

ART. XXX.—*Excavations on the line of the Roman Wall in Cumberland during the years 1909-12.* By FRANK GERALD SIMPSON, with contributions by F. HAVERFIELD, LL.D., F.S.A., H. H. E. CRASTER, M.A., F.S.A., and P. NEWBOLD.

INTRODUCTION.

THE original object of the work of excavation recommended in Cumberland in 1909, by the late John Pattison Gibson, F.S.A., and the present writer, was to trace the possible continuation of the Stanegate and to examine sites on its line. How initial failure led to the examination of the Milecastle at Poltross Burn is explained in the report of that work (these *Transactions*, N.S., xi., pp. 390-3).

The complete and comparatively undisturbed remains of this milecastle produced evidence of date which raised afresh the question of the Builder of the Wall of Stone, considered by so many to have been finally decided by the discovery and examination of the Turf Wall near Birdoswald by the Excavation Committee of this Society during the years 1895-7, resulting in the theory which ascribed the Wall of stone to Severus and that of turf to Hadrian.

The conclusions as to the date of the stonework were thus summarised:—

The question of date can only be decided by the finds associated with the first occupation. Judged by the present knowledge of Roman sites in Britain, the pottery, coins, and *fibulae*, found below the second floor, belong uniformly to the second century. . . . all point strongly to the conclusion that the building of the milecastle and Great Wall took place about 120 A.D. (*Poltross Burn Report*, pp. 459, 460).

The supporters of the Hadrianic turf wall theory, while admitting the second century evidence, suggested that these finds should be associated not with the Wall and milecastle of stone, but with the supposed wall of turf which had been entirely removed.

It will be seen, however, that if it were possible to suggest that second century evidence, accumulated from site after site along the Wall, belonged to an occupation associated with a wall of turf no traces of which remained, a final solution of the question would be impossible. The unique value of that portion of the Wall between Wall Bowers and Harrow's Scar now became apparent, for if at that point alone actual remains of the wall of turf were to be found, surely there alone could evidence from the Wall of Stone, uncontaminated by remains of the previous work, be sought for? (*Proceedings, S.A.N.*, 3rd ser., v., p. 131).

This well-known deviation of the Wall of stone from the line of the earlier work (plate i.), from a point 25 yards east of Wall Bowers milecastle to a point 60 yards west of Harrow's Scar milecastle, a distance of about $1\frac{3}{4}$ miles, with the station of AMBOGLANNA situated between these limits at Birdoswald, has been previously described and illustrated in these *Transactions* (o.s., xiv., p. 184, and xv., p. 346).

Prior to 1911, the only known site on this portion of the Wall was that of the milecastle on High House Farm, which was first examined in 1895 (these *Transactions*, o.s., xiv., p. 190). One other site was temporarily lost, that of the turret, between the milecastle and Birdoswald, which Hodgson records was discovered in 1833 and "all . . . taken away" in 1837. It was decided to excavate the milecastle, and all the turrets between Harrow's Scar and Wall Bowers, if they could be located.

The number of turrets between each pair of milecastles, and the general rule of their disposition, had long been a matter of controversy. Horsley suggested that there were four, at equal intervals: Bruce and Clayton, as

the result of actual discoveries, two in 1873 and two in 1883 (*Arch. Ael.*, 2nd ser., x., p. 57), concluded that there were two only, but never finally decided the point. In 1904, Mr. P. Ross, A.M.I.C.E., of Bradford, in a paper read before the Bradford Antiquarian Society, made out a very strong case for "two," and, acting on his suggestions, the seven turrets (BORCOVICIUM occupying the eighth position), in the four "miles" between the milecastles at Winshields and King's Hill, were located in the early summer of 1911. Three more, between Blackcarts turret and Carrawburgh milecastle, were found by Mr. P. Newbold in 1912, and during the past three months (to February, 1913) no less than thirteen have been located by the writer's foreman, Thomas Hepple, of Sook Hill, Haltwhistle. Over fairly regular country, the turrets prove to be placed at about one-third of the particular "milecastle distance" apart; but, in the rugged district of the Craggs, the distances are, of course, much less regular.

Mr. Ross pointed out that the Stations actually on the line of the Wall occupied the position of a turret in relation to the next milecastle, PROCOLITIA and AESICA apparently being the only exceptions. AESICA now proves to be in a unique position, taking the place of a milecastle, with a turret at the average distance east and west, the supposed milecastle to the east having proved to be modern.

With such information for guidance, the Birdoswald turret was rediscovered 541 yards east of the milecastle (north gate) and 381 yards west of AMBOGLANNA (west rampart), the Station itself occupying the second turret position. The two turrets to the west were also located, the first, High House, 544 yards west of the milecastle of the same name, and the second, Appletree, 545 yards east of Wall Bowers milecastle. The distance between the turrets is 540 yards. All the sites within the limits

of the deviation, from which evidence directly bearing upon the date of the Wall of Stone could be obtained, were thus available. The work of excavation commenced on August 8th and was completed on November 2nd, 1911.

The remains of the Great Wall form the south boundary of the road to Lanercost for about 500 yards west of Birdoswald, but from that point onward to Banks, the Wall forms the foundation of the road, as it does for Wade's road for the greater part of thirty miles to the west of Newcastle-upon-Tyne. A quarter of the area of the milecastle and the whole of High House and Appletree turrets were therefore within the road boundary. The enlightened and public-spirited action of the Brampton Rural District Council, in granting leave for the road to be temporarily broken into at these three points, has made possible a result which would otherwise have been incomplete and unsatisfactory.

Work was begun first at the milecastle, but the quantity of modern pottery found indicated that a house had occupied the site (cf. Wall Bowers, these *Transactions*, o.s., xiv., p. 190). The remains were consequently much disturbed, and the evidence of stratified deposits less reliable than that obtained from the turrets, which will therefore be described first.

THE TURRETS AND GREAT WALL.

Comparative Dimensions, etc.

		Apple- tree.	High House.	Birdos- wald.
		Ft. In.	Ft. In.	Ft. In.
Thickness of Great Wall ..		7 8	7 7	7 7
,, of N. wall ..		4 0	4 2	3 10
Depth of Recess		3 8	3 5	3 9
Average thickness of E., S. and W. walls		3 0	2 11	2 10
Interior E. to W.		13 7	13 8	13 0
,, N. to S.		12 10	12 9	12 5
Height between floors.	IA — I B	5 to 6	4 to 6	4 to 6
	IB — 2	I 6	no later	I 2
	2—3	removed?	occupation	I 0
Material of floors.	I A	clay	flags & clay	clay
	I B	flags	flags	flags
	2	flags	—	clay
	3	—	—	flags

From the plans (pl. vii.) and the above table, it will be seen that the three buildings are of nearly the same dimensions, while a similar regularity in construction makes a detailed description of each unnecessary. The Great Wall throughout this section is constructed in the usual manner, but the underground work is much simpler than at Poltross Burn (*Poltross Burn Report*, p. 399). The subsoil generally is a strong gravelly clay, affording a firm foundation, on which the footing course of flags has been laid, with very little "clay and cobble" packing below. The footing course projects from 5 inches to 8 inches on both faces, but at no point where it was examined was the Wall further reduced by offsets, maintaining an average thickness of 7 feet 7 inches throughout. The facing stones are rather larger than usual towards Birdoswald, and the contrast between them and the

small stones in the walls of the fort was pointed out many years ago (Bruce, *Roman Wall*, 3rd ed., p. 256). The stones of the turret walls are, as elsewhere, smaller than those of the Great Wall, but the north (outer) face at High House and Appletree (only one course remained at Birdoswald) is composed of "Wall" stones throughout. This indication of the simultaneous construction of Wall and turrets was confirmed by the bonding of the side walls with the south face, where the unequal coursing would allow, and by the continuous solid core.

The absence of bonding and a continuous core at the milecastle (fig. 13), however, shows that the lack of such evidence does not necessarily disprove contemporaneous work. Otherwise the discovery of the unique construction of Walltown Crag's turret would cause misunderstanding. The interior of this turret was cleared in 1883. In January, 1913, the outer walls were examined in order that a plan might be made, when it was found that the turret had been built before the Wall, which simply abuts upon it, making different angles with its north wall in both directions. In this case, the courses of the north face are smaller, seven of the turret being equal to six of the Wall at the straight joint at the north-west corner (P. Newbold, *Arch. Ael.*, 3rd ser., ix.).

The normal position of the doorway is at the east end of the south wall, and the average width 3 feet. The door when closed was probably nearly flush with the outer face. There was no massive threshold stone as at Limestone Bank turret. In each case the remains of a path, about 4 feet wide, were found outside the door. At Limestone Bank, Mr. P. Newbold has discovered a similar, though wider, path, and has traced it from the turret to its junction with the Military Way (*Arch. Ael.*, 3rd ser., ix.).

The original height and arrangement of the superstructure of a Wall-turret can only be conjectured, but

the bas-reliefs on the columns of Trajan and Marcus Aurelius at Rome probably supply accurate information, and generally indicate that the upper storey was built of timber. The first floor would be at the level of the rampart walk, probably about 13 to 14 feet from the ground (*Poltross Burn Report*, p. 420), which would pass through the upper chamber. No remains of permanent steps leading to the walk have been found inside, or outside, any turret. An inside ladder, which could be easily moved, was probably used. No *ballista*-stones have yet been found at a turret (cf. Mucklebank, J. P. Gibson, *Arch. Ael.*, 2nd ser., xxiv., p. 15). Hearths have been invariably found, but no ovens, indicating that these buildings were not occupied permanently like the mile-castles, but simply as shelters for the sentries and as signalling stations, the garrison of each milecastle having charge of half a "mile" of the Wall and a turret in both directions. The average area within the walls agrees closely with that of the rooms in the barrack-buildings at Poltross Burn milecastle (*Poltross Burn Report*, p. 422) and at BORCOVICIUM, and may give some idea of the ordinary manning of the Wall.

BIRDOSWALD TURRET.

Two features of the plan should be mentioned, the two drains through the Great Wall, and the position of the doorway. The drains are about 4 feet from the turret walls at each side (fig. 1). They are about 5 inches wide by 10 inches high, and are carried through the Wall immediately above the footing course. As the ground slopes gently from east to west, the west drain seems to be unnecessary. No signs of a built drain, nor of a gutter cut in the clay, were found leading to either (cf. *Poltross Burn Report*, p. 418). The doorway is placed about 2 feet from the east wall, instead of at the corner of the chamber as usual.

When the walls of this turret were reduced from a height of six courses to the present ground level in 1837, as recorded by Hodgson, the area of the recess into the Great Wall fortunately escaped disturbance. The opening was roughly walled across at the time, preserving the remains of the later floors and layers of débris. Though this destruction entailed the removal of so much of the later levels and the whole of the rubbish-heaps outside the walls, the all-important early floors remained practically intact.

The only detailed description of the remains of floors, indicating distinct periods of occupation, in a turret is found in the report of Mucklebank turret, excavated in 1892, by the late J. P. Gibson, F.S.A. (*Arch. Ael.*, 2nd ser., xxiv., p. 13). On p. 16 Mr. Gibson recorded that

Under a quantity of rubbish bearing marks of fire, . . . a pavement of rather irregularly laid flagstones was found, but . . . the original floor level had not yet been reached. On raising these flags, under another mass of débris showing traces of fire, at a depth of about six inches, a second floor of similar flags was found; and at a depth of about eighteen inches below this second floor of flags was the original floor of the turret formed of beaten clay, which had apparently been hardened by fire, or mixed with ground bricks. Upon it were found many bones of domestic animals, covered by fallen portions of the building, mixed with considerable masses of charcoal from burnt timber.

There is no doubt that in this case no later floors had been removed by modern destruction, as the walls were standing four feet above the top floor all round the turret (also cf. *Poltross Burn Report*, p. 423). Unfortunately the pottery from the different floors was not preserved.

Floor 1A, Section C.D.—At Birdoswald the remains of four floors were found (fig. 2). The lowest was of clay, worked and free from stones, covering about 3 inches



FIG. 1.—BIRDOSWALD TURRET, LOOKING N.W.



FIG. 2.—REMAINS OF FOUR FLOORS IN RECESS.

of reddish gravelly clay. This was laid upon the clayey subsoil, which shows white in the photograph. The turf must have been first removed from the site. A fired flag, and the reddening of the facing stones, in the north-west corner, indicated the position of a hearth. At this level, near the west wall, the coin of Domitian, No. 2, was found, and that of Vespasian, No. 1, just outside the door on the path, below the flags of the floor above. The quantity of ordinary pottery was not large, but the Samian found inside included a Dr. 27 cup and the Dr. 37 bowl, No. 1, pl. xix.

A layer of dark material, about 3 inches thick, covered the floor, the lower part of which probably represents ashes, etc., gradually worked into the clay floor: the rest, however, was looser and contained burnt matter, wood ashes, and broken pottery, but no masonry débris. The impression given by this layer was that the wood-work of the turret had been destroyed by fire, and that a new floor was laid when the damage was repaired.

Floor 1B.—The new floor was of irregular flags, laid directly upon the débris. It was intact over about half the area, but where it was disturbed the pottery from this level was somewhat mixed with that of the floor below. About 16 inches west of the doorway were the remains of a rectangular, base-like structure, projecting 3 feet from the south wall, consisting of one course of walling stones. Similar strong bases of doubtful use have been found at Peel Crag and Steelrigg turrets, and at Limestone Bank turret, where Mr. Newbold suggests that it was the base for the steps which gave access to the rampart walk (*Arch. Ael.*, 3rd ser., ix.) A considerable quantity of pottery was found at this level, as well as the dog-*fibula* and compass-arm (fig. 38, Nos. 1 and 2).

The material covering this floor was strikingly different from that found above floor 1A. It was fully 12 inches thick, containing the same kind of burnt matter, but

in addition a large proportion of masonry débris and walling stones. In fig. 2 five unbroken walling stones of the "turret" size can be seen, and the disturbance of the flags of the floor by the collapse of the masonry, especially in the north-west corner, where the hearth was again placed during this period, is unmistakable. In this case the evidence of the débris points to the throwing down of the walls, in addition to the burning of wood-work.

Floor 2.—A layer of clay covered this débris and formed the third floor, the surface being 14 inches above that of the second. A simple clay hearth was found at the north-east corner. The small area remaining produced the bronze object, No. 3, and a small quantity of pottery. The surface was again covered with dark material (which contrasts with the lighter-coloured clay of the floor), and masonry débris, to a depth of about 9 inches, but the amount of fallen stone was probably smaller than in the case of F. 1B.

Floor 3.—The top floor was formed of flags, laid like F. 1B directly upon the débris, the surface being about 12 inches above that of F. 2. As before, the familiar dark material, with some burnt matter, covered the flags, which were somewhat displaced by fallen stone, but the layer of débris was disturbed. The small quantity of pottery found at this level, like that from F. 2, unfortunately contained no fragments of datable value.

Owing to the operations of 1833-7, it is impossible to state whether floor 3 is that of the latest occupation. The pottery found outside the walls was generally at a low level, and associated with floors 1A and 1B. Some worn fragments of the late cooking-pot "vesicular" ware were, however, found in the surface soil, indicating that the turret was occupied during the latest period at Poltross Burn and Winshields, where this ware was found at the latest level (F. 3) only (*Poltross Burn Report*, p. 453).



FIG. 3.—HIGH HOUSE TURRET, FROM S.W., SHOWING BUILT-UP RECESS.



FIG. 4.—“BUILDING-UP” MASONRY PARTLY REMOVED.



FIG. 5.—PEEL CRAG TURRET, FROM E. ; " BUILDING-UP " MASONRY PARTLY REMOVED.



FIG. 6.—STEELRIGG TURRET, FROM S.E., SHOWING BUILT-UP RECESS.

HIGH HOUSE TURRET.

The ground falls about 60 feet between High House milecastle and the turret, which is on low ground, near a small watercourse. It is overlooked by Nanwick Hill, which rises sharply on the north. The site has originally been swampy and the turret stands on a bed of peat, which has been covered with a thick layer of clay to secure a firm foundation for an extra wide footing course of large flags. There were no signs of unequal settlement in the walls.

As the excavation proceeded, it was noticed that the walls were nearly uniformly removed down to the first course, but without any signs of modern disturbance, while the quantity of pottery and débris was much smaller than at Birdoswald. These unusual features were explained when a wall face was found only 9 feet 4 inches from the south wall (fig. 3). Had it not been for the similar discovery at Peel Crag six months before, this walling might have been taken for the north wall of the turret.

At Peel Crag the walls were found to have been taken down to the ground level as uniformly as at High House, and the recess filled with solid masonry, the face of which was flush with the south face of the Wall and was carried across the remains of the turret walls. Fig. 5 shows the north wall and recess (3 feet 9 inches) at Peel Crag, with the later "building-up" partly removed. At High House, the remaining courses of the later work were composed of stones probably taken from the lower courses of the turret walls, which were larger than usual, but at Peel Crag very large dressed stones, which had certainly not formed part of the turret, were used in the lower courses.

Steelrigg turret (fig. 6) proved to have been disused, the walls levelled and the recess built up in the same manner: but in addition, the Great Wall has been

entirely rebuilt for a distance of at least 750 yards near this turret and the thickness reduced by nearly 18 inches, the reconstructed Wall being carried over the turret as if its existence had been forgotten (*Reports in preparation*).

It has been found that the great majority of the turrets recently located have their recesses built up and walls levelled apparently on purpose. This fact, which accounts for the absence of a heap of débris on the site, surely explains why so few turrets have hitherto been discovered.

Floor IA.—There were only two floors inside this turret. The lower was partly flagged, the rest being apparently the clay covering the peat below. No definite remains of a hearth were met with at this level, though pieces of fired flags were found. The small quantity of pottery which could be certainly assigned to this floor contained part of a Dr. 27 Samian cup, which was found below a flag of the upper floor, near the middle of the turret. The average thickness of the layer of dark material at this level was not more than 3 inches. It contained burnt matter, but no masonry débris, and was very similar to the layer separating floors IA and IB at Birdswald.

Floor IB.—The upper floor may have been entirely of flags originally, but it was much disturbed near the walls. In places, the flags of the two floors were almost in contact, and nowhere was the height between the surfaces more than 6 inches. No hearth was found, but the removal of the walls, the reddened stones of which give the surest evidence, accounts for the absence at both levels. When the recess was built up a foundation-trench was dug through the floors for the facing, but not for the core behind, and portions of the flagging of the floors were found close to the north wall of the turret when the later walling was removed, as shown in fig. 4.

The débris covering the upper floor contained burnt



FIG. 7.—HIGH HOUSE TURRET ; INTERIOR FULLY EXCAVATED.



FIG. 8.—APPLETREE TURRET, FROM W., SHOWING FLOORS 1B AND 2.



FIG. 9.—APPLETREE TURRET; GENERAL VIEW, LOOKING W.



FIG. 10.—GENERAL VIEW, LOOKING E.

matter and broken stone, but walling stones were conspicuously absent. The removal of the walls, however, confirms the impression that the débris was disturbed, and fallen walling stones removed, when the recess was built up. Almost the only useful building stone found in the débris was the inscribed slab, No. 1, which was lying near the east wall and may have been purposely neglected. The inscribed fragment, No. 2, was found near the west wall, and a stone trough, 24 inches by 12 inches by 8 inches (outside), and half an upper millstone, 14 inches in diameter, of local grit, near the doorway. The quantity of pottery from this level was not large and, owing to the disturbance of the flagging, was somewhat mixed with that from floor 1A. A number of walling stones found at a higher level appeared to be débris of the later destruction of the Wall.

As at Peel Crag, the face of the "building-up" was flush with the south face of the Wall, but the remains were too low to show the regular facing carried across the turret walls.

The full area inside the turret is shown in fig. 7. Outside the walls the area examined was smaller than at Birdoswald and Appletree. Burnt matter and pottery were found, especially in the corners near the Wall which appear to have served as middens. No coins were found at this turret.

APPLETREE TURRET.

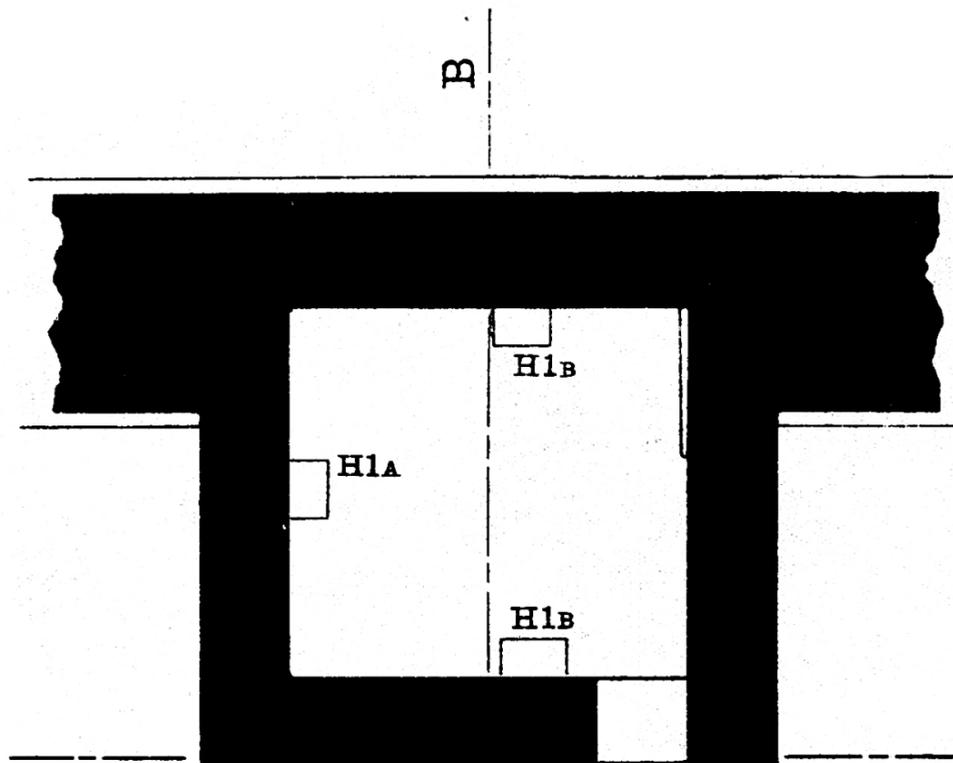
The site is situated about 80 yards to the east of the deserted farm buildings at Appletree, and was marked by a distinct rise in the south wall of the road, which is carried over the south wall of the turret (Section A B). Though little higher than High House turret, it has an extensive prospect to the north, and on the south the ground slopes down to the watercourse mentioned above. The subsoil is strong gravelly clay. The walls of the

turret have no projecting footing course except at the north-east corner inside. In plan this turret is exactly rectangular.

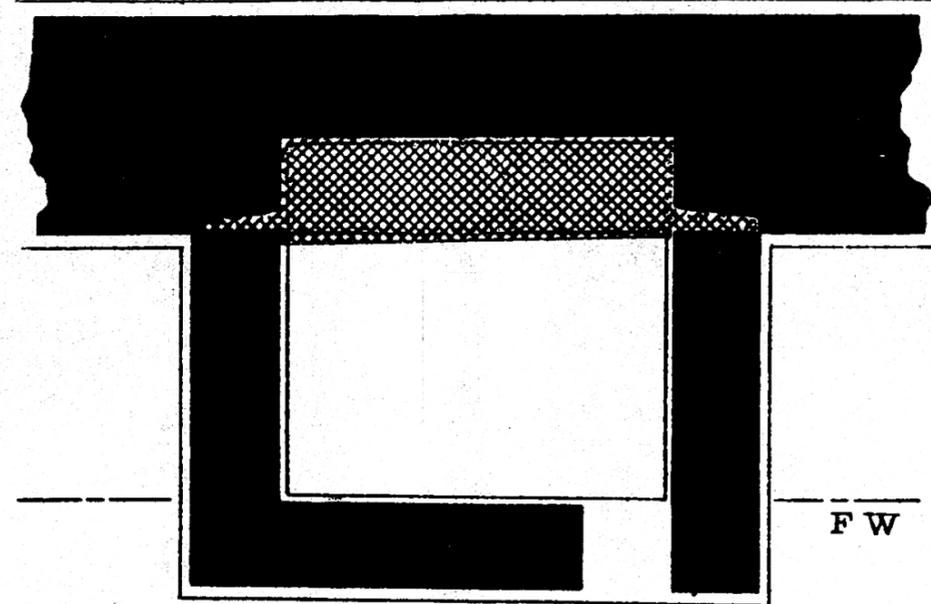
In the surface soil and near the east wall modern pottery and glass were found, pieces of which fitted vessels from High House milecastle, indicating that the great gap in that wall (fig. 10) was made in modern times, and the stones removed probably to the house which stood on the site of the milecastle. When the road was made the turret walls were evidently levelled down and the upper débris, and probably a floor, entirely removed. The latest of the three floors found was within six inches of the surface and level with the tops of the walls (fig. 8).

Floor 1A.—The lowest floor was of clay. About the middle of the west wall the facing stones showed strong marks of firing, and a fired flag close to the wall had evidently formed the hearth. Above the clay floor was a layer of dark material not more than 4 inches thick, very similar to that found between the floors 1A and 1B at the other turrets. Valuable datable pottery was found at this level, including a Dr. 27 Samian cup and a jar with "rustic" surface decoration (No. 53, pl. xvii.).

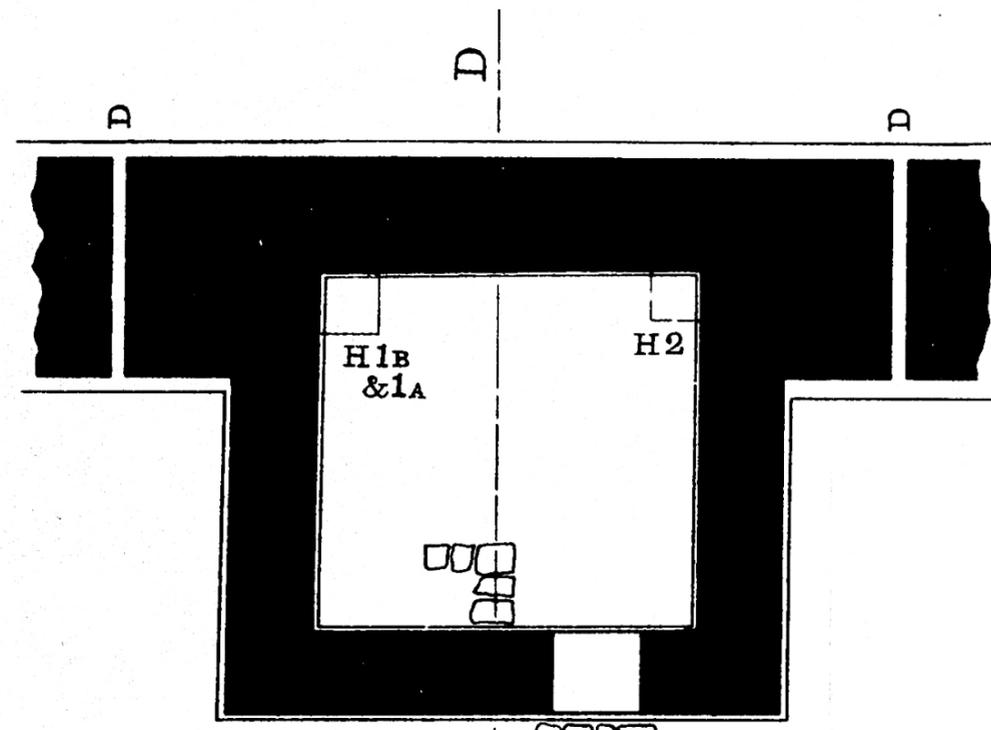
Floor 1B.—The next floor was flagged, some of the stones being of large size (fig. 8). Over a large part of the area there were two layers of flags, generally closely in contact. Near the middle of the turret the penannular brooch, No. 5, fig. 38, was found between them, but there was no real evidence to connect the two layers with separate periods of occupation. There were two hearths at this level, one about the middle of the north wall and the other against the south wall, just within the doorway. In both cases the walls were much reddened above the hearth-stones. The flagging was continued in the doorway and a pivot-stone found in position at the west side, so placed that the door when closed would be nearly flush with the outer face. Near the east wall, owing to



APPLETREE TURRET

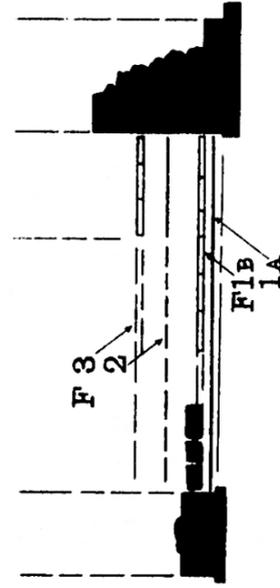


HIGH HOUSE TURRET



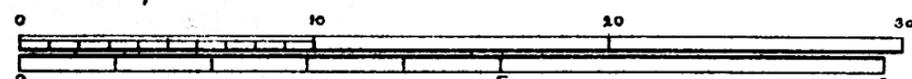
BIRDOSWALD TURRET

SECTION AT C D



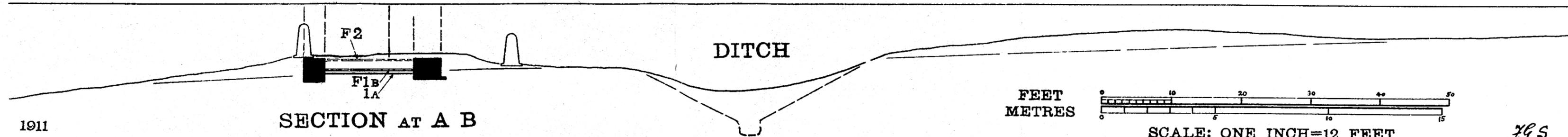
SECOND PERIOD WALLS

FEET METRES



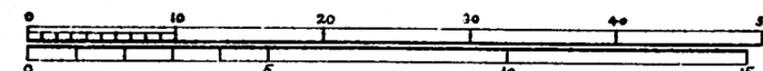
SCALE: ONE INCH=6 FEET

DATUM 445 FT.



