I have, for many years (as an amateur grower), bestowed much care and attention, and with such success, as always to take the first prize at our local exhibitions. Of course, I have grown many other sorts, but, on testing their qualities, I have at once removed them from my garden.

My mode of cultivation is to fix on a piece of ground entirely free from shade. About the beginning of July, I commence preparing it, by manuring thoroughly, and if the soil be light, I add some marl, as most Strawberries are fond of a stiff, loamy soil, for the latter tends to throw them into bearing, instead of leaf. When the ground is dug, and the plants ready, tread it well where they are to be planted. Choose runners with short roots; indeed, those that have scarcely tasted the soil are to be preferred, as they more

readily shoot into the ground, and there is nothing afterwards to check their progress, though care should be taken to plant them a little below the surface, pressing the soil firmly to the roots, yet the heart must not be covered with earth, and if the weather be not rainy, they will require water. The second, third, or fourth runners, or even runners from either of them, will bear equally with the first runner.

The great object is early planting, so as to get your plants well and deeply rooted before frost sets in; otherwise the frost, by raising the soil, would raise the plants with it, then comes a thaw, the soil sinks, and leaves the plants worse than fresh transplanted, nay, almost out of the ground. Again, by early planting you obtain the finest and largest fruit the first year, but the greatest crop the second year. Then directly root up your plants, and on no account keep them for a third year. Indeed, for quality alone, an annual replanting is best.

It rarely happens in a prolific sort, by this early mode of cultivation, that two plants out of a hundred miss fruiting, but should they fail doing so the first year, the finer their fruit will be the next, though some persons have the absurd idea they are barren, and throw them away as worthless. To strengthen your young plants, they should be deprived of all their autumnal runners as they make their appearance, for they necessarily weaken the parent.

Strawberry-beds should always be kept entirely free from weeds, the plants as distinct as when first planted out, but April is the best time for removing the old leaves and refuse; for if cleaned earlier in the spring, a severe frost, that sometimes occurs in March, cuts off the tender shooting leaves, which, otherwise, would be sheltered and protected from it.

In the autumn, when you have taken sufficient runners for your new plantations, clear the old roots of all that remain. When the beds are cleaned in the spring, some rotten manure should be put over the surface, and great advantage will arise from it, as the rains will wash the goodness of the manure to the fibrous roots, or you may give some weak liquid-manure. Guano will be found to be, perhaps, the best, but this must be used sparingly, as few may be found to apply it with a sufficiently light hand.

Strawberry-beds must never be dug or forked amongst, for by doing so you destroy a number of fibrous roots which the plant requires to mature fine fruit, and the soil is also so loosened, that in the fruiting season the hot sun more easily penetrates to the roots (which require to be kept cool), to the great injury of the fruit.

When the fruit commences setting, and until the first berries begin to change colour slightly, you may apply to the roots any quantity of water, perhaps the more the better; but when that change takes place, the beds cannot be kept too dry, or the flavour of your fruit will be impaired. One great object in giving plenty of water is, that in dry weather land will crack, and such roots of the plants which cross the opening are broken, or so much strained and injured, as to be of little or no service afterwards. Now, the watering will prevent this dividing of the ground. When the berry is about half-grown, commence putting some loose straw between the plants in the row, and then spread some clean wheat straw between the rows about an inch thick, or you may take the cleanest of stable litter, well shaken, for both purposes. This prevents your fruit from being damaged by the grit and soil which would be washed up with heavy rains, keeps the ground cool, and tends to give that air of cleanliness, neatness, and order, without which a good article loses half its value. If the strawing be delayed till the berry is getting ripe, you may chance to bruise it, and a ripe Strawberry bruised or handled never recovers its beauty. It is, perhaps, the most perishable and tender of all ripe fruit.

The methods practised by many persons of putting the mowings of their grass plots round their plants should be avoided as decidedly bad, for it is better to have the fruit damaged by grit than spoiled by mould. Even the name of the plant suggests the use of the straw.

The proper distance for planting the best and largest sorts is two feet each way.

Frogs and toads should be encouraged, they seek the beds for shade, and subsist upon snails, blackbats, and other insects that so frequently disfigure and destroy the finest of the fruit. If a Strawberry grower will observe a frog or

toad gape, without doing so himself, he will be convinced at once by the open countenance of the reptile, and the formation of its mouth, that it was not formed by nature to injure or feed on fruit. More harmless and useful creatures do not exist in a garden.

I have now given, concisely, all the information in my power upon this subject, and finish with the advice to all growers of Strawberries—Get rid of old prejudices in planting and growing. In such case, time, produce, and flavour will show the decidedly superior advantages of the above method of cultivation, though I do not pledge myself that any one, even by following my plans, will produce a fruit that will equal the "*Sir Harry*," much less surpass it.—RICH. UNDERHILL, *Sir Harry's Road, Edgbaston, Birmingham.*

THE POULTRY MEDICINE CHEST.

ARTICLE I.—CALOMEL.

It has occurred to me that a series of articles on the various medicines usually employed in the treatment of poultry might be interesting, especially if their action upon the living body, their doses, mode of administration, and the diseases in which they are likely to prove advantageous, or the reverse, be indicated. I propose, therefore, in the present series, to examine the different poultry medicines in this manner. I shall not follow any scientific arrangement, but rather take up the different remedies somewhat in the order of their importance, and shall conclude what I have to state about each one within the limits of a single paper.

One of the most important poultry remedies is calomel, which, as is generally known, is a mercurial preparation most used in human diseases, and which, in many inflammatory affections, is regarded as the sheet-anchor of the physician. Calomel, in large doses, acts as an aperient, stimulating also to increased action the liver and other important glandular organs, and thus causing an increased flow of bile and other secretions; this latter effect is also produced to an equal, or sometimes even to a greater, degree by small doses, the aperient effect being the result of large ones. In addition to these important effects, calomel (and, in fact, all mercurial preparations), if taken in continuance, becomes absorbed into the system, and produces peculiar results, which, in the human subject, are named after one of the most evident symptoms, and termed salivation. Many kinds of inflammation seem unable to resist this mercurial action, and are cured as soon as the slightest tenderness of the gums is produced.

It is a fact well known to all medical practitioners, that children bear the effects of mercury much better than adults, and, consequently, larger doses (out of proportion to the rules which are usually followed in physicking children) are given to them with great benefit. I have also observed that fowls bear calomel very well, and have never seen the slightest ill-effect from doses of a single grain. Being quite insoluble in water, and much heavier than that liquid, it should not be given in a fluid form, but the poultry fancier may keep a stock of one-grain calomel pills by him, which may either be put down the throat of the bird, or if placed in a small piece of crumb of bread will be swallowed readily. There is an objection to keeping pills for a length of time when intended for human use, namely, that they often become so hard as to be utterly incapable of being softened in the stomach, but the grinding action of the gizzard obviates any objection on this score. The poultry diseases in which I have found calomel to be advantageous are as follows:—

VERTIGO.—When a fowl is attacked by giddiness, or vertigo, if the case is not sufficiently severe to warrant bleeding, one grain of calomel will be found to afford great relief, by producing a large secretion of bile from the liver, and ten grains of jalap may be given six hours after.

INFLAMMATION OF THE LUNGS and CROUP may be benefited by calomel, but small doses of tartar emetic are more to be depended upon, with which, however, the calomel may be conjoined.

SKIN DISEASES, especially that aggravated form of white comb, in which the feathers fall off the head and neck, are

rapidly benefited by calomel in alterative doses, as half a grain twice a week, either by itself, or combined as it exists, in the form of Plummer's Pill, which may be used similarly in five-grain doses.

INFLAMMATION OF THE EGG-PASSAGE, shown by the laying of imperfect or soft eggs, is speedily subdued by one grain of calomel and one-twelfth of a grain of tartar emetic. Care should be taken not to confound this disease with the mere laying of shellless eggs from the absence of lime; a state of things readily remedied, by giving a barrowful of old mortar rubbish, or some broken oyster or other shells.

In **FEBRILE DISEASES** of any kind, where the general symptoms are obscure, but where dryness of the tongue (the pip of the olden writers) exists, loss of appetite, moping, &c., I should generally give a grain of calomel, and I should be much inclined to follow the same treatment when a fowl is out of condition without any very evident cause.

INFLAMMATION OF THE FEET, indicated by swelling, attended with increased heat, closely resembles gout, and is much benefited by calomel, especially if three to five drops of colchicum wine are given three times a day.

These I regard as the most important diseases in which calomel is likely to prove of service. There are many complaints in which its employment is not attended with benefit, of these the most important are consumption, gapes, arising from the presence of parasitic worms, leg weakness, and, unfortunately, to these, I must add roup, on which calomel, in occasional or continued doses, seems to have little influence. There are other diseases in which it is not beneficial, but as it is not likely to be employed in their treatment, it is scarcely requisite to allude to them here.—W. B. TEGETMEIER, *Willesden.*

BEAU SEJOUR, GUERNSEY.

