

ART. XVII.—*Report of the Cumberland Excavation Committee for 1932.*

EXCAVATIONS ON HADRIAN'S WALL.

I. BIRDOSWALD.

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I. A. RICHMOND, M.A., F.S.A.

IN 1931, three phases of occupation preceding the Stone Fort were detected at Birdoswald. This season's work was devoted to defining their form, and, although finality has not been reached, the kernel of the problem is discernible in each phase, now to be described in turn.*

Phase I. *The polygonal enclosure.* The long straight sectors of the double ditches of this enclosure were examined in detail. They yielded no relic of chronological value, but added to our stock of leather, giving us hemmed rectangles like pieces of tents, to be described, with analogies, later. Sixteen feet behind the centre line of the inner ditch and parallel to it, we recovered a broken stretch of palisade-trench, two feet wide and ten inches deep, filled with three rows of packing stones set on edge. Later levelling had removed the stakes it once held and reduced the trench to a mere heel; and even this heel had been delved away at the west end and levelled clean away at the east. Its age is fixed by its orientation with the ditches. Stratigraphically, it is cut by the outer multiple ditch of Period I, overlaid by sleeper-trenches of phase III (fig. 1) and designed with no possible relation to phase

* To avoid confusion between these occupations and the four Periods of the Stone-Wall Fort defined in 1929, we name them Phases I, II and III, their different scope and comparatively transitory nature permitting this distinction.



FIG. 1.—PALISADE-TRENCH OF POLYGONAL ENCLOSURE
(phase I) cut by irregular sleeper-trench of phase III.

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FIG. 2.—DITCH OF QUADRANGULAR ENCLOSURE (phase I)
with causeway cut by sleeper-trench of phase III.

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II. The discovery is particularly valuable because it defines the exact character of this enclosure: it was a stockaded yard.

A hint of what the yard itself contained was given at its western end, where trenching disclosed a quadrangular area, 62 by 112 feet, bounded by a shallow V-shaped ditch, showing traces of having been levelled down. The west side of the enclosure had vanished over the escarpment, but the north-west and south-west angles were left, with a causeway on the north side near the former (fig. 2). This enclosure lies on the highest part of the site, and looks as if it surrounded a special building in the yard, leaving the rest of the space free for stores or beacons. Its stratigraphical position is clear. It is cut through by the Vallum of phase II, and on its causeway intrudes a sleeper-trench of phase III (see fig. 2). Bad weather prevented an attempt to learn what it contained.

Phase II. *The Vallum and its Fort.* The course of the Vallum-ditch was finally defined in detail, confirming the general line* laid down for the Committee in 1896-8, but substituting for sinuosities a point-to-point lay-out, and correcting slightly the provisional line laid down last year. But the chief service, and the justification, of complete if expensive work, was the discovery of a stone-revetted causeway across the Vallum-ditch. This novel feature (figs. 3-7) is entirely distinct from the regular system of crossings that destroyed the Vallum as a continuous boundary. It is not, as they are,† a causeway filling an already-existing ditch, but is a solid strip of virgin soil, purposely left in position when the Vallum-ditch was first dug: and the vertical butt-ends of the Vallum-ditch on either side of it are revetted in masonry analogous to that in the Vallum-ditch at Poltross Burn.‡

* These *Transactions*, o.s. xv, 175, pl. i.

† *Ibid.*, n.s., xxii, 310. Excavation proved the point here once and for all when it is combined with the regularity of the system.

‡ *Ibid.*, n.s., xiii, 393-4, fig. 47 and especially pls. xxxiii and xxxiv.

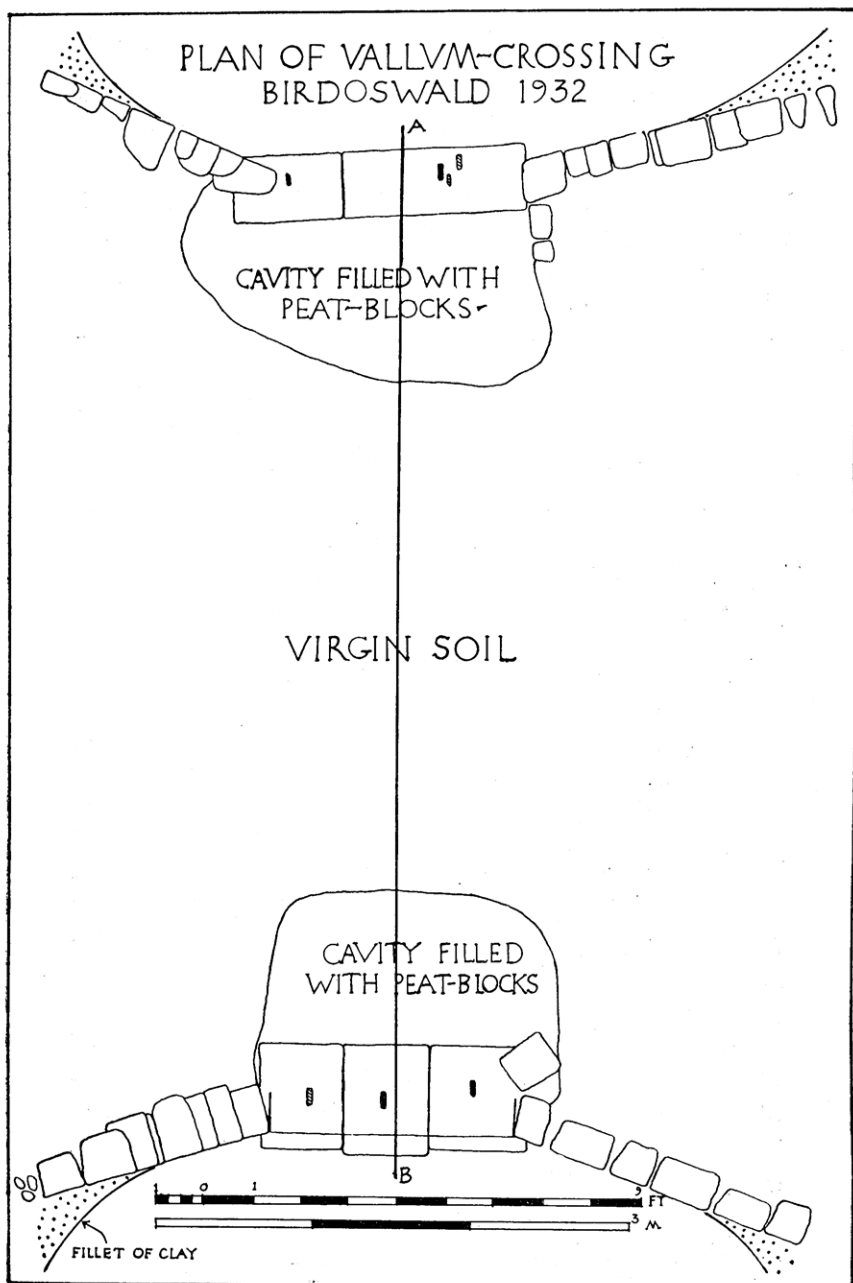
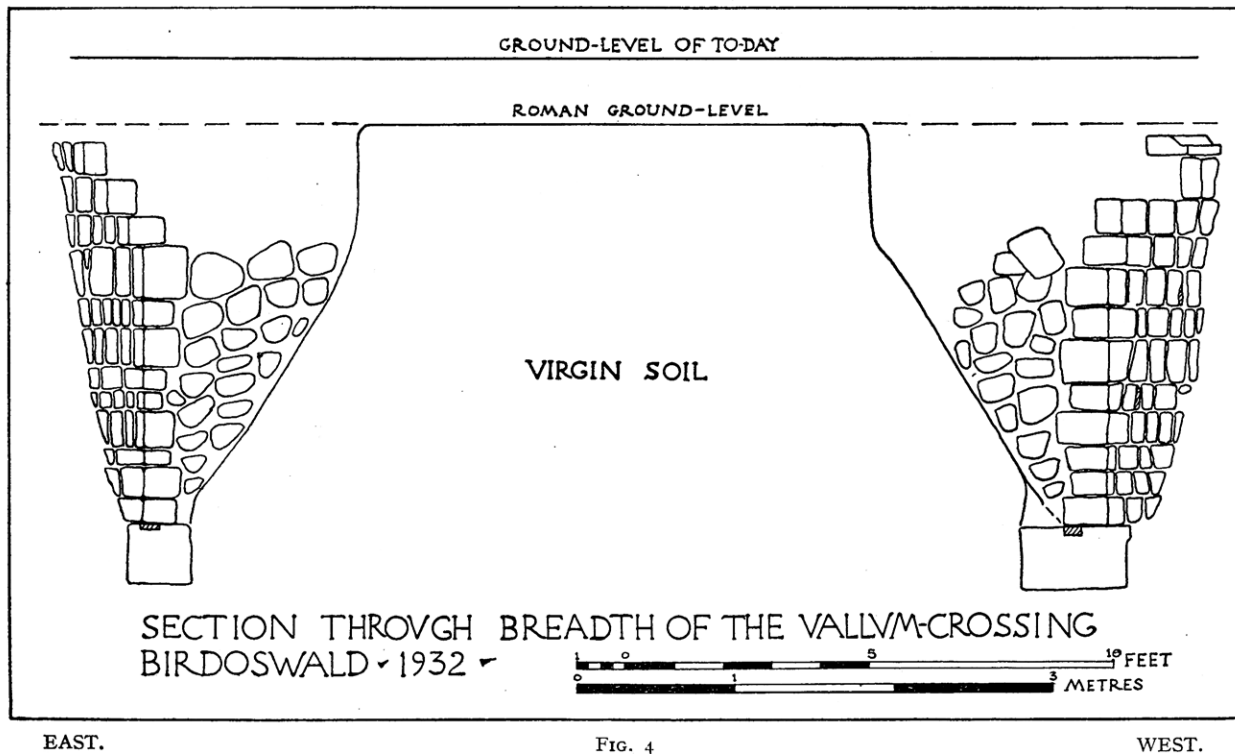


