

ART. XXII.—*Report on the Exploration of the Roman Fort at Ambleside, 1913.* By PROFESSOR HAVERFIELD, V.-P.S.A., LL.D., and R. G. COLLINGWOOD. *Read at the Site, September 11th, 1913. With a Preliminary Report of Exploration in March and April, 1914, by R. G. COLLINGWOOD and L. B. FREESTON. Read at Carlisle, April 24th, 1914.*

I.—BY PROFESSOR HAVERFIELD.

I PROPOSE to speak briefly of the character and strategic importance of the fort: Mr. Robin Collingwood will then describe the excavations carried out by him in the last month. To understand the site we must put aside its present aspect and surroundings. For centuries, the Lakes have been a peaceful country: their great modern glory, the Lake Poets, were above all things the poets of peace and quietude. In Roman times the region was a tangled chaos of hills in which wild hill-men defied Rome and Roman ways. Rome could not leave them alone. In Roman days the Lake hills and Cumberland formed the left flank of the Roman military position in North Britain. The centre of that position lay along and near the wall of Hadrian from Tyne to Solway. Its east flank was more or less guarded by the North Sea and an ironbound coast. Its west flank lay open to Irish and Caledonians crossing from south-western Scotland to the Cumberland littoral. It needed coast defence with forts at the chief anchorages and landing-places, Ravenglass, Maryport, and so forth. It needed also some occupation of the interior to check invaders who slipped past the coastguard, to keep communications safe, and to coerce the hill-tribes, whom otherwise the mere rumour of an

Irish raid might stir into revolt. This occupation was ensured by forts like that on Borrans Field.

Here or near here the Roman roads from Carlisle and from Lancaster met together. Hence a road ran out westwards over Wrynose Pass and Hardknott to Ravenglass. To hold this road there were forts here and at Hardknott, and a third, at Ravenglass, overlooked the sea. This was the Roman system of frontier defence, to plant forts here and there in strategic sites or on main roads, and by their garrisons to keep the natives quiet. The garrison of each fort was about 500 men (in some cases, 1000) when at full strength. It may be thought, it has certainly been urged by foreign critics, that this system broke up the Roman military strength into dangerously small fractions, each of which might be crushed by itself. That is in part true. A general rising or invasion *en masse* could not be stayed by these small units. When tens of thousands of natives took the field at once, they could rush these little forts with some ease, and we can actually trace in many forts—as here in Borrans—evidences of one or two, or even more destructions which may be due to such risings. The Roman strategists erred sadly when they provided no one large force able to deal with numerous assailants, no one mobile field-army of real strength, and it is possible that their omission had much to do with the fall of their Empire before the Barbarians—though, indeed, the Barbarians ultimately came in such huge numbers that no mere field-army would have availed. But for lesser movements, for ordinary small disturbances and casual raids, their system was probably excellent.

Borrans then was a strategic point on a distant frontier, a Chitral or a Gilgit. Was it more? Was there ever civil life and trade around it? I do not think so. There may have been a little trade with Ireland by way of Ravenglass, but it cannot have been much—a few boys

and girls kidnapped by slavehunters in Ireland, and a few skins: the vivid sketch which Chancellor Ferguson drew of traders passing over Wrynose, is, I fear, too vivid. Nor can there have been any sort of a town near Borrans. Chance finds made along the valley towards Ambleside show that men and women lived there in Roman times. But these were the wives and children of the 500 men in garrison, and a few traders who found safety in the nearness of a garrison, and possibly a few old soldiers who chose to end their days where they had served their 25 years of military activity. The lessons to be learnt at Borrans are, first and most, military matters. They concern problems such as we have still to face in guarding our Indian North-west Frontier, and even in making safe our own east coast in Britain.

II.—BY R. G. COLLINGWOOD.

Borrans Field, the site of the Roman fort at Ambleside, was bought in 1913 by subscriptions collected, in part locally, by a Committee of which Mr. Gordon Wordsworth and Dr. Hugh Redmayne were secretaries. By them it was handed over to the National Trust, which then gave this Society permission to make a complete exploration of the site. An Exploration Committee, with Professor Haverfield as chairman, was formed for this purpose by the Society, and at its first meeting in June decided to begin work in August and appointed the present writer as director of the excavations.

The fort lies on the base of the tiny delta of the rivers Rothay and Brathay, its centre being about 300 yards E.S.E. of the waters-meet of these rivers and 400 yards north of the point where the united stream enters Windermere. The delta is composed of green alluvial sand, underlying from 2 to 4 ft. of surface soil. Immediately to the north of the fort this deposit of sand is terminated by several knolls of rock, between which the ground is rather

higher and no longer alluvial. Immediately to the west of the fort a depressed channel runs southward from the direction of Rothay Bridge and communicates with the Brathay close to the S.W. angle of the fort. If, as has often been suggested, this was the ancient bed of the Rothay, that river ran under the west wall of the station. In any case, it acted as a ditch on that side. South of the fort, towards the lake, the ground is very low and marshy ; but to the east it rises into rock and higher land and after a short interval into real hill. On the whole, the fort lies in a strong position. Two of its four sides are practically impregnable ; its water supply is plentiful, and if the lake was any use to its garrison for coming and going, access to it was easy. But its site lies very few feet above the average level of the lake in modern times, and we have no reason to think that this level differs appreciably from the ancient level. The Roman engineers presumably set advantages against defects and decided accordingly.

The Roman remains found at Ambleside in the past have, with a few exceptions, been unimportant. Camden's description of it (quoted by Nicolson and Burn, but by them ascribed to Sir Daniel Fleming) seems to indicate extensive remains, both in and outside the fort, and a good many smaller finds. A collection of 322 coins, which Thomas Braithwaite left in 1674 to the Bodleian Library, came in part only from the fort. More recent discoveries have been made oftener outside the fort than in it ; the ground inside the ramparts seems indeed to have been very little disturbed. Though it is said to have been ploughed about 40 years ago, we found walls and floors within 6 inches of the present surface.

Two inscriptions have been found. Machell (d. 1698) describes a broken stone said to have come from the fort, but in his time built into a house : the fragmentary inscription read

V X V
C H O
Z A N

(W. Thompson Watkin, *Arch. Journal*, xxxix., p. 364 ; *Eph. Epigr.*, vii., 950*). In 1846 Mr. Beck, of Esthwaite Lodge, showed to the Archæological Institute a drawing of a limestone fragment with a "very imperfect" inscription lately found by him in excavations in the fort (*Arch. Journal*, ii., p. 395, quoted by Hübner, 293, "*ne omnino delitesceret*"). Watkin identified this stone with C.I.L., vii. 1341, but without giving any grounds for so doing : 1341 (once at Manchester) is now in the British Museum, and its origin is quite uncertain ; possibly it is not even British, but, if British, it most likely belongs to Manchester.

Various finds were also made in or before 1779 (West) and about 1870 (these *Transactions*, N.S., vi., 25 note), when "thousands of potsherds," plain and figured, were found in the field north of Milligan's nursery. But all the above-mentioned remains have entirely disappeared. The bronze bell, pottery (with one illegible maker's name), sling bullets,† lead and leather found with the corduroy road north of the fort in 1900 (these *Transactions*, N.S., ii., 31-37), and the two coarse jugs found near the County Hotel in 1904 (*Transactions*, N.S., v., 186) are however preserved, the former in the Armitt Library and the latter by the finder. A small bronze eagle was with other finds in 1889 in the old Keswick Museum, and is perhaps identical with one which was in the possession of the late Mr. Wheatley-Balme, of High Close.

The work of 1913 was limited in extent by the fact that the field is let to a local school as a games-ground, and

* In Machell's MSS. (Carlisle Chapter Library), vi., 259, cp. ii., p. 327. When Machell saw it, it was built into a house one mile towards Windermere Church [F. Haverfield].

† Machell, ii., 327 (Carlisle Chapter Library), also notes "leaden bullets found there, like mustard balls" [F. Haverfield].

accordingly we confined ourselves to the outlying portions of the fort, where our cuttings would not interfere with the games, till the lease should expire in 1914. It was decided to open the north-east tower and the east gate, with the adjoining portions of rampart and ditch. Work was begun on August 11, and including filling-in continued for six weeks; no new excavations were made after the Society's visit on September 11. The digging was supervised throughout by the present writer, assisted for part of the time by Mr. L. B. Freeston; and valuable help was also given by Miss Rotha Clay, Miss U. M. Collingwood and Mr. G. G. Wordsworth. Five men, including a foreman, were at first employed; after a fortnight the number was raised to seven. Mrs. Clayton kindly allowed T. Hepple, previously Mr. F. G. Simpson's foreman, to assist the work for a week.

