

West London for the advancement of natural history and physical science. There was a very good attendance, chiefly of members of the various London field clubs. A number of ladies have been received as members, and working men are represented on the committee.

ACCORDING to the *Belgique Horticole*, Dr. Candèzi has invented a small photographic apparatus, which he calls a "scenograph," which consists simply of a stick and of a camera the size of an opera glass. To photograph a plant or other object, it is sufficient to place it in the focus of the scenograph for a minute or two. The negatives, it appears, can be purchased ready prepared.

THE opening of the School of Horticulture at Versailles, which was to have taken place on Oct. 1, is postponed till Dec. 1.

DR. A. CORLIEU states, in *La France Médicale* for Sept. 30, that he had occasion to search the registers of the parish of Saint Antoine, preserved in the National Library. It was in the cemetery of the Innocents, in that parish, that the dead bodies from the Hôtel-Dieu were interred; and Dr. Corlieu has ascertained that during the first six months of 1694 the deaths in the hospital amounted to 11,696. In 1873, during the same space of time, the mortality amounted to 770 for 925 beds.

THE additions to the Zoological Society's Gardens during the past week include a Chacma Baboon (*Cynocephalus porcaricus*) from South Africa, presented by Mr. J. D. Lloyd; a Ducorps' Cockatoo (*Cacatua ducorpsi*) from the Solomon Islands, presented by Mr. F. J. Dean; two Lions (*Felis leo*) from South Africa; a Malbrouck Monkey (*Cercopithecus cynosurus*) from West Africa; a Sun Bittern (*Eurypyga helias*) from South America, deposited; two European Rollers (*Coracias garrula*), European; a Naked-throated Bell-bird (*Chasmorhynchus nudicollis*) from Bahia; a solitary Tinamou (*Tinamus solitarius*) from Rio de Janeiro, purchased.

SCIENTIFIC SERIALS

THE *Quarterly Journal of Microscopic Science* for this month commences with two articles which are of special interest to embryologists, and therefore to biologists generally. The former of these is by Mr. F. M. Balfour, entitled "A Preliminary Account of the Development of the Elasmobranch Fishes;" it occupies about forty pages, and is fully illustrated. The investigations were conducted at the Zoological Station at Naples, which illustrates the value of that institution, and the justifiableness of Dr. Dohrn's enthusiasm. The earliest stages of development are those most minutely described. The points of greatest interest made out are the following:—(1) The epiblast of the blastoderm in that part which corresponds to the caudal extremity of the future embryo, folds round inwards and becomes continuous with the deeper layers; which leads the author to conclude that, as the hypoblastic origin of the alimentary canal is connected with the presence of a food-yolk, and in origin its those animals which develop an "anus of Rusconi" is not so, the former is but an adaptation. (2) The notochord is shown to be developed from the hypoblast, the mesoblast forming a mass on each side of it. This may depend upon the mesoblast, whose lateral columns just referred to, are "split off, so to speak, from the hypoblast," also developing a median independent sheet; or it may be, which unbiassed observation undoubtedly supports, that the notochord is a true hypoblastic structure. The former of these views, as the author remarks, "proves too much," since it is clear that by the same method of reasoning we could prove the mesoblastic origin of any organ derived from the hypoblast and budded off into the mesoblast. If Mr. Balfour's fundamental fact is verified, it will much modify the argument as to the homology of organs as based upon their embryonic origin. (3) The medullary groove is quite flattened out in the cephalic region at the time that the canal is fully formed in the caudal. This paper is well worthy of careful study.—Mr. Ray Lankester writes on the development of the pond snail (*Lymnaeus stagnalis*),

and on the early stages of other mollusca. He begins by describing the shell-gland, which is situated below the developing shell; he shows its presence in Lamellibranchs, Gasteropods, Pteropods, also in the Brachiopoda and *Loxosoma*. From this the question is asked whether it in any way corresponds to the pen of the Dibranchiata Cephalopoda and the internal shell of *Limax*. Reasons are given in favour of the plug, which is always found to occupy the shell-gland, being developed into the latter; but with regard to the former, the author, from originally holding the opinion that it has a similar origin, now thinks differently for the following reasons:—The pen of *Loligo* must correspond to the guard of the Belemnite, in which the phragmacone is aborted. This guard is only a sheath to the phragmacone, which again corresponds to the whole shell of *Spirula*. The shell of *Spirula* must have been preceded by the shell-gland, therefore the plug of the latter cannot have been the direct origin of the *Loligo* pen. The latter part of the paper discusses the development of the pond-snail in detail.—Mr. E. A. Schäfer describes an ingenious and much-improved microscope warm-stage, in which a mercury valve regulates the gas supply to a small circulating boiler. He remarks that much of the cooling is produced by the proximity of the objective, and suggests that this may be warmed by coiling a tube round it. It has always occurred to us to ask whether the heating of objectives does not injure, for the time being, their optical powers; as they are constructed so as to be achromatic, &c., at the average temperature of the air, and very slight differences must produce material changes in the distance between the lenses and their shape.