SECTION AT A B

FEET METRES



SCALE: ONE INCH=12 FEET

the removal of the masonry, the flagging was much disturbed and some of the pottery from the two floors mixed together. Fragments of the Dr. 37 Samian bowls, Nos. 6 and 7, pl. xix., and of a second "rustic" jar, were found both above and below the 1B level. The bowl, No. 65, pl. xvii., with flat, but not reeded rim, was definitely found on floor 1B near the west wall, as well as other useful datable pottery.

A layer of débris fully 16 inches thick covered this floor, the lower part of which was chiefly burnt matter and the rest definite masonry rubbish. Among the fallen walling stones was one bearing a *phallus* in relief.

Floor 2.—This deposit was covered by another floor, of thin but well-fitted flags, the surface being 18 inches above that of floor 1B. Unfortunately only a small portion of the flagging remained in position, near the middle of the turret. The jar, No. 90, pl. xvii., was found almost complete on this floor, with other pottery and the bronze stud, No. 8, fig. 38, in material which appeared to be very similar to the débris from the floor below.

None of the pottery from floor 2 appears to be of late date, and as a few pieces of the late cooking-pot ware were found near the surface outside the walls, it is probable that another floor, corresponding to floor 3 at Birdswald, was removed when the road was made.

Outside the walls a considerable quantity of pottery, ashes and other rubbish was found all round the walls, and especially in the corners near the Wall, including the penannular brooch, No. 6, and the bronze objects, Nos. 9 and 10, fig. 38. The pottery found at a low level included two Dr. 27 Samian cups, another "rustic" jar, and two bowls with flat reeded rims, Nos. 93 and 94, pl. xvii. Over twenty nails and bolts were found, the majority of which came from the débris above floor 1B. No coins were found at this turret.

Some fragments of window glass were found at each of the turrets.

The dating of the periods of occupation at the turrets and the milecastle is dealt with by Mr. Newbold in his description of the pottery.

HIGH HOUSE MILECASTLE.

The site of the milecastle is at the highest point of the road between Birdoswald and Wall Bowers. The building lies on a gentle slope of about one foot in thirteen towards the north. The remains in the field were very much disturbed, especially at the west side, as may be judged from fig. 23, in which the limit of the excavation is the line of the west wall, hardly a stone of which remained in position. Under the road, however, the remains, though much reduced in height, were well preserved.

The work in the road had to be undertaken in sections, and it was impossible to examine both faces of the Wall at the same time. The road metal for about 18 inches across the middle of the north gate was not removed. The field wall on the south side of the road was not taken down except at the oven (fig. 24). The whole of the interior, with the exception of this strip, about 5 feet wide, was uncovered.

The scanty remains of the internal buildings, and the disturbance of the floor levels, is accounted for by the discovery that a comparatively modern building has occupied the site. A fragment of the foundations was found near the middle of the milecastle (fig. 22, left foreground), while broken pottery, glass, wine bottles and tobacco-pipes, and various iron objects were scattered over the whole site. Fragments of over fifty pipes were found. Mr. E. Thurlow Leeds, F.S.A., of the Ashmolean Museum, Oxford, who has examined these finds, considers that they cover a period from about 1650 to 1750, the earliest vessel being "a Bellarmine jug, first introduced into England in Elizabeth's reign, but in use well into the 17th century." The pipes appear to belong to the first half of the eighteenth century.

Dimensions and Proportions.—There is no material difference in plan between this milecastle and those already excavated. The north end is regularly laid out, but the east wall is 2 feet 6 inches longer than the west wall and the south gate 2 feet west of the middle of the south front, making the whole plan appear askew. The average length inside the walls is 76 feet, the greatest recorded length inside a milecastle: the width from east to west is 60 feet. The northern corners are angular, but the southern corners are rounded on the inside as well as on the outside, as at Poltross Burn and Harrow's Scar. This feature is peculiar to these three milecastles, which are also placed in a distinct class on account of their large size.

All the milecastles hitherto examined in Northumberland are much smaller, the average area within the walls being only 330 square yards (*Poltross Burn Report*, p. 398), and in each case the southern corners are angular on the inside. The following table gives the dimensions and areas of the milecastles in Cumberland which have been measured:—

Name.	N. to S.		E. to W.		Area.
	Ft.	In.	Ft.	In.	Sq. yds.
Poltross Burn	70	0	60	9	472
Harrow's Scar	75	0	65	0	541
High House	76	0	60	0	506

The nearest "small" milecastle to Poltross Burn is Walltown, three "miles" to the east, which may be approximately measured from surface indications. The two intervening milecastles, Carvoran and Chapelhouse, are almost obliterated.

At Poltross Burn the north wall of the milecastle corresponds exactly with the other walls in the details of its foundations, and in thickness, which exceeds that

of the Great Wall to the east by over 2 feet. The question naturally prompted by such planning was whether the stone-built milecastle was constructed first, possibly in conjunction with a Wall of turf, like Castlecary Fort on the Wall of Antoninus (*Proc. Soc. Antiq. Scot.*, vol. xxxvii)? This question was answered in the negative (*Poltross Burn Report*, p. 403), and the plan of Winshields affords the surest evidence that Wall and milecastles were built at the same time in stone (*Report in preparation*). At High House, however, the conditions are the reverse of those at Poltross Burn, the "north wall" and Great Wall being a continuous work, differing from the side walls of the milecastle in construction, but of the same thickness, upon which the side walls abut (fig. 13).

Judged by such evidence alone, the serious mistake of assigning the milecastle to a later period may easily be made. There is reason to believe that, when first excavated, the side walls at Cawfields were found simply to abut upon the Wall. In an account of the first Pilgrimage along the Wall, in 1849, a report of the excavation in 1846 is given, with a perspective view of the milecastle, in which these features are clearly shown. A theory of the later construction of milecastles in general was founded on this evidence.

In original work these features probably represent the different ideas and methods of construction of individual overseers, and, in the absence of evidence of later rebuilding, the danger of judging from such features is clearly shown in the case of High House, where the value of the evidence of the junctions is nullified by that of the drains on each side of the north gate, which obviously have some relation to the gate of the milecastle, as the two at Birdoswald have to the turret, and yet are contemporary with the foundation course of the Wall.

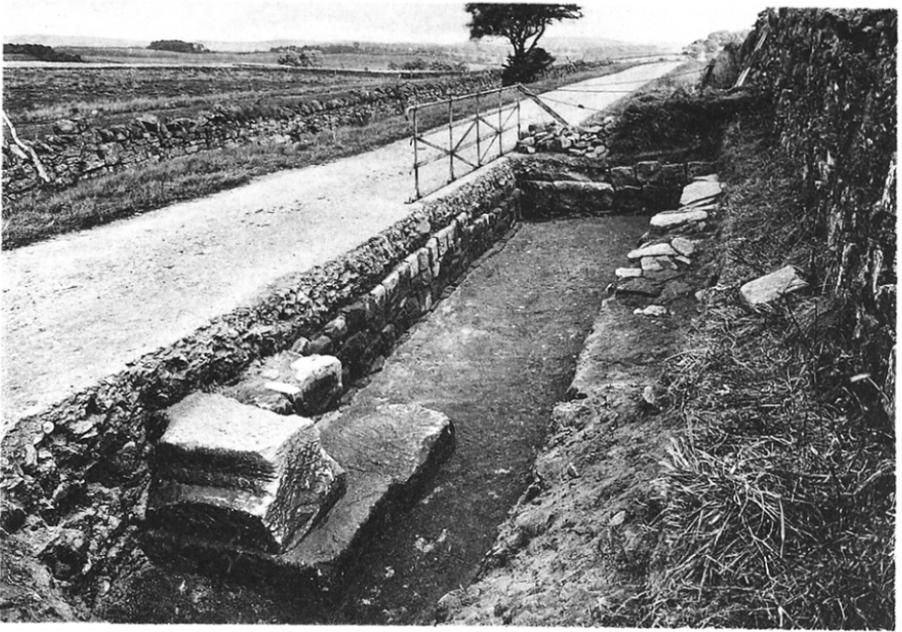


FIG. 11.—HIGH HOUSE MILECASTLE; S.E. PIER OF N. GATE AND N.E. CORNER.

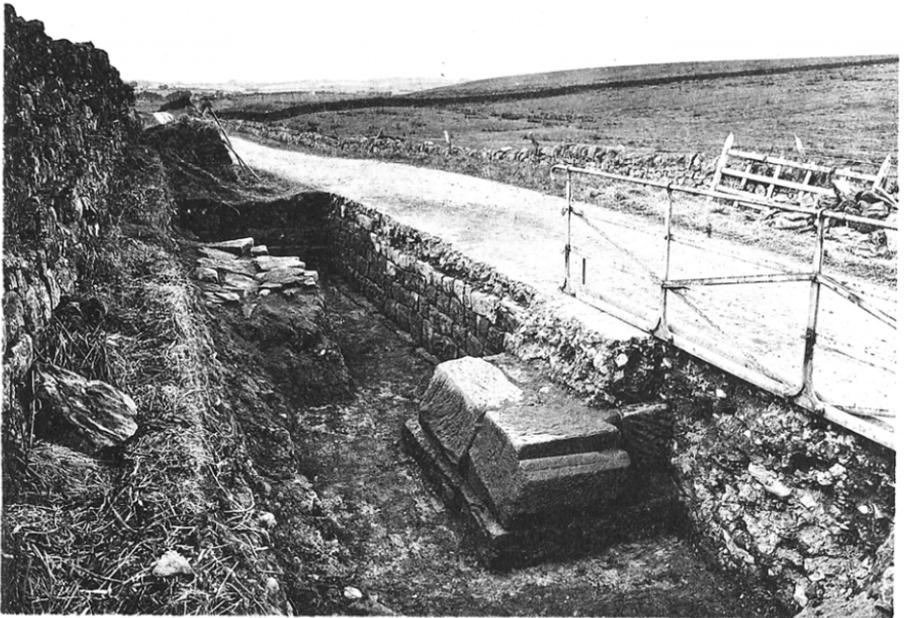


FIG. 12.—S.W. PIER OF N. GATE AND N.W. CORNER.

THE DEFENCES.

The Ditch of the Great Wall.—No trenches were dug across the ditch in 1911, but the berm, ditch and mound of upcast on the north side were surveyed opposite the milecastle (section C D E, pl. xv.) and at Appletree turret (section A B, pl. vii). At the milecastle the berm is about 25 feet wide, and the ditch 32 feet, while the upcast probably covers fully 50 feet. At the turret the works are slightly larger, the berm measuring 27 feet, the ditch 35 feet, and the mound nearly 60 feet.

A section of the ditch made by Mr. P. Newbold near Limestone Bank turret, in 1912, proves that instead of being sharply V-shaped at the bottom, it was deepened to form a narrow flat-bottomed channel (*Arch. Ael.*, 3rd ser., ix.). The Turf Wall ditch is similarly shaped (these *Transactions*, O.S., xiv., p. 188), as also is that of the Antonine Wall (Macdonald, *Roman Wall in Scotland*, p. 100).

A trench was recently dug near the milecastle, which confirms Mr. Newbold's discovery, and makes the conclusion very probable that this is the shape of the ditch of the Wall generally.

No continuation of the road from the north gate was found on the north side of the ditch. Nearly opposite the east wall it is crossed by a modern causeway, probably connected with the buildings on the site. There is no ditch round the milecastle south of the Wall.

The outer walls and Great Wall.—The description of the Great Wall at the turrets applies equally to the "north wall" of the milecastle, which rises from the projecting footing course, without any reduction by offsets, the thickness being 7 feet 7 inches (figs. 11 and 12). There are three drains through the Wall, immediately above the footing course, like those at Birdoswald turret, each about 7 inches wide by the depth of the lowest course. The first is within 9 inches of the east wall.

The others are respectively 12 feet 6 inches east and 11 feet 9 inches west of the middle of the north gate. There were again no traces of built drains, or open gutters, leading to them.

The east, south and west walls are of the same final thickness as the Great Wall, but are built upon a wider footing course. There is the usual offset above that course, and another, about 3 inches wide, above the lowest walling course, on both faces (section A B, pl. xv.) The stones of the lower courses are larger than those used in the Wall, the contrast being specially noticeable at the north-east corner (fig. 11). At both junctions the south facing of the Wall is unbroken, except for a very rough attempt at bonding where the facing stones of the side walls meet it. At the north-west corner the core of the west wall was removed in order to expose the face of the Great Wall behind (fig. 13).

The radius of the outer face at the south-east corner is about 15 feet. The inscribed fragment, No. 4, was found outside the walls at this corner. The destruction of the outer walls from the west side of the south gate to the oven is so complete that in places even the footing course has been removed. At the back of the oven six courses of the west wall remain in position, the highest fragment on the site. The upper courses are reduced in size and similar to those of the Wall (fig. 24).

No signs of reconstruction were noticed in the existing remains of the outer walls.

The Gates.—The evidence of periods of occupation derived from the gates was the feature of the excavation, without which, in view of the disturbed state of the internal buildings, the work would have proved of little value. In plan they are similar to the gates at Poltross Burn (*Report*, p. 406, type III.), having the passages arched at both ends and lengthened by extensions inside the milecastle (plates xiii. and xv.)

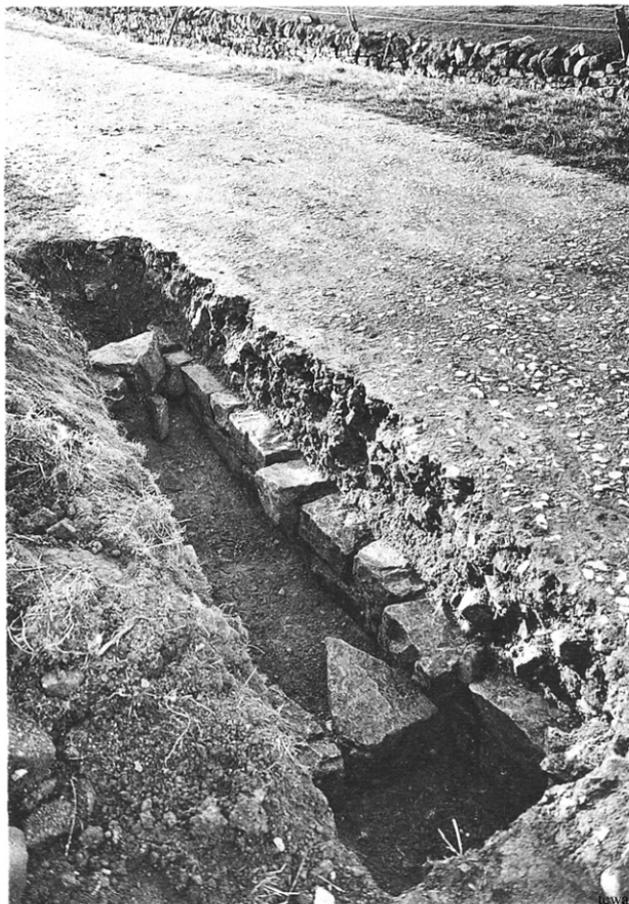


FIG. 13.—JUNCTION OF GREAT WALL AND W. WALL.

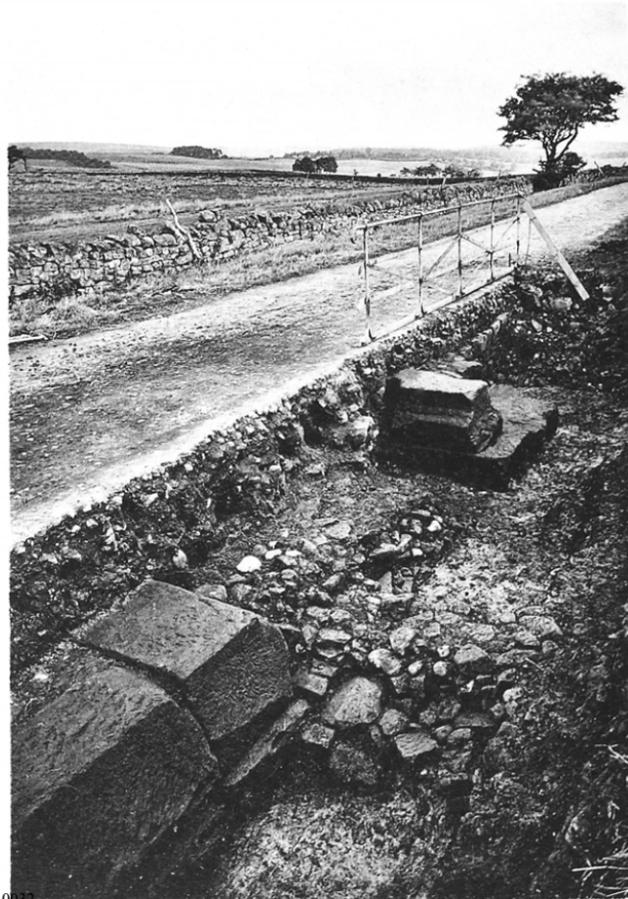


FIG. 14.—S. SIDE OF N. GATE, SHOWING ROAD LEVELS IA AND IB.

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North Gate.—The piers and passage-walls are constructed throughout of massive masonry, as at Housesteads and Cawfields. Above the footing course, only one course, 17 inches high, remains in position. The corner stone of the south-east extension is missing (fig. 11). The footing course at each side is composed of large stones, well-dressed on the bed and about 9 inches thick. It is carried the full length of the passage and projects beyond the piers above at both ends. The two sides are about 9 feet apart. The stones of the outer piers have a well-dressed chamfer, about 8 inches deep and $3\frac{1}{2}$ inches wide, on two faces (fig. 17). The length of the chamfered base course at the north face is roughly the same as that of the corresponding extension at the south face. The stones of the passage-walls are not chamfered.

The base courses of the extensions are roughly chamfered on the south face nearly the full depth of the course, but on the passage-face they are moulded. On the west pier the moulding (fig. 12), shown in section on pl. xiii., is fairly well cut, but the cable-mould on the east pier is very rough (fig. 11). There were no indications that these stones had been used in any earlier structure.

The width of the entrance above the chamfered bases is 9 feet 9 inches at both the outer and inner piers. The passage-walls are 10 feet 10 inches apart, the projection of the piers being about 7 inches. All the piers are 2 feet wide on the face. The recesses are 6 feet long, making the full length of the passage 10 feet, or 3 feet less than at Poltross Burn. The extensions are each about 4 feet 6 inches wide above the bases and project 2 feet 4 inches from the inner face of the north wall.

Remains indicating three periods of occupation were found at this gate, the details of which correspond so closely with those of the three lower road levels in the north gate at Poltross Burn (*Report*, p. 409), and in the

south gate at Winshields (*Report in preparation*), as to call for careful comparison. The plans and sections, figs. 15 and 16, are reproduced from the reports of those

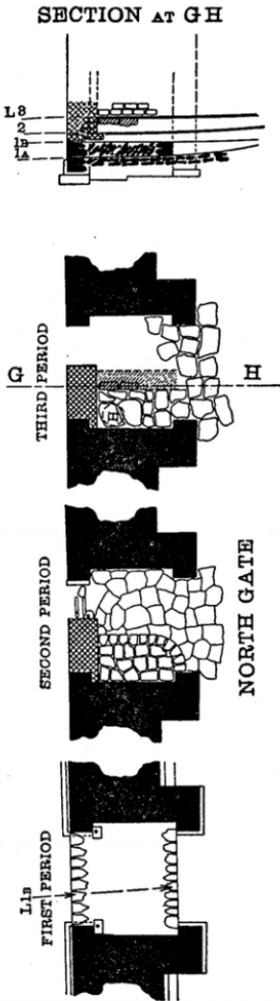


FIG. 15. POLTROSS BURN MILECASTLE.

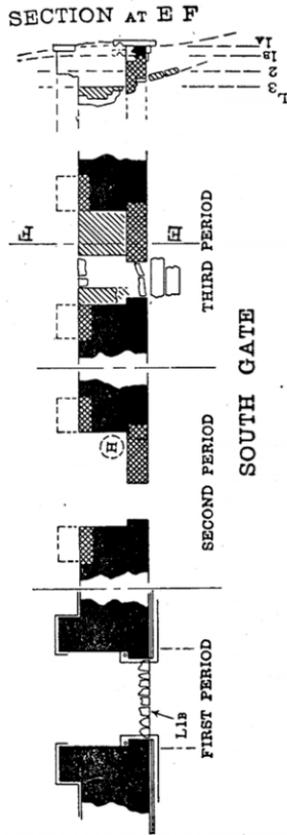


FIG. 16. WINSHIELDS MILECASTLE.

milecastles (scale : 1 inch = 20 feet). The cross-hatching represents second period walls and the single hatching,

in either direction, third period walls, as in plates xiii. and xv. The levels will be described in the order of date, as in the turrets, and not in the order of discovery, as in the Poltross Burn report.

Level 1A.—The pivot-holes of the original double doors are cut in the stones of the footing course, in the usual position in the corners within the outer piers, or jambs. The hole at the east side, which is just distinguishable in fig. 18 (right-hand bottom corner), is well worn, and has a gradually deepening groove leading into it; a familiar feature in many pivot-stones, the purpose of which may have been to facilitate the removal and replacement of the door. The lowest surface of the road from gate to gate was approximately level with the top of the footing course. Slight remains of its gravel surface were traceable between the inner piers. The foundation, composed of cobbles and freestone fragments, was well preserved at the south end of the passage (partially removed in fig. 14), and is seen again below the later walling at the outer face (fig. 17). No remains of a threshold were found.

A few small fragments of pottery, including one piece of the *mortarium*, No. 99, pl. xviii., were found on this surface and at the side of the road, but there were no clear indications of débris between this level and the next above.

At Poltross Burn, the lowest road surface (1A) was unmistakable, but the pivot-stones had been removed. Two courses of walling, in line with the outer face, formed a rough threshold. At Winshields the lowest pivot-holes are sunk in the stones of the footing course, as at High House.

Level 1B.—A layer of road metal covered the lowest surface within the passage. In order to solidify this material, a single course of walling stones, marked L 1B on the "First period" plan, pl. xiii., was built across the roadway in line with the outer face of the bases of the piers. Outside the gate there was some very rough

flagging only, which sloped down towards the 1A surface. A pivot-stone was found in position at each side directly above the lowest pivot-holes, the surface of the stones being about 11 inches above the footing course. In fig. 18 the west stone is seen in position, with the east stone removed and lying as it was found, on the modern road surface. The holes are not as much worn as those below. There are no grooves in the upper stones.

Midway between the jambs is a large dressed stone, 22 inches by 14 inches at the top and about 3 feet long, now leaning outwards, but no doubt upright originally and in line with the jambs. It is much worn and scored as if by weather and the passage of traffic, and was clearly the door-stop at this level, when it would stand 7 inches above the road surface. Its worn appearance suggests that it served the same purpose at the lower level, being raised when the alteration was made.

Very little pottery was found on the road at this level, but the surface, as far as it could be examined at the south side, was covered with loose débris, totally different from the closely packed road-metal below (fig. 14. Débris removed, but seen in section below modern metalling, which is not more than 9 inches deep). This evidence of destruction was confirmed at the outer face, where the forcing outwards of the door-stop disturbed the rough threshold, especially the four stones at the middle (fig. 17). Close to the door-stop a fragment of one of the "top pivot" stones of the doors was found (figs. 17 and 18. Near pivot-stone on road).

At Poltross Burn and Winshields, as at High House, the material between levels 1A and 1B was largely road-metal, and not masonry débris. In both cases the roadway was walled across at the outer face to hold this material together and form a threshold (Poltross Burn two courses, also two at inner face; Winshields one course). The two pivot-stones, indicating double doors



FIG. 17.—NORTH SIDE OF NORTH GATE, LOOKING S.E.



FIG. 18.—PIVOT-HOLES AND DOOR-STOP OF LEVELS IA AND IB,
AND REDUCING WALLS.

at the 1B level were found in position at Poltross Burn. At that time the alteration of level was thought to be due to some local cause only. It was noticed that the 1B pivot-holes were less worn than those in the two stones, not found in position, which probably belonged to the 1A level, but the detail was not considered worth recording in the report. It should, however, be recorded now, in view of the evidence from both gates at High House.

At Winshields the 1B level was not discovered until 1912. Though one pivot-stone is missing, the evidence is clear that there were double doors at this level, as at Poltross Burn.

In both cases a great disaster and consequent destruction occurred at the end of Period 1B. At Poltross Burn the arches of the gates were thrown down and the piers and outer walls probably badly damaged. At Winshields the whole of the south gate was pulled down to within three or four courses of the ground, the destruction probably extending to the whole milecastle, and to the Great Wall as already described.

Level 2.—At the south end of the passage some broken stone was found, laid upon débris about 8 inches thick, which apparently formed the foundation of a higher roadway. The surface was completely removed. It was probably over 12 inches above level 1B. The *mortaria*, Nos. 114 and 115, pl. xviii., were found in disturbed soil near the west side of the road about this level.

The remains of walls reducing the width of the entrance were discovered at the outer face. The one remaining course was fortunately complete and the full plan was recovered. The entrance has been contracted equally from both sides, by two walls each 3 feet 3 inches long and 2 feet thick, the width of the jambs, from which they are built out. The reduced width of the entrance is only 3 feet 3 inches. At the inside the walls are backed by solid piers, or buttresses, *gnomon*-shaped in plan, the

Y

greater rectangle measuring nearly 3 feet 3 inches by 1 foot 8 inches, and the lesser 1 foot 6 inches by about 12 inches.

Before the walls were erected the débris was evidently removed from level 1B at the north end of the passage, and the stones then laid in mortar directly upon that surface. The door-stop and bulged threshold below were not disturbed. Above the foundations, wall and backing may have been united in a solid mass.