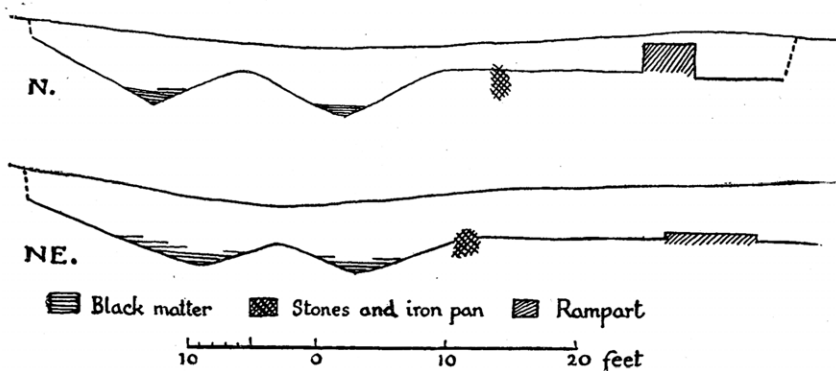


FIG. 1.—SECTIONS OF DITCH, N. SIDE AND N.E. CORNER.

The Ditch.—Two sections were made across the ditch (fig. 1). In each case it was found to be double, the axes of the two ditches being about 15 feet apart. The usual black peaty matter was found at the bottom, about 6 feet below the surface; below this was the green alluvial sand which forms the natural subsoil of the field.

Wherever we examined it, both in these sections and by the east gate, the ditch-bottom was found to have considerable quantities of wood in it. In the section through the north ditch (fig. 1, N.) this was mostly in the form of hazel-twigs up to an inch in diameter; these seemed to be rammed into a layer of gravel mixed with clay to make a firm bottom to the ditch. On this layer we found a pair of shoes, which had been thrust one inside the other and thrown into the ditch; see below, fig. 19.

At other places where we examined the ditch, namely the north-east corner (fig. 1, N.E.) and south of the east gate, we found not only this layer of twigs, generally overlaid, especially on the inner slope, with peaty matter, but also larger pieces of wood. These were oak baulks lying flat in the ditch bottom in confusion, as if they had formed a palisade which had been ruined. One of these is shown in fig. 3, bottom left-hand.

Opposite the east gate remains of a different character were found. Oak stakes, pointed with an axe and apparently hardened in the fire, had been driven 8 inches or a foot into the green sand of the ditch bottom. Two of these are shown in fig. 3, top left and bottom right-hand. On the north side of the gateway (see plan, fig. 11) they seem to form a double row, stretching half-way across the ditch in a curve having its convexity towards the gate; the series may have been completed by others reaching to the outer edge of the ditch, but in that case about half are now missing. Fig. 2 is a sketch of six of them *in situ*, together with an oak baulk, like those mentioned above, lying among them. Those which we took up as specimens, and are photographed in Fig. 3, are represented by dotted lines. The sketch is traced from a photograph.

The purpose of these stakes is obscure. Some of them seem to have been sharpened purposely at the top, and this suggests that they may be a form of defence akin to

the sharpened stakes in Cæsar's pits at Alesia, and still more closely analogous to the "chevaux-de-frise" of sharp standing stones about 3 feet high found by Mr. Willoughby Gardner in the inner ditch of the hill-fort at Pen-y-Caer (*Arch. Cambr.*, 1906) and dated by him to about the first century A.D. On the other hand this supposition hardly explains their placing: a system of

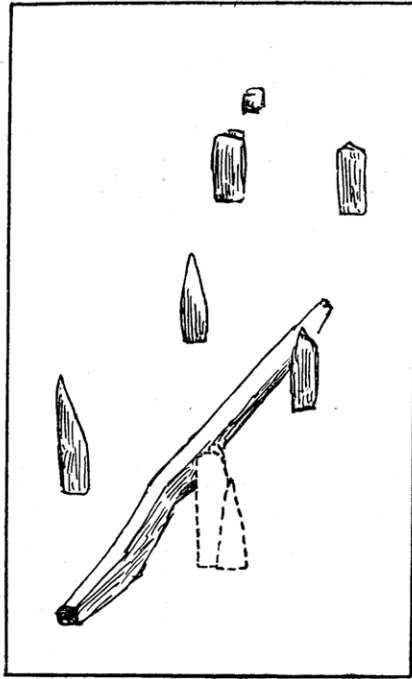


FIG. 2.—VIEW OF STAKES
in situ, looking East (p. 439).

defensive stakes would more naturally run along the axis of one or both ditches, whereas these run transversely to the ditch and occur only at the gateway. The ditch appears, however, to have been at this point a single one, for the black matter runs horizontally among the stakes the whole width of the ditch-bottom (16 feet). Immediately to the south of the gateway, holes for similar stakes

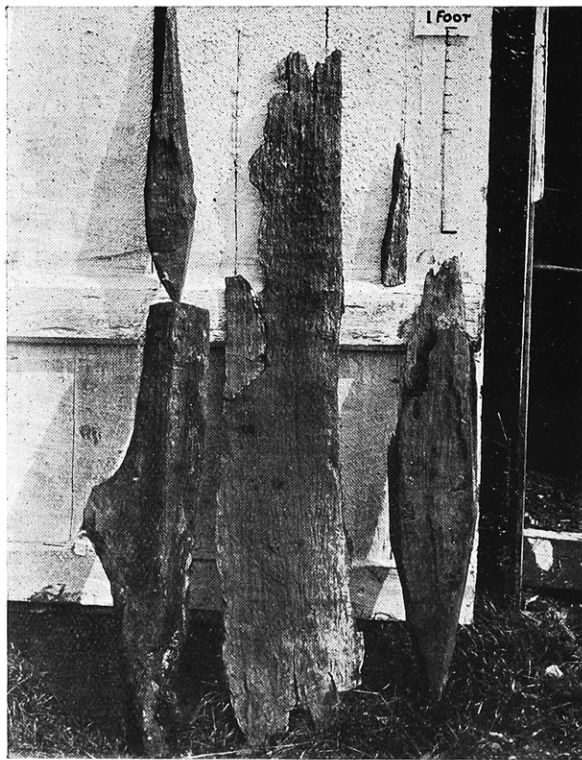


FIG. 3.—STAKES FROM THE DITCH.

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FIG. 4.—INNER FACE OF RAMPART.

TO FACE P. 440.

were found in the ditch-bottom, but no stakes were found in them.

Between these two systems of stakes the ditch is double, but very much smaller; its depth is only 2 to 3 feet, instead of about 6, from the present surface. It has been disturbed by modern draining, but it appears to run straight across in front of the gate on this smaller scale, to deepen on each side to the places where the stakes stood, and then, again becoming double, to keep the same depth, perhaps with a palisade (not of sharpened stakes) in it.

In the ditch close to the east gate were also found pieces of Samian and other wares, a lump of lead, 3 pieces of different millstones, one being of millstone grit and the others of the Lancaster carboniferous grit, a stone (free-stone) worn smooth on one face and resembling part of a threshold, and an oak plank about 3 feet by 6 inches by $\frac{1}{8}$ inch. When found it was curved like the plank of a boat, but owing to its thinness it warped on drying. It was found, close to the stakes above mentioned, north of the east gate, and may possibly have formed part of the same structure. A small oak peg like a tent-peg stood in the ditch-bottom close beside it (Fig. 3, top right-hand; the plank is the central object in the same photograph).

The *Berm* is about 15 feet wide. Its edge is a mass of stones not properly built but cemented together very strongly with a red ferruginous substance. This was recognised by Mr. F. A. Bruton as identical with a ferruginous substance found at Melandra; Dr. J. E. Marr tells me that it is merely a natural iron-pan. It occurs uniformly round the lip of the ditch among the stones on the edge of the berm, and also in the neighbourhood of the east gate, overlying the ditch; we have not found it elsewhere, and its appearance in these places only, except near the east gate (see later), is not easy to explain.

The Rampart.—The best specimen of rampart uncovered this year was the eastern portion of the north wall. The inner face of this is shown in fig. 4. The foundations had given, and the wall leans inwards; some of the upper stones fell as soon as they were freed from soil. The work is rough, but of the $2\frac{1}{2}$ feet of wall uncovered the bottom foot was apparently below ground.

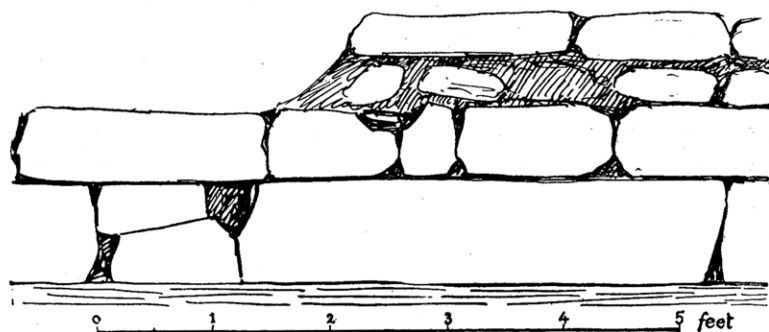


FIG. 5.—OUTER FACE OF THE NORTH WALL.

