

## MANCHESTER UNIVERSITY EXCAVATIONS AT BROUGH-ON-NOE (NAVIO) 1969

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THE fifth season of work by Manchester University at the small two-acre fort on which Roman control of the Peak District was based<sup>1</sup> was devoted to three separate structural problems. Our first aim, continuing the programme of previous seasons, was to recover more of the plan of the presumed *praetorium* of period I north of the *via principalis*; our second was to establish the nature of the building or buildings south of the *via principalis* on the eastern flank of the later *principia*; and our third was to clarify some of the details of the late causeway cutting through the defences south of the main south-east gate.

In the light of this year's work no major revision is required of the chronology of the successive building-phases in the fort as they have been set out in previous interim reports in this series. But we can now see that period IIB represents (for the main buildings of the fort at least) no mere modification of period IIA, but a complete reconstruction in stone. To avoid confusion, however, the original scheme of three periods has been retained below. They are:

Period I, an initial Flavian timber phase lasting until c. A.D. 120;

Period IIA, reoccupation c. A.D. 154-158 under Iulius Verus<sup>2</sup> when the barracks and granaries, and presumably the *principia* and *praetorium*, were rebuilt in timber and the orientation of the fort changed;

Period IIB, Severan rebuilding in stone of at least the granaries and *principia*, coupled with remodelling of the timber barracks;

Period III, early 4th-century reconstruction of the period II barracks as half-timbered stone structures with rearrangement and rebuilding of the granaries and *praetorium*. The end of the Roman occupation of the site appears to come shortly after A.D. 350.<sup>3</sup>

The results of the 1969 excavations in the three different areas of the fort are summarized below. In all cases the trenches were completely stripped to the natural shale subsoil.

### *Excavation in the south-west corner of the later praetentura*

#### *Period I*

The trenches opened since 1966 north of the *via principalis* in the south-

<sup>1</sup> J. Garstang, *D.A.J.*, XXVI (1904), 177-204; cf. F. Haverfield, *V.C.H. Derbyshire*, I, 207 with a bibliography of earlier accounts of the site. I. A. Richmond, *D.A.J.*, LIX (1938), 53-65; cf. *J.R.S.* XXIX, 1939, 206; XXX, 1940, 168 (the full account of the 1939 excavations by I. A. Richmond and J. P. Gillam is unpublished). For the 1958-59 excavations: *J.R.S.* XLIX, 1959, 108; *L*, 1960, 216. For the Manchester University programme: *D.A.J.*, LXXXV (1965), 123-6; LXXXVI (1966), 99-101; LXXXVII (1967), 154-8; LXXXVIII (1968), 89 ff.

<sup>2</sup> *R.I.B.* 283; see now *Epigraphische Studien* 4, 1967, 72.

<sup>3</sup> *D.A.J.*, LXXXVIII (1968), 94 ff.

west angle of the later *praetentura* revealed the south-west corner of a large and complex building, at least 75 ft. north-south and 50 ft. east-west. Its construction-trenches (c. 12-15 in. wide) had been cut into the natural shale and filled with grey clay containing some fragments of burnt daub and charcoal. The building was tentatively identified in 1967 as the Flavian (-Trajanic ?) *praetorium*, and the discovery of the period I granaries in 1968 in a corresponding position in the south-east angle of the later *praetentura* tends to confirm this suggestion. The period I fort, accordingly, faced south-west in contrast to the later forts which were north-east facing.

A 20 ft. square put down immediately south and east of the trenches of 1967 revealed further rooms in the east-west wing of the *praetorium*. The building can now be seen to measure over 70 ft. east-west. Its limits have not yet been established, nor have its outer walls been located with certainty; but if the slots for a period I timber building found in 1967 under the later *via praetoria* are part of the Flavian (-Trajanic ?), *principia*, then the *praetorium* is unlikely to be much more than 75 ft. square.