FIG. 3.



Each butt-end is turned in three straight lengths of walling, arranged as a flat-bottomed central panel and two slanting wing-walls, whose lowest courses follow the slope of the ditch and are built in medium-sized hammer-dressed ashlar, set in clay and heavily plastered with clay coming round in a fillet from the sides of the ditch. The over-all width of the causeway (fig. 3, A-B) is 19' 6". Behind the central panels are cavities (fig. 4), found filled with peat-blocks, leaving a platform of virgin soil, 10' 4" wide. The original stone-work in both panels and cavities was gone. It had been removed, leaving a high straight-joint against the south wing-walls, while the north wing-walls, partly demolished to facilitate the removal, had ragged stepped edges (see figs. 3-7). This systematic removal had been done before the Vallum-ditch was filled up: for the familiar peat-block filling was undisturbed and tightly packed in the gaps whence the masonry had been torn.

The central panels of the causeway-walls had been robbed, but their discrepantly wide foundations remained (figs. 3-7). These were large squared blocks, three on the west and two on the east, originally swung into place by a crane with a lewis, and then trimmed in position, the trimming partly obliterating the lewis-holes. On the west side, a setting-out line was cut for the exact placing of the superincumbent masonry and was returned to mark the end of the wing-walls.

These massive foundations, built apart from the wing-walls, imply large masonry, the foundation of a high erection on the causeway itself. Our President, seeing them as newly discovered, at once suggested an Arch,* spanning the entry across the Vallum into the Province, just as the Trajanic Arches† on the Mole at Ancona and the Danube Bridge marked the gates of Italy and Moesia.

* An Arch in this position has now (June, 1933) been found at Benwell.

† Curtis, *R. Monumental Arches* no. 34: Cichorius, *Die Reliefs der Traianssäule*, Sc. c.



FIG. 5.—VALLUM-CAUSEWAY, BIRDOSWALD, west side.



FIG. 6.—VALLUM-CAUSEWAY, BIRDOSWALD, east side.

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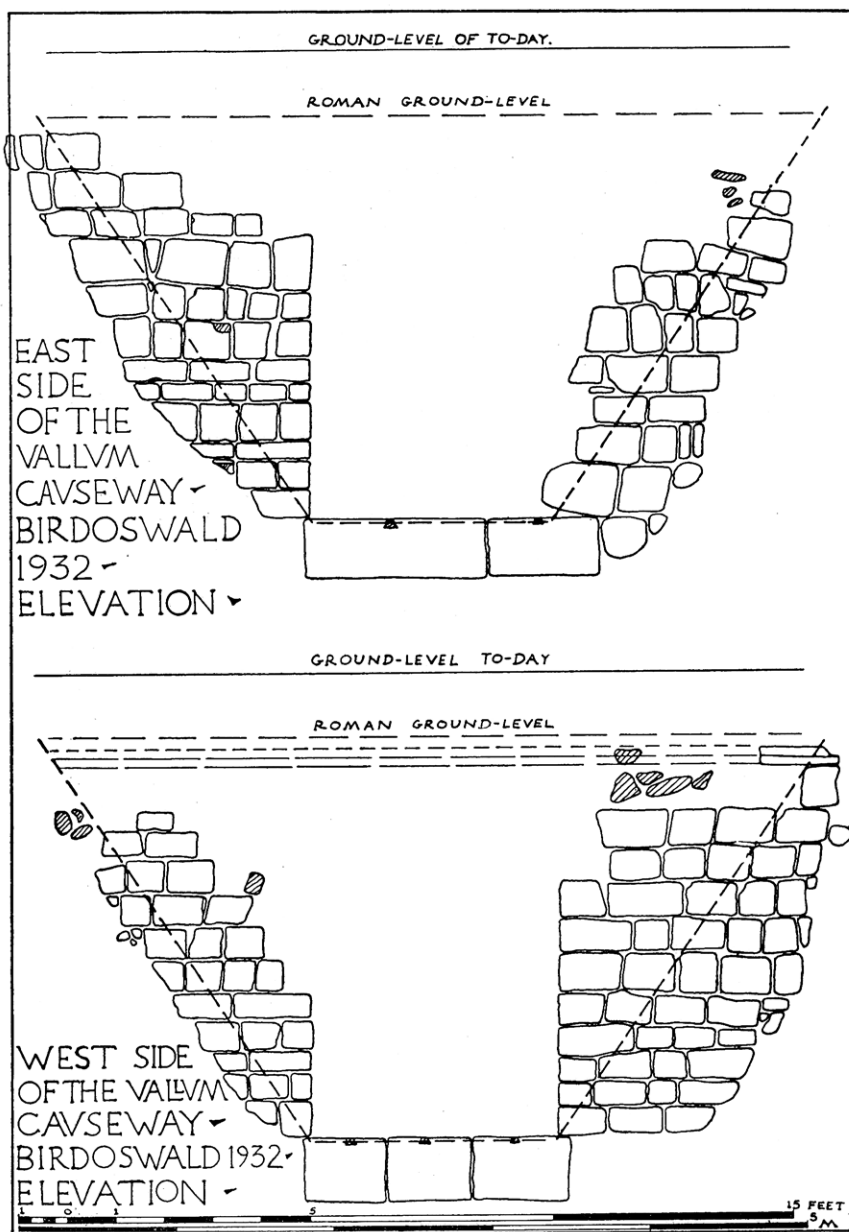


FIG. 7.

A surviving member of the crowning mould from the wing-walls (fig. 7) shows that they had no parapet, for it is designed to throw off rain-water at ground-level. Finally, the monument was evidently taken away, when the Vallum became obsolete, to a new position on the newer frontier-line or in the fort; for only so can the systematic removal of all the specially-cut stone at that time be explained. Meanwhile, two points of immediate significance emerge. The monument, by selecting the Vallum-ditch for its position, confirms the view* that the Ditch was the essential feature. The occurrence of a permanent crossing in a diversion of the Vallum implies a post in that diversion guarding the crossing, a question now to be considered.

Last year, a definition of the Vallum-fort seemed in sight. Closer examination has confirmed the impression, subtracting from it and simplifying it in a welcome way. The first examination was devoted to the apparently rounded angle in the earlier foundation partly covered by the south rampart of the Stone Fort. This was discarded: for complete excavation of the feature proved it to be a rough pavement of the Stone Fort, as described below (see plan and fig. 14). Similarly, the fireplace west of it turned out to be connected with the Stone Fort (see fig. 15). This disposed of two apparently valuable clues, making it essential to clear in full the straight length of the foundation behind the south rampart of the Stone Fort.

The first result of this test was a new reading of last year's single cross-section, which had seemed to reveal a foundation 11' 6" wide, with clay standing upon it. The clay proved to be the east edge of an oven, to make room for which the foundation had been dug away. The oven was one of four large ones, ranged, as at Birrens,†

* *Ibid.*, n.s., xxii, 360-361, 366-7.