The outer face of the same rampart is sketched in fig. 5. It is laid on a foundation of flagstones and clay, represented in the diagram by horizontal shading; the lowest course, 10 inches high, contains some large stones, and projects 4 inches beyond the upper courses.

The thickness of the rampart varies from 3 feet 8 inches to 6 feet at the corner tower. Here the lowest course alone remains, and is sketched in plan in fig. 6.

The stone used is for the most part local, quarried into roughly rectangular blocks, but not tooled; near the gate and at the N.E. angle large quantities of Lancaster carboniferous grit (yellow freestone) were used. This was identified by samples procured from Lancaster by the kindness of Mr. I. H. Storey.



FIG. 7.—THE N.E. TOWER, FLOOR III.

TO FACE P. 443.

The North-East Tower : plan, fig. 6.—The tower is chiefly remarkable for the stratification of its floors. Its north wall stands about 4 feet high, and leans outwards owing to the insecurity of its foundations ; the top floor inside the tower was found $9\frac{1}{2}$ inches below the highest

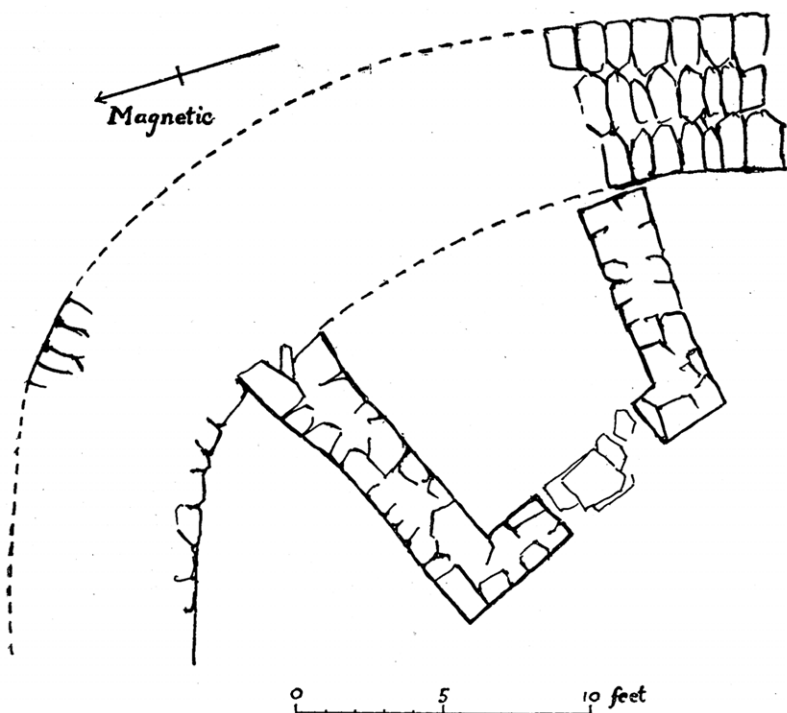


FIG. 6.—NORTH-EAST TOWER.

stone of this wall. This floor was then cleared, showing the north and west walls of the tower as far round as the doorway ; beyond that there were no more walls. Fig. 7 shows the only stonework standing above this floor. Upon the floor was a thick layer of charcoal containing nails, and much roofing slate (recognised as White Moss stone by our men), burnt for the most part to a reddish

ash. In this layer lay many large stones, which had fallen off the walls into the hot ashes and were much burnt on the under side. This floor we called III.

Floor II. was 1 foot $\frac{1}{2}$ inch below III. Fig. 8 shows part of it cleared; on the right is seen a portion of floor III. left *in situ*, on the left the doorway, with building-up masonry; the threshold of floor III. being the flat flag-stone visible on the top of this masonry, seen also on the left hand of fig. 7 and, drawn with a lighter line than the walls of the tower in fig. 6. This floor, like III., was covered with a layer some 3 inches thick of charcoal, nails and burnt slate; there were, however, no large stones overlying it, which seems to indicate that the walls were destroyed in the conflagration at the end of III., but not in that which closed period II. There was still no S. wall.

Floor I. lay 1 foot 3 inches below floor II.; but there may have been an intermediate floor 7 inches below II., as there seem to be in places two burnt lines with clay between them. Provisionally, therefore, we distinguish I.A and I.B, 8 inches apart.* The difficulty of distinguishing them clearly may be due to the way in which the walls have been thrown down at the end of period I.; immediately beneath floor II. is a very large number of walling stones, whose fall may have so disturbed I.B as to make it almost unrecognisable. These walling-stones have been roughly levelled to form paving-stones for floor II.: and in removing them we at last found the south wall of the tower. It was ruined at the close of Period I., and floor II. was laid right over its ruins. It was never rebuilt; the subsequent floors all passed over the top of it.

These strata were poor in remains. I.A contained Samian, chiefly fragments of shape 31, and part of a 37 bowl: see pp. 459, 460. But there was not sufficient evidence to date the floors.

*Some visitors doubt I.B. I only wish to give the evidence that suggested to me its possible existence.



FIG. 8.—THE N.E. TOWER, FLOOR II.



FIG. 9.—FLOORS IN THE N.E. TOWER.

TO FACE P. 444.

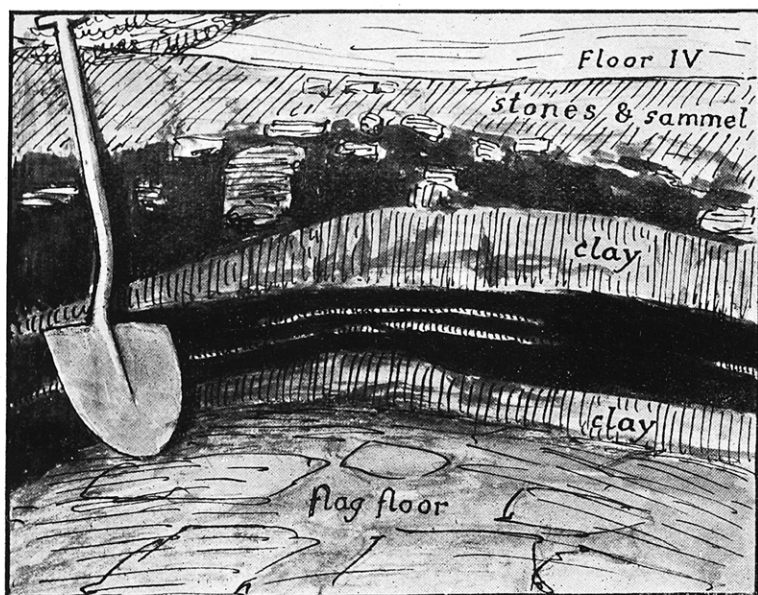


FIG. 10.—SECTION THROUGH OVEN-DEPOSIT.

TO FACE P. 445.

Remains near the Tower.—The stratification outside the N.E. tower was very puzzling. West of the tower a strong floor of sammel (gritty clay) on cobbles runs as far as we have explored, at about 8 inches below the present surface. This ran right up to the west wall of the tower, and may be seen immediately beyond that wall in fig. 7, and on the extreme left hand in fig. 8. It lies exactly level with the highest remaining masonry of the tower, that is to say $9\frac{1}{2}$ inches above floor III. It is clear from the arrangement of the threshold of floor III. that this higher floor belongs to a later period; if the two had been contemporary, with a step down into the tower, the threshold would have been higher than floor III. It seems probable that this floor, which we number IV., was laid down after the destruction of the remaining tower walls at the end of period III.; and that just as floor II. covers up the ruins of the south wall of the tower destroyed at the end of period I., so floor IV. ran over the ruins of its north wall. We did not indeed find IV. overlying either III. inside the tower or the wall; but owing to the slope of the ground, which runs down to the north-east at this part, it would certainly have been destroyed by the plough, which has scored the top of the north wall of the tower. We did, however, on the top of this wall, find sammel, which would not naturally occur inside a wall, and can only be explained as part of a paving.

We conclude therefore that floor IV. ran right over the top of what remained of the tower, and that no tower existed at all in period IV.

Under this floor the stratification was interrupted by a formation shown in fig. 10. Some 3 feet below the surface was a flag floor, which had been subjected to fire; the flags in it were burnt and the clay fired to a reddish colour. Above this was a mass of charcoal about 8 inches thick, with two thin horizontal streaks of clay, unfired, in it; above this again a thick layer of clay, also unfired,

varying from about 2 inches at the edge to about 8 in the middle; above this more charcoal; above this floor IV. The charcoal was clearly not the result of a conflagration. It contained neither nails nor pottery; we found nothing in it but one entirely corroded fragment of an enamelled bronze button. Also a dozen houses burnt down successively would hardly produce so much solid charcoal. Most probably it was the remains of an oven of periods I. to III., the buildings of which have been completely destroyed; the thick layer of clay was no doubt put down to seal the remains before laying floor IV.