No pivot-stone was found, as the roadway was probably 6 inches above the existing remains. This surface, with any later remains, was evidently removed when the modern road was made.

At Poltross Burn and Winshields the great destruction was followed by a reduction in the width of the entrances at the north and south gates. In each case the reducing-wall is at one side only, the later entrance being at the left-hand side of the passage as viewed from the outside.

At the north gate of Housesteads milecastle the narrowing of the entrance, discovered in 1852, followed a similar destruction (Bruce, *Roman Wall*, 3rd ed., p. 183). In this case the reduction is made equally from both sides, as at High House, but the walling is carried nearly the full length of the passage.

In view of the evident removal of later remains, it should be stated that at Poltross Burn and Winshields floor level 2 was covered with débris, upon which the latest floor (3) was laid. The late cooking-pot ware ("vesicular") was found only at this level in both cases. The remains of a third period floor were discovered at Birdoswald turret, and some flagging inside the milecastle may belong to that period. These remains, together with the fragments of "vesicular" ware found on the site, afford strong presumptive evidence, as at Apple-tree turret, that a corresponding floor level existed at the north gate of High House.

The widths of entrances and heights between floor levels are compared in the following table:—

		High House, N. gate.	Poltross Burn, N. gate.	Win-shields, S. gate.	House-steads, N. gate.
Width of Entrance	L 1 A	9 9	9 6	8 2	10 0
	L 1 B	9 9	9 6	8 2	?
	L 2	3 3	4 0	3 8	4 2
	L 3	?	4 0	3 4	?
Height between levels	I A—I B	0 11	1 4½	0 10	} 3 6
	I B—2	1 0(+)	0 11	1 8	
	2—3	?	1 7	1 6	?
Totals	—	—	3 10½	4 0	—

South Gate.—Only one stone of the footing course remains in position at the west side. It measures 5 feet 5 inches by 2 feet 9 inches by 9 inches in thickness, and forms the foundation of the west extension (fig. 20). At the east side the foundation stone of the outer pier has been removed (fig. 21). The footings of the east extension measure 5 feet 4 inches by 4 feet, the eastern half of which consists of "cobble and clay" packing only. The two sides of the gate are 9 feet 2 inches apart. Above the footing course a short length of the east wall of the passage alone remains. It is built of ordinary walling stones. Fortunately the lines by which the upper courses were set are plainly visible on the footing stones.

The whole structure was somewhat larger than the north gate, but of the same general plan. The passage-walls were nearly 11 feet 6 inches apart, and, if the piers projected 7 inches, the entrance would have been 10 feet 4 inches wide. The piers were about 2 feet wide as usual. The east recess was 7 feet 8 inches long, and the passage therefore 11 feet 8 inches over all.

Two alterations from the original arrangement are traceable at this gate.

Level 1A.—At the east side the pivot-hole corresponding with the earliest roadway was found just within the jamb, cut in the footing stone, with a "groove," as at the north gate (fig. 21). The hole is well worn.

Level 1B.—A flat stone covers the hole, and upon it is a second pivot-stone, the top of which is 8 inches above the footing course. The hole is distinctly less worn than the one below. The material between these levels is the ordinary road-metal seen in fig. 20.

Level 2.—The upper pivot-stone is covered by a block of masonry, only one course of which remains, built upon the 1B surface, similar in shape and size to the "buttresses" backing the reducing-walls at the north gate. It projects 3 feet 5 inches from the passage-wall, and extends 2 feet 5 inches inwards from the jamb, including the smaller rectangle which measures 1 foot 7 inches by 10 inches. The reducing-wall has been entirely removed, but the pivot-stone of the narrowed entrance is in position (fig. 21). There has been no alteration in the general level of the roadway, and the stone is bedded in the road-metal. The flooring of large, well-laid flags within the passage probably belongs to this period. It is unlikely that the flags would have escaped the general destruction at the end of Period 1B.

Though the masonry at the west side of the gate is entirely removed, there is no reason to doubt that both sides were symmetrical, as indicated on pl. xv., reducing the width of the entrance to about 3 feet 6 inches.

No later remains were found.

It is clear that the alterations in level and width of entrance correspond with those at the north gate in plan, and, without doubt, also in date. The upward slope to the south explains the absence of débris, which would cause considerable changes in the levels and make



FIG. 19.—EAST SIDE OF SOUTH GATE AND S.E. CORNER, LOOKING E.



FIG. 20.—SOUTH GATE, LOOKING S.

the gate difficult of access from inside the milecastle, as at Poltross Burn. Outside the north gate, however, steepness of approach was an advantage, rendering the doors less liable to damage during an attack.

THE ROAD.

Between the gates the road was originally about 11 feet wide. It was constructed of cobbles and freestone fragments, the larger stones forming the foundation and the kerbing. The surface was of gravel. No remains of paths, or gutters, were found at the sides. The remade surface (1B) was continuous, but the average thickness of road-metal added was probably less than 6 inches. After the destruction at the end of that period the road was widened, and, opposite the east internal building, almost merged in a general paved area.

Outside the north gate the road expands into a similar roughly paved area which extends to the edge of the ditch.

The road was carried through the south gate to join the Military Way, which passes within 30 feet of the south wall (these *Transactions*, o.s., xiv., p. 189). It is, however, entirely removed beyond the outer face.

INTERNAL BUILDINGS.

At the east side of the road a stone building was found about 15 feet from the north wall of the milecastle and separated from the east wall by a narrow passage (fig. 22). The remains of stone buildings at the west side consist of two short lengths of walling which abut upon the west wall, near the north-west corner (pl. xv.) To the south, areas of rough flagging (F) and hearths (H) suggest that the buildings covered the greater part of the interior (fig. 23).

First Period.—Over the whole area, below the flagging and the walls of the east and west buildings, a layer of

the familiar dark material, containing burnt matter, was invariably met with. It was not easily traceable at the south end, but towards the north it became more clearly marked, and in places contained fallen stone. The greater part of the pottery discovered on the site, including practically all the vessels which can be assigned to the second century, five of the eight coins, Nos. 3-7, and a few fragments of window glass were found in this layer, which must represent the débris of the first period of occupation. Near the west wall a hearthstone was found 35 feet south of the oven, and some flagging (F 1), shown in section F G, pl. xiii., at the lower level, but no remains of stone structures, except the oven, can be assigned to the first period.

Probably the original buildings were of wood, with clay floors, though no post-holes, or remains of sleepers in which uprights could be stepped, were found. The large area within the walls accounts for the small quantity of débris, compared with that found in the turrets.

The *mortaria*, Nos. 96, 99, 100 and 101, were found at the east side of the road near the east building. The flat-rimmed bowl, No. 104, came from the south-east corner, and another, No. 106, from the east side of the road. A fragment of a "rustic" jar was found west of the road, 6 feet from the south gate. The *denarius* of Vespasian, No. 3, was lying close to the west wall, 8 feet south of the later sunk hearth (H₂, section F G), and a coin of Trajan, No. 6, almost under the hearth. A second coin of Trajan, No. 4, was found west of the road, 13 feet south of the later flue, and that of Antoninus Pius, No. 7, close to the south wall, 3 feet east of the gate.

Some pottery, including fragments of "rustic" ware, was found below the level of the flagging (F 1) near the west wall. This flooring may correspond with the 1B level in the north gate. What was probably another



FIG. 21.—E. SIDE OF S. GATE, FROM S., SHOWING PIVOT-HOLES OF LEVELS IA, IB AND 2.



FIG. 22.—EAST BUILDING, LOOKING N.E.

portion of the IB flooring was found at the east side of the road about 17 feet from the east building, where pottery, including the *mortarium*, No. 98, was lying apparently on a clay floor, below the flagging, but above the lowest dark layer.

Floors corresponding with the IB level at the north gate were not noticed in the buildings at Poltross Burn (*Report*, p. 416). Since that time, however, the difficulty of detecting successive clay floors which are not separated by masonry débris, has been demonstrated at Limestone Bank, Peel Crag and Steelrigg turrets, where in each case a clayey mass nearly 12 inches thick, containing burnt matter, but no fallen stone, certainly represented two levels of occupation. At Poltross Burn, signs of the IB floors were not altogether wanting, and fortunately did not go unrecorded. The first period pottery was divided into two classes:—"Early first period" and "First period (mostly in débris)." The vessels in the first class either came from the IA level in the north gate or were found "embedded in the clay" of the floors, or "in the surface" of the paths. The laying of another clay floor, or of a gravel-path surface, readily explains how the pottery became "embedded," while the remaking of the hearth in room E1, at a higher level (*Report*, p. 423 and fig. 11), is further evidence of the probable existence of the floor level IB in the buildings, as well as in the north gate, at that milecastle.

Second Period.—The average outside dimensions of the east building are 19 feet 9 inches (north to south) by 15 feet 10 inches. The walls are 1 foot 6 inches thick above the footings. Clay has been used instead of lime mortar in the walls, the masonry of which is very rough. The narrow entrance, only 2 feet 3 inches in width, is in the north wall, 5 feet 6 inches from the north-west corner. The passage between the building and the outer wall is 2 feet 2 inches wide.

The foundations of the walls are laid upon the débris of the first period. Fragments of several vessels were found under the walls, including a Dr. 31 Samian dish bearing the name-stamp 'ALBI——. The coin of Trajan, No. 5, was lying almost under the west wall. It was unfortunately broken in pieces by the blow of a pick.

The building is very similar in shape and size, within the walls, to the north room in both buildings at Poltross Burn, as enlarged during the second period (*Report*, pl. 1.).

The remains of a flagged floor were found, close to the surface and much disturbed. There was a hearth near the middle of the room at this level, below which were some remains of another hearth, the latter probably being that of the first period. Fragments of only one vessel, a large vase with double handles, were found on this floor.

No traces of other buildings were found east of the road. The roughly flagged areas extended to the outer walls, as shown on pl. xv. The flagging north of the building is seen in fig. 11. To the south, in addition to being on a gentle slope throughout, it must have been stepped about half-way between the building and the south wall, the difference in level being about 2 feet (section C D), but in the absence of walling and post-holes, it is uncertain whether this area was roofed or an open yard. The flags were much disturbed and the pottery largely mixed with that of the first period. The inscribed fragment, No. 3, was found at a point where the flags were removed, about 15 feet south of the building. The flags piled together (figs. 19 and 22) formed part of this flooring.

The west building was not independent of the outer walls of the milecastle. Of the two remaining portions of its walls, one, 6 feet long and 22 inches thick, built upon the base of the first period oven, abuts upon the west wall (fig. 24); the other, about 8 feet long and 11

feet 4 inches to the south, clearly did so originally, while the flagging (F) extends to the outer walls, as at the east side. The walls have been laid on the débris of the first period, as in the case of the east building, without any cobble and clay bedding. Consequently it was impossible to trace the position of the walls which have been removed.

There is, however, satisfactory evidence that a building extended from the oven to the south wall, probably having a lean-to roof against the west wall. The remains of floors are terraced, but, unlike the flagging at the east side, they have been horizontal at each level. The building was 67 feet long, and was divided into four rooms, of which three were probably of equal length, about 16 feet inside. The north room (1) was only 11 feet 4 inches within the walls, and may have been a later addition. The width of the building is doubtful, but the extent of the floor in the south room (4), and especially the length of the flue in room 2, indicate that it was greater than that of the east building, probably by the width of the passage and inner wall of that building, or about 18 feet 6 inches in all.

The combined area of the two buildings would then be 180 square yards, which may be compared with 208 square yards, the area of the original buildings at Poltross Burn (*Report*, pp. 396-8 and 421-9). The narrowing of the gates and the removal of many turrets after the first great destruction seem to imply a reduction in the strength of the small isolated garrisons on the line of the Wall. Such a reduction should also be indicated by reduced accommodation within the milecastles. At Poltross Burn the eight rooms of the first period were reduced to six in the second, though the area remained unaltered.

It is probable that the flagged floor of the oven formed part of the floor of room 1, as the flags outside the north wall of the building (fig. 12) were level with the oven

floor (F₂; section F G). The floor of room 2 was about 6 inches higher than that of room 1, and fairly well preserved. About the middle of the room was a well-made hearth (H₂), 3 feet 6 inches by 2 feet 6 inches, with sides and floor of flags, sunk about 9 inches below the floor level.

At the east end was a channel, or flue, 16 feet long, which turned sharply to the south-east. About 5 feet 6 inches from the hearth it again turned and ran parallel to the north wall of the building, nearly to the edge of the road. Beyond the second turn, it was about 12 inches wide and 9 inches deep, being covered with the flags of the floor (F₂), four of which are seen removed and lying at the south side of the flue in fig. 23. The side stones were laid simply on the lower débris. About 2 feet from the road there appeared to be a branch to the south about 7 inches wide. There were no other branches, and it is difficult to understand how the room could be effectively warmed by one flue, or the need of it in addition to such a large open hearth. The *mortarium*, No. 113, was found in this room.

Between rooms 2 and 3 were some remains of a rough retaining wall for the "made" ground at the north end of room 3. There were no signs that regular walling had been built upon it. The difference in level was about 9 inches. No hearth was found on the remaining flags of the floor of room 3. The *mortarium*, No. 97, was found in this area, in a position which might associate it with this period. In room 4 the hearth was found near the south-west corner (H₂). The floor was about 1 foot 7 inches above that of room 3. In both rooms there were two layers of flags in places, and the pottery included obviously later fragments. It is probable that approximately the same floor level was used in the third period.

Third Period.—East of the road the only later remains were those of a very roughly constructed wall-face,

within the north-east corner of the east building, and parallel to the north wall (pl. xv.). It appeared to be a reconstruction, at a higher level, of that corner which had clearly been destroyed (fig. 22). The coin of Constantine I., No. 10, was found near the south-east corner of the milecastle at the level of the flagging, which was probably the floor level up to the end of the occupation of the milecastle.

At the west side a fragment of flagging was found which covered the hearth in room 2 and extended towards the road. It was about 9 inches above floor 2 and sloped slightly towards the north-east. The coin of Constantine I., No. 9, was found above it, but no pottery. In the south-west corner there were three rectangular bases of solid masonry, abutting upon each other and two of them touching the outer wall (pl. xv.). Only one course, faced with small squared stones, remained in position. Nothing was found to indicate their purpose.

THE OVEN.

The position of the oven below the north wall of the second period building at the west side is shown in fig. 24 and pl. xiii. In construction, it closely resembles the oven found at the north-east angle of Haltwhistle Burn Fort (*Arch. Ael.*, 3rd ser., v., p. 246). The oven floor is raised about 16 inches above the general level (Fr), on a nearly circular base placed against the outer wall, faced with very rough stonework with a core of cobbles and clay. The flags of the floor show traces of long-continued firing. The oven wall though much destroyed is sufficiently complete to give the size and shape of the interior. It has been nearly circular and measures 5 feet from east to west. The entrance, 19 inches wide, is at the east side. The two flags of the floor at that point project beyond the outer face, forming a hob outside the door, as at Haltwhistle Burn and elsewhere.

A considerable quantity of wood ashes was found heaped against the oven base.

A well preserved oven of this type was discovered outside Winshields milecastle in 1912 (*Report in preparation*). The rough exterior was undoubtedly covered with clay, or turf, and it is probable that in most cases the whole of the interior was lined with clay.

The oven clearly belongs to the first period. A flag found under the base, level with the flooring F 1, section F G, north of the oven, may indicate that the whole structure belongs to period 1B. The coin of Marcus Aurelius, No. 8, was found in the ashes at the south side, just below the level of the oven floor.

No remains of later ovens were discovered.

STEPS.

At Poltross Burn a flight of steps, 5 feet 4 inches wide, occupied the north-east corner, and the ovens the north-west corner (*Report*, p. 418). The oven just described is 7 feet from the corner, and no remains of steps were found at the north-east corner. A fragment of walling, one course of four facing stones (pl. xv.), was found at about level F 1, 18 inches north of the oven, parallel to the north wall at a distance of 5 feet 6 inches. The materials used for levelling up this part of the interior were stones and clay, as if to form a foundation. It is probable that the steps occupied this corner at High House.

NOTES ON THE "FINDS."

THE INSCRIBED STONES.

By F. HAVERFIELD, LL.D., F.S.A.

No. 1.—Slab bearing a record of building by legionary soldiers, 12 inches by 22 inches, with somewhat irregular letters $2\frac{3}{4}$ inches high :—



FIG. 23.—REMAINS OF WEST BUILDING, LOOKING W.



FIG. 24.—OVEN, LOOKING N.W.

LEG VI VIC	(2) VIV
(1) P FIDELIS	I
F	

leg(io) vi vic(trix) p(ia) fidelis f(ecit).

“Erected by legion vi, victorious, loyal and faithful.”

No. 2.—Small fragment, 5 inches by 6 inches, with small coarse letters 2 inches high. The first line plainly was *leg vi v*; the second line probably contained the other titles of the legion, as on No. 1.

The two stones were found lying in débris above the highest (*i.e.*, latest) floor of the High House turret. It is not possible to assign any date to them, save the very general limitation arising from the fact that the 6th legion reached Britain about 120 A.D. Out of 48 or 50 inscriptions of this type which have been found on the line of the Wall, and record the building or re-building work of one or other of the three British legions (ii., vi., and xx.), 18 seem to belong to legion vi. One of these comes from Benwell, one probably from near Heddon, one from Chesters, and one from Carraw; the rest have been found at points west of Housesteads, and five of them on or near the line of the Wall between Birdoswald and Lanercost. One such fragment, found in 1849 “in the Milecastle to the west of the station,” and now in Tullie House (Catalogue No. 120), is especially similar to the new find (No. 1), and, as its provenance also suggests, may be by the same hand. It is figured in the *Lapidarium Septentrionale*, No. 394.

Only one can be dated with accuracy. This is the stone probably found near Heddon and belonging to A.D. 158.* It is probable that the viith legion from York was employed on the Wall on many occasions. The

* C.I.L. vii., 563; *Eph. Epigr.* ix., p. 584.

lettering of our two stones does not suggest, though it does not actually disprove, an early date.

No. 3.—Fragment, 7 inches by 7 inches, with letters 1 to 1½ inches high. The letters are “rustic” rather than rude in form, but are not very well made. Found lying loose in the High House milecastle:—



No. 3.



No. 4.

leg(io) ii Aug(usta coh.) vii su(b) . . . ra (probably *sub cura*). “Set up by legion II., AUGUSTA, cohort VII., under the command of . . .” A stone of the same character as Nos. 1 and 2, recording building or repairs by legionaries.

No. 4.—Fragment, 11 inches by 16 inches, with large letters, 5 inches tall and well made. Found outside the south-east corner of the High House milecastle, lying loose. This seems to be part of an ambitious legionary building-record, possibly of a vexillation—spelt *vexsil(latio)*—of *Legio ii Aug(usta)*. But it is not quite clear that the last letter is really a “g,” and, without more of the lettering, certain interpretation is not possible.

The dating of these two records of building is as difficult as that of Nos. 1 and 2. Twenty-two such records of *Legio ii* have been found on the Wall, and eight or ten of *Legio xx*, and soldiers from both legions must have

been often employed in military works. The lettering of both Nos. 3 and 4 is much better, and might well be earlier than that of Nos. 1 and 2. No. 4 in particular suggests a date which might be as early as Hadrian or Pius, and is probably not very much later.

THE COINS.

By H. H. E. CRASTER, M.A., F.S.A.

BIRDOSWALD TURRET.

Only two coins were found here, namely, a *sestercius* of Vespasian and a *dupondius* of Domitian. The good condition of the latter, and the fact that both coins found on the site are Flavian, favour the assignment of an early date to the original building, namely the first half of the second century, and probably the reign of Hadrian.

HIGH HOUSE MILECASTLE.

The milecastle produced eight coins, viz., a silver *denarius* of Vespasian; three bronze coins of Trajan, one of Pius and one of Marcus (one coin of Trajan being a "second brass," the remainder all *sestercii*); and two coins of Constantine the Great, dating A.D. 309-314. One of the two coins of Constantine was found above the only remaining fragment of the third or upper floor; the other was found at a point where all the floors merged into one. The other coins were all found below the level of the second floor, and evidently belong to a second century occupation. They do not require an occupation earlier than the time of Antoninus Pius; but the evidence which they give is fairly conclusive as to occupation during the second half of the second century. The fact that the latest coins belong to the early part of the reign of Constantine the Great, added to the similar evidence previously obtained from the milecastles at Poltross Burn

(*Report*, p. 437) and Winshields, strengthens the theory that the milecastles along the line of the Wall may have ceased to be garrisoned after about 325.

COIN TABLES.

Birdoswald Turret.

VESPASIAN.

No.	OBVERSE.	REVERSE.	REMARKS.
1	Laureated head r.	Indecipherable.	<i>Sestercius</i> : decayed.

DOMITIAN.

2	IMP CAES DOMIT AVG GERM COS [xvi] CENS PER P P Radiated head r.	VIRTVTI AVGVSTI S C Virtus standing r. with spear and parazonium.	<i>Dupondius</i> : A.D. 92-94 (?) ; Cohen 2nd ed. 659 (?) ; very fair condition.
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High House Milecastle.

VESPASIAN.

3	IMP CAESAR VESPASIANVS AVG Laureated head r.	COS ITER TR POT Fortune seated l. with branch and caduceus.	<i>Denarius</i> : A.D. 70 ; Cohen, 1st ed. 36 ; very fair condition.
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TRAJAN.

4	Laureated bust r.	Seated figure (Dacia ?) l.	<i>Sestercius</i> : A.D. 98-117 ; much decayed.
5	IMP CAES NERVAE TRAIANO AVG GER DAC PM TR P COS . . P P	[S P Q R OPTIMO PRINCIPI S C]	<i>Dupondius</i> or <i>as</i> : A.D. 105-116 ; Un- worn, but greatly decayed.
6	IMP CAES NER TRAIANO OPTIMO AVG GER DAC PARTHICO P M TR P COS VI P P Laureated and draped bust r.	ARMENIA ET MESOPOTAMIA IN POTESTATEM P R REDACTAE S C Trajan standing with spear and parazonium, placing l. foot on Armenia (personified) ; on either side recumbent figures of the Euphrates and Tigris.	<i>Sestercius</i> : A.D. 116-7 ; Cohen 2nd ed. 39 ; a rare reverse.

ANTONINUS PIUS.

No.	OBVERSE.	REVERSE.	REMARKS.
7	ANTONINVS AVG PIVS P P TR P XVII Laureated head r.	LIBERTAS COS IIII S C Libertas r. with cap and l. hand out- stretched.	<i>Sestercius</i> : A.D. 154; Cohen 2nd ed. 535; good condition.

MARCUS AURELIUS.

8	AVRELIVS CAESAR AVG PII F[IL] Uncrowned head r.	[IVVENTAS S C] Marcus standing l., behind him a trophy.	<i>Sestercius</i> : A.D. 140 161; fair condi- tion.
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CONSTANTINE THE GREAT.

9	IMP CONSTANTI- NVS P F AVG Laureated and cuirassed bust r.	SOLI INVICTO COMITI Sungod facing, rais- ing r. hand and holding globe.	A.D. 309-313; mint mark $\frac{*}{\text{PLN}}$ Lon- don mint; Cohen 2nd ed. 536.
10	IMP CONSTANTI- NVS AVG Laureated and cuirassed bust r.	SOLI INVICTO COMITI Sungod facing, rais- ing r. hand and holding whip.	A.D. 309-314; mint mark $\frac{\text{T} \text{F}}{\text{PTR}}$ Trier mint; Cohen 2nd ed. 530.

OBJECTS OF BRONZE, ETC.

BIRDOSWALD TURRET.

Fig. 38. 1.—Dog-*fibula*; length, $1\frac{5}{8}$ inches; decorated with enamel, green and yellow spots on blue ground; hinged pin. Floor IB.

2.—Compass-arm, of white bronze; length, $2\frac{1}{4}$ inches; iron point (broken) fixed in slot in bronze in same manner as the points of modern drawing instruments; decorated with enamel, $1\frac{1}{16}$ inches by $\frac{5}{16}$ inches, blue, red and black mosaic. Floor IB.

Z

- 3.—Object of unknown use ; length, $5\frac{1}{2}$ inches. Floor 2.
 4.—Tubular sheath. Outside walls.

APPLETREE TURRET.

- 5.—Penannular brooch ; diameter, $1\frac{3}{8}$ inches. Floor 1B.
 6.—Penannular brooch ; diameter, $1\frac{3}{8}$ inches. Outside walls.
 8.—Leaf-shaped stud. Floor 2.
 9.—Ornament ; attached, probably to leather, by rivetted clasp. Outside walls.
 10.—Object of unknown use ; length, $2\frac{7}{8}$ inches. Outside walls.

HIGH HOUSE MILECASTLE.

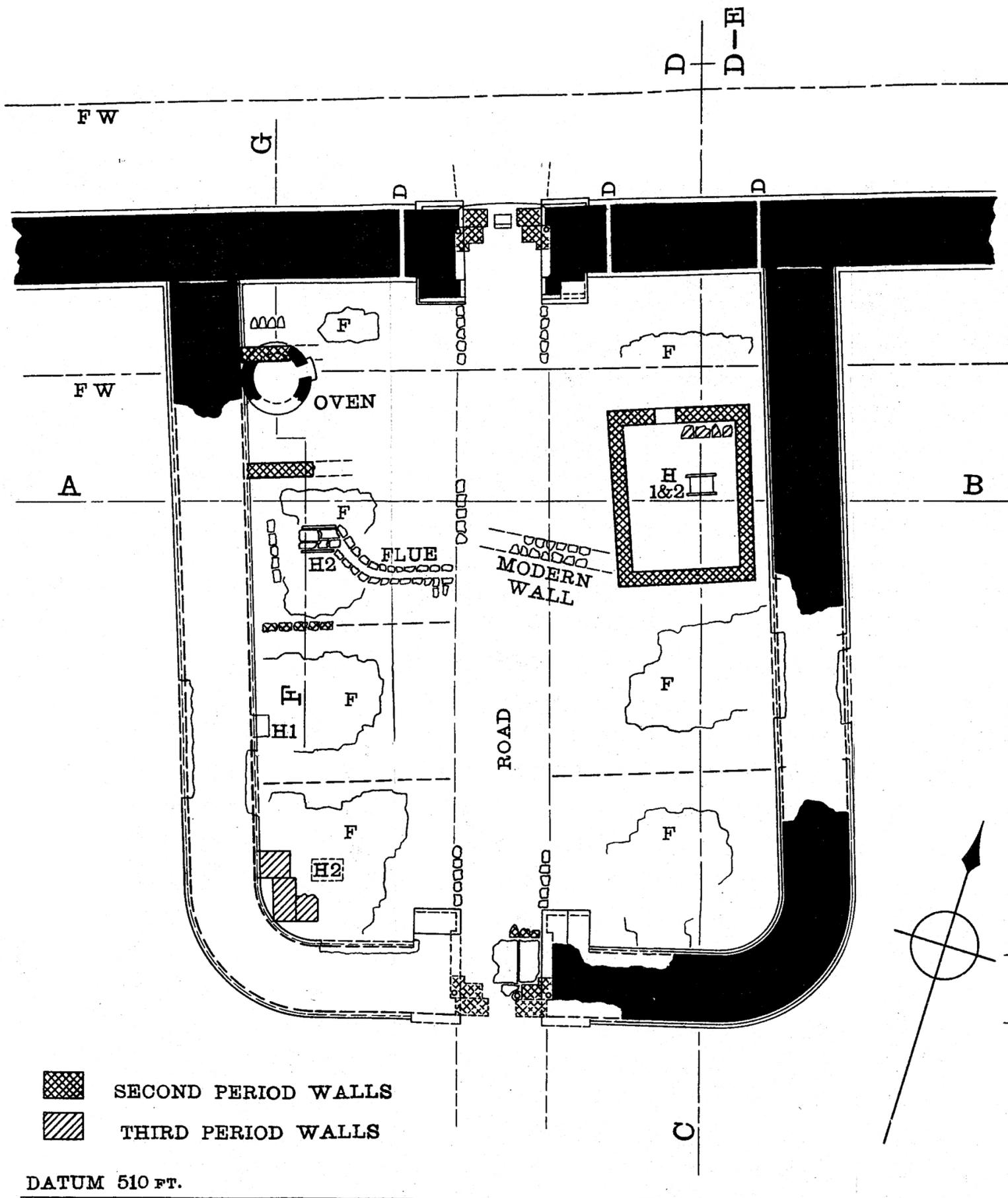
- 11.—Intaglio ; hard, dull red stone, polished. East side, probably first period.
 13.—*Fibula* ; length, $1\frac{3}{8}$ inches ; hinged pin. Found in flue, room W 2, first or second period.

