Galleting

by

W.R. TROTTER

'Galleting' or 'garreting' are synonymous terms used to describe the practice of inserting small pieces 'spalls' of sandstone or flint into the mortar-joints of stone buildings. This practice was almost entirely confined to two regions: the Wealden area of south-east England and Norfolk. Similar types of building stone are used in both areas: sandstones derived from the Greensand, and flint derived from the Chalk. Sandstones are usually galleted with spalls of dark carstone; flint is usually galleted with flakes of flint.

A survey of parish churches in the Wealden area revealed an overall prevalence of galleting of fifteen per cent. The distribution within this area was uneven; galleting was notably absent on churches and other buildings in the High Weald, and in all but the eastern fringe of the Hampshire Downs, although the materials available were similar to those in areas where galleting was common. The geographical distribution of galleting cannot therefore be accounted for on geological grounds alone.

The rather scanty evidence suggests that galleting was seldom practised in medieval times, but gradually gained in popularity during the seventeenth and eighteenth centuries, and then declined and eventually died out during the nineteenth century. The transient and erratically localized characteristics of galleting suggest that it was in the nature of a fashion which spread out from two probably independent foci in the South-east and Norfolk.

In his fourth letter in *The Natural history of Selborne,* Gilbert White remarked that strangers to the village 'sometimes asked us pleasantly "whether we fastened our walls together with tenpenny nails"'. He was alluding to the practice of galleting (or garreting), as employed by the local masons when constructing walls of the native malmstone. He described how they procured carstone (a ferruginous sandstone) from nearby Woolmer Forest; this stone (which is, in White's words, 'the colour of rusty iron') was then broken 'into small fragments about the size of the head of a large nail', which the masons proceeded to 'stick into the wet mortar along the joints of their freestone walls'. The results of these operations can still be seen in Selborne today; figure 1 illustrates galleting of the type described by White in a cottage built in the year of his death.

White did not find it necessary to put a name to the practice he was describing. But his editor, in the edition from which I have taken the quotations (E.M. Nicholson), did; he added a footnote to the effect that it was 'called "garneting" in Surrey'.[1] I have not met this term elsewhere; it is not recognized in this sense by the *Oxford English Dictionary,* Webster's *New International Dictionary* or Wright's *English Dialect Dictionary.* All three of these authorities give 'galleting' and 'garreting' as synonyms for the practice so clearly described by White; the *O.E.D.* defines them as 'to insert small pieces of stone in the joints of coarse masonry'. Current usage seems to favour 'galleting', and I have conformed to it.

Dr W.R. Trotter, a retired physician, has published a number of articles on local, medical and garden history.

Fig. 1
Malmstone wall galleted with carstone. Cottage in Gracious Street, Selborne, Hants (SU 738 339)

It is not surprising that White's visitors were puzzled when they first encountered galleting. It is indeed an odd practice. It poses three problems: first, the peculiar geographical distribution; secondly, the distribution in time; and thirdly, its purpose. These are the problems to be discussed in this essay.

TYPES OF GALLETING

First, though, it is necessary to describe the practice of galleting in more detail, as it can be manifested in different forms, depending on the variety of stone used in the construction of the wall, and for the spalls or gallets (the pieces of stone inserted in the mortar joints). This in turn depends on what was readily available; stone being an awkward material to transport, the tendency has been to use the nearest convenient source; hence stone buildings commonly reflect the local geology rather closely. In both the areas where galleting is commonly found—south-east England and Norfolk—the underlying strata are sedimentary rocks of the Cretaceous series. The main building stones available in these areas are sandstone and flint. The extent to which builders have been limited—at least until very recent times—to purely local material is strikingly borne out by observation of the buildings in situations where the Greensand is adjacent to the Chalk; in the former, virtually all stone buildings are made of sandstone, in the latter, of flint. The boundary between the two strata is almost as well defined by the buildings, as it is by the vegetation.