Bulletins de la Société d'Anthropologie de Paris, fascicule v. tome 8, 1874.—M. Topinard concludes his paper on the anthropology of Algiers, by drawing attention to the five periods which characterise the anthropological history of the colony, and which are those of the brown-skinned Kabyles; the light-skinned Kabyles; the Numidians, to whom we must refer the greater number of the Berber inscriptions hitherto found; the Romans, Arabs, and Turks; and lastly, the Aryans. M. Topinard is of opinion that in the fair and dark skinned Berbers we have a kindred race with our oldest West-European races, and that therefore, with due regard to locality, we have evidence that European colonies could be made, like those tribes, to flourish in various parts of Algiers. In the meanwhile, however, as General Faidherbe has remarked, it becomes a question of political as well as ethnological importance to investigate and, if possible, arrest the causes which are diminishing the numbers of the native population, whose existence is the more important from their being the best able to bear the climate and cultivate the soil. M. Topinard considers that the mortality among the native races is not to be referred with any special prominence to diseases introduced by Europeans, but is due very much more to a natural scrofulous diathesis antecedent among them, to any imported constitutional taint, while famine, war, and many other causes depending upon political conditions are probably the most important agents in the process.—M. de Mortillet has recalled the attention of the Society to M. l'Abbé Bourgeois' assumed evidence of the existence of man at the base of the Miocene or mean Tertiary, while he presented to them one of the latest of the Abbé's finds of flint implements from the Miocene beds at Thenay, and which in its longitudinal lines showed unmistakable traces of cutting. The speaker pointed out that since the foundation of the calcareous beds at Beauce, and the deposit of the flints at Thenay, the mammalian fauna has been renewed at least three times, while the differences between the extinct and living fauna are sufficient to justify the acceptance of the supervention of specific genera. The question of the existence of man in the mean Tertiary period rests, however, for the present, open, and must await further discoveries of a less questionable nature before it can obtain an unassailable solution.—M. Onimus, in a paper on language, has considered at length the importance of reflex action generally on all phenomena of the nervous system and on the intellectual functions, illustrating his point by reference to the changes in the faculty of speech which give rise to aphasia, and considering the manner in which the latter lesion is modified by the previous and normal mental condition of the patient. This number also contains a suggestive paper, by Madame C. Royer, on the mathematical laws of reversion through atavism; notes by M. Bataillard on the Gipsies of Algiers; and a report of the hairy dog-man of Kostroma, in whom an abnormal development of the hair of the head and the down on the face and neck, combined with considerable prognathism, has simulated the characters of the canine head.

THE *Bulletin de la Société d'Acclimatation de Paris* for July devotes a considerable portion of its space to the description of an ostrich farm at the Cape of Good Hope. This industry is largely extending in that colony, and yields excellent results.—M. Maumenet gives a valuable contribution in the shape of a paper on the various plants acclimatised by him at Nîmes, in the province of the Gard. Bamboos, Eucalyptus, palms, and several new and useful Chinese plants and vegetables, are among his successful attempts at acclimatisation.—M. Martinet gives details of the mode of cultivating the *Erythroxylon coca* in Peru, a vegetable which the French are desirous of introducing into Algeria and French Guiana.—M. Collenot suggests, as a means of staying the ravages of the Phylloxera, that instead of introducing American vines, the wild vines abundant in many parts of France should be carefully cultivated; they produce, in a wild state, excellent fruit, and as they are very hardy, he thinks that they would withstand the attacks of this pest.—A Japanese tree, the *Sophora (Styphnolobium japonicum)*, is recommended for cultivation as rivaling the Eucalyptus in many respects. The wood is very hard, and a tree planted in France thirty-five years ago is now 21 ft. in circumference. It resists cold and drought with equal facility.—The silkworm is being acclimatised in the Baltic provinces, and some species of this caterpillar seem able to withstand the cold with ease.

SOCIETIES AND ACADEMIES

LONDON

Royal Microscopical Society, Oct. 7.—Charles Brooke, F.R.S., president, in the chair.—A paper, by Mr. Alfred Sanders, entitled "Supplementary Remarks on the Appendicularia," was read to the meeting by the secretary, in which the author corrected several observations made in the course of a previous paper, and gave an exhaustive description of a species which he believed to be different from any hitherto described, although he refrained at present from naming it as new.—A paper by Mr. Kitton, of Norwich, was also read by the secretary, upon some new species of diatoms found in deposits sent from New Zealand by Mr. H. R. Webb and by Capt. Perry from Colon.—Mr. Slack made some observations on silica films prepared from a solution containing four parts glycerine to one part water, and pointed out the difficulty of obtaining clear definition of the forms presented when high-power objectives of large angle were employed, whereas those with small angular aperture gave good results.—Mr. Stewart drew the attention of the Fellows to a remarkable living organism exhibited in the room by Mr. J. Badcock, of the nature of which very considerable doubt was entertained, the prevailing opinion being that it was either an entozoon or the larval form of some unrecognised animal.