STONE.

In addition to the inscribed stones and other objects already described, fragments of one lower and four upper millstones were found at High House milecastle. They are of the ordinary flat type, average diameter 14 inches, and of local stone. One stone came from the first period débris. Two fragments of thin flagstone, scored with lines at right angles to form "draught" boards, and part of an open lamp, with circular reservoir cut in a rough triangular stone 11 inches by 9 inches by $2\frac{1}{2}$ inches thick, were found at uncertain levels.

IRON.

Very few iron objects were found. In addition to a number of nails there were four spear-heads, each about 8 inches long. One came from floor 2 in room W 2, one from below that floor, and the others from uncertain levels.



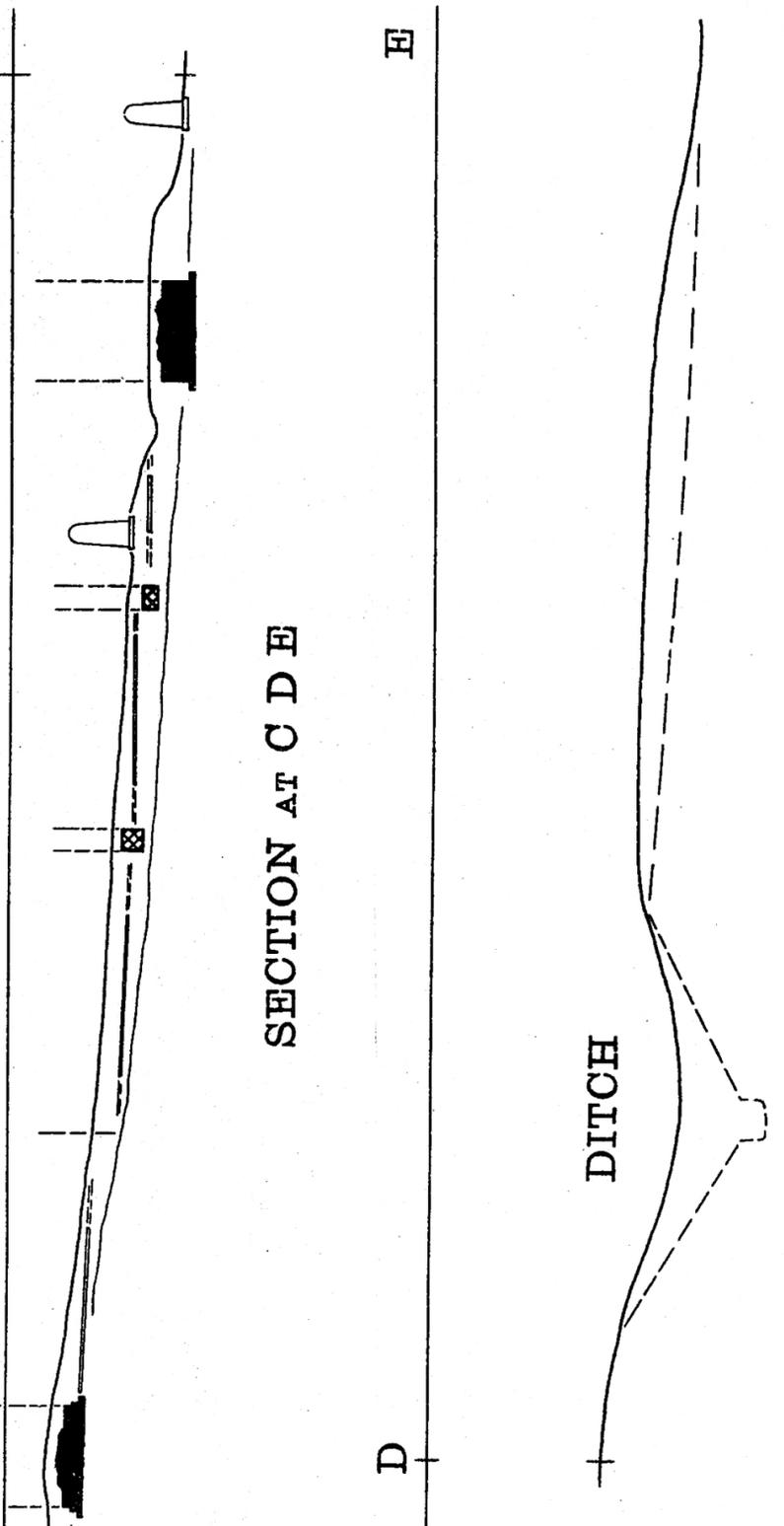
 SECOND PERIOD WALLS
 THIRD PERIOD WALLS

DATUM 510 FT.

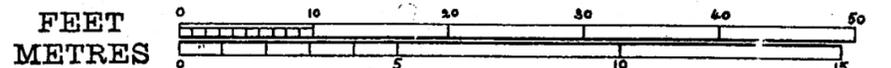
DATUM 510 FT.

1911

SECTION AT A B



HIGH HOUSE MILECASTLE



SCALE: ONE INCH=12 FEET

J.G.S.

GLASS.

Small fragments of window glass were found at each site, also portions of bottles. A melon-shaped bead, of blue glass-paste, No. 7, fig. 38, came from outside the walls at Appletree turret, and a plain bead of green glass, No. 12, from High House milecastle.

TILES.

No fragments of roofing-tiles were found at the turrets, nor was the quantity from the milecastle large enough to indicate that the roofs were tiled. The roofing throughout was probably of "stone slates," as at Poltross Burn.

 THE POTTERY AND THE PERIODS OF
OCCUPATION.

By P. NEWBOLD.

The work of the Cumberland Excavation Committee in the years 1895-1900 resulted in the hypothesis that the remains of a Turf Wall, to the south of the line of the Stone Wall on which the milecastle at High House and the turrets at Birdoswald, High House and Appletree are situated, represent the surviving portion of the work of Hadrian, and that the Stone Wall at this point and elsewhere is of later date and possibly to be ascribed to Severus. This theory has been generally accepted up to the present,* and in examining the pottery found in these four structures attached to the Stone Wall it is particularly important to find an answer to two questions: (1) Can any of this pottery be dated to the second century? (2) If so, do any of the fragments indicate with certainty

* By Haverfield: *Mommsen, Provinces of the Roman Empire* (English translation, 1909), vol. ii., p. 351; *Edinburgh Review*, No. 436 (April, 1911), p. 482; *Encyclopædia Britannica*, ed. xi., art. *Roman Britain*, and *Cambridge Medieval History*, vol. i., p. 369. Oman: *England before the Norman Conquest*, 1910, p. 113; and Stuart-Jones: *Companion to Roman History*, 1912, p. 249.

a Hadrianic occupation of these buildings? That the answer to (1) is in the affirmative is obvious at once after a cursory glance at the actual pieces, or the sections in pl. xvi.-xviii., and needs no demonstration. A closer study is necessary to determine if any of this second century pottery can be brought down to the narrower limit of the reign of Hadrian.

What data have we for distinguishing between the types of pottery in use in Hadrianic and Antonine times? (1) The chronology of Samian ware has been settled in outline, even if still somewhat uncertain or disputable in detail, by French and German writers, on the rich evidence from the sites of its manufacture, or from grave-groups on the Continent. For certain other fabrics, the dating of similar types in Germany or Gaul is useful, though continental analogy must be used with caution, except where corroborated by finds in Britain. (2) In Scotland we have two distinct periods of Roman occupation; firstly, the Flavian-Trajanic occupation, roughly from 80-117 A.D.,* and secondly, the Antonine episode of about forty years, 140-180 A.D. For remains of the reign of Hadrian the district north of the Cheviots is at present a blank. (3) The latest coin found in the fort at Gellygaer in South Wales is one of Hadrian, and it is generally agreed that the fort was abandoned in some part, possibly the early years, of the reign of Hadrian. (4) At Corbridge the general occupation level and main buildings date from the re-occupation of Scotland under Lollius Urbicus. Underlying this level for the most part is another which has yielded a considerable amount of Flavian-Trajanic pottery. Whether the site was occupied or not during Hadrian's reign is as yet uncertain; but "definitely pre-Hadrianic and definitely Antonine types

* The lowest estimates for the end of the Flavian occupation of Newstead coincide with the troubles about the time of Hadrian's accession. Others would place it much earlier. See *Journal of Roman Studies*, vol. i, p. 135.

of pottery are never obtained together in a clearly stratified deposit."* Thus, definitely Hadrianic pottery has rarely been distinguished as yet by our excavators. But on several of these sites certain well-defined types of pottery occur in the Flavian-Trajanic levels which do not appear in the Antonine deposits. Somewhere, then, between these two epochs these types must have fallen out of use.

Some of them were found in each of the four buildings under discussion; where the deposit was stratified, they were met with only in the lowest level. The most important of these are—in Samian, a flat-flanged bowl (Curle, *Newstead*, pl. xxxix., fig. 11), the forerunner of Dr. 38; the small double-rolled cup with rolls well developed (Dr. 27) which is quite distinct in quality and shape from the larger, more flat-sized vessels of the same shape which last till near the end of the second century; and a thin, generally flat-based, variety of Dr. 31 of good colour with peculiar matt surface glaze: in coarse wares, a bowl with more or less angular side and flat, reeded rim (*Poltross Burn Report*, pl. iii., Nos. 1-6): a type of jug with a series of well-developed mouldings or steps on the neck, and usually a sharp angle at the junction of neck and body (Curle, *Newstead*, fig. 33, Nos. 1-4); another jug with the mouth pressed in to form a spout (*Ibid.*, fig. 33, No. 9); and vases with raised "rustic" ornament (*Ibid.*, pl. xlvi., No. 29). All these fashions appear commonly in the first century and early years of the second, but are not found in post-140 levels.†

Discussing the High House excavations, Professor Haverfield says: ‡ "In my opinion they [*i.e.*, the earliest

* *Corbridge Report*, 1911, p. 122 = *Arch. Ael.*, 3rd ser., viii., p. 258.

† Of course one cannot be dogmatic on this point. A stray example may turn up in an Antonine level, but could not invalidate the large amount of evidence already accumulated.

‡ *Jahrbuch* of the German Imperial Institute, 1912, Band xxvii., p. 489 ff.

potsherds] are to be ascribed to somewhat later than Hadrian and earlier than the middle of the century"—a statement which can only signify a period of less than the twelve years 138-150, though doubtless Professor Haverfield did not intend it to be taken quite so literally. If this opinion is right, why are these types absent from the forts on the Scottish Wall and from the Antonine *strata* at Newstead and Corbridge?

Further, the types enumerated above are by no means the only relics in the High House milecastle and turrets of Flavian-Trajanic fashions. There are several other less definite, but, taken altogether, very distinctive indications in the lowest levels of pre-Antonine wares; for instance the large proportion of red, yellow, buff and white fabrics,* and of a coarse, light-grey ware, generally badly made, of white clay with porous appearance: the number of jars with moulded bases, and of short, angular and sharply moulded rims, mainly belonging to small vases of the "rustic" type: the occurrence of vessels which have been mended with rivets in Roman times. The last is a feature which Knorr (*Die Verzierten Terra-Sigillata-Gefässe von Rottweil*, p. 31/2) notes as peculiar to early Samian in districts remote from the factories, and as far as my own observations go, it is common only on early types in this country. Some of the above details occur, of course, in the second half of the century, but in much smaller proportions than in the Flavian-Trajanic period. Details like these are also not always easy to describe or to recognise from illustrations, but they will be appreciated by anyone who handles the actual fragments.

The appearance of all these forms and fashions in the lowest level (Period IA) in the turrets and milecastle

* These as usual are mostly very broken fragments. The large proportion of (generally thin) red and white wares in the Flavian-Trajanic levels at Corbridge is always a striking feature.

marks this level off distinctly from the Antonine levels at Corbridge and Newstead. The latter correspond exactly in point of pottery with the remains of Period IB in the Wall structures. The dates suggested by Professor Haverfield, quoted above, would allow at the most from two to five years for these fashions to disappear from the district almost entirely. If, on the other hand, we suppose that Period IA (*i.e.*, the period beginning with the erection of the stone watch-towers incorporated in the Wall) commences at an early date in Hadrian's reign, we should have a lapse of practically twenty years for the change of fashion to take place.

Again, anyone who studies Mr. Curle's elaborate treatment of the Newstead pottery cannot fail to observe that a remarkable change of types has taken place between the Flavian-Trajanic and the Antonine periods. Five years' work on the Corbridge pottery has convinced me that this difference is more considerable and distinctive than any developments that took place later. Common continental types and shapes disappear and more local forms develop and predominate. Is it hazardous to suggest that the change is due to events which must have followed the establishment of the Tyne-Solway frontier line in the early years of Hadrian—the introduction of considerable bodies of fresh troops, the opening up of the resources of the district, and probably the foundation of local potteries in place of the use of vessels imported from York, the south, or overseas?

Lastly, the supporters of the Turf Wall theory maintain that the reconstruction of the barrier in stone followed exactly the same line as Hadrian's original work in turf, except for the short stretch west of Birdoswald. Accepting this hypothesis, one would expect the buildings along this particular stretch to show at least one occupation-level less than the milecastles and turrets along the rest of the line; that occupation-level would represent the

period before the reconstruction in stone, and would here be found on the remaining piece of the Turf Wall itself.* But the facts do not bear out this conclusion. The High House buildings show exactly the same number and series of floor levels as the buildings elsewhere, and the pottery from each of these levels corresponds exactly with the pottery from the same levels in other turrets and mile-castles. This correspondence is particularly striking in the lowest *stratum*, where some or all of the Flavian-Trajanic types enumerated above appear in all the excavated structures, from which the pottery has been preserved, from Appletree turret eastwards to Limestone Bank turret.

The conclusion seems inevitable that the High House milecastle and the three turrets adjoining were erected simultaneously with the milecastles and turrets along the rest of the line from Birdoswald to Limestone Bank ; that certain Flavian-Trajanic fashions in pottery, which are found in the bottom *stratum* of the Wall structures, survived into the early part of Hadrian's reign, but had fallen out of use before CORSTOPITUM was laid out as a military depot and Scotland re-occupied in the early years of Pius ; and that, consequently, the High House milecastle and turrets, like the rest, were erected at the same time as, and formed part of, the Wall of Hadrian. That they were erected in stone and were contemporaneous and homogeneous with the Stone Wall is shown elsewhere in this and other reports by Mr. Simpson and myself.†

It remains to discuss what evidence is provided by the pottery for the delimitation of the periods denoted by the successive floor-levels. Period I., which is represented by two floors (IA and IB) separated by a small

* As a matter of fact excavations have failed to discover any traces of buildings or even of a road along the line of the Turf Wall.

† See *Archæologia Aeliana*, 3rd series, ix., and these *Transactions*, n.s., xi., p. 403, etc.

amount of rubbish, produced pottery ranging from early Hadrianic to late Antonine forms; there is no piece which could not well fall within the second century. Floor 1B, where its débris was distinguishable from that of 1A, is characterised by the absence of the early Hadrianic styles. Period II. produced very little,* but the fragments may well date from the third century.

Period III. was even more poorly represented in the stratified deposits; but the few stratified pieces point to a late third, or fourth, century date. Although for the most part this latest level has been removed, High House milecastle, Birdoswald turret, and the rubbish-heaps outside Appletree turret yielded a few late third, or fourth, century fragments which must belong to this period; but the small amount of the typical fourth-century cooking-pot ware and the comparative or entire absence of other characteristic late types (*e.g.*, of Castor and the painted platters of this epoch) may possibly be taken as a slender piece of evidence to strengthen Mr. Craster's tentative conclusion† from numismatic testimony that the milecastles, and one would add *ipso facto* the turrets, were not occupied after about 330 A.D.

It will be observed that the evidence here for the periods of occupation agrees closely with that obtained from the milecastle at Poltross Burn.‡

In the following detailed description of the potsherds, *Poltross Burn* refers to the report on "The Milecastle . . . at the Poltross Burn" (these *Transactions*, N.S., xi., p. 390 ff.); *Corbridge Report*, 1911, to Mr. J. P. Bushe-Fox's account of the pottery from some important stratified deposits at Corbridge in *Arch. Ael.*, 3rd ser., viii., pp. 168-185.

* In the milecastle the absence of much stratification made it only occasionally possible to note sherds as definitely belonging to the second *stratum*.

† *Poltross Burn Report*, p. 438.

‡ *Op. cit.*, p. 460

The pottery should be compared with that from Winshields milecastle, Steelrigg, Peel Crag, and Limestone Bank turrets. The account and illustrations of the last named will be found in *Arch. Ael.*, 3rd ser., ix. ; detailed reference to this report is impossible as it is appearing simultaneously with this volume.

BIRDOSWALD TURRET.

Remains of the usual four superimposed floors, found in the turrets and milecastles of the Roman Wall, survived in this turret only in the recess, the rest of the structure having been removed in the early part of the last century. Hence the quantity of pottery was small. With a few exceptions it was not possible to distinguish between the fragments belonging to floors I A and I B.

PERIOD I. (=Floors I A and I B).

Samian. Pl. XIX., No. 1. Dr. 37. About one quarter of a small, thin well-moulded vessel with good glaze and a narrow convex rim. The ovolo is separated by a crinkly line from the decoration which shews a scroll pattern continuing all round the vessel; each volute encloses pointed leaves diverging to left and right, a style exceedingly common on Samian of the late first and early second centuries (cf. Knorr *Die Verzierten Terra-Sigillata-Gef. von Rottweil* Taf. i., 12, Taf. ii., 1, 2, and *Südgallische Terra-Sig. Gef. von Rottweil* Taf. iii., 1, 5, 8, Taf. iv., 1, 3, 5, 8 and Curle, *Newstead*, p. 211, fig. 5, and p. 215, fig. 8). Even allowing for the tendency of Knorr and other continental writers to push back the dates of the earlier Samian types too far,* this piece cannot be later than the early years of Hadrian; it was found at the same level as the two coins of the Flavian emperors and definitely belongs to Period IA. The same period is represented by an almost complete Dr. 27 cup (d. $4\frac{1}{4}$ ") with remains of lead rivets in the rim. It is well made, and its small size and well-rolled sides distinguish it from the larger flattened Antonine cups of this shape. Dr. 31 was represented by eight fragments, one of which was of very thin ware, with the dull matt glaze which is common on the plain Samian of the first and early second century. One piece possibly belonged to a Dr. 33.

* See Haverfield, *Röm.-Germ. Korrespondenzblatt*, 1912, p. 29.

Mortaria (4).* Pl. xvi., No. 1, is of hard red fabric; a detached fragment has an illegible stamp; No. 2 (internal d. $8\frac{1}{8}$ ") is of much the same ware and shape, but has no groove on the extremity of the flange. It is stamped on each side of the spout. No. 3 (internal d. $7\frac{1}{2}$ "), a small fragment, is red. Another fragment (from floor 1 B), of pink clay with cream surface wash, is much like No. 3. All these probably belong to floor 1 B. No. 4 (internal d. 9") is of light grey, gritty clay. It was found outside the walls of the turret; but its wide flattish flange would bring it into this period, and it probably came from floor 1 A, cf. *Poltross Burn*, pl. iv., Nos. 2, 6.

Bowls (2). No. 5, a cylindrical vessel very like *Poltross Burn*, pl. iii., Nos. 9, 10, is red with polished surface and lattice decoration. Another vessel of similar shape and soft, red paste seems to have had a cream surface wash. It has no grooves or ornamentation. This type of cylindrical bowl of red or brown ware has been found also in Steelrigg and Peel Crag turrets in each case, as at Poltross Burn and here, in Period I deposits. It has not occurred to my knowledge at Corbridge, and therefore is probably pre-Antonine in date and would belong to Period I A.

Jug (1). No. 6, a single-handled jug-neck of hard, pinkish-yellow ware; it has four steps or mouldings and apparently joined the body at a sharp angle, both details being characteristic of the first and early second centuries; cf., e.g., Curle, *Newstead*, p. 261 and 267.

Dishes (16). Fragments of four vessels of pink and brown ware, a typical section of which is shewn in No. 8 (d. 6"), which has a polished surface. All have a single groove on the exterior of the rim. Of fourteen fragments having the same fabric, colour and lattice-work ornamentation as cooking-pots, eight have short, flat rims of the types shewn in *Poltross Burn*, pl. iii., Nos. 31-33, and six have grooved rims like *Ibid.*, No. 30.

Jars (about 13). No. 7 is a small, thin well-baked vase of pink clay with sharply moulded rim and foot and "rough-cast" exterior surface. This type appears in Period I at Poltross Burn milecastle, Appletree and Limestone Bank Turrets, at Corbridge in a deposit of the latter part of the second century, and at Haltwhistle Burn and Throp forts. The rough-cast covering of the exterior does not seem to last into the third century, though the form of vessel persisted in Castor and other

* The figures in brackets after each type of vessel give the total estimated number of that type represented by the fragments discovered.

wares; but the later developments of the type shew a narrower mouth, more elongated foot with no moulding and the greatest expansion of the body higher up. For the type cf. *Corbridge Report*, 1911, p. 41. It occurs commonly in the first century, and on the continent Koenen notes its occurrence in graves from Flavian to Antonine times (*Gefässkunde*, p. 86). Nos. 9-13 (average d. 5") are all of well-baked, hard, grey ware; Nos. 10 and 11 have a vitreous surface; No. 12 is of yellow paste but smoked grey on the exterior; No. 13 has the angular rim characteristic of earlier second century vessels. No. 14 (d. 7") is a less common type and has rivet holes in the rim. No. 14a, pl. xxvi., of hard, grey ware, with burnished surface, came from floor 1A.

Cooking-pots (8). Nos. 15-18 (d. $3\frac{1}{2}"$, $3\frac{1}{2}"$, $5\frac{1}{4}"$, $5\frac{1}{2}"$) are all of the usual black sandy character with lattice-work ornament. Nos. 17 and 18 have the concave part of the neck decorated by a wavy line, a detail which does not appear to continue much later than 150 A.D. On the Wall it is confined to the lowest levels, and was common on the cooking-pots from Caersws.

PERIOD II.

Jars (6). Nos. 19-22 (average d. 5") all of hard, grey ware with more or less polished surface and lattice decoration.

Dishes (2). One with rolled rim like *Corbridge Report*, 1911, fig. 6, No. 81, and one with grooved rim like *Poltross Burn*, pl. iii., No. 30.

This level also produced a rough, open, pear-shaped lamp of red clay which had once had some kind of surface slip. An exactly similar lamp was found in High House milecastle in conjunction with pottery belonging to Period I.

PERIOD III.

Mortarium (1). A fragment of a base in white clay with opaque white grit. From its character it would seem to have been of the "hammer-head" type.

Jars (5). Nos. 23, 24 (d. $5\frac{3}{4}"$, $4\frac{3}{4}"$). Although in shape they differ little from the earlier vessels, these jars are of quite distinct fabric. The clay is much more finely levigated and compact, and the ware is burnt hard and of a blue-grey colour. It occurs commonly in the later levels on the Wall and at Corbridge, and was well represented in the late fourth century fort at Huntcliff, near Saltburn.

Dishes (3). One is of the rolled rim type and two have the plain grooved rim (cf. *Corbridge Report*, 1911, fig. 6, Nos. 81 and 83).

UNSTRATIFIED (from outside the walls).

Samian. Three fragments of decorated bowls, Dr. 37. (i.) Pl. xix., No. 2, has a wide plain rim, and in a small medallion a figure of a warrior running to the right (Déch. 103), which is a common Lezoux type and occurs on vessels signed by Albuscius. This piece was met with low down in the deposit, and from its position and character probably belongs to Period I B, *i.e.*, the latter half of the second century. (ii.) Pl. xix., No. 3, a fragment from near the base of a thick and coarsely moulded bowl, decorated in the free style with crowded animals, among which Déch. 795 and 799 may possibly be recognised. Lezoux ware of the late second or third century. (iii.) A mere fragment of rim with largish ovolo.

Of the undecorated ware the most important was a piece of a flat flanged bowl (Curle, *Newstead*, pl. xxxix., fig. 11), which is a common Flavian and Trajanic type, but, as Curle remarks (*Ibid.*, p. 198), does not appear after the reign of Hadrian; from its extreme rareness in the Wall structures it would seem not to have lasted far into that reign. Dr. 31 was represented by six fragments and Dr. 38 by a piece of curved flange.

Other Wares. A fragmentary jug-neck of thin red ware with a white wash shews at least four mouldings, but they are not very developed. No. 25 (d. $4\frac{1}{2}$ ") is the sharply moulded rim of a hard, light grey jar; from its angular contour it should belong to Period I A. For the same reason I should attribute to that period the cooking-pots shewn in Nos. 26, 27 (d. 6"). Both are of uncommon types and made of exceedingly gritty clay with dense black, rough surface. With these and No. 25 cf. Ward, *Gellygaer*, pl. xi., Nos. 2, 6. No. 28 (d. 8"), a mere fragment of the rim of a dish or bowl, is noticeable for its width (1") and flatness, and is more akin to the early flat-rimmed bowls (*e.g.*, *Poltross Burn*, pl. iii., Nos. 4-6) than to the later dishes (*e.g.*, *Corbridge Report*, 1911, fig. 6, Nos. 78, 80, 82). It is of yellow clay with grey smoked surface, which again is a peculiarity of the pre-Antonine vessels; cf. *Gellygaer*, pl. x., Nos. 1, 4, 8, which are not later than the reign of Hadrian. Nos. 29-33 (average d. 5") are examples of cooking-pots. No. 34 is a plain, shallow dish in soft red clay, and noteworthy for that reason. Among the other fragments are three (possibly belonging to a single

pot) of the black cooking-pot ware containing numerous particles of some white substance,* so common in the fourth century. This ware must belong here to Period III., as it does at Poltross Burn and Winshields milecastles and Appletree turret. It has never† been found in a turret which was abandoned at the end of Period I. (e.g., High House, Steelrigg, Limestone Bank), or in a Period II. level. This fact gives us a clue to the date of the introduction of this ware, which will fall somewhere in the closing years of the third century.

HIGH HOUSE TURRET.

In common with all the other turrets so far excavated whose walls were taken down and recess built up, this turret has only two floors, together representing Period I.

PERIOD I A.

Samian. Dr. 37, three small fragments (pl. xix., Nos. 4 and 5), rather thick, one of which belonging to the lower part of a bowl, shews apparently a row of small medallions; the pieces are too small and indeterminate to be of any value. A portion of the base and side of a small Dr., 27, is important. There was also a small fragment of a thin Dr., 31, with the matt glaze of early second century plain Samian.

Mortarium (1). No. 35, a broken rim of red, soft clay.

Dishes (2). A fragment of rim of red ware much like No. 8, and another of whitish clay with grey surface resembling Curle, *Newstead*, fig. 32, No. 7.

Jars (6). No. 36 (d. $6\frac{1}{2}$ "), dirty grey, sandy clay; distinctly an early type, cf. No. 25. No. 37 (d. 5"), hard, vitreous blue-grey surface. All the fragments of jars are of a more or less gritty coarse clay, which is characteristic of the vessels of this type in the first half of the second century. The quality of the fabric improves till we come to the compact fine, hard, blue-grey ware of the third and fourth centuries.

Cooking-pots (5). Nos. 38-41. All of the usual nature.