This site lay immediately to the south of the door of the tower. South and south-east of this we found no less than six floors, of which, however, the top three seemed to be merely reconstructions within one period. Evidence was carefully collected for dating (see below, p. 458), but no valuable conclusions were reached, as the floors were not clear enough and showed signs of disturbance. Generally, however, we found one well-defined burnt stratum 31 inches down, and another at 21; above these the strata were more disturbed. These two burnt lines were found uniformly inside the north and east ramparts. Probably they correspond to floors I. and II. The upper one, however, disappears within about ten feet of the tower all round. This confirms the idea above suggested that the oven dates back to period I.; no new floor was laid here in period II. except that inside the tower, running a short distance over the ruins of the south wall and then coming to an end.

The East Gate: Plan, fig. 11.—The remains here are for the most part extremely confused and perplexing. A large area was opened; but owing to the restrictions imposed by the necessity of leaving the games-field undisturbed the results were unsatisfactory. The spina of the gate was found, an undisturbed block of solid masonry resting on a foundation of flagstones and clay;

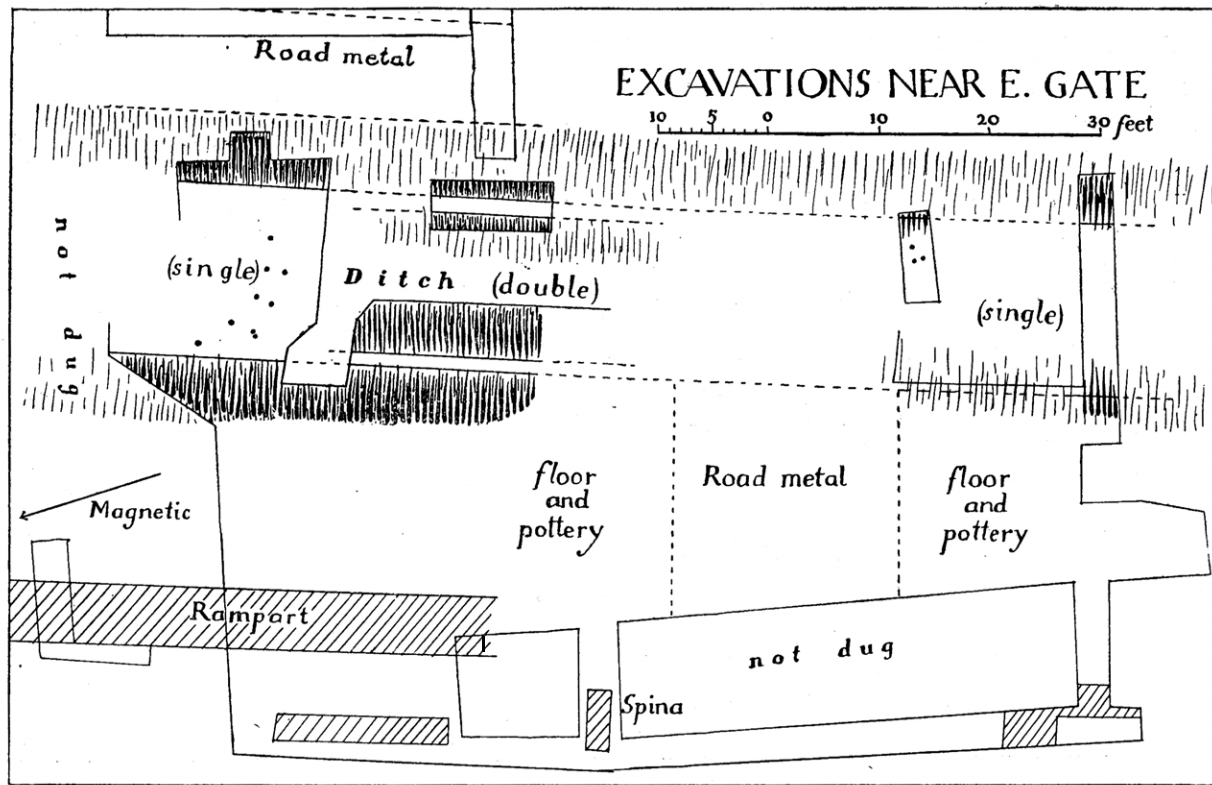


FIG. 11.

to the south-east of this, however, and at a lower level, there were indications of a different arrangement. A road of hard gravel was found running across the berm, on each side of which were floored spaces containing much pottery, and suggesting guard-chambers on each side of an entrance. No masonry was found; but this might be accounted for by stone-robbing. This site must await further investigation before it can be understood. There may have been a good deal of reconstruction.

The berm and ditch have already been described. The latter was here as elsewhere edged with stones firmly cemented with iron-pan, which seems to have formed among the ruins of the gateway more freely than in other places. It was found all over the eastern half of the ground plotted in fig. 11, at about 8 inches from the surface.

Remains outside the East Gate.—Immediately across the ditch from the east gate we found a road (fig. 11) of rammed gravel on a foundation of large stones. It runs parallel to the ditch. Beyond this, again, wherever we dug we found hard paving very close to the surface. There is, in fact, a large paved area in front of the fort, within which roads running northwards and eastwards seemed to be distinguishable. In one place we found a hole in this paving, about $3\frac{1}{2}$ by 1 foot, and 1 foot deep, containing pottery, roofing-slates, ox-teeth and oyster shells. This area has, however, been much disturbed by the laying down of modern drains.

Remains on the shore of the lake.—From the S.E. corner of the fort a footpath runs southward to the edge of the lake, where it turns to the right and leads to the bathing pavilion. About 100 yards before the pavilion is reached and immediately to the south of the S.E. corner of the camp the remains of a wall are visible in the water. Our attention was directed to these remains by Dr. Hugh Redmayne, and we took the opportunity offered us by the

exceptional lowness of the water to make a survey of them (fig. 12). The wall is sickle-shaped in plan, the handle of the sickle being directed towards the pavilion and the point towards the steamer-pier. It is built not of cut stones, but of large cobbles and boulders, with a few stones that seem to have come from a quarry. The majority of them, however, are water-worn. Its total length is 270 feet, if a few outlying stones near the E. end are ignored; if these are included, they will add another 25 feet. Its width varies between 5 feet 8 inches and 7 feet 4 inches. It nowhere stands more than one course high above the mud and silt of which the shore is composed, and the roughness of its construction suggests that it was never intended to stand much higher. No definite termination can be traced at either end.

The two problems suggested by this construction are its purpose and its date. The whole shore here is very flat and liable to floods whenever the water is high; in winter frequently, and sometimes at other seasons, the lake comes as far as the fort itself, though it has not been known to rise above the ramparts. The prevailing southerly and south-westerly gales of winter, which raise waves of considerable size in the northern basin of Windermere, would make these encroachments very unpleasant to the garrison of the fort unless the lake was several feet lower, or less liable to violent floods, in the early centuries of our era; and neither Dr. J. E. Marr nor Dr. H. R. Mill, author of the "Bathymetrical Survey of the English Lakes," sees any reason to suppose that the lake-levels have changed much within historical times. It is therefore possible that the Romans may have found it necessary to build some kind of sea-wall. Such a wall ought doubtless to have extended either across or all round the delta of the Brathay; and no traces of it have been found except at this point. On the other hand, the existing remains are at the place where the lake comes

