

X.—FURTHER EXPLORATION OF THE ANTONINE FORT AT CORBRIDGE.

BY I. A. RICHMOND AND J. P. GILLAM.

I. THE BUILDINGS, by I. A. Richmond.

The Antonine granaries and their porticoes.

The report on excavations at Corbridge for 1946-49, published in a previous volume¹ of this Journal, was largely devoted to the granaries first discovered in 1908 and to a fresh structural analysis of their remains. The two Antonine granaries, which formed the basis of all the subsequent reconstructions and could be related respectively to the building-inscriptions of A.D. 139 and of A.D. 140, were defined for the first time, but, apart from the fact that each lay with its long axis running north to south, it remained wholly uncertain at which end of the building the entrance was situated. The solution to this question came in 1950, when it was discovered that the west granary had been furnished with a portico at the north end (fig. 1). This massive feature had been carried upon two heavy clay-and-cobble foundations, both of which are over 4 feet wide, the western one being 11 feet long and the eastern 14 feet long. They are separated by a stretcher wall or bed of lime concrete 7 feet wide, perhaps intended to underpin a stone threshold. They lie symmetrical to the granary, their fronts 11 feet north of its north wall. The east granary, on the other hand, exhibited no trace of a portico at the north end and it may be presumed that its portico lay at the south end, though no remains of it now survive (see fig. 2).

¹ *A.A.*, xxviii, 152-201.

As will presently appear (see p. 246), there can be no doubt that the street on to which the west granary fronted was the *via quintana* of the Antonine fort, since it ran immediately behind the newly discovered headquarters building described below. This arrangement,² by which granaries were entered from the back, occurs on Hadrian's Wall in the twin granaries at Benwell and at Housesteads

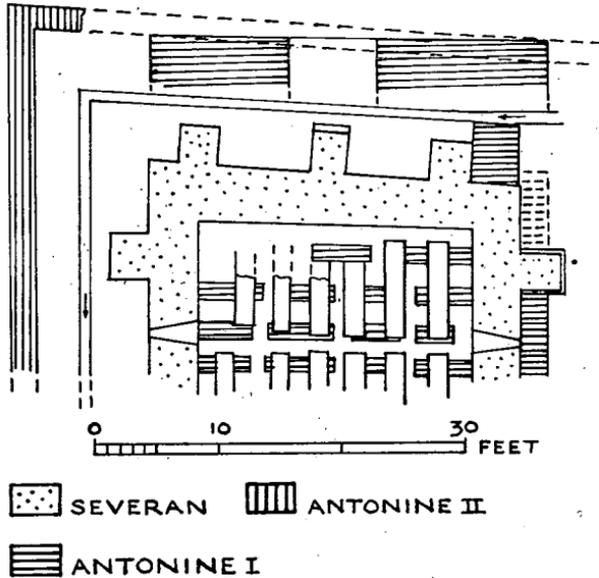


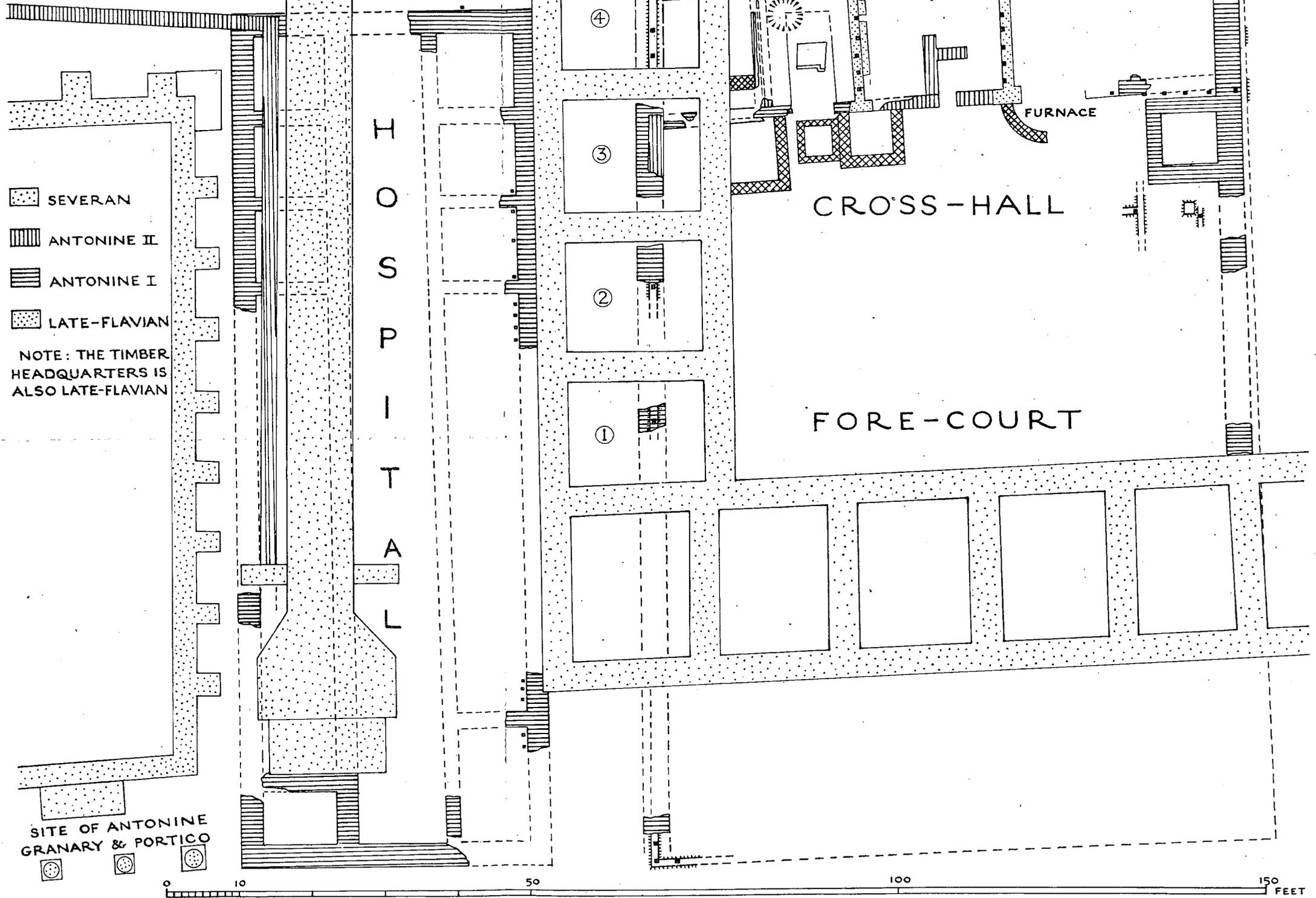
FIG. 1. NORTH END OF WEST GRANARY, CORBRIDGE, SHOWING ANTONINE GRANARY, PORTICO AND SECONDARY ENCLOSURE-WALL.

and also in a pair at Newstead and it is doubtless more common than has been realized. Its convenience is obvious, in that it prevented the *via principalis* from becoming congested with squads of men engaged in drawing their rations of corn, or by carts and their teams of horses or of draught-oxen when the annual deliveries of wheat were taking place.

² Benwell, *AA*⁴, xix, 18, pl. v: Housesteads *AA*², xxv, 236, Newstead, *A Roman frontier post*, 58-9, pl. xi, 1.