Miscellaneous. Large one-handed jug-neck of whitish clay with grey surface. The rim is unfortunately missing. A rim

* Sometimes known by the unsatisfactory name "Vesicular Ware." For a description of its composition and character see *Poltross Burn*, p. 453, and *Salisbury, Journal of Roman Studies*, vol. ii., part 2.

† With the single exception of a minute fragment at Peel Crag turret which must have been accidentally introduced considerably later than the demolition of that building.

flange of some mortar-like vessel of coarse grey ware resembling stone. Two fragments of the side of a bowl, pink inside and grey black outside, in material and colour are exactly like many of the flat-rimmed bowls.

PERIOD I B.

Mortarium (1). No. 42, a large part of a *mortarium* in red clay covered with a cream wash; in contour much like No. 1.

Jug-neck (1). Almost identical with No. 6, but broken off at the third moulding.

Cooking-pots (5). Nos. 43-45.

UNSTRATIFIED (from outside the walls).

Samian. Three fragments of rim, Dr. 37, of indeterminate date, though one would seem to belong to Antonine times.

Other Wares. The following are the most noticeable pieces:— A *mortarium* rim, in contour almost identical with No. 42, but thinner; it is of white clay and has a fragmentary stamp in two lines, and looks like an imported vessel. No. 46 (d. 10") is an unusually thick bowl of uncommon form. Made of red clay it has a few fragments of quartz grit in the interior, and may have been used as a *mortarium*. No. 47, of sandy clay with a smooth grey-black surface, is also an uncommon type. It is quite different in character from the cylindrical bowls (see above, No. 5). There are also some fragments of a very small vase of fine, thin, steel-blue ware which I have not met elsewhere.

APPLETREE TURRET.

Three of the usual four floors were found in this turret, but the fourth (*i.e.*, Period III.) was removed when the modern road was made, and consequently is represented only by one or two fragments of pottery from the unstratified deposit outside the walls of the building.

PERIOD I A.

Samian. Definitely belonging to the lowest level, three pieces were found: (i.) a fragment of the rim of Dr. 37 shewing no part of the ovolo or decoration; (ii.) a small piece of Dr. 27; (iii.) about one-third of a flattish base of Dr. 31. with a stamp which is unfortunately illegible. Owing to slight disturbance of the stratification it was not clear whether the following two pieces of Dr. 37 came from level I A or I B, but from the nature of the ornament and other details I should attribute the first

to level 1 A and the second to level 1 B. (i.) Pl. xix., No. 6, is a thin piece of ware, excellently moulded. The plain rim is narrow and the decoration is divided into compartments by fine beaded lines ending in small rosettes. One of these divisions contains a tripod which is not given by Déchelette, but is after the style of Déchelette, 1070 and 1071. The next compartment has two figures facing one another. That to the left is almost identical with Déchelette, 330; the other is not in Déchelette, but the same type is represented in a sitting position in Déchelette, 534 and 534a. This piece is a good example of the early second century Lezoux ware in the style which succeeded the transitional decoration of Flavian and early Trajanic times. The thinness of the fragment, the narrow depth of the unornamented rim, the crisp detail of the relief, and the general character of the decoration together suggest an early Hadrianic date. A piece of the same date and characteristics occurred in the Period I. level at Poltross Burn milecastle (cf. *Poltross Burn*, pl. vi., No. 1, and Professor Bosanquet's remarks, *Ibid.*, p. 456 and 458), and some of the pieces from Gellygaer are of the same type.

(ii.) Pl. xix., No. 7. The rim of this fragment has a rivet-hole; the ovolo is large. The band of ornament is divided into panels by coarse beaded lines ending in large rosettes. Some of these panels are sub-divided by horizontal lines and on the broken left-hand edge of the fragment are indications of a demi-medallion. One of the remaining compartments encloses a piece of upright foliage ornament topped by a mask. Neither of these is given by Déchelette, but the mask is somewhat like Déchelette, 698 and 701. The next panel to the left contains a figure of Apollo with a laurel branch (Déchelette, 56), which is found in bowls signed by Albucius and Servus. This piece of Lezoux ware would seem to belong to the latter half of the second century.

Mortarium (1). A fragment of pinkish-buff clay; the outer half of the flange is broken off, but to judge from what remains of the rim, it was much like No. 1.

Jars (8). Nos. 53-57. Nos. 53 and 54 are vessels with raised "rustic" decoration on the surface; both have a groove on the shoulder and the rims shew the usual contours of this type of ware which is common in Flavian and Trajanic deposits in the North of Britain, but does not occur in Antonine times, and probably fell out of use early in the reign of Hadrian (see Curle, *Newstead*, p. 247). It has been found in the lower Period I. deposits in several other structures on the Wall. No. 53 (d. $5\frac{1}{2}$ ") is of dirty white, sandy clay with dark-grey surface; No.

54 (d. 6") is pinkish grey in paste and surface. No. 55 (d. 4") is of the same material and probably the same vessel as No. 80, and must have worked down from the floor above. Nos. 56, 57 are of somewhat coarse red clay, with grey and brown exterior surface respectively. There are also fragments of a jar of coarse, dirty-white paste with grey surface and moulded base, a fabric characteristic of the earlier part of Period I. in all the excavated milecastles and turrets. This level also produced the greater part of a red vase with "rough-cast" surface, identical with No. 7 except that it has only a single moulding on the rim and base.

Cooking-pots (5). Nos. 58-62. Although composed of the usual fabric, most of the fragments are remarkable for their dense black surface, both interior and exterior. No. 58 (d. 5½") is an unusual form and has an undulating line lightly impressed on the shoulder. Nos. 59, 61, 62 have a similar line of ornament in the concave part of the neck (cf. remarks above on Nos. 17, 18).

Miscellaneous. A fragment of hard red ware, becoming very thin towards the base, seems to belong to one of the red ware cylindrical bowls which appear to be peculiar to the lowest *stratum* along the Wall (see above on No. 5). A piece of pinkish-buff ware with dirty yellow polished surface would seem, from the angle it displays to belong to the lower part of a flat-rimmed bowl.

PERIOD I B.

Samian. Only a single small fragment of Dr. 31 with good bright glaze was found on this floor, though a piece of Dr. 37 (pl. xix., No. 7), described above, may belong to it.

Bowls (5). Nos. 63-67. No. 63 is an unusual form; the clay is grey, moderately fine and well baked. The vessel presents a smooth and well-finished surface. No. 64 (d. 5¼") is a still more uncommon form and of unusual fabric. The clay is fine and close, orange in colour and laminated. The exterior surface is polished and the interior apparently covered with a cream wash. No part of the base was found. The vessel in form and fabric is not unlike two figured by Behn, *Römische Keramik*, figs. 243, 246. The one, described as "*Ton rötlichgelb mit Spuren brauner Ueberfärbung*," he derives from a La Tène form and ascribes to the first century; the other, "*Ton gelbrot, oberfläche geglättet*," he attributes to Constantinian times (Behn, *op. cit.*, pp. 116, 123). No. 65 (d. 7½") is a well-finished hard vessel of somewhat coarse red clay. With the shape cf. *Poltross Burn*, pl. iii., Nos.

4, 5, and *Gellygaer*, pl. x., No. 4. As in these examples, there is an absence of the grooves on the rim and at the angle of the side which usually mark this type of bowl. One would have expected this piece to belong to level 1 A, but the grooveless variety of the flat-rimmed bowl, with the angle in the side softening into a curve, may be a slightly later development of the type and have lingered on till the middle of the second century. No. 66 (d. $7\frac{1}{4}$ ") is entirely different in composition, being made of the ordinary cooking-pot fabric with lattice-work ornamentation. For the rim cf. *Poltross Burn*, pl. iii., No. 33 which is likewise a Period I. fragment. No. 67 (d. $9\frac{1}{2}$ ") is a dish of sandy clay with a plain smooth grey surface.

Jars (16). Nos. 68-82. No. 68 (d. 6", height $6\frac{1}{2}$ ") is a vessel of very unusual character, to which I know of no parallel. The paste is soft and yellow, though burnt blue in the centre, and contains a large quantity of minute fragments of some white flaky substance which looks much like pounded oyster shell. The surface shews the natural colour of the clay, speckled with white, but the exterior is darkened by smoking and roughened by a number of very lightly impressed grooves. The base is remarkably thin. In contour and proportions the vessel is not unlike one figured in the *Corbridge Report*, 1911, fig. 5, No. 3, which belongs to the late first or early second century. Nos. 69, 70 (d. $5\frac{1}{2}$ ") both have lattice-work lines on the sides, polished rim and shoulder, and brown exterior. The clay of No. 69 is bright red, of No. 70 buff. Both are hard and well made. No. 71 (d. 5") is very similar and red-brown. No. 72 (d. $6\frac{1}{2}$ ") has a polished brown surface, a wavy line in the hollow of the neck and lattice ornament on the belly. The clay is burnt to a light blue-grey colour. No. 73 (d. $4\frac{3}{4}$ ") is grey, baked very hard, and has a smooth, vitreous surface. Nos. 74-76 (average d. 5") are of rough grey ware, and No. 77 buff. Nos. 78 and 79 (d. $5\frac{1}{2}$ " , 5") are very similar in shape and material to the vessels with "rustic" decoration, with which they also have the common feature of grooves on the shoulder. The clay is somewhat sandy, grey in No. 78, dirty buff in No. 79. No. 80 (d. 4") is a hard grey-brown ware with neat lattice ornament. No. 81 (d. 5"), of coarsish clay, with hard, smooth, grey surface, has a somewhat unusual shape. No. 82 (d. 5") is a neat and delicately made rim of light grey, hard, close-grained fabric. There are also several fragments of a very unusual type of vessel (No. 82a, pl. xxvi.), which has occurred once or twice at Corbridge. The side has a sharp angle midway, the upper part being slightly

concave and the lower convex. It is apparently very like Koenen, *Gefässkunde*, Taf. ix., 10, 12, native German vessels of the early Empire, derived from a La Tène form (cf. Koenen, Taf. vii., 1, 9, 11b).

Cooking-pots (7). Nos. 83-89 (d. 6", 5", 5", 4½", 5½", 5", 3½"). All of these are of the usual fabric. No. 85 alone has the wavy line in the hollow of the neck, which seems generally to be peculiar to the early part of Period I. Nos. 88, 89 have a rough grey surface.

PERIOD II.

The pottery from this floor is very small in quantity. No. 90 is an almost complete jar of coarsish grey ware with lattice-work ornament. Nos. 91, 92 are rims of similar grey jars. The latter example is noticeable for the extent to which the rim is turned outwards and resembles rims found in the earthwork fort on Walwick Fell in Northumberland.* There is also the base (d. 5") of one of the common grey-black dishes and a fragment of a pinkish-buff indented vase.

PERIOD III.

The pottery from this level was removed with the floor itself when the modern road was made.

UNSTRATIFIED (from outside the walls).

Of the fragments found outside the turret a few pieces only call for notice.

Samian. Single fragments of two small Dr. 27 cups were found low down in the deposit.

Bowls. No. 93 of buff-red, sandy clay, and No. 94 (d. 8") of cooking-pot ware with three grooves on the top of the rim, undoubtedly belong to Period I A.

Jugs. No. 95, of red clay with a white surface wash, has a single handle springing from the lower part of the neck. It has a stepped or screw neck which joined the body at a fairly sharp angle. For very similar jug-necks attributed to Hadrianic date cf. Curle, *Newstead*, fig. 33, No. 8; ORL. 8 (*Zugmantel*), Taf. xvii., 27; ORL. 35 (*Heldenbergen*), Taf. iii., 19, and Behn, *Römische Keramik*, p. 98. Another jug-neck is of coarse grey clay, thick and large. The mouth is pressed in at the centre from both sides to form a spout. A single handle divided by one furrow springs from just below the rim. The angle of junction between the neck and the body is very sharp. It is

* See report in *Archæologia Aeliana*, 3rd ser., vol. ix.

almost certainly of Hadrianic date, and would then belong to Period I A; cf. Curle, *Newstead*, fig. 33, No. 9, which is very similar, and *Poltross Burn*, p. 448. Mr. Curle quotes (p. 261) instances favouring a late first or early second century date for this type, while Behn (*Römische Keramik*) gives several examples belonging to the first century. For other examples, cf. ORL. 8 (*Zugmantel*), Taf. xvii., 38, 40, and references, *Ibid.*, p. 168, where the type is attributed to Hadrianic times.

Miscellaneous. There is a single fragment of Castor ware of the usual pure-white clay; the interior is dark blue, the outside brown-black with "rough-cast" surface. This would belong to the end of Period II., or to Period III., as the white-clay Castor ware does not appear commonly in the North of England, as far as I have observed, until the third century. The last period is represented by a single piece of the common fourth-century cooking-pot ware with white grit embedded in the clay.

HIGH HOUSE MILECASTLE.

The interior of High House milecastle has been considerably robbed and disturbed since Roman times; consequently, although a large quantity of pottery was found, stratified deposits were rare. All the more important pieces and particularly any that seem to date to the first half of the second century are described below.

Samian. Twelve fragments of decorated bowls, Dr. 37, were found. All belonged to coarse thick vessels; five shewed only the plain broad band of the rim and the rest were too small or worn for the moulded figures to be identified, with the exception of two pieces which belonged to one vessel, on which two representations of Venus, Déchelette, 179a and 173 (?), may be recognised (see pl. xix., No. 8), and a third on which is preserved a portion of a leaf (not in Déchelette) (pl. xix., No. 9) of late second century appearance. Over twenty very broken fragments seem to be pieces of Dr. 31; of these, two bear stamps. The first, found in the foundations of the east wall of the east internal building, reads ·ALBI—. Two names suggest themselves, Albinus and Albillus. There were at least two potters of the name Albinus, one working at La Graufesenque in the first century and the other probably at Rheinzaubern about the middle of the second century.* Albillus was a second-century potter working appar-

* Stamps of this potter have been found in the forts of the outer German Limes and on the Antonine Wall in Scotland; but Barthel concludes that he was already working before 150 A.D. ORL. 8 (*Zugmantel*), p. 131.

ently in East Gaul, Heiligenberg and Rheinzabern. The second stamp, MACERATI, was on a base with a high kick in the centre. The lettering is poor, and the first part of the name has been stamped twice. The same stamp has occurred once at Corbridge on a Dr. 33, and is not common. Here it seems to belong to Period II. The only other pieces of Samian were a small portion of the base of a Dr. 38 and a fragment of a globular vase with fluted exterior, which was found at the north gate below the second period road. It must date from the end of the second century.

Mortaria. No. 96 (internal d. 8"), of pinkish-yellow clay with a cream surface wash, and No. 101 of gritty grey clay, from their shape must belong to the earlier part of Period I.; cf. No. 4 and *Poltross Burn*, pl. iv., No. 2. Nos. 97 and 99 are both of hard red ware with a darker red polished rim. From their position and shape they probably belong to Period I., as also would No. 100 (internal d. 9"), which is red and has large white quartz pebbles embedded in it. No. 98 (internal d. 7½") is of soft white clay and was found under the second floor, but not at the bottom; (?) Period I B. No. 113 (internal d. 8½"), a red vessel, lay above the second floor. Nos. 114, 115 (internal d. 8½", 9½") must also belong to Period II. or possibly Period III. Both are made of the hard, smooth, pure white clay, of which "hammer-head" *mortaria* are usually composed; the shape of No. 114 is not uncommon in this material. Three fragments (of one vessel) also seem from their white clay and black grit to be part of a "hammer-head" mortar.

Bowls and Dishes. No. 102 of soft, fine, pink clay with a cream wash came from the foundation level, and therefore dates from Period I A. No. 103 (internal d. 5") is of the same character. Three similar vessels were found at Haltwhistle Burn Fort (*Archæologia Aeliana*, 3rd ser., vol. v., pl. v., No. 3) and one at Poltross Burn (pl. iv., No. 4), which is also of Period I A. No. 106, of coarse yellow clay, came from a low level, but is not definitely of Period I. No. 104 (d. 6"), a sandy, grey vessel, is not unlike the flat-rimmed bowls in outline; Period I A, from the foundation level. No. 105 (d. 8") is of white, hard, stone-like ware, and although it was found at the level of the foundations in the east internal building, similar fragments came from definitely Period II. levels. No. 123. (d. 8½"), of hard, buff clay with grooves on the flange, closely resembles a type of dish common in the fourth century. It was found in loose soil by the north gate. Of two fragments of the cylindrical red bowls, hitherto

found only in Period I. deposits (see remarks on No. 5), one came from the level of the foundations of the east building, the other from the side of the lower road-surface. Two pieces of a red vessel with angular side seem to belong to a flat-rimmed bowl; Period I., below east building. Of the common black and grey ware dishes, a complete example of a type like *Corbridge Report*, 1911, fig. 6, No. 82 (flat rim), lay at the lower road level near the north gate; twelve other pieces were of the same type, three were like, *Ibid.*, No. 71 (flanged rim), three like No. 81 (rolled rim), ten like No. 83 (grooved rim). Wherever levels could be noted all these types occurred in both Periods I. and II., a few pieces possibly in Period III.

Jugs. No. 107, of reddish-buff clay, has a well-moulded screw neck and a single furrowed handle. This is clearly an early type (see remarks on Nos. 6 and 95), and was found under floor 2 near the flue. No. 108 also belongs to Period I., as it lay at the foundation level. It is of pink clay with corrugated surface covered with a cream wash. No. 121, of red clay, came from the south-west area of the milecastle, and is a later type. It will date from Period II., or III.

Jars. Nos. 110, 111 (d. 5", 4½") are squat, angular rims of gritty grey ware; their character and finds in other sites along the Wall point to their belonging to Period I.A. The same remark applies to No. 112, which is grey-black in colour and probably the rim of a jar with "rustic" decoration. It was found below the floor of the east building. Nos. 116, 117 (d. 7", 6"), of coarse grey, and No. 118 (d. 7½"), of buff clay, were all probably intended to receive lids. No. 116 was definitely allotted to Period II. by its position, and the others are also somewhat late types. Nos. 119, 120 shew a type of hard grey jar with rather tall and straight neck, which was represented by a number of pieces, all of which appeared from their position to lie in Period II. levels. Of "rustic" ware there are fragments of two vessels; of Castor, two pieces with barbotine ornament, one with a running dog, the other with a design of dots. One piece of moulded rim of thin red ware with black surface belonged to a "rough-cast" vase like No. 7.

Cooking-pots. No. 109 is a type represented by several examples, all apparently of Period I. Five fragments of rim of the ordinary form had an undulating line in the hollow of the neck; four of these came from below the floor of the east building, and the other was found close to the jug-neck, No. 107. All, then, date from Period I. Of the fourth century cooking-pot

ware, eleven fragments were found ; No. 122 shews a rim of this ware.

Miscellaneous. An open lamp, of exactly the same nature as that from Birdoswald turret, Period II., was found close to No. 107. From the same place came fragments of an unusual vessel (No. 123a, pl. xxvi.), bowl-shaped, with sides bending outwards towards the top. Half-way from base to rim it is divided by a clay floor perforated with a number of holes, much after the style of a modern soap-dish, except that the strainer was not removable.

THE TURF WALL.

After the discovery of Appletree turret, search was made on the line of the Turf Wall for a building at a similar distance from Wall Bowers milecastle, but no remains, débris, or pottery were found.

The absence of a road between the Turf Wall and the Vallum, corresponding with the Military Way, hitherto appeared to be the strongest argument against the theory that this was the frontier line for nearly 90 years. In the first trench, carried across both works in 1895, some stones were found on the north berm, the date and purpose of which were not clear (*Transactions*, O.S., xiv., p. 189, ii.). In view of this feature, and of the discovery of the Military Way on the north berm at Gilsland (pl. xxxi.) and elsewhere, the north berm was again examined in the field (231, 25 inch scale O.S.) north of High House farm, where the best preserved remains of the Turf Wall and the Vallum are to be found, the trenches being carried northwards across the space between them. The yellow clayey subsoil was undisturbed throughout and no traces of a road were found.

The date and purpose of the Turf Wall and Ditch are questions which naturally call for consideration in the light of the discoveries on the line of the Wall of Stone. Maclauchlan, speaking of the ditch, says, " We think it possible that it was made originally for the ditch to the Wall " (*Memoir*, p. 57). Much evidence from the remains

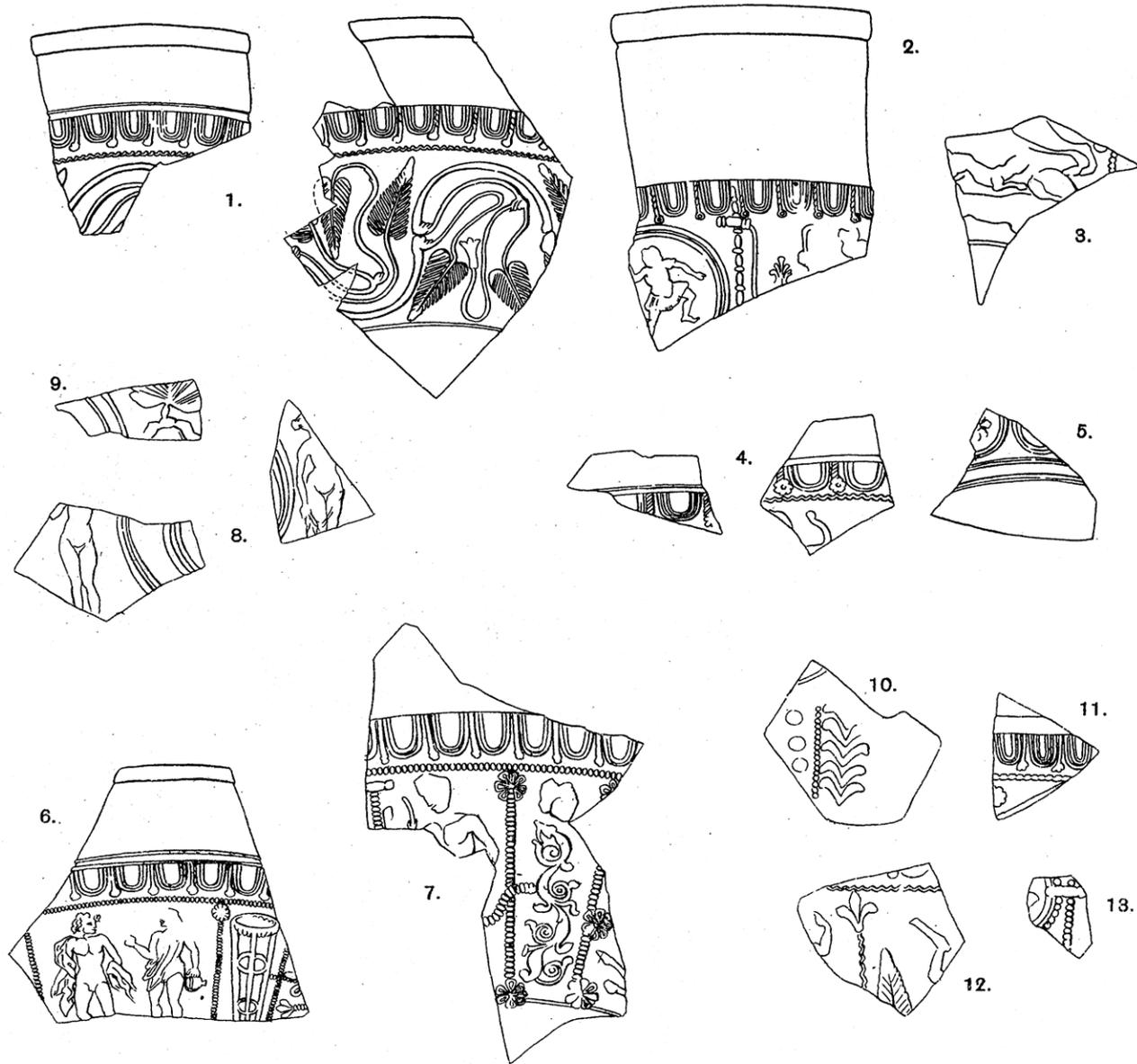
supports this explanation of the whole work, that it represents the originally projected line for the Wall.

In size and shape the two ditches are very much alike, as well as in the disposition of the upcast on the north side (*Transactions*, o.s., xiv., pl. ii.). It is reasonable to suppose that the ditch would be made first, to provide a defence during the longer period of building the masonry wall.

Even if the whole Wall was completed within two or three years, the ditch would have been dug, but probably not even the foundations of the Wall laid in many places, when the first or second winter approached, during which the work would be interrupted for a considerable time.

To construct a rampart of turf, not only without a stone foundation, but apparently on the old surface without preparation or levelling, would be the work of a few weeks only, and an effective temporary defence be thus secured. If, however, as suggested by Mr. R. H. Forster, F.S.A., the completion of the Wall west of Birdoswald was delayed for some time, owing to the scarcity of building stone, compared with the rich supplies available almost on the spot elsewhere, the need for such a temporary defence becomes still more apparent.

The temporary character of the rampart is indicated by the absence of a stone foundation, nor can the argument of its earlier date, when compared with the Wall of Antoninus, be fairly advanced, while the small fort at Throp (pl. xxv.), the permanence of which must have been of far less importance than that of a Frontier Wall, has a carefully laid foundation of stone below its turf ramparts. The absence of a road is a still stronger argument in favour of the unfinished state of the works along the line of the Turf Wall, for the Military Way has clearly been constructed after the milecastles, which from time to time it avoids by turning to the south, and in so doing is forced on to the north berm of the Vallum at Poltross Burn, and probably elsewhere.



1911.

DECORATED SAMIAN.

Scale: Half Size.

It has been suggested that the destruction of the Vallum by landslips, near the west rampart of AMBOGLANNA, caused the builders of the Wall of stone to take a new line further north. The digging of a wide and deep ditch near the edge of the steep and broken banks of the Irthing, now Blackbank Wood, and the heaping up of half the upcast on the exposed south side, probably caused the collapse of that side at an early period, but another reason, apart from the question of an earlier fort at Birdoswald, may be advanced.

Throughout this section the average width of the Vallum, from the centre line of the north mound to that of the south mound, is 100 feet. The mounds are fully 25 feet wide at the base. Opposite Appletree turret the distance between the centre-line of the Turf Wall ditch and that of the Vallum ditch is about 180 feet. It is, however, gradually reduced to the eastward, and measures only 120 feet opposite Birdoswald turret, from which point the two ditches diverge again.

Opposite High House milecastle they are nearly 150 feet apart. From this measurement must be deducted 63 feet from the south (c-l. Vallum ditch to c-l. north mound, 50 feet; half width of mound, 13 feet), and 49 feet from the north (half width of ditch, 16 feet; berm, 25 feet; Wall, 8 feet), leaving a space less than 38 feet wide for the accommodation of a milecastle and the Military Way, which as finally constructed further north occupy 106 feet. Though the Military Way might have been diverted along the north berm, the shortest milecastle yet examined (Cawfields, 57 feet N. to S., outside the walls) could not have been built unless the Vallum mound had been removed.

Opposite Birdoswald turret the space between Wall and Vallum would have been reduced to only 8 feet, requiring further removal of the north mound to accommodate even a turret, with the Military Way still on the north berm.

At several points along the line, generally for a very short distance only, the space between the Wall and the Vallum is less than 40 feet wide. Except at Harrow's Scar (*Transactions*, O.S., xv., p. 351), however, there is no instance of the removal of the mound to provide space for a milecastle. The available space near the edge of the Scar appears to have been so small that the wide berm north of the Wall was also dispensed with. The course of the road at that point has not yet been traced.

There is nothing in the natural formation which explains why the Turf Wall ditch was not carried 30 or 40 feet further north for at least three-quarters of a mile west of Birdoswald.

The area of the Fort of AMBOGLANNA, including the stone ramparts, is $5\frac{1}{2}$ acres. The portion south of the ditch which crossed the fort in line with the north towers of the later main east and west gate (*Transactions*, O.S., xv., p. 180) contains about 3 acres 2 roods 12 perches. At the south-west angle the fort ditch interferes with the Vallum ditch (*Transactions*, O.S., xiv., p. 416).