† *P.S.A. Scot.*, xxx, 101, plan facing p. 96, cf. Aesica, *Arch. Ael.*, xxiv, 38.



FIG. 8.—EARLY FOUNDATION (phase II)
cut away by oven-range behind S. rampart.



FIG. 9.—E. TOWER OF S. GATE ;
back wall with two levels of foot-path to guard-chamber doorway :
in foreground, early foundation cut off by cobbling of lower path.

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along the back of the Stone Fort's rampart; and the lowest layers of that rampart were packed in about the ovens in such a way as to show that the ovens were built with the rampart. When worn out, they were replaced by two successive series (see figs. 8, 10) of smaller ovens.

The relation of the straight foundation to these ovens is securely defined in four ways. First, the foundation itself was quite clean and unsullied by oven-ash, even opposite the oven-mouths; thus, it was buried when the ovens were used, instead of forming an ash-trodden pavement in front of them. Second, an ash-pit at the easternmost oven (fig. 10) had been dug right through the pitching of the foundation. Third, where no ash-pit existed, the oven-mouths encroached upon the foundation (fig. 8-10), making gashes in it where it had been deliberately dug away opposite to them. Fourth, the kerb of the foundation lay too far beyond the oven-mouths to have served as the back edge of a rampart associated with them. These facts alone amply demonstrate the priority of the straight foundation to the Stone Fort, but further proof was forthcoming behind the east tower of the Stone Fort's south gate. Here (fig. 9), the kerbing of the foundation had been removed, but the very distinctive pitching of sharp freshly-quarried stones ran on until it approached the pathway leading to the guard-chamber doorway. The actual junction had been cut off by the diagonal trench of 1931, but the essential evidence was intact. All late levels having been ploughed off, the two earliest levels remained in the pathway to the guard-chamber doorway and in the road behind the gate. The second was a compact mass of gravel, clean mortar and stone-flakings. The earlier was river-cobbles, laid directly on the boulder-clay subsoil and over the weather-proofing fillet of mortar and masons' chippings that dressed, here and at the south-east angle (see fig. 13), the tower's foundation course. Similar river-cobbles

(fig. 10) at the same level continued along the *intravallum* of the Stone Fort and filled the gap whence the kerb of the straight foundation had been removed. Thus, the kerbing had been removed before the Stone Fort's *intravallum* road was first metalled; just as the pitching had been removed when the Stone Fort received its ovens, built coevally with that Fort's rampart. Evidently, the straight foundation had been destroyed then wherever it obtruded; and it is clear both that it antedates the Stone Fort and that its extant remains are chance survivals of a thorough demolition.

The meaning of the foundation must, then, be reconsidered; because the clay upon it, mistaken for rampart, turned out to be the clay covering of an oven, and this leaves us without a trace of the structure which the foundation carried. Yet a rampart-foundation it assuredly is. Its type of kerbing proves that it is not a road, and its sharp pitching shows that it is not a wall-foundation. Thus, it must have carried an earthwork rampart of some kind. The systematic demolition of which proof has now been obtained explains why this phase has eluded us so long, and why it has been considered important to examine every scrap of it now.

After this, it only remains to define the chronological position of the new rampart. This is simple. It does not belong to the Stone Fort and it cannot belong to phase I, or, as will be seen, to the buildings of phase III. Thus, it must go with phase II, and in fact entirely accords with the Vallum diversion. There is, however, no reason why it should not have lived on into phase III; and an examination of the relics of that phase has afforded some cogent reasons for believing that it did.

Phase III. *The wooden buildings.* The examination of the wooden buildings was hampered by rain, but not so as to prevent the last stage in their solution from being reached. The buildings work out into two irregular

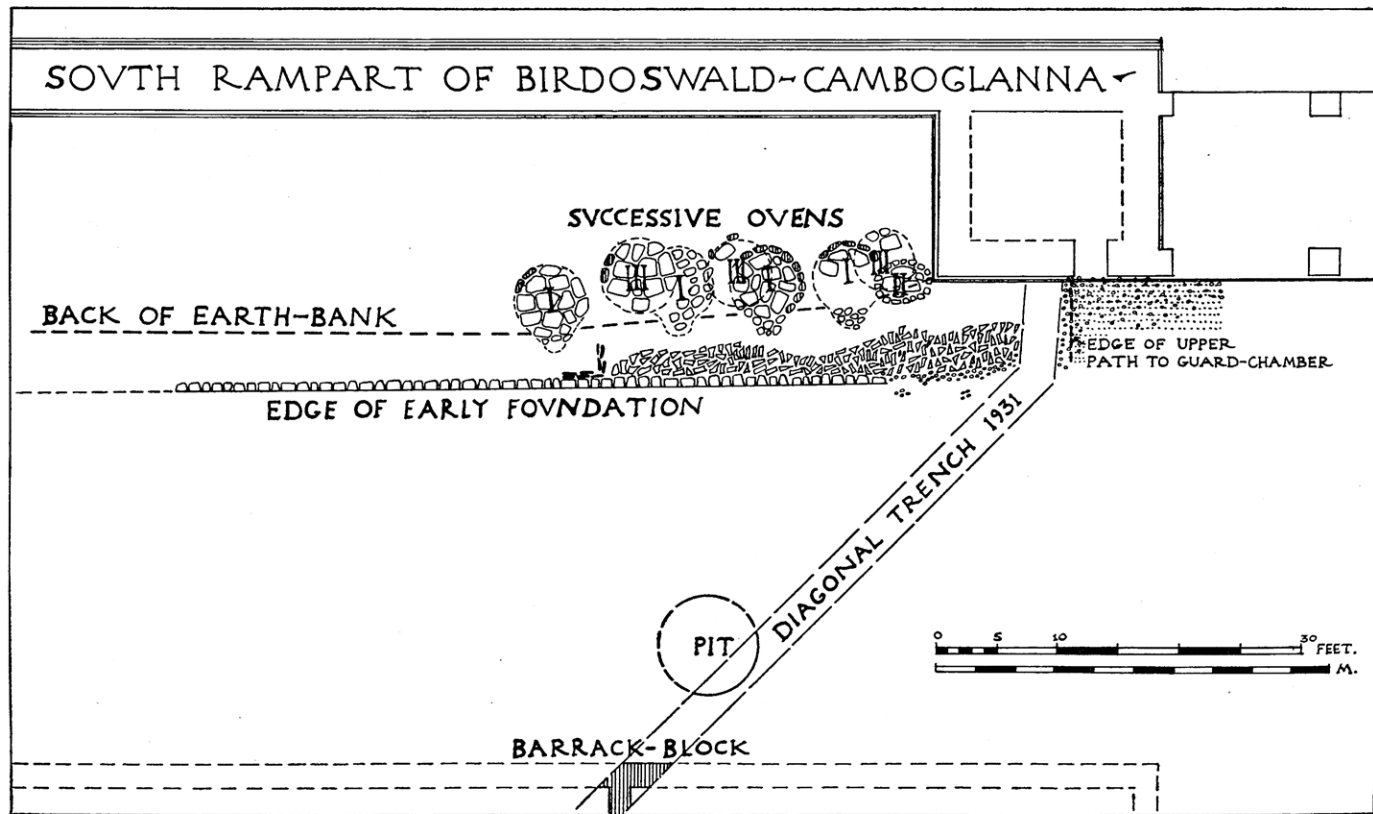


FIG. 10.

groups, whose extent future discovery may amplify, but whose character it cannot alter. The first group, associated with the building discovered in 1928, turned out to be a long row of not dissimilar sheds, some short and some long, all divided by alleys, all cut through by the multiple ditch of the Stone Fort and none projecting beyond its south side. They are not planned like barracks, and look like open-ended sheds for carts or stores, with perhaps a long stable at one end. They were built when the second group was already erected, for they try to reconcile its orientation with their own. Immediately to the south, careful trenching revealed an open space.

The second group begins nearer the escarpment, and consists of at least three large buildings, oriented one with the other, but very differently from phase II. Most of the east building has slipped away, and the rest is cut at critical points by the outer multiple ditch and by the Vallum-section of 1928. But enough could be planned to attest that it was sheds, ranged round three sides of a court. Further west, a complex of sleeper-trenches indicated the position of the next block of buildings, which will receive full examination next season. Finally, a third large building, bounded on the north by a very wide sleeper-trench, and evidently an agglomeration of more large sheds, was partly defined. Details here also must await another season. But it is relevant now to record that the sleeper-trenches were here very well preserved and that their character and junctions (*cf.* fig. 1) sufficiently indicated the rough and temporary nature of the structure to which they belonged. This observation was usefully confirmed by Mr. R. A. Cordingley, Master of Architecture in Armstrong College.

