

II.

REPORT ON THE EXCAVATION, IN SEPTEMBER 1913, OF A VITRIFIED FORT AT ROCKCLIFFE, DALBEATTIE, KNOWN AS THE MOTE OF MARK. BY ALEXANDER O. CURLE, DIRECTOR OF THE NATIONAL MUSEUM OF ANTIQUITIES.

The Mote of Mark is a small rocky eminence situated immediately to the westward of the hamlet of Rockcliffe, and overlooking the estuary of the Urr. From the foreshore it rises very abruptly with a rocky escarpment to a height of about 100 feet (fig. 1), while from the land-



Fig. 1. The Mote of Mark, from the Shore of the Estuary.

ward side it attains an elevation of some 75 feet (fig. 2), and that, except for the last 20 feet or so, by a comparatively easy gradient.

To the north-westward higher hills hem it in and cut off any prospect of the interior of the country, while south-westward the mountainous masses of Scrael and Ben Gairn delimit the horizon in that direction. Only down the estuary (fig. 3) to the Solway is there an



Fig. 2. The Mote of Mark, from the Landward Side.

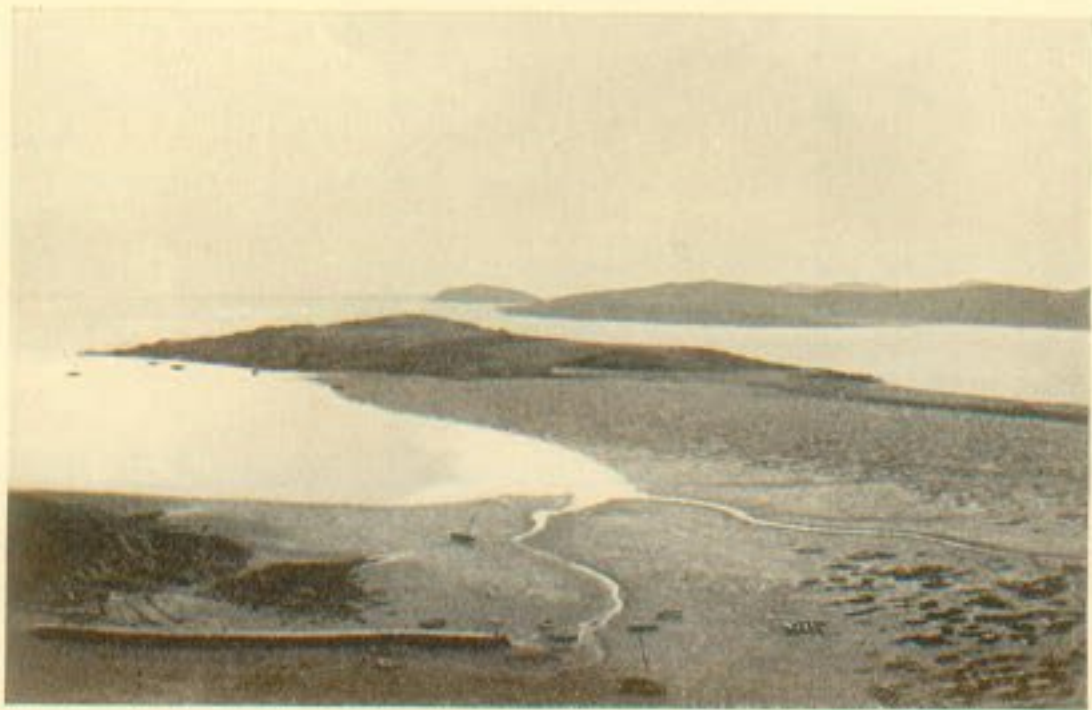


Fig. 3. View from the Mote, looking over the Estuary.

unrestricted view, and thence one may gaze on a clear day far out beyond Heston Isle to distant St Bee's Head, on the Cumberland coast.

The summit of the hill presents a fanciful resemblance to a human foot sole upwards, with a rock at either end to represent the heel and the ball, a hollow between, and a toe projecting out at one end towards the north-west. The main axis lies west-north-west and east-south-east, with a measurement of 206 feet; the breadth, greatest at the west end, varies from 130 feet to 70 feet. From the east end, round the side facing the sea, to the western extremity, the flanks are much broken with outcropping rock, and in places precipitous; elsewhere, though the upper part of the slope to the summit is at all points steep, it is accessible without much difficulty. The general appearance of the hill, especially when viewed from the east, is sufficiently suggestive to account for the term "mote" having been applied to it, without presuming its occupation at the period when that term gained currency.

The fort on the summit has long been reputed to be vitrified, and towards the end of the eighteenth century it attracted the notice of Riddell of Friar's Carse, who wrote in a letter¹ to Mr Gough in 1790 concerning it, that a clergyman in the neighbourhood, sending some specimens of vitrified stone, had said that the fort was full of rubbish, and surrounded with standing corn, that "it would take a man one day at least to clear it," and that it would be worth clearing out.² Mr Coles, describing the fort in the *Proceedings*, vol. xxvii., 1893, says that during three separate and careful examinations of the mote he had never been fortunate enough to find any stonework exhibiting fusion; while Dr Christison, in his *Schedule of Vitrified Forts in Scotland*, dismisses it with the remark, made on Mr Coles's authority, that there

¹ Published in *Archæologia*, x. p. 147.

² A further statement in the letter that "it" contained a heap of stones of the form and size of a goose-egg each, though quoted by Mr Coles (*Proc. Soc. Ant. Scot.*, xxvii. p. 93, n.) as applying to the Mote of Mark, from the context evidently refers to Castle Gower, another vitrified fort a few miles away.

was none to be seen. In truth, previous to the excavation exceedingly little was to be seen; but I was fortunate enough, when examining the fort for the Ancient Monuments Commission, to find vitrification in two places.

The hollow between the rocks above referred to is restricted in breadth to about 30 feet adjacent to the mesial line of the summit, and increases to about 50 feet towards the edge of the hill. Over the greater part of this area, previous to excavation, grew a luxuriant crop of nettles, and where the rabbits had burrowed, soil had been brought to the surface, peculiarly dark in colour, and containing an unusual quantity of animal bones. The soil was loose and deep, and the general indications were those of a long, continuous occupation of the site. At about the highest level of the area between the rocks a natural terrace passes along the northern side below the west rock, dipping slightly to the toe. All along the flanks of the hill, especially conspicuous on the more accessible north side, lie masses of boulders to a depth of many feet, but showing at no point any sign of construction; that these are not merely "rickles" of stone thrown down to hamper the approach of a foe, but the ruins of a massive wall which at one time engirdled the summit, is sufficiently vouched by the fact of their occurrence at the base of the precipitous and inaccessible rocks on the south-west. The exact position of this wall, as will be seen from the following account, was not satisfactorily ascertained, but on the north flank, where there was a comparatively easy approach to the summit by an oblique track from the eastward, the mass of material was probably sufficient for two walls, with a space between, an arrangement which the disposition of the stones seems to indicate.

Around the outcropping rocks at either end hardly any trace remained of defensive works, save an odd stone or two protruding through the hard dry turf at the east extremity, a patch of vitrification exposed and much weathered, and a boulder or two, the heads of which appeared on the surface at the west end. Along the north side, at

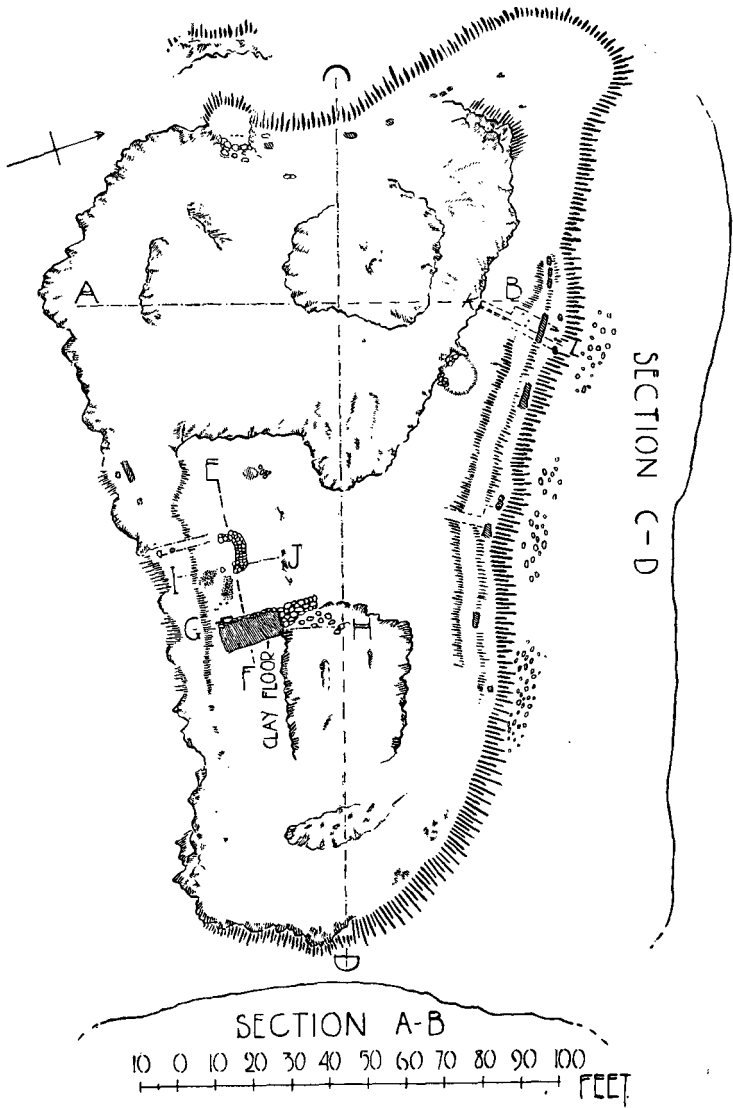


Fig. 4. Plan and Sections of Summit of Mote of Mark.

