

Excavations on the Antonine Wall fort of Rough Castle, Stirlingshire, 1957–61

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SUMMARY

The N and W ramparts of the fort and part of the *praetentura* were examined in 1957–61. The ‘additional margins’ of the W rampart were shown to be an *ascensus* on the inside by the W gate and an accumulation of three successive road surfaces interleaved with rampart tumble on the outside. The earliest structures in the *praetentura* appeared to be temporary and were followed by two timber buildings, presumably barrack-blocks. All evidence for putative Antonine II buildings had been removed by the 1903 excavators but evidence survived to suggest the presence of lean-to buildings against the inside faces of the W and N ramparts. The occupation of the site continued into the early 160s.

INTRODUCTION

The ‘entireness and magnificence’ of Rough Castle (NS 843798) was remarked by Alexander Gordon (1726, 59). The fort is noticed in most of the antiquarian writings of the 18th and 19th centuries which deal with Roman Scotland: Sir John Sibbald (1707, 30), John Horsley (1732, 173), William Roy (1793, 61) William Nimmo, (1777, 8), Robert Stuart (1852, 334). Gordon, Horsley, Roy provide plans; Roy’s as usual the best, Horsley’s the worst. The rampart was sectioned by the Glasgow Archaeological Society in 1890/93 (GAS 1893). Fort and annexe were excavated by the Society of Antiquaries of Scotland in 1903 (Buchanan 1905, 442–99), the last of the Romano-Scottish operations which the Society began in 1895: Birrens, Ardoch, Birrenswark, Camelon, the Gask Ridge, Inchtuthil, Lyne, Castlecary. Sir George Macdonald carried out a limited excavation in 1932 (Macdonald 1933, 243/96). The results of both excavations were used by Sir George in his account of Rough Castle in the 1934 edition of the *Roman Wall in Scotland* (Macdonald 1934, 217–38). Recent accounts are those by Professor Anne Robertson (1979, 53–6) and the entry in the *Stirlingshire Inventory of the Royal Commission on the Ancient and Historical Monuments of Scotland* (1963); modifications to them as a result of the excavation and survey of 1957–61 are suggested below (pp 233–42).

The earthworks of Rough Castle are still the best-preserved among the Antonine Wall forts and they lie on the longest surviving stretch of good rampart and ditch, some 2850 m (3,100 yd) from Lime Road (NS 857798) through the Tentfield Plantation to Bonnyside House (NS 834799). The fort, and the rampart and ditch westward from it to Bonnyside House (included

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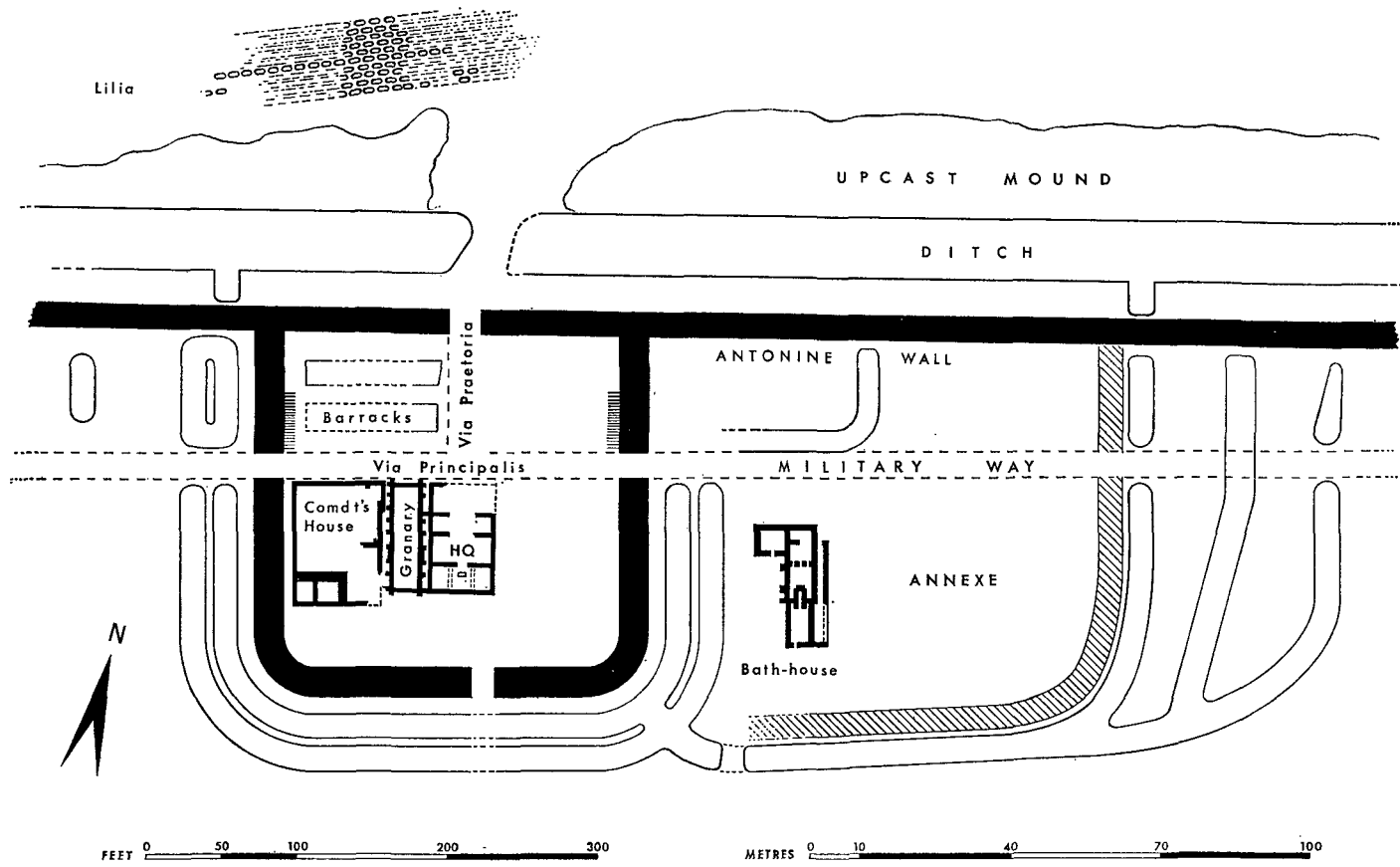


FIG 1 Rough Castle fort and annexe

within a generous surrounding area), made up one of those lengths of the Wall given in guardianship to the Minister of Works by the National Trust for Scotland in 1953. The adequate display of these lengths was a long-term task; as with most field monuments, the greatest end of preservation was assured simply by guardianship. The fort, however, needed separate attention to put it even provisionally in order. The excavations carried out in 1903 had been immediately back-filled over most of the fort interior, but were left open over the defences, the pits or *lilia* to the N, the commanding officer's house inside the fort, and the bathhouse inside the annexe. Half a century later the scarred monument was part covered by dense bracken, part by a vigorous growth of oak and birch.

In 1956 it was decided that, while clearing the bracken and thinning the trees over the fort, most of the old excavations should be infilled. Among the most unsightly and confusing of the latter, the W rampart section as cut back for photography in 1903 offered a rare opportunity for re-excitation. A trial excavation in 1957 redefined this rampart section and opened a small area in the *praetentura* to see if there were any traces of timber buildings. The first operation was profitable, the second promising: in 1958-61 further areas of the *praetentura* were stripped.

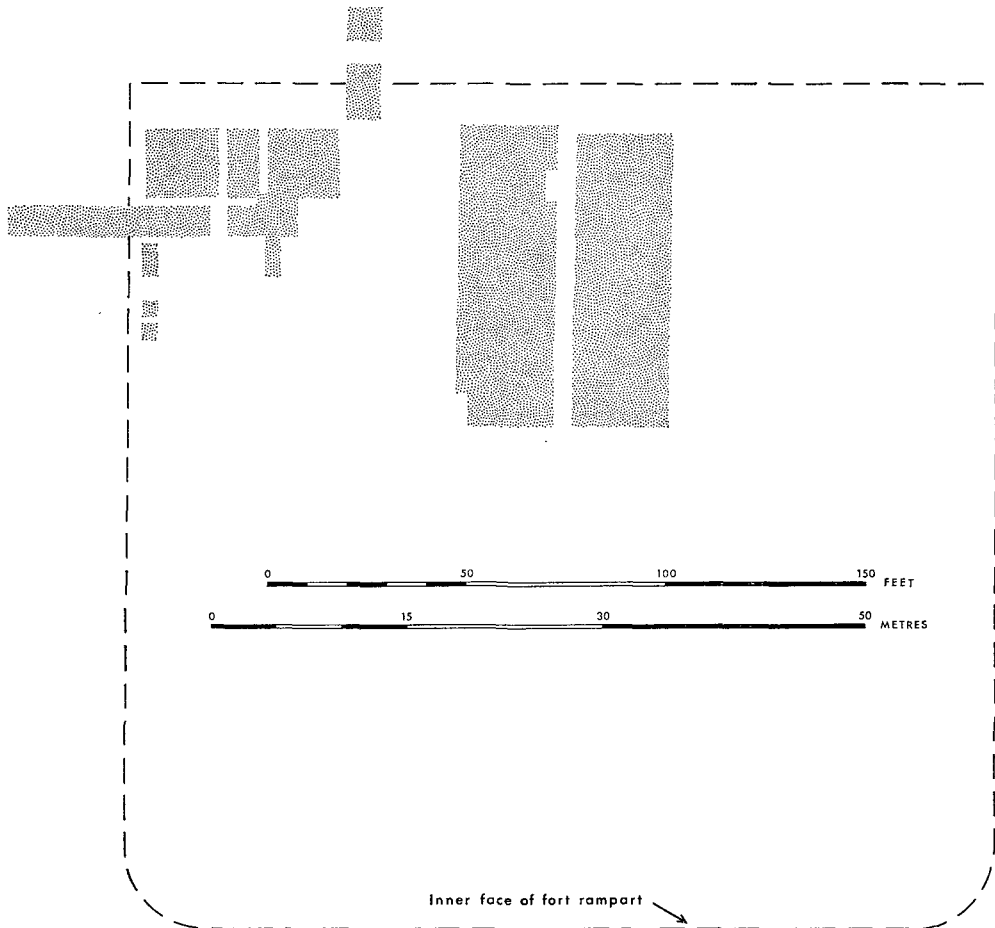


FIG 2 Rough Castle fort: location of excavated areas 1957-61

The fort was re-surveyed. During and after the excavation the restoration of the defences and the interior of the fort was carried on, and the fort and the area round it cleared of bracken (a surprisingly difficult task). In 1964–6 an attempt was made, with only limited success, to clear some of the silt from the Wall ditch where it forms the northern defence of the fort. The results of the excavation are modest. A few certainties emerge concerning the defences; a few points may be tentatively advanced concerning the interior.

Iain MacIvor supervised the excavation and wrote the excavation report. Clare Thomas wrote the finds reports other than those separately acknowledged, and drew the finds. David Breeze wrote the discussion and guided the whole to publication.

THE EXCAVATIONS

Rampart

Background

In 1903 seven sections were cut across the defences; one across the N rampart and Antonine Wall ditch; four across the rampart and double ditch of the other sides of the fort; two across the rampart only. All of the sections were probably begun as trenches, like those of the Glasgow Society in 1890–3. Three of them were then enlarged for photography by cutting back one side of the trench to a gentle slope, from the top of which a photograph of the remaining vertical face could be taken without distortion. The most laborious preparation was involved for the photograph of the N rampart and Antonine ditch section. The other sections enlarged were the N rampart at its junction with the E rampart; and the W rampart about mid-way between the gate and the N rampart. The photographs do little justice to the preparation, partly because of poor photography and reproduction, partly because of incomplete preliminary cleaning-up. In 1957 it was decided to re-examine the section across the W rampart (Buchanan 1905, fig 11) because this was the only simple rampart section subsequently enlarged; the other two were at the T-junctions of the Antonine Wall–N rampart with the E and W ramparts.

The excavators of 1903 commented on peculiarities of the ramparts. In general, the cobbled foundations delimited by kerbing had under the N rampart the normal Antonine Wall width of 15 ft (4.750 m), and under the other ramparts a width of 20 ft (6.10 m). But 'to generalise, it may be affirmed that underneath all the ramparts of the fort there are stone foundations of an average width of not less than 20 ft (6.10 m), supplemented by varying margins, adapted to suit special requirements, and increasing the width so that it is nowhere less than 30 ft (9.14 m); and amounts in the east rampart to 35 ft (10.67 m)' (Buchanan 1905, 460). The character of the external and internal 'varying margins' differed in the several sections. 'The 20 ft (6.10 m) stone foundation of the junction (the T-junction of the W with the N ramparts) becomes the bottom of a channel, on each side of which additional margins are formed, rising 6 in, (150 mm) above it. That on the outer side increases the width by 10 ft (3.05 m), and is composed of large rough boulders firmly bedded in clay, while the inner margin at the higher level is of flat stone like paving' (Buchanan 1905, 460).

Sir George Macdonald, accepting 15 ft and 20 ft (4.57 m and 6.10 m) as averages for the breadth of the original foundations, thought that the idea of 'varying margins' was *a priori* unsatisfactory, and that a uniform breadth for the whole would be a far more likely arrangement. He carried out a trial excavation on the E rampart S of the gate to check a variation of the outer margin alleged in 1903, found no substantive evidence for such a variation, and felt it was 'fairly safe to say that on all three sides the breadth of the (outer) extension had originally been about

9 ft (2.74 m)' (Macdonald 1933, 264). Sir George checked the inner margin at several points, including the W rampart adjoining the 1903 major section; although 'the evidence regarding the inside was less unambiguous than could have been wished . . . to me it seems certain that inside the fort, just as outside of it, the rampart was 9 ft or 10 ft (2.74 m and 3.05 m) wider at the end of the occupation than it had been at the beginning' (Macdonald 1933, 269). As far as the N rampart was concerned: 'the Antonine Vallum along the front of the fort would appear to have been similarly reinforced, presumably at the same time. There, however, the sods seem to have been laid on the natural surface without any bottoming of stones, and the precise breadth of the extension is consequently difficult to determine' (Macdonald 1933, 264).

West Rampart Section 1957 (fig 3)

The area opened for the W rampart section measured 12.50 m by 2.44 m, the re-cut 1903 section being the N face of the area. Because of the extensive collapse of the 1903 face, which had assumed the natural angle of rest of its component soil and turfwork, the new section line was about 900 mm N of the 1903 face. The rest of the area lay in the large wedge of rampart removed in preparing the section for photography in 1903, as noted above.

The uppermost level in the section was the 1903 dump, on the section line very irregular, but rising to a more regular crest N of the section line. Most of the dump was rampart material, shovelled up in great clods when the S side of the section was cut back. The dump was laid on the pre-1903 turf line, a dark band very clearly visible here and elsewhere. (In the course of infilling the 1903 excavations, the old dumps could always be accurately removed by following this turf line.)

Beneath the turf line was the topsoil associated with it, grey-brown in colour. The topsoil ended with a fairly precise definition over the laid turf of the rampart, and over the turfy material W and E of it. Over the easternmost 4.86 m of the section, however, the topsoil merged indistinctly into grey-brown material below it, not dissimilar in texture; the latter lay on the Roman levels.

The turfwork was brilliantly defined, with solid black and dark grey vegetation lines contrasting with yellow-orange subsoil. The surviving turfwork, 6.10 m wide immediately above the kerbs of the foundation, rose to a maximum height of 1.37 m at a distance of 610 mm inside the W kerb. At this point of maximum height there were 13 distinct laminations. The greatest number of laminations, 18, was at the middle of the rampart, 1.07 m high above the foundation pitching: the black vegetation lines were much closer together in the central part of the rampart than at the extremities. There were two other notable points about the turfwork. At 2.13 m from the W kerb there was a marked depression in the laminations above a height of 380 mm from the pitching. And at 610 mm inside the W kerb, the point of maximum height of the turfwork, there was a 'straight joint' in the turf clearly visible above a height of 300 mm from the pitching. The turfwork from this straight joint westward to the rampart face was of a lighter colour than the rest of the rampart. The W face of the rampart survived intact to a height of about 990 mm above the kerb with the very steep angle of 78°. It had been preserved to this remarkable degree by turfy material and metalling against it.

W of the rampart turfwork, the level below the topsoil could be identified as turfy material, and – were it not for the interpretation given by Sir George Macdonald – would unhesitatingly have been interpreted as material from the upper part of the rampart dislodged by weathering. The turfy material was 890 mm thick.

The turfy material lay on top of the uppermost of three apparent road surfaces on the berm. This was the surface interpreted in 1903 as the foundation for the W rampart extension; a not unreasonable interpretation then, because (as pl 11 in Buchanan 1905 shows) it was only

sketchily cleaned off. When thoroughly cleaned, however, it appeared as a surface of gravel and small cobbles above a bottoming of large cobbles. Below this upper surface was a layer of mixed white-grey material 50–75 mm thick, resembling the turfy material above. The heavy cobbles of the upper surface penetrated into the white-grey material. Below the white-grey material was a second surface, again of heavy bottoming supporting a cobble-and-gravel surface – very well laid and better than the other, and, as an exploratory trench W of the main drawn section showed, extending right up to the edge of the berm. The E faces of both of these levels of metalling butted closely against the W face of the rampart turfwork. Below the lower metalling surface was another layer of mixed white-grey material again about 50–75 mm thick. Below this in turn, and laid immediately on the subsoil, was a light yellow-orange gravel spread. The latter abutted on the W kerbs of the rampart foundation; it did not extend right across the berm, and was less well compacted than the higher surfaces.

On the S face of the trench (much reduced in height by the operations of 1903), the surviving laminations of turfwork were interrupted above the rampart E kerb, and were then resumed in turfwork built against the E face of the rampart of equally good quality, to extend along the remaining 1.90 m of the section face. On the E face of a baulk, left across the trench until a later stage of the excavation, this extended turfwork returned for 300 mm and then stopped on a sharply defined line. In plan the area showed that this turfwork had been raised on a kerbing extending 2.49 m eastward at right angles to the rampart kerbs, and of rather rougher construction than the rampart kerbs. On further exploration this eastward extension of turfwork was identified, within reasonable limits of certainty, as an *ascensus*.