CORBRIDGE

1951



-  SEVERAN
-  ANTONINE II
-  ANTONINE I
-  LATE-FLAVIAN

NOTE: THE TIMBER HEADQUARTERS IS ALSO LATE-FLAVIAN

H
O
S
P
I
T
A
L

CROSS-HALL

FORE-COURT

FURNACE

④

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①

SITE OF ANTONINE GRANARY & PORTICO

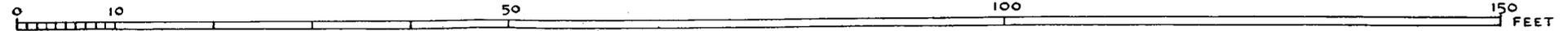


FIG. 2



The northern access to the west granary did not, however, outlast the first Antonine period. In the period initiated by Calpurnius Agricola both granaries were isolated³ by an enclosure wall (figs. 1 and 2) which ran close behind their northern ends, and left so little space behind them that both must from that time onwards have been entered from the south. It seems likely that the south ends of both granaries would then be fitted with porticoes; but the existing stone pillars belong to the Severan period and have obliterated any evidence for the existence of comparable late-Antonine structures.

The hospital.

The twin granaries were flanked on the east by a long and narrow building, measuring over-all 117 feet from north to south and 40 feet from east to west (fig. 2). The remains of this are almost entirely covered by the enclosure-wall already described, by the third-century aqueduct and by the roadway separating it from site XI and were discovered in the summer and autumn of 1946. Its south end protrudes beyond the Severan fountain at the aqueduct-head and still remains exposed to view. Its east side lies hard against site XI and was actually cut by the foundation-trench for the great building. Its west side is separated from the east granary by an alley some 4 feet wide (see fig. 2). The building itself has now been defined in outline, and enough is known of its plan to show that at the south end there were three divisions, a central one apparently without sub-divisions, flanked by side divisions which were cut up into small rooms disposed opposite one another at the north end, where three such sub-units were traced. The plan is thus one of lateral rooms opening off an axial corridor. The dimensions and plan so closely resemble those of the Fendoch hospital,⁴ which measures 40 × 106 feet over-

³ This would imply that the occupation of the site no longer involved a single unit of normal size, but that detachments probably of various kinds were there, drawing their rations on a different system which involved keeping the granaries under separate control.

⁴ *PSAS*, lxxiii, 132-134, fig. 11.

all, that it seems wholly reasonable to suppose that the two buildings had a similar function. The design would imply a central corridor lighted and ventilated by a clerestory, off which side wards opened, the whole following the plan of a single ward in the much larger and more elaborate legionary *valetudinaria*.⁵

The building was almost everywhere reduced to its foundations and had certainly been deliberately demolished

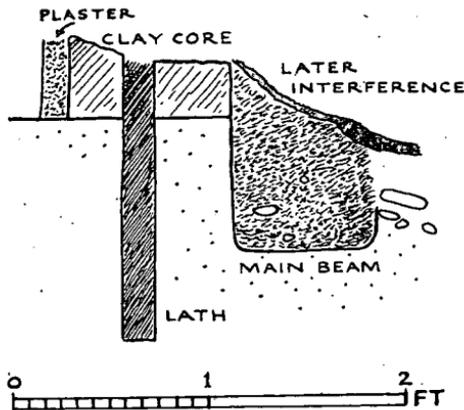


FIG. 3. LEFT-HAND HALF OF TIMBER-FRAMED WALLING SHOWING FUNCTION OF LATHS ADJOINING MAIN FRAME, CORBRIDGE, SITE XII, 1948.

in the later Antonine period, when the enclosure wall isolating the granaries had been built across the levelled remains of its west division. Its foundations were of freestone set upon a packing of clay-and-cobble in a foundation-trench, while the superstructure, of which two courses at most remained, was of well-dressed freestone set in white mortar liberally used in the core and on the face (pl. VI). Further, the internal and external faces were furnished with small rectangular post-holes (pl. VI), 3 feet deep and 5 inches by 4 inches in size, which lay hard against the edge of the foundations and from 11 to 18 inches apart. In

⁵ R. Schultze, *Bonner Jahrbücher*, cxxxix, 54-63, pls. 1-V.

timber-framed buildings such post-holes can be shown⁶ to have held vertical laths against which a plaster face was brought to a flush finish (fig. 3). There can be little doubt that the same purpose was served in this case and that the very lavish use of white mortar in the stone-work indicates that this was a sill-wall only and that the upper part of the superstructure was timber-framed with wattle and daub panels and plastered face.

The same type of construction was observed⁷ in the west wall of the east Antonine granary, and may be taken to explain a peculiarity in its planning to which attention may now be called. The east and west granaries lay very close together, divided by an alley only $2\frac{1}{2}$ feet wide, and no buttresses appear to have been provided on either. Had the buildings been constructed in stone throughout, this would have been a highly remarkable omission; but, if they can now be recognized as built with timber framing upon stone sills, the oddity disappears, since a timber building⁸ could be cross-braced from inside so as to prevent any tendency to bulge towards the base of the walls, where the pressure of its contents was heaviest. These discoveries thus introduce a new and highly skilled type of timber-framing, at the interesting stage when it was being combined with stone sill-walls. In its exclusively wooden guise⁹ it was observed at Corbridge in 1909, 1937 and 1948, though only on the last occasion fully understood (fig. 3).

The headquarters building.

East of the building just described came a 14-foot roadway, and beyond it, below the west range of site XI, the west wall of an early stone building, first observed in 1908. But a fresh examination of the walling soon revealed that it had

⁶ It will be appreciated that it was impossible to fix the laths to the main timbers without making the wall too thin.

⁷ *AA*⁴, xxviii, pl. xi.

⁸ As supposed at Fendoch, *PSAS*, lxxiii, 131.

⁹ *AA*³, vi, 13 (1909); *AA*⁴, xv, 259, fig. 4; the 1948 discovery is as yet unpublished.

had a complicated history. In Court 3 of the west wing, to use the description of 1908, the wall was found to exhibit two periods of construction; the first wall was 3 feet 9 inches thick and built in well-finished blocks of hammer-dressed freestone averaging a foot long and four inches high: it had been well grouted and lavishly pointed with good white mortar, of which a fairly thick scatter lay at the external foot of the wall. The second wall, only two feet thick, was on the other hand manifestly a total reconstruction of the first when it was already in ruin. The masonry was much rougher, less regularly coursed and clumsily dressed; again, while the inner face was flush with that of the older wall, upon which it rested, its outer face ran upon different lines. This, however, was not the first part of the story of change in the building. A search in Court 4, farther north, revealed that the first wall, undetected here in 1908, had been almost entirely removed, and that a layer of grey puddled clay, upon which its foundation had originally been bedded in white mortar, covered an earlier foundation-trench one foot wide. This contained post-holes 6 inches square, set at intervals varying from $3\frac{1}{2}$ to 5 feet, which clearly represented a timber-framed building of earlier date than the stone one, but here running on the same lines. The timber-framed wall and also the clay bedding for the stone wall which superseded it, turned eastwards at right angles in Court 4. It thus falls into line with the north wall of the rooms discovered in the courtyard of site XI in 1908 and still in part exposed to view though not until now related to any other structures. Further search also revealed that the foundation of the timber wall continued below the north wall of masonry, which was of the primary build already described above, until it came up against a larger room, of which the back wall projected northwards. The walls of this room, however, are built in masonry which is markedly different from any on the site, cut in small and very neatly trimmed blocks, carefully set in hard mortar. A further peculiarity is that the side walls are at most only eighteen inches thick, and have been reinforced

at about every three feet with vertical timbers, sometimes completely encased by the walling but more often set flush with the inner face. Six of these appear on the east wall, one being encased, while five are now visible on the west wall, three being encased. This lack of uniform relationship between the posts and the walling is, however, of little structural significance, since the posts, whether flush with the wall face or not, were certainly covered with yellow plaster, noted in 1908 but since removed by weathering or other action. The posts do not go deep below the walling,¹⁰ but are an integral part of it.

The front of the room had originally been open, with short double responds upon the ends of its side-walls. The responds end slightly irregularly, without a built face, and clearly once abutted against finishings of another character,¹¹ later removed. They were replaced on the line of the front by a coarsely built wall, pierced to east of centre by a doorway with stone jambs. The back wall, on the other hand, is original, thick and continuous and was later shorn of a wide internal scarcement or platform, now surviving in the form of the irregular backs of facing stones secured in position by the inner face of the main superstructure.