the edge of the terrace beneath the west rock, commencing where indicated on the plan (fig. 4), and continuing eastward for over 100 feet till it meets the outcrop, is distinctly visible a low broad rampart. It narrows considerably at its western extremity, but elsewhere along its course, as ascertained by sections, it has a width of 14 or 15 feet. Along the south side, at the edge of the hollow, it is also traceable,

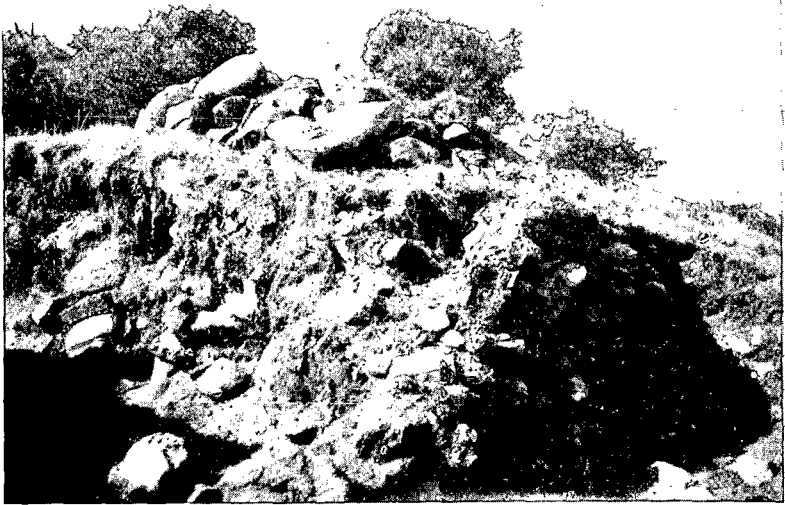


Fig. 5. Sectional View of Rampart.

being lost to west and east where the rock comes to the surface. At each point where a section was made through it, the construction was the same. At the outer edge there appeared a kerb of boulders; behind this rose a structureless rampart of earth and stone (fig. 5), containing, at 3 feet 6 inches or thereby inwards, a roughly built wall about 1 foot 6 inches in thickness, showing at most a height of some 3 feet, and firmly coagulated with vitrified matter from top to bottom (fig. 6). Adhering to some of the stones there appeared to

be a quantity of coarse sand, giving the surface a granular texture, and a considerable amount of gritty sand was observed in the composition of the rampart. In places the vitrified matter had run in a stream down the wall, apparently without coming into



Fig. 6. Elevation of Wall, showing Vitrification.

contact with any opposing surface, as may be seen from the character of the detached blocks shown in fig. 7. No vitrification appeared in the rampart either in front or in rear of this wall, and it is thus a fair assumption that the wall was built and vitrified previous to the erection of the rampart against it, it being otherwise impossible to account for the solidification of the wall throughout

its entire height, and for the complete absence of vitrified matter from any other part of the rampart. For about 1 foot back from the wall the sub-soil was burned red, as also was sand which lay above it near the base. On neither face of the wall was there any appear-



Fig. 7. Vitrification on Detached Blocks.

ance of charcoal, which might have been left from brushwood piled against it to form a fire. The stone of the wall is for the most part a grey granite, which has run freely under the action of the heat. Wherever the vitrification was discovered it is shown black on the plan, and sufficiently regular was its incidence as to leave no doubt of its original continuity and of its structural character. The north

rampart was cut into at six places, and in each the vitrified wall was met with. On the south side it was laid bare in three places, and though at the west end the wall was seemingly much destroyed, vitrification was found in a sufficient number of instances to enable

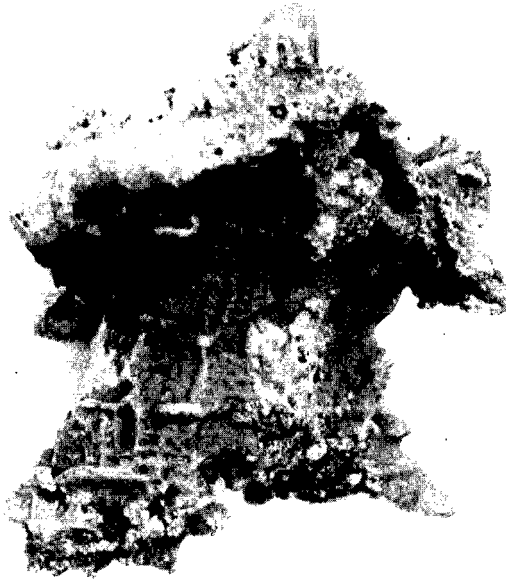


Fig. 8. Vitrification, bearing Impression of Coarse Fabric.

its line to be traced along the base of the summit rock, but not around the projecting point, which apparently had been left outside the enceinte. On one piece of vitrified stone picked up casually, there seems to be a distinct representation of a coarse woven material, or sacking, such as might have been made by the liquefied stone flowing into the impression of the fabric made on wet sand (fig. 8).

On the top of the same piece is a mark as if made by a piece of wood. Fig. 9 shows a view of the wall laid bare on the north side near the east end. Here, firmly embedded in a vitrified cement, is a coping, or crown of large round boulders, the upper surfaces of which, however, show no signs of having been affected by intense heat.



Fig. 9. View of Wall on North Side of Mote of Mark.

Towards the west end of the north side a broad section (K—L on sectional plan, fig. 10) was cut through the rampart, and in addition to the features already commented on, carbonised wood, seemingly the remains of stakes or beams, was found both in front and rear of the vitrified wall, but, as shown on the plan, some 3 feet back in either case.¹ The surrounding soil was carefully removed from the

¹ The condition of this wood, which was oak, was due to natural decay and not to combustion, as I am informed in a report from the Regius Professor of Botany, who kindly had it examined.

carbon, in order to ascertain the character and direction of the original woodwork, but not much satisfaction was obtained, as the remains were very fragmentary. The carbon occurred at the very bottom of the

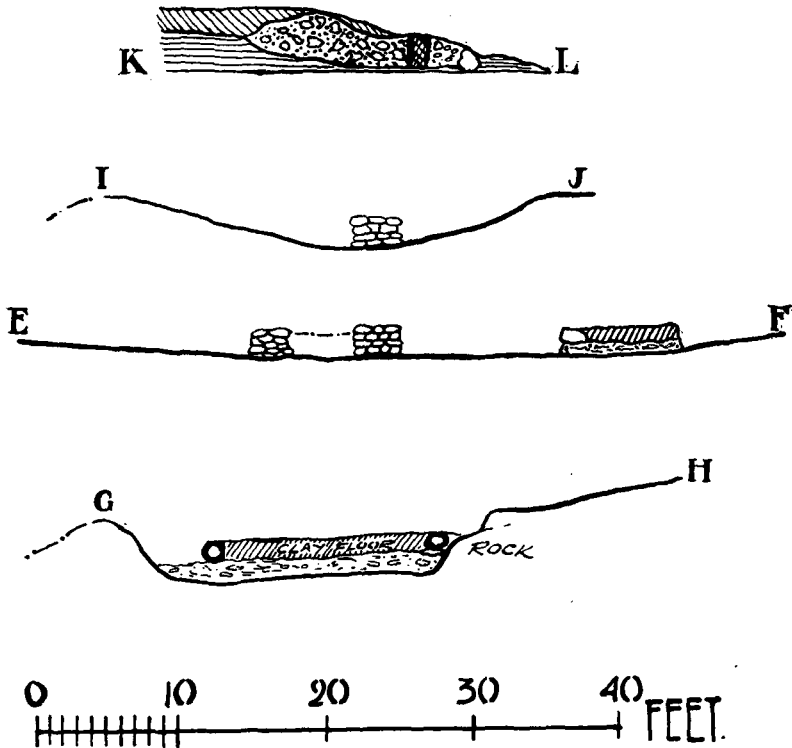


Fig. 10. Sectional Plans of Structures in Mote of Mark.

rampart, resting on the sub-soil. Of the three masses noted outside the vitrified wall, the middle one of the three seemed without doubt to have been a post; the two others, however, lay somewhat obliquely, and possibly were the remains of planks or beams, but, if the latter, they had been of slight dimensions. Behind the vitrified wall carbonised

remains were met with three times also; in the two cases where they were found nearest to the wall, the remains seemed to be those of posts, while the innermost mass of carbon appeared to have been a broad beam or plank which rose up obliquely through the rampart. In each of these three cases last mentioned the wood had been set in a bed of dark soil, and the sand adjacent was reddened as if by the action of heat, but there was no sign whatever of any part of the superimposed rampart above the remains of the wood having been so affected. The greatest height to which the carbon was traceable was 1 foot 4 inches. The other sections cut through the rampart were all narrow, and no trace of timber was observed in any one of them.

At the extreme west end, where a steep grassy slope gives on to a rocky platform some 20 or 30 feet below, a depression was observed crossing the rampart. This, on being examined, proved to be a gap about 8 feet broad between two low outcropping rocks, which had been crossed by a wall, apparently some 4 feet thick, and formed of large stones, in a curve, with its centre to the outside. A little out from the face of the wall, and set in a straight line between the two rocks, were the carbonised remains of three posts, as shown on the plan (fig. 4). It is possible that there may have been a gateway here, but the removal of all superstructure from the rock, and the levelling of the wall to its foundation, had destroyed any more definite trace of it. On the south side of the enceinte remains of woodwork were also observed, but these occurred well within the line of the rampart.