LEEDS

Naturalists' Field Club and Scientific Association, Oct. 13.—Mr. Edwd. Thompson, vice-president, in the chair.—A lecture was delivered by Mr. Samuel Jefferson, F.C.S., upon "Volcanic Phenomena." After giving the more familiar facts with regard to the shape and formation of volcanic cones, the nature of the ejected materials, the periods and frequency of eruptions, and the distribution of volcanic energy, and after an exposition of the chief hypotheses which have been framed with regard to the internal condition of our earth, Mr. Jefferson pointed out a coincidence which had not to his knowledge been previously noticed, that the equatorial diameter between the two centres of intensity of volcanic energy, Java and Quito, is shorter by two miles than that drawn at right angles through Africa. Mr. Jefferson explained his views at some length.

PHILADELPHIA

Academy of Natural Sciences, June 2.—Dr. Ruschenberger, president, in the chair.—"Poisonous character of the flowers of *Wistaria sinensis*."—Mr. Meehan remarked that there was a popular belief that the flowers of the *Wistaria sinensis* were destructive to bees. He had himself seen hundreds of dead bees under large flowering plants. He was struck with the fact this season that none were dead under similar circumstances. The flowers were continually visited by the honey bee and others, without, so far as he could see, any fatal results following. It was clear, therefore, that whatever might be the cause of the death of these insects under

some circumstances, it could not be from the honey alone.—"Growth of the *Cnicus arvensis*, Hoff." In regard to the rapidity with which plants sometimes grew, Mr. Thomas Meehan observed that, though it was well known that the Canada thistle spread surprisingly, there had been no figures giving its exact growth placed on record. From experiments he found that it spread at an average rate of about three-fourths of an inch of growth per day, equal to maize or other rapid-growing vegetation above ground.

June 16.—Dr. Ruschenberger, president, in the chair.—Prof. Leidy made remarks on the revivification of *Rotifer vulgaris*, showing that when the animals are actually dried they are incapable of being revived.—Prof. Cope mentioned the capture of a young *Balena cisarctica*, of forty-eight feet in length, in the Raritan River, near South Amboy. He was informed that the whale was entirely black, and the dorsal line without irregularities.—Prof. Cope explained the distinctive features of the genus *Symborodon*, one of the gigantic horned mammalia of Colorado, as compared with *Titanotherium*, exhibiting typical specimens of the latter from the Academy's museum, showing four inferior incisor teeth, while the lower jaw of *Symborodon* does not possess any.

PARIS

Academy of Sciences, Oct. 12.—M. Bertrand in the chair.—The following papers were read:—The enunciation of the principle of the theory of *timbre* is due to Monge, by M. H. Resal.—Letter from M. Langley, director of the Alleghany Observatory, United States, on cyclonic movements, by M. Faye. This paper was an extension of the author's theory of sun-spots. The laws of fluids in rotatory motion round a vertical axis are shown to apply to these phenomena.—M. Daubrée made some remarks in connection with the foregoing paper concerning the indications of circular motion traced in the diluvian deposits of the neighbourhood of Paris.—Critical observations on the employment of the tincture or powder of guaiacum for testing the purity of "kirschenwasser," by M. Boussingault.—M. C. Sédillot communicated a surgical paper on the subject of preventive trepanning.—Presence of the genus *Lepisosteus* among the fossils of the Paris basin, by M. P. Gervais.—External linear extraction, simple and combined, of cataract; a surgical memoir, by M. R. Castorani.—Proportion of real to sulphated ashes in the products of the sugar industry, by M. Ch. Violette.—Communications relating to the destruction of Phylloxera were received from MM. Maurice Girard, Mouillefert, Balbiani, &c., upon which remarks were offered by M. Dumas.—New experiments with alkaline sulphocarbonates for the destruction of Phylloxera; method of employing them, by M. Mouillefert.—Researches on the action of coal-tar in the treatment of phylloxerised vines, by M. Balbiani.—On the employment of electrodiapasons of variable periods as tonometers and electric contact breakers, by M. E. Mercadier.—Attempted theory of the formation of the secondary facets of crystals, by M. Lecoq de Boisbaudran.—Microscopic study and proximate analysis of a pumice from Vesuvius, by M. F. Fouqué. Under the microscope this stone was seen to be composed of a multitude of crystals of amphotene united by an amorphous vitreous substance; of crystals of hornblende, pyroxene, peridote, oxide of iron, feldspath, and brown mica irregularly distributed through the mass. An analysis of the amphotene crystals proved this mineral to be rich in sodium and calcium; the amphotene from the tufa of Somma is generally potassic.

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