These two materials—sandstone and flint—have been used almost exclusively in the stone buildings of the two regions; the only exceptions are the ragstone found widely on the Lower Greensand in Kent, the occasional small outcrops of fossiliferous limestones (e.g., 'Sussex marble') that outcrop in the Weald Clay, and one or two oddities like

Fig. 2
Sandstone (Bargate) wall galleted with carstone. Cottage in Lower Eashing, Surrey (SU 945 437)

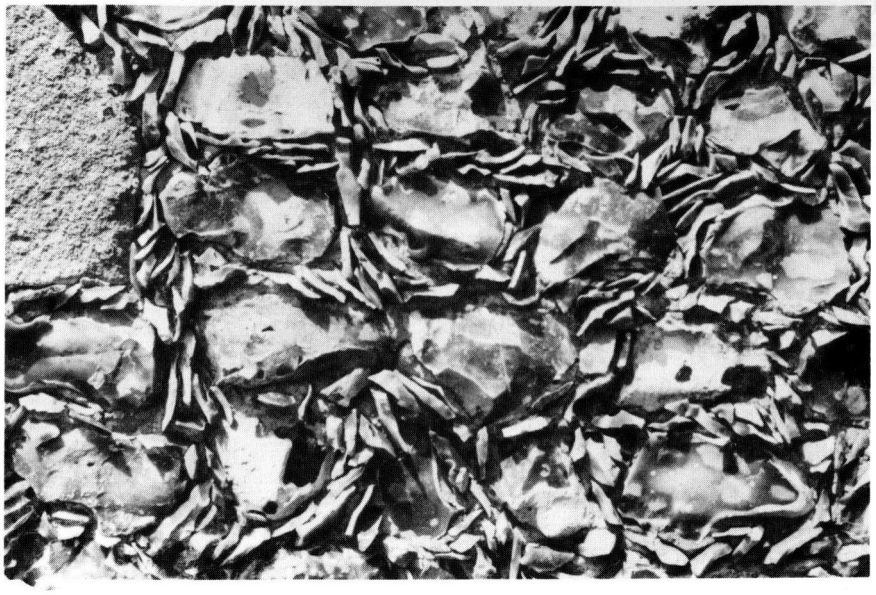

Fig. 3
Flint wall galleted with flint. Church at Boarhunt, Hants (SU 603 082)

the sarsen stones and conglomerates—puddingstone—occasionally encountered in the heathland of north-west Surrey. On the Greensand in north-west Norfolk the only sandstone is the dark brown carstone, which has here a more reddish tinge than it has in the South-east; it is known locally as 'gingerbread stone'. The two main varieties of galleting that have to be considered are, therefore, the type found in sandstone buildings, and the type found in flint buildings.

There is also a difference in the composition of the spalls which are inserted in the mortar courses in the two types. In the sandstone buildings, the spalls may be simply small fragments of the stone used to construct the wall; but more commonly they are of a different sandstone, namely the dark-brown ferruginous sandstone known as 'carstone' (or in the vernacular as 'ironstone'), as described by Gilbert White. These spalls are very roughly cuboidal, with an average diameter of the order of half an inch. In contrast, flint walls are nearly always galleted with thin slivers of flint (plentifully available when the flint boulders are trimmed to shape), which are thrust edgeways into the mortar.

These two types of galleting are visually very different (Figs 2 and 3); so much so that when the author first started this investigation he had serious doubts as to whether he was dealing with an unitary phenomenon. What finally convinced him was the observation that it was possible to find—particularly at the Greensand/Chalk interface—a number of hybrid types: flint walls galleted with spalls of carstone, or other sandstones; less commonly, sandstone walls galleted with flint. However different they may look, the basic idea behind the practice is clearly the same, even though it has been argued on semantic grounds (*galet* being French for a small pebble) that the flint type, in which thin flakes are thrust edgeways into the mortar, is not strictly speaking galleting.[2]

There are a number of other variants. The sandstones of the Greensand vary greatly in appearance, from the smooth off-white of the malmstone of the Upper Greensand, through a range of browns in the sandstones of the Bargate and Hythe Beds of the Lower Greensand, to the rough, dark brown or sometimes almost black carstone of the Folkestone Beds. Walls of this last material (particularly common in north-west Norfolk, where it has a more reddish tint than in the Weald) are nearly always galleted with the same material (Figs 4 and 5). Carstone is the usual source of the spalls used in galleting other sandstones; but sometimes they are galleted with the same stone that the wall is composed of (Fig. 6). The most striking variety is the one which Gilbert White observed in Selborne, in which spalls of dark brown carstone are inserted in the mortar courses of the pale—almost white—malmstone. The regular arrays of dark round objects against the off-white background of the stone do indeed look very like rows of large rusty nails.

Flint walls, too have their variants. Although the usual practice was to insert the slivers of flint edgeways into the mortar joints, they are sometimes laid flat on the surface of the mortar (Fig. 7). As the cut surface of the spalls is black, the appearance of the joints is then not dissimilar to that of galleting with carstone spalls. And, as was mentioned previously, flint walls are occasionally galleted with carstone, or other sandstone.