On the south side of the central depression, between the two rocks, lay an area on which, as already stated, the soil was peculiarly black, free, and productive of a dense forest of nettles. A recess in the western rock extended this area somewhat in that direction, and though the east rock does not reach across the summit, surface indications showed that the area of occupation did not extend at any point more than some 15 feet east of the line of its western face; excava-

tion further revealed the fact that a low wall of outcrop, running roughly parallel with the south edge of the summit, cut off the area to northward. Thus, making allowance for the rampart and for a natural bank curving round from the rock on the west, the area, where the undoubted evidences of occupation predominated, measured some 55 feet in length by 25 feet in breadth (see sections I—J and E—F, fig. 10). Over the greater part of this area, except where remains of structures were encountered, there was a depth of nearly 3 feet 6 inches of soil, containing very large quantities of the bones of domestic animals, sheep, oxen, and pigs, some of them split for the extraction of the marrow, and one tine of the antler of a red-deer. The absence of shells of edible molluscs was remarkable, especially as cockles are to be found in abundance in the estuary near by.

The principal structural remains were uncovered towards the east end of the area. Here, as shown on the plan, at a depth of 14 inches below the present surface level, a floor of hard compacted clay was encountered, commencing some 4 feet back from the rampart, and extending inwards to the edge of the rock for a distance of 17 feet, with a breadth of from 6 to 7 feet, an average depth of some 12 inches, and faced, to the northward only, with a row of large boulders (Sec. G—H, fig. 10). Though there was no kerb to the south, many large detached stones lay adjacent. Above this floor was an almost complete absence of bones and relics, but beneath it, both occurred throughout the deposit of 7 or 8 inches which overlay the natural surface, thus clearly establishing the secondary character of the floor. At its north end, where it approached the rock, the floor abutted on a foundation of very large boulders firmly planted on the original surface with a little clay showing between them, and having its western face in alignment with the front of the clay floor. The extent of this foundation it was impossible to ascertain, but from the number of large stones, some of them undoubtedly *in situ*, on the low end of the rock, there is no doubt that it extended on to it, possibly in continuation of the

structure represented by the clay floor. Many of the stones were very large, one oblong water-worn boulder measuring 3 feet 9 inches by 10 inches by 14 inches. On the rock the stones covered a shallow stratum of dark soil, which contained some small fragments of pottery moulds. The only portion of a quern found, part of the upper stone of a rotary one, was recovered among the stones at the edge of this rock. To the westward of the clay floor, at a distance of 11 feet 6 inches, and set at right angles to it, were the remains of a building, three-sided, and slightly curved on its longest side, formed of dry-built masonry, and measuring within the walls some 6 feet by 4 feet. The wall at thickest had a breadth of 3 feet: it was laid on the hard sub-soil, and rose to a height of 2 feet. Below the top course of stones was a layer of soil about 6 inches in depth, containing numerous bones. It is possible that this building was a forge or workshop, as remains of crucibles, larger and thicker than those found elsewhere, were unearthed in its immediate vicinity, also iron objects, pieces of hematite, and slag. On examining the ground to the west of it at the lowest level, there was laid bare a hard compacted floor of soil about 1 foot in depth, in which occurred a few pieces of bone, a layer of black carbonised matter resembling soot, and much lime, which had probably been used in connection with the smelting of iron. To the north of this building, and about 8 feet out from the base of the rock on the west, a small circular hearth, with a diameter of some 3 feet 6 inches, formed of clay, burned red to a depth of about 4 inches, was uncovered. Only at one point, towards the north, did any surrounding stonework remain, and that a small area of laid stones with a single stone, a foot or thereby in height, set on end adjacent to the hearth. A single fragment of buff-coloured domestic pottery was found upon the clay.

In front, that is, to the westward of the large clay floor, and situated comparatively near the inner face of the rampart, as indicated on the plan, two beds of pure sea-sand were met with. The longest measured

7 feet in length by 2 feet 9 inches in breadth and 1 foot 8 inches in depth, and occurred at a depth of 1 foot 8 inches below the present surface, being covered with a rough layer of stones. The second bed, a little to the southward, measured 5 feet by 4 feet by 13 inches, and occurred 2 feet 2 inches below the surface. The sand in both beds was remarkably free of foreign matter, and a small deposit of shells to the west of the second was of just such shells as might have been removed from it by riddling. In the space between the clay floor and the nearest sandbed a certain amount of carbonised wood was discovered, the various remains apparently lying parallel. Partially on the clay floor, also extending beyond it towards the rampart, and traceable for a distance of some 5 feet, was a rail or post, lying displaced; a foot or so to the west lay another; while westward, and adjacent to the sandbed, the remains seemed to be those of upright posts. At the east end of the sandbed a post 4 inches in diameter was found, from which a rail had extended out towards the rampart. The post had been pointed, and was wedged in place with sharp fragments of stone. As it terminated some 10 inches above the bottom of the sand, it was evidently secondary, as also in all likelihood were the other remains of woodwork adjacent. One other site had evidently been occupied as a dwelling, though it showed little or no remains of structure. It lay on the north terrace at the base of the rock, and was the most sheltered position on the whole hill-top, a fact which led to the examination of the spot and the subsequent discovery, for no depression gave a clue to it on the surface. The dwelling had been circular, with a diameter of 10 feet or thereby, and its floor at lowest level, in the centre, lay some 1 foot 8 inches below the natural surface. The floor was much blackened with charcoal, and from it were recovered one or two small pieces of wheel-made pottery and a fragment or two of burnt bone. Against the rock, and, especially in an angle formed by a projecting point, there were traces of dry-stone building. Some fragments of crucibles were found on the site, a few small pieces of vitrified matter,

a piece of amber-tinted glass, with two parallel opaque white lines on it (fig. 17, No. 12), at a depth of 1 foot 10 inches below the surface, and at 1 foot down a remarkable sub-oval disc of greenish glass (fig. 17, No. 13), inlaid with spots of opaque glass. The position of this hut circle leaving only a space of some 5 feet between its outer edge and the rampart, suggested that it might have been used as a guard chamber, presuming that the main entrance to the fort was a little further to the west, but no indication of an entrance or gateway was found.

At various places to west and east of the main area of occupation exploratory trenches were dug, but no trace of a level of occupation was found. Equally void of results were trenches to the south of the east rock; diagonally through the hollow in the centre between the rocks; and across the projecting plateau at the west end. Over the whole of the area bisected by the sections E—F and I—J (fig. 10), the soil lay to a depth of about 3 feet 6 inches, diminishing in depth as it approached the limits of the area. The accumulation of soil since the site was occupied was apparently about a foot, as very few relics were found in this top stratum, and at places, especially between the south end of the clay floor and the sandbed, it overlay a deposit of stones lying unevenly and seemingly not *in situ*. From this level downwards, but chiefly in the upper portion of the deposit, there was recovered a large and varied collection of relics, consisting of flint flakes, portions of moulds of baked clay, fragments of glass, pieces of crucibles, objects of iron, of bone, and of bronze, and shards of domestic pottery.

Of these relics the most remarkable are the moulds and the glass. The fragments of the former were very numerous, and were recovered to some extent over the whole area, and at varying depths; but the greater number came from the immediate vicinity of the clay floor, and at a depth of from 14 inches to 2 feet, and although also occurring in the lower soil to a depth of 33 inches, they were there much scarcer.

Careful observation of the specimens recovered from higher and lower levels revealed no distinction. They were formed of fairly fine clay, baked to a dull brick-red colour, and coated on the upper surface, forming the actual matrix of the mould, with a slip of finer and mouse-coloured material. The majority of the fragments were exceedingly small, and showed no remaining portion of the matrix, but there were recovered, nevertheless, a large number of pieces which still bore some trace of pattern or design. No single perfect mould was found, and it is possible that a mould may not have survived many castings, or may even have been destroyed by each operation. According to the character of the objects they were designed to reproduce they may be divided roughly into three classes: (a) penannular brooches, crosses, and other ornaments richly decorated with patterns in Celtic art; (b) penannular brooches of Celtic type, but plain, or little if at all enriched; and (c) simple pins, comb-like objects, and articles of unascertained use. Of the first class there are pieces of moulds for two expanded ends of large brooches (figs. 11, 12, Nos. 1 and 3), each beautifully ornamented with a simple pattern of interlaced cords in unbroken plaits. The larger piece has been triangular, with two concave and one convex side, and has had a small boss at the apex, while the smaller has been bordered with a moulding enriched with a feather or herring-bone ornament. Another fragment (figs. 11, 12, No. 2) is evidently a portion of a mould for a circular plaque, presumably divided by a cruciform design of four cusped arms radiating from an encircled central boss into four panels, each filled with interlaced ornament. If the assumption as to the completed form is correct, the object to be produced from this mould presented an affinity to a plaque, believed to be a harness-mounting, found in an Anglo-Saxon cemetery at Faversham, Kent,¹ and now preserved in the British Museum. Though slightly larger, and with an enriched border, the main design of that ornament consists of a cruciform figure with a central boss, and four panels of

¹ See *Archæologia Cantiana*, vol. i. p. 42, Plate iii.