The room just described offers a valuable and decisive clue to the function of the building. Open-fronted rooms equipped with responds normally belong in the architecture of Roman forts¹² to the administrative range at the back of the *principia*, and the large size of this room and its backward projection mark it out as likely to be the *sacellum*, set centrally between two pairs of rooms. To verify its axial position, the back wall of the building was followed eastwards until a north-east corner was found at almost the same distance away from the supposed *sacellum* as the north-west corner. The room could thus be securely identified as a *sacellum*. It may further be observed that it lies on the

¹⁰ cf. *AA*³, v, 339.

¹¹ These were probably plastered jambs or responds with timber frame, as becomes apparent on the west side of the opening.

¹² cf. J. Ward, *Romano-British buildings and earthworks*, 83, fig. 28.

axis of the north-to-south road later bounded by the third-century compounds, which has for some time been recognized¹³ as one of the axial streets of the Antonine fort. This road can now receive its due title as the *via praetoria*.

The stone *sacellum* received, as has been noted, at least one important modification. This was the complete closing of its front at ground-level by a wall of rough masonry comparable in character with walling of the later Antonine period elsewhere on the site, notably the enclosure-wall of the granaries. This wall was pierced to east of the middle by a doorway, with orthostatic stone jambs. In 1908 the room was noted to have been still further subdivided, though these walls unfortunately do not survive, and it seems likely that the *sacellum* in its latest phase was equipped with a partitioned false basement used as a strong-room for banking regimental funds. Traces of a rather similar basement¹⁴ exist at Chesters.

An attempt was next made to ascertain the over-all dimensions of the building. The dimension from east to west had already been determined as $82\frac{1}{2}$ feet over all. The east wall was followed southwards until it passed below the north wall of the front range of site XI. The west wall was traced still further, through Courts 2 and 1, where both it and the foundation of the timber building were found, superimposed, until, beyond the front range itself, the south-west angle of the timber building was reached, giving an over-all dimension of 121 feet from north to south. The timber building thus measures 121 by $82\frac{1}{2}$ feet. But it will be observed that the front of this building lines up with both the front of the Antonine hospital and the portico of the later east granary which, though itself Severan, cannot be far away from the position occupied by the previous Antonine portico. It is thus evident that in fact the front of the stone and timber

¹³ *AA*⁴, xxi, 221, fig. 13.

¹⁴ The steps covering its front still remain, also the threshold of a small doorway at the east end of the front.

buildings must have coincided as closely as their side and back walls.

Attention was now paid to the administrative room immediately west of the *sacellum*. In its first stage this room had been walled upon three sides in timber-framing, of which five post-holes, that in the north-east corner being exceptionally large, were detected in the north wall, while a large post-hole also served as the west respond of an open front of normal type. The east wall, shared with the *sacellum*, was, however, built in stone, though reinforced with timbers, as already described (p. 245). This whole stage must be regarded as anterior to the building of the *principia* in stone, which certainly belongs to the early Antonine period (see below). The timber-framed headquarters building with stone *sacellum* which thus emerges closely resembles the headquarters at Caerhun,¹⁵ where, however, the *sacellum* itself had originally been constructed with timber framing. The stone-built *sacellum* at Caerhun is, however, pre-Trajanic. At Corbridge the building was incorporated into the Antonine *principia* and must therefore belong to the latest of the pre-Hadrianic phases, if not to more than one of them. Its exact place in the early sequence is yet to be defined. When the Antonine reconstruction took place the room under discussion received a back wall in stone, which completely obliterated the early timber-work, and was also equipped with front responds of stone which had the same effect. The room was then furnished with a low dais, built of stone and floored in the *opus signinum* so characteristic of the early Antonine period at Corbridge.¹⁶ The dais ran round the back and sides of the room and was finished off against the wall by a quarter-round moulding. The moulding is best preserved on the back wall, but just enough of it is preserved on the west wall to attest that only a narrow screen-like partition separated this room from the next. It was at most only a foot thick and there is no sign or likelihood that it was

¹⁵ Baillie-Reynolds, *Kanovium* (Cardiff, 1938), 74, fig. 11.

¹⁶ *AA*⁴, xxi, 216, note 325.

built in masonry. It was probably constructed in timber, as at Croy Hill.¹⁷ Later, however, this partition was certainly reconstructed in stone, built in the same clumsy fashion as the main west wall of the building and reducing substantially the width of the western dais. The purpose of the dais is not obvious. It cannot have been a stand or substructure for cupboards or book-cases, since the centre of the room which it surrounds was taken by a large stone hearth, made of re-used masonry which was originally the foundation of a respond. So large a hearth left no space for working in the room except on the dais itself, which is thus most easily interpreted as a floor raised above the general level for dryness and warmth. In due course the floor itself fell into serious disrepair, owing to a collapse over a pit which had been imperfectly filled up and caused the complete subsidence of the north-west corner of the dais. Among the collapsed remains was a small group of typical early Antonine pottery.

Much less survives of the room at the west end of the range. The ground-level here rises rapidly and the building has been erected upon stepped or terraced levels. Accordingly, the west wall of the room steps up sharply at the north end of Court 3, while the floor-level is considerably higher than in the room with the dais just described. The result is that only a patch of the bottoming for an *opus signinum* floor remains, just east of Court 4, while the stone wall, as noted above, has been removed down to its grey clay bedding, leaving only the timber-framed wall in its trench. A naturally formed drip-channel runs outside the west wall of the timber building, indicating that the roof of the back range here sloped from east to west and not, as might have been expected, from north to south. The eastern pair of rooms flanking the *sacellum* still largely awaits exploration. Part of a pier separating them at the front is preserved, and five post-holes belonging to a timber-framed front wall were also disclosed, four of these having been noted already in 1908.

¹⁷ PSAS, lxxi, 36, fig. 2, also 40.

This suggests that in the timber stage at least the end room had a closed front and was entered from the neighbouring chamber, as at Housesteads.¹⁸ The perpetuation of this arrangement in stone is also suggested by the fact that the north edge of a *tribunal*, or judgment platform, situated, as usual, at the sinister end of the cross-hall, lay right up against the front of the end room, so that direct entry thereto was impossible. The platform itself measured $11\frac{1}{2}$ feet across the front, and $9\frac{1}{2}$ feet in depth. It was built as an earth-filled platform, boxed in by walling strongly built upon a clay and cobble foundation and a layer of white mortar. In the packing was found much of a Samian bowl of Dragendorff's shape 37, bearing the name of the potter Arcanus.

Little is yet known of the further arrangement of the building. The stone and timber fronts of the cross-hall have still to be discovered. Immediately south of the *tribunal* exploratory trenching revealed foundation-trenches of timber buildings which appear to antedate even the timber *principia*. The east wall of the timber *principia* was, however, found at the outer edge of the stone wall, which very slightly overlapped it.

A series of final modifications may now be described. The front of the west pair of administrative offices is occupied by a set of small cabin-like rooms, indicated on the plan (fig. 3) in cross-hatching, which completely block access to the main room behind them. They may be classed with a tertiary wall which abutts against the later west wall of the inner west room and subdivides the outer west room. The eastern cabin is also clearly an addition to the secondary wall, described above (p. 245), which closed the original open front of the *sacellum*. Yet another tertiary structure is a quadrant-shaped wall which terminates against the south face of the eastern respond of the *sacellum*. Its function was to shelter a smelting hearth; but, quite incidentally, it pre-

¹⁸ *AA*², xxv, 217, fig. 10. The *tribunal* at Housesteads is noted on p. 216 as "a solid platform", but its bearing upon the planning of the adjacent room is not appreciated.

served an interesting structural detail, in that a fragment of the original plastered front of the *sacellum* was sandwiched behind it.