BEING in Guernsey during the past week, I availed myself of a portion of the time I had to spare to visit some of the pretty gardens in that Island, and, amongst others, I visited that at "Beau Sejour," near the New Ground, and within a few minutes walk of St. Peter's Port. I was sorry to find that the proprietor, Harry Dobréo, Esq., was breaking up his establishment, and that the property was about to pass into the tenure of a gentleman, who, though passionately fond of flowers, is not likely to apply himself with so much earnestness to the cultivation of bulbs as his predecessor; a department in floricultural science for which these gardens had been so famous in the production of new and good varieties, &c. The *modus operandi* of the retiring occupant had been of such a systematical character as to be productive of the most pleasing results. Many of the most beautiful seedling *Ixias* have been raised and cultivated here, and it is to be hoped that the present possessors of the stock will continue their cultivation in the same improving style, so that, eventually, we may have the varieties of that pretty genus as extensive in styles of growth, seasons of blooming, shape of blossoms, and variety of colours, as any of the other genera of bulbous-rooted plants.

Apologising for the valuable space I am occupying in giving expressions to my doubts and hopes respecting futurity in matters with which I am indirectly interested, I will proceed to the object I had in view when I commenced writing this paper, viz:—That in the garden, at this place, I had the pleasure of seeing a fine plant of *Tacsonia mollissima* growing without any sort of protection, and covering a space three feet wide, on a wall twelve feet high, in a southern aspect, and flowering away in the most glorious profusion, many of its beautiful, long tubed, Passion-flower-like blossoms being expanded, and innumerable buds to expand, having been planted there two years, and setting, to all appearance, the elements at defiance; and by its side was also growing a large specimen of *Bignonia jasminoides*, with thirty to forty beautiful trusses of bloom expanded on it, the flowers being much more coloured than they generally are when growing in a greenhouse or stove: they had lost that beautiful transparent porcelain-like whiteness which the flowers generally assume, and were rosy throughout the petals, with the usual purple throat; they had apparently acquired their colouring from exposure, and were pleasing to look at, if for "change of colour's sake" only. This

plant covered a space from six to eight feet wide, on the same wall, and had, to all appearance, been established there for some years, but, upon inquiry, I was much surprised to find it had only been there two, having grown rapidly, and flowered abundantly so soon after planting. If these two plants thrive so well here, I cannot see why our floricultural friends in the southern and western counties of England should not be equally successful with them.

Abutilon striatum (*Sida pictum*, of some), was also growing on this border, and thriving to admiration, producing its fine large vine-shaped leaves, large in diameter, and numberless pretty bell-shaped flowers. I have seen this plant trained against a wall, in a sheltered situation, forming a most beautiful object. It is quite hardy enough to resist the winters of the Channel Islands, in sheltered situations, and well deserves a trial elsewhere. I think that a great many plants might be acclimatized and made to do well in the open air, if a fair trial were given to them which are given up under the impression "that it is not morally possible for them to do."

There is a splendid large double *white Camellia*, twenty-five feet wide, twelve feet high, and two-and-a-half feet thick, growing against the same wall, which flowers most profusely during the winter and early spring months. I believe *Camellias* to be more hardy than Spanish Laurels, and the only reason I have for not recommending them to be used as a shrub in plantations generally, is, that their blossoms are so beautifully delicate that they are injured by dews and damp, as well as frost, but the plants would not suffer in any way when they were well established.

But the climax of the whole, and the object most worthy of this observation in this garden, was a magnificent *Orange-tree*, covering about the same length, on this southern wall, as the large *white Camellia* just mentioned, and not higher than the rest, because the wall was not higher at that particular part of it, but the top branches were throwing up fine strong shoots over the top of the wall, many inches long, and which I am satisfied would have extended beyond a foot, had not the cutting wind injured and stagnated their growth. The foliage on this remarkable plant was splendid, many of the leaves measuring from nine to ten inches long, and from three to four inches wide, and of a rich, dark green colour. The fruit hanging on the stem was remarkably fine, and I was informed that it ripened well, and was equal to any St. Michael's Oranges introduced, as to flavour and juiciness. This is the finest specimen of an *Orange-tree* I have ever had the pleasure of seeing in the open air, or even under glass, in any place I have visited. I have visited the Duchies of Normandy and Brittany, and know the Channel Islands well. I have travelled through the southern and western counties of England, and have always had "an eye" to seeing any remarkable object in the horticultural and floricultural lines, but this excels them all; in fact, to persons feeling an interest in the adaptability of particular plants to particular purposes, or to particular localities, the plants on this wall are worth coming a distance to see.

With the exception of these few specimens there was nothing else remarkable in the gardens at "Beau Sejour." The house is an old-fashioned one, with small rooms, narrow entrance, passages and staircases, small windows, not prettily arranged, either as to external appearance or to internal comfort, *i.e.*, according to the modern views of the "time o'-day."

An abortive attempt had been made to get the *Araucaria imbricata* and *Cedrus deodora* to grow on the lawn in the front of the house, but they neither of them look "first rate." Coniferous plants do not seem to grow so luxuriantly in the Channel Islands as I could wish. I do not know where to find a handsome *Larch* in either of them, and am at a loss to account for it, unless the saline particles contained in the air have some influence in the solution of the problem.—C. B. S., *Jersey*.

SENDING PLANTS TO THE ANTIPODES.

The following extracts, from two letters recently received from New Zealand, were made, at my request, for THE COTTAGE GARDENER, by a brother of the gentleman to whom

the plants were consigned. I recollect that the very arguments he urges, for securing a future supply of timber to that colony, were pressed on the attention of the New Zealand Company here, a few years back, by an able contemporary in London. It is, indeed, marvellous that so many plants could have been sent for the sum of £12, including all expenses, to the end of the journey; and no less so, that almost all of them should arrive safe, after such a long voyage; but the proof is before us, and no one need fear to risk such an enterprise in future, if he only goes the right way about it. A few pounds saved by attempting to pack at home is a questionable saving. It is much the cheapest way to do as I have done with these trees; not to put a hand to them yourself, but to give your order to a respectable firm, who are well known to be successful in similar undertakings. I promised this report at the time, and I would have given it were the trees all dead—D. BEATON.

EXTRACTS.

"The trees arrived by the *Stately* a short time ago, and, on being landed at Dunedin, were consigned to a gardener, for the purpose of being put into fresh earth immediately, and to enable all that remained alive after the long voyage to recover themselves. I saw them lately at Dunedin, and am very happy to say that, with the exception of the Pines (evergreens), most of the others seemed to be doing well. I do not know anything, in fact, that would have made a more valuable present, not only to myself, but to many others, and, in fact, to the whole public. For in showing them that trees may be brought in safety all that way, it may encourage some others to do the same. And though, at present, the want of wood may not be so much felt, yet I am often saying, that people should lose no time in making plantations of useful and quick-growing woods, of which, I have no doubt, the want will be severely felt at no distant period. If you were to enter one of the New Zealand bushes, as the New Zealand woods are called, it would surprise you to see how little really serviceable wood one of them contains. A settler soon uses up the smaller trees for poles, to use in a great variety of farm buildings, and after that he is in great want of that description of wood. And the large forest trees, for sawing, are by no means so abundant as might be supposed. So it results from all, that whether people consult their own good, or that of future generations, they ought to lose no time in making plantations."

In another letter, he says, "I think they are all, with some exceptions, in a very good state of preservation. The Pine sorts, however, have given way; which the gardener explained to me as arising principally from this cause, that being evergreens they require a good deal more moisture than most of the other trees. But such a collection of home trees has never been seen in Otago, and I doubt whether any one has ever brought any of the kind, except it may be a few specimens before. Many of them, I understand, can be propagated by layers and cuttings, and, I suppose, all by seed—so that the collection is really invaluable. One thing deserves notice, that plants should not be packed in moist earth, as it endangers them from the liability to become rotten; at least, so I was told. It is said that some straw would do as well, and save a great expense in freight; but who knows whether they would have been as well preserved or not?"

The following extract also from a letter which I have just received will be read with interest by such of our correspondents as have friends in Australia and New Zealand. About this time, last year, we were arranging for getting off the large consignment of plants to which this letter refers, and the details are given at page fifty-five of the eleventh volume of the COTTAGE GARDENER. I am much gratified myself to hear that all the plants arrived in New Zealand in good order, and would advise that not a day should be lost now, by parties who intend shipping plants to those parts. The end of October is the best time in the year for sending off plants; but I have nothing to add to the details given this time last year.

D. BEATON.

"A gentleman of this neighbourhood (Exeter) is anxious to send out some trees to his sons in New Zealand, such as you were kind enough to order to be sent out to my brother last year. Would it be troubling you to ask you to send me

the name of the person who sent them out, and his address; and also the names of some of the forest trees that were sent, and their probable age. You will be glad to hear, that by a letter, received a very short time back, we have learnt they arrived safe, and in good condition; and my brother says it is not only an individual good to him, but a public good, in shewing what may be done in that way in a colony where the planting of forest trees is really necessary."

MALVERN POULTRY EXHIBITION.