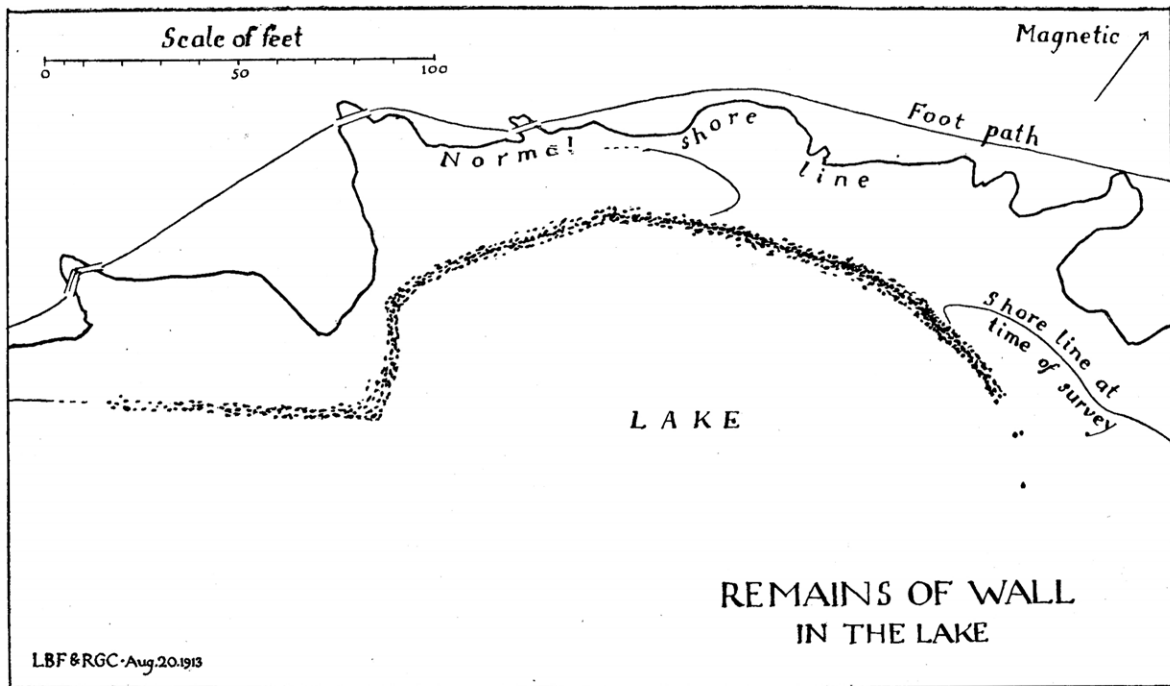


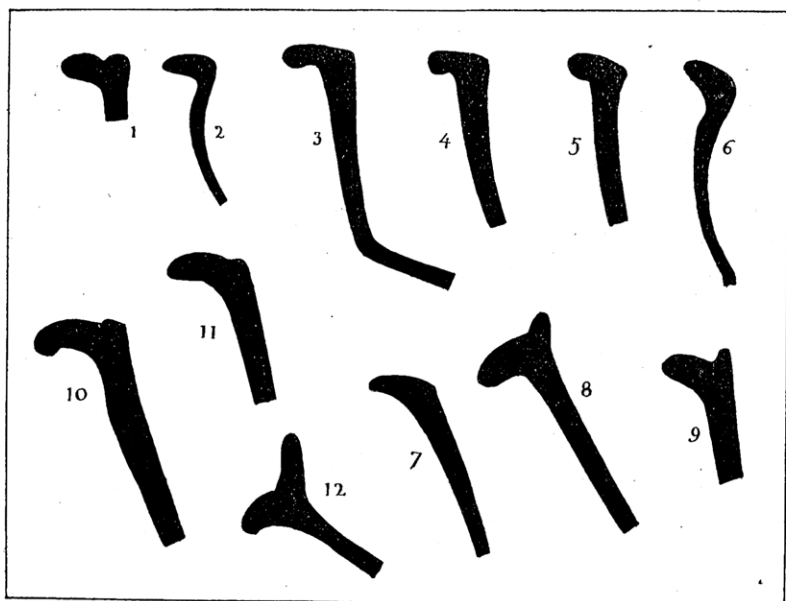
FIG. 12.

nearest to the fort, and a wall here, even if it could be outflanked by a flood, would do much to break the force of the waves, which might otherwise have damaged the gateworks, and possibly even the ramparts.

The alternative view is that the wall was intended for a quay. Windermere may well have served as a water-way for the bringing of stone from Lancaster and other purposes, the Leven being navigable for the greater part of its length ; though the stone could doubtless have been brought the whole distance (34 miles) by road. The shape of the wall and its shortness tell in favour of this theory. On the other hand the water is much too shallow at present to admit of even the smallest boats using such a landing. But this may be due to silting-up, caused by westerly and southerly winds banking up the silt brought down by the Brathay and Rothay. A second and more serious objection is the absence of any approach to the wall from the land side. If it was a quay there must have been a solid paving behind it, like that which we found outside the east gate of the fort : whereas nothing of the sort is visible, and it can hardly have disappeared. Thirdly, the harbour, if such it was, is very much exposed to all the most violent winds ; and if boats were ever brought here they must have been drawn up on the shore for safety, as is done at the modern Waterhead landing. But this is impossible with a quay, though they may, of course, have been beached elsewhere. Fourthly, the roughness of the building, though suitable in a breakwater, would be out of place in a landing stage. But the Romans may have used boats, and must have landed them either hereabouts or in the river.

It is, however, not certain that the work is Roman at all. We found no positive evidence of any date. But it is difficult to see what other date could be assigned to it. As a breakwater, it can never have been of the least value to anyone who was not living in the fort or within

a very few yards of its east gate. The only possibility is that it may have been a boat-landing of another date. If so, it must have been reached by a road; but the "Borrans Road" is of comparatively modern construction, long subsequent to the establishment of the Water-head landing, which is the easiest and best landing for Ambleside. If, therefore, this was a mediæval landing, in spite of the difficulties, stated above, in the way of explaining it as a landing at all, there was no road to it. It can, therefore, only be explained as built in connection with the Roman station and accordingly of Roman date.

FIG 13.—Bowls ($\frac{1}{2}$).

THE POTTERY.

The chief works referred to are the Corbridge report for 1911, *Archæologia Æliana*, 3rd ser., viii., referred to as "C."; Mr. F. G. Simpson's Poltross Burn Milecastle report, these *Trans.*, N.S., xi., referred to as "P.B."; the same author's report on excavations on the line of the Roman Wall in Cumberland 1909-1912,

these *Trans.*, N.S., xiii., referred to as "R.W."; Mr. Curle's "Roman Frontier Post" (Newstead), referred to as "N."

Coarse wares. Bowls: fig. 13. The diameters given are internal.

1. 7 in. greyish buff clay. Like P.B. plate iii., 1-3, and see p. 447, where such bowls are said to continue in use down to the time of Hadrian, though not so late as 140 A.D. In Scotland they are associated with the Flavian but not with the Antonine occupation (N., p. 249). For similar Flavian types see C., 4, 5, 7, 8.

2. 7 in. buff. Like R.W. 53 (Appletree turret, Hadrianic period), which, however, is rustic ware, while our example is not. The type looks somewhat later than R.W. 53, but seems to be pre-Antonine.

3. 7½ in. black. Like P.B., plate iii., 4-6: those, however, are grey, and the slope of the lower part is steeper than in our example, which is one of a common series intermediate between the early carinated bowl and the "pie-dish" shape (e.g. R.W., 34). This series generally has a zigzag on the side and a looped scrawl underneath.

4, 5. 7½ in. black. Either=No. 3, or the ordinary "pie-dish," of which very similar second-century examples occur at P.B. (plate iii., 31-33).

6. 6 in. buff. R.W., 80 (late second century), but of a different clay. Perhaps Antonine.

7. C., 78: they "seem to have lasted for a very long period and it is impossible to date them with any certainty" (p. 41).

8. 8 in. soft buff. P.B. plate v., 18-20, and R.W., 123, all in the latest period of those occupations (early fourth century).

9. Similar to the above: cf. P.B. plate v., 19.

10, 11. 8 in. hard grey, buff surface. Somewhat like P.B., plate v., 18 (early fourth century).

12. 5 in. buff clay, very soft: touches of red paint in groups. Very closely resembles the flanged bowls (No. 6) at the late fourth-century site at Huntcliff (*Journal of Roman Studies*, vol. ii., part 2).

Cooking pots, beakers, etc.: fig. 14.

13. Buff. Somewhat like C. 114 (associated with Flavian types C., 1-12); P.B., plate iii., 12 (second century); R.W., 53-55 (Appletree turret, Hadrianic); and 110-112 (High House Milecastle, second century). The closest parallels, however, are R.W., plate xxvi., 8, from the Throp fort, and a similar example from the Haltwhistle Burn fort (Haltwhistle Burn report, plate