If AMBOGLANNA was originally laid out as an ordinary cohort fort of about 3 acres the Vallum ditch would have cleared its south-west angle, while the ditch in line with that of the Turf Wall to the east and west would represent its north ditch. A change of plan, by which the garrison was increased to a milliary cohort, would explain the consequent enlargement of the fort.

For this large body of troops, not more than 3 acres of open ground would be available for drilling or any other purposes. When the Wall of stone was built, obviously after the stone fort, the way of escape from these cramped conditions near the fort, as well as between the Vallum and the Wall, would be found by laying out the new line from the north-west angle to Wall Bowers and from the north-east angle to Harrow's Scar.

THE FORT ON THE STANEGATE AT THROP.

General Description of the Site.

Before the survey of the Wall by Maclauchlan in the years 1852-1854, the sites of only two, Black Dikes and Chapel Rigg, of the five camps lying south of the Vallum between the Tipalt and the Irthing, had been recorded. The camps at Crooks, Throp and Willowford were pointed out to him at that time, and the following description of the position and state of the site at Throp is given in the *Memoir*, p. 52 ; it

is on the Cumberland side of the Poltross Burn, on a farm called Thorpe or Thrup, on a considerable declivity towards the east ; its form is rectangular, and nearly square, and though very much worn down by the plough, appears to have been very strong, though without any signs of masonry. Its west front occupies the top of the hill, which is about 170 yards south of the railway, and 600 yards south-west of the station-house at Rosehill (*now Gilsland*). It is about 3 furlongs north-west of the camp last described (*Crooks*), and though the outline is still distinct, all traces of its gateways are gone. The side of the square may have been about 90 yards, and the area enclosed about $1\frac{1}{4}$ acre.

Maclauchlan's measurements evidently included the ditch.

Until about twenty years ago, the site was ploughed regularly, and although no " finds " have been recorded, the writer was told that the plough frequently struck stones which were removed year by year.

The surface indications are in striking contrast with those of the camps to the east and west. At Crooks, the ramparts may have been purposely removed, but the ditch, which is well preserved, was about 8 feet wide originally, while the remains at Willowford are clearly those of a " marching " camp, with a ditch little more than 4 feet wide. At Throp, however, the low flat mound and shallow depression representing the rampart and ditch are together fully 50 feet wide.

The natural surface of the site is very irregular. In addition to the general slope of about one foot in ten towards the north-east, the ground falls away rapidly to the north-west beyond the ditch on that side, and less abruptly to the south-west. At the north, west and south angles there are rounded hillocks, with a fourth within the rampart, the highest point on the site (540 feet), marked by a cross on pl. xxxi.

The formation is clearly illustrated by the extent of the removal of the stone foundation by the plough, wherever the rampart has been carried over a naturally high point (pl. xxv.). The south-east gate and east angle, which are at the lowest part of the site, are consequently the best preserved. The hollow between the west and south angles, and the necessity for the drain at that side, are apparent from fig. 26. A low ridge crosses the interior from the highest point to the south-east side of the north-east gate, where the foundation is again removed, the area on one side being drained through the north-east rampart near the north angle, and the other by the drain at the east angle.

Over the greater part of the interior, and especially at the higher end, the plough has removed all traces of the internal arrangements, the present surface being probably below that of the Roman period. The material of the rampart, worn down and spread over a considerable area, fortunately preserved some slight remains of internal buildings at the north-west side.

The view from the west angle is extensive in all directions except towards the south and south-east. From that point Nether Denton Church, at the west end of the hill on which the next fort stands (pl. 1.), can be seen 2 miles 3 furlongs to the south-west, lower down the Irthing valley.

The course of the Stanegate is nearly parallel to the south-east rampart at a distance of 100 yards.

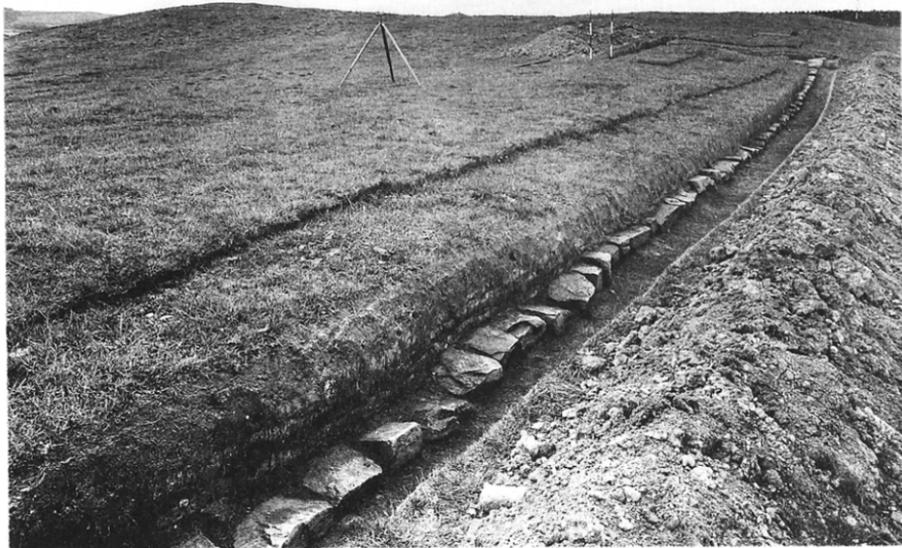


FIG. 25.—THROP FORT : OUTER FACE OF N.W. RAMPART, LOOKING S.W.

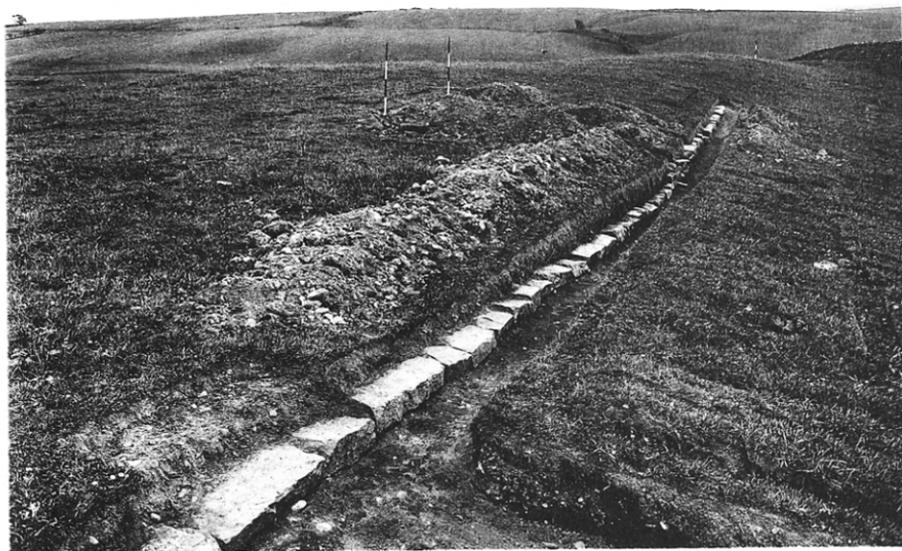


FIG. 26.—OUTER FACE OF S.W. RAMPART, LOOKING S.E.

The work was commenced in June and completed in August, 1910. The whole of the outer face and the greater part of the inner face of the rampart were exposed. Several cross sections were made, and the two gates, three drains and the oven completely uncovered. Diagonal trenches at frequent intervals were carried over the lower part of the interior, to within a few feet of section A B. The ditch was examined on three sides, also both causeways opposite the gates.

The subsoil consists of successive layers of gravel, sand, and clay: the lowest *stratum* in the pit (section A B) was glacial débris in clay.

Dimensions and Proportions.

The Fort is laid out with unusual accuracy, especially in view of the uneven surface. The opposite sides are equal and parallel, but the whole plan is slightly askew, the north to south diagonal being the longer by 6 feet, probably in order to enclose the north hillock. The north-east and south-west sides are 194 feet long, and the south-east and north-west sides 202 feet. The foundation of the east angle only is preserved. It is rounded as usual, the radius at the outer face being 31 feet. The other angles were probably rounded to the same radius. The area, including the ramparts, would then be 3 roods 20 perches, or .878 acre, and within the ramparts 2 roods 20 perches, or .627 acre.

The fort has only two gates. One is at the middle of the north-east side which represents the width of the fort. It is clearly the praetorian gate. The other is at the south-east side, the right hand side in relation to the praetorian gate, 69 feet from the outer face of the north-east rampart. Its proportionate distance from the "front" is therefore 34.1 per cent. of the length of the fort.

The Fort at Throp corresponds very closely, in area and

in the number and position of its gates, with the Fort on the Stanegate at Haltwhistle Burn (fig. 35), $5\frac{1}{4}$ miles to the eastward (*Arch. Ael.*, 3rd ser., v., p. 213). Haltwhistle Burn Fort faces east and has only two main gates (the west gate is a narrow postern giving access to the Burn). The praetorian gate is at the middle of the short (east) side. The single lateral gate is in the long (south) side, the right hand side in relation to the praetorian gate, the proportionate distance from the "front" being 36.6 per cent. The area within the ramparts is 2 roods 18 perches, or .613 acre, Throp being thus the larger by only 60 square yards.

THE DEFENCES.

The Ditch.—Except at the south and west angles, the ditch is only faintly traceable on the surface. The upcast has been spread beyond the outer edge as usual, but it has been mostly ploughed back again except at the north-west side. The trenches revealed a regular berm, and a large single ditch, parallel to the rampart throughout. The ditch and berm vary slightly in width. At the south-east side the ditch was about 16 feet 6 inches wide and nearly 6 feet deep originally, and the berm 8 feet wide. The width of the ditch was increased to over 18 feet at the north-east side, the berm being reduced to 7 feet. On the north-west, the width is 18 feet and the scarp is lengthened on account of the slope. No trenches were made at the south-west side, where the ditch appears, from the remains at the angles, to be of similar size, and is thus represented on section C D.

The ditch is V-shaped, and apparently without the narrow square channel at the bottom (cf. plates vii. and xv.), which, however, may have been soon obliterated by the weathering of the loose gravel sides. Owing to the nature of the subsoil and the consequent rapid draining of water, there was hardly any dark peaty material at



FIG. 28.—OVEN AND INNER FACE OF S.E. RAMPART,
LOOKING N.E.



FIG. 27.—DRAIN THROUGH S.W. RAMPART, LOOKING N.E.

the bottom. The only finds in the trenches were a few fragments of the coarse ware of large storage-vessels.

The causeways were not visible on the surface. The discovery of the south-east gate led to the finding of the causeway on that side, but the north-east causeway, indicating the position of the gate, was located by digging along the ditch. As at Haltwhistle Burn fort, the causeways are the natural subsoil left undisturbed at those points when the ditch was dug (*Arch. Ael.*, 3rd ser., v., p. 226). There are no signs of traverses opposite the gates.

The Rampart.—The first trench across the defences, at the north angle, revealed no remains of the rampart, missing the broken end of the stonework by less than a yard, but in the filling of the ditch some material of a light-grey colour, similar to the bleached portion of the sods in turf ramparts, and in sharp contrast with the red sand and gravel, was cut through in several places. The trench was carried across the interior to the south-east rampart, where an excellent section was obtained at E F, the outer end of which is shown in fig. 29.

The rampart consisted of piled sods resting partly on a foundation of stone and partly on the original surface. The width of the foundation, and the method of its construction, are uniform throughout. It is 16 feet wide, and has a regular kerbing of roughly dressed flat stones at both faces, behind which a bottoming of smaller flat stones, irregularly laid, extends inwards 4 feet from each face, leaving a space 8 feet wide between the stonework. The outer foundation seen in fig. 29 shows the general character of the bottoming, while the outer or inner kerbs are seen in all the illustrations. The stone was probably obtained from the banks of the Poltross Burn.

The foundation follows the slope of the ground. Near the south-west drain, where the inner face is over 2 feet higher than the outer face, the outer kerb is roughly walled three courses high for about 12 feet, and two

courses for a further 6 feet (figs. 26 and 27), to provide a more level platform for the rampart above.

The best preserved remains of the turf rampart are shown in the longitudinal section at the north-west side (fig. 25); at the cross section at E F, in which the clean-cut end of the turf overlying the outer kerb is clearly visible (fig. 29), and at the south-east gate (fig. 30), but traces of the turf were met with in all the trenches.

No remains of angle-towers were found.

The Throp rampart is the first recorded example of the use of turf in the defences of a fort in the neighbourhood of the Wall of Hadrian. At the Roman camp near Torpenhow several layers of sods, laid upon branches of trees, form the foundation of the rampart the body of which, however, is of gravelly clay (*Transactions*, N.S., iii., p. 334). Well preserved remains of turf ramparts were found at Castleshaw in Yorkshire (W.R.). The inner fort closely resembles Throp in several particulars. The rampart has similar stone kerbs, but the bottoming covers the whole space between them, the full width being about 12 feet. The dimensions of the inner fort, measured from the outer kerbs, are about 194 feet by 161 feet (Bruton, *Roman Forts at Castleshaw*, 1911, pl. 45).

Examples of the use of turf are more numerous in Scotland, and include the Wall of Antoninus and the ramparts of Roughcastle and Bar Hill Forts on that line. In these cases the stone bottoming is continuous between the outer kerbs. The foundation is fully 25 feet wide at Roughcastle (*Proc. Soc. Antiq. Scot.*, xxxix.). At the Antonine Fort at Bar Hill "It had a uniform breadth of 12 feet, and was formed of two parallel kerbs of dressed stones with a mass of rubble between" (*Proc. Soc. Antiq. Scot.*, xl., p. 422). Below the Antonine Wall its normal width is 14 feet. In one section, however, made in 1890-3 by the Glasgow Archæological Society, the unusual construction of the foundation is very similar to that of Throp.



FIG. 29.—SECTION OF S.E. RAMPART AT E F., SHOWING STONE FOUNDATION AND TURF.



FIG. 30.—S.W. SIDE OF S.E. GATE, LOOKING S.

The section, No. 12a, on Croy Hill, is thus described :—

All the kerbs laid bare are of whinstone unsquared, and the width between the faces is here 16 feet. The *bottoming* of whinstone well packed is rather unusual, in extending for about 4 feet inward from the north kerb. Along the middle of the base, there is no systematically laid stone bottoming, and the vallum rests seemingly on the natural surface of the hill. But when the south kerb is approached, the whinstone bottoming is again found (*Antonine Wall Report*, p. 81).

The longitudinal section of the north-west rampart (fig. 25) may be compared with a similar section of the west rampart at Bar Hill, illustrated in fig. 7 of that Report (p. 424).

The Gates.—In plan the two gates are very much alike and are both slightly askew (pl. xxv.) The arrangement is simple and consists of a straight passage through the rampart, which is not increased in width or elaborated in any way. At the sides the foundation is kerbed and the bottoming extends 4 feet inwards as at the faces of the rampart generally. Close to the kerb at both sides are three post-holes, irregularly spaced (figs. 30, 31 and 33). No remains of posts were found in the holes, the stone packing around which was remarkably well preserved. The rapid drying of the gravel subsoil probably accounts for the disappearance of the posts, which could not have been removed without disturbing the stone packing. Two or three of the holes were covered by fragments of stone below which the hole was empty for several inches.

The posts had evidently been roughly squared, the average size of the holes being 9 inches by 8 inches. The holes were cleared out to a depth of about 18 inches, but were much deeper. A ranging-pole placed in the hole at the south corner of the north-east gate met with no obstruction until it touched a stone 5 feet below the top of the kerb. The posts were evidently placed in

position first, for the stone packing is partly covered by the kerbing at the south-east gate.

The posts would serve the double purpose of retaining the ends of the rampart forming the sides of the passage, which no doubt were perpendicular, by means of wooden bratticing fastened to the uprights, and also of supporting a gangway carrying the rampart-walk over the passage, with possibly a gate-tower above. No pivot-stones have yet been found at gates of this type. The irregular spacing of the posts does not, however, make it probable that ordinary doors were hung upon a pair of them.

The road through the gate occupied the full width of the passage.

South-east Gate.—The average width of the passage between the kerbs is 11 feet 1 inch. The posts were 2 inches from the kerb and 8 inches thick, leaving an entrance 9 feet 5 inches wide. The kerb was intact except at the east corner (fig. 31). The only recognisable remains of a road were found in the passage and for a few feet over the berm and causeway, beyond which the probable continuation to the Stanegate, 100 yards to the south-east, is entirely destroyed. The foundation is of cobbles, with a gravel surface, but the kerbing has been removed.

North-east Gate.—The turf has been ploughed away at this gate and the foundation is close to the surface. It is complete at the north-west side (fig. 33), but the other side is much disturbed and only 6 feet of the kerb remains in position. The average distance between the kerbs is 12 feet 5 inches. The posts at the outer face were nearly 7 inches from the kerb: deducting the thickness of the posts (9 inches), the width of the entrance is 9 feet 9 inches. The road has been entirely removed at this gate. The small vessel, No. 6, pl. xxvi., was found at the west corner level with the kerb.

At Bar Hill the gates are of similar plan and construc-

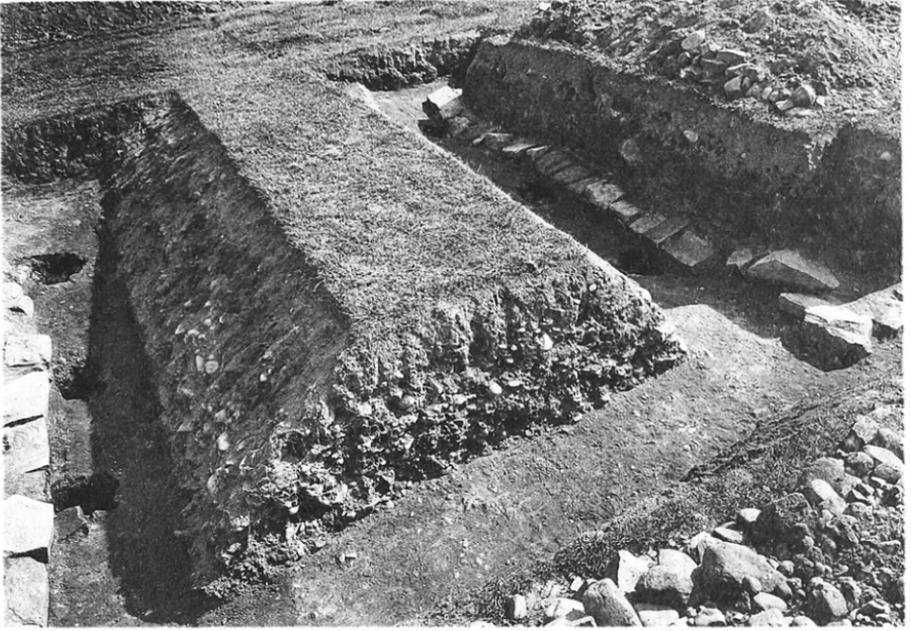


FIG. 31.—SOUTH-EAST GATE, FROM N.W., SHOWING ROAD AND POST-HOLES.

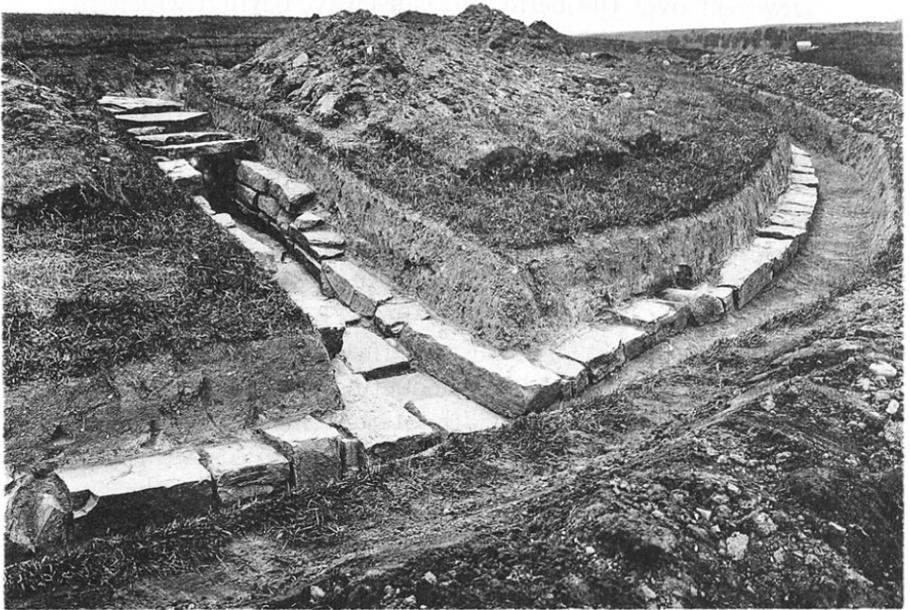


FIG. 32.—EAST ANGLE AND DRAIN, LOOKING N.

tion. At the north, east and west gates three post-holes (each containing the remains of an oak post) were found at both sides of the passage, close to the kerb (*Proc. Soc. Antiq. Scot.*, xl., pl. ii. and fig. 8, p. 427). Two gates of the inner fort at Castleshaw appear to have two posts at both sides of the passage.

STRUCTURES CONNECTED WITH THE RAMPART.

Drains.—The three drains are of similar size and construction (figs. 27, 32 and 34). The bottom is formed of carefully-fitted flags. The side walls are dry-built of roughly broken flat stones, three and four courses high and generally overlapping the flags below. Only five covering flags were found in position. They are at the east drain, and show that the covers slightly overlap and were stepped on account of the slope.

A broken cover found in the south-west drain is seen lying at the side in fig. 27. This drain is 16 inches wide and the side walls are 16 inches high where the cover was found. The fall towards the outlet is over one foot in eight. The north-east drain is 15 inches wide. The side walls are damaged at the inner end, but stand 14 inches high at the outlet. The fall is about one in twelve. The rampart foundation projects slightly at both ends of the east drain, which is 16 feet 9 inches long and 12½ inches wide. Where the covers are in position it is 16 to 17 inches deep. The fall is again about one in twelve.

No definite gutters were traced, either leading to the drains or from them across the berm to the ditch. There are similar drains at the north-west and south-west angles at Haltwhistle Burn (*Report*, p. 243).

Oven.—The oven is built on the line of the inner face of the south-east rampart, 67 feet from the west corner of the gate (fig. 28). The whole structure except the door was probably covered by the turf of the rampart, but the kerbing is removed at both sides. Though the oven wall

is destroyed at the north-east end, the shape of the interior was clearly elliptical, measuring about 4 feet 6 inches by 3 feet. The floor is formed of three or four large, well-fitted flags, which have been cracked by the heat. The walls are built of small flat stones as usual. The entrance at the south-west end is well preserved, two upright stones, 15 inches apart and standing 10 inches above the floor, forming the sides. The floor is only slightly raised above the general level.

The oven at Haltwhistle Burn is also connected with the rampart, being built partly upon the sloping clay bank behind the outer wall, at the north-east angle (*Haltwhistle Burn Report*, p. 247, and pl. iv.)

INTERNAL BUILDINGS.

No traces of stone walls, and not a single post-hole were found inside the Fort. The remains of the internal buildings consist of small areas of rough flagging (F) and stone pitching (P), and several flagged hearths (H). They were mostly found near the north-west rampart. Flagging, 10 feet by 4 feet, was found 40 feet north-west of section E F, and a smaller fragment about 4 feet from the oven. The neck and handles of a large storage-vessel came from the latter. There is another isolated area, about 12 feet by 5 feet, 70 feet west of the north-east gate.

The only hearth found in the eastern area is 12 feet from the north-east rampart and 30 feet from the east drain. Near the drain, and level with the top of the kerb, the *mortaria*, Nos. 2 and 3, pl. xxvi., were found. Fragments of the "hammer-head" *mortarium*, No. 20, were also found within a few feet, but at least 12 inches above that level.

The remains at the north-west side appear to represent a long building placed against the rampart. Four hearths were found at an average distance of 9 feet from the inner



FIG. 33.—N.W. SIDE OF N.E. GATE, FROM E., SHOWING POST-HOLES.

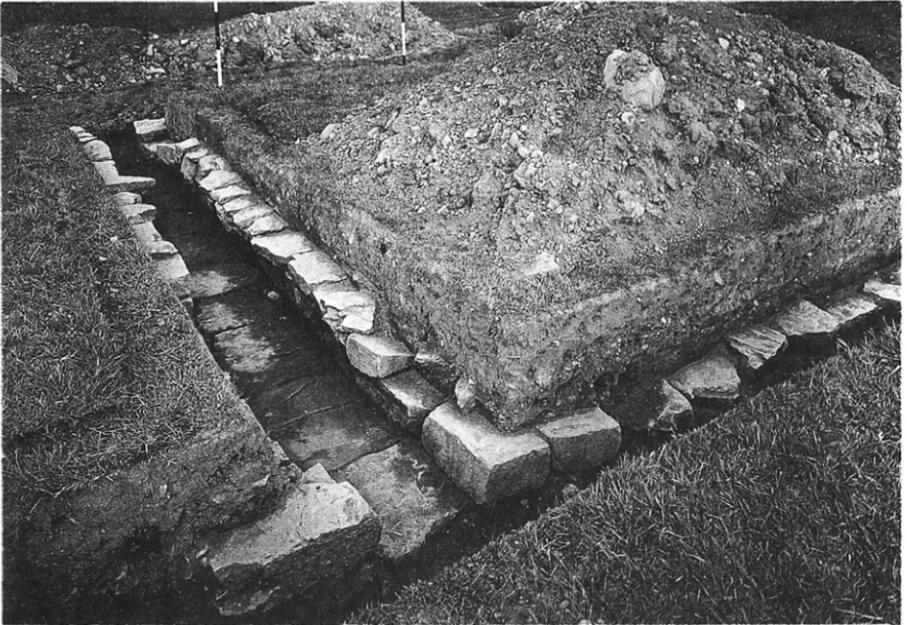


FIG. 34.—DRAIN THROUGH N.E. RAMPART, LOOKING N.E.

kerb. The first is 18 feet from the north-east rampart, and the second 25 feet further to the south-west. The third and fourth are also 25 feet apart, the distance between the second and third being 40 feet. The greater part of the pottery was found near these hearths. Between the second and third, and 10 feet from the kerb, is an area of irregular stone pitching about 19 feet by 17 feet, with flagging about 8 feet square near the west corner.

Below the flooring between the third and fourth hearths, an interesting discovery was made. At a point 8 feet from the kerb, several flags had sunk below the general level. When they were removed, it was found that they covered a roughly circular pit about 3 feet in diameter. At first it was thought to be a refuse-pit, but the filling apparently consisted of the clean material originally dug out of the hole, replaced in part with the addition of many large flat stones similar to those used in the kerbing of the rampart. It had been carried to a depth of 9 feet, through successive layers of gravel, clay, and shaley débris, into boulder clay. The only object found was a fragment of a blue glass-paste bracelet, diameter $2\frac{1}{8}$ inches inside, decorated with yellow lines (No. 14, fig. 38), which came from the bottom of the pit. The object of the pit is doubtful. It might have been an unsuccessful sinking for a well, but its position half-way up the slope is unfavourable to that view.

No well was found in the fort.

There was no general layer of dark material over the interior, and burnt matter was met with only near the oven and hearths.

At Haltwhistle Burn the northern portion of the interior (at the left-hand, facing to the praetorian gate) is occupied by two buildings, together 130 feet in length, placed close to the foot of the sloping bank of the rampart. The north-west side at Throp, with its indications of a

long building, corresponds with the north side at Haltwhistle Burn in relation to the " front " of the fort.

NOTES ON THE " FINDS."

The meagre collection of pottery and other objects, though partly accounted for by the cultivation of the site, is very similar in character and quantity to that from Haltwhistle Burn.