The limit of the extension turfwork turned S at a right angle at a distance of 2.49 m from the rampart E kerb (in line with three post-holes noted below), and trenches dug to investigate its further course showed it still continuing at 8.84 m beyond the angle. To make absolutely sure of the plan of the extension, the trenching should have been continued up to the W gate; it was not, and in later comment it will be assumed that the extension was likely to continue as far as the W gate.

The E face of the rampart was much less well preserved than the W face, preserving its original steep profile to a height of only about 150 mm above the kerb. At that point, there was a large hollow in the section of the turfwork. Extending 1.22 m E from the kerb was a mass of turfy material, with more cohesive fragments of turf than the similar material to the W. The hollow and the nature of the fragments suggested collapse rather than weathering. This broken turfwork lay directly on top of a thin but well-defined layer of burnt wood and clay which, abutting against (and thus presumably preserving from decay) the top of the surviving 150 mm of rampart rear face, extended for 2.44 to 2.74 m eastward from the rear face. Where its covering of broken turfwork ended, the layer of burnt wood and clay was sealed by the greyish-brown material indistinguishable from the top soil which has been noted above.

Beneath the layer of burnt wood and clay was a discontinuous layer of light brown limy material about 50 mm thick; and beneath this two further burnt layers separated by small sharp rubble. Lowest of all, and lying immediately above the subsoil, was an irregular pitching of large cobbles. Approximately bounding the pitching, at a distance of 2.29 m from the rampart E kerbs and parallel to them, were three post-holes. In turn beyond these, about 3.35 m from the rampart E kerbs, was a stone-revetted drain, only partly preserved, which curved away from the rampart, in the S part of the trench.

In the longitudinal exploration of the extension, good turfwork was found through its whole length, beneath the 1902 turf line and top soil and, towards the S end of the exploration also beneath a 1903 dump. These levels were interrupted by a filled-in trench, 960 mm wide,

beginning 5.94 m S of the N kerbs of the extension. The trench had been dug through 1902 and 1903 levels into the turfwork, was filled with substantial well-defined pieces of turfwork, and ended in a rounded bottom 1.09 m below present ground surface. It appeared to be the trench dug in 1932 by Sir George Macdonald to check the inner extension of the W rampart and illustrated by a photograph in his report (Macdonald 1933, fig 10).

North (Antonine Wall) Rampart Section 1958 (fig 3)

In 1958 a trench 8.53 m long by 2.44 m wide was opened to take in the N rampart and the area immediately N and S of it. Since the main body of the rampart presented no anomalies the central 2.13 m of the rampart turfwork was left undisturbed. The turfwork of the N rampart survived to a much lesser height than that of the W rampart: a maximum of only 610 mm. Neither face was preserved. To the N the turfwork tapered off to the kerb; beyond the scanty remains of laid turf was nondescript greyish soil going down to subsoil. The area N of the kerbs was remarkably free of stones: there was only one, a small boulder half-buried in the subsoil. There were more complications to the S. The turfwork sloped back in two rounded steps from the kerb, and both plan and section show evidence of much disturbance in and around the kerbs. On the E section face the lower step of the rampart turf was covered with a 75 mm thick stone, clay and earth fill with patches of clay, and burnt material on top brightening to a large patch of brick red burnt clay over the S kerbs and outer pitching of the rampart foundation. The brick red feature (for which the obvious identification is a furnace) was about 610-750 mm long.

The stone, clay and earth fill extended to the middle of the trench, where it stopped against a rectangular post-hole set immediately behind the rampart kerbs. The post-hole was filled, not with the stone, clay and earth mixture, but with a distinct black material. A pair of closely adjacent post-holes were found, their centres distant 560-610 mm from the other, with the same filling. Both post-holes of the pair were round, about 200 mm diameter. The outer of the pair was sunk below the level of a little trench 280 mm across and 100 mm deep, parallel and immediately adjacent to the rampart kerbs; the trench was 1.22 m long and rode out above existing subsoil level to the E.

Apart from these features, the areas S of the kerbs for a distance of 2.36 m had between topsoil and subsoil a yellow-brown stony fill which underlay the stone, clay and earth mixture. At 2.36 m from the kerbs were the first traces of the presumed *intervallum* road which will be described later.

Comment

Concerning the structure of the N rampart the section adds nothing to our general knowledge of the Antonine Wall rampart of which this forms a part. The W rampart section gives the steep profile of 78° for the outer face; the distinct character of the first 610 mm of rampart turfwork, together with the slumped laminations in the centre, suggests that the rampart scarp may have been built up first and the main body of rampart material filled in less carefully behind it. This was the technique used in earthwork artillery fortifications of the 17th-18th centuries, though in these the scarp turfwork was thicker, and the infill was of earth not turf. In a structure built entirely of turf the method might seem unnecessarily to sacrifice cohesion; yet this is no valid criticism in the present case, where the state of preservation of the rampart shows that the structure cohered remarkably well.

The results of the rampart sections cast a measure of doubt on the hypothesis that the rampart was anywhere extended to augment its wallhead, and controvert the hypothesis that the rampart was systematically extended internally and externally for this purpose.

The defined and certain extension 2.50 m wide found at the W rampart may be interpreted with some confidence as an *ascensus*, which though structurally distinct from the rampart was probably built (since there is no occupation material between the foundation of the extension and subsoil) as part of the same construction programme. One may readily understand that Sir George Macdonald, already disposed to think of systematic rampart extensions, might regard as conclusive evidence the turfwork found in his trench. N of the *ascensus*, the layer of burnt wood and clay sealed by turfy material apparently from rampart decay affords no evidence to support rampart extension. The post-holes, and the burnt layer, suggest some minor structure in the angle between rampart and *ascensus*, similar to the burnt-down structure in the NW angle of the fort described below (p 238).

The existence of three road surfaces on the berm outside the W rampart section, the uppermost covered by turfy material again apparently from rampart decay, affords no more evidence to support the hypothesis. It can hardly be maintained that the turfy material represents the material of purposeful extension, particularly as material of seemingly the same composition is found sandwiched between the surfaces. It is unfortunately easier to say what the function of the road surfaces was not, than to say what it was: it is by no means clear why any need (far less a persisting need) was found for them. The surfaces do give three periods of some kind of operations on the site, separated by periods of time marked by the material from the weathering of the rampart; but a road surface twice repaired after intervals of time is not evidence for three periods of occupation interrupted by withdrawal.

N of the N rampart there were no features of any kind, not even fallen turfwork. S of the N rampart the existence of a likely furnace cutting into the turfwork of the rear of the rampart only 240 mm above the foundation kerbs precludes an extension here too. Again, the post-holes indicate slight buildings against the rear of the rampart. Though the late Antonine pottery associated with the post-holes (135) does not necessarily date them, a late date would agree with the general impression of the infilling of unused space during the later part of the occupation, caused by an increased density of occupation.

Internal roads and the Intervallum

Background

The 1904 plan of Rough Castle (Buchanan 1905, fig 1) marks by dotted lines the anticipated position of the *via principalis*, though it shows no structural remains of it and does not name it as a 'street'. The anticipated position of the *via praetoria* is unmarked. Fragments of 'street' are shown on the N, E and S sides of the fort corresponding to the anticipated position of the *intervallum* road. The text shows that Buchanan accepted the space between this 'street' and the rampart to have been filled by the several inward extensions of the rampart. To the S of the site of the W gate, 'Building No 3' (the commanding officer's house) approaches so closely to the rampart as to leave no space for a 'street' in a corresponding relationship to the rampart. If the plotting of the W limit of the commanding officer's house is right, as it appears to be from the much decayed and overgrown remains yet open on the site, what happened to the *intervallum* road at this point is still a puzzle.

Via Principalis and Via Praetoria 1959–61 (fig 4)

Parts of the boundaries of the *via principalis* were exposed during the investigation of the *praetentura* and during the superficial examination of the structural condition of the headquarters building made in 1961. It measures 7.32 m across from the façade of the headquarters building to the further margin of a drain which bounded it on the N side. Two levels of metalling could

be distinguished: the lower more carefully laid and including the drain; the upper lacking defined margins and spreading across the drain, the position of which was only checked in places.

In the width of the *via principalis* NW of the headquarters building was a stone-lined tank 0.84 m by 1.32 m and 1.52 m deep. It received drainage from the N side of the *via principalis* and the E side of the *via praetoria*. The tank was presumably covered with timber.

The W boundary of the *via praetoria* was defined by the drain mentioned above. As originally constructed, and if its centre line corresponded to the centre line of the N gate (accepting for the latter centre line the evidence of the 1903 report) it would be less than 9.10 m wide; though in fact it appears to have been much wider, as metalling which seemed to be integral with it was found at a distance of 9.76 m beyond the W drain. The centre line of the *via praetoria* may rather have corresponded to the centre line of the headquarters building, with an extremely generous use of space in so small a fort – a point commented on again in considering the timber buildings in the *praetentura*. In the *via praetoria*, like the *via principalis*, the upper metalling extended beyond the lower, and came to a poorly defined edge.

Intervallum 1958-61

The *intervallum* road was exposed for the greater part of its length on the N side of the W *praetentura*, and part of its length on the W side. The preservation of its two upper surfaces was remarkably good. These were of small cobbles finished with rammed gravel. The lowest surface was less substantial than the others. The middle and upper surfaces were bounded by kerbs, the upper surface was cut through by a drain. Unlike the *via principalis* and *via praetoria*, the margin of the upper *intervallum* road surface lay within that of the middle surface.

The width of the *intervallum* road was difficult to determine exactly at those points where its probable N limit was investigated, because it had no kerbs. At the N rampart section it was about 2.44 m wide, leaving a space of about 1.83 m between the rampart kerbs and the road. Inside the *ascensus* within the W rampart it can only have been about 1.22 m wide and during the later years of the occupation it was similarly reduced by a slight building N of the *ascensus*.

The remains of the latter building were examined in 1958. It had been constructed of posts holding the stakes of a wattle frame, apparently extended from the back of the rampart, and may in fact have been little more than a light screen. It had been burnt down and a thick deposit of burnt wood and clay was the principal evidence of conflagration found during the whole excavation. A crude stone setting, which overlaid the burning, produced several finds.

Comment

The road surfaces gave the most unequivocal evidence of different periods of work within the areas examined, though not necessarily distinct 'periods of occupation'.

Although the fire in the little building could have been caused by a careless Nervian auxiliary as readily as by any of the major military events of the second century, the occupation may have closed finally at the time when the little structure at the NW corner of the *intervallum* was burnt, for the debris was never cleared up. Similar burnt remains of buildings in the *praetentura* were removed in 1903, for references to burnt material are made in several places in the report.

Praetentura (figs 3-4)

Background

In spite of the remarkable achievement at Ardoch in 1896-7 (Christison 1898, 443-9) the subsequent Romano-Scottish enterprises of this Society made no further contribution to know-

ledge of timber buildings save at the Gask ridge. At Rough Castle, where in any case too much seems to have been attempted in too little time and with too little supervision, no evidence of timber structures was noted. In the plan of the *praetentura* there appear fragments of 'street'; a 'drain' and an L-shaped fragment of paving; 'Of stone buildings', wrote Mungo Buchanan, 'there were none, and it is probable any erections above ground – occupying the blank space on the plan – very temporary, perhaps of timber, and subject to occasional re-arrangement. Whatever may have been located in those evidently much used positions can only be matter of conjecture, as there was no evidence of any definite arrangement, although the whole area was explored down to the original surface' (Buchanan 1905, 481).

Sir George Macdonald conjectured the possible planning of barracks to fit the blank spaces on the plan, in the *retentura* as well as the *praetentura* (Macdonald 1933, 274–6); see now the Discussion below (pp 278–83).

West Praetentura Excavation 1957–61

Three squares of 2.44 m were opened in the westernmost side of the *praetentura* in 1957, to see if there were any traces of timber barrack buildings. The results were promising enough to encourage further exploration; larger areas were investigated in 1958 and 1959; a 7.32 m wide zone down the western side of the *via praetoria* was stripped in 1959; and a supplementary area in 1961. In the course of the work it was found that the operations of 1903 had been as thorough as Buchanan implies. Apart from fragments of paving and road surface (not all shown on the 1904 plan), and isolated stones some of which were the packing of post-holes, the whole area within the *intervallum* road had been cleared right down to the subsoil, and in some places possibly below it. It seemed to have been cleared by preliminary extensive trenching followed by the total clearance of broad strips, the strips being back-filled as work went on across the site. One might expect that this wholesale clearance would have considerably simplified the identification of the foundation trenches or post-pits of timber buildings; but there were no visible foundation trenches, and the filling of both post-pits and post-holes was surprisingly difficult to distinguish from undisturbed subsoil. The post-holes within the barrack area were much less clear than those already described immediately inside the rampart foundation. Progress was so slow and painful that the areas which could be stripped, cleaned and kept clean fell below the generous scale necessary for a really successful horizontal section.

The areas examined in the 4 years will be described together, as they are shown in the conflated plan (fig 2). Where it had been extended so far, the excavated area was bounded to N and W by the *intervallum* road, to E by the *via praetoria*, to S by the *via principalis*. The roads have been described: the resurfacings of the *intervallum* road and the others will be recalled, together with the tongue of metalling protruding from about the centre point of the *via praetoria* between the *intervallum* and the *via principalis*, and the fragments of metalling apparently continuing the northern line of that tongue. The roadways make up the possible limits of a pair of rectangular buildings with their long access E–W, taking the tongue and the metalling fragments as the remains of an intermediate road.

There was also a detached area of pitching measuring about 2.85 m N–S by 2.18 m E–W, within the angle formed by the *via principalis* and *via praetoria*. The pitching had on its surface a patch of burnt clay. There was another small area of pitching S of the *intervallum*, and yet another about half-way between the *intervallum* and the possible intermediate road. Apart from these areas, and a few settings of stones in twos and threes (most of which emerged as likely post-holes), there were no features in the area above the general level of the subsoil, to which most of it had been cleared in 1903.

The level of the subsoil below adjacent areas of metalling and pitching varied from place to place: 460 mm below the tongue protruding from the W side of the *via praetoria*, and the same below the angle of *via principalis* and *via praetoria*; 380-300 mm below the uppermost level of the *intervallum* road, 150 mm below the middle level, and a negligible depth below the lowest and most lightly constructed level.

To prevent water from the roads draining into the buildings, the floor levels of any buildings would be above the level of the surrounding roads. So it is clear that the operations of 1903 must have destroyed a considerable depth of occupation – at least 460 mm in some parts for the latest years of the occupation – within the encircling framework of roads. The operations could have destroyed structural evidence as well, particularly evidence for the latest years of occupation.

Within the area a number of certain, probable and doubtful post-holes and lesser stake-holes was discovered together with channels and shallow trenches. None of the latter seemed regular or considerable enough to have been a foundation trench for a substantial element in a timber building. Some of the post-holes were inexplicable in terms of structures. The rest suggested the plans of three timber structures: two, one replacing the other, in the northern half of the area, one, similar to the later of these, in the southern half. It must be stressed that these structures, to be described, represent a probable interpretation of the evidence, which lacked that uniform clarity and sharpness of definition necessary to give absolutely certain conclusions.

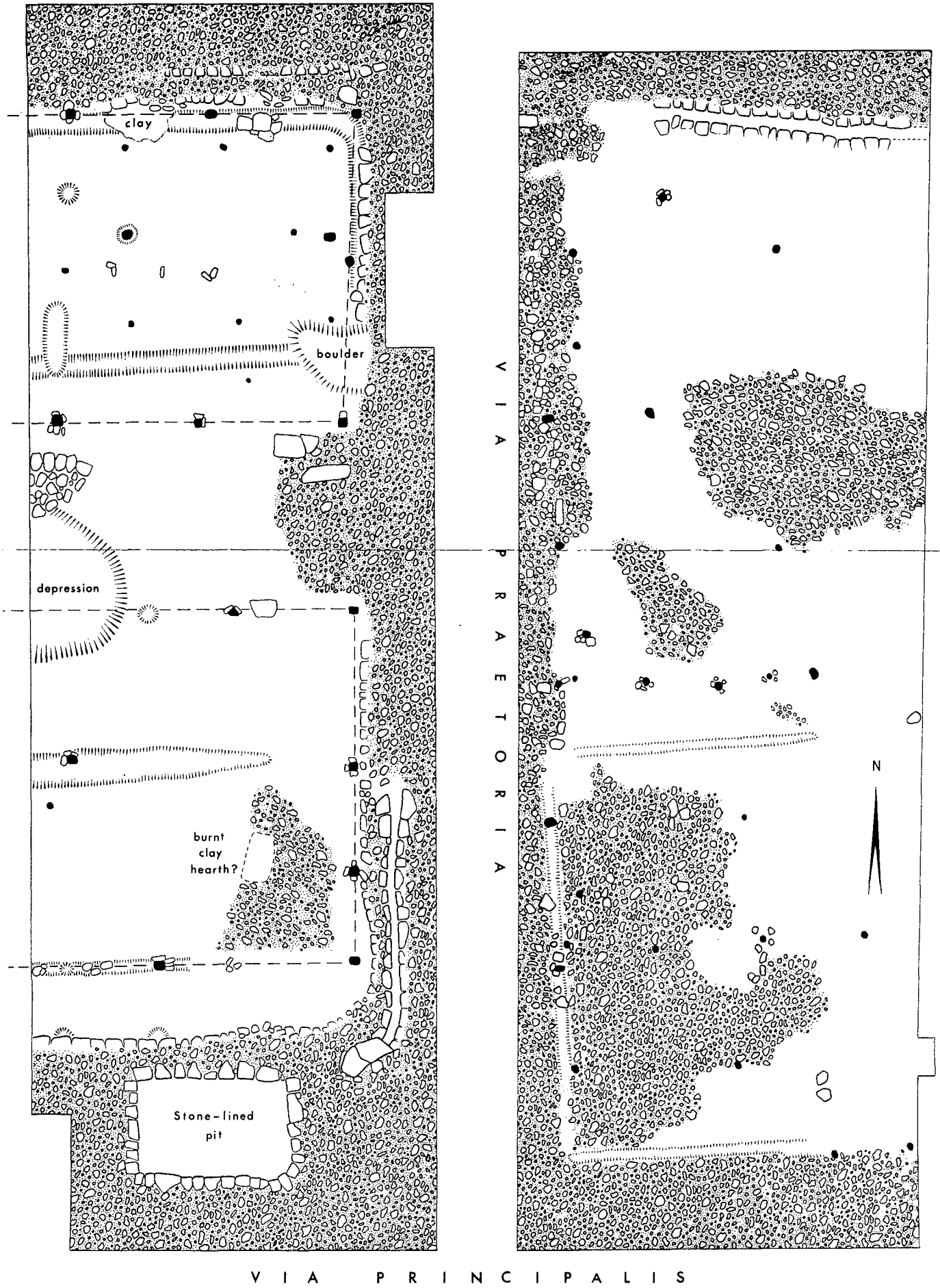
In the most substantial (and, it will be argued, later) building in the N the walls were not exactly parallel, giving mean dimensions of 26.52 m E-W by 5.79 m N-S. At the W end of the building were two possible partitions, one with surviving stake-holes for a wattle and a daub wall, giving compartments 4.12 m and 3.81 m wide respectively. Near the NE corner of this building between two of the uprights was a group of broken flags at the same level as the middle-period *intervallum* road surface; the group may have formed a threshold. Evidence for the main frame of this apparent building seemed trustworthy enough: the post-holes which were missing were in areas disturbed by pits and by recent tree growth.