It seems evident that in this latest phase the *principia* was no longer serving its normal purpose. Access to the main rooms was completely blocked, and one at least of the tertiary structures served as a hearth or forge. The easiest explanation of the evidence is undoubtedly to conclude that the building ultimately ceased to serve as a headquarters building and was converted into a depot or workshop. It was certainly not so used, however, in connexion with the erection of the great Severan courtyard building which superseded it, since the new cabins or hearths were laid down directly upon the concrete floor of the cross-hall without any trace of an intervening layer of destruction. So far as it goes the evidence seems simply to mean that towards the close of the Antonine occupation the organization of the site became much more casual.

In general, however, the effect of the discoveries here recorded is greatly to advance knowledge of the Antonine site. It can be recognized now that in the earlier Antonine period, commencing in A.D. 139, the occupation took the form of a normal fort, whose granaries, hospital and *principia* have now been identified. The later Antonine phase, initiated by Calpurnius Agricola in A.D. 163, involved total rebuilding. The hospital was demolished; the granaries were cut off from the rest of the site by an enclosure wall, but the headquarters building apparently continued to function. Finally, however, the occupation degenerated into something casual, though presumably still military in character.

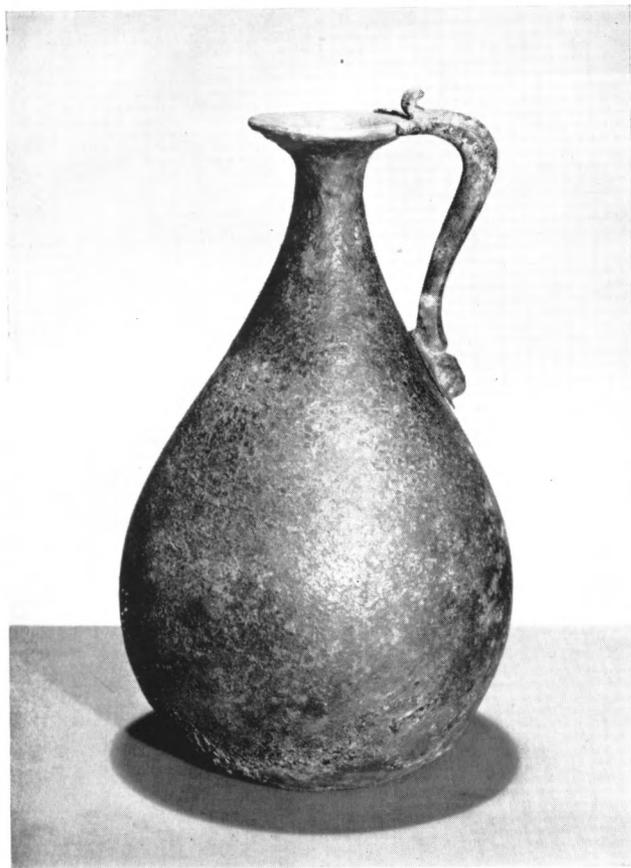
Still more remarkable, however, is the evidence that the Antonine builders found on the spot a late-Flavian or Trajanic headquarters building which could be used as the skeleton or outline for their new headquarters. This is an entirely new piece of evidence for continuity between the two occupations, in the sense that the buildings occupied in the Trajanic period were kept in commission until the Antonine



CORBRIDGE, 1951. NORTH-WEST CORNER OF HOSPITAL, LOOKING NORTH.



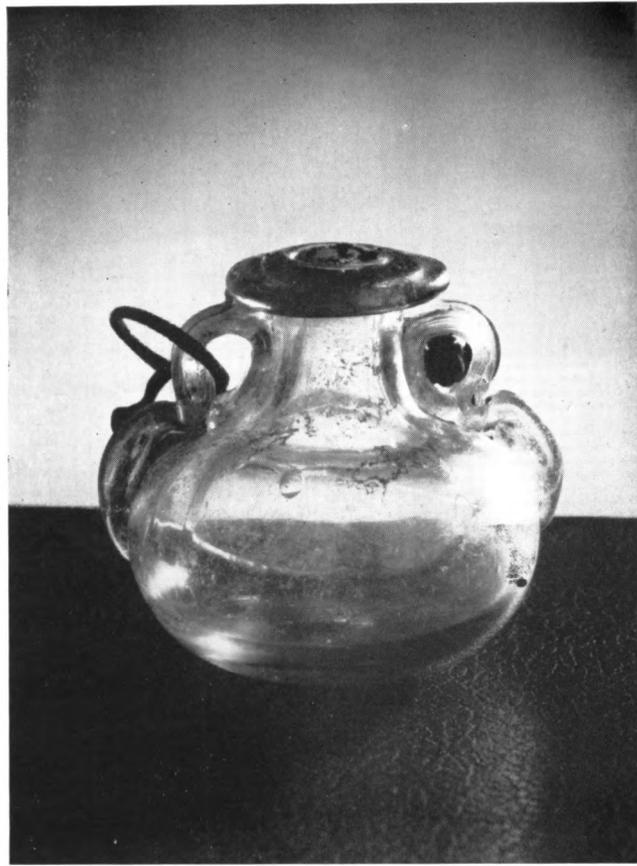
CORBRIDGE, 1951. EAST WALL OF HOSPITAL, LOOKING N., WITH POST-HOLES (MARKED BY PEGS) FOR LATHS.



CORBRIDGE: BRONZE JUG FROM PIT 2.



CORBRIDGE: BRONZE JUG FROM PIT 2, DETAIL OF HANDLE.



CORBRIDGE: GLASS BALSAMARIUM FROM PIT 3.



CORBRIDGE: BRONZE CHEEK-PIECE FROM A PARADE-HELMET, PIT 5.
DECORATED WITH BUST OF VENUS.

builders had opportunity either to perpetuate them or to sweep them away. It shows that while the site at Corbridge lay unoccupied during most of Hadrian's reign it was still maintained.

II. ANTONINE PITS AND A PRE-HADRIANIC DITCH AT CORBRIDGE, by J. P. Gillam.

A few years ago, when looking through part of the reserve collection of coarse pottery in the site museum at Corbridge, I came across the greater part of the body of the vessel drawn here as no. 16. The portion including the neck was missing, and at first sight it appeared as though the vessel had stood on its end, though the little protuberances on the body were puzzling. I asked Mr. Eric Birley if he could explain them, and he drew my attention to a photograph in the report on excavations at Corstopitum in 1907,¹ which clearly showed the vessel that had now turned up again; it was lying on its side and equipped with a double-handled neck and mouth. Half a day's search through the drawers containing flagon necks revealed the missing piece, which made a perfect join with the rest. At the time I was not aware of any parallels, and so read the 1907 report with some care in the hope of finding a record of the place of discovery, or of associated datable objects, which might indicate the period when this unusual vessel was in use. The result was satisfactory, for not only was there a record of the association of the particular vessel with datable objects, but also, scattered through three sections of the report, a record, with descriptions and illustrations, of a number of other interesting objects and their place of discovery. Miss Grace Simpson and Mr. William Bulmer took part with me in a search of the reserve collection and the displays, and we succeeded in tracing most of the objects described in the 1907 report. The find has

¹ *AA*³, iv, 205-303.

not previously been considered as a whole, and it is only now, in the light of more recent discoveries at Corbridge, that it is possible to attempt to define its relationship to the history and topography of the site.

In 1907 excavations were directed by Sir Leonard Woolley on the brow of the slope in the field which lies between the part of the site now laid open for inspection and the Cor Burn. These revealed the existence of what were then interpreted as seven rubbish pits. The positions of the pits, as we may continue to call them all for the moment, are marked on Mr. W. H. Knowles' plan of the buildings uncovered by 1907; it is simpler now to relate them to visible buildings. Pit 5, the most easterly and the nearest to the site now open, lay some 90 ft. west of the rear wall of the third-century H.Q. building, on the line of the west wall of the west compound. Pit 3, the most easterly, lay some 80 ft. farther out. Their probable relationship to earlier structures is of greater significance. It has now been established that the H.Q. building of the Antonine fort occupied the site of the H.Q. building of the latest pre-Hadrianic fort;² and there is also evidence that the east and west ramparts of each of the successive forts followed much the same lines. Two points have been established on the west rampart and one on the east.³ The probable line of the west rampart of the Antonine fort and its precursor is calculable from these points and from the axis which is given by the H.Q. building. On this basis the pits all lie outside the line of the west rampart, though no. 5 lies fairly close in to it. On the eastern side of the fort two defensive ditches were discovered in 1910; they are parallel to the line of the east rampart as more recently established.⁴ The inner lip of the inner ditch will have lain about 15 ft. in front of the outer face of the rampart; the inner lip of the outer ditch lay 75 ft. farther out. If there were similar ditches beyond the west rampart at any time, as is not unlikely, then

² See above, p. 250.