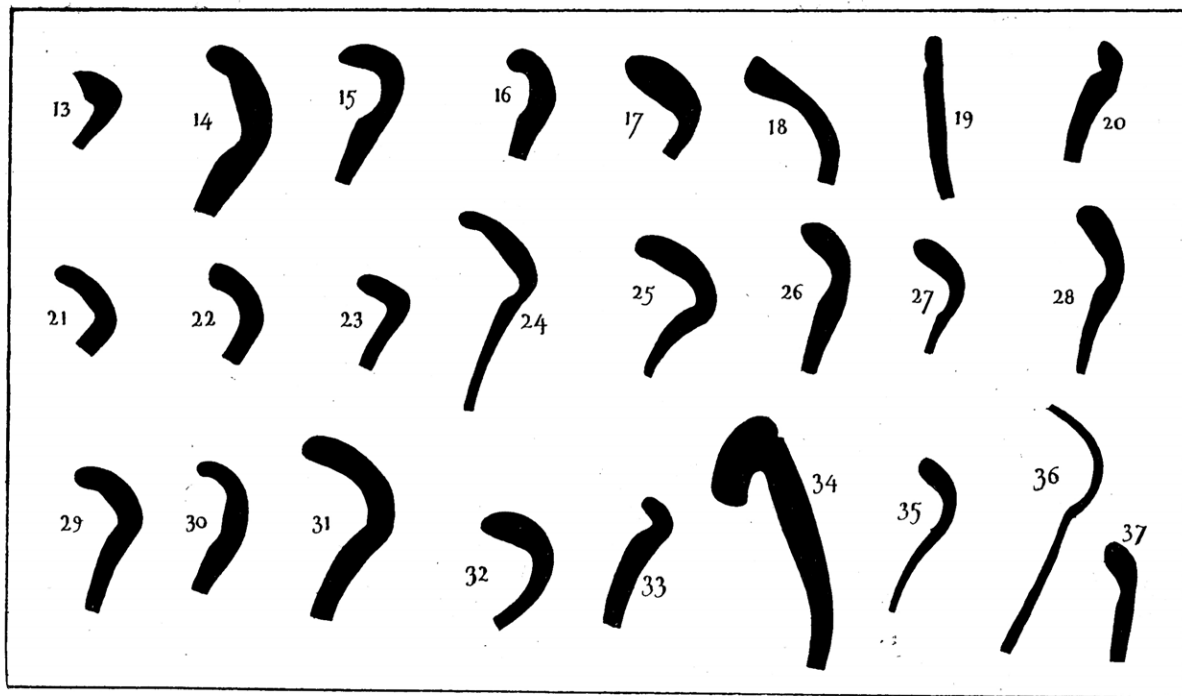


FIG. 14.—COOKING POTS, BEAKERS, ETC. ($\frac{1}{2}$).

v., 11). The date of these sites is discussed R.W. pp. 379-381. Mr. Simpson concludes that the absence of definitely Flavian types precludes the possibility of dating them more than five to ten years before 120 A.D.

14. Grey, with zigzag line on neck. P.B., plate iii., 20, and pp. 449-50, ascribing the type to the second and third century. In R.W., however, speaking of the somewhat similar sections Nos. 17 and 18, Mr. Newbold says that the zigzag "does not appear to continue much later than 150 A.D. On the Wall it is confined to the lowest levels."

15. Black. R.W., 60 (Appletree turret, early second century): C., 50, described as a variant of the late second-century type of cooking pot. Types of this kind are found throughout the second century, and, with less differentiation between neck and lip, in the third (see below: Nos. 26-28).

16. Black. Same type as above: R.W., 85 (Appletree turret, late second century).

17. Grey. R.W., 26 (Birdoswald turret, unstratified), 109 (High House Milecastle, second century. See R.W., p. 358: "several examples, all apparently of period I.").

18. Grey. P.B., plate iii., 14: somewhat similar to above, and of the same period.

19. Black. P.B., plate iii., 9: second-century beaker.

20. Black. R.W., 49 (High House turret, unstratified, but resembles late second-century types).

21. Buff R.W., 17 (Birdoswald turret, early second century) 72 (Appletree turret, late second century).

22. Grey, buff surface, hard clay. R.W. 86 (Appletree turret, late second century).

23. Grey. R.W., 61 (early second century); P.B., plate iv., 40 (second or third century); plate iii., 16 (second century).

24. Black. C., 51, described as a variant of the same type as C. 50 (see above, under No. 15); P.B., plate iii., 22 (second or third century), and plate v., 5.

25. As No. 24, but possibly a later type.

26. Black. P.B., plate v., 11 (fourth century): a closer parallel R. W., 22 (Birdoswald turret, third century).

27. Grey. Like No. 26. P.B., plate v., 12 (fourth century).

28. Black. Same general type as 26.

29. Black. Like No. 14, but without the zigzag and with a less marked shoulder, and therefore of later date.

30. Black. Variant of No. 16.

31. Black. Fourth-century development of the type Nos.

14-16. Cf. R.W., 24, 52 in the fourth century, and 21 in the third.

32. Grey. P.B., plate v., 8, 9, and R.W., 122: all fourth century.

33. Black. P.B., plate v., 23; fourth century.

34. Grey. Somewhat like P.B., plate v., 6 (fourth century). The type is common in fourth-century "vesicular" ware.

35. Grey. C., 68, to which no date is ascribed.

36. Very thin and soft buff ware. It seems to be late, but I am not aware of any very close parallel.

37. Buff. Slightly resembles No. 28; probably late third or fourth century

Not figured: a few pieces of "vesicular" ware (fourth century) with the ordinary type of rim, e.g. P.B., plate v., 14.

Mortaria: fig. 15.

38. 8 in. reddish buff. C., 12, 13. This rim is at Newstead and Corbridge typical of the Flavian occupation. The early Hadrianic types at P.B. (plate iv., 4, 6) seem to be later than this, which is closely parallel to a mortarium at Papcastle (these *Transactions*, N.S., xiii., p. 140, fig. 4, *d*). R.W., 35 (High House turret, Hadrianic), is sufficiently like it, in spite of the groove on the rim, to suggest that this type, usually pre-Hadrianic, survives in some cases into the time of Hadrian; and the same may be true, notwithstanding the lack of known parallels, in the case of No. 13 above.

39. 10½ in. buff. White and black grit. C., 100, which (p. 42) "has the horizontal curved rim of the first century type and may belong to the earlier [Flavian] occupation." There is, however, a fair parallel in P.B. plate iv., 2, as well as at Papcastle (fig. 4, *b*), so that this is not necessarily earlier than Hadrian.

40. 7½ in. buff, red slip. White, red and black grit. Same type as No. 39, but more like the P.B. and Papcastle examples.

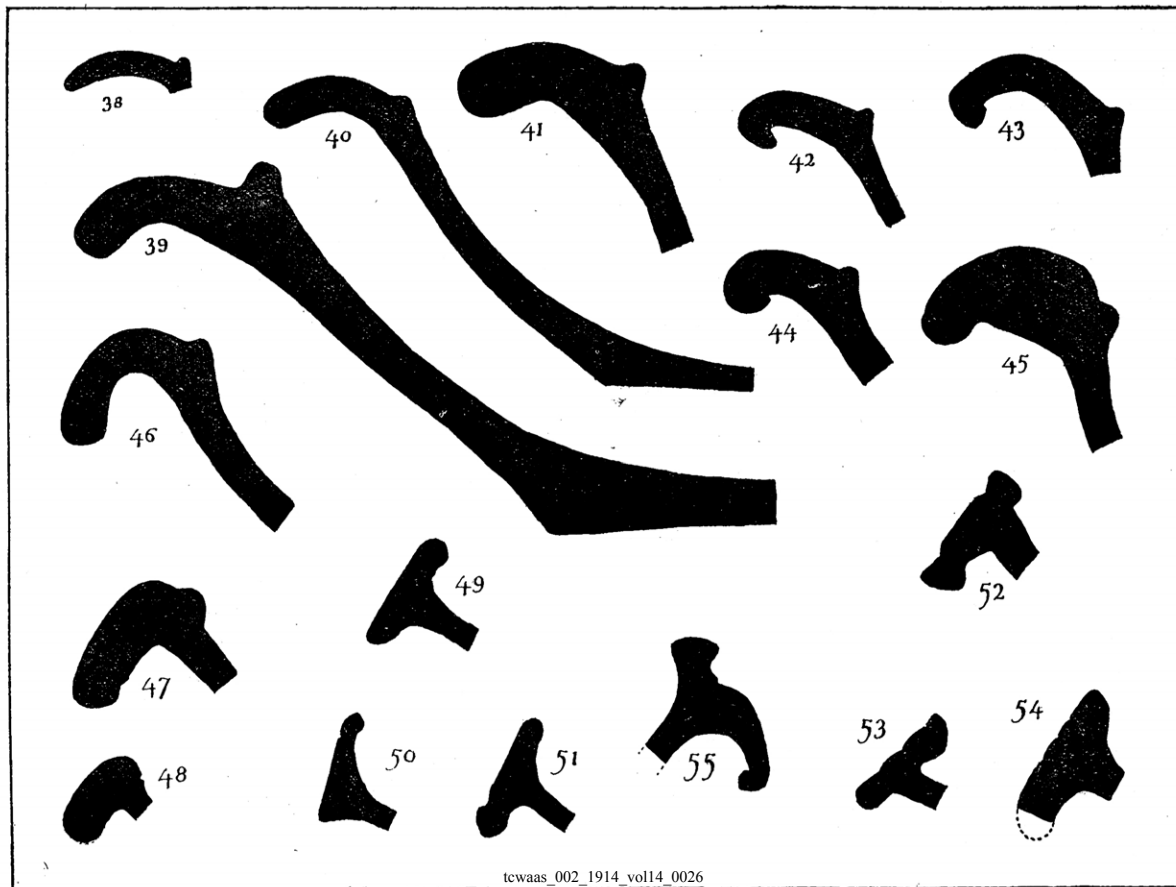
41. 10 in. buff. Mixed grit. Same type as No. 39. Somewhat like R.W. 96 (High House milecastle, Hadrianic).