Thus, despite the incomplete character of the plan as so far recovered, it is already possible to say that these wooden buildings belong to no fort. This fact entirely harmonises with their lack of standard defences. An

exhaustive search for these on the east did indeed reveal one irregular ditch, but quite out of direction to fit in with any defensive scheme. The real boundary of the area was probably the east ditch discovered in 1930, linking the fort-area with the Vallum ditch where it may have ceased to be filled up. On the other hand, it is equally sure that the plan of these buildings is not that of ordinary annexe-buildings. Just as the little huts are not the long narrow taverns or shops associated with village-life all over the western provinces,* so the large groups of sheds have no place in the ordinary annexe. Thus, the whole group is so odd that it can only be explained by a special need.

A clue to this need is offered by the stratigraphical place of the buildings. They belong to the moment when the Vallum had been obliterated and the Stone Fort was not yet in being; in other words, to the age of the Turf Wall. This was a time when great concentration of stores and building-materials must have been required and it is clear that these buildings are of exactly the character to house such stocks, the big sheds serving as store-rooms, and the small huts for waggons, stabling and administration. The whole group would be protected by the earthwork Vallum-fort, whose existence is now proved, before the Stone Fort was yet designed and after the decision to substitute a new boundary for the Vallum had been taken. There are, indeed, two not mutually exclusive movements with which the concentration might be specially connected, the laying out of the road to Bewcastle, coupled with Hadrianic† constructions there, and the building of the Turf Wall. Either operation would provide sufficient reason for the temporary concentration of stores which the type of our buildings indicates.

* Collingwood, *The Archaeology of Roman Britain*, p. 109.

† These *Transactions*, N.S., xxii, 184; Horsley, *Britannia Romana*, 192, n. 45, xlv; *C.I.L.*, vii, 978.

Further, the necessary recognition of phase III as irregular and transitory, being an appendage to or an extension of phase II, simplifies a problem which was in danger of getting too complex to control. This simplification is to be taken in connexion with the evidence (see p. 270), that the Turf Wall was not an extra complication afflicting the Birdoswald sector alone, but, like the broad Wall (or its foundation) from the Irthing eastwards to Newcastle,* was the first version of the Wall-scheme from the Irthing westwards at least as far as Craggle Hill. Accordingly, it becomes clear that at Birdoswald two very intelligible structures antecede the two Wall-schemes. The first was a stockaded enclosure, either a beacon-post or a stores-depot, whose life was not long and whose character exploration may yet elucidate. The second early structure is the turf-ramparted fort, contained† between the Vallum and the morass discovered in 1930 below the Stone Fort's *principia*. This was built certainly not later than the divergence in the Vallum, but its beginnings are not yet distinguishable as coeval with or earlier than the Vallum. Something can now be said about its end. It evidently outlived the Vallum, protecting stores connected with the first Wall-building and serving, as did the similarly small neighbour forts of Carvoran and Castlesteads, as an integral‡ part of that early scheme. So far, there is little in the story that cannot be postulated from Carvoran westwards. The exception occurs after the Turf Wall was built. The

* These *Transactions*, N.S., xxxi, 101-2, 110.

† *Ibid.*, N.S., xxxi, 127. It is clear, however, that the morass was filled up to carry the north-east angle of this fort, for which we can now understand that the eastern ditch was aiming. Indeed, it may be concluded that the lack of berm on the south and east sides of the Stone Fort is accounted for by the building of the stone wall before the early rampart behind it was cleared away. At the west side of the Stone Fort, beyond the possible limits of the early fort, there is a good berm.

‡ *Magna*, Bruce, *Roman Wall*, 3, 241; *Castlesteads*, Bruce, *ibid.*, 276; cf. *The Book of the Pilgrimage*, pp. 44, 38.



FIG. 11.—PENT-HOUSE AND OVEN, behind S E angle-tower.

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FIG 12.—S.E. ANGLE FROM NORTH,
showing revetted foot of rampart-backing.

little fort was then replaced by a milliary stone fort planned in relation to the Turf Wall line, as Maclauchlan* must have the credit for observing, and only receiving the Stone Wall at its northern angles as an afterthought. Thus, the oddity of Birdoswald, as compared with its neighbour forts, would be the presence of one earlier occupation, of a type that might turn up as a primary phase in the history of any site, and the substitution of a milliary fort for a small Vallum fort, an event suggested before now as a working hypothesis,† and not yet to be excluded as impossible elsewhere.

Structural changes in the Stone Fort. In 1931, the diagonal trench directed towards the south-east angle-tower had revealed behind the tower a mass of stones

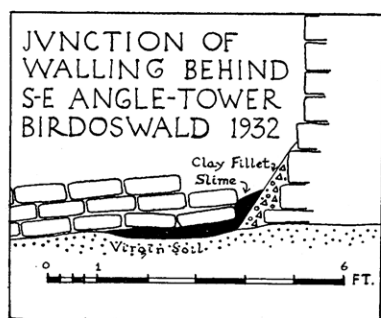


FIG. 13.

already mentioned, which swept round northwards as if in continuation of the early foundation. This stone-work (fig. 11), when fully uncovered, proved to be a pitching of stones laid flat and largely re-used and worn, as different as possible from the genuine early pitching. Further, they were laid up

against the back wall of a little pent-house behind the angle-tower, whose level a rapid fall in the ground obscured, but whose east wall cut into the Stone Fort's rampart-backing and was laid upon a thick layer of rain-washed slime, covering the fillet that waterproofed the angle-tower's back wall (fig. 13). Thus, the building and the pavement surrounding it were indubitably

* *Memoir*, 57, as noted by F. G. Simpson, these *Trans.*, N.S., xiii, 359-60.

† *J.R.S.*, xxi, 47; xi, 65; these *Transactions*, N.S., xxii, 462 summarising *P.S.A.N.* 3, x, 216-218; *Ibid.*, xxxi, 98.

later than the Stone Fort, a conclusion consonant with the Antonine pottery associated with them. Again, the north-west angle of the pavement was sealed below a large oven-base (fig. 14), which itself covered Antonine sherds and yielded a fine gold ear-ring amongst its foundation. The room appeared to have no west wall, the structure resembling a west wall being the revetted edge of the path to the angle-tower door, flanked by a rough drain. Below the north-east angle of the building a line of kerb-stones was found (fig. 11) manifestly early but disconnected from all intelligible associations: they fit neither the Stone Fort nor what is known of the Vallum Fort, and remain inexplicable.

Further west, the fireplace was examined. This (fig. 15) proved to be very heavily fired, rather like a forge. Below it ran a curved drain, which can be planned (see fig. 15) but not interpreted; and this in turn was bounded on the south by a slightly curved wall. No associated object shed light upon the date or purpose of the structure: but it lay in the track of the early foundation, which had here been removed. It must thus be associated with the Stone Fort.

The upper stratification at the angle-tower shed some light upon the later history of the Stone Fort. The building at the back of the tower, already described, may have been Antonine: but the oven which overlapped the pavement round it was certainly post-Antonine. Both the building and the oven were then covered by a new layer, associated with a fine stone-built oven and quantities of ash therefrom. This layer continued along the rampart-back, which was now cut level to form a sort of cooking-bench or shelf, steeply revetted at the back in stone (fig. 16). The revetted shelf, with another oven on it, very well preserved, had already been noted on the east rampart, seventy-three feet south of the east Quintan Gate, in 1931; while the revetment had appeared at the



FIG. 14.—S.E. ANGLE, showing two ovens.



FIG. 15.—FIREPLACE AND DRAIN AT S.E. ANGLE.