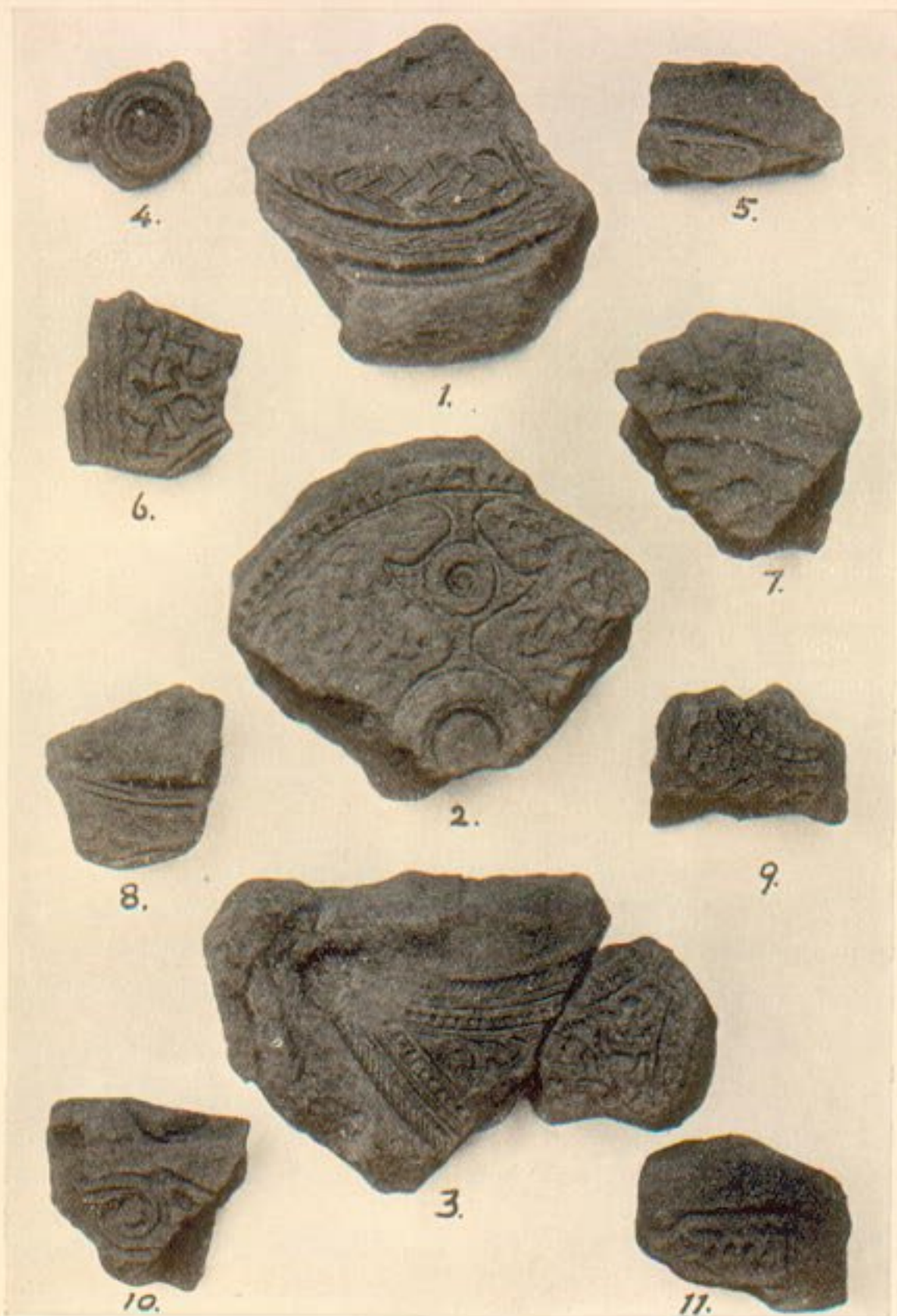


Fig. 11. Fragments of Clay Moulds from Mote of Mark (†).

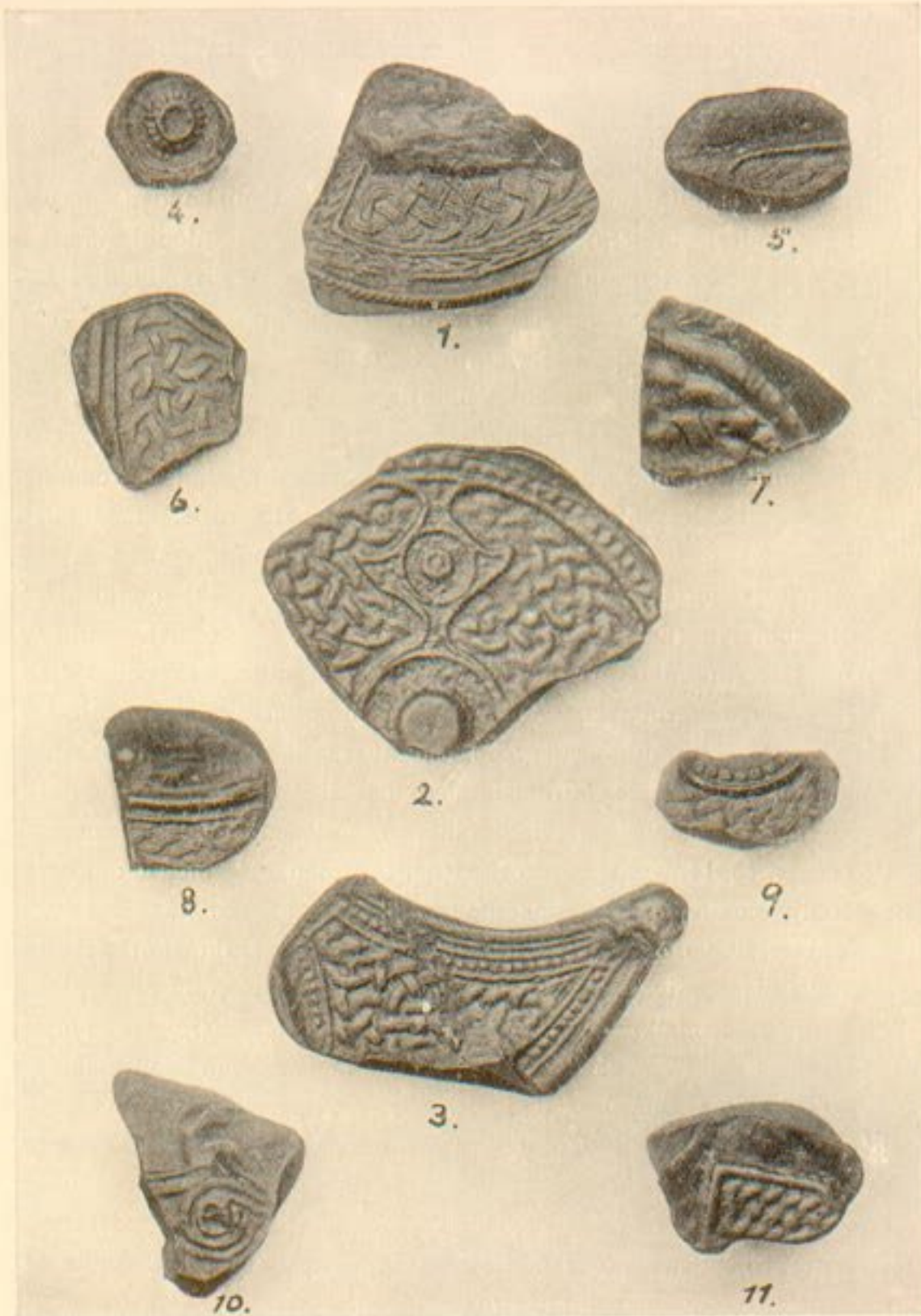


Fig. 12. Casts from each of the Fragments of Clay Moulds shown in Fig. 11.

interlaced work filling the spaces between the arms of the cross. On it the bands which form the interlacements are similar in breadth to those on the Celtic ornaments (the Anglo-Saxon band as a rule being broader), and, further, their surfaces bear the double incised lines to which attention will be drawn hereafter. Figs. 11 and 12. Nos. 6, 8, and 11, are possibly the arms of crosses, and No. 4 is a small boss within a beaded circle. It is noteworthy that all the pieces of moulds for the richest ornaments, those comprised in class (*a*), came from the front or west side of the building represented by the clay floor and the stone foundation, and especially towards its north end, while the moulds of class (*b*), the less highly ornamented objects, came for the most part from the east or opposite side of the same site, chiefly from a depth of about 2 feet, but some from the very bottom level. The mould most nearly complete (figs. 13, 14, No. 8) belongs to the latter class, and has been for the manufacture of a pair of small penannular brooches with lozenge-shaped terminals. A mould for a somewhat similar brooch was found at Dunadd, and is preserved in the Museum.¹ Another brooch, the mould for which is also fairly complete, has differed from the last only by having four small projecting points on the lozenge-shaped terminations (figs. 13, 14, No. 4). Another (fig. 14, No. 6), of which about one-half only remains, has been for a penannular brooch which has had disc-shaped terminals, ornamented seemingly with three trumpet ornaments on each disc. Fig. 14, Nos. 5, 10, and 11, have possibly been parts of moulds for small crosses, the portion in each case here represented being the stem. In this class may also be included moulds for small, flat oval rings, each decorated with a row of projecting points (figs. 13, 14, Nos. 7 and 9). The objects comprised in class (*c*) were not actually confined to any particular part of the main excavated area, but were found generally all over it, though with a preponderance, however, to the neighbourhood of the clay floor. The pin moulds, of which the fragments are numerous, appear to have been for pins of

¹ *Proceedings*, vol. xxxix. (1904-1905), p. 313.