³ *AA*⁴, xxviii, 172 and 176, supplemented by excavations in 1951.

⁴ *AA*³, vii, 165-168.

most of the rubbish pits will have lain in the space between them, except that no. 5, the most easterly, will have fallen precisely on the calculated line of the inner ditch.

Pit 5 is shown on Knowles' plan as large and rectangular, some 15 ft. by 8 ft., though it is described in the text by Mr. R. H. Forster as 5 ft. in diameter. The lower part of the pit is described as being "filled with black and bitter-smelling sewage, similar to that found in 1906 in the cuttings on the line of the south ditch". Similar "sewage" was found in the inner ditch on the east side of the fort in 1910. It then appears, either that the pit was dug in Roman times into the filling of an earlier inner ditch on the west of the fort, or that it was not a rubbish pit at all, but a soft patch in the filling through which the excavators dug in 1907 until they reached the silt or "sewage" at the bottom of the ditch. Whichever is the explanation, it is clear that the objects from the "pit" are from the silt of the ditch, for they all came from the "sewage" at the bottom. The ditch, whose existence is thus revealed, corresponds without much doubt to the inner ditch on the east; they belong to the same system and are contemporary. On the other hand it is not possible to decide which, if any, of Woolley's sections across the "south ditch" in 1906 cut into a ditch of this system, although "sewage" was found in two of the sections.⁵ The approximate date of the inner ditch on the east and west may be worked out with some confidence. It is certain that the ditch cannot belong to the earliest occupation of the site, for the southern defences of the first fort did not come quite so far south as the site of pit 5.⁶ It is equally certain that the ditch cannot belong to the visible third-century layout; on the other hand it may be related without difficulty to what is known of the planning of the later pre-Hadrianic fort and the Antonine fort. The two eastern ditches, excavated in 1910, were differently filled from each other, and were therefore probably not strictly contemporary. On the other hand it is stated in the report that the Samian ware found in each of the two ditches was similar

⁵ AA³, iii, 164.

⁶ AA⁴, xv, 256.

in character. It is quite clear from the photographs of fragments of decorated Samian ware found in the ditches that both are pre-Hadrianic.⁷ They therefore belong respectively to each of two phases of occupation of the pre-Hadrianic fort; these phases are usually referred to, with deliberate looseness, as Flavian II and Flavian III. There is as yet no means of telling to which of these two periods the inner ditch belongs. The occupation of Flavian III, however, almost certainly ended when forts were built on the actual line of Hadrian's Wall *circa* A.D. 125. The construction and use of the inner western ditch will thus have occurred before that date. The principal object found in the silt of that ditch was the helmet cheek-piece no. 21. It will have been discarded during one or other of the two phases of occupation ending in A.D. 125; it indicates that during one of those phases a cavalry unit was in occupation.

The remainder of the pits, that is all but no. 5, appear to have been correctly diagnosed as rubbish pits. Forster describes them as follows: "The pits, some of which were round and some roughly rectangular, had been sunk in the hard gravel to depths varying from five to thirteen feet below the present surface: they had been covered in with layers of gravel, or (in one case) with large flagstones. Though not very rich they produced a fair amount of pottery and other interesting remains." It is possible that the flagstones were the footings of the west wall of the later west compound, running over pit 5. Forster gives a list of selected contents, which can be supplemented from Professor Haverfield's section on stamped pottery, and from that section of the report that deals with minor finds. In this section the revealing statement is made that the season's work in 1907 "produced a large quantity of pottery, the bulk of which was from the rubbish pits and the upper field". It is clear from this that the pits were rich in ordinary coarse pottery, but that it was not considered to be "of particular interest". It is no longer possible to identify this pottery in the collection. As

⁷ *AA*³, vii, pls. v and vi.

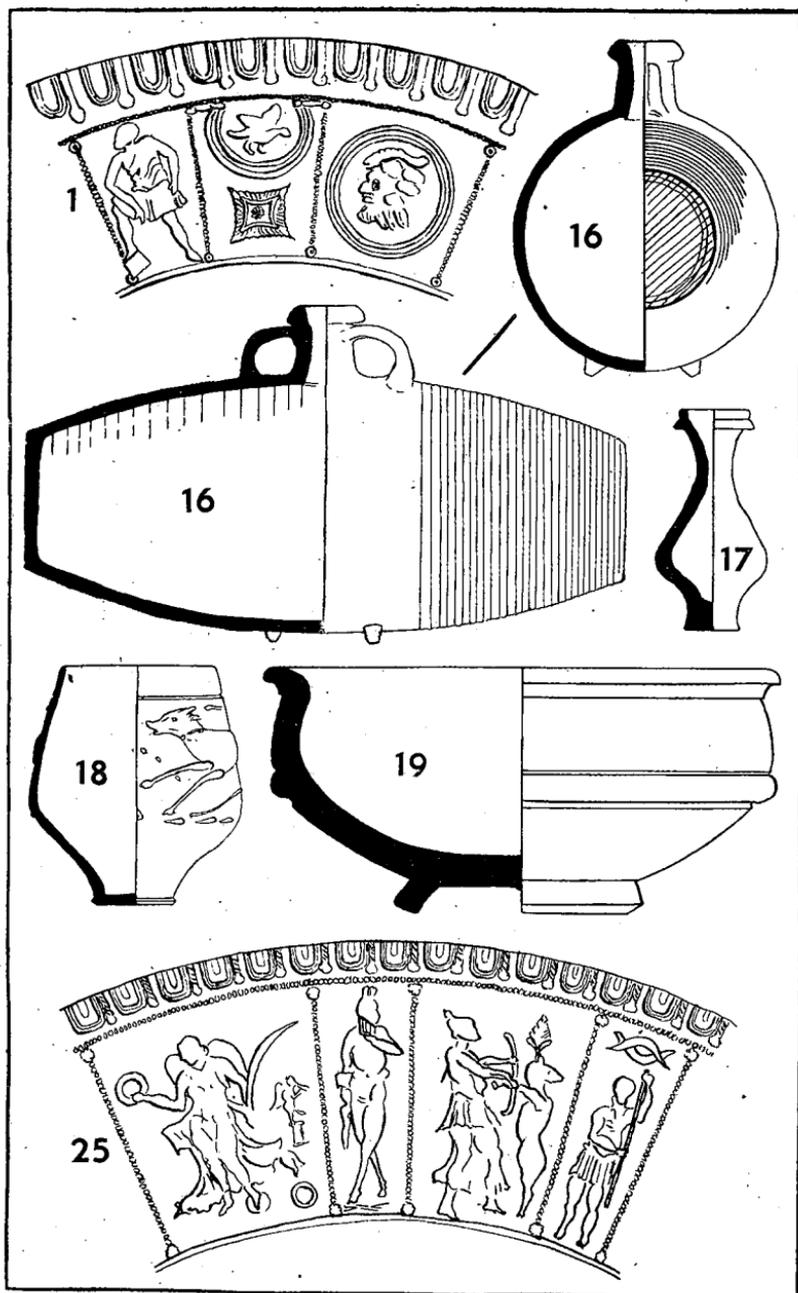


FIG. 4.