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Quintan Gate, in association with another revetment at a higher level, perhaps for stairs or a ramp. At the angle-tower, the revetment was traced for some distance northwards, and proved to be a constant feature. The fact that the oven associated with the shelf so revetted belonged to the third period agrees with the evidence at the Quintan Gate, where the revetment was associated with buildings of the third, or Constantian period. Evidently, the ground-floor of the angle-tower was now no longer used, since the oven completely blocks the entrance. This would coincide with the disuse of the north guard-chamber of the east gate, which also falls in this period.*

But a section cut through the east rampart just north of the angle revealed further details (fig. 16). Behind the shelf, the back of the rampart-walk was vertically revetted in stone, a feature also revealed in an otherwise valueless section between the south gate and the south-west angle. The result was a rampart-walk 13 feet wide, allowing a two-foot parapet, backed by a cooking-shelf some ten feet wide. But the preservation of these Constantian features in the east rampart is due to a still later refurbishing. The cooking-shelf and revetted rampart-walk were embodied in a new earth-bank, whose front was not the standard fort wall, but a new wall whose foundation and one course remained at this point only, perched high on the mound of ruins formed by the collapse of the fort-wall. The bank was of mixed earth, and placed so directly upon the cooking-shelf that it is not to be considered as post-Roman. It is as eloquent a picture of the ruin effected in 367 as we are likely to get,

* The evidence for this gate's history has never been adequately published: anticipating the full account, it may be said that it had two levels of threshold, and that in a third period the north tower was disused and the north portal converted into a guard-chamber, of which the south and west walls still exist, while the east wall was removed by the excavators of 1850. The east portal of the south gate was blocked still earlier, and, in a late period, the west portal also.

and worth placing beside the similar picture* gained in 1929 of good buildings inside the fort destroyed and replaced by rough shacks.

Finally, details about the composition of the Stone Fort's rampart may be noted. The cut just described revealed a rampart composed of clean material. Below it, the surface yielded a little group of early sherds, including a piece of Samian Dragendorff 15/17 and a coarse carinated bowl. Two cuts in the south rampart, between the south Gate and the south-west angle, revealed the same mixed earth as had appeared in the east half of the same rampart containing sherds, including a bowl, Dragendorff 37, signed by Moxsius. Two cuts in the west rampart revealed mixed earth also, but the lowest layers were surface peat from the moss on the west. This suggests that on the west at any rate the rampart-backing came from digging ditches. But the systematic demolition of the Vallum-fort already demonstrated is sufficient to account for the debris in the south rampart: and the fact that the ditches of phase I yielded little pottery makes it likely that the great part of this debris, if not all, belongs to phase II. Interpretation should await a final attempt to see whether the ditches of the Vallum fort can be disentangled from those of the Stone Fort; if they can, they may offer some clear chronology.

2. BANKS BURN TO RANDYLANDS.

By F. G. SIMPSON AND JAMES MCINTYRE.

Hare Hill Turret, 53a. A turret was discovered on Hare Hill in 1854 or 1855. The earliest account of the discovery is Maclauchlan's: "at about a furlong from the farm-house, we notice a break in the foundation of the Wall of about 12 feet, walled on each side, both north

* These *Transactions*, N.S., xxx, 170.

BIRDOSWALD-CAMBOCLANNA-1932

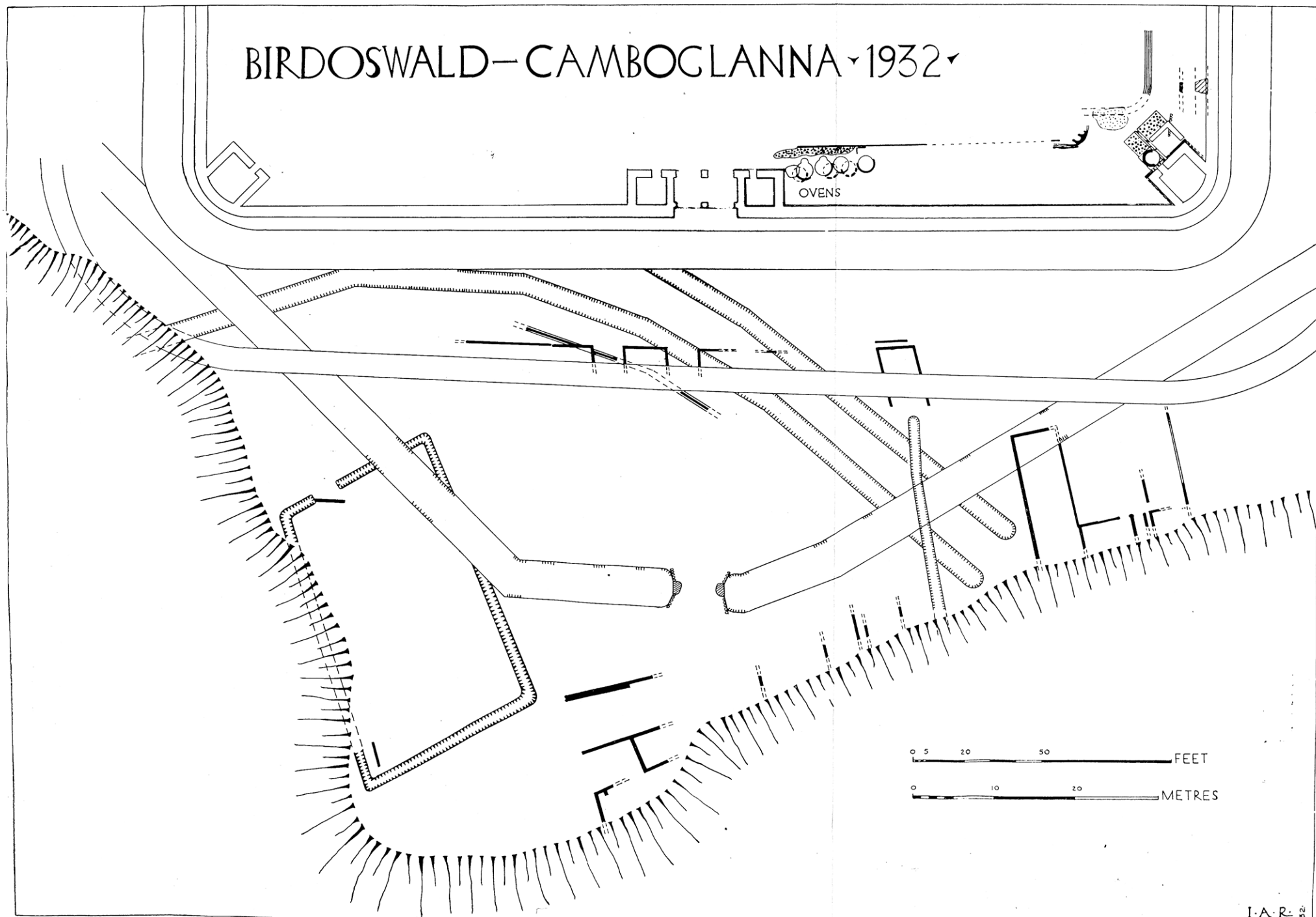


FIG. 16.

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and south, as if there had been a building of some sort in the Wall." (*Memoir*, p. 58).

Partial excavation enabled Dr. Bruce to give the following description of the structure in 1857: "The turret is a rectangular building, formed of well-squared stones, but smaller than those used in the Wall. It projects nearly three feet beyond the Wall to the northward. Its southern wall has not been explored. It is quite independent of the Wall. Its length is 14 feet 6 inches inside measurement. When discovered it was full of black ashes." (*Proceedings, S.A. Newcastle*, 1st series, 1, p. 237).

In the third edition (1884) of Dr. Bruce's *Handbook to the Roman Wall*, the following footnote was added to the account of the turret on p. 214: "This excavation has, since the publication of the first edition of this work, been covered up to prevent the sheep falling into it, and the surface is now grass-grown. A thorn tree is close to the spot where it is."*

The site was then so generally forgotten that not even the discovery of the Turf Wall turrets, 51a, 51b and 52a in 1927 (these *Transactions*, N.S. xxviii, p. 382) and T.W. 50b in 1928 (*ibid.*, N.S. xxix, p. 305), recalled to anyone's mind its structural significance. A chance re-reading† of Dr. Bruce's account of the turret led to its immediate rediscovery on September 12th, 1932.

The turret (figs. 17-19) was of normal size and conformed in structure, narrow berm-width (6 feet) and independence of the Stone Wall, to the standard of turrets 51a, 51b and 52a. Its walls were built upon a foundation of stones packed with clay in trenches about a foot deep. A flag footing course covered the foundation. Above the

* In the eighth edition of the *Handbook*, the asterisk marking the position of this footnote on p. 219 was inadvertently moved to the next sentence relating to the spot a little further west, known locally as Money Holes (*cf. Memoir*, p. 58).

† By Mr. James McIntyre.

footing the east and west walls were about 2 feet 6 inches thick. The existing height of ten courses showed no reduction in thickness. The south wall was originally 2 feet 9 inches thick above the footing. The third course on the outer face was a bevelled plinth. The north wall appears to have been of the same thickness as the south and probably carried a similar plinth course. Such a plinth was found in position on the north face at 52a (*ibid.*, N.S. xxviii, p. 383 and Fig. 2). Further examination of 51a, 51b and 52a may show that the plinth was a regular feature of both north and south (i.e. the exposed) faces of Turf Wall turrets.