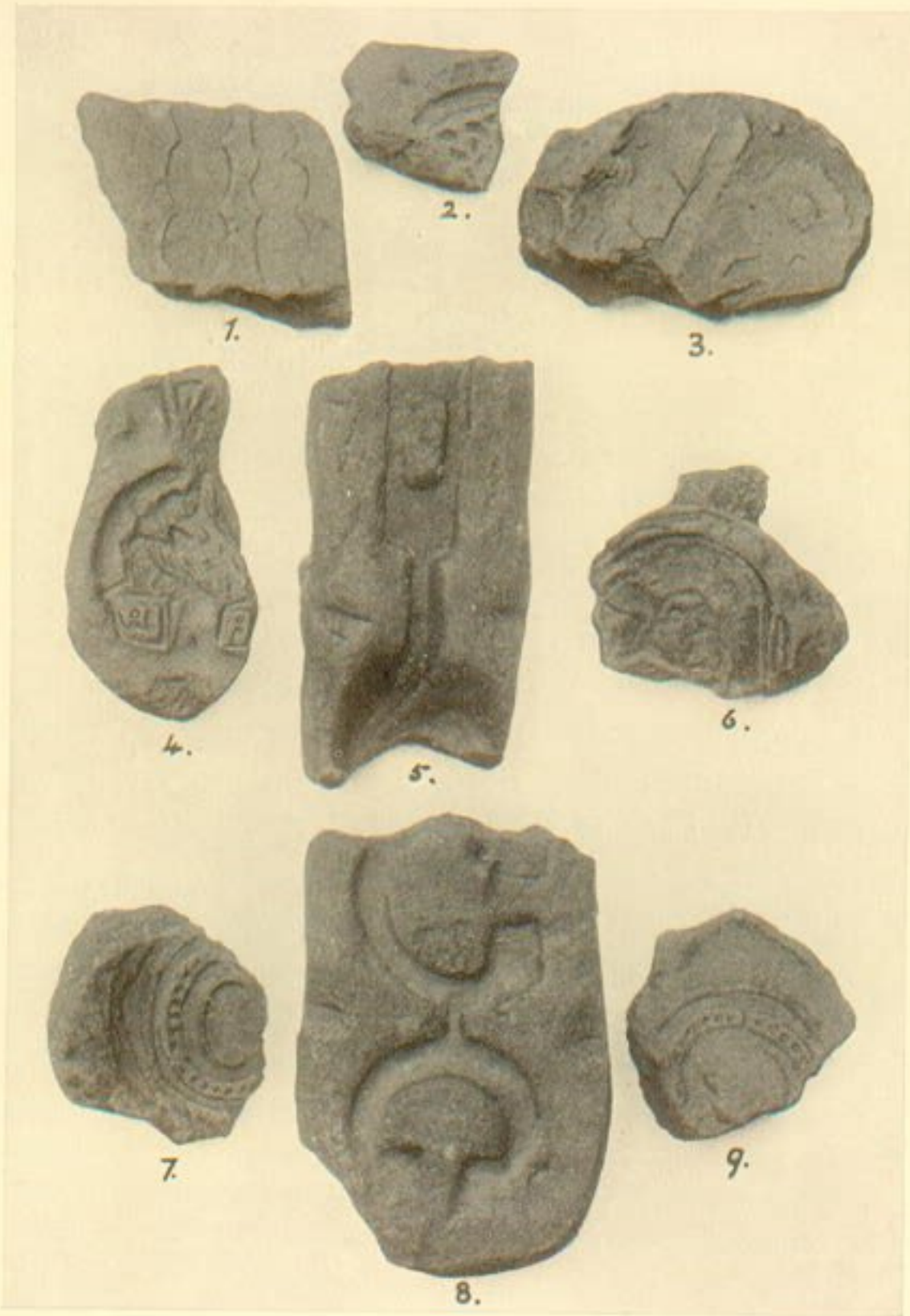


Fig. 13. Fragments of Clay Moulds from Mote of Mark (†).
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Fig. 14. Casts from Clay Moulds from Mote of Mark (†).

moderate length, with flat, circular, nail-like heads. A pin of bone, apparently used to form the matrix, was found, and is shown in fig. 15, No. 1, along with the matrix (fig. 15, No. 2), which it had evidently been used to fashion. As a rule each mould contained matrices for two such pins, but, in one case, for three. Among the relics from Dunadd there is the lower portion of a mould which appears to have been used for the manufacture of somewhat similar pins, and a mould for a pin of an earlier type was found in the Broch of Lingrow in Orkney, and is preserved in the Museum. Though the majority of the pins have been of simple pattern, there are moulds for two of a different character (fig. 14, Nos. 2 and 3). No. 2 represents a pin which seems to show in the oval form of its head, with central circular boss, the tradition of a design frequently made use of by the craftsmen of the *La Tène* or "Late Celtic" period. The outer margin has been recurved at the base of the head, suggesting that it is a penannular derivative. It may be compared with the pin of a brooch in the National Museum, Dublin.¹ Fig. 14, No. 3, represents a pin with a flat circular head having a raised disc in the centre, and finished with a collar at the junction of the pin with the head. The mould shown by the cast (fig. 16, No. 14) has been for two hemispherical objects or bosses; from the more perfect the original surface has been worn away, but on the fragment of the other traces of interlaced ornament may still be seen. The purpose of the object (fig. 16, No. 12) is not obvious; the mould shows excrescences where the dark parts appear in the illustration, which were probably intended to form beds for jewels.

For casting small comb-like objects, probably for carding, numerous fragments of moulds (fig. 15, Nos. 5 and 6), came to light from various levels; also at the lowest level of occupation, in what appeared to be a well-trodden floor, to the west of the rude three-sided building, one of these actual articles was found (fig. 15, No. 4). It is formed of bronze, $2\frac{1}{2}$ inches in length with 12 teeth projecting from a narrow

¹ *Guide to the Celtic Antiquities of the Christian Period* (Coffey), p. 22, fig. 27.



Fig. 15. Clay Moulds and other Objects from Mote of Mark (†).



Fig. 16. Casts from Clay Moulds from Mote of Mark (†).

strip of metal. From the somewhat scalloped edge which the strip of metal presents on either side, it is fairly evident that the original pattern has been made of a pliant material, such as hide or leather, with pins pressed through it.

The art displayed by the more elaborate ornaments, which these moulds were employed to fashion, is that of the best epoch of Celtic design of the early Christian period. The interacements form simple knot work, and show no trace of the elaboration subsequently evolved by imaginary breaks and junctions of the bands, and so richly portrayed in the later monuments of stone, nor do the patterns show any suggestion of zoomorphism. The survival of certain features of design, late Celtic, and belonging to the pre-Christian period in their most general application, such as the divergent spiral (figs. 11 and 12, No. 10) and the C curves, still clearly recognisable in the much effaced mould, for a plaque (fig. 16, No. 9), as likewise the pattern shown in fig. 16, Nos. 3 and 6, all point to an early date for these moulds in the evolution of the phase of Celtic art to which they belong. That date I incline to place somewhere in the ninth century. The interlacing style of design was first introduced into Britain in the seventh and eighth centuries, and gradually displaced the earlier forms of ornament distinguished by trumpet patterns, spirals, and scrolls, until in the eleventh century it had almost superseded them. Though knot work was not infrequent in the art of classical Rome, and is to be met with in that of Greece, it was in Italy, from the eighth to the eleventh century, that the style on the Continent was most in vogue, and there was employed as an architectural enrichment.¹ The actual source from which these interlacing designs reached this country is uncertain, but that they came in the train of the Christian missionaries, and developed under the skilful hands of monastic scribes, is hardly open to doubt. Whether the designs were brought to the Celtic craftsman

¹ *Guide to the Celtic Antiquities of the Christian Period preserved in the National Museum, Dublin* (Coffey), p. 8.

directly from Italy, or, as Mr Coffey suggests,¹ with a common Byzantine origin flourished indiscriminately throughout the Christian world of the sixth to eighth century as "part of the repertory of ornament and symbolism of that period," is a problem to which the discovery of these moulds may lend, perhaps, a little interest. One feature which is held to distinguish particularly the knot work of the Italian school from that of the Celtic is the division into three, of each band or strand forming the interlacement, by the incision along its upper surface of two parallel lines, while the bands of the characteristic Celtic designs are either divided into two by a single line, or are left plain. Though a few exceptions occur in England, the absence of this feature from all existing examples of the native art is so general, either here or in Ireland, as to lead to the conclusion that the Celtic interlaced patterns did not come through Italy.² But one remarkable feature of the interlacements on the ornaments to be produced from these moulds is the frequency of this very triple division resulting from the double incised line. In certain objects of Anglo-Saxon metal-work the double incised line is also found, and it may be that the occurrence of this feature in the south-east corner of Galloway may be due to Teutonic influence radiating from Northumbria, to which kingdom Galloway is known to have been in some measure subject about this time. But, except that the circular plaque already referred to bears an analogy to a relic from an Anglo-Saxon cemetery in Kent, there is nothing in the forms of any of the brooches, as indicated by the fragments, or in the character of any of the other objects, save only the glass, which is in any way suggestive of an Anglo-Saxon connection.

To give some idea of the numbers of pieces of moulds recovered, in addition to the fragments which it was thought advisable to bring to

¹ *Guide to the Celtic Antiquities of the Christian Period preserved in the National Museum, Dublin*, p. 8.

² *Ibid.*, p. 13.

the National Museum, a box, measuring 13 inches by 11 inches by 7 inches, filled, was left with the owners of the site.

Many pieces of flint were found, and for the most part in the upper levels. Though the greater number of them are chipped, only a very few show signs of flaking such as belongs to a flint-working period, and as no other objects were found in the excavation that could conceivably have been used for strike-lights, a notable exception on a site where so much combustion must of necessity have taken place, it is suggested that these flint flakes had been used for that purpose. There is no natural flint here, and a trade in such a commodity may be assumed, which may even have brought prehistoric artefacts into circulation for a secondary purpose.

Of glass, altogether twenty-five pieces of undoubted antiquity were found, and of these twenty-two probably represented fourteen different vessels. Six of them are portions of rims; all are very small segments, but two are of sufficient size to indicate diameters for the mouths of the glasses to which they belonged of $2\frac{5}{16}$ inches and $2\frac{1}{2}$ inches respectively. All the pieces thicken slightly to the lip, showing a rim with an elongated oval section like that of the seed of a pear. The rim does not appear to have been formed by folding over the edge, as is usually the case with modern rims. One piece is smoke-coloured, and the others are of varying greenish tints, that of most distinctive colouring being of a shade of olive green. Two of the vessels (fig. 17, Nos. 1 and 2) have been encircled with threads of white opaque glass inlaid on the outside, so fine that on one of the fragments nine of such threads occur in a surface half an inch in breadth. In addition to the threads, on one of these pieces (No. 1), the actual edge is of white opaque glass. One small fragment (fig. 17, No. 16), in place of being decorated with lines of white opaque metal, shows the remains of two parallel lines produced by eroding the surface, probably by the action of sand.