Finally, it should be noted that there are a few oddities, which are only seen very occasionally. In Pirbright, Surrey (SU 943 559), for instance, the elegant church tower

Fig. 4
Carstone wall galleted with carstone. Kingsley, Hants, Old Church (SU 788 382)

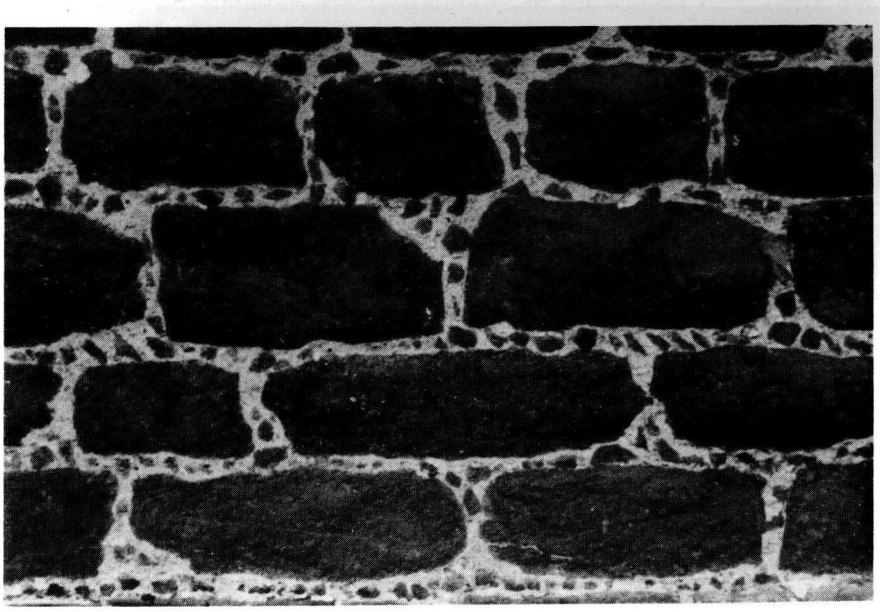

Fig. 5
Carstone wall galleted with carstone. Schoolhouse at Heacham, Norfolk (TF 675 373)

Fig. 6
Malmstone wall galleted with malmstone. Boundary wall at Old Hunstanton, Norfolk (TF 687 423)

Fig. 7
Flint wall galleted with flints laid flat. Churchyard wall at West Dean, West Sussex (SU 861 126)

of 1784 is constructed of sarsen stone, meticulously galleted with carstone. In general, only stone buildings are galleted. But a few instances have been observed (Fig. 8) where galleting with carstone has been used in brick walls (e.g., cottages in the Surrey villages of Compton, Eashing and Shere, and the Norfolk village of Heacham). In only one instance, however, was a brick wall galleted with flint spalls recorded (in an interior wall of a passage in West Dean College, West Sussex) (Fig. 9). In villages where galleting is common, one can sometimes find walls galleted with more eccentric materials, such as beach pebbles (Fig. 10), fragments of brick or tile (Fig. 11), and even glass (Fig. 12). It is as if a band of enthusiasts had been vying with each other to see who could produce the most bizarre effects. The numerous variations on the theme of galleting are strikingly displayed in the Norfolk village of Heacham (TF 675 375), which seems to have been inhabited at one time by a band of fanatical galleteers, who have used local supplies of carstone, flint and brick in every possible combination.

GEOGRAPHICAL DISTRIBUTION

In 1972, and again in 1983, Clifton-Taylor[3,4] remarked on the strange geographical distribution of galleting. There were, he said, 'only two areas in which it is comparatively common: those parts of the counties of Surrey, Sussex and Kent lying between the North and South Downs, together with a corner of East Hampshire (there is a lot at Selborne); and Norfolk'.

Clifton-Taylor's generalization (expressed schematically in Fig. 13) can readily be verified by casual observation; once one has become aware of the appearance of galleting, it can often be recognized even from a moving vehicle. It would, of course, be unrealistic to expect such a wide-ranging generalization to be universally true; there are bound to be a few exceptions. Clifton-Taylor himself mentions one of them; galleting occurs occasionally, he says, in parts of Yorkshire. I have been told on good authority that there is a clear instance of galleting in a castle in the far north of Scotland. But considerable weight can be attached to the fact that someone of Clifton-Taylor's vast experience of buildings and building stones in all parts of the country has encountered it as a common phenomenon only in south-east England and in Norfolk. It seems legitimate to conclude that, if galleting is found elsewhere than in the South-east and Norfolk, it will only be in isolated instances. In the language of medical epidemiology, galleting may occur sporadically elsewhere, but only in these two areas is it endemic.