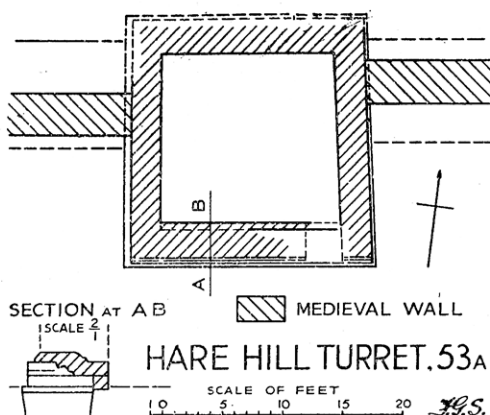


FIG. 17.

The south wall of 53a had been altered during construction. At the second course it had been thickened to 3 feet 4 inches by placing against the inner face a second face of masonry. The foundation was not wide enough to carry the new inner face and it was built directly upon the subsoil. At the third course the plinth was set back $3\frac{1}{2}$ inches from the outer face, reducing the wall above to a thickness of 2 feet 10 inches.

Allowing for a plinth on the north face, the turret

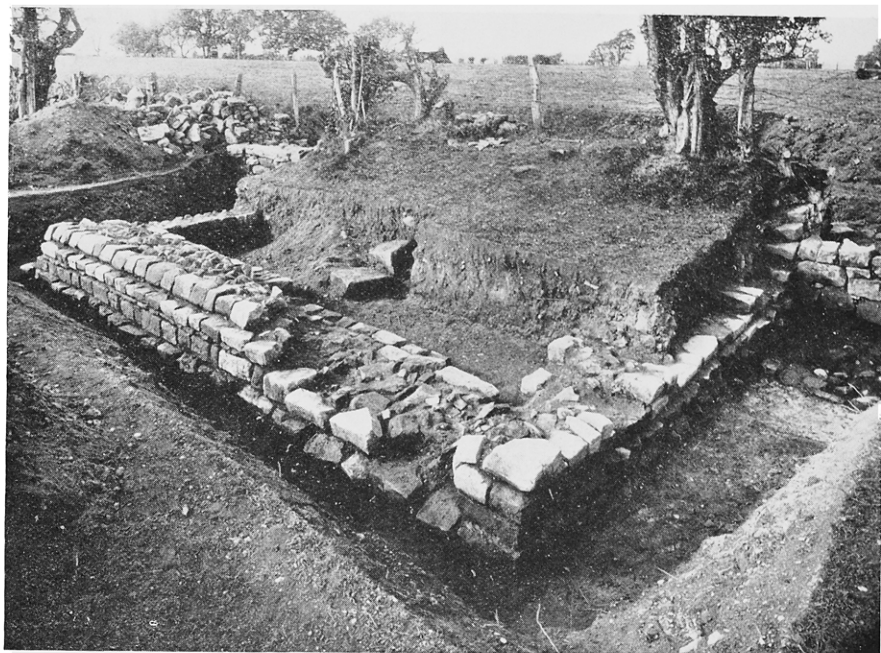


FIG. 18.—HARE HILL TURRET, 53a, from the south-east.



FIG. 19.—HARE HILL TURRET, 53a, from the north-west.

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finally measured externally 19 feet 9 inches from north to south and an average of 19 feet 9 inches from east to west.

Though nothing remained of the doorway passage or threshold, the gap in the masonry at the east end of the south wall may be accepted as indicating the position of the doorway. There were no definite remains of an internal stairway in the normal position in Stone Wall turrets, i.e. at the other end of the south wall, nor in either of the northern corners. Figs. 18 and 19 show the extent to which the interior was excavated. It lacked the usual evidence of stratification and contained very little pottery. A coin of Constantine I was found in disturbed soil.

The Stone Wall abutted upon the turret, the north face being 2 feet south of the northern corners. The Wall was so completely destroyed that above the foundation only two stones of the flag footing course remained in position—at the north face of the west junction (fig. 19). Here and there even the stone from the shallow foundation trench had been removed. At the east side the foundation was 8 feet 7 inches wide and at the west 8 feet 11 inches.

A layer of gravelly soil covered the remains of the Stone Wall. Upon this layer stood a wall 3 feet 6 inches thick, built without mortar, which abutted directly upon the turret. East of the turret this wall was set out 2 feet 8 inches north of its line to the west. It was not continued across the interior.

When the south face of this wall and that part, 3 feet 3 inches wide, of the foundation of Hadrian's Wall of Stone to the south of it were first exposed east of the turret, we appeared to have found what was believed to exist on Hare Hill, namely the narrow Wall on the broad foundation.*

* "Banks Burn, beyond [i.e. west of] which the broad foundation recommences" (these *Transactions*, N.S. xxxi, p. 104): following *ibid.*, N.S. xxviii, p. 384, "As we now realise, [the broad foundation] was found at several points . . ." (including Hare Hill, *ibid.*, O.S. xiii, p. 466).

Later, when the north face was exposed and the Roman foundation was proved to be that of the narrow Wall only, the possibility that the wall above was of late-Roman date still found support in the remarkable evidence of its junctions with the turret and its absence across the interior.

Only when the layer of gravelly soil was found between the Roman foundation and the wall above did it become certain that the later structure belonged to the period following the systematic demolition of Hadrian's Wall. It may be safely concluded that the demolition took place during the building of Lanercost Priory.

In view of the fact that the line of the Wall was the northern boundary of the Priory lands hereabouts (*ibid.*, n.s. xxi, p. 130), the construction of a boundary wall on the site of Hadrian's Wall might well have immediately followed the work of demolition. The evidence of the layer of soil appears, however, to be against immediate construction.

When the wall was built the evidence of the junctions proves that the turret had not been demolished with the Wall. The most probable reason for its escape is that it could still be used. This conclusion has the support of the worn-down state of the doorway and the absence (1) of stratified occupation-earth and (2) of any continuation of the boundary wall across the interior. Do the "black ashes" found inside in 1854 or 1855 prove that the turret—standing on the top of the hill north of the Priory—was used as a Border watch-tower and beacon?

We were not the first to be deceived by the medieval boundary wall. It was evidently this wall that Mac-lauchlan and Bruce described as "the Wall" in their accounts of the turret quoted above.

In 1894, Haverfield examined the Wall at Craggle Hill and Hare Hill and found "on the south face . . . a projecting course . . . : it is either a footpath or an extra

foundation course" (*ibid.*, O.S. xiii, p. 455). It is clear that at Craggle Hill his trench "ran from . . . the Vallum to the south face" only (*ibid.*, p. 466). It may reasonably be inferred that his trenches on Hare Hill were also carried no further than the "south face," for in neither case was the thickness of the Wall recorded. Had his trenches crossed the Wall, Haverfield would have found that the south face he saw was that of the medieval boundary wall.

Banks Burn Milecastle, 53 (figs. 20-22). Previous observers believed this milecastle to have been situated nearer Hare Hill than Banks Burn (Maclauchlan, *Memoir*, p. 58), and in consequence it was named Hare Hill in Mr. R. G. Collingwood's "*System of numerical references to Hadrian's Wall*" (these *Transactions*, N.S. xxx, p. 108). It was found, a few yards east of the supposed position, at Banks Burn farmhouse, which proved to be wholly within its walls. Banks Burn, 53, as the milecastle will now be named, is 1678 yards west of the assumed position of Bankshead, 52, and 393 yards east of Hare Hill Turret, 53a.

Except on the east side, the building has been completely robbed of its masonry and the plan was recovered from isolated fragments of footing course, or foundation. The site sloped from west to east at about one foot in eleven, and the east wall served as a retaining-wall for the material used for levelling up the interior. The general level of the site has since been lowered to such an extent that even the original floor has been entirely removed, leaving no remains of internal buildings.