Parallel to the longitudinal centre-line of this building, and a little N of it, was a well-defined line of post-holes which ended to E and W just short of its gable walls. It was at first believed that the line would prove to link with similar lines to N and S and so form a second conventional timber structure. In the course of the excavation no such similar lines emerged. Instead, it was observed that the line of post-holes was regularly enclosed N and S by a shallow rectilinear channel returning by rounded angles to E and W. The rounding was observed at the two angles which could be examined: SW and NE. The channel was uncut at its SE angle, where a large natural boulder remained embedded in the subsoil; and it rode out altogether over much of the length of its N and W sides. The sides of the channel were not absolutely straight, and it was not uniform in depth.

The channel might be associated with the line of post-holes which bisects it as a drip-trench, though a drip-trench around a very unconventional structure. For the only other possible related structural elements which were observed were a series of small holes for stakes rather than posts (they were not surrounded by pits), equidistant to N and S of the central line of post-holes, and about 610 mm from the centre-line of the channel. If post-holes and stake-holes are indeed associated, they form a series of tent-like structures 3.05 m wide with an overall length of 25.00 m.

The sequence of the two structures is suggested by the supposed threshold at the NE angle of the more substantial building, which overlies the channel or drainage trench at this point.

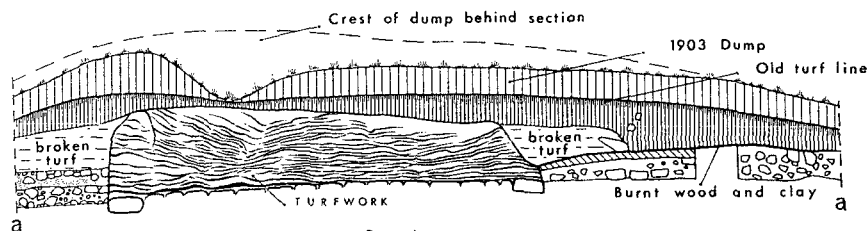
I N T E R V A L L U M R O A D



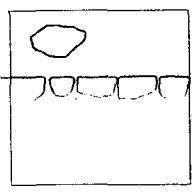
5 0 10 20 Ft

1 0 5 m

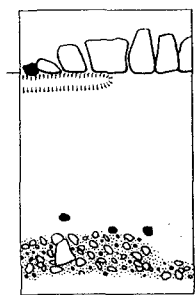
FIG 4 Rough Castle: *via praetoria* and area to W



ANTONINE WALL RAMPART
(NORTH RAMPART OF FORT)



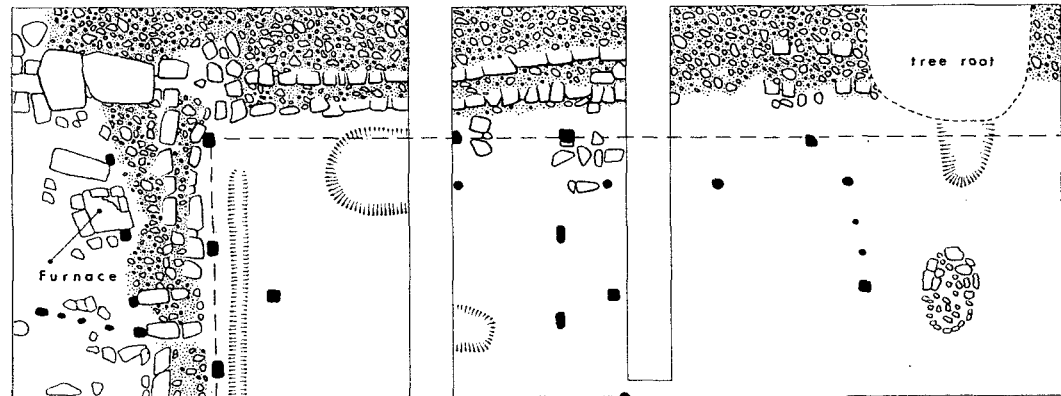
Kerbs only revealed



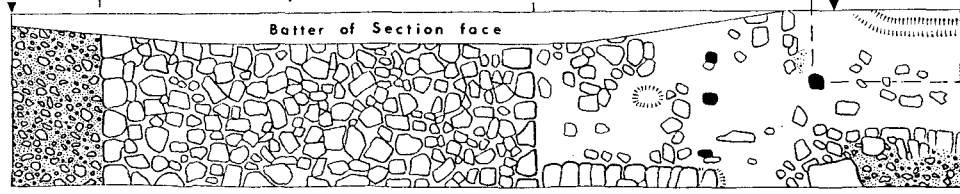
West Rampart Section

WEST RAMPART OF FORT

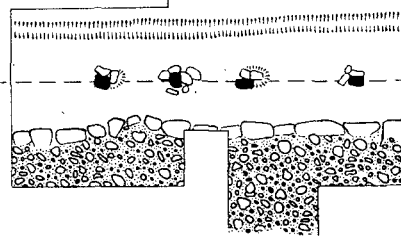
I N T E R V A L L U M R O A D



West Rampart Section



I N T E R - B A R R A C K R O A D



10 5 0 10 20 30 Ft

1 0 5 10 m

FIG 3 Rough Castle: NW corner and W rampart section

To the S, post-holes giving the apparent east end of a building 6.25 m wide, with a S-facing verandah-like extension increasing the width of the building to 7.32 m were found. That part of the site which would have given its W end was unexcavated.

East Praetentura Excavation 1961

In 1961 a zone 7.32 m wide was stripped to take in the W ends of possible timber buildings E of the *via praetoria*. It was positioned to relate to a *via praetoria* centred on the apparent centre of the N gate, which is considerably W of the centre line of the headquarters building. A number of post-holes were found suggesting a timber building with its long axis N-S, parallel to the *via praetoria*. This promising beginning proved to be illusory. In spite of the most meticulous examination, no convincing building emerged at the end. Clearly timber structures of some kind had been erected in the area, as evidenced by the post-holes, and perhaps too by the badly mauled metalling which must belong to a very broad *via praetoria*, which it was difficult to believe had been so much cut up by the operation of 1903. A further puzzling anomaly was the existence of a drain bounding the *intervallum* road, and penetrating far beyond the point where the *intervallum* road would have abutted on the *via praetoria*.

The inconclusive investigation of the post-holes within this stripped area occupied so much time, that too little remained for an extension of the area eastward, to check for the existence of buildings which could still be fitted in beyond the area examined. And yet, had sufficient time remained for the extension, it would have been undertaken with misgiving. The excavation at this point was in danger of repeating a mistake of 1903, the pursuit of investigation beyond the point at which interpretation had begun to fail. The excavation began with modest but certain gains of knowledge in the rampart section; the operation in the *W praetentura* led to conclusions which, though probable, were not certain; now a considerable area had been stripped without any advancement of our understanding of the site.

I decided that the rest of the *E praetentura*, like the SW part of the *W praetentura*, should be left to a future second opinion.

Comment

The operations in the *praetentura* provide the unexpected element of an initial semi-permanent occupation of the fort in the tent-like structures noted above. Though unexpected, such an occupation may be readily enough accepted. It points merely to a delay, not necessarily a long one, in the erection of permanent barracks, and associates quite comfortably with the evidence of the initial slight surfacing of the *intervallum* and the W berm, already noticed.

The pair of more solid buildings which may be taken to mark the first substantial period of barrack construction are expected in size and siting, particularly as there may still be postulated buildings similar in width and up to 15.24 m long in the *E praetentura*. The general spacing, however, does emphasise one of the oddities of the fort, in that though from the beginning the fort was the headquarters of a 500-strong cohort, most of the cohort's personnel must have been accommodated elsewhere.

Most surprising was the absence of evidence to indicate a second substantial period of barracks, Antonine II to complement Antonine I. The evidence as it stands could be used to sustain an argument that, at Rough Castle, the occupation – which from the pottery seems to have the usual termini of Antonine sites elsewhere – continued without any violent break. Nevertheless such an argument would be a little reckless. The depth of material stripped from the barrack area in 1903 could have removed all traces of a later set of timber structures, if these were constructed on fairly shallow sleeper beams. The limitations of the evidence – and perhaps

too the severe limits of the investigation – mean that in this case the existence of a definite break dividing Antonine I from Antonine II is not proven.

CATALOGUE OF FINDS 1903-1961

In the following section US indicates that the artefact is unstratified, NMA that the object is in the National Museum of Antiquities (the catalogue number usually follows, eg FR 324), W that the sherd was examined by Dr D F Williams, HMA that the sherd was subjected to heavy mineral analysis by Dr Williams, and an asterisk that the object is illustrated. 'Main ditch' refers to the Antonine Wall ditch.

Stone

- 1 and 2 Fragment with narrow rope moulding, and fragment with curvilinear carving, part of larger object. NMA FR 367 & 368, US.
- 3 Fragment of squared block, 30-40 mm thick, maximum surviving dimensions, 95 by 95 mm. One surface is corrugated, with nine rough grooves, c 3-4 mm wide and 1 mm apart. From the east gate area.

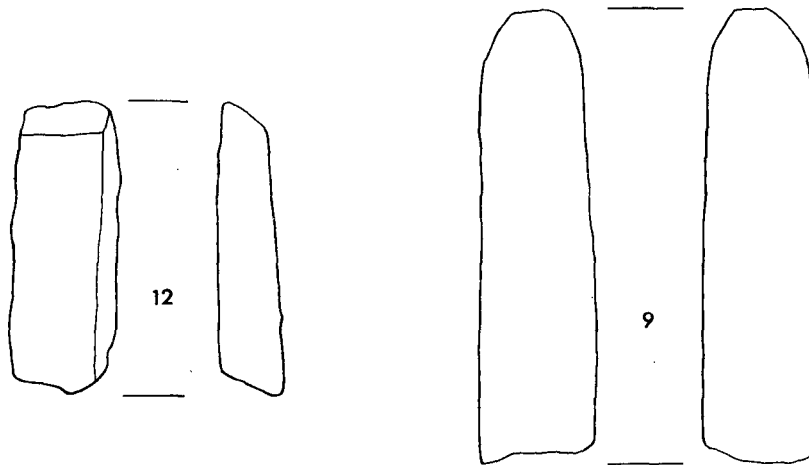


FIG 5 Rough Castle: whetstones (1 : 2)

- 4 Fragment of squared block of stone, 330 by 200 by 80 mm, US.
- 5 Two fragments of grey stone slab with mica, with circular hole drilled through it, and with white deposit on one edge. No sign of wear around hole. From the main ditch, US.
- 6-7 Fragments of two stone discs, one with hole bored through it, NMA, US.
- 8 Fragment of stone lamp? NMA, US (Anderson 1905, 495, fig 4).
- *9 Whetstone, approximately rectangular in section, NMA FR 357, US.
- 10-11 Two whetstones, section as 9, NMA FR 362 & 363, US.
- *12 Whetstone, approximately oval in section, NMA FR 364, US.
- 13 Fragment of whetstone, oval in section, from the *lila* spoil heaps, US.
- *14 Flat upper stone of quern, approximately circular, with central hole; also, two holes on one worn part of quern, one of which perforates quern, and on other side of quern, one hole connecting top and edge, US (fig 6). Also, 'a broken quern of vesicular lava' (Anderson 1905, 442-499).

Baked Clay

- 15 One fragment of baked clay from the *lila* spoil heaps, US; see also 290-3.

Tile

- 16 105 fragments of box tiles; 41 of these are marked with an acute-angled lattice pattern, 13 with a very compact grid, two with a very open grid and three with straight lines. Also, 16 rounded and 8 flat fragments, all plain. All from the bathhouse spoil heaps.

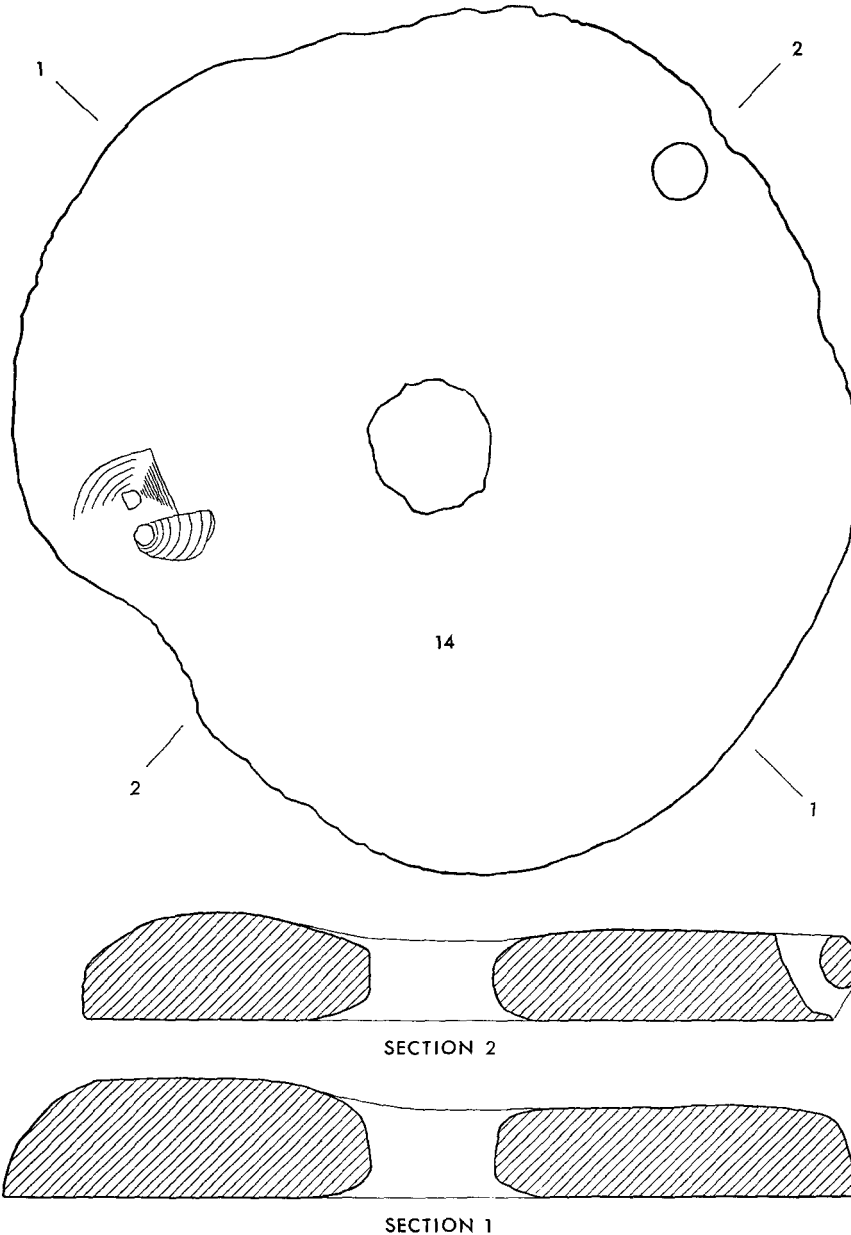


FIG 6 Rough Castle: quernstone (1 : 2)

Samian Ware

B R Hartley and B M Dickinson, Department of Archaeology, University of Leeds

The following abbreviations are used:

- D. (Figure-type in) J Déchelette, *Les Vases céramiques ornés de la Gaule romaine*. Paris, 1904.
 - O. (Figure-type in) F Oswald, *Index of Figure-types on Terra-sigillata ('samian ware')*. Liverpool, 1936-7.
- Rogers G B Rogers, *Poterie sigillée de la Gaule centrale, Gallia Suppl*, XXVIII (1974).