### Period II

The yellow clay layer which seals the construction-slots for the period I buildings over much of the site was here very thin. In it were visible the characteristically massive post-pits for the period II timber barracks, laid out by the Coh. I Aquitanorum c. A.D. 154-8. In places it was possible to follow the line of the pebbly filling of the post-trenches which linked the post-pits.

The post-pits measured as much as 18 in. in diameter and 1 ft. deep. The posts were held in position by heavy stones, some of which were apparently re-used building stones. A quantity of hypocaust tile and fragments of *tubuli* were found in the post-pits and are more likely to have been a part of the original filling than material dumped to fill the holes when the posts were withdrawn by the period III builders. A number of sherds of Derbyshire ware were recovered from the post-pits.

It is evident from the plan of the post-pits in this trench that there were two building-phases in period II. A number of post-pits clearly designed for the major structural supports of the building are set closely together in pairs and would not make sense if they were contemporary. This scheme corresponds closely to what was learned of periods IIA and IIB in previous seasons.<sup>4</sup> In the absence of associated floor-levels and datable pottery, the relative dating of these two post-systems within period II is obscure and is dependent on evidence from the 1966 excavations.

In the eastern part of the square opened in 1969 there were traces of the pebble surface of the alleyway which separated the two barracks on

<sup>4</sup> D.A.J., LXXXVII (1967), 157.

the western side of the *via praetoria* in period III and perhaps period II also.

The position of the *via principalis* vis-à-vis the south-west end of the period II barracks was established by means of a mechanically cut trench pulled back from the south-west edge of the hand-dug square.

### *Period III*

Richmond and Gillam in their pre-war excavations noted how badly the upper levels of the fort had been robbed or disturbed by the plough. Only at the north-east end of the barracks in the western half of the *praetentura* has much stonework of period II survived *in situ*.<sup>5</sup> Further up the hill nearer the *via principalis* we found in 1969 virtually nothing of the south-west end of these barracks. Only a few patches of clay from the robbed-out footings marked the possible line of the back of period III barrack or stable along the edge of the period III alleyway mentioned above.

### *Excavation in the south-east corner of the later retentura*

In 1903 Garstang uncovered the famous stone *principia* of the fort with its underground strong-room and next to it on its south-east side remains of what he interpreted as a rectangular building measuring about 62 ft. by 65 ft.<sup>6</sup> Richmond claimed this, justifiably, as the commandant's house.<sup>7</sup> In view of the number of excavations, published and unpublished, which have taken place in the past 60 years in the vicinity of the main buildings of the fort, we felt in previous years that the barrack area, being almost untouched, might yield more information, particularly about the period I occupation. But in 1969 a trench 6 ft. wide was cut east-west from the *intervallum* to the east wall of the *principia* across the presumed *praetorium*.

### *Period I*

The later builders had removed all recognizable traces of the Flavian (-Trajanic ?) construction-slots.

### *Period IIA (fig. 1)*

Two rows of post-pits running SE.-NW. down the trench could be assigned on the basis of the pottery, their general character and their stratigraphic relationship to the overlying stone buildings to period IIA. The rubble-filled pits were 18 in. in diameter, spaced at intervals of 4 ft., centre to centre, down the row. The rows were also about 4 ft. apart. The post-pits furthest east and west had been removed by the later stone walls, but the overall length of the rows (east-west) was about 56 ft. In

<sup>5</sup> D.A.J., LXXXVIII (1968), 89 ff.

<sup>6</sup> D.A.J., XXVI (1904), 177 ff.

<sup>7</sup> Unpublished typescript.