The milecastle proved to be the largest yet examined. It was regularly laid out and measured, within the walls, 76 feet 6 inches from north to south and 72 feet from east to west, its internal area, 610 sq. yards, exceeding that of Harrow's Scar, the next largest, by 69 sq. yards. The great Wall and outer walls were of narrow standard con-

struction, the cross-section being the same throughout as High House, Pl. XIII, section F G (*ibid.*, N.S. xiii, facing p. 330). The foundation trenches were very shallow. The footing course of the great Wall was about 9 feet wide

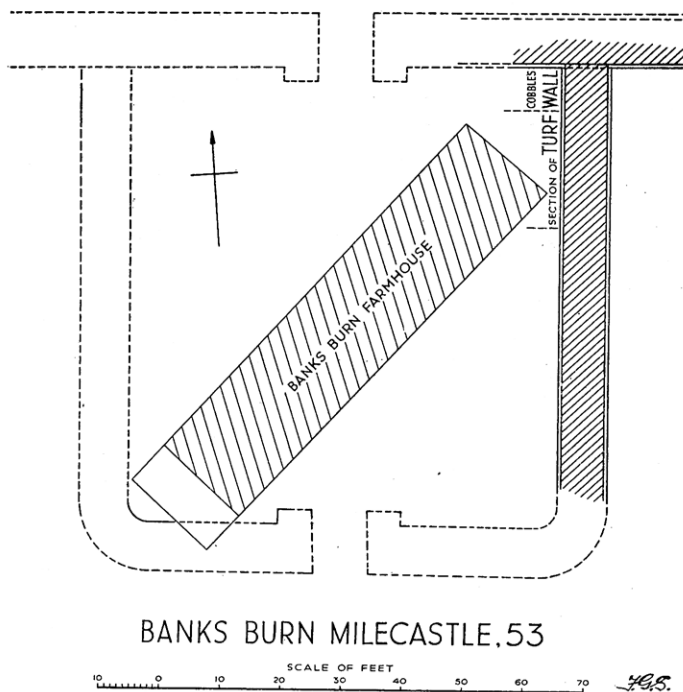


FIG. 20.

and of the outer walls about 8 feet. The thickness of the great Wall was probably about 7 feet 7 inches (*ibid.*, pp. 301 and 315): its north face was missing. The east wall was 7 feet thick: the south and west walls were no doubt the same.



FIG. 21.--BANKS BURN MILECASTLE, 53:
east junction and remains of Turf Wall, from the south-east.



FIG. 22.—BANKS BURN MILECASTLE, 53:
section of Turf Wall, showing layer of cobbles.

To face p. 268.

The east junction was well preserved and exhibited the same sequence of construction as at High House, 50 (*ibid.*, pp. 314 and 316), and Wall Bowers, 51 (*ibid.*, N.S. xxviii, p. 384), namely that the lower courses of the great Wall had been laid first. The milecastle wall simply abutted upon the great Wall. The southern corners were rounded inside and outside, as at 48, 49 and 50.

The north gateway was entirely destroyed. Of the south gateway only the foundation of the west side remained. In plan it was of Type III (*ibid.*, N.S. xi, p. 406: *Arch. Ael.* 4th series, VIII, pp. 309 and 321), as at 22, 48 and 50. The gateway-passageway was 10 feet 6 inches long.

Inside the milecastle at the north-east corner was found a mass of turfwork. The regular lamination extended southwards for nearly 20 feet, beyond which there was evidence of turfwork debris, the full length of the section being 27 feet from the great Wall. Westwards the lamination followed the upward slope of the ground and disappeared as the present surface was approached. Under the northern portion of the turfwork was a layer of stones, mostly cobbles, about 7 feet wide and running westwards. The turfwork was not built against the east wall. Between the wall and the undisturbed lamination was a space about a foot wide filled with disturbed turf and earth. The lamination also stopped about a foot from the face of the great Wall. These spaces clearly represented the cutting away of already-existing turfwork to facilitate the building of the stone milecastle. What survived served as filling in the levelling up of the interior.

The turfwork debris at the south end of the section has a different explanation, for the lamination was not cut away there to make way for a wall. That end of the section resembled a normal section of the Turf Wall in which the lamination ends at the face and beyond is a heap of turf debris that has fallen from the Wall above.

The turfwork appears therefore to be a fragment of the Turf Wall running east and west, and having a cobbled bottoming below the northern third of its width. If this is the case the normal Turf Wall berm-width of 6 feet has here been increased to about 35 feet.

This abnormality will serve to indicate the existence of another problem of the Turf Wall, namely the character of the buildings which preceded the stone milecastles, but, unlike the turrets, were unsuitable for the Stone Wall scheme and had to be removed. Of these buildings we at present know nothing whatever.

Money Holes. According to Maclauchlan (*Memoir*, p. 58), Money Holes was the local name for a spot on the line of the Wall about 160 yards west of Hare Hill Turret. The abnormal position of the turret, nearly 150 yards east of the normal turret-interval position, suggested the possibility that Money Holes was the site of another turret. The ground was trenched at frequent intervals for about 100 yards with negative results.

Craggle Hill Turret, 53b. The next turret was found on the slope of Craggle Hill at the normal position, i.e., twice the standard interval from milecastle 53. Its examination was limited to proving that the turret belonged to the Turf Wall series. Red sandstone made its most easterly appearance in the Wall structures, the stone used in the turret being red, but that in the Wall yellow.

Randylands Milecastle, 54. A trial trench was cut across the site of this milecastle and masonry found in position at the east wall. The site is remarkable for the great width of the berm of the Stone Wall. Opposite the milecastle it is fully 40 feet wide.

The exact positions of turret 53b and milecastle 54 have not yet been measured.



FIG. 23.—PIKE HILL SIGNAL-TOWER, from the south-east :
remains of Turf Wall in foreground.



FIG 24.—PIKE HILL SIGNAL-TOWER, from the south.

3. PIKE HILL.

By F. G. SIMPSON AND JAMES MCINTYRE.

The Signal-Tower (figs. 23-27). Continuing the work of 1931 (*ibid.*, N.S. xxxii, p. 145), further trenching near the tower on the south and south-west showed that the sloping ground had been quite open in Roman times and that there was no ditch around the tower. A quarried hollow in the rock found last year about 20 feet west of the tower therefore represents minor quarrying only.

In construction the tower was unlike the Turf Wall turrets. The foundation was unique among the types known along the Wall. The tower stood on a platform of mortared rubble, faced with walling about 2 feet wide and 1 foot 4 inches deep constructed of three courses of large flags (one was over 4 feet long), bedded in clay. The walls were set back 3 inches from the edge of the platform: they were 3 feet thick and of excellent masonry. The doorway was 2 feet 8 inches wide. At the outer corners there were vertical rebates about $5\frac{1}{2}$ inches square, showing that the masonry had been built up to a wooden door-frame (*cf. Northumberland County History*, XIII, p. 504). There were similar though rougher rebates at the inner corners of the doorway.

Standing against the inner face of the south-east wall, 3 feet from the doorway, was a flag forming the back of a small hearth at the original floor level. Of the floor area of the tower only about 2 sq. yards had escaped the destruction of 1870. Later in the Roman period the doorway had been roughly closed with large stones, one of which rested upon a facing stone of the rebate at the left side on entering, proving that the wooden frame had then been removed (fig. 25). There had been a second floor in the tower, level with the top of the stones in the doorway.

Nothing of dateable value was found at either of the floor levels.

A normal quantity of pottery was found outside the tower and one metal object, a bronze brooch of the "trumpet" or "harp" pattern (*cf.* these *Transactions*, N.S. xxxi, p. 71). No coins were found. The earliest pottery was clearly of Hadrianic date. Two cooking-pot rims of Huntcliff ware showed that the tower was occupied during the second half of the fourth century.

Two trenches were dug across the Wall-ditch, one east of the tower and the other opposite to it. They established the lay-out of the double turn caused by the tower. The average width of the ditch in this neighbourhood was about 30 feet. Owing to road and quarrying operations, the surface has been lowered and generally disturbed on the north side of the road, reducing the width of the ditch to under 20 feet. The plans (figs. 26 and 27) show the estimated original width.

The Vallum (fig. 27). The discovery of the permanent causeway across the Ditch at Birdoswald, giving access to the fort from the south, i.e. from the Stanegate, under the Vallum frontier scheme, suggested the possibility that the signal-tower at Pike Hill, presumably part of the same scheme, might also be approached from the Stanegate by a permanent causeway. South of the tower the Ditch had been cut through limestone for about 50 yards. A trench exposing the quarried rock-face, in places 5 feet deep at the south side of the Ditch, was carried the full length of the rock cutting without meeting a causeway. The trench also established the position at which the change in direction of the Vallum, noticed last year, was made. The Ditch turned $3\frac{1}{2}$ degrees northwards at a point 33 yards east of section C D.