THIS very first-rate show of birds, as evidenced by the commendations, took place on the 13th and 14th instant. The *Dorkings* (chicken especially), and Buff *Shanghaes*, were particularly good. Indeed, all the classes were well represented. Many birds, especially Dorking chicken, were sold at prices varying from three and four to ten guineas, for pens of a cock and two hens. *Shanghaes* at £4 to £5 per pen. The first prize pen of Black *Polands* were sold for £10 10s. About £140 worth were sold altogether.

The attendance, we regret, was not very good, owing, I think, to the Worcester Musical Festival taking place the week before, and the Yeomanry being out on permanent duty at Worcester.

All visitors at the show were much pleased with the birds, and the arrangements generally. The birds were exhibited in two spacious tents, the one one hundred and fifty feet, and the other forty feet long, with an opening out of the one tent into the other, and three van loads of birds were sent off to the Worcester Station on Thursday evening, and the remainder before eight o'clock on Friday morning.

The judges were G. R. Andrews, Esq., Dorchester; T. J. Cottle, Esq., Pulteney Villa, Cheltenham; and Mr. John Bailly, 113, Mount street, Grosvenor Square, London.

Class 1.—DORKING.—Exceeding one year.—(For the best Cock and two Hens).—3. First prize, The Rev. James Boys, the Rectory, Biddenden, Cranbrook, Kent. 24. Second prize, Thomas Whittington, jun., Wootton Wawen, near Henley-in-Arden. 7. Third prize, M. G. Coates, Malvern.

Class 2.—DORKING.—(For the best Cock and two Hens. Chicken of 1854.)—34. First prize, Rev. James Boys, the Rectory, Biddenden. 70. Second prize, Henry Smith, the Grove, Cropwell Batlor, near Bingham, Notts. 36. Third prize, W. Breavington, Vicarage Farm, Hounslow, Middlesex. Very highly Commended.—32. Wm. Beach, Hanley Castle, Worcestershire. Highly Commended.—29. George Baker, Madresfield, Worcestershire. (White.) 30. William Beach, Hanley Castle. 35. Rev. James Boys, Biddenden, Kent. 77. Joseph Whittington, jun., Wootton Wawen, Henley-in-Arden. Commended.—71. Henry Smith, the Grove, Cropwell Batlor. 72. Joseph Smith, Henley-in-Arden. 78. Joseph Whittington, Wootton Wawen.

(The whole Class highly meritorious.)

Class 3.—SPANISH.—(For the best Cock and two Hens. Chicken of 1854.)—92. First prize, William Plumer, Brislington, near Bristol. 91. Second prize, William Plumer, Brislington, near Bristol. 95. Third prize, William Plumer, Brislington, near Bristol. Commended.—82. Miss R. Bell, Woodhouselees, Carlisle. 83. George Botham, Wexham Court, Slough, Bucks. 98. Mrs. Lydia C. Stow, Bredon, near Tewkesbury. 99. Mrs. Lydia C. Stow, Bredon, near Tewkesbury.

Class 4.—COCHIN-CHINA—CINNAMON and BUFF.—(Cock and two Hens. Chicken of 1854.)—211. First prize, William Sanday, Holme Pierpoint, near Nottingham. 199. Second prize, John Harrison, jun., Snelston Hall, Ashbourne, Derbyshire. 212. Third prize, William Sanday, Holme Pierpoint. Very highly Commended.—191. Richard Cox, Highfield Road, Edgbaston, Birmingham. Highly Commended.—201. Mrs. S. R. Herbert, Powick, near Worcester. Commended.—208. Miss E. S. Perkins, Sutton Coldfield. 216. Miss Walker, Clipston Rectory, Northampton.

(Meritorious Class.)

Class 5.—COCHIN-CHINA—WHITE.—(Cock and two Hens. Chicken of 1854.)—220. First prize, Miss Calcock, Edmond, near Newport, Salop. 227. Second prize, James Cattle 53, Worcester-street, Birmingham. 235. Third prize, Mrs. S. R. Herbert, Powick. Highly Commended.—221. William Ashford, Wheeler-street, Birmingham.

Class 6.—COCHIN-CHINA—GROUSE, PARTRIDGE, or DARK.—(Cock and two Hens. Chicken of 1854.)—252. First prize, Rev. G. F. Hodson, Banwell, Somerset. 251. Second prize, Rev. G. F. Hodson, Banwell, Somerset. 247. Third prize, Peplow Cartwright, Oswestry, Shropshire.

Class 7.—COCHIN-CHINA—BLACK.—(Cock and two Hens. Chicken of 1854.)—202. First prize, E. W. Haslewood, Bridgnorth, Salop. 255. Second prize, John Barnett, Wribbenthal, near Bewdley. 264. Third prize, G. H. H. Hutchinson, Charlton Rectory, near Malmesbury, Wilts.

Class 8.—GAME—BLACK-BREADED AND DUCKWINGS.—(For the best Cock and two Hens. Chicken of 1854.)—114. First prize, John Rogers, King's Norton, Worcestershire. 105. Second prize, N. N. Dyer, Manor House, Bredon, near Tewkesbury. 115. Third prize, John Rogers, King's Norton.

Class 9.—GAME—ANY OTHER VARIETY.—(For the best Cock and two Hens. Chicken of 1854.)—120. First prize, William Cox, Brailsford

Hall, near Derby. 119. Second prize, Thomas Calter, "Swan with two Necks," Worcester. 124. Third prize, Edward Farmer, Greet, Sparkbrook, near Birmingham. Highly Commended.—125. John Rogers, King's Norton.

Class 10.—HAMBURGH—SILVER-PENCILLED.—(For the best Cock and two Hens. Chicken of 1854.)—132. First prize, George Botham, Wexham Court, Slough, Bucks. 129. Second prize, Edward Archer, Malvern. 149. Third prize, Miss Rachel Walker, Clipston Rectory, Northampton. Commended.—136. Abraham Gibbs, Lytleton House, Malvern. 140. W. B. Lempriere, West Kerby, Cheshire.

Class 11.—HAMBURGH—GOLD-PENCILLED.—(For the best Cock and two Hens. Chicken of 1854.)—153. First prize, Thomas McCann, Graham House, Malvern. 155. Second prize, Miss Walker, Clipston Rectory, Northampton. 154. Third prize, William Tyler, Friday Bridge, Birmingham. Commended.—157. Mr. John Worsey, Clopton, near Stratford-on-Avon.

Class 12.—HAMBURGH—SILVER-SPANGLED.—(For the best Cock and two Hens. Chicken of 1854.)—171. First prize, Thomas Whittington, jun. 173. Second prize, Mrs. John Worsey, Clopton. 158. Third prize, Cyrus Clark, Street, near Glastonbury.

Class 13.—HAMBURGH—GOLD-SPANGLED.—(For the best Cock and two Hens. Chicken of 1854.)—First prize withheld. 175. Second prize, James Blackham, Thornhill Farm, Handsworth. 174. Third prize, James Blackham, Thornhill Farm, Handsworth.

Class 14.—POLAND—BLACK WITH WHITE CREST.—(Cock and two Hens. Chicken of 1854.)—274. First prize, Miss M. Bury, Bellbroughton, Worcestershire. 275. Second prize, Miss M. Bury, Bellbroughton, Worcestershire. 276. Third prize, Miss M. Bury, Bellbroughton. (Highly meritorious class shown honestly without trimming.)

Class 15.—POLANDS—SILVER-SPANGLED.—(Cock and two Hens. Chicken of 1854.)—298. First prize, W. G. Vivian, Singleton, Swansea. 299. Second prize, Charles Edwards, Brislington, near Bristol. 297. Third prize, William Priddy, Droitwich. 290. Highly Commended.—Charles Edwards, Brislington, near Bristol. 295. William Priddy, Droitwich.

Class 16.—POLANDS—GOLD-SPANGLED.—(Cock and two Hens. Chicken of 1854.)—First prize withheld. 300. Second prize, E. W. Haslewood, Bridgnorth, Salop. 301. Third prize, W. G. Vivian, Singleton, Swansea.

Class 17.—BANTAMS—GOLD-LACED.—(Cock and two Hens. Of any age.)—306. First prize, William Connett, 270, High-street, Exeter. 303. Second prize, Rev. E. Bates, Clipston, Northampton.

Class 18.—BANTAMS—SILVER-LACED.—(Cock and two Hens. Of any age.)—318. First prize, Rev. G. F. Hodson, Banwell, Somerset. 317. Second prize, William Codnct, 270, High-street, Exeter.

Class 19.—BANTAMS—ANY OTHER VARIETY.—(Cock and two Hens. Of any age.)—323. First prize, T. C. Blanchard, Burford House, Malvern. (White.) 329. Second prize, Miss E. S. Perkins, Sutton Coldfield. (Pigeon Bantams.)