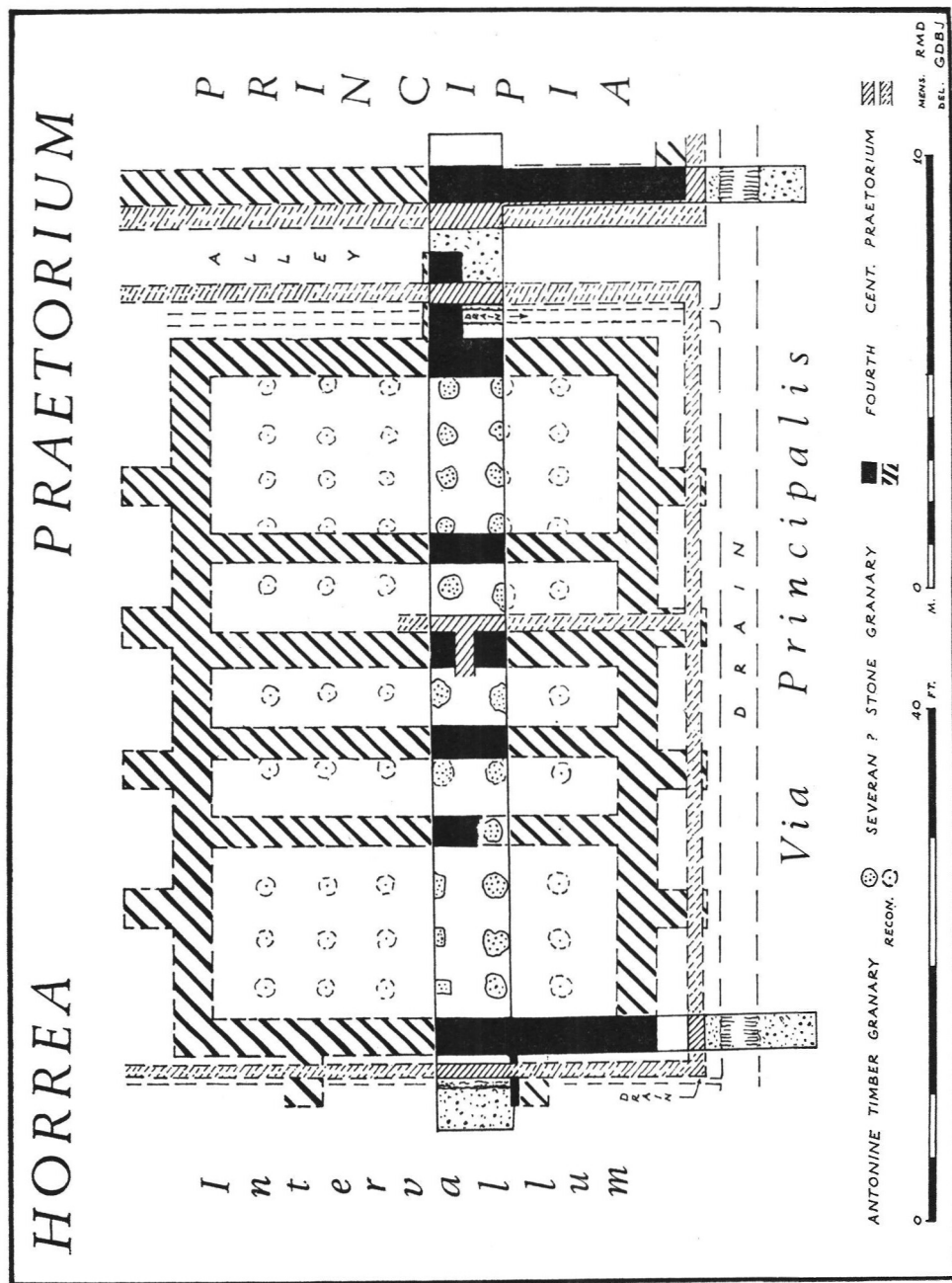


FIG. 1. Reconstructed plan of the Antonine and Severan granaries and later praetorium. The width of the granary is calculated from the position of the supports for the loading platform but the buttresses of the long sides are spaced conjecturally.



place of the two post-pits nearest to the *intervallum* in the south-west row two large squared stone blocks (c. 1 ft. 6 in. wide by 2 ft. high) were set up (pl. Ib). An open gutter made of stone slabs bounded the *intervallum* road on its north-west side and a row of upright slabs prevented the rainwater which drained from the road-surface from coming into contact with the wooden posts of the building. Remarkably little pottery was found in this area, and no distinct floor levels could be assigned to this building-phase.