The author is not aware of any evidence of endemic areas of galleting outside this country, but it would be surprising if isolated instances did not occur occasionally, as a sporadic phenomen. It occurs, for instance, on part of an interior wall in St Stephen's Cathedral in Vienna, and also even further afield on a cottage on the island of São Miguel in the Azores. Even more unexpected was a picture postcard illustration of what must be accepted as an authentic area of galleting on a Mayan temple in Mexico; since the Mayans did not use mortar, this must have been an addition by a later mason. Such isolated instances of galleting can be attributed to a casual impulse on the part of some individual mason, which was never developed any further.

Casual observations of the distribution of galleting are interesting and instructive, but are neither objective nor quantitative. Clifton-Taylor's account of the strange geographical distribution led this author to try to define in detail the relation of galleting

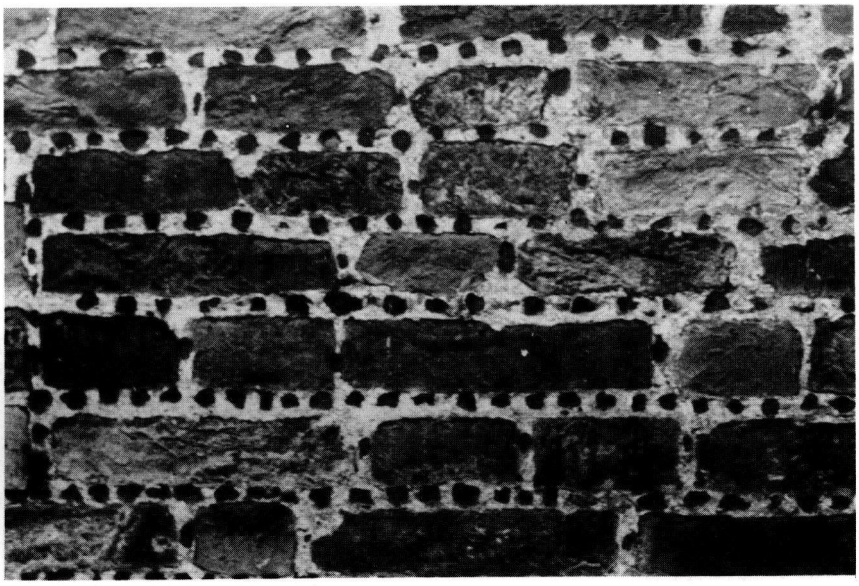

Fig. 8
Brick wall galleted with carstone. Cottage at Lower Eashing, Surrey (SU 945 437)

Fig. 9
Brick wall galleted with flint. West Dean College, West Dean, West Sussex (SU 861 126)

Fig. 10
Carstone wall galleted with pebbles. Barn at Heacham, Norfolk (TF 675 373)

Fig. 11
Carstone wall galleted with fragments of brick. Boundary wall at Heacham, Norfolk (TF 675 373)