There are two distinct classes of glass among the fragments, belong-

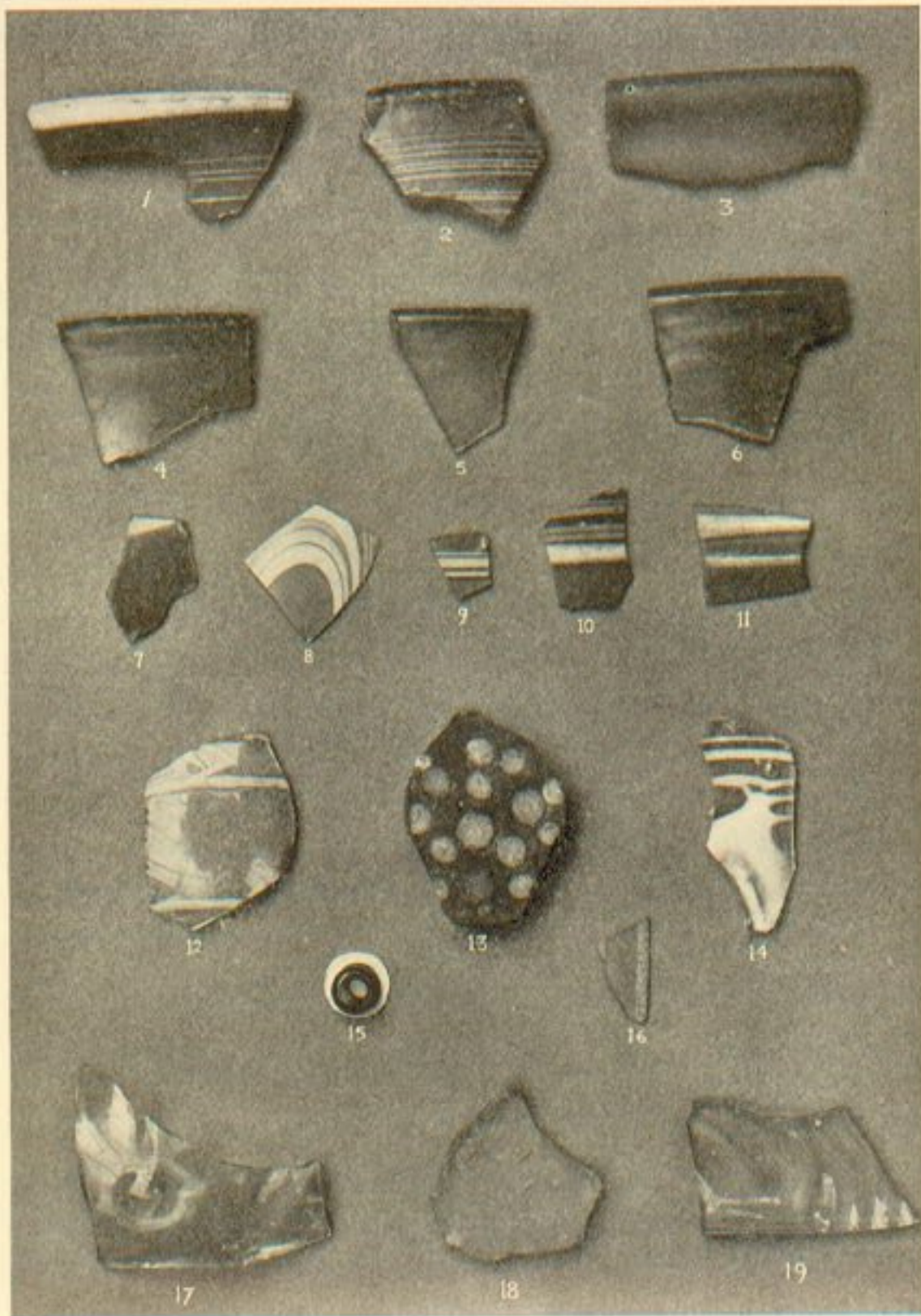


Fig. 17. Fragments of Glass from Mote of Mark (1).

ing probably to two different types of vessels. The characteristics of the one class are extreme thinness and inlaid opaque lines, either parallel and horizontal, or wavy (fig. 17, No. 8), also variety of colouring, one piece being of a beautiful sapphire-blue tint (fig. 17, No. 10) and another mauve (No. 7). The glass of the other type is rather thicker, of a very clear amber colour, and while two pieces have white lines let into them (fig. 17, Nos. 12 and 14), the lines are less regular than in the thinner glass; in two fragments (fig. 17, Nos. 17 and 19) also a rich effect has been produced by the undulation of the surface, and on one by the formation of a spot of thicker metal about the size of a pea. The pieces of the first class have probably belonged to straight-sided beakers, as they curve markedly only in one arc, while the second class display a double curvature indicating a bowl-shaped form.

As these fragments were found at similar depths to the pottery moulds, it may be assumed that they are contemporaneous and that they afford us an indication of the vessels in use during a period subsequent to the date when Christian observances put a stop to the inclusion of grave goods in tombs.

Among the Franks on the Continent and the Anglo-Saxons in England that practice has furnished us with various examples of the glass-maker's art down to about the seventh century. Subsequent to that period, until we attain to definite historic times, our knowledge of this art and of the kindred industry of the potter is much less complete.

The glasses in use among the Anglo-Saxons were of three main forms: straight-sided funnel-shaped beakers, small round-bottomed globular cups, and tumblers remarkable for the horn-like lobes affixed to the outside of them. The last named need not concern us here, as no trace of them was found. Both the other forms, however, appear to be represented by the fragments under discussion. The inlaid threads and the wavy opaque pattern shown in fig. 17, Nos. 1, 2, and 8, are

both to be seen on an Anglo-Saxon funnel-shaped glass from Bifrons, Kent, preserved in the Maidstone Museum, also on a beautiful little glass of similar form found in a Frankish cemetery at Namur, and preserved in the Musée du Cinquantenaire at Brussels.

Since we have no record of the discovery of similar glass in Scotland, we must look elsewhere for the source of its production. Similarity in certain features to the beakers of the Anglo-Saxons and the Franks points to a common origin. As regards England, it is doubtful if many of the vessels in use in Anglo-Saxon times were actually made there, and the fact that Benedict Biscop, as related by the Venerable Bede, actually sent to Gaul in the year 675 for glass-workers for the glazing of his church and monastery at Wearmouth, is proof of the lack of that industry at least in Northern England at that date; and notwithstanding that the glass-makers not only came to Wearmouth to execute the work required, but also communicated to the English their skill, the lesson was soon forgotten, for in 758 Cuthbert, Abbot of Jarrow, wrote to the Bishop of Mayence, desiring if he had any man in his diocese who could make vessels of glass well that he would send him on, "for," he added, "we are ignorant and helpless in that art."¹ The chief region for the manufacture of these glass beakers in the sixth and seventh centuries is believed to have been that of the Meuse. Specimens dated as late as the ninth century, the assumed period of their use on the Mote of Mark, are very rare.² Ten beakers, however, and many fragments were discovered in the years 1876 and 1877, when a cemetery was explored on the Island of Björko, in Lake Mälär, near Stockholm, associated with coins of the ninth century.³ Six of these glasses were funnel-shaped, and most were of greenish colour. One, bowl-shaped, with a neck, was of dark-green glass, and was covered over with small bosses the size of peas,

¹ *Old English Glasses* (Hartshorne), p. 113.

² See *Das Glas im Alterthum* (Kisa), p. 919, fig. 394.

³ See *Månadsblad*, vol. 1878, p. 681; vol. 1880, p. 41.

in this respect showing some resemblance to the amber-coloured fragment mentioned above. A number of them, moreover, had coloured rims, analogous to the white rim on the fragment (fig. 17, No. 1) from the Mote of Mark.

In addition to the fragments of drinking-vessels there was found a small piece of greenish glass, perfectly flat, which, from being obscured on one face, as well as from its colour, strongly resembled Roman window glass, but it is thinner and of more regular thickness than that material. It was found in the vicinity of the clay floor, to the east of it, and at a depth of 1 foot from the surface, and one is tempted to wonder if we have not here a fragment of very early window glass.

While excavating the hut circle on the north side of the west rock at 1 foot below the surface, a very unusual object of glass (fig. 17, No. 13) came to light. It is an oval plaque of green colour, $\frac{1}{4}$ inch in thickness, measuring superficially $\frac{7}{8}$ inch by $\frac{3}{4}$ inch, and obscured on both faces. Into one face, after the method of Champlevé enamelling, had been inserted a number of circular spots of white and yellow enamel placed irregularly. A trace of metal adhering to the margin at one end shows that this object has been a setting in some metal mount. The method of enamelling by this process in glass is to be seen in certain double-cone beads, also of obscured green glass. Two of these beads are in the National Museum; one, recently acquired, found near Earlston in Berwickshire, shows the beads, curving in form, for the enamel; while the other, from a Viking burial at Ballinaby, Islay, and thus probably of a date approximately near that of the moulds and glass under discussion, still retains much of the enamel, also yellow, in the channels prepared for its reception.

The only other object of glass to be noted is a small quasi-cylindrical bead of peacock-blue colour, measuring $\frac{3}{16}$ inch in diameter, and perforated with a hole very large in proportion to its size. A somewhat similar bead was found at Dunadd, and is preserved in the Museum.