- 17 Central Gaulish scrap. Antonine. From road between N and S barracks in *W praetentura*, US.
- 18 Form 18/31R or 31R, more probably the latter, Central Gaulish. Mid or late Antonine.
- 19 Form 33, Central Gaulish. Antonine. From W part of N barrack in *W praetentura*, US.
- 20 Form Curle 11 etc, Central Gaulish. Antonine. From W part of N barrack in *W praetentura*, US.
- 21 A small scrap of form 37, Central Gaulish, probably with freestyle decoration and with the partial impression of a leaf used by Albucius ii of Lezoux (Stanfield & Simpson 1958, fig 35, 2). c AD 150-80. From N *intervallum* road/W *intervallum* road in burnt material.
- 22 Form 31, slightly burnt, Central Gaulish. Antonine. From W part of N barrack in *W praetentura*, US.
- 23 Form 33, Central Gaulish. Antonine. From area between N rampart and *intervallum* road, US.
- 24 A small, eroded fragment of form 37, Central Gaulish. The Cupid (similar to *O.* 458A), naked figure (*D.* 382) and abnormally large festoon are on bowls from Balmuilty in the style of Cettus of Les Martres-de-Veyre (Miller 1922, pl XXXIV, 42 & 44). Bowls by this potter are, of course, common in Antonine Scotland. For a discussion of his date, see Hartley 1972, 34. c AD 135-60. From W *intervallum* road, US.
- 25 Fragments from two dishes of form 31, both Central Gaulish and Antonine. From W part of N barrack in *W praetentura*, US.
- 26 Form 31, slightly burnt, Central Gaulish. Early to mid-Antonine. From W part of N barrack in *W praetentura*, US.
- 27 Form 30 or 37 and an unidentified scrap, Central Gaulish. Antonine.
- 28 Form 31, Central Gaulish. Early to mid-Antonine.
- 29 Form 31, Central Gaulish. Mid or late-Antonine. 27, 28 & 29 from W part of N barrack in *W praetentura*, US.
- 30 Dish (?) fragment, Central Gaulish. Antonine. From N *intervallum* road, phase 3 road drain.
- 31 Three joining fragments of form 31, perhaps slightly burnt, Central Gaulish. Early or mid-Antonine. From W *intervallum* road, sealed by burnt material.
- 32 Form 31, Central Gaulish. Early or mid-Antonine.
- 33 A tiny fragment of form 37, Central Gaulish, with a Perseus (*D.* 146) used at Lezoux by several potters in the period c AD 140-80. From W *intervallum* road, phase 3 road drain sealed by burnt material.
- 34 Form 31, Central Gaulish. Antonine. From E part of N barrack in *W praetentura* US.
- 35 Form 31, Central Gaulish. Early or mid-Antonine. From road between N and S barracks in *W praetentura*, US.
- 36 A small, eroded fragment of form 37, Central Gaulish. A panelled bowl, perhaps with the leopard (*D.* 799) used by several Lezoux potters in the Antonine period. From S barrack in *W praetentura*, US.
- 37 Form 30 or 37 rim (?), slightly burnt, and an eroded scrap. Both Central Gaulish and Antonine. From S barrack in *W praetentura*, US.
- 38 Form 31, Central Gaulish, perhaps from Les Martres-de-Veyre. Early or mid-Antonine. From E part of N barrack in *W praetentura*, US.
- 39 Form 30 or 37 rim, Central Gaulish. Antonine.
- 40 Form 37, Central Gaulish, with an ovolo (Rogers B52) and double festoon used at Lezoux by Criciro v, Divixtus i and, almost certainly, Secundus v. The sphinx (*D.* 497) has apparently not been recorded for any of these potters. c AD 145-75. From NE corner of fort, US.
- 41 Form 31, Central Gaulish. Early-Antonine. From SW corner of fort wall, US.
- 42 Form 30 or 37 rim, Central Gaulish. Antonine.
- 43 Form 31, Central Gaulish, Early to mid-Antonine.
- 44 Form 27, burnt, East Gaulish. The stamp is almost certainly literate, but has not been identified. There are several possible readings of it, none suggesting a known potter, though the fabric points either to manufacture in the Argonne or at La Madeleine. However, Argonne ware has not been recorded from the Antonine Wall, whereas La Madeleine ware has (eg at Mumrills). This tips the balance in favour of the latter. The form shows that this piece is earlier than AD 160. 42, 43 & 44 from the bath-house spoil heap.
- 45 Joining fragments giving approximately half of a dish of form 18/31-31, slightly burnt, probably from Les Martres-de-Veyre. The footring is almost unworn. Early-Antonine.

- 46 Form 37, Central Gaulish, with a winding scroll and grooved for a rivet. The ovolo (Rogers B143) and bird (*O.* 2239B?) were both used at Lezoux by Cinnamus ii. c AD 150–80.
- 47 Form Curle 21, Central Gaulish. The ungritted samian mortaria of this type were undoubtedly introduced considerably earlier than the gritted forms 43 and 45 and are not unknown in Scotland. Antonine.
- 48 Form 31(3), Central Gaulish. Antonine.
- 49 Two joining fragments from a small bowl of form 37, with the single-bordered ovolo (Rogers B28, very blurred), lion (*O.* 1425) and trilobed motif (Rogers G164) used at Lezoux by Quintilianus i. The other figure-types are a warrior (*O.* 219A, repeated) and goat (*D.* 885), neither, apparently, recorded for Quintilianus or any of his associates. The border of large, squarish beads is not common for Quintilianus, but it appears on some of his typologically-late work, curiously enough nearly always in association with the lion and trilobed motif of this piece. c AD 135–155.
- 50 A large fragment of form 37, Central Gaulish, with a winding scroll with double medallions in the lower parts. All the details were used at Lezoux on stamped bowls of Cinnamus ii. They are: ovolo (Rogers B145), leaves (*ibid.* H13, J89), trifid motifs (*ibid.* G66), bird (*O.* 2298) and erotic group (Oswald pl XC, B). Both the leaves are on a Cinnamus bowl at Amiens and the group is on his bowls from Mumrills and Sens. c AD 150–80.
45–50 From the Antonine Wall ditch, US.
- 51 A collection of material from the *lilia* spoil heaps includes nothing that is necessarily earlier than AD 150. It is all Central Gaulish and includes forms 18/31R and 31(3). Of the two decorated bowls of form 37, both with scroll decoration, one is certainly by Cinnamus ii. The ovolo (Rogers B223) and bird (*D.* 1038) were used extensively in his work (cf Stanfield & Simpson 1958, pl 162, 60). c AD 150–80. The leaf on the other (probably Rogers H21) and the small circle were also used by him, both in his main activity and earlier, when he worked in the Cerialis ii-Paullus iv group at Lezoux. c AD 140–70.
- 52 Forms 31 and 33(2), all very eroded. Central Gaulish. Antonine. US.
- 53 Form 33 base, apparently never stamped, Central Gaulish. Antonine. US.
- 54 A Central Gaulish scrap. Antonine. US.

The material in the National Museum of Antiquities of Scotland

- 55 Two fragments from a bowl of form 37 with an ovolo (Rogers B144) used at Lezoux by members of the Cerialis ii-Cinnamus ii group. The panels contain: (a) An eagle (*D.* 981) and seated Apollo (*D.* 52). (b) A single medallion with cogged annulets (cf Stanfield & Simpson 1958, pl 156, 3, 7) used in the early Cerialis-Cinnamus style (*ibid.*, 8). c AD 140–70. FR 286–7, US.
- 56 Form 37, Central Gaulish, with ovolo (Rogers B52) used at Lezoux by Criciro v and Divixtus i. However, since Divixtus rarely, if ever, used a wavy line below his ovolo, the piece is almost certainly by Criciro. c AD 135–70. FR 288, US.
- 57 Form 37 with ovolo (Rogers B223) used at Lezoux by Cinnamus ii. The scheme of decoration is not clear. c AD 150–80. FR 289, US.
- 58 Form 37, Central Gaulish. A panelled bowl, with ovolo (Rogers B12), caryatid (*O.* 1257A), erotic group (Oswald pl XC, B) and bird (*O.* 2295A) in a double festoon. Most of the details are common to both Criciro v and Divixtus i, but since the latter apparently did not use the bird or festoon, the piece is again more likely to be by Criciro. The decoration is precisely paralleled on a bowl from Lezoux with an almost entirely obliterated cursive signature, presumably Criciro's, since Divixtus's bowls never have a signature below the decoration. c AD 135–60. FR 292, US.
- 59 Form 37, South Gaulish, with zonal decoration. The very light fabric and poor standard of workmanship suggest that it comes from Montans. The fan-shaped plant used here in a basal wreath appears on a bowl at Carlisle stamped by Felicio iii. The chevrons in the zone above the wreath are also paralleled on the Carlisle bowl, but there they face the opposite direction. The next zone has single festoons. Felicio was one of a small group of Montans potters who worked in the second century. Their work is relatively common in Antonine Scotland (Hartley 1972, 42–5). c AD 110–45. FR 293, US.
- 60 Form 37, Central Gaulish, with scroll decoration. The leaves (Rogers J1, 153) were both used at Lezoux by Cinnamus ii, and appear on bowls from Segontium and Lezoux (?) respectively. The bird, apparently the reverse of one of his commoner figure-types (*D.* 1038), is not known for him

and does not appear in Déchelette or Oswald. It presumably comes from a double-ended figure-stamp, which some potters used for pairs of figures (birds, hares, etc). One end of this particular figure-stamp was probably broken very early in its life, while the other end continued in use. An early date may therefore be suggested. c AD 150-65. FR 294, US.

- 61 Form 37, Central Gaulish, with scroll decoration. The ovolo (Rogers B144), leaf (*ibid*, H21) and bird (*D.* 1019) were all used at Lezoux by members of the *Cerialis ii-Cinnamus ii* group. c AD 140-70. FR 295, US.
- 62 Form 37, Central Gaulish, with blurred panel decoration. The double medallion and kneeling stag (*O.* 1204A) are on a signed bowl from Barnsley Park villa by one of the Lezoux Paterni (Paternus iv), who signed moulds in the nominative. His style is quite distinct from that of Paternus v and his motifs suggest an earlier date and some connection with potters such as *Sacer i.* The *caduceus* (Rogers U103) also appears on bowls in his style, often, as here, in multiple impressions. The other motifs are probably stylised trees (cf Rogers N2, etc). c AD 130-50. FR 297, US.
- 63 Form 37, Central Gaulish, with four repeated panels:
 (a) A vine-scroll (Rogers M31) and lozenge (*ibid*, U36).
 (b) A single festoon (?), with a mask (*D.* 683).
 (c) Athlete (*D.* 403).
 (d) Dolphins on a basket (Rogers Q58).
 All the motifs, including the circles in (d), appear on bowls by the *Cerialis ii-Cinnamus ii* group. c AD 140-70. FR 298, US.
- 64 Form 37, Central Gaulish, with panelled decoration, in the distinctive style of *Cettus* of Les Martres-de-Veyre. The ovolo (Rogers B263) and small, double medallions with astragali are on a bowl from Corbridge (Stanfield & Simpson 1958, pl 143, 44) and the Apollo (*D.* 52) is on a bowl from Old Penrith (*ibid* 38). The scarf-dancer is not in Déchelette or Oswald. For the dating of this potter, see Hartley 1972, 34. c AD 135-60. FR 445, US.
- 65 Form 37, with scroll decoration. The ovolo (Rogers B144), leaf (*ibid*, H22) and bird (*D.* 1019?) were all used at Lezoux by members of the *Cerialis ii-Cinnamus ii* group. c AD 140-70. FR 451, US.
- 66 Form 37, with a winding scroll. The ovolo (Rogers B144) and bird (*D.* 1019) were used at Lezoux by members of the *Cerialis ii-Cinnamus ii* group. c AD 140-170. FR 486, US.
- 67 This was described by Macdonald (1933, 258) and assigned to Libertus ii. Three large fragments from a bowl of form 37, Central Gaulish, with a freestyle scene. The ovolo (Rogers B114) was used by several Lezoux potters in the Hadrianic and Antonine periods, but not by Libertus and rarely with a wavy line below, as here. It, and the double ridge below the decoration, both suggest that the bowl is by Butrio. Nearly all the details are paralleled on his stamped bowls. The Cupid with torches (*D.* 265) is on a burnt bowl from the London Second Fire deposit (Stanfield & Simpson 1958, pl 60, 674) and the seated Venus (*D.* 187), and seated woman (*D.* 555) together with a warrior (*D.* 613) are on two others from London (Oswald 1930, pl V, 2; Stanfield & Simpson 1958, pl 57, 655). The bird (*D.* 1041) is on a bowl at Cirencester. The probable Apollo and chariot (*D.* 59?) and Hercules (*D.* 471) have also been recorded for him. The philosopher (*D.* 523) and the figure on the left edge of the bowl (possibly *D.* 99) are known for Libertus ii but not, apparently, for Butrio. The small Hercules (*D.* 456) has not been recorded on stamped or signed bowls. The leaf (of the type Rogers G137-47) is on an unstamped bowl from Scole with one of Butrio's other ovolos. These figure-types are not his most common ones and are perhaps mainly associated with his work using this ovolo. This bowl and the Montans piece (59) are among the earlier vessels from Rough Castle. FR 488, US.
- 68 Form 37, Central Gaulish. The festoon with widely-spaced border of beads (Rogers F37) is unusual and was apparently first used at Les Martres-de-Veyre, but also appears on an unsigned bowl at York with stylistic connections with Drusus ii. Both Drusus and Attianus ii used the rosette-tongued ovolo with the egg damaged on the right-hand side. A date c AD 125-45 is therefore likely. Unregistered, 1920, 5, US.
- 69 Form 37, Central Gaulish, with a large, leafy scroll. The ring-tongued ovolo suggests the Paternus v group, but the bird (*D.* 1038) was most commonly used by Cinnamus ii and does not appear elsewhere in Paternus's work or that of his associates. It is also noticeable that the bird in Paternus's scrolls is nearly always a peacock. Rogers assigns the leaf (his H7) to Attianus ii, but a rubbing of one of the bowls in question (Stanfield & Simpson 1958, pl 87, 26) shows it to be different. He also attributes the Rough Castle piece to Cinnamus, but this can hardly be so, in view of the ovolo. It

is more likely to be by one of Paternus's predecessors or associates, such as Laxtucissa. c AD 155–90. Unregistered, A, US.

- 70 Unregistered B Form 37, Central Gaulish, with a straight line beneath the ovolo, in the manner of Secundus v of Lezoux, and with a large, double medallion. c AD 145–75. Unregistered, B, US.
- 71 Unregistered Form 37, Central Gaulish, with a basal wreath of four-petalled rosettes (Rogers C21) and a panel with a hare (*D.* 950A). Both appear on stamped bowls of Quintilianus i, the rosettes at Lezoux, the hare at London (Bethnal Green; Stanfield & Simpson 1958, pl 68, 4). c AD 125–45. Unregistered, US.
- 72 Form 37, with ovolo (Rogers B208) and conventional tree (*ibid.*, Q42), used at Lezoux by Docilis i. c AD 140–65. Unregistered C, US.
- 73 Form 18/31, Central Gaulish. Presumably early Antonine, if the form is identified correctly. Recorded in Macdonald 1933, 258.

The Potters' Stamps

Superscript numbers in the stamp-list

1. Stamp attested at the pottery in question.
2. Not attested at the pottery in question, but other stamps of the potter known there.

All, with the exception of 74, are in the NMAS.

- 74 Cinnamus ii on form 37, Lezoux. Recorded by Macdonald (1931, no 171) as CINNAM I on a large label, this must surely be the usual large stamp CINNAM I retrograde (die 5B). The bowl seems not to have survived. c AD 150–80. US.
- 75 Do(v)eccus i 11a on form 15/31 DOVIICCVS Lezoux. Form 15/31 is an uncommon form made occasionally at Lezoux (Oswald & Price 1920, pl XLIII, 43). The stamp is not recorded in any certainly dated contexts, though two examples in the Chesters Museum are presumably from Hadrian's Wall. Do(v)eccus's decorated ware occurs commonly in mid to late Antonine contexts, possibly including the Wroxeter Gutter (Atkinson 1942, pl 36, G9). It can scarcely be earlier than AD 160 and probably not earlier than AD 165. None has been recorded from Scotland. However, his plain samian does not necessarily start quite so late (cf the work of the associated potter Casurius ii, where there is reason to date some of his plain ware earlier than his decorated ware). Nevertheless, this single stamp of Do(v)eccus from Scotland is one of the latest pieces recorded from the Antonine Wall. c AD 160–90. FR 304, US.
- 76 Peculiaris i 2A on form 18/31 ꝥECVLIARIS F Lezoux. This is presumably the stamp read as OFCVNI by Joseph Anderson (1905, 492). It has been recorded from Les Martres-de-Veyre, but not necessarily from the kilns. His fabrics suggest manufacture only at Lezoux. This stamp occurs at other Antonine Wall sites and is in the material from the second-century fires at Verulamium (c AD 155–60) and Worcester. It was used on a wide variety of forms, including 27 (occasionally), 79 and 80. c AD 150–75. FR 299, US.
- 77 Suobnus 2a on form 18/31 (SV)QBNI·M Les Martres-de-Veyre. Suobnus belonged to the later group of potters at Les Martres. There are ten examples of this stamp in Antonine Scotland. His associated forms, mainly 18/31 and 27, suggest a date c AD 130–55. This is presumably Anderson's stamp (1905, 492) . . NI·M and Macdonald's (1931, no 131) (SECVN) DINI·M. Unregistered, US.
- 78 Tasgillus ii 9b on form 33 TASGILLIM. Tasgillus worked at both Les Martres-de-Veyre and Lezoux, but the fabric associated with this particular stamp suggest that it was used only at Lezoux. The die was made by *surmoulage* from an impression of die 9b. The original version appears at Camelon. His general record includes Birdoswald, Corbridge and Malton. A date c AD 130–45 seems likely for his activity at Lezoux. FR 301, US.

Coarse Pottery (figs 7–10)

The pottery examined included not only that from the excavations of 1957–61, but also that recovered during later work on the site, principally in the main ditch and on the spoil heaps in the area of the pits or *lilia*. Pottery in the NMAS, from earlier excavations, was also examined, but only types not adequately represented in the more recent assemblage have been included in this report.

The types present are amphorae, mortaria, flagons, narrow-necked jars, small flasks, handled beakers, poppy-head beakers, rough-cast beakers, cooking pots, bowls and dishes. The mortaria are discussed separately by Mrs Hartley. The fabrics include a light brown-grey for the amphorae, orange,

red, white and fine grey among the flagons, orange Severn Valley ware, represented by one sherd, and black burnished 1 and 2. A very few cooking pots, bowls and dishes are in hard grey, white or coarse grey-brown fabrics. BB2 outnumber BB1 in the ratio of 3 : 1, both in the assemblage from the more recent excavations and in that in the NMAS.

The Colchester area – Thames estuary was probably the source of most of the BB2 and of the poppy-head beakers. (Williams below p 256; Gillam 1973, 56). Most of the BB1 vessels came from Dorset, from the Wareham – Poole Harbour area, while some were made at Rossington Bridge, Yorkshire. A small amount of the BB1 sherds are from a third, as yet unidentified, source. (Williams below p 257). The Severn Valley has produced one sherd (Webster 1977, 166). The pottery is consistently Antonine in date.

The majority of the pottery was found in two areas – the western part of the N barracks in the western *praetentura*, and the western *intervallum* road.

The following abbreviations are used:

BB1	Black-burnished category 1 (Gillam 1960, 126–27).
BB2	Black-burnished category 2 (Gillam 1960, 126–27).
Bar Hill 1975	Robertson, Scott & Keppie 1975.
Balmuilty 1922	Miller 1922.
Birrens 1975	Robertson 1975.
Gillam	Gillam 1970.
Mumrills 1929	Macdonald & Curle 1929.
Mumrills 1960–61	Gillam 1960–61.

Mortarium-like Bowl

- *79 Rim sherd of mortarium-like bowl, with flat topped projecting rim, top reeded with three grooves; in hard off-white fabric with fine inclusions. NMAS, US.