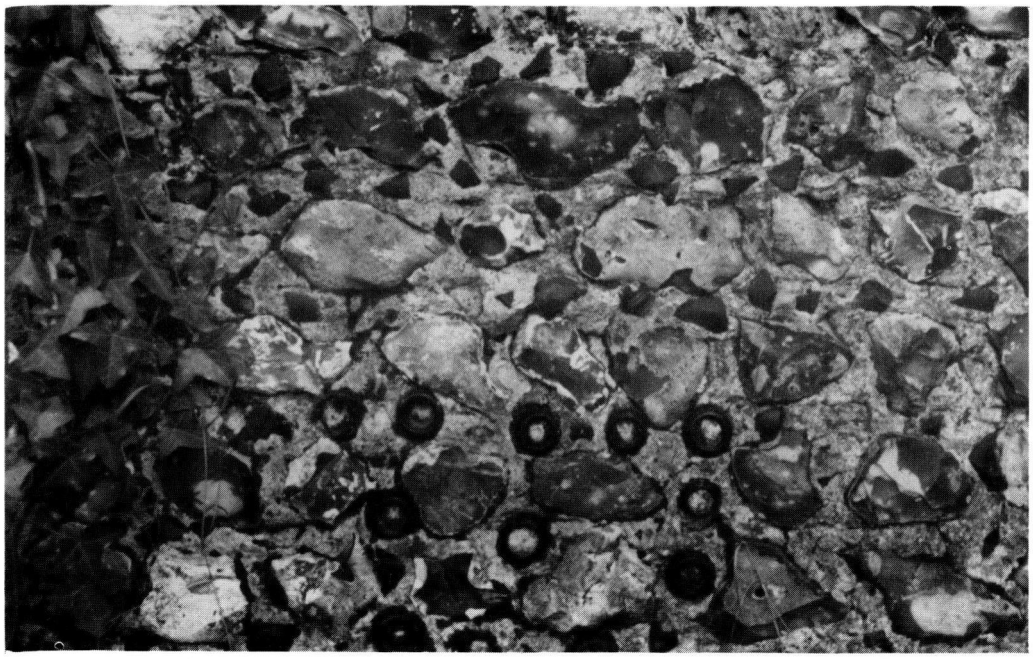

Fig. 12
Flint wall galleted with fragments of glass bottles. Churchyard wall at Fareham, Hants (SU 581 065)

to the underlying geology. It seemed probable that there would be a relationship of some sort, since both areas where galleting was found lay on the same Cretaceous strata; but to define that relationship in detail would call for a more refined technique than mere uncontrolled observation. Ideally, one would need to visit every stone building within a specified area, and then examine all its walls for signs of galleting. This was clearly impracticable, but anything short of it would be open to the objection that the prevalence of galleting on the unvisited buildings might be very different from that in the arbitrary selection which had been visited. Worse still, there would be an inevitable bias, in so far as the nearer and more accessible areas would be more thoroughly explored, and might wrongly appear to have a higher prevalence of galleting than the more remote ones, where fewer buildings had been examined.

In order to overcome this problem it was decided to be highly selective in the type of building to be examined. There is one sort of building which is everywhere accessible to examination—at least on its exterior, and which observation has shown can be taken as reasonably representative of the stone buildings in its area: the parish church. It is fortunate, too, that most churches are built of stone—usually the local stone. In practice, it was found that if any part of the church was galleted, then galleting would be readily discovered on one or more houses in the immediate neighbourhood. The converse was not necessarily true; sometimes galleting could be found on some of the village houses,

but not on the church. It follows that a survey based wholly on churches will underestimate the number of localities in any given survey region in which galleting is present. This handicap can be accepted for the sake of the greater objectivity achieved.

The area to which the survey was applied is that broadly known as the Weald, together with some marginal areas in Surrey and Hampshire. Geologically, the Weald consists of the remains of the great dome of Chalk which gradually became eroded to reveal, within an outer ring of residual Chalk (the North and South Downs, and the Hampshire Downs) successive outcrops of Upper Greensand, Lower Greensand and Weald Clay, surrounding a kernel of Hastings Beds (the High Weald) protruding through the Clay. The geology of the Wealden area is well understood and clearly shown on the geological sheets of the Ordnance Survey, and the various types of building stone which each stratum yields are not difficult to recognize.

To avoid bias in selection, the precise area to be surveyed was arbitrarily defined as a rectangle, having as its corners the National Grid References SU 5000, SU 5070, TQ 5000 and TQ 5070. This rectangle includes the whole of West Sussex, most of Surrey, and small parts of East Sussex, Hampshire, Berkshire, Kent and Greater London. Geologically, it comprises the western half of the Weald, together with parts of the Tertiary Beds of the London and Hampshire basins. Within the defined area, every parish church was visited and its exterior inspected (galleting on interior walls, though it can occur, is very rare), together with the church-yard wall. Notes were made of the types of stone used, and attempts made (with the help of Pevsner's invaluable *Buildings of England*) to date the various parts so far as possible. Any other galleted buildings seen in the neighbourhood of the church were noted, but the rest of the locality was not routinely explored. In this way the 662 parish churches within the rectangle could be visited relatively expeditiously.

Of these, 102 churches (15.4 per cent) showed galleting in one or more parts of the exterior, or on the churchyard wall. These were almost equally divided between predominantly sandstone churches, usually galleted with carstone; and flint churches, galleted with flint. The distribution of the two types is shown in figure 13, in relation to the geological strata (Upper and Lower Greensands have been amalgamated, for the sake of clarity).

It can be seen from this map that, as was to be expected, the majority of the galleted sandstone churches lay within the Upper or Lower Greensand, while the majority of the galleted flint churches were on the Chalk. Some sandstone churches were on parts of the Weald Clay adjacent to the Greensand, and some of both sorts could be found on the Tertiaries; this is because these two strata contain virtually no indigenous building stone. The two most significant findings are negative: the absence of any galleted churches on the Hastings Beds of the High Weald (where there is an abundance of sandstone), and on all but the easternmost fringe of the great band of Chalk (rich in flints), which closes the western end of the Weald and stretches far into Hampshire, Wiltshire and Dorset. These findings will be discussed later.