Numerous fragments of crucibles of clay were found, but no complete vessel. They were of two distinct varieties, the one small, with a wall varying from $\frac{1}{10}$ to $\frac{1}{8}$ inch in thickness, pointed to one end, much the shape and size of a small hen's egg with the top off; the other considerably larger and thicker, varying from $\frac{1}{4}$ to $\frac{3}{8}$ inch in thickness, with a slight diminution at the mouth, and furnished with a lead for pouring off the metal. The angle formed by the convergence of the sides to the lead, and the flatness of the curve of other fragments, suggest that this type has been triangular. A complete segment of one of the smaller crucibles remains, showing a height of $1\frac{1}{2}$ inches, and while no such complete part of any of the larger vessels was obtained, the piece showing the greatest height measures $3\frac{1}{8}$ inches. None of the fragments of either class show a tang or handle for lifting the crucible by, as found on some of those from Dunadd. The clay of which both classes have been formed is fine, and is now of a greyish hue. Many of the fragments have traces of fused metal adhering to them. Most of the fragments of the smaller sort were found near the stone foundation at the north end of the clay floor, especially on the west front, where also several small pieces of bronze were unearthed, while the majority of pieces of the larger kind came from the neighbourhood of the three-sided building, thus indicating that different processes were in use at the two spots. It was noted also that most of the iron objects, hematite and slag, were found in the same region as the larger crucibles. In addition to the foregoing, there were discovered remains of other vessels of clay (figs. 18-20) which may possibly also be regarded as crucibles. They are much thicker than the foregoing, are flat-bottomed and dish-shaped. One of them (fig. 18) is angular in shape, indicating that it has been of a rectangular ($\frac{2}{3}$) form. The bottom of this one measures 1 inch in thickness, and the side $\frac{7}{8}$ inch. Like the others of this class, it appears to have been fashioned with a double wall all over, the two layers of clay being clearly distinguishable in the section of the bottom and also on the

side where the outer one has scaled off. The material of this vessel is a grey clay, and the vesicular condition of the outside indicates that it has been subjected externally to great heat.

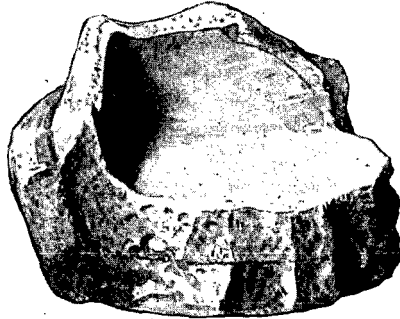


Fig. 18. Portion of Crucible of Rectangular Form ($\frac{3}{8}$).

Fig. 19 represents another shard apparently of a similar object, but formed with a smooth pink body. A portion of the wall remains,

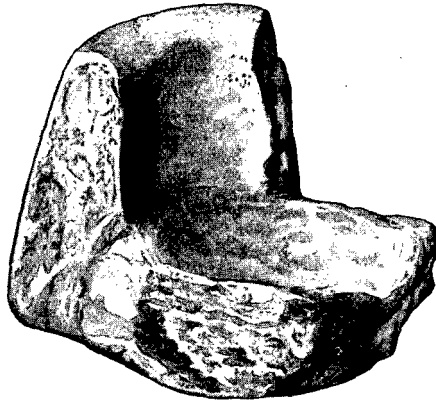


Fig. 19. Portion of Crucible of Oblong Form ($\frac{3}{8}$).

showing a height of $2\frac{5}{8}$ inches, a thickness of 1 inch at bottom, and $\frac{7}{8}$ inch in the wall, diminishing slightly to the rim, which is rounded.

This has been a fairly large dish, as the portion of the bottom remaining measures 2 inches across. It has not been circular, as the curve of the remaining portion of the wall in relation to the extent of the bottom indicates, and it has possibly been an oblong or oval dish, such as that found at Mondsie, and illustrated in *Archæologia*, lvi. pt. ii. p. 267, in Professor Gowland's article on "The Early Metallurgy of Copper, Tin, etc., in Europe." Like the last, it shows on the bottom the effect of great heat. Another fragment is a portion of a smaller vessel of the same sort, which has been only $1\frac{7}{8}$ inches in height. It is

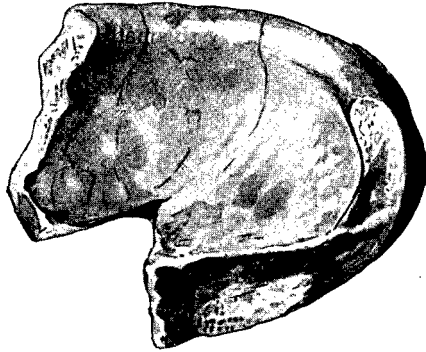


Fig. 20. Portion of Bowl-shaped Vessel ($\frac{3}{8}$).

also of soft pink clay, and shows the same peculiarity of construction. Was the reason of this to prevent the breaking to which such a vessel would be liable on the application of great heat, if formed solid in the usual manner, owing to the thick body not expanding uniformly? Made in two layers, the expansion could take place more evenly throughout.

Fig. 20 shows a portion of a thick bowl-shaped vessel of a depth of $2\frac{1}{2}$ inches, and an estimated interior diameter of $3\frac{3}{8}$ inches. It is roughly fashioned with a rounded bottom curving regularly into the sides. Like the previous vessels, it has been subjected to heat externally, and appears to have been fashioned in the same peculiar manner.

There seems to be some doubt as to the purpose for which such vessels as these were used, but Professor Gowland¹ throws out the suggestion that they were employed in a rude refining process, by which part of the impurities in the crude copper obtained by smelting were removed through allowing the air to act on the surface of the metal; or as the vessels in which the founder made his alloy.

Probably connected directly with the metallurgical operations were two stone rubbers or mullers, one a pebble of coarse granite, the other a fractured piece of millstone grit, both showing a surface flattened by attrition. Such stones would be used for reducing copper or tin ore to a coarse powder preparatory to smelting it.

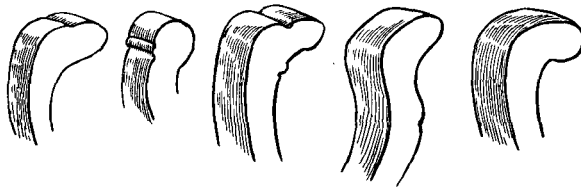


Fig. 21. Section of Rims of Domestic Pottery (†).

It is somewhat remarkable that, with the exception of one fragment of a rotary quern, no trace of querns of either type was brought to light, nor of any mortar or knocking trough.

Here and there, from various levels, pieces of domestic pottery were obtained, all of the same class, buff-coloured ware, unglazed, and much resembling the cooking pots of later mediæval times. The bottoms are flat and unthumbed at the edge. Very similar is the pottery from Dunadd. Fig. 21 shows the sections of the rims.

One other object of pottery (fig. 22), which does not fall into any of the foregoing categories, was found to the front of the stone foundation. It is rather more than the half of a flat-bottomed hemispherical vessel with an aperture on the top, $1\frac{1}{8}$ inches across, a height of $1\frac{1}{8}$ inches, and

¹ *Op. cit.*

diameter across the bottom externally of $3\frac{1}{8}$ inches. This object has probably been a lamp.

There is no piece among the foregoing examples of pottery which one would incline to refer to an earlier horizon than that of the pottery moulds, the most readily dateable of the objects found; but in addition to those already described, two pieces of undoubted Roman character were unearthed, one a chip of Samian ware, too small to afford any indication of the kind of bowl to which it had belonged, and the other a piece of a mortarium. The former came from near the surface, and

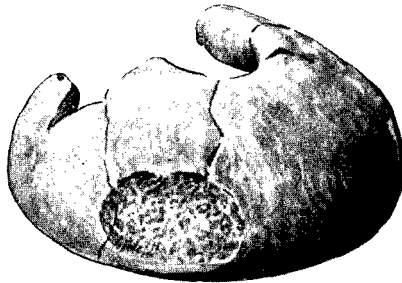


Fig. 22. Pottery Lamp (§).

may easily have been brought to that level by rabbits; the latter lay at the bottom of the forced earth.

Two pieces of stone with small trough-like hollows in them are possibly portions of moulds for casting ingots in, such as may be seen in the Museum, obtained from Dunadd, the Broch of Harray in Orkney, and other early occupied sites.

None of the iron objects are of particular interest.

Three whorls (fig. 15, Nos 7, 8, and 9) were found, two of lead, of which one has a slightly scalloped edge, and the third of stone. This last is distinctively decorated with two deeply moulded concentric circles surrounding the perforation.

The only jet object recovered was the hemispherical head of a pin

(fig. 15, No. 11). It is imperfect, having been cut away with a sharp tool on one side.

In addition to the bone pin already mentioned, only two other relics of bone were found, a pin-head (fig. 23) and a thin spatula-like object (fig. 15, No. 10), which has one surface worn perfectly smooth and polished with rubbing. The pin-head is spherical, rather flattened on the side into which the pin has been inserted, and has been ornamented with three small bosses of bronze on the sides, and with a small triangular plate of the same metal on the top. When it first came to light it was seemingly perfect and of a beautiful green colour, owing to staining by the bronze, but though efforts were used



Fig. 23. Pin-head of Bone with Bronze Mountings.

to effect its preservation, it has split badly and completely lost its fresh appearance. This pin-head does not bear an analogy to any pins in the Museum, nor, as far as I am aware, to any recorded in our *Proceedings*, but it has a certain resemblance to a type of pin-head belonging to the bronze age in France,¹ illustrated by M. Déchelette. That pin, however, is of bronze, and is pierced where the bosses occur in the bone one. The spherical form with the projecting bosses suggests a likeness to the glass beads ornamented with small protuberances and belonging to late Celtic times.