No coins, or other small metal objects were found, nor were fragments of inscribed or worked stone, mill-stones, or roofing-tiles met with. The few iron objects were completely corroded. In addition to the glass bracelet, No. 14, fig. 38, the melon-shaped bead, No. 15, of blue glass-paste, diameter $\frac{7}{8}$ inch, was found, also two fragments of bottle glass and one of a glass bowl, diameter $6\frac{1}{2}$ inches, the rim of which was formed by turning over the side of the vessel in the form of a flattened tube. No window-glass was found.

THE POTTERY.

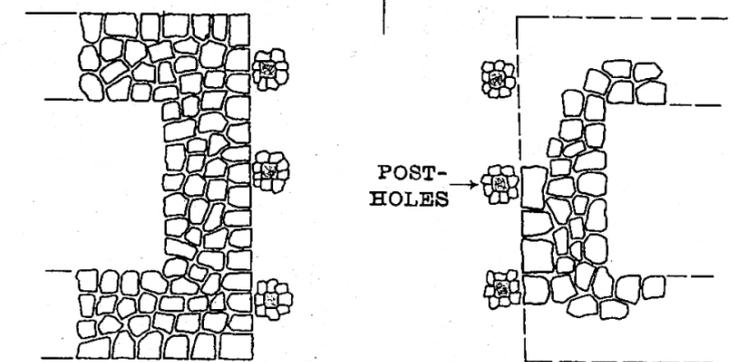
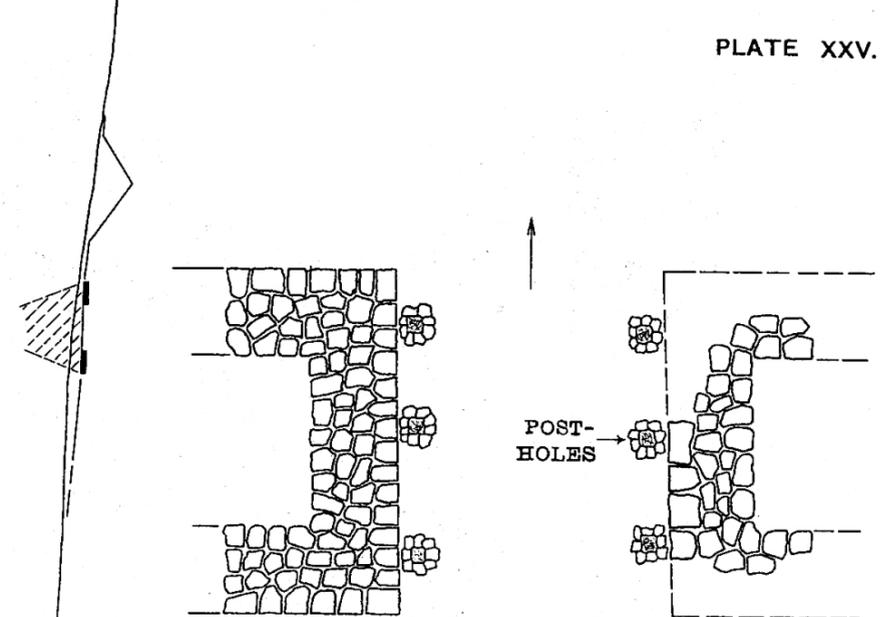
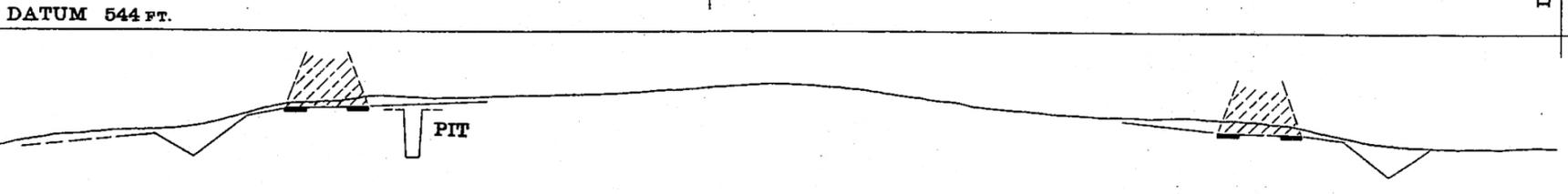
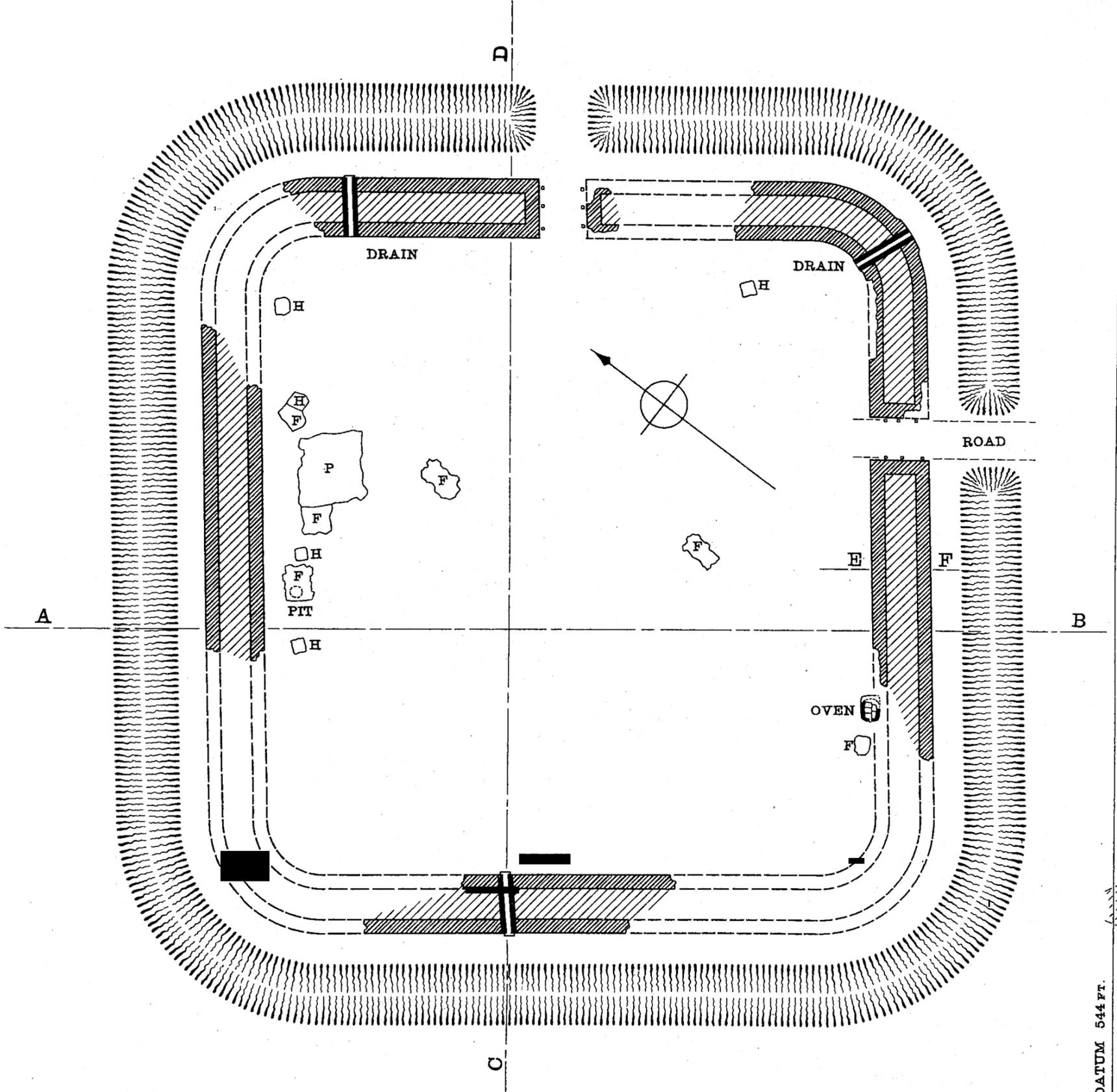
The majority of the fragments, which represent about 50 vessels, are much decayed. The number of vessels, the shape and use of which can be ascertained, of each main type is as follows:—Unglazed wares: bowls, 2; *mortaria*, 6; jars, 20; cooking-pots, 5; jug, 1; dish, 1; large storage vessels, 3 or 4. Samian ware: decorated vessels, 4; plain, 2.

Judged by the shape and decoration, in the absence of definite floor levels, the pottery may be divided into two distinct classes, the majority probably representing the period following the building of the Fort, while five or six vessels clearly belong to a much later period.

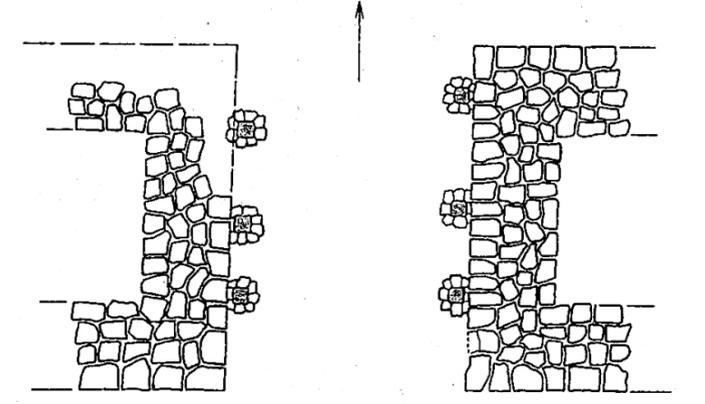
The diameters given refer to the outside measurement of the rim in each case.

UNGLAZED WARES.

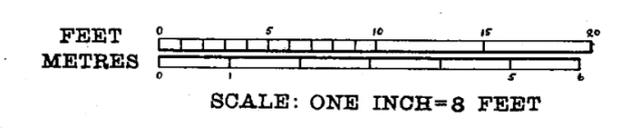
Bowls (2). Pl. xxvi., Nos. 4 and 5. No. 4, diameter $7\frac{1}{2}$ inches, light grey, dark surface wash; plain rim. No. 5, diameter $6\frac{1}{2}$



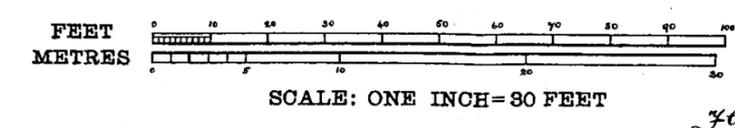
NORTH-EAST GATE



SOUTH-EAST GATE



THE
ROMAN FORT
 ON THE
STANEGATE
 AT
THROP
 NEAR GILSLAND



- STONE FOUNDATION
- TURF RAMPART

inches, brown, black surface; traces of grooving on rim. Cf. Haltwhistle Burn, pl. v., No. 1; Poltross Burn, early first period, pl. iii., Nos. 1-6; Appletree turret, pl. xvii., Nos. 65, 93 and 94, and Mr. Newbold's remarks on the dating of these bowls; Curle, *Newstead Report*, p. 249.

Mortaria (6). Second century type (4), Nos. 1-3. Grit generally white (opaque) or transparent. No. 1, diameter 10 inches, light red. No. 2, diameter $12\frac{1}{4}$ inches, red, buff surface wash; illegible name-stamp on rim. No. 3, diameter $7\frac{3}{4}$ inches, light red. One base, yellow. Cf. Haltwhistle Burn, p. 266; Poltross Burn, first period, pl. iv., Nos. 1, 2 and 5. Late "hammer-head" type (2). Grit generally coloured. No. 20, diameter 10 inches, cream. One rim, diameter about 10 inches, cream; much decayed. Cf. Poltross Burn, third period, pl. v., Nos. 1-4; Walwick Fell Fort (*Arch. Ael.*, 3rd ser., ix.).

Jars (20). There are fragments of three jars with "rustic" surface decoration, one in brown clay with dark surface and another in grey with dark surface. The third is a typical "rustic" ware rim, No. 8, light grey, dark surface. Cf. Haltwhistle Burn, pl. v., No. 12; Appletree turret, pl. xvii., No. 53, and Mr. Newbold's remarks on the dating of "rustic" ware.

No. 6 represents a type of jar which is not frequently found. The clay is of a light brown colour. Similar vessels from Newstead (pl. xlvi., No. 27), and CORSTOPITUM (*Report*, 1911, *Arch. Ael.*, 3rd ser., viii., pl. xii., No. 64) have a rim above the narrow neck, nearly equal in diameter to that of the body. The present height of No. 6 is $4\frac{1}{8}$ inches: the rim has probably been removed. Mr. Curle considers that such vessels were "Possibly . . . used to hold oil in small quantities with which to replenish a lamp" (p. 252). Mr. Bushe-Fox describes the vessels as unguent pots, "commonly found in graves" (*Report*, 1911, p. 42).

No. 7, diameter 5 inches, brown, blue-black colour coating, "rough-cast" decoration (*i.e.*, small particles of grit or clay on surface); cf. Haltwhistle Burn, pl. v., No. 7; Poltross Burn, first period, pl. iii., No. 25; Newstead, pl. xlvi., No. 31; Birdswald turret, pl. xvi., No. 7, and Mr. Newbold's remarks on the dating of "rough-cast" ware.

Nos. 13 and 14 represent large jars, or vases. Both have a raised bead round the neck. No. 13, diameter $4\frac{3}{8}$ inches, light red. No. 14, diameter 5 inches, grey. Cf. Poltross Burn, probably first period, pl. iv., Nos. 36-38.

The rims, Nos. 9-12, and moulded bases, Nos. 17-19, represent ordinary jars which are very similar in quality of clay, finish,

and shape of rim and base to those from the first period floors at Poltross Burn (cf. p. 449 and pl. iii., Nos. 12-21 and 26), and to most of the pottery from Haltwhistle Burn. The clay is generally light grey (Nos. 12 and 17 are light brown), with a dark (fumed) surface.

No. 23, diameter $4\frac{1}{2}$ inches, of hard blue-grey clay (cf. Poltross Burn, p. 451), probably belongs to a later occupation of the fort represented by Nos. 20-22.

Cooking-pots (5). Two, Nos. 15 (diameter $5\frac{1}{2}$ inches) and 16 (diameter 6 inches) are of the early type, with nearly upright neck. They are made of the usual gritty clay, black body and surface, burnished outside at the top and bottom with lattice decoration round the body. Both have the zigzag decoration on the neck below the rim generally found on the early cooking-pots. Cf. Haltwhistle Burn, pl. v., Nos. 5 and 6; Poltross Burn, p. 449, and plates iii., No. 22, and iv., No. 32. One, diameter 6 inches, with plain neck, is not drawn.

Two, Nos. 21 (diameter $6\frac{1}{2}$ inches) and 22 (diameter $5\frac{1}{2}$ inches) belong to a later type, probably the common shape in use in the third century, until the introduction of the cooking-pots of "vesicular" ware. There is the same roll at the rim, but the neck is longer and slopes sharply outwards. In clay, colour, and finish they are similar to the early type, but have no zigzag decoration below the rim.

The fragments of about 135 cooking-pots found on the late second century Site xxx. at CORSTOPITUM, in 1911, included a few vessels having the zigzag on the neck. They were of the type 48, pl. xii. (*Report*, 1911, p. 39), to which type Nos. 15 and 16 evidently belong. There were, however, only a few fragments of Nos. 47 and 51, pl. xii., which are clearly of the same type as Nos. 21 and 22. Also cf. Walwick Fell Fort (*Arch. Ael.*, 3rd ser., ix.).

No fragments of the late "vesicular" ware were found.

Jug (1). Fragment showing sharp turn at base of neck, light red with blueish surface wash. Two or three fragments of red and white clay may represent other jugs.

Dish (1). No. 24, diameter $8\frac{3}{4}$ inches, depth doubtful, brown, dark surface; zigzag decoration on side.

SAMIAN WARE.

Single fragments of four decorated bowls of type Dr. 37 were found (pl. xix., Nos. 10-13). Mr. Newbold considers that all appear to date from the middle of the second century. The

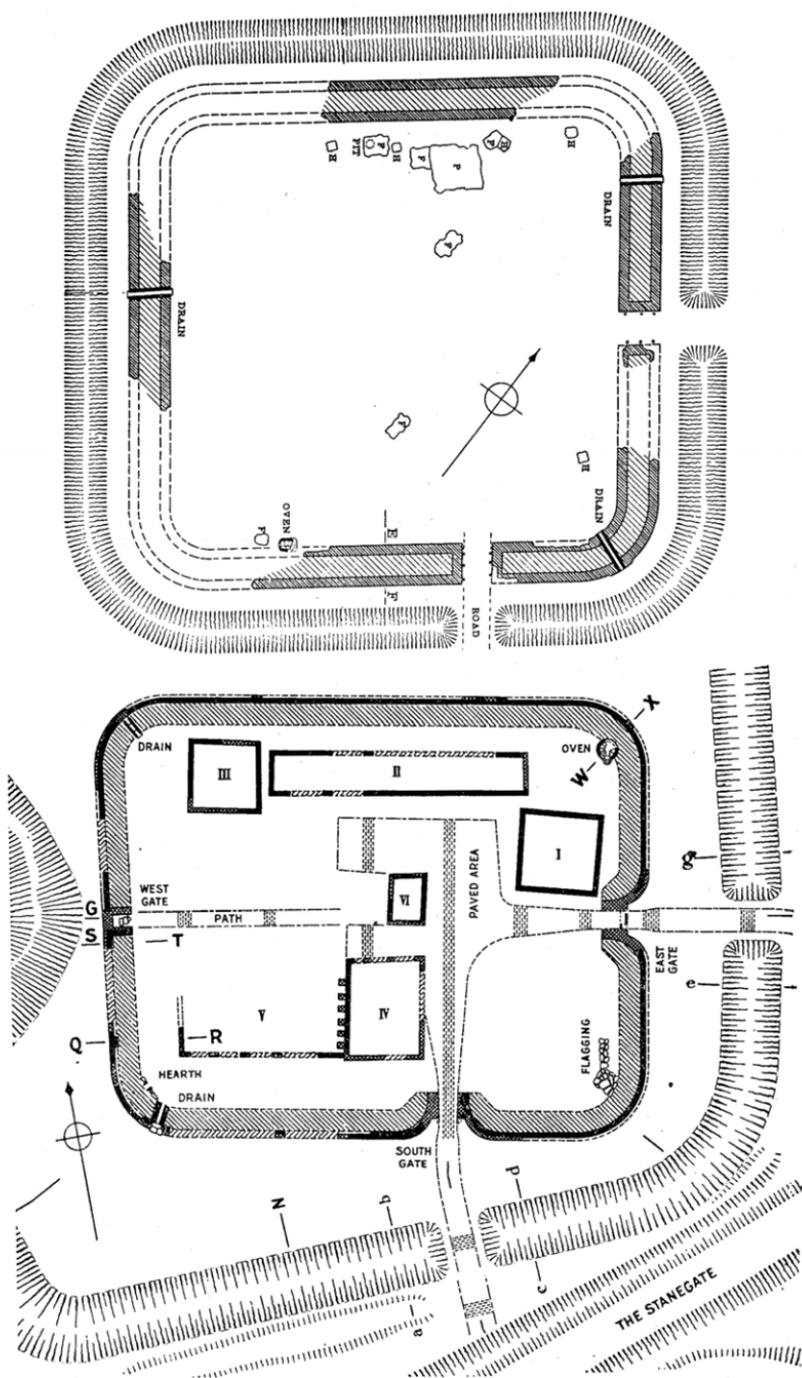


FIG. 35. THE FORTS AT THROP AND HALTWHISTLE BURN.
Scale: One inch=75 feet.

fragments of plain Samian represent two dishes of a fairly early type of Dr. 31, having the centre only slightly elevated.

THE PERIOD OF THE FORT.

The outstanding result of the excavation is the close resemblance which the Fort at Throp bears to the Fort at Haltwhistle Burn.

It will be well to reconsider the conclusions of 1909 regarding the date of Haltwhistle Burn (*Report*, pp. 272-284), with the aid especially of the increased knowledge of pottery, and of the discoveries on the line of the Wall since that year.

Three periods were suggested to which the Fort might be assigned :—

(1) During the reign of Hadrian but before the building of the Wall.

(2) Between the departure of Agricola (A.D. 85) and the arrival of Hadrian (A.D. 120).

(3) During the propraetorship of Agricola about the close of his second campaign (A.D. 79).

On behalf of the first suggestion, it was urged that the Fort was built by Hadrian's orders, during the survey of the district, preparatory to the building of the Wall. In that case, it would be occupied by those employed in the work and would naturally be dismantled as soon as AESICA was ready to receive a garrison.

Much of the evidence—the single period of occupation and absence of destruction, the scarcity of pottery, etc., and the intentional removal of the stone walls—apparently confirmed that view. To that evidence the pottery discovered would clearly have been added, according to our present knowledge.

At that time, however, the Turf Wall theory was unchallenged by modern evidence, and the conclusion, if that theory was correct, that

the Fort, which was a temporary structure, only occupied for a year or eighteen months, was surrounded by a wall faced with

well squared stones and backed with a bank of puddled clay, while the ramparts of the permanent station were composed of turf only,

seemed so unreasonable, that the earliest period—during the propraetorship of Agricola—supported by the walling-up of the east gate and the absence of a north gate appeared to be the most probable of the three.

The question was left undecided in the hope that “in the near future . . . the uncommon shapes (of pottery) found in the Fort may yet furnish the evidence that is lacking to-day.” The pottery evidence is now forthcoming, and if, upon it, the Turf Wall theory is disproved and the Wall of Stone ascribed to Hadrian, then the case for the Agricolan date of Haltwhistle Burn is entirely disposed of. For the pottery from that fort is not only similar to that from Throp, but equally so to the pottery from the earliest levels in the Poltross Burn milecastle on Hadrian’s Wall.

The date of erection now rests on the very strong evidence of the absence of a north gate and the building-up of the east gate, which implies, if the fort was built about 120 A.D., that

The power of Hadrian, though sufficient to construct a line of works over seventy miles long, was insufficient to keep open more than one main gate of a Fort within his own lines. . . . this gate faced in a direction opposite to that in which the unfinished works lay, which it would be the duty of the garrison to protect from attack. Such evident contradictions entirely disappear when a pre-Hadrianic date is suggested, for in that case the whole purpose of the Fort is altered. Instead of being a temporary habitation for the builders, or guards, of a structure some distance away, it becomes an isolated post, the garrison of which is intent upon the defence of its own ramparts.

These arguments still hold good and are definitely strengthened by the evidence from the similar strongly defended Fort at Throp, which is close to the line of the same road, and to all appearances an isolated post.

The absence of definitely Flavian types of pottery, however, precludes the possibility of placing the erection of these forts more than five to ten years earlier than 120 A.D. It has been suggested that the inner fort at Castleshaw, which appears to be later than the outer fort in which Flavian pottery has been found, dates from the unsettled period at the end of Trajan's reign and before the arrival of Hadrian.

Though the evidence still favours a pre-Hadrianic date, no solution will be possible until the site at Nether Denton, which has produced definitely pre-Hadrianic pottery, has been re-examined.

THE STANEGATE.

Maclauchlan supposed that the continuation of the Stanegate which he traced westward from MAGNA to within 600 yards of the Poltross Burn (*Memoir*, p. 50) had AMBOGLANNA for its objective, and thought he saw traces of its course between the Burn and Birdoswald (p. 53). Horsley also speaks of a road south of the Vallum at this point :—

At Willowford, on the east side of the river, the Military Way seemed to be south of both Walls (*Britannia Romana*, p. 152).

The general known course of the Stanegate in Northumberland, and its supposed course in Cumberland, were described in these *Transactions*, O.S., xiv., p. 422, as follows :—

Stanegate is a Roman road in Northumberland which runs south of the Vallum from Carvoran through Chesterholm to a point near the meeting of the North and the South Tyne, and which probably . . . extended as far as the Roman fort at Chesters, or that at Corbridge.

In a footnote, the finding of a milestone at Crindledykes, bearing the mileage MP XIII, is recorded.

The spot where this stone was found is just fourteen Roman miles from the site of the Roman fort at Corbridge and . . . we may perhaps incline to the view that the Stanegate went to CORSTOPITUM.

The western continuation of the main street at CORSTOPITUM has now been named Stanegate (*Rep.*, 1911).

Since the time of Horsley it has been supposed that this road was continued into Cumberland. Horsley himself thought that it ran more probably from Castlesteads than Carvoran, and formed only a straight cut from Castlesteads by Irthington and the Watchclose "camp" to Stanwix (*Britannia*, p. 144). Others have traced it from Carvoran to Gilsland, Denton, Naworth Park, the Roman "camp" at Hawkthirst, Watchclose, and so into Carlisle.

In 1896 the supposed remains, or track, of the road were examined at various points between Gilsland and Watchclose, the results of which appeared to disprove the whole line from Gilsland to Carlisle. At that time the absence of the gutters, side-kerbs, and central "kerb" found at Brunstock and White Moss (*Transactions*, o.s., xiii., pp. 454, 455 and 461 and pl. iv.) was apparently held to disprove the Roman date of a road. The general method of construction of the remains in the various sections described on pp. 423-5 of *Transactions*, o.s., xiv., is, however, that of one, or another, of all the sections of the Stanegate and the Military Way in Northumberland made by the writer since 1907.*

The first attempts to trace the road, in 1909, on the west bank of the Poltross Burn were based on the idea that it aimed for Birdoswald. The trenches failed to reveal any definite remains of a road. The clue to its course was given by the position of the south-east gate at Throp, and the point where it crossed the Burn was located, in 1910, 250 yards south of the Vallum. This position affords the best available crossing point, for the steep banks, where the Wall and Vallum cross the Burn,

* No central "kerb" was found in any of these sections.



FIG. 36.—THE STANEGATE AT SECTION S1, PLATE XXXI., LOOKING S.E.



FIG. 37.—THE STANEGATE AT SECTION S2, PLATE I., LOOKING S.

have become gentle slopes (pl. xxxi.), while the actual crossing would be above a small waterfall where the natural rock forms a shallow ford (cf. the course at Halt-whistle Burn, *Report*, pl. 1.).

On both sides of the stream the remains are much disturbed. At the east bank the course is traceable to within 75 feet of the fence between the fields Nos. 345 and 320 on the Crooks farm (O.S. Map. 25-inch scale, ed. 1900), making an angle of about 40° with the course of the stream. On account of the side slope, the outer edge was levelled up with clay, upon which the foundation of large stones was placed. Part of the foundation was found in three trenches. The course to the eastward, between this point and the last visible remains above Gap, in field No. 326 (*Transactions*, O.S., xv., p. 186), is doubtful. The fields Nos. 320, 321 and 325 have been ploughed probably for a long period, and all traces of the stonework of the road appear to have been obliterated.

In field No. 320 there is a hillock, separated from the main slope by a small valley, along the west side of which is an embankment or terrace following the outline of the hill. It has no doubt been formed largely by the ploughing down of the soil from the slope above, but a few large stones found in one trench may indicate that it originally carried the road round the hillock, to join the known line as indicated on pl. xxxi. A course to the south of the hillock presents greater difficulties. The ground to the north-east of Loanhead is very broken and the slopes to the west very steep, with another sharp fall at the point "345" on the plan.

On the west bank the course is traceable to within 50 feet of the fence between the fields Nos. 39 and 41, on the Throp farm. For about 200 feet the road is fairly well preserved, though the kerbing has been removed. The general direction is towards Throp. In section Sr, fig. 36, the width is about 16 feet, the full width originally being

from 18 feet to 19 feet. The ground is swampy at this point, and a shallow ditch has been dug on the north side, the material from which appears to have been laid down first and the foundation of large and small water-worn and quarried stones bedded upon it. The gravel surface (cf. fig. 45) has been largely removed.

Within the ploughed area of the field the road is entirely obliterated.

About a quarter of a mile to the west a mound crosses two fields in the same general line. It appears from several trenches cut across it to be an old field dyke of earth "spread" by later ploughing.