During the course of the work the existence, hitherto uncertain between Bankshead and the Banks Burn (*ibid.*, N.S. xxii, p. 400), of the Crossings constructed to facilitate



FIG. 25.—PIKE HILL SIGNAL-TOWER: showing rough walling in doorway
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To face p. 272.

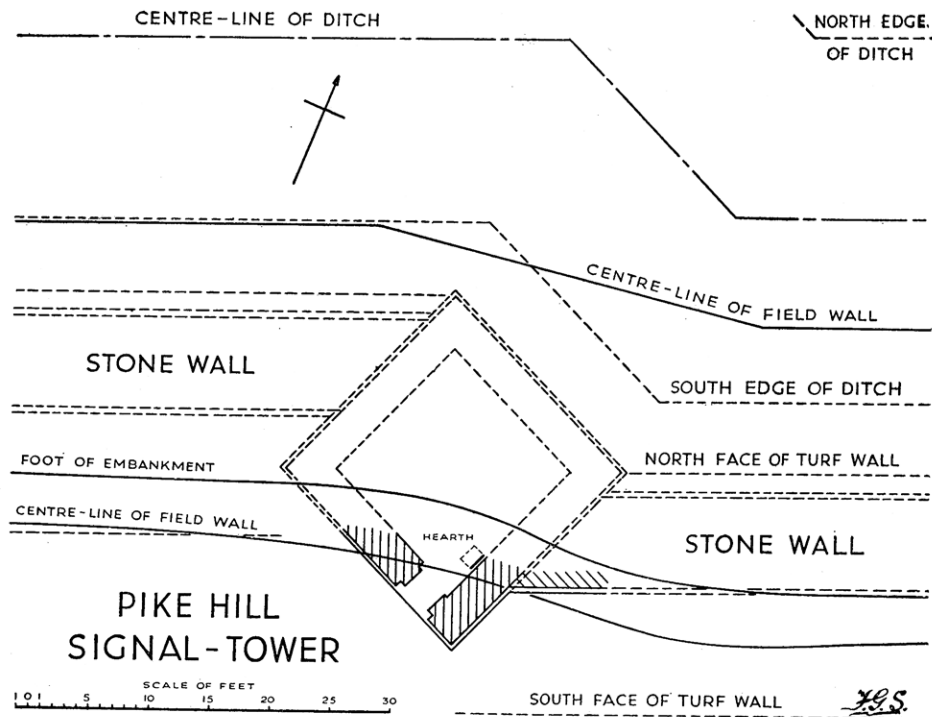


FIG. 26.

the building of the Stone Wall, was proved for about 300 yards (the length of the large field in which the signal-tower is situated). The positions of four gaps at equal intervals of about 45 yards were observed in the south mound. It was impossible to say whether gaps had existed in the north mound, for it had been completely levelled by ploughing, while the south mound was preserved by a hedge (now removed). A trench along the centre-line of the Ditch opposite a gap proved that no (temporary) causeway existed.

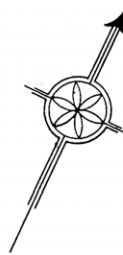
A trench across the south berm gave no indication of a marginal mound. Owing to the southward slope, however, ploughing may have removed all traces of that mound between Pike Hill and the east fence of the field. West of the hill, the marginal mound can be seen for about 40 yards, crossing low, wet ground, as far as the west fence, beyond which the whole earthwork has been completely levelled. There, however, the marginal mound may have been present owing to purely local circumstances, the low situation having induced rapid silting and therefore frequent clearing of the bottom of the Ditch (*cf. ibid.*, p. 398). Below the mound the black line of the original surface was clearly marked for a width of about 8 feet. At present the evidence is insufficient to decide what stage of modification the Vallum had reached hereabouts. At Hare Hill, it had certainly reached the third, or marginal mound stage (*ibid.*, p. 400).

The Military Way (figs. 27 and 28). About half way between Pike Hill and Bankshead the Military Way was discovered, running parallel to, and about 40 feet south of, the Wall. Its course had evidently marked the northern limit of ploughing. Approaching Pike Hill, the plough had completely destroyed the road, but towards Bankshead it had removed only half its width, and a hedge in which are the large trees seen on the right of fig. 28, had grown upon the remainder. The course of this hedge, at

THE ROMAN FRONTIER WORKS AT PIKE HILL NEAR LANERCOST CUMBERLAND

MODERN
LIME KILN

MODERN
LIMESTONE-
QUARRY



DITCH

DITCH

HADRIAN'S WALL OF STONE

HADRIAN'S WALL OF STONE

SIGNAL
TOWER

MILITARY WAY

CENTRE-LINE OF NORTH MOUND

DITCH OF VALLUM

MARGINAL MOUND

CENTRE-LINE OF SOUTH MOUND

ROCK CUTTING

GAP

GAP

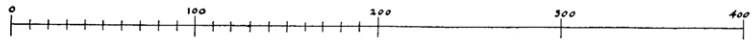
GAP

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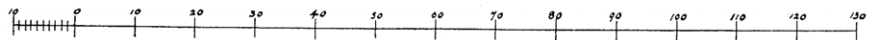
GAP



SECTION ON LINE A-B.



SCALE OF FEET



SCALE OF METRES

SURVEYED 1932
T. G. L. Chilton AR 782
P. E. Searby FR 181



SECTION ON LINE C-D.



SECTION ON LINE E-F.

A. BROWN, A.I.B.A. DELT.

first parallel to the Wall, then curved southwards towards the Vallum. The road proved to have done the same, the obvious intention being to avoid Bankshead Milecastle, which, if it were, as seems probable, a large one, would have projected nearly to the north mound. A few feet north of the mound the road was completely destroyed and it remains uncertain whether it ran upon the mound, as at Limestone Corner and elsewhere (*ibid.*, pp. 354 and 417), or through it and along the north berm, as at Poltross Burn, Cawfields and Down Hill (*ibid.*, N.S. xiii, p. 389).

4. CARLISLE AND STANWIX.

By F. G. SIMPSON.

In October the following work was carried out by this Committee in preparation for extended operations within the city boundary of Carlisle, to be undertaken by the Committee during 1933, at the request and at the expense of the Corporation.

1. The course of the Vallum, previously unknown for about $2\frac{1}{4}$ miles from Whiteclosegate on the east to Davidson's Banks on the west, was ascertained (a) at the east corner of field No. 511 (C. xvi, 16),* west of Whiteclosegate, and (b) at the south-west corner of field No. 420 (C. xxiii, 3), east of the L.N.E.R. engine sheds at Davidson's Banks. The traditional course of the Vallum at the west side of the north abutment of Eden Bridge was examined, so far without positive result.

2. The examination of the traditional site of the fort at Stanwix, begun in 1931 (these *Transactions*, N.S. xxxii, p. 147), was continued: (a) In the field between the Vicarage garden and the tennis courts, no trace of the southern defences could be found, nor the Vallum Ditch.

* Ordnance Survey Maps, 25 inch scale, edition 1925-6, of Cumberland (C).

(b) In the girls' playground of the Elementary School, the foundation (only) of the narrow Wall was found on the traditional line of the north rampart of the fort. South of the Wall were the foundations of four parallel walls of internal buildings. The great Wall appears, therefore, to form the north wall of the fort, as at Drumburgh (*ibid.*, o.s. xvi, p. 81).

The cost of the work at Carlisle and Stanwix was borne by the Carlisle Corporation.

The warmest thanks of the Committee are offered to the landowners—The Earl of Carlisle at Craggle Hill and Randylands, Lady Cecilia Roberts and Mrs. W. Nicholson at Pike Hill, Mrs. A. L. S. Wood at Hare Hill, Mr. Irwin A. Wright at Birdoswald and Mr. and Miss Burtholme at Banks Burn—and to the tenants, for permission to excavate, also to Mr. W. James, Agent for the Naworth Estate and Mr. S. Walton, Agent for the Boothby Estate.

Our special thanks are due to Mr. and Miss Burtholme, who reside at Banks Burn. But for their great interest in our work, which prompted them to permit the removal and transplanting of vegetables and flowers so that the milecastle walls could be examined, and the breaking-up of cobbled paving which covered the gateway, very little indeed could have been learned about milecastle 53.



FIG. 28.—NORTH KERB OF MILITARY WAY: Bankshead in the distance.

To face p. 276.

Our special thanks are also due to our members, Alderman T. G. Charlton (a member of this Committee) and Mr. H. E. Scarborough, and to Mr. A. Brown, for the elaborate and invaluable survey of Pike Hill which accompanies the report.