Class 20.—ANY DISTINCT VARIETY OF FOWLS, OF ANY AGE, NOT NAMED IN THE FOREGOING LIST.—(Cock and two Hens.)—351. Prize, W. G. Vivian, Singleton, Swansea. 346. Prize, Colonel Clowes, Froxmore Court, Worcester. (Andalusian.) 333. Prize, Rev. G. Calvert, Bcchy, near Leicester. 344. Prize, James Leighton, 183, High-street, Cheltenham.

Class 21.—DUCKS—AYLESBURY.—(Drake and two Ducks. Hatched in 1854.)—372. First prize, W. G. K. Breavington, Hounslow, Middlesex. 374. Second prize, James Buckley, Penyfai House, Llanelly. 377. Third prize, Thomas Daubency, Ampney, Cirencester.

Class 22.—DUCKS—ROUEN.—(For the best Drake and two Ducks. Hatched in 1854.)—386. First prize, William Thced Pearse, Branham-road, Bedford. Second prize withheld.

Class 23.—DUCKS—BUENOS AYRES OR LABRADOR.—(Drake and two Ducks. Hatched in 1854.)—391. First prize, George Botham, Wexham Court, Slough, Bucks. 393. Second prize, Rev. G. H. H. Hutchinson, Charlton Rectory, near Malmesbury, Wilts.

Class 24.—GEESE.—(Gander and two Geese. Hatched in 1854.)—394. First prize, W. G. K. Breavington, Vicarage Farm, Hounslow. Second prize, George McCann, Malvern.

COTTAGERS' POULTRY.—(Cock and two Hens, of any breed. Chicken of 1854.)—418. First prize, Charles Thomas, Link Farm Cottage, Malvern. 412. Second prize, Abigail Pitt, Mathon. 416. Third prize, Joseph Reynolds, Upper Howsell, near Malvern. Highly Commended.—419. Jeremiah Walters, Barnard's Green. 420. Richard Burrows, North Malvern.

Class 2.—(Cock and two Hens. More than one year old.)—426. First prize, Charles Thomas, Link Farm Cottage, Malvern. 425. Second prize, William Farmer, Malvern Link. 421. Third prize, Mary Cross, Valley Cottage, Malvern. Highly Commended.—424. Joseph Reynolds, Upper Howsell, near Malvern.

Class 3.—GEESE.—431. First prize, Ann Godfrey, Malvern Chase. 428. Second prize, Charles Page, Poolbrook, Malvern. 429. Third prize, George Randle, Barnard's Green.

Class 4.—DUCKS.—433. First prize, Charles Clarke, Malvern Chase. 432. Second prize, Charles Clarke, Malvern Chase. 435. Third prize, George Randle, Barnard's Green, Malvern.

NEW BRICK FOR GARDEN-WALLS.

THIS is the age for improvement in almost every thing useful to mau, and when any new invention is brought

before the public, the wonder is, Why was it not thought of before? In the course of my wandering, I called at Himley, a small village between Wolverhampton and Enville. Whilst stopping there, I was introduced to a person who has invented and patented a brick that will, I think, be of great use for garden-walls.

The invention consists in letting in, dove-tail fashion, a piece of sound wood, about one inch wide, and the length of each brick, and one-and-a-half-inch deep. The back of this slip of wood is nearly half-an-inch wider than the face of it; hence, it cannot slip or move out. The mould for each brick has, of course, a projection, that forms the cavity to receive the wood. Into this piece of wood the nails can be driven to hold the shreds which retain the branches of the trees, or climbing shrubs. This will do away with nailing into the mortar, and so that will be preserved intact. It will also be useful for the walls of dwelling-houses, to nail the skirting-boards to, also for nailing door-jambes to. It has been seen and highly approved of by several eminent builders in the neighbourhood. The inventor has, by this time, laid it before Sir Wm. Cubitt and Sir Joseph Paxton, and will, no doubt, soon make it known to the public by advertisement.—T. APPELBY.

COVENT GARDEN.—SEPTEMBER 18TH.

THERE is a great demand for Grapes at the following prices, and new Oranges have just made appearance:—

FRUIT.

Pine Apples, 2s 6d to 4s p. lb.	Filberts, 9s per doz. lbs.
Grapes, Hamburgh, 2s 6d to 6s per lb.	Plums, 5s per sieve
Wall Grapes, 3s to 8s per doz. lbs.	Damsons, 4s 6d per half sieve
Peaches, 3s to 8s per dozen	Oranges, 6s per dozen
Nectarines, 3s to 8s per doz.	Lemons, 22s per hundred
Figs, 1s to 2s per punnet	Melons, 1s to 3s each
Dessert Apples, 7s per bushel	Almonds, 6s per peck
Apples, Kitchen, 5s per bush.	Kiln-dried Walnuts, 4s p. pck
Pears, 3s 6d per half sieve	Brazilian Nuts, 5s 6d per pk.
	Barcelonas, 5s per peck
	Cob Nuts, 3s per peck

VEGETABLES.

Brocoli, 4s per doz. bunches	Celery, 1s to 1s 6d per bunch
Carrots, 3s 6d to 4s p. doz. b.	Cabbages, 8d per dozen
Turnips, 1s 6d to 2s 3d per dozen bunches	Red Cabbages, 1s 6d per doz.
Leeks, 1s 6d per doz. bunch.	Radishes, 1s per doz. bunch.
Onions, 3s 6d per doz. bunch.	Mushrooms, 12s per doz. pot.
Cauliflower, 1s 6d to 2s 6d per dozen	Chillies, 1s 6d per hundred
Brussels Sprouts, 1s 6d per half sieve	Beet, 6d per bunch
Tomatoes, 4s per half sieve	Vegetable Marrow, 8d p. doz.
Artichokes, 2s 6d to 5s p. doz.	Small Salad, 2d per punnet
Gerkins, 2s per hundred	Chervil, 2d per punnet
Peas, 3s 6d per bushel	Cucumbers, 1s to 3s per doz.
Kidney Beans, 1s 3d to 1s 6d per half sieve	Garlic and Shallots, 8d p. lb.
Scarlet Runners, 2s 6d per s.	Spanish Onions, 14s to 16s per hundred
	Potatoes, 5s per cwt.
	Lettuces, 1s per score
	Endive, 9d to 1s per score

HERBS.

Parsley, Sage, Thyme, Basil, Mint, &c., 1d to 3d per bunch.

CUT FLOWERS.—Dahlias, Pelargoniums, Verbenas, China Asters, Pansies, Mignonette, from 2d to 1s per bunch. Bouquets, from 1s to 2s 6d each. Violets, 1s per dozen bunches.

DETERIORATION OF SHANGHAE.

A SHORT time since, in an article on the deterioration of Shanghai fowls, you advanced, as a probable cause of such deterioration, the change of climate. In watching one of my broods of chicken, I have been struck with the difference, both in substance and size, of some birds, as compared with others, and it has made me incline to the idea, that there is a disadvantage in breeding from birds of one year old.

The brood I allude to are from eggs laid by three first-class buff hens of last year, which were running with a good

cock of two years old, and another very good bird of 1853. I noticed that two chicken (a cockerel and a pullet) feathered very rapidly, the others much more slowly, and one of them is not much more than half-feathered yet, although above five months old. I believe it is stated, either in "The Poultry Book," or in one of your numbers, that chicken bred from old birds feather much sooner than those bred from young ones; if so, the two first birds in the table of weights, &c., below, will, probably, represent the progeny of the 1852 cock, and the three last these of the younger bird.

Hatched 4th of April and weighed.

	Thickness of the Shank Bone.		30th June.		4th Aug.		8th Sept.	
	Inches.		lb.	oz.	lb.	oz.	lb.	oz.
Pullet dark buff ..	2 $\frac{1}{4}$		2	6	3	7	4	14
Cockerel dark buff	2 $\frac{7}{8}$		2	15	4	12	7	2
Cockerel light buff	2 $\frac{5}{8}$		2	12	3	12	6	2
Cockerel light buff	2 $\frac{1}{2}$		2	7	3	13	5	15
Cockerel light buff	2 $\frac{1}{4}$		2	11	4	2	6	0

If some of your other correspondents would give the result of their experience in-breeding from both old and young birds, it would probably prove a valuable guide for the future.—S.

P.S.—I will just mention that I have a Shanghae hen hatched on the 22nd of June, 1853, that yesterday (Sept. 14) laid her 213th egg.—S.

QUERIES AND ANSWERS.

GARDENING.

HAMBRO' WITH TOKAY AND BARBAROSSA VINES.

"In a Vinery and Plant House twenty-eight by fifteen, span-roof, to be heated by a four-inch flow and return pipe, turned on only occasionally from an adjoining Melon hot-water tank to exclude frost, it is proposed to plant, five feet apart (on each side?), Black Hambro' Vines to be trained rod-fashion.

"A White Tokay and a Black Barbarossa, having been given to me, it is proposed to *add* these; but for the *former* I fear there will not be sufficient heat, as I do not intend to force before March. Will you kindly advise on these points?—A NOVICE."