There can be little doubt that the posts supported the ventilated floor of a granary, and not the *praetorium* at all. Close-set construction-slots containing posts for a similar purpose are now well known from Claudian sites in Britain.<sup>8</sup> But another Claudian site, the fort at Hod Hill,<sup>9</sup> contained a granary constructed on rows of posts in individual pits. Antonine timber granaries built on these lines may also be more common than has been suspected. At the Antonine Wall fort of Old Kilpatrick Sir George Macdonald identified as a barn what is almost certainly a wooden granary c. 90 ft. long by c. 25 ft. wide supported on posts.<sup>10</sup>

The stone block at the east end of the granary on the *intervallum* road may well have supported the loading-platform (pl. Ib). The building appears to run on a NW.-SE. axis; two granaries therefore measuring c. 56 ft. by c. 25 ft. would fit into the area which Garstang assigned to his rectangular building.

A small amount of burnt daub under the lowest surface of the alleyway between the period IIB granary and the stone *principia* may have resulted from the orderly demolition of the Antonine wooden granaries. No other burnt material was encountered.

The quantity of broken fragments of stone roof-tiles and the almost complete absence of the standard terracotta tiles suggest that the Antonine granaries, like the period III barracks and stables, were roofed with the local stone which splits easily.

### *Period IIB*

The timber granaries of period IIA were replaced in stone in period IIB. There is no direct evidence for the date of this operation, but on the analogy of the barrack reconstruction established by work in previous years,<sup>11</sup> it probably took place under Severus. The underground strong-room in the *principia* was thought by Richmond to be an early 3rd-century insertion; the building inscription of Iulius Verus had been re-used in its structure.

The outer walls of the period IIB granaries located at the east and west ends of the trench were 3 ft. thick and built of ashlar masonry with a mortared pitched-stone core (pl. Ia). All except the lowest courses of

<sup>8</sup> For the Richborough granaries: J. P. Bushe-Fox, *Richborough* IV, 1949, 26 ff.

<sup>9</sup> I. A. Richmond, J. W. Brailsford, *Hod Hill* II, 1968, 84, fig. 46A.

<sup>10</sup> *The Roman Wall in Scotland*<sup>3</sup>, 1934, 339, fig. 50.

<sup>11</sup> *D.A.J.*, LXXXVIII (1967), 157.

the west wall had been robbed. A massive buttress projecting 7 ft. from the wall supported the west end of the building; another, slightly smaller, supported the east end adjacent to the *intervallum*. The drain of period IIA alongside the road may still have functioned in period IIB; for a drain passed under the long buttress at the west end of the granary and was incorporated into its structure.

The long axis of the granary appears to be NW.-SE. orientated parallel to the *via principalis*. This might account for the size of the large buttress, which thus supported a gable end. Overall dimensions are 70 ft. by perhaps 30 ft.<sup>12</sup>

The internal walls supporting the granary floor were also heavily robbed. They appear to have been c. 2 ft. thick with intervals of c. 4 ft. between them. They were parallel to the main east and west walls; therefore they presumably ran across the short axis of the building. There was a slight hint that they were constructed in short discontinuous lengths.

At the end of period IIB the Severan granary was carefully demolished and the stone re-used by the period III builders.

The construction-trench for the robbed east wall of the *principia* was located at the west end of the trench. Its dimensions were the same as those of the period IIB granary wall. The possibility must therefore be seriously considered that the headquarters building was also rebuilt in stone in the Severan period. Between the granary and the *principia* was a gravelled alleyway.

### *Period III*

In the final building-phase the solidly-built period IIB granary was demolished to make way for a much flimsier edifice. The narrow robber trenches and some masonry belonging to the main east and west walls were located to the east and west respectively of the period IIB walls. A single NE.-SW. partition wall was found midway between the outer walls. The building was probably no longer a granary and may now have been the *praetorium*. Remains of what may have been the period III granary were found in 1903 on the other side of the *principia*.