A number of pieces of bronze were found chiefly in front of the stone foundation, but these appear to be chiefly the waste from castings. There is a small rivet showing a peculiar tongue projecting from one side on the upper surface of the plate to which it is fastened; a small portion of the rim of a vessel, and one or two folded strips of metal.

¹ *Manuel d'Archéologie Préhistorique* (Déchelette), ii. p. 324, fig. 127, 5.

These, then, are the facts of the excavation. What deductions may be drawn from them? In the first place, it seems to me incontestible from the evidence already given that the vitrification of the wall of the fort was a structural process, and the fact that, wherever the rampart remained, the wall was to be found intact within it, shows how the process of vitrification served its purpose, acting as a solidifying cement. But, it may be asked, what was the necessity for this wall? A glance at the section K—L will show that it occurs a short distance in front of a downward slope of the natural surface, and that it acts as a buttress to withstand the thrust of the rampart directed from the higher level on which it was partially situated; further, the front of the rampart is carried very near to the edge of the steep slope of the hillside, and the wall was no doubt intended to prevent it breaking away from the edge of the declivity. The theory of the accidental fusion of sand or stone by beacon-fires seems quite untenable in this case, as it is inconceivable that the vitrification should have been confined to one narrow band along the periphery, and should not have occurred elsewhere in the thickness of the rampart; moreover, as indicating that the heat has not altogether been produced from the top, which such a theory implies, it will be observed in fig. 9, which shows an uncovered portion of the wall, that a number of large waterworn boulders form a coping firmly embedded in vitrified matter, but themselves unaffected by heat on their upper surfaces. Lastly, the vitrified wall is most in evidence where it was most required, on the weakest side of the enceinte, which likewise happens to be the side almost entirely screened by a semicircle of heights in the immediate vicinity, and therefore an improbable site for watch-fires. In a brochure on certain vitrified forts in France,¹ by Mons. F. Barthélemy, there is shown a section of the wall of the Butte Ste. Geneviève, one of five forts with calcined walls, and situated in the valley of the Meurthe, in the territory of Essey-les-Nancy. Occupying almost the same relative position

¹ *Camps Vitrifiés et Camps Calcinés*, Nancy, 1892.

as the vitrified wall in the rampart of the Mote of Mark, and likewise at the base of a slope, is a mass of lime (*chaux*) mixed with charcoal and logs, incompletely carbonised, which M. Barthélemy considers to have been intentionally produced there, to serve an exactly similar purpose as I claim for the wall in this case. The fact of the wall being enclosed within a rampart of earth and stones, a more stable covering than a dry-stone wall, has no doubt in this case effected its preservation as well as its concealment, and for the same reason it may yet be found that other forts whose vitrified character has been disregarded on account of the small amount of vitrification visible on the surface may prove on excavation to be of the same class. In the Stewartry of Kirkcudbright, Castle Gower, near Castle Douglas, Trusty's Hillock at Anwoth, and the Mote of Edgarton, may possibly be such forts, for vitrified stone has been found on all of them, but in small quantities.

To what period does the erection of the rampart with the vitrified wall belong? We have among the relics evidence of occupation of the fort at two distinct periods, separated at least by some 500 years; the earlier vouched for by only two small pieces of Roman pottery which we may attribute to a date in the first 400 years of our era, for there is nothing distinctive about the style of either piece beyond its Roman character, and the later period amply indicated by the other relics, the general horizon of which is the ninth century or at latest the tenth. As already explained, I do not think the flints can be held to be evidence of a prehistoric occupation, as very few indeed show secondary working, and the general facies of them is not that of flakes from the site of a manufactory of flint objects. They are gathered chips, many of which have been used as strike-lights. There is not a piece of pottery, unless it be the half of the cup or bowl (fig. 20), which can conceivably be contemporaneous with the Roman wares, and the texture and quality of the material of which that object is composed approximates more nearly in that respect to that of the thick crucible (fig. 19) than to any recognised ware of Roman times. The

absence of querns, hammer-stones, and other relics of an early iron age occupation, indicates a very brief use of the site at the earlier period.

There has undoubtedly been around the fort at one period a massive wall of dry-stone masonry, the evidence of which is patent in the debris which strew the flanks. There was no sign that a wall had ever stood on the top of the rampart, in fact, the body of the rampart behind the vitrified wall was remarkably loose and open, not in the condition which a superimposed wall of great extent would have left it in. In the short space, however, between the front of the rampart and the sharp edge of the hill before section K—L, several large boulders were met with firmly embedded in clay, and possibly these were the foundations of a wall. The presence of animal bones in the actual rampart at several places and at its base, suggests the idea that it was thrown up with material from a previously occupied site, and hypothetically I would suggest that when the later occupiers of the hill took possession of it, they found all around the summit a massive stone wall, which during some five or six centuries of neglect, or possibly from wilful demolition, was in an extreme state of ruin, and as the fashion of their day favoured another class of fortification, and one more easily effected than the restoration of the wall, they cleared off what remained of it, built and vitrified the retaining wall, and threw their rampart over it. At the extreme western end, where I have suggested that there may have been an entrance, it is noteworthy that the base of a wall remains, and that over it there is no trace of vitrification or rampart. The other explanation, which is one that does not greatly commend itself, is that the massive wall was erected in front of the rampart. This would have placed it dangerously near the edge on the north side, while in other places there would be actually no room for it, so near has the rampart approached the declivity. On the whole, therefore, though all is not quite clear, I incline to consider that the rampart with its vitrified core is secondary and contemporaneous with an eighth- or ninth-century occupation.

The hollow in the centre of the south side was covered with very black earth, bones in great quantities, and a considerable quantity of stones, indicating, I believe, that there had been stone buildings on the summit, of which the clay floor and the stone platform to the north of it were the foundations. Though a careful note was made of the important relics as they came to light, and though the soil was removed and handled in layers, no definite stratification was observable, or distinctive character in the objects recovered from the various levels. Moulds were found within a foot of the surface, and at a depth of 2 feet 9 inches, and while pieces of the moulds for carding combs came from the higher level, a comb which might have been cast in one of them lay trampled into the floor at the lowest. It seems probable that a great heap of debris, a kitchen-midden, had accumulated, during the occupation, to one side of the inhabited area, and that after the occupation ceased, and the buildings, etc., were demolished, that got thrown down into the hollow and spread over the surface. Proof, however, of the contemporaneous nature of the majority of the relics came from another source. On the south face, opposite the west end of the hollow, and at an elevation 14 feet below that of the crest of the rampart, a shelf of rock was apparent, and on sinking a hole on the top, as was expected, a talus was discovered. It was not of great dimensions, and at deepest, where the deposit ceased against the natural slope, it had a depth of only 2 feet. The deposit, which was particularly black, seemed to be almost pure carbon, but had none of the crystalline appearance of charcoal. The amount of bone it contained was almost negligible, but, except bronze, almost every class of relic was represented—pottery moulds, crucibles of all three sorts, wheel-made domestic pots, flints, glass, and iron.

At a slightly higher level along the slope, some 20 feet to the eastward, the grass on the surface, though there had been a prolonged drought, looked remarkably fresh and green, a fact which suggested another talus at this spot also, and as it was opposite the south end of

the west front of the clay floor, expectations were considerable. They were, however, doomed to disappointment, for under the surface lay a deposit of huge stones, intermingled with numerous bones; beneath this debris, which contained no relics whatever, lay a thin dark-coloured stratum, from which a few fragments of pottery moulds and of crucibles were recovered. So steep, however, was the natural gradient, that besides entailing very great labour, the removal of this mass of loose stones would have been a very dangerous operation.

On the opposite or north side of the hill a number of circular depressions in the mass of loose stones were observed which might well have been hut circles, situated not far below the edge of the summit. On one of these exploration was started, but after removing loose boulders to a depth of some 4 feet without finding any signs of building around the hollow, or any relics, the natural bottom was reached, and it seemed probable that these hollows had been made by treasure-hunters in comparatively recent times.

It would be pleasant to speculate on the nature of the occupation of this site. Who were these Celtic craftsmen making brooches, crosses, pins, carding combs, etc., in this secure retreat, at a time when the Viking, in his long black galley, was infesting the creeks and estuaries of Western Scotland? One might expect such art to be conducted under the shadow of some monastic establishment, but here there was no trace of any oriented building. The number and variety of the moulds seem to imply rather a founding factory, established here for the purposes of trade, than the existence of a small establishment manufacturing its own articles of use and adornment, though, on the other hand, the pieces of choice glass certainly seem to imply the presence of some one of wealth and importance. When we have learned more of the art of this obscure period we may be able to ascertain from the ornamentation on the moulds themselves what the varying depths at which they were found failed to reveal, different dates of production which will show the duration of the industry. My impression, failing

that source of knowledge, is that the period of production was during the ninth century, and that there was an occupation which continued subsequent to its cessation, during which the wooden post was driven into the sandbed, and the planks and beams utilised between the sand and the clay floor on the south side of the hollow. For defence the site is admirable, and for working in bronze or iron advantageous, for copper is to be found in the neighbourhood, and has been worked near Douglas Hall; iron, if not found sufficiently rich near Dalbeattie, where it occurs in the form of hæmatite, could be imported to the base of the hill from the south side of the Solway, where the glare of furnaces may be observed on any clear night from the mote itself; and, similarly, proximity to the estuary facilitated the importation of tin.

In conclusion, I would express my indebtedness to the Governors of the Hutton Trust, Dumfries, the proprietors of the hill, for the permission which they gave me; also to Mr Dinnel, the farmer, for countenancing the excavation; and as the Governors have presented all these interesting relics to the National Collection, I may take this opportunity of pointing out likewise the Society's obligation to them.