[Your original plan of Hambro's, in regard of the practice to be pursued, and the amount of artificial heat available, is good enough. And you have a Tokay and a Barbarossa given you, and would fain work them into your plan. Tempting enough, indeed; but please to remember that the Tokay section will not endure low temperatures, and the Barbarossa scarcely can be made to rank with the old Hambro's in regard of temperature. We do not say it is impossible; but you must not make sure of success. If you will be tempted, pray put the Tokay at the hottest part, the Barbarossa next. It is, however, an experiment which requires a little pluck and some judgment.]

LANTANAS AND MESEMBRYANTHEMUMS IN BEDS.

"Will any one of the correspondents of THE COTTAGE GARDENER bestow a few cautions on a regular Subscriber, respecting the management of *Lantanas* as a bedding plant? A. P. has some old plants, which have grown very rampant, and which *now* are showing a disposition to bloom. How may they be kept dwarf, and induced to bloom earlier?"

"In May, A. P. planted a bed of *Mesembryanthemums*, which have grown well, and, in another fortnight, should the weather continue warm, would be a mass of bloom. By that time, however, we may expect frosty nights. What can she do another year to secure them flowering earlier in the season?"

[Cuttings of *Lantanas*, made in August, in each year, and kept rather warmer than Verbenas through the winter, are

the only plants of the kind fit for making a bed with, and they should be ready, in single pots, by the 10th of June, to succeed a bed of bulbs or annuals; they require great room, and, in a good season, a large bed of them look well in the autumn. If you could get good cuttings from your old plants early in February, good management might bring them out in June. You will recollect, that *L. Sewellii* and its varieties are not thus treated—only the breed of *L. crocea*.

Old plants and August cuttings of the red and the white *Mesembryanthemums* flower from June to October; they are best on dry rock-work, or narrow mixed borders, near a house or wall. Yours are a lazy sort, or were badly managed. The first step is to learn whether you have the right kinds; the next is to secure your old plants from frost, to cut them well in, to pot them in very sandy soil, and in small pots; to keep them cramped at the roots at all times; to give them cold greenhouse wintering, and to plant them out among the very first things after the 10th of May. For those who cry out for herbaceous plants there is a mine of *mixtures* in this gay family; but they must send over to Ghent for them.]

ROAD-MAKING.

“Will Mr. Beaton have the kindness to say, in making a carriage-drive across a park, what depth of soil to remove, and what are the best materials? We have an abundant supply of old mortar-rubbish, broken bricks, and so on, but no gravel, which is very expensive to buy, and concrete is objected to on account of the expense.—ENQUIRER.”

[Mr. Beaton says, that every body should know the depth he advised for carriage-roads by this time, and what he thinks the “best materials;” but much depends on the bottom soil. Five inches is deep enough for any road in the three kingdoms; but if you are on clay, say six inches; if the bottom is at all soft, put a close layer of faggots spread-out crossways on the clay, then full three inches of your limo rubbish, then two inches of rough stones, from the fields, or anywhere; knock the biggest of them to pieces with a hammer, then roll them over and over and over again, till you see the lime-rubbish squeezing up through them; by that time you will have room for two inches of best gravel, the least you can use.]

CLOTH OF GOLD ROSE IN POTS.

“I have two plants of *Cloth of Gold Roses*, in pots, on their own roots. I should be obliged if you would inform me the treatment they require to bloom them; for they never bloom with me.—A. B.”

[The only chance you have with this Rose in a pot is to let it grow on in its own way until the roots are sufficiently numerous to fill a 12-inch pot, then to plunge the pot in a south border under a wall, not less than eight feet high, and to train the plant against the wall; then, having the roots completely under your controul, if you are gardener enough to understand from the look of the plant when to give more or less water, you will flower it as surely as any other Rose, but unless your own eye is complete master, you may not have a flower on this Rose in ten years, and it is of no use asking people at a distance when to water and regulate your plant. You might just as well step across the way and ask a sportsman if it was time to shoot that hare running across the field.]

CLIMBERS FOR A HOUSE SIDE.

“Will the Editor of THE COTTAGE GARDENER give some hints as to covering a vicarage in Oxfordshire with climbing Roses and other climbers? It stands south-east and north-west, a side-wall nearly direct east. It is built with buttresses which form warm corners for the more tender plants. The situation is on the Shotover ridge. The soil a mixture of sand and clay. Evergreens flourish well there. Flowering-shrubs are desirable, and the names of such Roses as would make standards for the lawn, in a very exposed situation, are wished for. Also, what would be best to plant to form a screen to shut out the offices, and for shelter from the winds. It is a great object to have quick-growing things.—CUDESSEN.”

[The first consideration is a thoroughly good border for the roots. Climbing Roses, it is true, and some other

climbers, grow and flower in ordinary soil, but when they are about the doors and windows, there is another point of great consequence—the perfect health of the plants; the more healthy the less fly and blight; it is perfectly impossible to keep climbing Roses in such a healthy state as would render them tolerable against a dwelling-house, without the first consideration—A FIRST CLASS BORDER. His lordship, the Bishop of London, has had great experience in this style of Rose culture, and he told us the other day that the *Crimson Boursault* is the best of all Roses for the south front of a house; the proof of the pudding was hard by, against his own Palace at Fulham. You could not have a better authority for planting two *Crimson Boursaults*, one on each side of the door; then, the Noisette *Le Mark* Rose grows on this *Boursault* better than on any other, as we, ourselves, can attest. The *Cloth of Gold*, and *Solfaterre*, will also do well on the *Boursault*. The longer all these free Roses are allowed to run from the *Boursault*, with very little pruning for the first three years, the better it will be for the *Boursault*, and the more free the whole of them will bloom after being once established. We have seen the *Malmaison* Rose flower longer on both the *Cloth of Gold* and the *Solfaterre*, against a wall, than on its own roots, or on the *Dog* Rose. *Felenberg* (red), and *La Biche* (white), are two good climbing Roses for the front of a house. A few of the strongest and best *Tea-scented* Roses would do well on their own roots to fill the bottom of the wall; but they require the best loam, and an equal quantity of very rotten cow-dung, and a mat nailed over their heads in winter for the first three years. *Souvenir d'un Ami* is one of the very best and one of the strongest; a light kind. *Madame d' St. Joseph*, and *Madame Melanie Willemorz*, are among the next best. None are better for standards than the hybrid Perpetuals, such as you will see in all our lists, which are repeated over and over again in all our volumes. There are no flowering evergreen shrubs at all, such as you contemplate. The quickest way to hide and shelter the offices is by a row of Black Italian Poplars and White Poplars, fifteen feet high; next to them a double row of Spruce Firs, ten or twelve feet high; and, in front of the Spruces, common Laurels, with a few large Lilacs, Guelder Roses, Laburnums, and some Laurestinus in front of all, with a border of evergreen Berberis next the road, grass, or whatever is the outside.]

DISSECTING LEAVES.

“Seeing in your last week's number that a correspondent wished to know the method of dissecting leaves, &c., I send you two recipes; the first I have copied from the “Jury Reports of the Exhibition of 1851,” and the second from the “Family Friend.”

“In these remarkable dissections, the whole of the soft and pulpy matter of the plants is removed, and only the woody, or fibrous, part is left, forming a perfect network of woody tissue. This effect is produced by steeping the plants in rain water, in which they are suffered to remain until the whole of the soft parts are decomposed; they are then placed in fresh water, and the decomposed matter carefully removed with a brush, after which the remaining fibrous part is bleached in a weak solution of chloride of lime, and then dried. The time required for this operation varies from a few weeks to several months, and its success essentially depends on the minute and patient care bestowed on the brushing away of the decomposed pulpy matter.”

“A tablespoonful of chloride of lime, in a liquid state, mixed with a quart of pure spring water; leaves or seed-vessels to be soaked in the mixture for about four hours, then well washed in water, and afterwards dried, with free exposure to light and air; some with strong ribs will require to be left more than four hours in the solution.”

“I have never tried either process, so cannot answer for the results; the latter appears to me to be only for bleaching.—S. R. SHORT.”

CULTURE OF THE BRISTLE FERN.

“Have any of the readers of THE COTTAGE GARDENER successfully cultivated the Killarney Fern (*Trichomanes speciosa*)? Information on the subject is wanted.”

[We cannot give a better answer than is afforded by the following extract from that most excellent little volume, Moore's “Handbook of the British Ferns.”

"This species is certainly known to exist in a wild state in the United Kingdom elsewhere than in Ireland, where it is found sparingly in several localities attached to dripping rocks, and the walls of damp caves, in shaded glens, and in the vicinity of waterfalls. It is also found in some of the warmer parts of Europe, in Asia, and in South America.