42. 8 in. reddish buff. White grit. Same type as No. 39, except for the undercut rim, which seems to be accidental. Same parallels and Papcastle, *c*.

43. 8½ in. cream. Black grit. Similar type.

44. 7½ in. reddish buff. White grit. Similar type: P.B., plate iv., 5.

45. 11 in. soft red. Heavy type of rim like that of the so-called Rhaetian mortaria. Somewhat like P.B., plate iv., 7.



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FIG. 15.—MORTARIA ($\frac{1}{2}$).

46. Red. Large mixed grit. R.W., 113 (High House mile-castle, third century). A later development of the roll-rim type.

47. Red. Somewhat like R.W., 97, 98 (second century), 113 (third century). Same general type as No. 46.

48. Buff. Somewhat like No. 47. Cf. P.B., plate iv., 9 (second or third century).

49. Red. Simple hammer-head type: common in later periods.

50. Cream. Very like Papcastle, *j*: cf. C., 109.

51. 10 in. white. Cf. Papcastle *j* and *b*.

52. White. Reeded hammer-head type. C., 105-107 (post-Antonine). Somewhat like R.W., 115 (High House milecastle, third century).

53. Cream. P.B., plate v., 1-4 (fourth century), Papcastle, *k*.

54. White, with strokes of red paint on rim. Like No. 53.

55. Grey, buff surface. Mr. Hepple tells me that he has seen a similar rim at Chesters, not in the Museum. It has a very late appearance, and was found at a high level.

Distribution of the above pottery.—None of the above pottery, except No. 46, on floor II., was found on the floors of the N.E. tower. A considerable quantity of it, however, came from the site mentioned (p. 446) as showing six superimposed though somewhat disturbed strata. On the lowest, which we take to correspond to I.A. inside the tower, no finds were made. On the second (=I.B?) were found Nos. 15, 16, 21, 25, 30. With the exception of 25, which may be later and due to the disturbance already referred to, these are second-century types. Accordingly, this floor may be coupled with the one below it and floor I. in the tower as belonging to that century.

The third stratum yielded nothing of value. The fourth and fifth produced 22 (early type, due to disturbance?) 28, 29, 37, all late types; and on the highest of all was found No. 55. This site near the corner tower, therefore, though disturbed, shows a broad distinction between second-century and later remains.

The gateway produced a large quantity of pottery, including Nos. 1, 5, 17, 20, 24, 31, 32, 36, 39, 41, 45, 47, 52, 54. Some of the earliest and latest fragments were thus found near the gate. They were, however, entirely unstratified.

The remainder came from the ramparts, and a few pieces (Nos. 8, 14) from the ditch.

Samian ware: plain.—All the commonest shapes were well represented, but not a single legible potter's name was found,

and the pottery was almost all in small fragments. Shapes 31 and 33 were the most frequent; an almost complete example of the transition from 18 to 31 was found in two pieces.

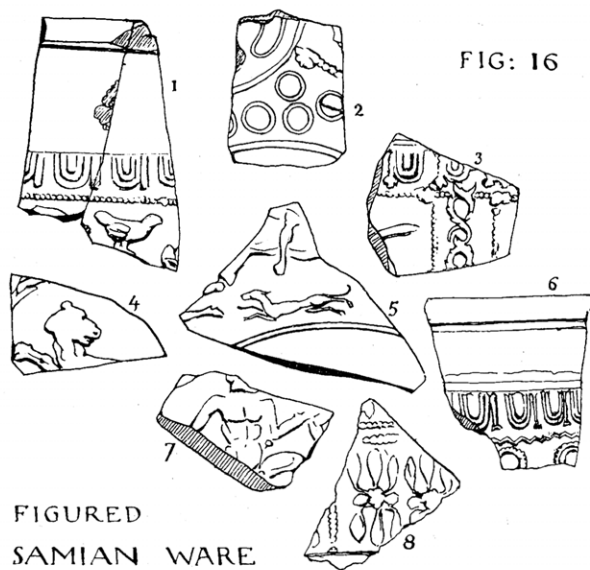
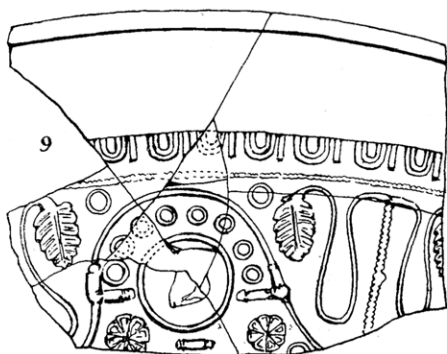


FIG: 16

FIGURED
SAMIAN WARE

SCALE

 $\frac{1}{2}$


Figured.—Professor Haverfield expresses his opinion that one fragment (fig. 16, No. 8) may be pre-Hadrianic.

The rest of the figured Samian is almost all of the common second-century Lezoux types. Fig. 17, No. 3, which represents

part of the bowl found on floor I. in the tower, belongs apparently to the first half of the second century. This confirms the second-century date given to that floor (p. 458).

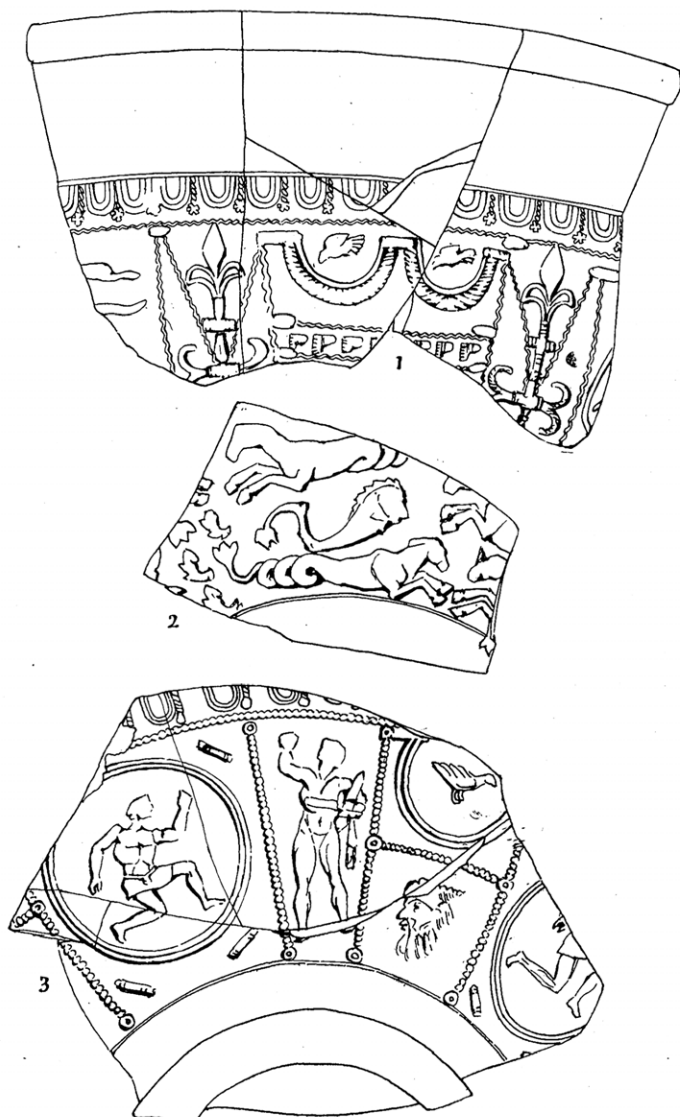


FIG. 17.—FIGURED SAMIAN WARE ($\frac{1}{2}$).

Fig. 16, No. 9, is of German manufacture, and closely resembles a somewhat smaller piece found at Corbridge (see *Arch. Ael. SER. III.*, vol. v., p. 415), which shows the same concentric curves with circles between them.

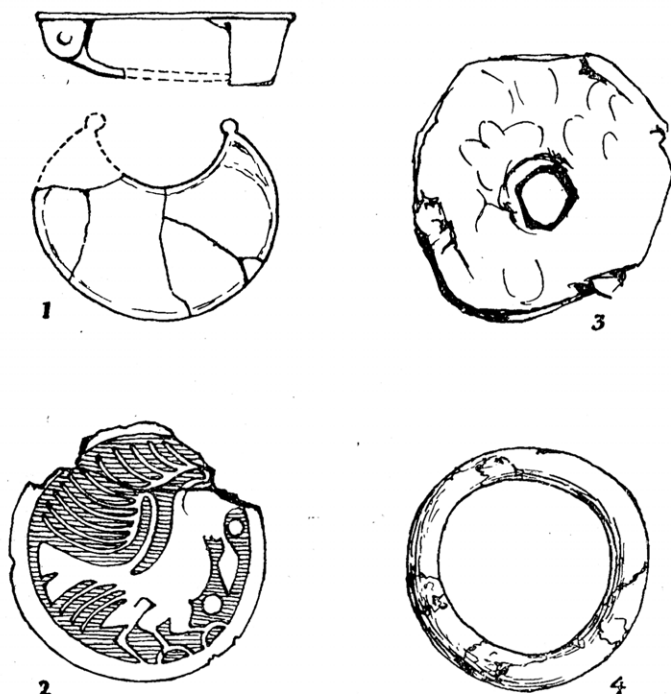


FIG. 18.—METAL OBJECTS (†).