Flagons

- *80 Rim, neck, handle and body sherds of one-handled flagon with ring-neck, in fine grey fabric, smooth but not burnished. From the main ditch, US. cf Mumrills 1929, fig 100.5, in dark red ware; Mumrills 1960–61, fig 14.72, in red, self-coloured fabric, but interior different; Balmuilty 1922, pl XLIII, 3, in white or red fabric, interior different; Bar Hill 1975, fig 51.4, in pinkish-buff clay, with grey core.
- 81 Two base fragments in fine grey fabric, smooth but not burnished, possibly part of 80. From the main ditch, US.
- *82 Rim fragment of flagon, in pale orange fabric. From W part of N barrack in W *praetentura*, US.
- *83 Rim, neck, part of handle and part of shoulder of one-handled flagon, in red fabric. NMAS FR 923, US.
- *84 Rim and neck of flagon with ring-neck, in fairly soft white fabric. NMAS FR 925, US.
- *85 Rim and neck of flagon with grooved ring-neck, in orange fabric with cream slip, NMAS FR 926, US.
- *86 Rim of flagon with collared neck, in orange fabric with very slight trace of cream slip. NMAS FR 928, US. cf Balmuilty 1922, pl XLIII, 8. Also, in NMAS, rim of flagon in grey ware, US.

Jars

- *87 Two rim fragments of narrow necked jar, in light brown-grey fabric. W. Also, two rim sherds, similar in form and fabric. W. All from W *intervallum* road, on subsoil presumably antedating phase 1 road but possibly disturbed.
- *88 Rim sherd of large jar with turned-down flange, in black fabric, lightly burnished. From W part of N barrack in W *praetentura*, US. cf Birrens 1975, fig 66.2, 3, red, grey core, Antonine I; fig 66.4, grey, darker surface, burnished, Antonine I; Balmuilty 1922, pl XLIV, 1, mostly in fine red fabric but many in 'black fumed ware'; Bar Hill 1975, fig 51.23, in very hard grey clay.
- *89 Rim sherd of Severn Valley ware jar with turned-down rim, in soft orange fabric. NMAS FR 874, US. cf Webster 1977, 166.17.
- *90 Rim sherd of jar in pale pinkish-buff fabric with grey core. NMAS FR 927, US.

Unguent Flasks

- *91 Fragment of small flask or unguent pot in grey paste, with grey interior and exterior, on top of orange. From W part of N barrack in *W praetentura*, US.
- 92 Body sherd of small flask or unguent pot, with horizontal ribbing on exterior, in orange-red fabric with cream slip on exterior. NMAS, US. cf Gillam 36, AD 90–160, Gillam 37, AD 120–70.
- 93 Base of small flask in orange-red fabric. NMAS, US. cf Gillam 38, AD 150–220. Also, body sherd of similar flask, in orange-red fabric. NMAS, US.

Handled Beakers

- *94 Rim sherd of handled beaker with short, upright rim, and with junction between neck and shoulder sharply defined; in BB1, probably from Dorset. W. cf Gillam 65, AD 140–300.
- 95 Two rim sherds, similar to 94, diameters c 50 and 60 mm, in BB1, probably from Dorset. W. All from W part of N barrack in *W praetentura*, US.

Poppy-head Beakers

- *96 Two rim, 2 base and 13 body sherds, probably all of same poppy-head beaker, in grey fabric, with highly burnished exterior, silvery-grey and dark metallic grey-black; decorated with panels of barbotine dots. Two sherds from W part of N barrack in *W praetentura*, US; 14 sherds from *W intervallum* road, of which 8 from phase 3 road drain sealed by burnt material, 3 from layer sealed by burnt material and 3 from crude stone setting above burnt material; 1 US. cf Gillam 71, AD 150–200 though bigger. Probably produced near Colchester (Gillam 1973, 56).
- *97 Rim fragment of small beaker in unburnished grey fabric, similar in form to 96. From the *lilia* spoil heaps, US. Also, in NMAS, body sherd with panel of barbotine dots. US.

Rough-cast Beakers

- *98 Three joining rim sherds of rough-cast beaker in creamy-buff paste with greyish-brown surfaces inside and out; exterior burnished above zone of rough-cast decoration. cf Gillam 74, AD 120–60.
- 99 Another rim fragment, probably of rough-cast beaker, in white paste with black surfaces, similar in form to 98; diam 100 mm. 98 & 99 from W part of N barrack in *W praetentura*, US.
- *100 Two joining base and body sherds of rough-cast beaker in off-white paste with light red slip inside and out. From W part of N barrack in *W praetentura*, US, and from N *intervallum* road, phase 3 road drain. cf Gillam 74, AD 120–60.
- *101 Rim fragment, burnt, probably of rough-cast beaker, with dark-red core and black surfaces. From road between N and S barracks in *W praetentura*, US. cf Gillam 75, AD 130–80.
- *102 One base and 3 body sherds, all joining, of rough-cast beaker in white paste, with orange-red slip. One from area between N rampart and *intervallum* road, US, and 3 from W part of N barrack in *W praetentura*, in and possibly contemporary with drip-trench surrounding ephemeral building erected at beginning of occupation. cf Birrens 1975, fig 76.37, red clay, black slip, US.
- 103 Base of rough-cast vessel with white paste and reddish-brown slip. Also, body sherd in same fabric, probably part of same vessel. Both from W part of N barrack in *W praetentura*, US.
- 104 Ten body sherds with rough-cast decoration, in white paste with dark-grey black slip, burnished above rough-cast zone. Seven from W part of N barrack in *W praetentura*, US, 2 from N *intervallum* road, phase 3 road drain, and 1 from W *intervallum* road, sealed by burnt material.
- 105 Five body sherds with rough-cast decoration in light brown-buff paste, with grey slip. From W *intervallum* road, in patch of burnt debris at angle between rampart and *ascensus*, overlying all road levels.
- 106 Body sherd with beginning of rim, in pinkish-grey paste, with dark grey slip, and another body sherd with beginning of rim, in pinkish-grey paste, with red interior and exterior, lightly burnished above zone of rough-cast decoration. Both from W part of N barrack in *W praetentura*, US.
- 107 In NMAS, 4 base and 1 body sherds with rough-cast decoration, FR 319, 320, 321, 326 & 934, US.

Cooking Pots

- *108 Four rim sherds of one or more cooking pots with everted rims, in light brown paste with light brown interior, and dark grey-black exterior; much abraded. W. Also, a very small rim sherd, similar in form and fabric, diam 110 mm. All from W *intervallum* road, in patch of burnt debris at

- angle between rampart and *ascensus*, overlying all road levels. Another rim sherd, similar in form in gritty-grey fabric with traces of grey-black burnish on top of rim. Diam c 110 mm. From the *lilia* spoil heaps, US.
- *109 Rim sherd of cooking pot with beaded everted rim, in hard grey ware. From N *intervallum* road, sealed by cobbling of phase 3 road. W.
 - *110 Rim sherd of cooking pot with slightly everted rim, and with 2 slight ribs beneath rim, in off-white fabric. From N *intervallum* road, associated with phase 3 road drain.
 - *111 Rim sherd of cooking pot with short upright bead-rim. Fairly broad acute-angled lattice on the unburnished girth; the burnish on the shoulder and exterior of rim extends over the lip down to the inside junction of neck and shoulder. In BB1, probably from Dorset. From E part of N barrack in W *praetentura*, US. W. cf Mumrills 1960-1, no 3.
 - *112 Rim sherd of cooking pot with short upright rim and with two shallow horizontal grooves on burnished shoulder. Decorated on unburnished surface with vertical strokes. In BB1. NMAS. US.
 - 113 Rim fragment of cooking pot, similar to 111, but with more pronounced bead rim. In BB1; diam 100 mm. From the *lilia* spoil heaps, US.
 - 114 Rim fragment of cooking pot with fairly high, almost straight rim. Decoration as on 111, In BB1, probably from Dorset. From the *lilia* spoil heaps, US. cf Gillam 119, AD 120-60.
 - *115 Two rim sherds of small cooking pot with small rim, slightly curved, and with fairly broad acute-angled lattice decoration on the unburnished girth. In BB1. From E part of N barrack in W *praetentura*, US. W.
 - 116 Rim fragment of cooking pot similar in form and fabric to 115. Diam 125 mm. From the *lilia* spoil heaps, US.
 - *117 Rim sherd of cooking pot with small, slightly curved rim, in BB1. From W *intervallum* road, US. W. cf Gillam 120, AD 120-60 but without the wavy line on the neck.
 - 118 Rim of cooking pot similar in form and fabric to 117. From the *lilia* spoil heaps, US.
 - *119 Rim sherd of cooking pot similar to 117 but with slight beading of rim, in BB1. From W *intervallum* road, phase 3 road drain, sealed by burnt material. W HMA. cf Gillam 120, AD 120-60, but without the wavy line on the neck.
 - *120 Rim fragment of cooking pot with tall, almost straight bead-rim, and with the junction between neck and shoulder less visibly defined than in other types of BB1 cooking pots. In BB1, probably from Dorset. From the *lilia* spoil heaps, US. W. cf Gillam 122, AD 120-60.
 - *121 Rim sherd of cooking pot with thick bead-rim, with the junction between neck and shoulder sharply defined. In BB1. From the area between N rampart and *intervallum* road, US. W. cf Gillam 124, AD 120-60.
 - *122 Rim fragment of cooking pot with bead-rim, pointing outwards slightly. Decorated with wavy line on neck. In BB1. From the main ditch, US. W. cf Gillam 125, AD 120-80.
 - 123 Rim fragment of cooking pot similar to 122, in BB1, with wavy line on neck. From the *lilia* spoil heaps, US. W.
 - *125 Rim sherd of cooking pot with tall bead rim, inclined outwards slightly. In BB1, much abraded. W. cf Gillam 127, AD 130-70.
 - 126 Rim sherd of cooking pot similar to 125, diam 140 mm. Much abraded, difficult to say if BB or not. W. 125 and 126 from W part of N barrack in W *praetentura*, US.
 - 127 Rim fragment of cooking pot with upright rim, inclined out slightly, and with a distinct bulge to the neck. In BB1. From the *lilia* spoil heaps. US. W. cf Gillam 129, AD 140-80, but without the wavy line on the neck.
 - *128 Rim fragment of cooking pot with fairly short and sharply everted rim, In BB2. W. cf Gillam 137 AD 150-250. Also, another rim sherd of cooking pot, similar to 128, in BB2. Both from the *lilia* spoil heaps.
 - *129 Small rim fragment of cooking pot with short and sharply everted rim. In BB2. W. cf Gillam 137, AD 150-250. From the *lilia* spoil heaps.
 - *130 Rim sherd of cooking pot with sharply everted rim, in BB2. From W part of N barrack in W *praetentura*, US. W. cf Gillam 137, AD 150-250.
 - 131 Two rim fragments of cooking pots similar in form and fabric, diameters 125 and 150 mm. From the *lilia* spoil heaps, US.
 - *132 Three rim sherds comprising about three-quarters of circumference of cooking pot with rim bent out from the shoulder in a distinct quarter round (cavetto) curve. Tight, slightly irregular lattice

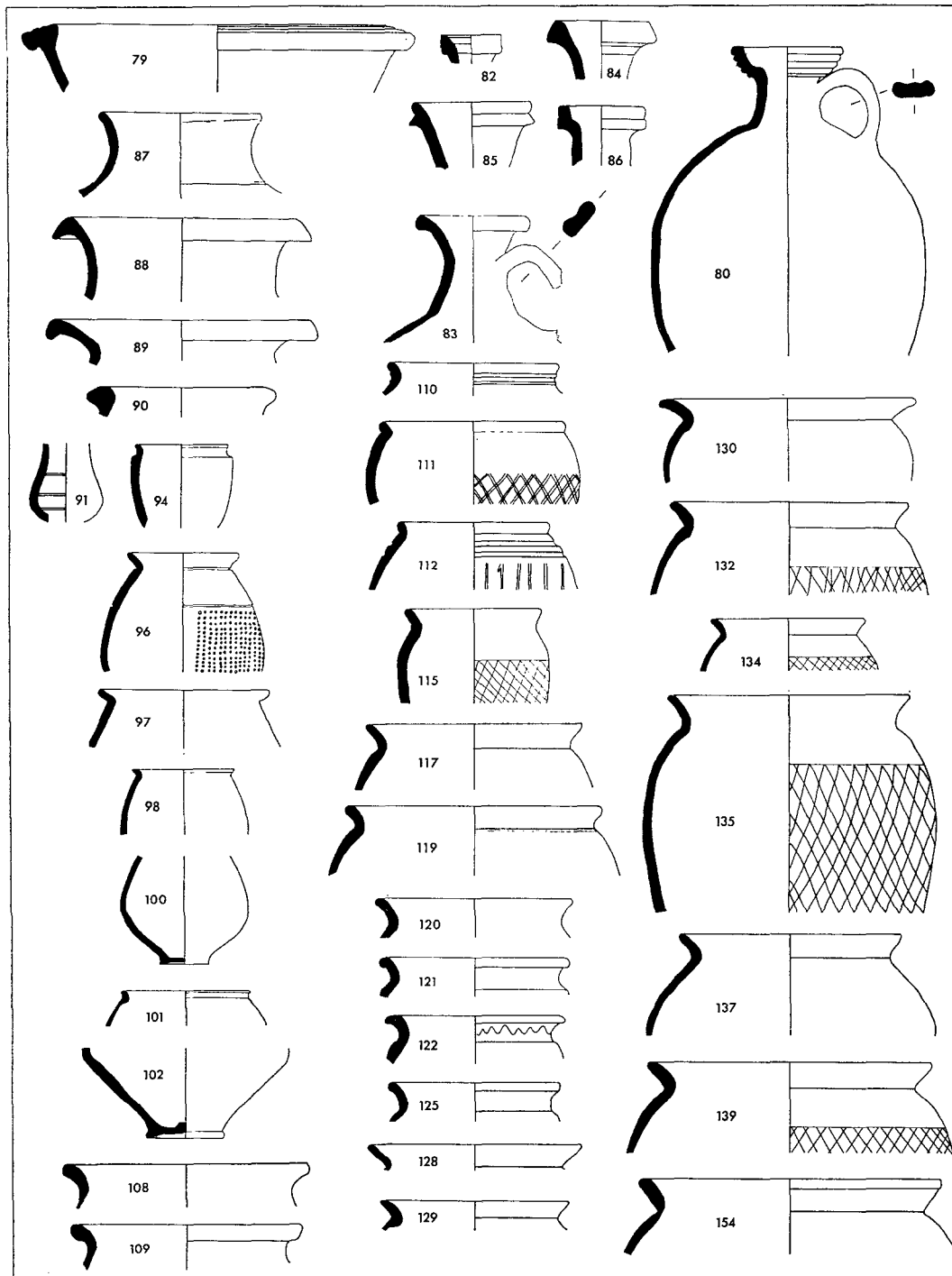


FIG 7 Rough Castle: pottery (1 : 4)

- decoration on unburnished girth. The burnish on the shoulder and exterior of rim extends over the lip to form a narrow band on the inside. In BB2. Two sherds from W part of N barracks in *W praetentura*, US, third from *W intervallum* road, US, W. cf Gillam 139/143, AD 150-250, 180-280.
- 133 4 rim sherds of cooking pots similar to 132, in BB2, diams 115 mm (W), 126 mm ($\times 2$, W HMA), and 150 mm; 3 from *lilia* spoil heaps, US, 1 from W part of N barracks in *W praetentura*, US.
- *134 Rim sherd of small cooking pot, in BB2, with tight acute-angled lattice decoration on the unburnished girth. Burnish on rim and shoulders as on 132. From the main ditch, US. W.
- *135 Eleven joining rim, shoulder and body sherds of cooking pot similar in form, fabric and decoration to 132. Slightly irregular in shape, part of shoulder is indented. From area between N rampart and *intervallum* road, in post-hole relating to structure cut into rampart backing, and in gully by S kerbs of rampart relating to this structure, and from N *intervallum* road, in burnt material overlying phase 3 road drain, and from W part of N barrack in *W praetentura*, US. W HMA.
- 136 3 joining base sherds, which may belong to above vessel. From W part of N barrack in *W praetentura*, US.
- *137 Rim sherd of cooking pot similar to 132 in BB2. No decoration survives on unburnished zone. Another rim sherd, diameter 132 mm, probably part of same vessel. W. Both from *W intervallum* road, in patch of burnt debris over all levels.
- 138 5 rim sherds of similar cooking pots, in BB2, diams 122 mm (W), 132 mm, 120 mm (W), 150 mm (W) and 140 mm (W). 1 from W part of N barrack in *W praetentura*, US, 3 from area between N rampart and *intervallum* road, 2 of which in yellow clay and stones of rampart backing, and 1 sealed below burnt material; 1 from *W intervallum* road, phase 3 road drain sealed by burnt material.
- *139 Two rim sherds of cooking pot similar in form, fabric and decoration to 132. From N *intervallum* road, associated with phase 3 road kerbs. W HMA.
- 140 Four rim sherds of similar cooking pots, in BB2, diams 150 mm (W), 167 mm, 170 mm ($\times 2$). Of these, 1 from N *intervallum* road, 2 associated with phase 3 road kerbs, 1 in burnt material overlying phase 3 road drain, fourth US.
- 141 Three rim sherds of cooking pots similar in form and fabric to 132 diams 122 mm, 132 mm and 86 mm. From W part of N barrack in *W praetentura*, US. W.
- 142 Rim sherd of cooking pot similar in form and fabric to 132 diam 121 mm. From HQ forecourt, US. W.
- 143 Two rim sherds of cooking pots similar in form and fabric to 132. From the *via praetoria*, US. W.
- 144 Rim sherd of cooking pot similar in form and fabric to 132, diam 150 mm. From E part of N barrack in *W praetentura*, US. W.
- 145 Rim sherd of small cooking pot similar in form and fabric to 132. From S barrack in *W praetentura*, US. W.
- 146 Three rim sherds of cooking pots similar in form and fabric to 132 diams 141 mm, 158 mm and 126 mm. From *W intervallum* road, in make-up of phase 2 road, in phase 3 road drain sealed by burnt material, and in patch of burnt debris over all road levels. W.
- 147 Nine rim sherds of cooking pots similar in form and fabric to 132, diams 125 mm (W), 146 mm (W), 105 mm, 120 mm, 150 mm, 130 mm ($\times 4$). From the *lilia* spoil heaps, US.
- 148 Three rim fragments of cooking pots similar in form, fabric and decoration to 132, diams 127 mm ($\times 2$) and 130 mm. From the main ditch, US. W.
- 149 Rim sherd of cooking pot similar in form and fabric to 132, diam 121 mm. From the area between N rampart and *intervallum* road, US. W.
- 150 Rim sherd of cooking pot similar in form and fabric to 132, diam 132 mm. From N *intervallum* road, phase 3 road drain. W.
- 151 Six rim sherds, one joining body sherd and 17 other body sherds, all burnt, of cooking pot similar in form and fabric to 132, diam 152 mm. From road between N and S barracks in *W praetentura*, on gravel surface of road. W. Also, rim sherd of similar cooking pot, in BB2, diam 120 mm, from same road, US.
- 152 Rim and shoulder fragment of cooking pot similar in form and fabric to 132, diam 132 mm. From the E gate area, US. W HMA.
- 153 Rim sherd of cooking pot similar in form and fabric to 132, from area immediately outside N rampart, US. W.
- *154 Rim fragment of cooking pot similar in form to 132, but in grey fabric, smooth but not burnished.