The formal survey in the area of the Weald has been supplemented by casual observations on other areas which overlie the Cretaceous strata further north. Less weight can be attached to these, but so far as they go, they conform to the pattern found in the Weald: that is to say, on some parts of the Greensand the sandstone buildings are

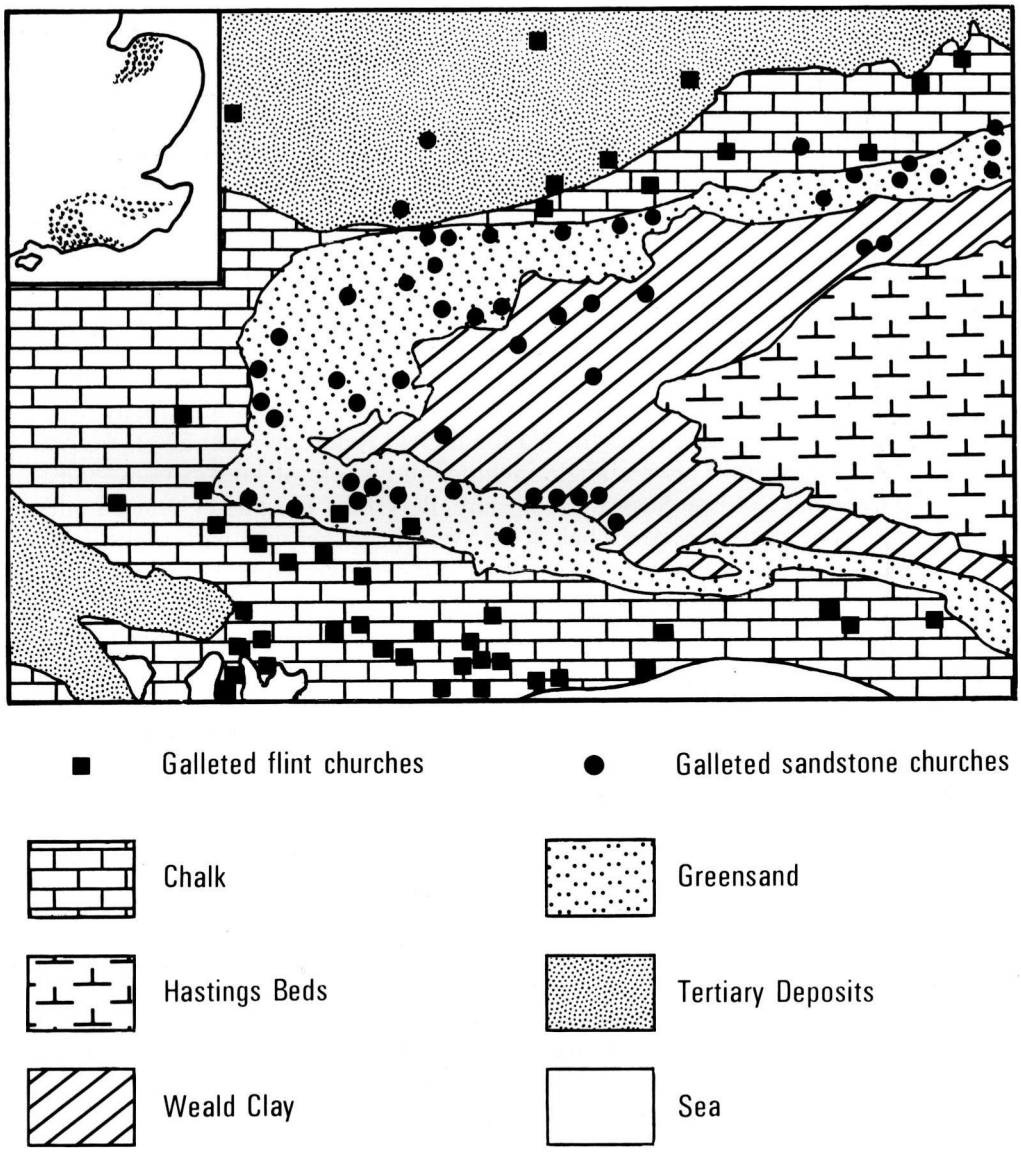

Fig. 13
Map of the western half of the Weald, showing the main geological strata. Solid dots: galleted sandstone churches; solid squares: galleted flint churches. On the inset map, stippling indicates the areas where galleting is common

frequently galleted (e.g., north-west Norfolk, from Downham Market to Hunstanton), yet in other parts (e.g., Bedfordshire) there similar sandstone buildings, but no galleting. Similarly, on the broad band of Chalk, stretching from the Chilterns to Norfolk, it is only in the latter county that galleted flint buildings have been encountered. But it must be stressed that the absence of galleting cannot be unequivocally established by such unsystematic observations.