COINS AND SMALL OBJECTS.

Coins.—A sestertius of Trajan was found in 1912 when the trenches N.E. of the fort were dug, and was kindly given to me by Mr. Pattinson, junior. It is much corroded, but the word PARTHICO is legible, which dates it to the year 116-117 A.D.

A minim of Constantine II., in excellent preservation, was bought from a gardener who had found it some years previously in Milligan's nursery garden. This coin is of interest as evidence of occupation in the middle of the fourth century A.D., after the date at which the milecastles are believed to have been abandoned.

Bronze objects.—A fibula, of a very thin crescent-shaped plate of bronze with a slight flange at the edge, pin and catchplate underneath (Fig. 18, No. 1).

A bronze button, bearing a very flamboyant bird (a cock?) inlaid in blue enamel. Probably a harness or armour ornament (Fig. 18. No. 2).

A somewhat similar ornament was found in the soot and charcoal of the "oven," bearing a geometrical pattern in the same blue enamel; but it was completely corroded to powder and no solid fragments could be preserved.

Three small plain bronze buttons, two flat and one domed, and hollow at the back; shank missing (not figured).

A ring, internal diameter about $\frac{7}{8}$ in., of wire about $\frac{3}{16}$ in. thick (Fig. 18, No. 4).

Iron Objects.—Over a hundred nails were found, scattered over all parts of the excavations, and clearly showing the great extent to which woodwork was used in the fort.

A large mass, about 18 by 2 by $1\frac{1}{2}$ in., of entirely rusted iron might possibly have been a pick, but is quite unrecognisable. It was found in the ditch at the N.E. corner.

Other pieces of iron of various shapes seem to have been portions of hoops, &c., but no other implements were found.

Leaden objects.—Nine sling-bullets were found, chiefly at or near the east gate. They were on the average about 1 in. to $1\frac{1}{4}$ in. long and of the usual glandular shape. Some were cast, and in one case the line of junction between two halves of the mould, each shaped like an egg-cup, was visible. Others were hammered. No inscription was visible on any of these bullets.

Several pieces of sheet lead were found in the N.E. tower. One of these pieces had apparently formed part of a lead pipe, but it was much oxydised and had come apart at the seam.

A leaden disk, pierced in the centre, is figured in fig. 18, No. 3. It is hammered, not cast, and the hole has been bored with a tool; it varies in thickness between $\frac{1}{16}$ in. and $\frac{1}{8}$ in. It was no doubt a weight of some kind; that it is not a spindle-whorl is shown by its lack of symmetry and the eccentricity of the hole. It may have been used to weight a fishing line.

Glass.—A considerable quantity of window-glass of the usual fabric and colour was found both in and near the east gate and also in the north-east tower. In the latter site were also found on the lowest floor fragments of a square bottle, including the mouth with the spring of a reeded handle, half the bottom and pieces of the sides. This also was of the ordinary green glass. In the former site a fragment of fine bright, somewhat purplish blue glass was discovered; it measured about $1\frac{1}{2}$ by 1 in. and seemed to come from the foot of some vessel.

Various mineral remains.—A considerable quantity of what seemed to be slag was found in and near the north-east corner of the fort, probably identical with that discovered in the road in 1900. Specimens of this were submitted to Mr. T. V. Barker, B.Sc., of the Oxford Museum, who returned the following report.

"All the specimens are too light to be regarded as iron slags. The specific gravity of the heaviest of the slaggy specimens is 2.4. Making a liberal allowance for internal bubbles of air, this might rise as high as 2.7. This is the value for an average piece of rock. There is also no evidence of the separation of heavy iron mineral fayalite, which is characteristic of iron slags. It appears to me that the specimens may easily have been formed as the result of a large fire on the ground which has partially sintered the material *in situ*. I am pretty certain that it would be hazardous to deduce anything positive as to the existence of metallurgical operations from the specimens."

In addition to the three millstones mentioned above (p. 441) as found in the ditch near the east gate, part of another was found outside the doorway of the N.E. tower. This was of Andernach lava, and had become entirely rotten; it broke into fragments when handled.

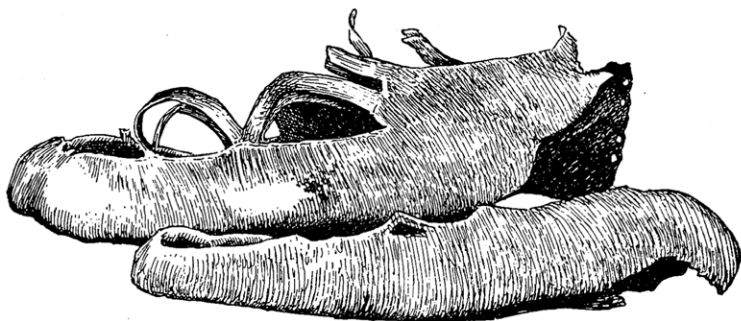


FIG 19.—SHOES.

Leather.—The shoes mentioned above (p. 439) are now being repaired by Mr. Young of the Ashmolean Museum, Oxford. They are an odd pair, made of calfskin and of light construction, apparently for the use of women, and have the openwork uppers usual in shoes of this kind, though not so elaborately cut as in many cases. They are shown in Fig. 19 as they appeared when they were found, and will be illustrated again when repaired.

A piece of thin leather, about 6 by 4 in. was also found, which showed stitches along one side and had apparently formed part of some article of clothing. Professor H. R. Procter, of the Leeds University, kindly examined it and pronounced it to be sheep or goatskin, probably the former.

III.—BY R. G. COLLINGWOOD and L. B. FREESTON.

Three weeks digging was done at Ambleside in March and April, 1914. Work was begun at the E. gate, where the jambs were found on each side of the *spina*, the N. jamb being a very well preserved block of large stones. No guard-chambers were found, and the gate seemed, on the whole, to resemble those of Melandra in Derbyshire. The E. rampart was traced south from this point, but as it approached the S.E. angle it disappeared; the corner itself had also been destroyed, probably in the explorations of 1846 in which an inscribed stone was found (p. 437). It was therefore not possible to trace the S.E. corner turret. A wall, however, was found at some depth below the foundation-level of the fort, running approximately N.W. and S.E. The outer face of the S. rampart was laid bare for the whole of its length; it proved to be in good preservation except near the S.W. angle. In front of it lay an artificial bank of gravel. A roughly-built drain was found to run under the rampart about 15 yards west of the gate. The S. gate was completely opened. It was a single entrance about 9 feet wide, the threshold consisting of a single stone, about $10\frac{1}{2}$ by $4\frac{1}{2}$ feet, with socket-holes sunk in it. There were no guard-chambers. The *via principalis* was exposed for a few yards north of the gate; it was made of hard gravel, about 10 inches in depth, below which was a flagged paving; this may represent an earlier roadway.

The W. rampart has been for the most part destroyed, but is clearly traceable by the clay bank behind it. The W. gate proved to have been much robbed; only the

foundations of the two side-walls could be traced, with the gravel road between them. Two levels of roadway were found, and in the middle of the gateway was a large hearth or oven of tiles and clay, apparently indicating that the entrance was disused towards the end of the Roman occupation.

On the N. side of the fort the rampart was in good condition for about 25 yards from the N.W. corner. From here to the gate it had been entirely robbed, except for a short strip of foundation-stones at one point. The N. gate was discovered at a point exactly opposite the corresponding entrance on the south side ; it was a single entrance, about 10 feet wide, without guard-chambers ; no sill-stone was found.

The corner turrets at the S.W. and N.W. angles, though not so well preserved as that at the N.E., were sufficiently intact to afford clear evidence of stratification. The three floors in the S.W. building showed a close correspondence with those of the N.E. (see p. 443) ; on the bottom floor was found pottery which seems to date at the latest from the early years of Hadrian. The N.W. turret, however, showed four floors, of which only two, the first and third from the bottom, revealed indications of burning.

Two trenches were cut across the middle of the fort, in order to find the position of the *viae*. These were found to be 14 feet wide, raised about 6 inches above the floors, etc., on each side.

The small finds included a quantity of pottery, which was especially plentiful outside the S. wall, and a single coin from the S. gate, a 2nd brass, much corroded and quite illegible.