POTTERY FROM ANTONINE PITS: 1, 19, 25 (SAMIAN), $\frac{1}{2}$; 16-18, $\frac{1}{4}$.

will appear, the objects from the pits that can be identified are almost exclusively of Antonine date, and presumably therefore so was the bulk of the coarse pottery in them. Excavations within the fort between 1946 and 1951 revealed that the quantity of pottery varied from level to level. It was plentiful in each of the three pre-Antonine levels, A.D. 79-125, and several interesting groups await publication; it was outstandingly abundant in the level of the late second-century destruction, and a selection has been published;⁸ but it was relatively scarce in the occupation levels of the two Antonine periods, A.D. 139-163, and 163-197. The scarcity of pottery and other rubbish in the Antonine levels cross-checks with the presence of pottery of the Antonine period in the pits outside the western rampart of the fort; rubbish was evidently carefully removed from the occupied area and disposed of outside it to south of the main west gate, the *porta principalis dextra*. The contents of the pits are thus brought into relationship with the stratification of the fort, and it may be concluded that everything found in pits, except pit 5, was thrown away between A.D. 139 and 197.

The description which follows of the objects found in the pits is derived in most instances from a re-examination of the objects still identifiable in the collection, with the aid of descriptions and illustrations in the 1907 report. It appears from Mr. Bulmer's index that the stamped plain Samian ware from the pits is not in the collection; it seems to have disappeared even before the 1907 report was written, for Haverfield had to take his readings from Woolley's notes.

Pit 1. This is marked as square on Knowles' plan, but described by Forster as 4 ft. 6 ins. in diameter, and 11 ft. 8 ins. deep. It contained:

1. A Samian-ware bowl of Dragendorff's form 37, 6½ ins. in diameter and 3¼ ins. deep. The bowl has a glossy red glaze; it is almost complete though broken into several pieces, of which one fairly large and two small are missing. Below the ovolo the zone

⁸ AA⁴, xxviii, 177.

of decoration had twelve panels containing three motifs four times repeated (fig. 4). The divisions between the panels, which lean somewhat to the left, are formed by rather coarse bead rows terminating at the bottom every time, and at the top every third time, in a small circle; a similar bead row runs round the vessel immediately below the ovolo, while the lower boundary of the decorated zone is an unbroken line. The figures in the panels are: (a) a male figure, probably Vulcan, in a short tunic, with his head turned to his right and his left foot planted on a square object; the features of the head were worn smooth before the figure was impressed in the mould; *Oswald*⁹ 66 is a similar figure in the same attitude, but has a pair of tongs in the left hand, which the present figure lacks; there is a parallel on a bowl of form 30, *Balmuildy*,¹⁰ pl. XXXII, no. 1, which bears the large advertisement stamp CINNAM[I] retrograde. (b) A festoon or demi-medallion hanging from worn astragali; within this is a small bird flying to the right, *Oswald* 2315. There are parallels to this ensemble on the bowl from *Balmuildy* already referred to, and on a bowl of form 37, *Newstead*,¹¹ pl. XLIV, also with the large stamp CINNAMI retrograde. Below this demi-medallion is a distinctive figure with four concave sides. (c) A medallion formed by a double circle and containing a horned and bearded mask looking to the left, *Oswald* 1214; among the parallels is a fragment, *Newstead*, p. 223, no. 3, on which the end of the same stamp of CINNAMUS appears; this fragment also has part of the Vulcan figure, and similar bead row terminations to those of the present bowl. Unless a large stamp occupied one of the defective panels the vessel carried no stamp or signature. There is however no doubt that it is a product of the workshop of the prolific central-Gaulish potter CINNAMUS, for while each of the major figure types was also used by other central-Gaulish potters, the minor decorative details and the style of composition are all typical of his work. The composition of the present bowl is remarkably close to that of the bowl from *Newstead* already referred to. Plain and decorated vessels stamped by CINNAMUS, and decorated vessels confidently attributable to him, are very common in Roman Scotland and in Antonine deposits elsewhere. The bowl probably belongs to the period A.D. 140-170.

2. Potter's stamp on plain Samian ware; the form of the vessel is not specified in this or in the majority of cases; [P]ECVLIARIS F. There are several such stamps in the museum, in each instance the P is reversed and ligatured with the E; the particular stamp is not among them. Some of the stamp types listed by *Oswald*¹² have an

⁹ Felix Oswald, *Index of Figure-Types on Terra Sigillata*, 1936.

¹⁰ S. N. Miller, *The Roman Fort at Balmuildy*, 1922.

¹¹ James Curle, *A Roman Frontier Post and its People*, 1911.

¹² Felix Oswald, *Index of Potters' Stamps on Terra Sigillata*, 1931.

exclusively east-Gaulish and German distribution, while others have an almost exclusively British and central-Gaulish distribution; it would therefore appear that there were two potters of the same name working in different centres, possibly at different times. The central-Gaulish stamps, PECVLIARIS F and PECVLIAR F are common in Roman Scotland, including Antonine Newstead. This suggests that the potter was an approximate contemporary of CINNAMUS.

3. Potter stamp - - -]NICCIM on form 31. This is probably part of a stamp BELLINICCUS, dated Trajanic-Antonine by Oswald. It is normally found that the stamps of any given central-Gaulish potter appear in deposits on the frontiers datable to late rather than early in the period assigned to him by Oswald; it is therefore better to emphasize the Antonine than the Trajanic element in his dating of this potter.

4. "A great number of fragments of large *amphorae*", found towards the bottom of the pit. It is not possible to identify the particular pieces among the many pieces of globular second-century *amphorae* in the museum.

The dating of the group is internally consistent; it belongs to the earlier part of the Antonine period.

Pit 2. This pit was rectangular in plan, 8 ft. by 11 ft., and 8 ft. 6 ins. deep. It contained the top of a large amphora which it has not been possible to identify with certainty, and:

5. A bronze jug, illustrated on pl. VII. It is described in the 1907 report as follows: "This jug stands ten inches high and is five and a half inches in diameter: the shape is simple but graceful, and the ornamentation is confined to the handle which, where it joins the rim, is divided into three petal-like members, the uppermost being free and slightly curved back, while the others follow the rim. At the base of the handle is a small delicately worked female head with flowing hair." The base, though it has no external moulding, is concave, and this gives the effect of a foot-ring $\frac{1}{2}$ in. deep. The heads of two water birds issue from the petal-like members which grip the rim; the beak, presumably once long and curving as in *Newstead*, fig. 38a, is broken short in either case. A mark on the body of the jug below the face indicates that the handle attachment once tapered to a point, though this piece is now missing. The decorative details of the handle attachments resemble those of the Flavian jug *Newstead*, pl. LVI.

6. Potter's stamp MACRO (O doubtful). It is possible that this

is a stamp of MACRO of Lezoux; his period of activity does not seem to be closely datable.

7. Potter's stamp PRIMANI M. The central-Gaulish potter PRIMANUS (i) is dated Trajanic-Antonine by Oswald.

8. Potter's stamp RVFIANI. The central-Gaulish potter RUFIANUS (i) is dated Hadrianic-Antonine by Oswald.

9. Potter's stamp SEXTI M. The central-Gaulish potter SEXTUS (ii) is dated Trajanic-Antonine by Oswald.

10. Potter's stamp TINI[- - - . This potter cannot be identified with certainty.

The dating of the group of potters' stamps is internally consistent; the Antonine element in Oswald's dating needs to be emphasized. The jug was therefore almost certainly thrown away in the Antonine period, though of course it may have been old by then.

Pit 3. This pit was circular, 4 ft. in diameter and 13 ft. deep. It contained:

11. A small unbroken glass bottle, illustrated on pl. VIII. It is 2½ ins. in height and in maximum diameter. The walls are thick and the base is even thicker. The glass has a distinct indigo tinge, especially noticeable in the thickness at the base. The eyelets are of green glass; one eyelet still retains remains of the bronze ring for the attachment of the handle. The note on the type which follows has been contributed by Mr. William Bulmer.