A considerable scatter of clay across the beaten-earth floor of the *praetorium* (?) suggests that the superstructure was wattle and daub founded on stone sill-walls similar to those of the contemporary stables in the north-west corner of the *praetentura*.

The *principia* appears to have undergone a similar transformation at this time. The alleyway between the two buildings was resurfaced.

### *Excavation of the late causeway*

In 1958 and 1959 Mr. J. E. Bartlett excavated what he took to be a late causeway leading out of the fort about 20 ft. SW. of the presumed site of the main south-east gate.<sup>13</sup> He revealed a substantial wall running

<sup>12</sup> A buttressed building excavated somewhere in this area in 1958 may be the other granary of a pair: *J.R.S.* XLIX, 1959, 108. It has not yet been published.

<sup>13</sup> *J.R.S.* XLIX, 1959, 108; *L.* 1960, 216, pl. XXI, 1.

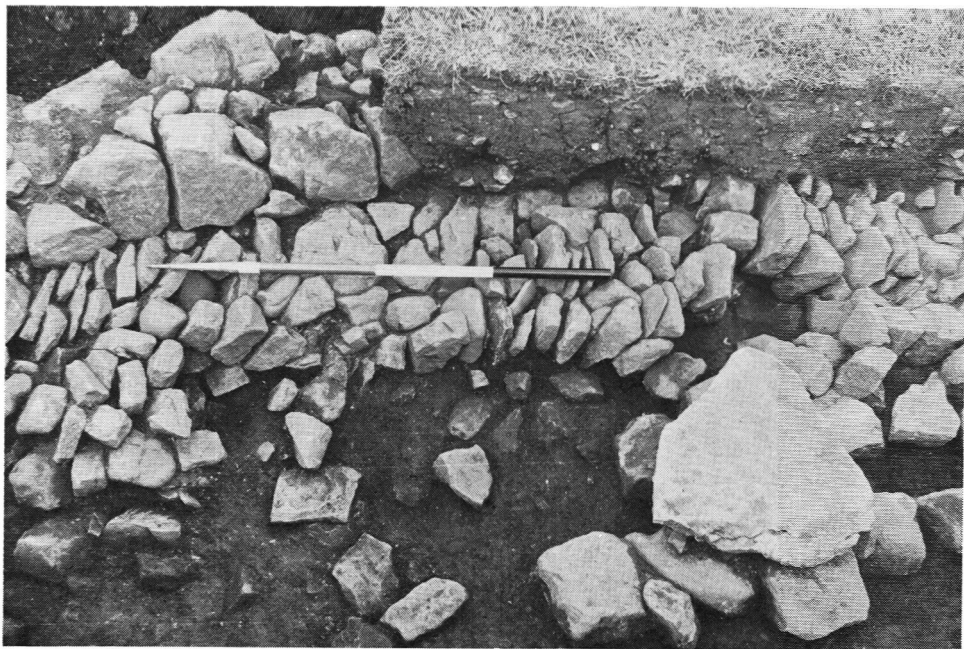


a. Inner face of the west wall of the period IIb (Severan) granary.



b. Stone supports for a platform at the east end of the period IIIa (Antonine) granary.

BROUGH



a. Pitched stone surface of the 4th-century causeway passing through the eastern defences.  
Note the central drain and retaining wall.



b. Heavy stone ball from the inner ditch of the fort.



SW.-NE. along the inner lip of the innermost defensive ditch and believed it to be part of a structure in the *vicus*. Since the presence or absence of a *vicus* or annexe is vital to the question of the fort garrison, it was decided to test this by a further trench outside the defences, extending the line followed by the trench across the granaries.

### *Period II*

It should be stated at this point that the stone defensive wall of period II which has always been assumed to be Antonine (period IIA) may in fact be Severan (period IIB). Re-examination of a section cut across the north-west defences in 1965 suggests that the stone wall may have been inserted into the Antonine clay rampart.