- 155 Rim fragment of cooking pot similar in form to 154, in fairly hard light brown-buff fabric, diam 156 mm. Both 154 and 155 from the *lilia* spoil heaps, US.
- *156 Three rim sherds of cooking pot with short bead-rim, in BB2. From S barrack in *W praetentura*, US. W HMA. cf Gillam & Mann 1970, fig 2.14.
- *157 Rim sherd of cooking pot in BB2, similar to 156. From W part of N barrack in *W praetentura*, US. W.
- 158 Two rim sherds of cooking pot in BB2, similar to 157. From *W intervallum* road, in patch of burnt debris over all road levels, and US. W.
- *159 Three rim sherds of cooking pot with inturned rim, in orange-brown paste with grey core, and with greyish-orange-brown lightly burnished surfaces. From the *lilia* spoil heaps, US.

Bowls/Dishes

- *160 Rim fragment of bowl with two external grooves below rim and decorated with an irregular wavy line on the previously burnished exterior wall. In BB2. From W part of N barrack in *W praetentura*, US. W. cf Gillam & Mann 1970, 19.
- 161 Rim fragment of bowl, similar in form to 160, and 2 body sherds, one with 2 grooves, the other with a wavy line. In BB2. Two from *lilia* spoil heaps, 1 from W part of N barrack in *W praetentura*, US. W.
- *162 Eight rim, wall and base sherds of shallow dish similar to 160, with plain rim, one external groove below rim, and decorated with an irregular wavy line. In BB2. From *W intervallum* road, sealed by burnt material, and from W part of N barrack in *W praetentura*, US.
- *163 Rim fragment of plain rimmed dish similar to 160 with single groove below rim. In BB2. From W part of N barrack in *W praetentura*, US.
- 164 Rim fragment of bowl with flat rim, and with slight bulge in upper part of exterior wall. In BB1. Diam 200 mm. From the *lilia* spoil heaps, US. W. cf Gillam 221, AD 140–80.
- *165 Rim fragment of straight-sided dish with short, downturned rim, and with acute-angled lattice decoration on the previously burnished exterior wall. In BB2. From the *lilia* spoil heaps, US. W. cf Gillam 222, AD 150–210; Gillam & Mann 1970, fig 2.22.
- *166 Rim fragment of bowl with downturned rim; fabric and decoration as 165. cf Gillam 222, AD 150–210.
- 167 Ten similar rim sherds, in BB2, 8 of which from *lilia* spoil heaps, US, (4 W), 1 from S barrack in *W praetentura*, associated with drip-trench, W, and 1 from W part of N barrack in *W praetentura*, US. W.
- *168 Rim fragment of straight-sided bowl with short triangular rim; form, fabric and decoration as 165. From W part of N barrack in *W praetentura*, US. W.
- *169 Rim fragment of straight-sided bowl with short triangular rim; form, fabric and decoration as 165. From the *via praetoria*, US. W.
- 170 Four rim fragments similar in form, fabric and decoration to 169. Diams 215 mm (W), 226 mm (W), 145 mm (W) and 150 mm. From the W part of N barrack in *W praetentura*, 3 US, and fourth associated with burnt material fallen onto *intervallum* road.
- *171 Rim and base sherd of dish with short triangular rim, similar in form, fabric and decoration to 165. Also, another rim fragment, possibly of same dish. W. Both from *W intervallum* road, US.
- 172 Rim fragment of bowl, similar in form, fabric and decoration to 165.
- *173 Two joining rim fragments of bowl similar in form and fabric to 165.
- 174 Rim fragment similar in form and fabric to 165.
- 175 Rim fragment of bowl similar in form and fabric to 165.
172, 173, 174 and 175 from *W intervallum* road; 172, 173 and 174 in patch of burnt debris at angle between rampart and *ascensus*, overlying all road levels, and 175 from phase 3 road drain, sealed by burnt material. W.
- *176 Rim fragment of bowl with rounded downturned rim, similar in form, fabric and decoration to 165. From W part of N barrack in *W praetentura*, US. W.
- *177 Two joining rim fragments of bowl with slight basal chamfer, similar in form, fabric and decoration to 165. From W part of N barrack in *W praetentura*, US. W.
- *178 Small rim fragment of bowl similar in form and fabric to 165. From W part of N barrack in *W praetentura*, US. W.
- 179 Rim sherd of bowl similar in form, fabric and decoration to 165. From HQ forecourt, US. W.

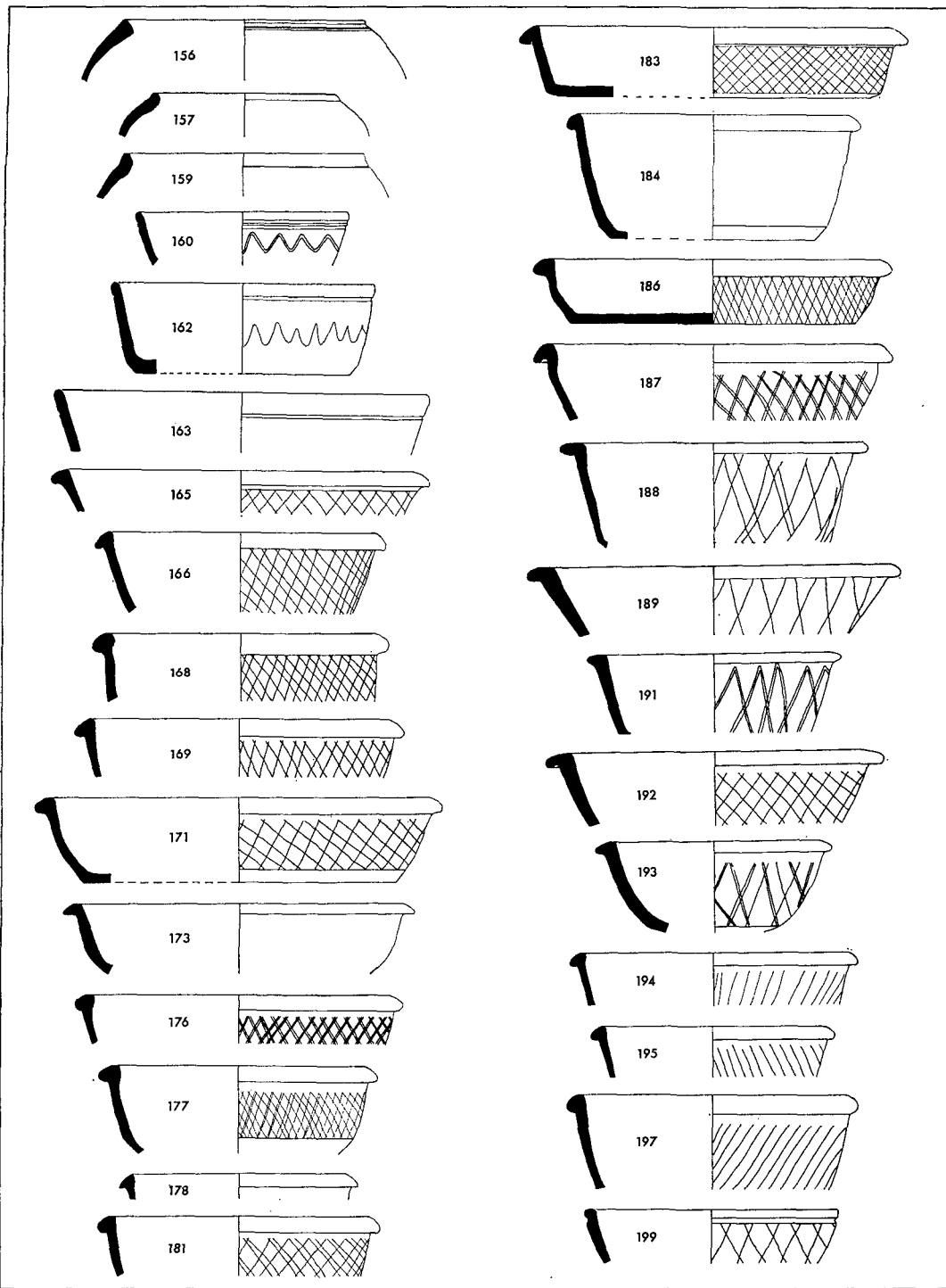


FIG 8 Rough Castle: pottery (1 : 4)

- 180 Rim fragment of bowl with rounded downturned rim, similar in form, fabric and decoration to 165, diam 222 mm. From the *via praetoria*, US. W.
- *181 Two joining rim fragments of bowl with downturned rim, similar in form, fabric and decoration to 165.
- 182 Two rim sherds, similar to 181. In BB2. Diam 200 mm. From the main ditch, US. W.
- *183 Nine rim, wall and base sherds of dish with short triangular rim and basal chamfer; similar in decoration and fabric to 165. From E part of N barrack in W *praetentura*, US. W HMA. cf Gillam & Mann 1970, 22.
- *184 One rim and 1 joining rim and base sherd of bowl with slight basal chamfer and short, rounded downbent rim. Rather irregular in shape, and covered with a reddish-brown deposit, inside and out. In BB2. From area between N rampart and *intervallum* road, US. W. cf Gillam 222, AD 150–210.
- 185 Two rim sherds of dish with short triangular rim and slight basal chamfer, similar in form, fabric and decoration to 183, diam 207 mm. From the *via praetoria*, US, and from S barrack in W *praetentura*, US. W.
- *186 Thirteen rim, wall and base sherds of dish with rounded downturned rim, similar in form, fabric and decoration to 183. From W *intervallum* road, sealed by burnt material, and from W part of N barrack in W *praetentura*, US. W HMA.
- *187 Two joining rim sherds of bowl with downturned, hooked-over rim, with acute-angled lattice decoration with wide strokes, on the previously burnished surface. In BB2. From W part of N barrack in W *praetentura*, US. W. cf Gillam & Mann 1970, 21.
- *188 Three rim sherds of bowl with flat, slightly inward sloping rim, basal chamfer and irregular acute-angled lattice decoration on the previously burnished surface. In BB1, probably from Dorset. From S barracks in W *praetentura*, associated with paving interpreted as barrack threshold. W. cf Gillam 306, AD 120–60.
- *189 Rim sherd of dish on bowl with flat, slightly inward sloping rim. Decorated with widely spaced acute-angled lattice pattern on previously unburnished exterior wall. In BB1. From N *intervallum* road, in make-up of road surface. W HMA. cf Gillam 306-307, AD 120–60.
- 190 Seven rim sherds similar in form, fabric and decoration to 189. Two from S barrack in W *praetentura*, one associated with paving interpreted as barrack threshold, other in filling of large round pit (W HMA). Five from *lilia* spoil heaps (1W). Rim and base sherd of dish similar in form and fabric to 189, with irregular zig-zag decoration on underside of base. Rim diam 165 mm. NMAS FR 324, US.
- *191 Two rim fragments, probably of same bowl, with very short flat-topped rim; similar in form and fabric to 189. Decorated with elongated acute-angled lattice pattern, with thick strokes, on the previously burnished exterior surface. From W part of N barrack in W *praetentura*, US. W.
- *192 Rim sherd of bowl with flat-topped rim, sloping outwards slightly. Decorated with acute-angled lattice pattern on the previously burnished exterior wall. In BB1, probably from Dorset. From N *intervallum* road, phase 3 road drain. W. cf Gillam 307, AD 120–60.
- *193 Rim sherd of bowl with short flat-topped rim, sloping outwards. Decorated with slightly irregular acute-angled lattice pattern. In BB1, probably from Dorset. From N *intervallum* road, phase 3 road drain. W. cf Gillam 307, AD 120–60.
- *194 Rim sherd of bowl with short downturned triangular rim, decorated with oblique strokes on the previously burnished surfaces. In BB2. From S barrack in W *praetentura*, US. W. cf Gillam 310, AD 150–210.
- *195 Rim sherd of bowl similar in form, fabric and decoration to 194. Also, small rim fragment similar to 195 diam 144 mm. Both from W part of N barrack in W *praetentura*, US. W.
- 196 Rim sherd of bowl with short triangular rim, similar in form, fabric and decoration to 194. From the *lilia* spoil heaps, US. W.
- *197 Rim fragment of bowl with short rounded downturned rim, similar in form, fabric and decoration to 194. W HMA. Also, 5 rim sherds of similar bowls. Four of above sherds from W part of N barrack in W *praetentura*, US, 1 from W *intervallum* road, US, and 1 from *lilia* spoil heaps, US.
- 198 Rim fragment of straight-sided dish with short triangular rim, decorated with a shallow wavy line on the previously burnished exterior. In BB1. Diam 120 mm. From the *lilia* spoil heaps, US. W. cf Gillam 311, AD 150–210.
- *199 Rim fragment of bead-rimmed dish with external groove below the rim, and with widely spaced

- acute-angled lattice decoration on the previously burnished exterior. In BB1. From the *lilia* spoil heaps, US. W. cf Gillam 316/318, AD 125-60, 160-200.
- *200 Rim fragment of dish with very slight groove or indentation below the rim. In BB1, probably from Dorset. From the *lilia* spoil heaps, US. W. cf Williams 1977b, fig 1.10.
- *201 Ten rim, wall and base sherds of dish with slightly beaded rim, basal chamfer, and acute-angled lattice decoration on the previously burnished exterior wall. Looped zig-zags on underside of base. Slightly irregular in shape, bead-rim in particular varies in thickness. In BB1. From E part of N barrack in *W praetentura*, US. W HMA. cf Gillam 318, AD 160-200.
- *202 Rim fragment of straight-sided and plain rimmed dish, decorated with a shallow wavy line on the previously burnished exterior. In BB2. From S barrack in *W praetentura*, filling of large round pit. W. cf Gillam 328, AD 150-200.
- 203 Five rim sherds similar in form, fabric and decoration to 202. Two from *W intervallum* road, one of which from patch of burnt debris at angle between rampart and *ascensus*, overlying all road levels, and the other from a layer sealed by the above-mentioned burnt material. Two sherds from W part of N barrack in *W praetentura*, US, and one from the *lilia* spoil heaps. Another rim sherd is similar to 202, but difficult to say if BB or not (W). Also from the *lilia* spoil heaps, US.
- *204 Rim sherd of straight-sided and plain-rimmed dish. In BB1, probably from Dorset. From the main ditch, US. W. cf Gillam 329, AD 190-340. Also, three rim sherds of dishes similar in form and fabric to 204, from the *lilia* spoil heaps, US. W.
- *205 Rim fragment of bowl with beginning of handle, in hard off-white fabric, lightly burnished, with many fine inclusions. From W part of N barracks in *W praetentura*, US.
- *206 Body sherd of bowl with beginning of handle, in hard off-white fabric, with many fine inclusions; lightly burnished.
- *207 Small rim fragment of bowl in hard off-white fabric with many fine inclusions. Two slightly irregular grooves below rim, on exterior.
- 206 and 207 from N *intervallum* road, phase 3 road drain.

The Black-burnished Ware

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The term 'black-burnished' ware is used here in the sense of Webster (1969, 5) and Gillam (1970, preface), to describe a range of cooking and associated vessels in a distinctive fabric.

The following abbreviations are used:

G Gillam (1957).

GM Gillam & Mann (1970) and the second century types of black-burnished ware illustrated in figs 1 and 2.

A macroscopic examination was made of a large representative sample of black-burnished ware from Rough Castle. In addition, 12 sherds were selected for heavy mineral analysis (Peacock 1967), and Table 1 shows the results in terms of non-opaque minerals.

In the sample, BB2 vessels easily outnumber those in BB1 fabric, which suggests an Antonine II date (unless in an undivided Antonine deposit?).

All the BB2 sherds are well burnished and have received a slip, the surface colour is generally either black or pinkish-grey, though one or two sherds have clearly been exposed to an oxidizing firing. The fabric of these BB2 samples is reasonably homogeneous, which suggests a single source for all the sherds. This seems to be borne out by a heavy mineral analysis on eight sherds (Table 1 nos 1-8) which produced an assemblage characterised by a high tenor of zircon combined with almost equal amounts of tourmaline and garnet, and a moderate amount of rutile and kyanite, and which agrees well with an analysis of a large group of BB2 vessels shown to have been made at Colchester (Williams 1977a, Group XII).

In addition to Rough Castle, early BB2 forms have been identified from Newstead (*ibid*), Mumrills (Williams 1977b) and Bearsden (Williams forthcoming), and it seems likely that Colchester was supplying most, if not all, of the BB2 found in the north at this time.