This vessel, the only complete Roman glass vessel so far found at Corstopitum, is a typical example of the *balsamarium* (*Kisa*¹³ types 130 and 164, and *Morin-Jean*¹⁴ type 38) used to contain the unguents and perfume used during or after bathing. They were carried by a bronze handle or short bronze chain attached by rings to the short thick glass handles, on either side of the neck of the vessel. These handles, or more properly eyelets as they are intended only to hold the rings to which the handle is attached, are the distinguishing features of the type. Many of these eyelets sufficiently resemble conventional dolphins for the name "dolphin flask" to be given to the whole class.

The blown-glass *balsamarium* has a long history beginning very early in the first century A.D., when they were first made in direct imitation of the *aryballos* of terracotta, metal or opaque glass

¹³ A. Kisa, *Das Glas im Altertume*, 1908.

¹⁴ Morin-Jean, *La Verrerie en Gaule sous l'Empire Romain*, 1923.

already used in the eastern Mediterranean for the same purpose. The opaque glass *aryballos* was not blown but was made by the earlier method of marvering glass threads while still plastic around a removable core. These prototypes had already been long in use; opaque glass examples from Egypt have been dated as early as 600 B.C. (Neuberg,¹⁵ figs. 7, 10 and 42). The blown-glass examples almost certainly originated in Egypt, but they were soon in use, and were perhaps being made, in Italy, as examples occur in Pompeii early in the first century, and they are not uncommon in Gaul before the end of that century. Their production in the western Empire continued until the fourth century A.D.

There are, apart from minor varieties, two sharply contrasting types of blown-glass *balsamaria*, both with the characteristic dolphin-shaped eyelet-handles on either side of the short neck with the flat projecting rim. One type is mould-blown, with very thin walls, and is sometimes of elaborate design (e.g. Honey,¹⁶ pl. 5 D); the other type, to which our example belongs, is free-blown with thick walls. This type remained fairly constant in size and design throughout the period of manufacture of the vessels, although there is some variation in the decoration which was occasionally applied to the body of the vessel. This varies from applied threads of glass in the second century (Fremersdorf,¹⁷ Taf. 32) to shallow cutting of geometrical designs in the fourth century (Honey, pl. 9 D).

In spite of its long life the type is not well represented in Britain, apart from Continental examples in the national museums. In addition to the complete example under discussion the necks and eyelets of six other examples are in the museum at Corstopitum, four of the thick-walled and two of the thin-walled variety. The total of seven examples from a single site would appear to be quite exceptional. Individual examples are known from Templebrough,¹⁸ Lincoln, London, Silchester and Richborough, and there were two in the Ospringe cemetery, but many other sites, prolific in Roman glass, have yielded no recorded examples of the type.

12. Potter's stamp D.VICFC (reading dubious). This is possibly a stamp of the central-Gaulish potter DIVICUS, dated by Oswald to the Hadrianic-Antonine period.

13. Fragment of mortarium with stamp in two lines read by Woolley as OSSIIM TMM; the actual piece has been identified and it reads MISSO[RIVS] MART[IVS], retrograde, in two lines. A mortarium stamped by MESSORIUS MARTIUS¹⁹ was among the

¹⁵ F. Neuberg, *Glass in Antiquity*, 1949.

¹⁶ W. B. Honey, *Glass*, 1946.

¹⁷ F. Fremersdorf, *Die Denkmäler des Römischen Köln*, 1928.

¹⁸ Information kindly supplied by Mr. W. V. Wade.

¹⁹ *AA²*, xxvi, 187.

very few vessels found in the occupation level of the barracks of the early-Antonine fort at Corbridge in 1947. The potter is securely datable to the Hadrianic-Antonine period.

14. Amphora handle stamped VIRGIN. Dr. M. H. Callender²⁰ records that stamps of this firm are found in Scotland, and that an example from the Monte Testaccio in Rome is dated to A.D. 149 by a painted inscription. There can therefore be no doubt that the present fragment is of Antonine date.

15. Amphora handle stamped L G M. This is doubtless the stamp L C M which Callender dates A.D. 140-180.

16. "A curious barrel-shaped vessel" in self-coloured, dead-white fabric. Though it is broken into several pieces, and some four inches are missing from one end, enough remains for the complete vessel to be restored. It was originally 12 ins. long, has a maximum diameter of 5 ins., and will have held about half a gallon. It stood on four nipple-like legs at the widest part. The surviving end is flat and decorated only by a single groove round the edge. Except for the central third the body is decorated with a spiral groove; wheel marks are visible inside. A simple fagon neck with a pair of single-grooved handles rises from the middle of the body immediately above the legs (fig. 4).

Until quite recent times travellers and agricultural workers carried a supply of wine, beer or water in a vessel attached to their belts, in the way that John Gilpin is described by Cowper as carrying two stone-ware flasks at his belt. Sometimes, instead of flasks, small wooden casks were carried. Such vessels, whether flasks or casks, were known as costrels because they were carried at the side. Less than a century ago Wiltshire reapers and mowers "could lie on their backs and never take the wooden bottle (in the shape of a small barrel) from their lips until they had drunk a gallon".²¹ A cask carried at the waist appears on a Renaissance Italian painting; the body is bound with wire towards the ends. Similar vessels evidently existed in antiquity, for the present vessel is clearly a pseudomorph. The grooved edges of the ends represent the cask rim, while the spiral grooves on the body represent the wire binding. Cask-shaped vessels with similar pseudomorph binding but with a vertical axis are also known, cf. *Richborough*²² 123.

*Canterbury*²³ 64 is the only other fairly complete Romano-British example of which I am aware. It was found on a kiln site, though

²⁰ *AA*⁴, xxvii, 60-121, s.vv.

²¹ Victor Bonham-Carter, *The English Village*, 1952, p. 78, quoting a letter written to *The Times* in 1872.

²² J. P. Bushe-Fox, *Second Report on the Excavation of the Roman Fort at Richborough, Kent, Res. Rpt. Soc. Ant. Lond.*, vii, 1928.

²³ *Archæologia Cantiana*, liii, (?).

there was no indication that it was made there. It was associated with vessels of other types belonging mainly to the second century. Though it is slightly smaller, it is identical in form and fabric with the Corbridge example; it is roughly decorated with strokes and circles in sepia paint; there is no such decoration on the Corbridge example. In spite of the fact that Continental parallels to the class, but not to the precise type, which were collected by Mr. M. R. Hull, might have suggested an early fourth-century date, Mr. Graham Webster concluded in the Canterbury report that the particular type belonged to the second century. In the light of parallels this conclusion may be readily accepted. *Mumrills*,²⁴ fig. 105, no. 8, is a fragment showing part of the grooved surface and part of the plain surface with one of the little legs; it was found at the second of three levels in the western Antonine ditch. A grooved fragment was found at the kiln site at South Carlton,²⁵ near Lincoln, which was active in the Antonine period; Webster notes that there are unpublished fragments of the type in the Hunterian Museum that have been found at Balmuildy.

17. A small flask, quite intact (fig. 4), in white self-coloured fabric. The bulge of this flask is lower than that of the late-Antonine example *Corbridge* 1947,²⁶ no. 93, and it is more like that of the Flavian example *Newstead*, type 27. If this is significant the flask must be regarded as pre-Hadrianic rather than Antonine.

18. A Castor-ware cup, 5 ins. high and 3 ins. in diameter at the top, in chalky white fabric with dark brown coating. The cup is not illustrated, and is only vaguely described in the 1907 report, but was nevertheless identifiable, for it has a small label on the base with the words "Rubbish pit no. 3". A complete section is preserved, though only half of the vessel survives above the bulge (fig. 4). The lip is plain though there is a lightly scored line just over half an inch below it. As preserved, the decoration, which is in barbotine, consists of a dog in close pursuit of an animal whose hind legs only appear; behind the dog appears the forepart of a hare; the space below the dog is filled by a leaf with a long curving stalk; a row of pear-shaped pellets runs along the bulge, and similar ones fill vacant spaces above and between the animals. The decoration is technically excellent; the artist was the complete master of his special medium and has produced not merely a lively and flowing composition, but at the same time conveyed the impression of a dog in action without laboured naturalism. The effect is enhanced by the colour coating's not having taken so well on the sharper ridges and points, with the

²⁴ Proc. Soc. Ant. Scot., lxiii, 396.