Further west is an old field road from Throp to Upper Denton, shown on Maclauchlan's *Survey*, sheet iv., which runs into the road to Bush Nook farm (pl. 1.). The writer was informed that 60 or 70 years ago the track was continued across the next field, No. 124, to the sharp turn in the modern road. Across this field there is a low mound, a few feet to the south of the old track.

A trench 40 feet west of Bush Nook lane (S2, pl. 1., and fig. 37) revealed the remains of a road of the same construction as the Stanegate at section S1. The kerbing is in position at the north side, but not at the south. The original width would be about 19 feet. The gravel surface is well preserved on the crown. Another trench, at the west side of the field, showed part of the foundation, but no kerbs.

This road, with the later track at the side, cannot be dismissed as modern, but must be the continuation of the Stanegate. In the fields Nos. 129 and 58, to the eastward, it may yet be found under the hedge at the south side of the old farm road, but from that point, in a fairly straight course past Throp to the remains near the fort, a distance of half a mile, the road is probably entirely obliterated.

Section S2 carries the road beyond any point at which

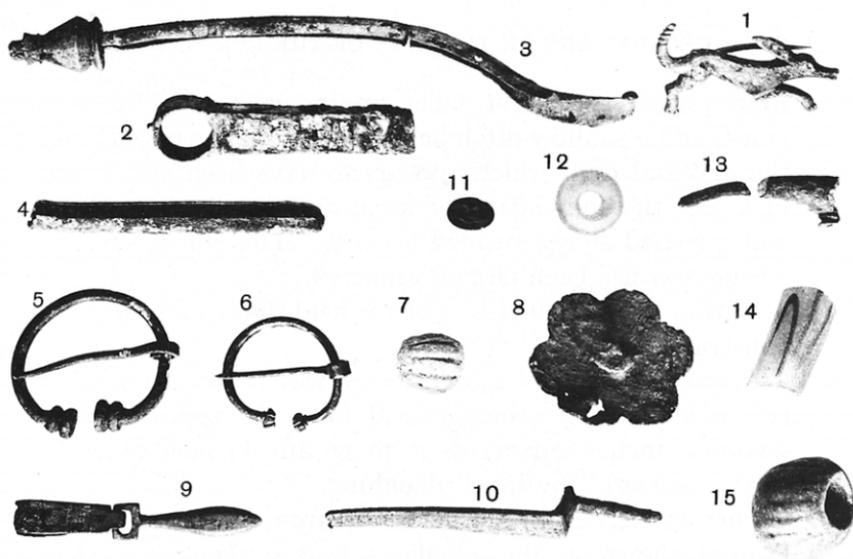


FIG. 38.—OBJECTS OF BRONZE, GLASS, ETC.



FIG. 39.—DECORATED SAMIAN POTTERY FROM NETHER DENTON (1868).

it could reasonably be expected to turn, if its objective was AMBOGLANNA. It is clearly aiming for Nether Denton. Between Upper Denton and Chapelburn no trenches were made recently, but the line is probably that taken by the modern road, which, however, was diverted west of Upper Denton when the railway was made. The ravine above the Mains farm accounts for the turns in the modern road. The course of the Stanegate in hilly country is, however, far from the conventional straight line.

The site at Nether Denton was first examined in 1868 (*Transactions*, o.s., i., p. 88). The report makes it quite clear that a fort stood on the hill now occupied by the church and rectory, while the bulk of the finds came from fields to the south and west. The remarkable series of coins, 89 in number, the latest of which are of Trajan, and the decorated Samian pottery, now known to be the earliest yet found on any site in the neighbourhood of the Wall except LUGUVALIUM and CORSTOPITUM, are preserved in the Museum at Chesters.

Fragments of three bowls, of type Dr. 37, with the "transitional" decoration of the late Domitian-Trajanic period, are shown in fig. 39.

In 1911 the authenticity of the pottery was fully established by the discovery of similar pottery in the field, No. 105, south of the rectory and the road, during draining operations. A wall was also located in one trench. The pottery was presented to Tullie House by the owner, Mr. T. G. Charlton, of Carlisle. Fig. 40 (next page) and section No. N.D. 1, pl. xxvi., represent a bowl of type Dr. 37, discovered in 1911.

The roll mound separating the two decorated bands, and the absence of the egg-and-tassel border, in the place of which is a V-shaped groove, are early features.

Though no remains of the road were found in 1896, the discovery of two funereal urns, full of burnt bones, in

1861, one of which is now in the Blackgate Museum at Newcastle-upon-Tyne, and of a third urn, also filled with burnt bones, in 1909, at High Nook farm, 750 yards west of the fort, gives a possible indication of its course. The urn discovered in 1909 was in the possession of the late Dr. Jackson, of Hexham. Its section is given on pl. xxvi., No. N.D. 2. It is of grey clay.

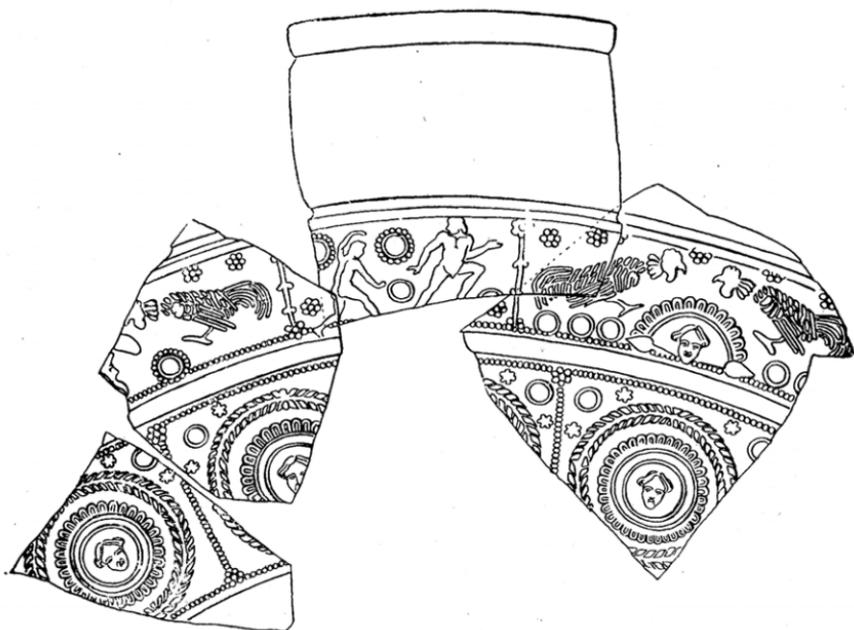


FIG. 40. DECORATED SAMIAN POTTERY FROM NETHER DENTON (1911).

The course of the road westward from Nether Denton is at present uncertain for about $6\frac{1}{2}$ miles. The absence of Roman remains at Hawkhirst (*Transactions*, o.s., xv., p. 358) removes the necessity for a road so far to the south, which might have been represented by the fragment at Pavement Head (xiv., p. 424), and strengthens the impression that its next objective was a junction with the road marked "Roman Way" on sheet iv. of Maclauchlan's *Survey*, which leads from Buckjumping to Crosby-on-Eden.

The question is decided by the relative positions of the Roman site at Watchcross, or Watchclose, marked "ABALLABA," and the modern road shown near it. That the position of Watchcross camp is quite accurate is proved by comparing measurements from Crosby, to the west, and Bleatarn (Blattering), to the north, with the distances on the Ordnance Map. About half-way between Bleatarn and Watchcross the present Gill House is marked as "Farm."

The road from Crosby, through High Crosby, continues in a straight line past the *south* side of the camp at a distance of about 150 to 200 yards, beyond which it bears slightly to the northward and turns sharply at a point marked by buildings, unnamed, but by measurement clearly Beanlands. From this point it runs north-east to Irthington. A road branches off at Watchcross and runs direct to Ruleholm (Rillholme).

The "New Projected Road" is shown leaving High Crosby about 100 to 150 yards to the north, the road just described at Watchcross 400 yards, and the camp 600 yards to the north. No road is shown to the *north* of Watchcross camp.

When these measurements are compared with the Ordnance Map and Maclauchlan's *Survey*, it will be seen that Wade's road, as finally constructed, runs through High Crosby, and past the *south* side of Watchcross camp at a distance of 180 yards, *i.e.*, it exactly follows the road to Irthington existing in Warburton's time, as far as Watchcross. It then bears slightly to the southward, very nearly on the line of the branch road already mentioned, to Ruleholm. Half a mile from Watchcross a road branches sharply to the north to Beanlands, beyond which it is clearly the Irthington road existing in Warburton's time. The road which appears to have been closed after Wade's road was made is that direct portion between Watchcross and Beanlands, shown on Warburton's map.

All these alterations, however, are on the *south* side of Watchcross camp. The "Roman Way," on the other hand, leaves High Crosby and Crosby Moor about 100 yards to the south, and Watchcross over 400 yards to the south, running direct to Buckjumping. At Watchcross the Roman Way is therefore 600 yards *north* of the road from Crosby to Irthington shown on Warburton's map. It should certainly continue to bear that name, unless, in the future, it is replaced by that of "Stanegate."

The Roman date of Watchcross has also been greatly discredited, but in view of the results obtained at Throp, which it resembled in size and shape (*Memoir*, p. 72), it should be examined. In the absence of other remains, its area and the position of its gates could be recovered from the course of the ditch.

The objective of the mediæval Stanegate, or Carelgate, was Carlisle. First century pottery has now been found at both Carlisle and Corbridge. The Roman Stanegate was probably the original line of communication between those stations, forming with the forts on its line the frontier after the retreat from Scotland, until the building of the Wall.

THE MILITARY WAY AND THE VALLUM.

During excavations at Down Hill, near HUNNUM, in 1893, a road was discovered running on the north berm of the Vallum. It was traced from Carr Hill to the point where the Vallum turns to avoid Down Hill, a distance of nearly 500 yards, where it leaves the north berm and runs between the Vallum and the Wall (*Arch. Ael.*, 2nd ser., xvi., pl. o i a, and p. xxvi.). Though no other road (representing the Military Way) was found between the Wall and the Vallum, its Roman date was doubted, and gradually discredited. It is, however, clearly the Military Way. The cause of its diversion has yet to be ascertained.

In 1908 the course of the Military Way was traced for

five furlongs to the east of the Haltwhistle Burn. About 120 yards from the Burn the road was found crossing the north mound of the Vallum, in a cutting; then running for 300 yards on the berm, and after again crossing the mound resuming its normal course. The broken surface of the south slope of Burnhead Crags no doubt caused the deviation at this point.

Search has been made for the course of the Military Way, or Mural Road, near the Poltross Burn on several occasions (*Transactions*, O.S., xiii., p. 468, and xv., pp. 186 and 190), and the road appeared to have been definitely located in its normal position, between the vicarage and the railway.

In 1910 further search was made, at first close to the railway on the west side, for its continuation in the normal position, but without result. Later, a trench was carried across the full width of the Vallum to the south-west of the milecastle (section 1, pl. xxxi.) The north mound was completely removed, with the south-west corner of the milecastle, when the railway was made in 1835. The very slight remains of the south mound extended over a width of 30 feet. The ditch was not large, the width being less than 20 feet at the top and about 5 feet at the bottom, and the depth nearly 5 feet.

On the north berm a road was found, 22 feet wide, similar in construction to the Stanegate in sections S1 and S2. The gravel surface has been removed. The south kerbing was exposed for 18 feet (fig. 42). It was observed that the kerb was in line with a telegraph-post on the railway embankment. The centre-line of the Vallum ditch is 172 feet south of the Wall at this section. In another trench, nearer the railway, the foundation was traceable, but much disturbed.

The work was resumed in 1912. A trench was cut through the north mound, and across the berm and ditch, west of the railway (section 2). The mound is



FIG. 43.—SOUTH KERB, BETWEEN SECTIONS 3 AND 4,
LOOKING E

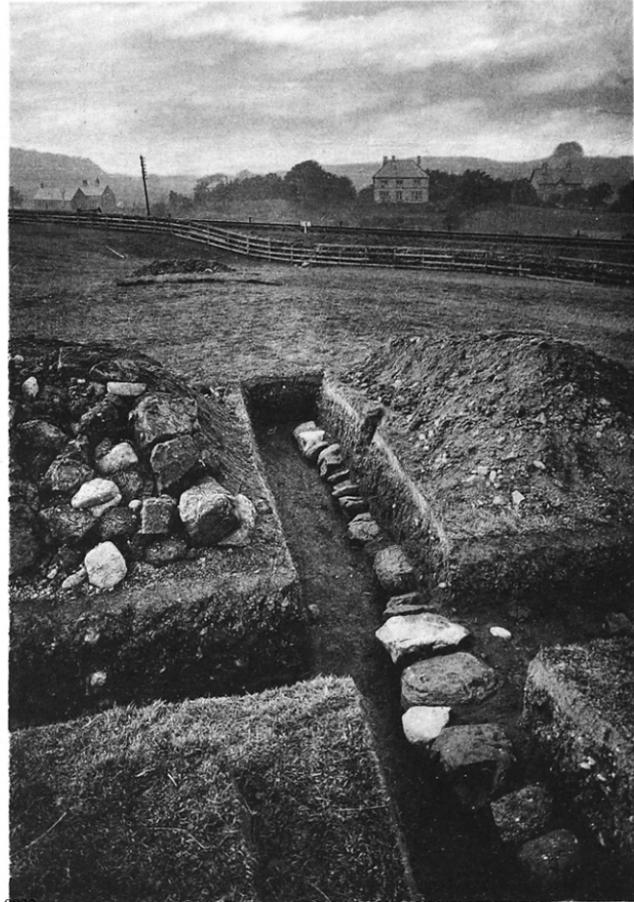


FIG. 42.—SOUTH KERB OF MILITARY WAY AT SECTION 1,
PLATE XXXI., LOOKING W.



FIG. 44.—MILITARY WAY AT SECTION 3, LOOKING S.



FIG. 45.—ROAD SURFACE AT SECTION 4, LOOKING N.E.

composed of strong gravelly clay, without any sign of special construction. A good section of the ditch was obtained. It was over 5 feet deep originally and rather wider than in section 1. The subsoil is compact glacial drift below gravel. The bottom is filled with black peaty material to a depth of 2 feet 6 inches. On the berm the foundation of the road again appears, but is not very perfect in this section. The centre-line of the ditch is here 173 feet south of the Wall.

A good section of the road was obtained 30 feet further west (section 3, and fig. 44). The gravel surface is partly removed, but the kerbs are in position at both sides, the full width being 19 feet 3 inches. The south kerb has evidently been raised, and in several places two rough courses were found in position. The bottom of the valley has been a peat-moss, and in sections 3 and 4 the foundation is formed of flat stones which have "floated" upon the soft material below. Westward from section 3 the south edge of the road was exposed for about 50 feet (fig. 43), showing the coursed kerbing. The kerb is again in line with the telegraph-post, and therefore with the kerb in section 1.

In the next section (4), close to the small watercourse, the road surface is remarkably well preserved (fig. 45). The width is 18 feet 6 inches, but the north kerb is missing. The ditch was examined and proved to be very small at this point (cf. the ditch at White Moss, *Transactions*, o.s., xiii., p. 460). It is only 14 feet wide. The boulder clay forms the bottom, which is only 4 feet below the present surface. At this section the centre-line of the ditch is again about 173 feet from the Wall.

In the vicarage garden two sections, 5 and 6, showed that the road still ran along the berm. The north side of the ditch has collapsed, carrying with it nearly half the road. The ditch is parallel to the Wall as far as section 5, where the Wall turns 8° to the southward. At section

6 the centre-line of the ditch is 150 feet from the Wall.

The road was traced across the school-yard in 1896, but was thought to turn to the south-west beyond (*Transactions*, o.s., xiv., p. 423. "North-east to south-west" should read "north-west to south-east," cf. xv., p. 185). In the corner of the field (No. 22), between the school-yard and the road, the foundation and the south kerb were again found (fig. 46). The gravel surface has been removed. The width at present is about 16 feet, but the north side is disturbed and the kerb missing. The centre-line of the ditch is here about 118 feet from the Wall. These measurements show that the Vallum is quite straight from the milecastle to the modern road to Low Row. The Military Way appears to continue along the berm for a few yards to the west of the road, in field No. 23, but the works are greatly worn down by ploughing. Until excavation can be undertaken on Willowford farm, the course of the road westward must remain in doubt.

The Vallum continues in a straight line to a point about 40 yards west of the sharp turn in the Wall (80 yards from section 7), where it makes a turn of 9° to the northward. It is then completely obliterated for 250 yards, but is again traceable in the next fields Nos. 18 and 17. At the field wall the centre-line of the ditch is 145 feet south of the Wall. It is again obliterated as it approaches the farmhouse.

Throughout this section the distance between the centre-lines of the north and south mounds is from 100 to 105 feet.

Eastward from section 1 the course of the road across the mound is obliterated. Some remains below the south-east corner of the milecastle seem to indicate that it ran obliquely half-way down the slope, and then turned sharply, taking perhaps the line of the modern path made about 40 years ago. The crossing point, and the course on the east side can only be conjectured. The lowest

terrace, though no remains have been found upon it, seems to be the probable track.

The reason for the deviation of the road appears to have been the difficulty of making the sharp turn required to carry it between the milecastle and the north mound, where the available space was less than 30 feet, on account of the steepness of the banks of the Burn. The nearness of the Wall to the north mound at the turn in field No. 23, where the available space would not be more than 20 to 25 feet, may have been a further reason.

THE DITCH AT THE POLTROSS BURN.

In 1886 it was supposed that the crossing of the Burn by the Stanegate had been discovered about 70 yards south of the Wall, and that the road had been carried down deep stone-faced cuttings to a bridge (*Transactions*, o.s., ix., p. 164), but in 1897 it was found that the cuttings were simply the Vallum ditch carried down as nearly as possible to the edge of the stream (*Transactions*, o.s., xv., p. 179). The retaining-walls were again partly exposed in that year, and a portion of the south wall at the west bank is illustrated on p. 210.

The object of the work in 1910 was to clear the walls at the west bank completely, and to ascertain the gradient of the bottom of the ditch. The walls at the east bank were not examined. At this point a very soft shaley rock forms the bed and the lower part of the banks of the Burn. The bottom of the ditch was examined from a point 130 feet west of the middle of the stream (o, plates xxxi. and xxxiv.), to within 20 feet of the foot of the slope where a large tree stands in the ditch, and near the retaining-walls.

The gradient of the bottom is approximately as follows : From section A, pl. xxxiv., for 20 feet, 1 in 1.8 ; for a further 30 feet, 1 in 2.3 ; and for the remaining 50 feet to point o, 1 in 4.6, becoming less steep at the top.

Where the shaley surface could be examined, the broken edges of the thin beds of stone are quite sharp and must soon have been covered with soil washed down from the sides (fig. 48).

The retaining-walls are 12 feet apart at the bottom. The remains of the south wall show 14 courses of squared stones, very similar to the facing stones of the Great Wall. The face of the lower six courses is curved. The upper courses no doubt formed a straight face along the ditch, but the remaining stones turn outwards meeting the rock face at about 60° (fig. 49). There is a distinct rubble core behind the face at the outer end (section A). There are no signs of lime-mortar in the face or core.

The north wall is almost entirely destroyed. Only six stones remain in position, of which five, representing five courses, abut upon the rock which forms the side of the ditch above. There is no core behind this fragment.

The solid rock ends 6 feet east of section A, beyond which the bottom has been made of stone pitching for about 3 feet (fig. 48). The object of the whole work appears to have been to carry forward the ditch to the edge of the stream artificially, beyond the position where the steep banks could have formed the sides and bottom naturally. The remains strongly confirm the view that the ditch was the essential feature of the Vallum.

Higher up the slope some very rough walling was found in the ditch near the south side (fig. 47). The west end (4 feet from point o) is curved. At 25 feet from the end, it turns 7° to the southward and continues for about 37 feet down the slope. It is not carried down to the bottom of the ditch at the west end. It may represent later repairing of the ditch, the south side of which may have collapsed. The flagging (fig. 47, foreground) may be of still later date, when the ditch was filled up.



FIG. 46.—SOUTH KERB OF MILITARY WAY AT SECTION 7, LOOKING E.



FIG. 47.—WALLING AT S. SIDE OF VALLUM DITCH, LOOKING E., FROM SECTION O.



FIG. 48.—THE VALLUM DITCH AT POLTROSS BURN, W. BANK, LOOKING S.W.



FIG. 49.—SOUTH RETAINING-WALL OF DITCH.

THE VALLUM MOUNDS.

Excavation on the line of the Vallum at Cawfields and elsewhere (*Report in preparation*) has explained the special construction, or kerbing, at the sides of the north and south mounds in many places, indications of which were found in the sections cut at Brunstock in 1894 (*Transactions*, o.s., xiii., pl. ii.) and at Hare Hill in 1903 (N.S., iv., fig. 3, p. 245).

The discovery that the north and south mounds have been broken through at short regular intervals for considerable distances, in Roman times, was made at Cawfields in 1908 and has since been confirmed at several points (*Report in preparation*). These gaps are traceable in the north mound for over half a mile eastward from a point nearly opposite Appletree turret. The regularity of the distances between them is shown by the following measurements from centre to centre (in yards, from the west):—42, 41, 43, 43, 43, 46, 47, 46, 46, 46, 51, 33 (the last two together equal 84, or 42×2), 43, 43, 44, 43, 43, 41, 44, 44, between 21 gaps. They are indicated by dots on pl. i.

The most remarkable feature along this part of the line is the occurrence of similar breaks in the line of the Turf Wall opposite the gaps in the Vallum mound.

The purpose of the gaps has still to be ascertained, and their relative date discovered. The mounds have certainly had an unbroken longitudinal section originally, for the material removed from the gaps can generally be traced on the surface, spread invariably *outside* the Vallum. The best example of this "spreading" can be seen on Wallend Common near Greenhead. Where the mounds are well preserved, as at Cawfields, the gaps are from 10 to 13 yards wide at the top. At several points they appear in one mound only, either the north or south. Where they appear in both, they are directly opposite each other. They have not been found in the

marginal mound at any point. Four or five gaps about 45 yards apart can be seen in the north mound, at Davidson's Banks, west of Carlisle.

CROOKS AND WILLOWFORD CAMPS.

Work was confined to surveying these camps. They were in danger of disappearing from the Ordnance Map on which (ed. 1900) Crooks camp was reduced to a sixth of its true area, and Willowford moved to an old quarry (?) some distance to the west! In view of the date of the pottery found by Mr. Newbold in the earthwork on Walwick Fell, these camps should repay examination. The east side of Willowford camp is curiously curved. It clearly has only two gates (*Memoir*, p. 52). The granite boulder "Greystone" still lies within the south-east angle.

The probable site of a turret is marked by a cross in the Willowford field No. 23. It would be over 580 yards from Poltross Burn milecastle, and will easily be located by excavation.

I very gladly acknowledge the kind assistance which I have received during the progress and completion of the work.

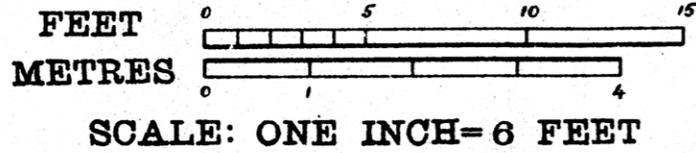
I wish to record the invaluable help which I derived from the wide knowledge and critical judgment of my partner in the work, the late Mr. J. P. Gibson, F.S.A.

My best thanks are due to the landowners, the Dowager Countess of Carlisle, at Appletree, the Trustees of the late Mr. T. Ramshay, at High House, the Brampton Rural District Council, and Mr. T. E. Baxter, Clerk to the Council, Mr. J. Wright of Birdoswald, Mr. J. Birkett, near Upper Denton, and the Rev. W. G. Bird, Vicar of Gilsland, for their kind permission to excavate the various sites, and to the tenants, Mr. A. Sproat of Lanerton, Messrs. J. and J. Laidler of High House, Mr. W.

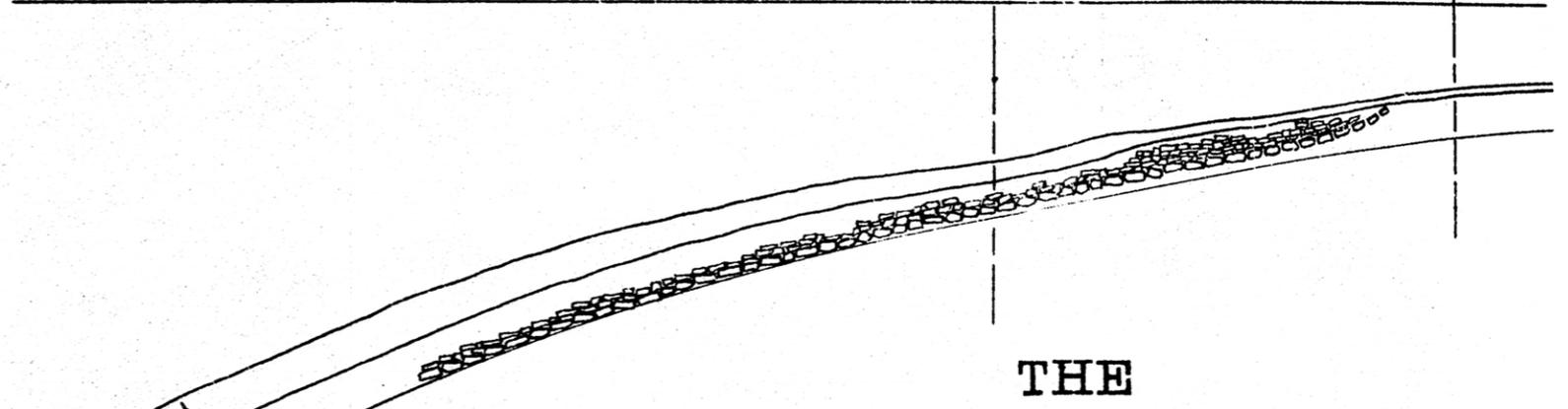
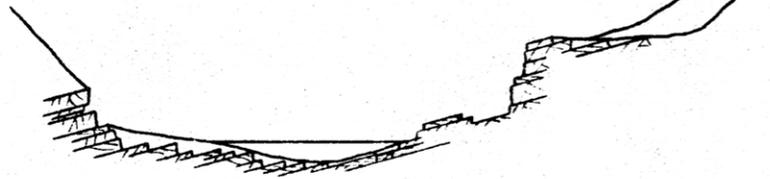
DATUM 475 FT.



SECTION AT A, LOOKING WEST.



A

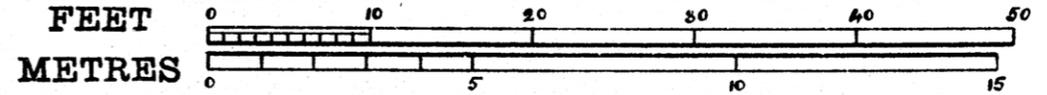


THE VALLUM DITCH

AT THE
POLTROSS BURN

WEST BANK,
LOOKING SOUTH.

S. EDGE
SURFACE AT C.L.
BOTTOM



SCALE: ONE INCH=12 FEET

J.G.S.

Graham of Upper Denton, Mr. J. Armstrong of Throp, and Mr. W. Waugh of Crooks; for much help during the progress of the work.

I am greatly indebted to Professor Haverfield, F.S.A., Mr. H. H. E. Craster, M.A., F.S.A., and Mr. Philip Newbold for their valuable contributions to this report, and to Mr. E. T. Leeds, M.A., F.S.A., for kindly examining the modern pottery.

From Mr. T. H. Hodgson, F.S.A., President of this Society, and Mrs. Hodgson, I received very valuable help in the earlier stages of the work, and from Mr. W. G. Collingwood, F.S.A., and Mr. Edward Wilson in its latest stage.

All the "finds" have now been deposited in the Museum at Tullie House.

It is hoped that the Report to which reference has been made, entitled, "*Excavations on the line of the Roman Wall in Northumberland during the years 1907-12,*" will shortly be published by Mr. Titus Wilson.