The BB1 sherds which make up the sample appear to be in a number of different fabrics, suggesting several centres of production. However, BB1 from the Wareham-Poole Harbour area of Dorset seems to be in the majority. The fabric of these latter sherds is black, or very dark grey throughout, and contains

TABLE 1

No	Type	Zircon	Tourmaline	Rutile	Kyanite	Andalusite	Staurolite	Garnet	Apatite	Anatase	No. grains counted
1 183	Bowl/dish G.222/G/M.22	72.6	10.1	2.4	4.3	—	1.0	9.6	—	—	502
2 186	Dish, G/M.22	74.7	8.6	3.9	3.5	0.8	0.9	6.8	—	0.8	438
3 197	Dish, G.310	71.8	9.5	2.6	5.7	0.6	1.2	8.6	—	—	468
4 156	C-P, G/M.14	76.1	6.3	3.2	4.0	0.9	1.3	8.2	—	—	720
5 152	C-P, G.139/143	70.8	11.2	2.8	3.8	0.3	0.8	9.5	—	0.8	572
6 135	C-P, G.139/143	77.6	9.5	2.9	2.4	—	2.1	5.5	—	—	480
7 133	C-P, G.139/143	75.3	9.3	2.3	3.6	0.6	1.1	7.4	—	0.4	678
8 139	C-P, G.139/143	73.6	8.7	3.9	5.7	0.6	0.9	6.6	—	—	347
9 189	Dish, G.306/307	42.9	49.7	1.8	2.6	0.9	—	—	0.4	1.7	349
10 201	Dish, G.318	51.3	44.6	1.7	1.4	0.5	—	—	0.3	0.2	472
11 190	Dish, G.306/307	78.8	10.7	—	—	0.8	—	9.7	—	—	614
12 119	C-P, variation G.120	61.0	8.6	6.9	3.4	2.9	2.7	12.5	0.6	1.4	527

a considerable amount of quartz sand temper. Two samples were analysed as being likely Dorset fabrics (Table 1, nos 9 & 10), and both produced an assemblage with a high tenor of tourmaline and no garnet, identical to those BB1 vessels associated with the Dorset centre (Williams 1977a, Group I).

Also represented at Rough Castle are a small number of sherds which appear to be products of the series of kilns at Rossington Bridge, known to have been making BB1 on a smaller scale than Dorset from about the middle of the second century (Farrar 1973, 95; Williams 1977a). The predominant colour appears to be dark grey, the cooking-pots having a slight 'lustre' to them; less sand temper is used than is normal, for instance, in Dorset BB1. One of the sherds thought likely to have been made at Rossington Bridge (Table 1, no 11) produced an assemblage close to those obtained from 'wasters' from the kilns at Rossington Bridge, with a fairly high amount of garnet present (Williams 1977a, Group II).

Small quantities of likely Rossington Bridge BB1 have been recognised by the writer in Antonine contexts at Balmuildy, Bar Hill, Castledykes and Bearsden. The possibility exists that these BB1 wares from Rossington Bridge owed their conception to a potter, or potters, from Dorset moving closer to the important northern military market, since there are similarities of form and decoration between the products of both centres (Farrar 1973, 95; Williams 1977a). In this connection, such a proposed move from Dorset to Yorkshire may well have taken place as a direct result of the change of frontiers, from Hadrian's Wall to the Antonine Wall, and the resulting competition from BB2 pottery. If this is so, then the comparatively small amount of Rossington Bridge BB1 on the Antonine Wall may have been partly due to the early abandonment of the latter (Hartley 1972), before the BB1 from the better situated Rossington Bridge site was able to get properly established.

Another, smaller, centre, as yet unknown, was also supplying BB1 pottery to Rough Castle. In previous analyses a small group of vessels from Birdoswald, Mumrills and Bearsden has been isolated from the two main BB1 centres mentioned above (Williams 1977a, Group III; Williams forthcoming). A heavy mineral analysis on a cooking-pot, G120, but lacking the wavy line decoration on the neck (Table 1, no 12), identical to samples from Mumrills and Bearsden, produced a similar assemblage, suggesting the same origin.

Mortaria

Katharine F Hartley

Fabrics

Fabric 1 Mancetter-Hartshill potteries in Warwickshire c AD 100-370+

A fine-grained, white to cream fabric usually with very little tempering. Mortaria made here in the first half of the 2nd century are fairly soft but increasingly in the second half of the century they were

fired to a harder, smoother texture. The normal trituration grit after AD 150-60 was a dark greyish brown and/or red-brown material; before this date and especially before AD 140 it often included quartz.

Fabric 2 Colchester c AD 140-200 (Hull 1963)

This fabric may be various shades of cream, but is often yellowish; it usually contains a fair amount of flint and quartz tempering. The trituration is usually flint with a little quartz. The mortaria in this fabric were probably never fired as hard as those made at Mancetter after AD 150-60 but in normal circumstances they survive very well. The majority of those in Scotland, however, have deteriorated beyond belief and when out of the ground continue to disintegrate into tiny fragments. This is probably due to the high calcium content combined with burial in an acid and damp soil. This is the main reason for the high number of unidentified stamps from herringbone dies.

Fabric 3 Workshop of Bellicus at Corbridge c AD 155-85

A slightly abrasive but fairly fine-textured fabric with very fine tempering of quartz and other material. It varies a lot in colour from cream with a greyish core to buff with an orange-pink core and sometimes seems to have a buff slip; red-brown, pale brown, quartz and black trituration grit. It normally survives well but no 264 has deteriorated badly.

Stamped mortaria from Rough Castle

*208 A flange fragment in brownish-buff fabric which probably had a slip though no traces now survive. The fragmentary stamp is from one of at least five dies used by Austinus (see Robertson 1975, 239, fig 84, no 10, for a stamp from a similar but not identical die). No complete impression of this stamp is known but other examples permit the reading $\frac{AVStN}{MAN}$, for Austinus *manu*. Austinus was the only mortarium potter who undoubtedly used *manu* in his stamps though it was a common enough practice among Gaulish samian potters. Fifteen stamps of his are now recorded from sites in Scotland: Balmuildy (3 stamps, perhaps two vessels); Bar Hill; Birrens; Camelon (2); Carzield (2); Cramond; Durisdeer; Milton; Mumrills; Newstead (2), and Rough Castle. Nineteen are recorded from NW England: Ambleside; Birdoswald; Cardurnock (2); Carlisle (6); Chesters Museum; Corbridge (3); Lancaster; Low Borrow Bridge; Maryport; Stanwix; and the Tullie House Museum, Carlisle (provenance unknown but likely to be in NW England).

There are, however, incomplete stamps from two other dies probably belonging to Austinus, which link him with the pottery workshops at Wilderspool (Hartley & Webster 1973, fig 8, N & P). Stamps from these dies are on mortaria which can be attributed on fabric and form to Wilderspool and none have been found N of Hardknott. The likelihood is that his activity began at Wilderspool, where he was one of the more successful potters and that he later moved to the Eden valley.

The distribution of stamps from the five certain dies clearly indicates that their use overlapped the Antonine occupation of Scotland and an occupation of Hadrian's Wall, probably the first one in view of his probable activity at Wilderspool. The high proportion of 44% in Scotland is striking. Activity in the Eden valley c AD 130-60 would fit all the factors and if, as suggested his initial work was at Wilderspool he may perhaps have started there c AD 115-20.

From road between N and S barracks in *W praetentura*, US.

*209 Two large joining fragments from a mortarium in fabric 3, which has been rivetted. (See also nos 262-4 which are from the same workshop.) The very fragmentary stamp is from the single die used by Bellicus. Stamps of his have been noted in Scotland from Mumrills; Newstead; and Rough Castle; and in England from Benwell; Chesters Museum; Corbridge (37); and Great Chesters. The distribution of his stamps clearly show that he was working at Corbridge where mortaria are known to have been made in the second century.

The fact that his stamps occur on both the Antonine and Hadrianic frontiers again shows that his activity overlapped a change of frontier, the small number in Scotland perhaps indicating that the greater part of his activity took place when Scotland was not occupied. Several of his mortaria were found in the Corbridge destruction deposit, now dated c AD 180 (Richmond & Gillam 1950, 190-94), and some in the deposit immediately earlier (information J P Gillam). Moreover, Bellicus used rim forms which are most unlikely to be earlier than the decade AD 150-60; his mortaria are so characteristic that it is often possible

to attribute unstamped fragments to his workshop. Moreover, this workshop undoubtedly made unstamped mortaria like no 262; this was an unusual practice and the most likely explanation is that he was active at the time when potters were ceasing to stamp their mortaria. A date of c AD 155–85 would fit his activity very well. NMAS unregistered.

- *210 Diam c 250 mm. A slightly burnt mortarium in cream fabric tempered with fine grit. The incomplete stamp is from one of the dies of Crico who worked at South Carlton, near Lincoln (Webster 1944, 129–43). The fabric of this mortarium differs from the rest of his known products in being slightly darker and coarser grained but this is not thought to be significant (Hartley & Richards 1965, 33, no 84). Stamps of Crico have been noted in Scotland from Balmuildy; Bothwellhaugh; Cadder; Rough Castle, and Newstead (2); and in England from Birdoswald; Chesterholm; Claxby, Lincs; Corbridge (4); Lincoln; South Carlton (5); and the Yorkshire Museum (1 + 1?). Two of the Corbridge mortaria are from the destruction deposit. His rim-profiles fit best with an early to mid-Antonine date and the Birdoswald stamp could well belong to a date after AD 158. Activity within the period AD 140–80 seems indicated. He was the only South Carlton potter to have had a trade in Scotland; judging from his stamps the army in Scotland took more than a third of his output. In NMAS FR 339, US. (Macdonald 1934, 456, IRICO.)
- *211 Diam c 290 mm. Four fragments and several tiny pieces, probably all from the same worn mortarium in fabric 1 (fabric unusually soft). The two incomplete stamps are from the single die of Doballus. Stamps of his are now known from Duston, Northants (2); Rough Castle; Totternhoe Villa, Beds; and Verulamium. Although the Rough Castle and Verulamium mortaria certainly appear to be in the fabric made in the Mancetter–Hartshill potteries in Warwickshire (Fabric 1), the other three may well be in a Northamptonshire fabric; the distribution, slight though it is, is unusual for a Warwickshire potter. It is worth holding the possibility of migration in mind but more examples of his work are needed to clarify his career. His rim-profiles would fit with manufacture within the period AD 140–80. From N *intervallum* road, on phase 1 road surface.
- *212 A slightly burnt flange fragment in creamy buff fabric with pinkish core and pinkish buff slip, with fine blackish, red-brown and quartz tempering in the clay. The two retrograde stamps, impressed close together, read FEC and are counterstamps of a potter whose namestamps read EMI, presumably for Emianus or Emius.

Twenty-seven stamped fragments from between 21 and 27 mortaria are known for this potter, all from Scotland: Ardoch (2); Balmuildy (3); Bothwellhaugh; Camelon (5); Castledykes (2); Inveresk (2); Newstead (9); Old Kilpatrick (3); and Rough Castle. As all the mortaria are from Newstead and sites N of Newstead it may be assumed that his workshop was in Scotland, probably in the Newstead region. The distribution of his work and the rim-profiles support an Antonine date c AD 140–60/65. His rims can be clearly paralleled in the work of DIS/LDB, Docci(us)?, and to a lesser extent that of Austinus (see no 208), who probably worked in the Hadrianic–Antonine period in the Eden valley near Carlisle. It seems quite likely that he had, perhaps in early life, worked with one of them. (For a more detailed discussion of EMI's work see Hartley 1976, 82–3). In NMAS unregistered, 1920; US. (Macdonald 1934, 456, FEC retrograde.)

- *213 Diam 330 mm. A burnt mortarium in fabric 1 (the trituration grit includes some quartz). The poorly impressed retrograde stamp (ICOTAS \square) is from one of at least seven dies used by Icotasgus who worked in the Mancetter–Hartshill potteries in Warwickshire. His stamps have been found in Scotland from Ardoch; Balmuildy; Castlecary; Newstead and Rough Castle; and in England and Wales from Aldborough; Ambleside; Ancaster; Cardurnock (2); Chesters Museum; Cirencester; Corbridge (4); High Cross (3); Horncastle, Lincs; Leicester (9); Lincoln (2); Little Chester (2); Mancetter (13); Manchester; Margidunum; Maxey; North Collingham; Rocester (3); Rossington Bridge; Shenstone, Staffs; Stanground South, Hunts; Stanton Low, Bucks; Templeborough; Tallington, Lincs; Tripontium; Usk; Wall; Wilderspool (3); Winterton; Wroxeter; and York (1 & 3 likely to be from York).

Icotasgus has a fairly typical distribution for a Mancetter potter working in the Antonine period. Many of his mortaria show pre-Antonine characteristics in the rim forms and the trituration grit used and a date of c AD 130–60 would fit his work well. In NMAS FR 337; US. (Anderson 1905, 492, ICOIVS; Macdonald 1934, 456, ICOTASI retrograde.)

- *214 A tiny flange fragment from a mortarium in fabric 1. More complete examples of the fragmentary stamp read LOCCI-PRO, retrograde for Loccius Pro(culus?). Mortaria of his have been noted in Scotland from Balmuilty (4); Bar Hill; Birrens; Mumrills; Newstead; Old Kilpatrick; and Rough Castle; and in England from Alcester; Aldborough; Ambleside; Benwell; Binchester; Kenchester; Leicester (2); Little Chester; Mancetter (5); Orton Longueville, near Peterborough; Ribchester; Sawtry, Hunts; Shenstone, Staffs; South Shields; Thistleton, Rutland; Wall; and Watercreek.

This potter's activity is dated primarily by the stamps on the Antonine Wall, and at Benwell and South Shields where they must be dated earlier than AD 140 or later than AD 158. There is also evidence to show that he worked at one time with Iunius Loccius, probably a mid-to late-Antonine potter. A date within the period AD 135–65 would fit the dating evidence and the type of rim-profile used.

It is worth noting that although his total output seems to have been much smaller than that of Icotasgus, his sales in Scotland were greater. It seems likely that this difference is due to a slight difference in date. It is, in fact, quite possible that Loccius Pro- did not begin his career until c AD 140. He worked at Mancetter where his activity overlapped with that of other potters sharing the name Loccius, Loccius Vibius who sold mortaria in Scotland, and Iunius Loccius, to whom he was surely related in some way. In NMAS unregistered, US. (Macdonald 1934, 456, LOCCI.bb, & note 1).

- *215 Diam c 330 mm. A mortarium in fabric 1 with two retrograde stamps impressed close together from one of the five dies of Minomelus. His stamps have now been recorded in Scotland from Mumrills; Newstead (2); and Rough Castle; and in England from Aldborough; Ambleside; Catterick; Corbridge (7); Fisherwick, Staffs; Gloucester; Hartshill (several); Heronbridge, Ches; High Cross; Leicester (7); Little Chester; Mancetter (several); Margidunum; Rothley; Shangton, Leics; Shenstone, Staffs; Wall; Water Newton; Willington, Derbyshire; Wroxeter (7); York; and the crossing of Watling Street and Ryknield Street.

A kiln of Minomelus has been excavated at Hartshill (unpublished); the presence of a large number of stamps of Vitalis IV (c AD 115/120–45), who may have been sharing the kiln, suggests that it was not later than AD 145. A date of AD 130–60 might well cover his activity. In NMAS FR 338, US. (Anderson 1905, 492, VINONI F; Macdonald 1934, 456, MINOME retrograde.)

- *216 A flange fragment from a mortarium in fabric 1. There are 2 incomplete, retrograde stamps of Mossius, one of whose dies was found at Hartshill where he worked although none of his kilns have been discovered. His stamps are known from Birrens and Rough Castle in Scotland, and Ancaster; Aunsby, Lincs; Corbridge (2); Duston, Northants; Gargrave, Lancs; Hartshill (die); Leicester (3); Lincoln; Mancetter; Margidunum; Rocester; Tripontium; Verulamium; Wall (2); and Wroxeter in England. The rim profiles used by Mossius would best fit a mid- to late-Antonine date which might perhaps account for the small number of his stamps in Scotland. In NMAS FR 341, US. (Anderson 1905, 492, IOSSIA; Macdonald 1934, 456, OSSIA (SS retrograde).)

- *217 Diam 290 mm. A mortarium in fabric 1 with a virtually complete stamp reading SAR.RIF for Sarrius *fecit*. Sarrius worked in the Mancetter–Hartshill potteries where at least two kilns used by him have been found. He was perhaps the most important mortarium potter of the second century and is especially notable for having opened a second workshop at Rossington Bridge, near Doncaster while continuing to run his Warwickshire one. As might be expected more of his stamps than of any other potter have been found in Scotland, 12 on mortaria in his midland fabric (Ardoch; Balmuilty; Bar Hill (2); Birrens (2); Camelon; Carzield; Mumrills; Newstead; Rough Castle; and Wilderness), and 16 in his northern fabric (Balmuilty (2); Bearsden (12 stamps, at least seven vessels); Birrens; and Camelon). Seventy of his midland mortaria and eight of his northern ones have been noted from England. The relative numbers of midland and northern mortaria in Scotland may be a little unbalanced by the discovery in recent years of 12 Rossington Bridge mortaria at Bearsden (information David Breeze).

The large number of stamps in Scotland leaves no doubt of Sarrius' Antonine date. Only one of his stamps is noted from Hadrian's Wall, from Birdoswald (Richmond & Birley 1930, 188, fig 13, no 2 on 187, described as an illiterate stamp in Period Ia, AD 125–40), but a stamp from Verulamium is recorded from a deposit dated c AD 155/60 (Frere 1972, 378, no 34). Furthermore, none of his stamps have been recorded

from Pennine forts reoccupied c AD 160 and it may also be noted that although 21 of his stamps are known from Corbridge none is recorded from the destruction deposit now dated to c AD 180. It may reasonably be assumed that his activity should be dated c AD 135–65/170. In NMAS FR 336, US, and joining fragment from 1958 excavation from W part of N barrack in W *praetentura*, US. (Anderson 1905, 492, SAR R.IE; Macdonald 1934, 456, SARR.I.F).

- *218 Possibly the stamp referred to in Anderson 1905, 492, as DVRS. .IA, but the reading is quite uncertain. A wall-sided mortarium in sandy textured orange-brown fabric with grey core and cream slip: no trituration grit survives but the fine tempering in the fabric includes flint and red-brown grit with some mica. In NMAS FR 340, US.
- *219 Diam 290 mm. Another wall-sided mortarium burnt to a slightly purplish red with remains of a slip. In NMAS unregistered, US.

Both of these mortaria have stamps impressed along the wall, which are almost certainly by the same potter but exfoliation of the surface makes it impossible to identify the potter or even to read the stamps with any confidence, though further examples may help. They have previously been attributed to Junius Loccius (Birley & Gillam 1948, 182, no 27, D) probably because of the rim form and the position of the stamp. It is now known that quite a few other potters, including Sarrius, occasionally followed these practices. These two mortaria could have been made at Rossington Bridge though manufacture in Scotland is not impossible; they are undoubtedly Antonine in date, c AD 150–80.