"This Fern requires a damp, calm atmosphere, without which it will not thrive; hence, all attempts to cultivate it artificially, other than under close confinement, have failed. It likes warmth, and succeeds admirably under a glass in a shady part of a plant stove, or greenhouse. The following method of planting is suitable both to this and to the *Hymenophyllum*:—

"Procure some porous free-stone (if in one mass, so much the better) large enough to fit the mouth of the pot or pan, which should be a good-sized one, as the plants should be seldom disturbed; and after filling the latter so full of broken crocks for drainage, as to admit of the sandstone lying firmly on a level with, or rather above the rim, strew a little silver sand over the stone, and with incorrosive wire, fix the caudex of the plant firmly on the surface, then a little more sand, followed by a good watering. If necessary, the plant must be supported in a firm position by means of some small stakes, judiciously placed, with great care, for neither the plant nor the sand should be disturbed when it is once fixed. After planting, place a bell-glass over the plant, and remove it to a shady place, either in a stove or greenhouse, or sitting-room. After this, all that is required is careful and rather abundant watering, sufficient at least to maintain a constant dampness about the plant. Mr. Andrews, of Dublin, in September, 1841, formed a case purposely for cultivating this Fern. He lined the bottom with zinc, and covered the frame-work with oiled lawn, and then planted the specimens in well-drained pots, in a compost of loam and coarse sand, interspersed with pieces of turf. He also suspended the stems across the roof of the case, attached to rods, covered with moss. The plants were kept cool, and were well moistened daily. In October, 1843, the entire case was well filled with fronds of large and strong growth. Mr. Ward has, for many years, cultivated this species with entire success, even amidst the smoke of London, in his close cases; and fine examples of cultivated *Trichomanes* are now not rare. The most entire success, however, of which any record has been made public, is that obtained by R. Calwell, Esq., of Dublin, as stated in Mr. Ward's excellent book already quoted, from which the following is also borrowed. Mr. Calwell writes:—

"In the spring of 1843, I received a small portion of rhizome, about five or six inches long, with one frond partially developed, and one other just appearing, which I placed in a bell-glass about fifteen inches in diameter. In December, 1846, it quite filled the glass, and in that month I removed it into a case three feet ten inches by two feet six inches, and three feet four inches in height; the space under this, about twelve inches in depth, was filled with upturned flower-pots, charcoal, cocoa-nut husks, and light earth and peat. The plant now nearly fills this case. It is difficult to count the fronds accurately; but, as nearly as I can count them, they number 230, or upwards, of fully-developed fronds; the length of the fully-opened fronds being from fourteen to twenty and a-half inches, taking the length from the end of the stem, where it starts from the rhizome, to the point of the frond. When removing it to the present case, in December, 1846, I cut away five or six fronds which had been injured by contact with the glass; but since that time not one of the fronds then existing, nor any of those since formed, have shown any symptoms of decay. As to the general treatment: having originally provided well for perfect drainage, I carefully sprinkle the surface of the fronds with water once or twice a week in summer, and less frequently in winter, and keep the door of the case (which is very close) always shut, the drainage-valve underneath always open. The case stands in a vestibule, with nearly west aspect, quite sheltered from the south by the house, which is much higher than the vestibule. I strongly think that much of my success is due to the fact that the light is much subdued by shining through coloured glass windows (chiefly brown and orange). The general appearance of the plant is quite natural, the fronds bending down mostly. About three years ago I placed, for ex-

periment, a small portion of the rhizome with one open frond, on a block, and hung it up in the case. It has now nineteen expanded fronds, varying from nine to twelve inches in length, the rhizome having crept all round the block, and throwing down abundance of roots, five or six inches long. I have not known any other Fern to thrive, or even to live, in this case, except *Asplenium marinum*, which seems to like the situation tolerably. I have even tried *Hymenophyllum tunbridgense*, and *H. Wilsoni*; neither of which lived past one year. The plant has never shown the least approach towards producing seeds, although I have seen many plants taken from the same locality (Turk's Waterfall, co. Kerry,) which have fructified profusely."

"This instance of success (Mr. Ward goes on to state) is suggestive of one or two reflections of practical application:—'We see, first, how possible it is to grow some plants in closed cases in even more than their native luxuriance. I believe it would be very difficult, if not impossible, to find such a patch of *Trichomanes* as is above described, either in Ireland or in any part of the world. The next reflection is, that, in obedience to well-known physiological laws, whenever the foliage of a plant is developed to a greater extent than usual, the tendency to produce fruit becomes proportionally diminished, and sometimes, as in the above instance, ceases altogether—not one frond out of the 230 fructifying. It would be interesting to watch the effect of exposure to stronger light, and of a diminished supply of water. We further learn that Ferns, like other plants, vary much as to their natural states, and that, in order to grow even the British Ferns in one case, it will be necessary to pay attention to their respective wants.

"In order to grow all our Ferns under one roof, it would, of course, be necessary to fulfil their varying conditions of growth; and this might be easily effected by building a model of some antique ruin, or by imitating some mountainous ravine, or other bit of natural scenery, with water trickling down from the elevated portion of the rock, and flowing out of the house in a continuous stream at the bottom. In such a house, without any artificial heat, our Ferns would attain a luxuriant growth, unimaginable by those who know them only under ordinary circumstances. Each Fern could be supplied with a proper base of earth or rock, and each could have the amount of light most suited to its fullest development. The *Trichomanes* might there revel on its Turk rock, and gladden the eyes of the beholder with its lovely fronds spangled with iridescent rain-drops. At the base of the rock, and extending to the margins of the central brook, the two species of *Hymenophyllum*, with *Blechnum boreale*, *Lastrea Thelypteris*, and the lovely Lady Fern would luxuriate; whilst on the borders of the little brook or in the centre of the water, the royal *Osmunda* would raise itself to the height of ten or twelve feet, as if conscious of its sovereignty, and worthy of the admiration elicited from Sir Walter Scott when visiting the Lakes of Killarney. One or two chalk or sand-stone caves might internally be lined with the *Asplenium marinum*, its massive dark green and glossy leaves beautifully contrasting with the light and elegant foliage of the Maidenhair growing on the top. In the more elevated portions, and fully exposed to light, *Allosorus crispus*, *Cystopteris fragilis* and the other species and varieties would thrive (with the exception of the rare *Cystopteris montana*, which should be planted within reach of the spray); as would *Asplenium septentrionale* and the *Woodsias*; whilst every chink and crevice might be occupied with *Polypodium Dryopteris*, *P. calcareum*, *P. Phegopteris*, *Asplenium Trichomanes*, *A. Adiantum-nigrum*, *A. lanceolatum*, &c. Such a house might be made very useful in determining those varieties of Ferns which depend upon varying climatal differences, and in limiting the multiplication of species, which now appears to be increasing rather too rapidly. A great number of the more beautiful or rare British flowering plants might be intermixed with the Ferns, and would add greatly to the effect of the whole, taking especial care that each should have the amount of light and moisture which it obtains in its natural state. So much for British Ferns and Plants; but the time will most assuredly come when those citizens of London who now recreate and refresh their souls with such a house as is above described, will raise their desires to the possession of equally beautiful

but much more noble and majestic forms—I mean, particularly, those of the Tree Ferns.”]

HONEY FROM THE KALMIA.

“I like your periodical much, but think it hardly suitable for Newfoundland, on account of our rigorous climate. I shall, however, continue it, for the present at all events, on account of the many valuable suggestions that are applicable. In spite of our climate, I am very anxious to introduce *Bee-culture* here. My chief difficulty, hitherto, has been in procuring a stock to begin with. I hope, however, that I shall soon overcome this. I am induced to hope they will answer here, by observing numbers of wild bees (some of them very like our English honey-bee), and by the large number of wild flowers about the country. Can you inform me whether honey made from the *Kalmia* is poisonous? I have been told that it is so by a gentleman, who referred me to “Xenophon’s *Anabasis*” in proof of it. He told me, also, that the bee-keepers in the State of Maine (U.S.) had great difficulty in getting good honey on that very account. If this is true, it will be a great impediment to me, as the flower abounds in our bogs and marsh lands.—JOSEPH F. PHELPS, *St. John’s, Newfoundland.*”

[We are afraid that more reliable authorities than the “*Anabasis*” inform us that the honey from the *Kalmia latifolia*, the “Laurel,” or “Calico-bush,” of America, is probably poisonous. These authorities are Don, Catesby, and others. We should be much obliged by any of our readers giving us information upon this point.]

TO CORRESPONDENTS.

*** We request that no one will write to the departmental writers of THE COTTAGE GARDENER. It gives them unjustifiable trouble and expense. All communications should be addressed “To the Editor of *The Cottage Gardener*, 2, Amen Corner, Puternoster Row, London.”

DESCRIPTION OF PLANTS (*J. Farnworth*).—Loudon’s “*Encyclopædia of Plants*” is the only work that we know of comprising what you need.

BUTCHER’S BROOM (*M. A.*).—Will some one of our readers inform us where this plant (*Ruscus aculeatus*) can be found near Taunton. We know that it is not uncommon near Bristol.

ROUGH PLATE GLASS (*St. John’s*).—We always use the ribbed, and with the ribbed side inwards.

BLIND FOWLS (*W. J.*).—They are afflicted with blindness from many causes. What are the other symptoms? What kind of fowls? What food, &c.? are all questions to be answered before we can reply. Other question next week.

CUTTINGS (*J. F. E.*).—Pot all of them singly when the roots are an inch long. You may plant the bulbs of the Dog’s Tooth Violet now. All the bulbs you name will do very well in your compost. River sand is best.