As expected, three ditches were encountered in our section of 1969. The innermost V-shaped ditch, c. 14 ft. across and 6 ft. deep, was filled in its lower levels with unburnt clay and heavy charcoal, probably the demolition layer of the period IIA timber buildings. Its upper levels contained very heavy fallen stonework, including two coping-stones. This can only have come from the period IIB fort wall or from the collapsed period IIB south-east gate. The middle ditch, also V-shaped, measured 12 ft. across and 5 ft. deep. It showed the same sequence of layers. The outer ditch, 25 ft. further SE., was only 5 ft. across and 2 ft. 6 in. deep. It had a homogeneous filling of dark clay. The inner ditch produced a piece of Derbyshire ware from the period IIA demolition layer.

### *Period III*

By the early 4th century the two inner ditches, and probably the outer ditch too, had been filled in. A pebble surface was laid across them, but over the innermost ditch, it took the form of a pitched stone causeway. In 1959 a coin of Constantine I was founded sealed beneath it. The causeway carried incoming traffic through a gap cut through the Severan (?) fort-wall. It then turned through 90° and continued south-west between the Antonine clay rampart (cut back here) and the rear of the fort wall. This in brief is the composite picture given by the 1958, 1959 and 1969 excavations. The causeway is intelligible if one recalls that the 4th-century unit at Brough was part-mounted as the stable found in 1968 indicates. A narrow side-gate, allied to a double bend, would not be so inconvenient for horsemen.

Work in 1969 showed that the causeway was carefully built of pitched stone with a short central drain capped with limestone slabs (pl. IIa). It was not more than 7 ft. wide. The Antonine clay rampart was retained by a roughly built revetment wall and another revetment ran along the north-east side of the causeway apparently holding back the mass of stone-work piled in and on the innermost ditch. Causeway, drain and revetment were structurally interlocked and contemporary.

The wall assumed in 1959 to be part of a structure in the *vicus* can

be shown by reference to the defence section cut in 1965 to be the Severan (?) (period IIB) fort wall. No further dating evidence for the causeway was found; but if the coin of Constantine mentioned above was firmly sealed, then one cannot disregard the possibility that not only the causeway, but other features inside the fort belonging to the final phase of occupation may be Constantinian. On present evidence it would be hard to combat the thesis that the Severan stone buildings were retained by Constantius and that the period III alterations were connected with a rethinking of strategy consequent on Constantine's army reforms.

### *Finds*

Finds in 1969 were disappointing. A coin of Magnentius (A.D. 350-353) from above the collapsed stonework of the period III *praetorium* is the latest known coin from the site and useful confirmation of the indication given by the pottery that the occupation ended shortly after A.D. 350. A fragmentary stamp on a hypocaust tile reading ] E / found in a period II post-pit is enigmatic. If it is debris from the period I bathhouse, it may refer to a unit stationed at Brough in the Flavian period. An immense stone ball, 17 in. in diameter, found among the debris of period IIB in the inner ditch, may have been once stored on the parapet walk above the gate to be dropped on the battering-rams of attackers (pl. IIB).

The major outstanding problems at Brough may or may not be soluble now by further excavation. A general stock-taking, based on the results of all previous excavations, is called for. Publication of Richmond's work in the late thirties is a major desideratum, but almost equally vital is the publication of the subsequent small-scale excavations under a number of directors prior to the commencement of the Manchester University programme.

Among the problems still not settled are:

1. Complete plans of the period I *praetorium*, *principia* and defences.
2. Direct evidence for the date of the period IIB stone fort-wall, now thought to be Severan.
3. Re-examination where possible of the later *principia*, and the building on its north-west side.
4. Direct evidence of the date at which period III began.

<sup>14</sup> The excavators express their thanks to G. & T. Earle Ltd. for permission to excavate. Thanks are again due to Mr. R. W. P. Cockerton, F.S.A., who kindly lent us photographs of the 1959 excavations, and to Mr. and Mrs. J. Eyre and family for their interest and practical help, and to all the Manchester University students who took part in the work.