DISTRIBUTION IN TIME

It is very seldom possible to know for certain the date at which any given piece of galleting was executed. Walls have to be re-pointed from time to time, so that it is always possible that the spalls were inserted long after the wall itself was put up. One quite often encounters walls in which a section has been repaired; sometimes the repaired area has been galleted, but not the original wall; in other instances the reverse is the case. Nevertheless, when the entire surface of a section of a building has been galleted, there is no sign of any repairs having been made, and the date at which that section was built is known, there is a high degree of probability that the galleting was done at the same time. Making this assumption Table 1 was compiled using only those instances where a date could be assigned with a fair degree of confidence. It can be seen that there is a well-marked peak between 1800 and 1850, and sketchy though the data are, this is probably a valid conclusion.

Not much help can be got from the scanty literature. Hoping to ascertain whether galleting had been practised during medieval times, Salzman's comprehensive treatise on building practices during that period was consulted.[5] He lists 1260 technical terms used by contemporary builders, but 'galleting' and 'garreting' are not among them. On the other hand, Morshead states that some of the medieval parts of Windsor Castle were galleted with flint or oyster-shells.[6] He also mentions galleting with oyster-shells on some of the buildings of Eton College, dating from 1441. The masons who were commissioned by Henry VIII to repair the Tower of London in 1514 were told that various walls were to be 'garretyd' or 'Garytted'.[7] So it seems that some of the more prestigious buildings may have been galleted in late medieval times. It is however scarcely likely that this was done to vernacular buildings in south-east England, since most were

Table 1

Date	Number of churches with datable galleting	Number of houses with datable galleting	Total
1600–	1	0	1
1650–	0	2	2
1700–	3	2	5
1750–	1	4	5
1800–	14	4	18
1850–	8	1	9
1900–	2	1	3

timber-framed with walls of wattle-and-daub. And most medieval churches had rubble walls which were either cement-rendered or lime-washed, so are unlikely to have been galleted at that time. In south-east England, at any rate, there would not have been much opportunity for the galleting of medieval buildings. The author has not noticed galleting on the few occasions that he has looked for it on surviving medieval castles or bridges.

It would thus appear, as a tentative conclusion, that galleting on any substantial scale did not start until the seventeenth century, peaked somewhere around 1800, and progressively declined during the nineteenth century. The only occasions on which it is practised now are when an old building, known to be galleted, is being restored to its previous condition (e.g., Lurgashall Mill in the Weald and Downland Open Museum).

DISCUSSION

The question most commonly asked about galleting is: what was the purpose of it? Several answers have been suggested, broadly divisible according to whether it is seen as a mainly practical or mainly aesthetic measure (a third suggestion, which should not perhaps be taken too seriously, but which is sometimes encountered among country people, is that it was intended to deter witches). It has been proposed that the original purpose was to protect the mortar-joints against rain and frost. This does not seem very plausible, since the spalls can at most cover only a part of the surface of the mortar; the mortar between the spalls remains just as vulnerable as it would be if they were not there, and the only likely consequence of weathering is that the spalls would fall out. Another suggestion is that the spalls help to fill up the gap between stones, and hence save mortar. This argument carries little weight when applied to sandstone galleting, since the volume of spalls is small compared to the volume of mortar, so that any saving would be trivial. It has more validity in relation to to the galleting of random flint walls, since the gaps between the irregularly shaped boulders can be very large, and can be reduced to an appreciable extent by stuffing them with a generous amount of flint slivers. Even here, though, the gain in the saving of labour is dubious; the time and effort spent in trimming the stones to create the necessary supply of flakes has to be balanced against the time and effort required to make up some more mortar.

Clifton-Taylor[8] has also suggested that galleting might have originated in the practice of using random chips of stone as wedges when walls have to be constructed of large irregular blocks of hard stone (e.g., Aberdonian granite). This practice is found in many areas, but has little in common with true galleting, in which the spalls are of more or less uniform size and shape, and are inserted in a regular fashion, unrelated to the stability of the stones. Such wedges are often used in dry stone walls, and can be found in many parts of the country where there is no true galleting. The author is therefore unwilling to accept that this is a sort of 'proto-galleting', or has anything in common with galleting proper.