OXALIS BOWIEL.—In describing this at page 384, col. 2, line 5 from top, instead of “truss from seven to fifteen inches high,” it should have been “truss from seven to fifteen in number.”

SUPPLEMENT TO LOUDON’S HORTUS BEITANNICUS (*X. Y. Z.*).—The last was published in 1850.

LIST OF FLOWERING PLANTS (*Floriculture*).—We will attend to your wishes next week.

NAMES OF PLANTS (*Native of —*).—Yours is *Sparrmannia africana*. (*T. M. W.*)—*Saponaria officinalis*. (*Garddiar*).—1. *Rhinanthus cristagalli*, commonly called Yellow Rattle. 2. *Lythrum salicaria*, Purple Loosestrife. 3. *Medicago lupulina*, Black Medick or Nonesuch. 4. *Gnaphalium germanicum*, the Common Cudweed. 5. *Ranunculus parviflorus*, the Small-flowered Crowfoot. 6. *Epilobium hirsutum*, the Great Hairy Willow Herb. 7. *Gnaphalium uliginosum*, the Marsh Cudweed. 8. *Sherardia arvensis*, or Field Madder. (*M. C. E.*).—Why did you not number your specimens? The two-coloured leaf is *Calandrinia discolor*; the head of flowers, *Commelina celestis*; and the third, *Siphocampylus bicolor*. (*Lancastriensis*).—Yours is *Calandrinia grandiflora*. (*Norwood*).—And yours, *Calandrinia discolor*. (*A Constant Reader*).—

1. *Sempervivum tortuosum*. 2. Cannot make out. 3. *Mesembryanthemum cordifolium*. 4. *Sedum Sieboldii*. Your insect is only the chrysalis of some one of our common white Butterflies. It must have been in the caterpillar state when you saw it travelling, and was seeking for a dry corner to change in.

CALENDAR FOR OCTOBER.

ORCHID HOUSE.

AIR; in fine warm weather, a small opening to allow fresh air to enter the house will be useful, both for the keeping down the temperature of the house, and changing the air. BLETIAS should be put to rest by withholding water, and placing them in a pit or cooler house. CYCNOCHES, *Cyrtopodiums*, and *Catasetums*. These plants should now be kept dry a few days in the warm house, and when perfectly so remove them into a cooler one. FIRE may be applied to heat the hot-water every night, more or less, according to the state of the temperature out-of-doors; raise the thermometer by day to 70°, by night let it fall to 60°. INSECTS, look diligently after; every one destroyed now will prevent a host from coming into life in the spring. LYCASTES, and other similar plants should go to rest; place them on a shelf where they may be protected from ever receiving any water. PLANTS that require to be placed in a place to rest may be known, first, by the fall, plump, mature pseudo-bulbs, and, secondly, by the leaves turning yellow and dropping off. When in such a state, it is absolutely necessary to reduce the water and heat to prevent them from growing again prematurely. PLANTS that are growing should have their due share of water, and be kept moderately warm; some may require potting, and all will be the better for a top-dressing with fresh compost. STANHOPEAS will now be at rest; give no water till the spring. This month is a suitable season for providing materials for growing Orchids, such as fibrous peat, turfy loam, sphagnum or bog moss, branches of trees, and broken crocks; all these, duly prepared, and kept dry and warm, will be ready for us whenever they are wanted during the wet season. T. APPLEBY.

PLANT STOVE.

ÆSCHYNANTHUS, reduce water to; prune in straggling branches. AIR, give every favourable day. ACHIMENES, place in a cooler house, to cause them to give over growing and go to rest; give no water, and put them in a spot where no water or dry heat will reach them; this rule does not apply to *A. picta*, which should now be in flower, and in its greatest beauty. AMARYLLIS AULICA will now be showing flowers; remove it, as soon as the flower-buds are visible, from the tan-pit into the stove; all other species of stove *Amaryllis* should now be at rest. CONOCLINIUM IANTHEMUM, or, as it is now called, *Hebeclinium ianthemum*, a winter-flowering, elegant stove plant, repot, and grow on to flower in February or March. ERANTHEMUM PULCHELLUM, and *E. strictum*, treat similarly. ERANTHEMUMS, water with liquid-manure, to induce them to open their flowers freely. GESNERAS should all be at rest, excepting *G. zebrina*, which will now be one of the chiefest ornaments of the stove. JUSTICIA; several species will now be in flower; water them freely, occasionally using liquid-manure. LUCILIA GRATISSIMA, though not essentially a stove plant, will flower much finer early in the season if brought into the stove this month. MEDINILLAS, young plants repot; older plants, keep partly dry and cool. PASSION FLOWERS, trim in freely. POINSETTIAS, water freely, to produce fine head of bloom in winter. ROGIERA AMENA, and CORNIFLORA, repot; place in heat, to bloom about Christmas; a new genus of dwarf, free, winter-flowering, stove-shrubs. REMOVE stove-plants kept in frames through the summer into the stove; water freely, to compensate for the loss of the moist atmosphere of the pit. WATER, apply very moderately to the general stock. Remove all decaying leaves, and top-dress generally. T. APPLEBY.

GREENHOUSE.

AIR admit freely during the day, but sparingly at night, unless the thermometer out-of-doors be about 40°. ALSTREMERIAS, shift, or rather pot in rich light soil, and place where they will be secure from frost. They thrive beautifully when planted out in a pit or border, where they can be covered with glass in winter. AZALEAS, remove into the house, especially those that bloomed early, as the least frost will discolour their leaves. BULBS, pot for early blooming. CINERARIAS, forward ones give manure-water, and have secured under glass. Very little frost injures them. CAMELLIAS (See AZALEAS). CALCEOLARIAS, strike cuttings; pot forward plants; prick off seedlings. CHRYSANTHEMUMS for winter blooming, provide with shelter from cold rains and early frosts, and water with manure-water alternately with clean. CLIMBERS on rafters now prune in, to give light to the plants beneath. CLEODENDRONS, GESNERAS, LANTANAS, ACHIMENES, &c., keep in the warmest end of the house preparatory to resting them for the winter, or returning to the plant stove. AZALEAS, CAMELLIAS, FUCHSIAS, &c., at the coolest. Cuttings of all kinds, especially late inserted ones, intended for out-door work next season, keep secure from dampness. Very dull cold weather will be their greatest enemy. Be careful how you apply any artificial heat—it generally does more harm than good. CYTISUS and GENISTA, scourge well with soap-suds, and then with clean water, to remove all traces of Red-spider, and then place where they can be sheltered before being housed at the end of the month. ERYTHRINAS,

out-of-doors, when touched with frost, take up and pot, and placed under shelter, not cutting the stems until moderately ripe. GERANIUMS, keep clear from fly; and slowly growing; this last condition is the best antidote against the former; avoid, however, letting them be cold and soaked too, for then you will have spot; forward ones may be repotted, and fresh struck ones potted off. GLADIOLUS, pot. HEATHS and EPACRIS, get under shelter, and give them abundance of air, when temperature about 40°. All hard-wooded plants will require similar treatment, only the hardest may have the airiest and coolest place. EARLY FUCHIAS may be put into sheds before their stems have been injured by frost; pot all young struck plants. *Geraniums, Calceolarias, &c.*, for beds and vases, may be kept easier in boxes than in pots—say 5 inches deep, 6 inches wide, and 2½ feet in length; give them two or three inches each. SALVIA SPLENDENS, encourage with manure-waterings, and syringing with soot water to banish the Red-spider before housing it in the conservatory. Plants to be raised from the flower-beds should previously have their roots cut round, and then, after potting, should have a little bottom-heat, to encourage fresh roots, while the top temperature is kept cool. They will not require to be often watered for a time, but syringing the tops in sunny days will be serviceable. ALL PLANTS should be thoroughly CLEANED, and houses and glass washed and put in good order. WATER should also now be given with a careful hand, and only when necessary. A plant may not require it above once or twice a-week now that would have wanted refreshing twice in the dog-days, during a forenoon's sunshine. Those swelling their flower-buds, will require, however, a good supply. Bear in mind that bad watering is the great cause why pot plants so often languish and die.

R. FISK.

FRUIT-FORCING.

AIR-MOISTURE, gradually decrease. BOTTOM-HEAT must decline with the light, until they reach about 75° in December. CUCUMBERS, thin out carefully; stop regularly; and give liquid-manure. CHERRIES, in tubs or boxes, plunge in a cold and shaded situation. FIGS, see that the wood is well-ripened; those in pots plunge and secure from frost. FIRES, be moderate with; rather inclose sun-heat. FLUES, clean and repair. GRAPES, late, fire and ventilate freely; watch for decaying berries. GLASS, wash all that is in any way dirty. MELONS, sustain a bottom-heat of near 80°; keep down red spider, and ventilate freely in the morning. NECTARINES and PEACHES: apply liquid-manure to late houses after heavy crops; keep away red spider; stop all growing shoots, and secure the ripening of the wood. PINES, sustain heat, in order to ventilate most freely those to winter in pits. Apply liquid-manure to swelling fruits, and sustain a bottom-heat of 80°; atmospheric from 65° to 85°. PRUNE Vines, Peaches, &c., for very early work. WATERING, decrease at the root in proportion to the decline of the season.