²⁵ Antiq. Journ., xxiv, 129.

²⁶ *AA*⁴, xxviii, 177.

result that the dog's legs, ears, collar and, above all, his eye, formed by a single spot of slip, stand out yellow against the dark surface. The decoration is typical of the best and earliest hunting-scene beakers.

Decorated Castor ware is not found at Corbridge in levels earlier than that of the second Antonine occupation, A.D. 163-197, in which several fragments have been found. Miss Kathleen Kenyon²⁷ dates the general emergence of Castor ware to A.D. 170; there can be no doubt that this is approximately correct, and that the present vessel is to be dated *circa* A.D. 170-200.

Most of the objects from this, the richest, pit are certainly of Antonine date, and none are of later date; the flask, no. 17, might be earlier, but if so it is a survival and there can be no doubt that the pit was filled in the Antonine period.

Pit 4. This was circular, 6 ft. in diameter and 13 ft. deep; it contained:

19. An undecorated Samian-ware bowl of Dragendorff's form 44, 5½ ins. in diameter and 2½ ins. deep (fig. 4). It has a glossy orange glaze; it was found complete, though cleanly broken into four pieces. It carries no potter's stamp. The closest published parallel from a dated level in northern Britain is *Newstead*, type 20, found in an Antonine ditch. *Poltross Burn*,²⁸ pl. III, no. 8, is a coarse-ware imitation of the form; it comes from the later second-century level of the milecastle.

20. Potter's stamp AIVINVS on form 33; the A is unbarred and the IVI blurred. This is possibly ALBINUS (ii), a central-Gaulish potter dated by Oswald to the Trajanic-Antonine period.

These can hardly be called a group, especially as there is an element of doubt about one of them; yet so far as it goes the evidence points to an Antonine date.

Pit 5. The "sewage" at the bottom of this pit, which has been interpreted above as the silt of a pre-Hadrianic ditch, contained:

21. The left cheek-piece from a helmet, illustrated on pl. VIII.

²⁷ Kathleen M. Kenyon, *Excavations at the Jewry Wall Site, Leicester*, Res. Rpt. Soc. Ant. Lond., xv, 1948.

²⁸ *CW*², xi, 390.

This interesting object is about 6 ins. long; it is made from a single sheet of copper with repoussé ornamentation now somewhat damaged and flattened. In the rear upper portion is a representation of a full-sized human ear, so placed that it would closely correspond with the ear of the wearer; a bead row forms a line of demarcation between the ear and the cheek-piece proper. The principal element in the ornamentation is a full-face female bust in high relief; the design is bold and naturalistic with full curves; it is in a purely classical tradition. The bust is apparently naked and adorned with a pendant. This would indicate that the figure is a goddess, presumably Venus, in which case she was probably paired with Mars on the opposite cheek-piece. The minor elements in the ornamentation are difficult to detect, though there seems to be a row of pellets half an inch from the rear edge. Closely spaced small holes run along the rear and front edges, but not along the top and bottom; these may either be the damaged remains of a bead row or stitch holes for attaching a lining. A straight edge along the top will have held the hinge, of which nothing now remains, for attachment to the helmet; the straight edge along the bottom probably held a short attachment passing below the chin to join the corresponding right cheek-piece.

22. "Fragments of wood, coated with vivianite." Fragments of wood, some of which resemble tent pegs, retaining bright blue traces of vivianite, are preserved in the museum; these however were found in the inner ditch on the east in 1910;²⁹ the pieces from pit 5, interpreted here as part of the inner ditch on the west, cannot now be identified.

23. "Some pieces of leather." These cannot now be identified. Pieces of leather were also found in the inner ditch on the east in 1910. The leather, like the wood, probably came from tents.

While no datable object was found in association with the cheek-piece, the fact that remains of tents were found both in pit 5 and in the inner ditch on the east, tends to confirm the inference that both were part of the same ditch system. Both were open at a time when tents were being discarded; both were filled with similar material which has preserved organic remains.

Pit 6. This appears on Knowles' plan as circular and 5 ft. in diameter. The only recorded object is:

24. Potter's stamp CRA[- - - . Of the five potters in Oswald's

²⁹ AA³, vii, 167.

Index with names beginning with CRA the one most commonly represented in Britain is CRACUNA, a central-Gaulish potter of the Antonine period.

Pit 7. This pit was circular in plan, 4 ft. in diameter and 6 ft. deep. It contained:

25. A Samian-ware bowl of Dragendorff's form 37, 9 ins. in diameter and 5 ins. deep (fig. 4). It has a deep red glaze; rather more than half of it remains, broken into several pieces. Below the ovolo the zone of decoration originally consisted of sixteen alternating broad and narrow panels, containing four different motifs four times repeated. The divisions between the panels are formed by fine bead rows terminating in small rosettes; a similar bead row runs round the vessel immediately below the ovolo, while the lower boundary of the decorated zone is an unbroken line. The figures in the panels are: (a) a winged Victory, facing front, head turned to her right, holding a palm branch in her left hand and a wreath in her right, *Oswald* 809; the space to our right of the figure is occupied by a small pipe-playing *amorino* dancing precariously on an altar, and by a small circle. (b) A cross-legged figure of Pan, *Oswald* 709 A; the mask on which he usually stands has been omitted. (c) Diana and the hind, *Oswald* 106; a leaf pattern appears above the ear of the hind. (d) A kilted male figure holding a spear or a staff, *Oswald* 159 A; the figure is smaller than the Pan and the space above the head has been filled by a simple knot design. The surviving portion of the bowl carries no stamp or signature. The ovolo, which is normally exclusive to a single potter, and thus equivalent to a signature, is identical with that on a fragment in the Corbridge collection with the large stamp ADVOCISI; the minor decorative details used as space-fillers also appear on fragments similarly stamped. While the major figure-types were used by more than one central-Gaulish potter, there can be little doubt that the bowl is the work of the central-Gaulish potter ADVOCISUS. ADVOCISUS worked in the Antonine period; his *floruit* probably fell a little later than that of CINNAMUS.

26. Potter's stamp REL[- - -]. No potter whose name begins REL is recorded in Oswald's Index, and so many names begin RE that it would be idle to guess at an identification.

The only datable object from the pit belongs to the Antonine period.

Conclusions.

Pits 1 to 4 and pits 6 and 7 lie outside the limits of the

Antonine fort, not very far south of the main west gate. Their datable contents are all either of the Antonine period, or are clear survivals from a slightly earlier period. The tidiness of the Antonine occupation is reflected in the richness of the contents of these pits. As the pits are of Antonine date all the objects found in them were thrown away in the Antonine period, though they were not necessarily all new at the time. This throws light on the date of the bronze jug, and on the particular type of glass *balsarium*; it also confirms Webster's dating of the particular type of costrel.

Pit 5 appears to have been dug in the filling of the inner western ditch of one of the later pre-Hadrianic forts; a point on the line of this ditch is thus established for the first time. As the helmet cheek-piece was found in the silt of this ditch it is thus dated to the period before A.D. 125, and adds to the not very large number of helmet cheek-pieces dated by their context. Professor J. M. C. Toynbee has kindly informed me by letter that she considers the Corbridge example to be probably a real independent cheek-piece, as opposed to a false one worked in relief on the side of a visor mask covering the whole face, and that while the known dated false cheek-pieces belong to the early first century A.D., the known dated independent decorated cheek-pieces belong to the period *circa* A.D. 125-200. If our identification and dating of the ditch is correct, then the Corbridge cheek-piece will be the earliest example of its type yet dated by its context.