Galleting can be seen as a form of pattern-making; and insofar as this is a distinguishing feature of all arts, galleting can be considered to be a form of art, of a lowly grade. Clifton-Taylor[9] evidently shared this view, for he concluded that, however it may have originated, 'as a rule . . . galleting is purely ornamental'; and as we have seen, Gilbert White also described it as 'an embellishment'. Lutyens must have regarded

it in this light when he prescribed galleting for one of his most elegant buildings, Tigbourne Court in Surrey (SU 956 379); an appropriate decision for a house built of Bargate stone in an area where galleting is common. But he did not use it again in similar situations, suggesting that he was not in the end greatly impressed by the contribution made by the galleting to the appearance of this building. And it must be admitted that the amount of aesthetic satisfaction to be derived from the contemplation of rows of rusty nailheads is strictly limited. If galleting is indeed a form of art, it must be right at the bottom of the league, and in danger of relegation.

That both the practical and the aesthetic merits of galleting are at best dubious is borne out by the fact that it is not to be found on the vast majority of stone buildings in Britain, whether of sandstone, limestone or flint. The absence of galleting in the High Weald emerged clearly from the church survey. This was quite a striking finding, since the attractive sandstone of the Hastings Beds, of many shades of brown, is widely used in this region for both ecclesiastical and secular buildings, and there would have been no problem in making carstone spalls from the darker varieties; yet not a single instance of galleting in this area, in any type of building, was recorded. The absence of galleting was equally striking among the flint buildings of the Hampshire Downs, west of the longitude of Selborne. In other areas, although there is no proof that it is entirely absent, there cannot be much in the way of galleting, or it would surely have been noticed by Clifton-Taylor in his extensive surveys of the buildings of England. It seems inconceivable that the practice would not have been more widely adopted, if it had had positive practical or aesthetic advantages, sufficient to compensate for the additional trouble involved. The conclusion must surely be that the majority of masons considered that it was simply not worth while.

If we accept that the advantages of galleting are no better than marginal, and that it had only a localized and relatively transient vogue, then it can be seen to have all the attributes of a *fashion.* By analogy with fashions in clothes, art and literature (and perhaps some branches of science), this implies that the spread of the practice would have depended more on the influence exerted by a small group of individuals, than on its intrinsic merits. In the period we are considering, the group would probably consist of a gang of itinerant stonemasons; the two areas in which galleting was common might represent the extent of the activity of two such gangs, one operating in south-east England and the other in Norfolk. The influence of such a gang would depend to a large extent on the personality of its leader, and might be expected to fade with his death or departure. However, this is not necessarily the correct explanation of the gradual abandonment of galleting during the course of the nineteenth century; a more plausible reason is the change in the manner in which stonemasons operated: instead of roaming the countryside in itinerant bands, they now began to work as individual employees of local building firms. In this less gregarious situation, they would be less subject to the influence of their fellow masons and hence to any fashions in technique which might be current. It is unfortunate that stonemasons, being lowly folk, have left no written records of their activities, so there is no way of confirming what can be no more than speculation.

If this interpretation of the rise and decline of the practice is on the right lines, it would seem to imply that galleting might have flourished temporarily anywhere where

there are stone buildings, and indeed might still be in use somewhere in the world. It is the nature of fashions to be unpredictable and often recurrent, so it would cause no surprise if sometime, somewhere, another focus of galleting were to be discovered.

NOTES

1. White, G., (ed. E.M. Nicholson), *The Natural History of Selborne,* London: Thornton Butterworth (1929), 85-6.
2. O'Shea, E.W., *Lewes Archaeological Group Newsletter,* 60 (Feb. 1982) and 64 (Jan. 1983).
3. Clifton-Taylor, A., *The Pattern of English Building,* London: Faber and Faber, (1972), 52-3.
4. Clifton-Taylor, A., *English Stone Building,* London: Gollancz (1983), 137-41.
5. Salzman, L.F., *Building in England down to 1540,* Oxford (1952).
6. Morshead, O., *Windsor Castle,* London: Phaidon Press, (1951), 19-20.
7. Bayley, J., *The History and Antiquities of the Tower of London,* London (1821), vol. I, Appendix, viii.
8. Clifton-Taylor, A., op. cit. 1972, 52-3 and 1983, 137-41.
9 Clifton-Taylor, A., op. cit. 1972, 52-3.