R. ERRINGTON.

FLOWER-GARDEN.

ALSTROEMERIAS, Van Hout's varieties, and others, plant six inches deep, and in frosty weather cover with leaves. ANEMONES, plant for earliest bloom. Sow a few of the hardest ANNUALS before the end of the first week. AURICULAS and POLYANTHUSES, put under shelter. BEDDING GERANIUMS, save as many as you can store; cut them close, and plant them in cold pits; or dry, and keep in the upper rooms of the house. BULBOUS ROOTS, finish planting in dry weather; pot for latest forcing, and for plunging in flower-beds, &c. CARNATION layers, finish planting and potting; secure the pot ones from rains. CLIMBERS of all sorts, plant, prune, and train. COMPOST, prepare, and turn in dry weather. DAHLIAS, cut down after frost, and let the roots remain as long as it is safe; when taken up, dry them in open sheds, &c., before storing where frost and damp cannot reach them. DRESS the beds and borders, and put mark-sticks to bulbs and other roots, to guide you when digging. EDGINGS, plant. EVERGREENS, finish planting, b. FIBROUS-ROOTED PLANTS, finish dividing and planting, b. Fork over borders, &c. GRASS, cut very close the last time; keep clear of leaves; and roll. GRAVEL, weed and roll. HEDGES, plant, clip, and clear at bottom. HOPE and rake shrubberies, and bury the leaves, &c., between the plants. IRIDS, as *Ixias, Gladioli, &c.*, plant, and shelter from frost. LAYERING, perform generally. LEAVES, gather for compost, &c. MARVEL OF PERU, take up and store like Dahlias. MULCH round trees and shrubs lately planted. PLANT perennials and biennials. PLANTING, perform generally. POTTED PLANTS, for forcing, plunge in the earth of a well-sheltered border, facing the sun. PRUNE shrubs and trees generally. RANUNCULUSES, plant for earliest bloom; seedlings of them, in boxes, &c., remove to a warm situation. ROSE-BUDS, untie the matting, if not already done, from newly-budded, and cut the shoots to within six inches of the buds. SHRUBS of all kinds, plant, stake, and mulch. SUCKERS, from Roses and other shrubs, separate and plant. TIGRIDIAS, save from frost as long as possible; should not be dried till January or February. TULIPS, finish planting, b.

D. BEATON.

FLORISTS' FLOWERS.

ANEMONES, plant early in the month. AURICULAS and POLYANTHUSES, place in their winter quarters, m.; give no more water than just sufficient to keep them from flagging. CALCEOLARIAS, place close to the glass; prick off seedlings. CHRYSANTHEMUMS, give abundance of water to and plenty of air; kill insects on by frequent smoking. CARNATIONS and PICOTEES, finish potting-off into 48-pots, and place under shelter. CINERARIAS, keep in frames well protected from frost till next month excepting early flowerers, which should, as soon as bloom is perceived, be removed into the greenhouse; seedlings pot off. DAHLIAS, protect from frost; if already caught by it, cut down, and lift the roots, to prevent excessive bleeding; protect plants cut down from frost, by

covering with a layer of coal-ashes. FUCHSIAS, gradually dry off, and place under the stages, or in sheds, where the frost will not reach them. GLADIOLI, plant b. in light rich soil. HYACINTHS, choice, plant b. in a deep, rich, sandy soil, in a sheltered nook. Common sorts plant any-where in beds and borders. POT HYACINTHS in mild compost, and deep pots press the soil firm to prevent the roots descending too quickly to the bottom of the pots. IRISES, English and Spanish, plant b. in rich soil. PANSIES, pot off cuttings, very choice kinds place under glass in cold-frames; plant out common kinds, b.; prick out seedlings; old, straggling plants destroy, or prune severely. PINKS, plant out finally where they are to bloom. RANUNCULUSES, examine and remove all decaying, or mouldy, tubers; prepare beds for; Turhan varieties, plant b. TULIP-BEDS, level, and make ready to receive the bulbs early next month. WEEDS, pluck up in every department of the florists' garden.

T. APPLEBY.

ORCHARD.

APPLES, house in succession. BERBERRIES, gather, m. BORDERS, prepare b.; composts, collect. CUNNANTS, prune, e. DAMSONS, gather. FRUIT-TREES, remove, e. FRUIT-ROOM, carefully ventilate. FIGS, pluck off late fruit, e. GOOSEBERRIES, prune, e. GRAPES, bag, or otherwise protect. MULBERRIES, gather. MEDLARS, gather. PEARS, gather in succession, all at the end. PLANTING, prepare for, and proceed with at e. PRUNING, commence as soon as the leaves are cast. RASPBERRIES, protect late-bearing. RETARNING: look well to currants and other retarded fruits; keep away mouldiness. ROOT-PAUNE, b. STRAWBERRIES, dress away runners, but not the leaves, b. TOMATOES, gather, and ripen on heat, b. VINES, attend well to, b. WOOD ripening: do all you can to secure this, b.

R. EARINGTON.

KITCHEN-GARDEN.

THIS is the season to look out for plenty of plants of all kinds that are likely to be required for the ensuing spring; and if you run short of any particular kinds, be active in looking round among your neighbours and friends to see what you can exchange with them, as one may have an abundance of Lettuces, another an abundance of Cauliflowers, and so on. This is the way we should help one another. The next thing is to arrange good and proper situations for winter protection. Frames that are done with from the Cucumber or Melon crops may be removed from the old hotbeds, and set down on the ground, level or upon sloping banks; and if the frame be a deep one, the bottom may be filled with any kind of material to within nine inches of the top of the frame, then upon that six inches of good earth; this brings the crop up within two or three inches of the glass. The same may be done with merely four boards nailed together, and so placed upon a sloping bank, filling up in the same way, so as to keep the picked-out crops up close to the glass. These are contrivances for picking out Cauliflowers, or Lettuces, Cabbage-plants of any kind, and make excellent make-shift shelters.

ANGELICA, keep clear of weeds. ARTICHOKEs, attend to winter dressing. ASPARAGUS-BEDS, attend to winter dressing; seeds collect, and prepare for forcing. BALM, plant. BEET, take up for storing. BORECOLES, towards the end of the month may be lifted into quarters of less value, should the ground be likely to be wanted for other purposes for early spring crops. BROCOLIS, keep clear of weeds, and attend to those heading it, to protect from frost, &c. BURNET, plant. CANNAGES, plant out, prick out, and earth-stir among. CARDOONS, earth up. CARROTS, take up main crops for winter store, and attend to young growing crops, as thinning, keeping clear of weeds and fallen leaves, &c. CAULIFLOWERS, plant out under hand-glasses about the middle of the month; also in frames for winter protection. CELERY, plant and earth up. CHIVES, plant. COLEWORTS, plant. CRESS (Water), plant. CUCUMBERS, plant out; keep up heat of beds, by linings, &c.; water sparingly. DILL, plant. DUNG, prepare for hotbeds. EARTHING-UP and earth-stirring, attend to. ENDIVIE, plant, and attend to blanching; full-grown may be taken up and planted at the foot of walls, and other warm corners, towards the end of the month, for winter protection. FENNEL, plant. HERBARY, dress. HORSE-RADISH, take up and plant. HYSSOP, plant. JERUSALEM ARTICHOKEs, take up as wanted. LEAVES fallen, remove frequently. LEEKS, earth-stir among. LETTUCES, plant and prick out under walls, or in frames, &c. Melons (late), keep up heat by linings or otherwise; no water must be given. MUSHROOM-BEDS, make, and attend to those in bearing, &c. NASTURTIUMS, gather for seed, if not done before. ONIONS, attend to those in store, and earth-stir or thin out the autumn-sown, or plant out if required, about the beginning of the month. PARSLEY, attend to potting, for use in winter. PARSNIPS, take up towards the end of the month for winter storing; leave in the ground for seed. PEAS are sown by some about the end of the month. PENNYROYAL, plant. POTATOES, attend to; look over often to see that no decayed ones remain among the bulk. RADISHES may be sown in warm border. RHUBARB, plant in pots for early forcing, end of the month. SALSIFY, take up for winter storing. SAVOYS, plant out. SCORZONERA, take up for winter storing. SEEDS, gather of any kinds as they ripen. SMALL SALADING sow as wanted. SPINACH, keep clear of weeds; thin out, and attend to in dry weather. TANSY, TARRAGON, and THYME, plant, if required. TOMATOES, gather; if not quite ripe, place them in some warm, dry situation, where they will soon ripen off. TURNIPS, clear of weeds, and thin out young crops. VACANT GROUNDS rough up, or ridge, or trench. Those who prick-out plants in frames should be regular and mindful to take off the glass lights entirely in all favourable weather, and to tilt back and front in open wet weather.

T. WEAVER.

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