Mortaria in Fabric 2, with potters' stamps of herringbone type (Hull 1963, fig 60)

The stamps listed are probably all on different vessels.

- *220 Hull no 30. Form as no 221. In NMAS FR 343, US.
- *221 Diam c 360 mm. About a quarter of a partly burnt mortarium with a stamp surviving to each side of the spout. Hull no 30. From the Antonine Wall ditch, US.
- 222 Diam c 340 mm. Burnt to black throughout. Hull no 30. Form as no 223. From the Antonine Wall ditch, US.
- *223 Hull no 30. From W part of N barrack in W *praetentura*, US.
- 224 Hull no 37. In Falkirk Museum, US.
- *225 Diam c 310 mm. Hull no 33. In NMAS unregistered, US.
- *226 Diam c 340 mm. Hull no 33. In NMAS unregistered, US.
- *227 Hull no 38. From the Antonine Wall ditch, US.
- *228 Hull no 38. Form as no 235. In NMAS unregistered, US.
- *229 Hull no 38. Form similar to no 242. In NMAS unregistered, US.
- *230 Diam 300–20 mm. Hull no 38. Stamps survive to both sides of the spout. Form as no 227. In NMAS unregistered, US.
- *231 Diam c 300 mm. Stamp K/C 2. In NMAS unregistered, US.
- *232 Stamp K/C 3. In NMAS, unregistered, US.
- *233 Diam c 360 mm. Stamp K/C 4. In NMAS unregistered, US.
- 234 Stamp attributed to Colchester but not identifiable. Form as no 236. From E gate area, US.

Nos 231–3 are in fabric 2 and have stamps from three different dies (K/C 2–4 on Table 2). No stamps from these dies have yet been found at Colchester or on any kiln-site. The fabric used is visually identical with that produced at Colchester and there is no reason why they should not have been made there but, as the rim profiles are not among the outstandingly typical Colchester forms, the possibility of manufacture in Kent cannot be ruled out. Kent was one of the main outlets for the Colchester potters but there is some evidence that some herringbone dies were used in a workshop or workshops in Kent, and some suitable clays were available. None of these workshops are known to have had a wide market. The distribution in England of the stamps from the dies K/C 1–4 (Table 2), merely permit us to say that the mortaria were made either in Kent or Colchester.

The herringbone stamps on mortaria supplied to Scotland from potteries in south-eastern England, possibly all from Colchester, are from only 10 dies (Table 1). Nevertheless, the situation is rather more complicated than it appeared in 1963 (Hull 1963, 114–15). Although there is no reason to doubt that the bulk of them came from Colchester there is a possibility that a few came from Kent (see nos 231–4 and comments). It should also be added that Regalis, who was formerly thought to have worked only at

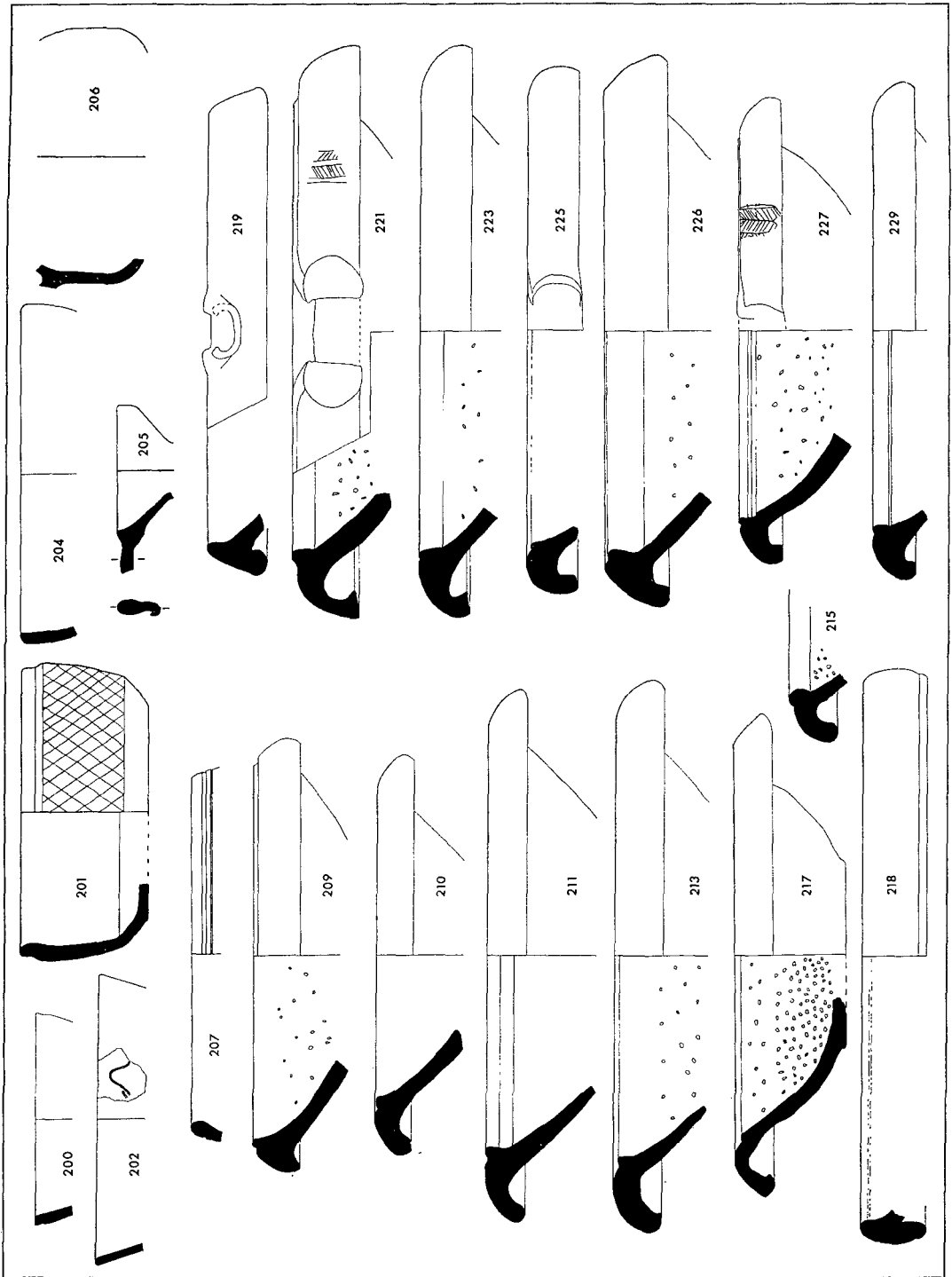


FIG 9 Rough Castle: pottery (1 : 4)

TABLE 2
'Colchester' mortarium stamps found in Scotland

	Hull nos					Colchester Attrib	1 K/C	2 K/C	3 K/C	4 K/C	Total	Overall total Antonine stamps	% Colchester	
	30	32	33	37	38									45
Ardoch	1	—	1	—	1	—	—	—	—	—	3	12	25	
Balmuildy	—	—	—	—	1	—	—	1	—	1	4	31	12.9	
Bar Hill	—	—	—	—	—	1	—	—	—	—	1	20	5	
Barburgh Mill	—	—	—	—	—	—	—	—	—	—	0	1	—	
Bearsden	—	—	—	—	—	—	—	—	—	—	0	15	—	
Birrens	—	—	—	—	—	1	—	—	—	—	1	16	6.3	
Bishopton	1	—	—	—	—	1	—	—	—	—	2	3	—	
Bothwellhaugh	1	—	—	—	—	—	—	—	—	—	1	4	—	
Cadder	1	—	1	—	—	2	—	1	—	—	5+1	10	60	
Camelon	6	—	3	—	2	1	—	1	—	1	15+1	32	50	
Cappuck	—	—	—	—	—	—	—	—	—	—	0	4	—	
Carzield	—	—	—	—	—	—	—	—	—	—	0	3	—	
Castleary	1	—	—	—	—	1	—	1	—	—	3	6	—	
Castledykes	—	—	—	—	—	1	—	—	—	—	1	4	—	
Cramond	—	—	—	—	1	1	—	—	—	—	2	6	—	
Croy Hill	—	—	—	—	—	—	—	—	—	—	0	1	—	
Duntocher	—	—	—	—	—	—	—	—	—	—	0	2	—	
Durisddeer	—	—	—	—	—	—	—	—	—	—	0	1	—	
Inveresk	1	—	2	—	—	—	—	1	—	—	5	14	35.7	
Kirkintilloch	—	—	—	—	—	—	—	—	—	—	0	1	—	
Lyne	—	—	—	—	—	—	—	—	—	—	0	1	—	
Milton	—	—	—	—	—	—	—	—	—	—	0	1	—	
Mumrills	6	3	2	—	1	—	—	1	1	1	16	36	44.4	
Newstead	1	—	—	—	—	1	—	—	—	—	2	52	3.7	
Old Kilpatrick	—	—	—	—	2	—	1	1	—	—	6	18	33.3	
Rough Castle	4	—	2	1	4	—	—	1	1	1	15	27	55.5	
Strageath	1	—	1	—	—	—	—	—	—	—	2	2	—	
Wilderness	—	—	—	—	—	—	—	—	—	—	0	2	—	
	24	3	12	1	12	2	15	1	8	2	4	84+2	325	26.46
% Stamps in Scotland (kilns excluded)	38.7		50		70.6			12.5		66.6				
		75		9.1		50			61.5		66.6			

Exactly 50% of all known mortaria stamped with the above herringbone type dies were sold in Scotland and this percentage is markedly affected by the number sold in Colchester and its immediate vicinity (at least 25 of the 84 stamps from English sites). These were not the only herringbone dies used at Colchester, etc, but few others are recorded in any number away from the kilns. Allowing for possible differences in the extent of excavation of different sites it seems likely that more than a third of all the Colchester mortaria with herringbone stamps were sold in Scotland.

- Notes
1. 'Colchester attrib'. Many stamps can be attributed with certainty to Colchester but the die cannot be identified due to their fragmentary state.
 2. No percentages are given for totals under ten.
 3. Stamps of the Colchester potter, Messor, found at Cadder and Camelon are shown as +1.
 4. K/C 1-4 Manufacture at Colchester or in Kent; no stamps found to date at Colchester (see p 262).
 5. Minor differences from the table in Hull 1963, 115 are due to the discovery of new stamps, stamps being regarded as from one vessel and the intractability of certain stamps notably Hull no 32, K/C 2+3.

Colchester, is now known to have used a kiln at Ellingham in Norfolk (Frere 1977, 403); two herringbone stamps of similar type to those produced at Colchester were found though none of these are from the same dies as the stamps in Scotland. However, the fabric is again fairly similar and, as a solitary stamp from the Brampton workshop in Norfolk has been recorded from Cramond, the possibility of some export from Norfolk has to be accepted. The Ellingham workshop was, however, linked in tradition with the Colchester potteries whereas mortaria made in a more local tradition like the Brampton example, would probably be distinguishable.

There can, however, be no reasonable doubt that all of the mortaria exported to Scotland from workshops in Colchester, Kent or Norfolk were transported by coastal transport. Whilst the percentage of these stamps appears high at many of the forts, the really significant ones are for those sites where extensive excavations have taken place and the total number of mortarium stamps is fairly large. The high proportion of these stamps at Camelon, Mumrills and Rough Castle with totals of 32, 36 and 27 stamped mortaria of Antonine date, compared with the smaller proportions at sites in the central and western sectors of the Antonine Wall, and their near absence from Newstead certainly implies import and distribution from the Forth rather than by road from the Tyne, although they were also landed there for distribution in NE England (Hull 1963, 114-16.)

The main dating evidence for the herringbone type stamps supplied mainly or solely by the Colchester potteries, comes from their popularity on Antonine sites in Scotland but they have also been recorded from South Shields (2); Benwell; the destruction deposit at Corbridge (Richmond & Gillam 1950, 193, fig 10, no 103), now dated c AD 180, and also at Birdoswald. A date within the period AD 140-70/180 would fit all the evidence.

One of the peculiarities of the distribution of Colchester mortaria in Scotland is that only two namestamps, both of Messor, have been found there compared with 83 of the herringbone type. It is, however, appropriate that the potter should be Messor since a mortarium from one of the Colchester kilns is stamped with both his name and a herringbone stamp, thus establishing some connection and contemporaneity in production (no stamps from these dies appear in Scotland).

The evidence from rim profiles strongly suggests that most of the named potters at Colchester were working somewhat later than those using the herringbone dies, though they would obviously have overlapped to some extent. The mortaria of Messor and Titus, however, rarely differ from those of the potters using trademarks. Dates of AD 140-70/180 and AD 160/70-200 respectively would fit the two main groups, though it is clear that there were links between them.

The herringbone or leaf type of stamp was, no doubt, only used as another form of trademark presumably mainly by illiterate potters. As many of the Colchester examples are closely similar in design, and impressions were frequently only partial it is unlikely that they were intended to distinguish the work of different potters though they do, as a group, distinguish fairly readily the product of a workshop or group of workshops. Such stamps were used elsewhere though never in such profusion but it is reasonably certain that the relatively similar stamps found on some mortaria made in NE England in the second half of the 2nd century were the result of direct imitation of the Colchester products which were selling so well in the area.

Unstamped mortarium fragments in Fabric 2

- 235 Similar in form to no 228 which has stamp Hull no 38. From W part of N barrack in *W praetentura*, US.
- *236 In NMAS unregistered, US.
- 237 In NMAS unregistered, US.
- 238 From S barrack in *W praetentura*, US.
- Nos 236-8 are fragments from three mortaria similar in form to no 234.
- 239 From spoil heap in NE corner of fort, US.
- 240 Diam c 370 mm. About half of the mortarium survives. In NMAS FR 335, US.
- *241 Burnt throughout to black. From the Antonine Wall ditch, US.
- Nos 239-41 are similar in form of nos 220-22.
- *242 Diam c 340 mm. Almost half of a burnt mortarium. From the Antonine wall ditch, US.
- 243 From W part of N barrack in *W praetentura*, US.
- 244 From the bath-house spoil heaps, US.
- 245 Heavily burnt. From W part of N barrack in *W praetentura*, US.
- 246 Several fragments probably from the same vessel. From W part of N barrack in *W praetentura*, US; from *W intervallum* road, from crude stone setting above burnt material, and from the *via praetoria*, US.
- 247 From the bath-house spoil heaps, US.
- 248 In NMAS, unregistered, US.
- Nos 243-8 are all similar in form to no 242 and to no 229 which has a stamp of Hull no 38, and are generally similar to no 225 with stamp Hull no 33.
- *249 Diam c 340 mm. Similar to no 226 but with a cordon on the flange. In NMAS unregistered, US.



FIG 10 Rough Castle: pottery (1 : 4)

- *250 A mortarium with more rounded flange but with cordon and grooves. In NMAS unregistered, US.
- *251 Two joining fragments, from the Antonine Wall ditch, US.
- *252 In NMAS unregistered, US.
- 253 US.
- *254 US.
- *255 In NMAS unregistered, US.

The 36 fragments listed, nos 220-255 appear to be from different mortaria and wherever the appropriate part of the vessel has survived it has been stamped. Many tiny fragments in fabric 2 from these or other mortaria are not listed on account of size, or indeterminate form, or the possibility of belonging to one of the above vessels. All can be attributed to SE England, probably Colchester, though nos 236 and 246 are unusual in having solely quartz-like trituration grit.

Mortaria like nos 221, 226, 231, 242, 249 and 250 have rim profiles which are typical of the Colchester workshops; the rest are more individual in type but most could certainly be paralleled there. All fit well with manufacture within the period AD 140-70. Nos 233 and 249 are the latest typologically but this merely means that they can be attributed with reasonable certainty to a date after AD 160.

Unstamped mortarium fragments in Fabric 1 and made in the Mancetter-Hartshill potteries

- 256 A worn fragment with incomplete rim section. The rather exaggerated treatment underneath the bead is fairly uncommon and was probably never used before AD 140 at the earliest. It is often found in the mortaria of Loccus Pro-, but unfortunately his stamp from Rough Castle is on too tiny a fragment for comparison of the vessels. c AD 140-70.
- 257 A flange fragment. c AD 140-80. From N *intervallum* road, phase 3 road drain.
- 258 A flange fragment. c AD 140-80. From the *lilia* spoil heaps, US.
- 259 A spout fragment in keeping with an Antonine date. From the *lilia* spoil heaps, US.
- 260 A flange fragment. Antonine. In NMAS unregistered, US.

Other mortaria made in the midlands

- *261 Partial burning has affected the fabric of this mortarium but it approximates to fabric 1, although it contains some quartz-like tempering and has a buff slip; no trituration grit survives. This vessel is certainly from South Carlton, Lincs or the Mancetter-Hartshill potteries, in that order of probability. AD 140-80. In NMAS unregistered, US.

Mortaria in Fabric 3, from the workshop of Bellicus at Corbridge

- *262 Diam c 355 mm. The surviving pieces join together to make up the whole of this mortarium excepting only the spout. It is clear that it was never stamped and its condition suggests that it was broken near the end of the occupation. From the main ditch, US.
- *263 Diam c 290 mm. About one-third of the rim survives. In NMAS unregistered, US.
- 264 This is similar in form to the fragment stamped by Bellicus (p: no 209). From road between N and S barracks in W *praetentura*, US.

The unusual forms represented by nos 262-4 are typical of the mortaria made in the workshop of Bellicus. AD 155-85.

Mortaria perhaps made in Scotland

- *265 Diam c 290 mm. A mortarium in dense, basically fine-textured, buff fabric, heavily tempered with small, quartz and red-brown grit. It has a brownish buff slip and some quartz and red-brown (? haematite) trituration grit survives. This mortarium is unusual in both form and fabric and is so clearly identical with a better-preserved vessel from Croy Hill (NMAS FR 469) that there can be no doubt that they are from the same workshop. The Croy Hill example is sufficiently complete to show that it was never stamped. There is a slight similarity to a mortarium of Invomandus (Hartley 1976, 87, fig 2, no 14), though the fabric is totally different. Further examples will help to determine the whereabouts of the workshop but there is certainly a possibility that it was in Scotland. In NMAS unregistered, US.

Other fragments

- 266 A flange fragment from a mortarium in slightly sandy orange-brown fabric with fine tempering and traces of cream slip. Probably made in the N of England, though production in Scotland is not impossible. In NMAS unregistered, US.
- 267 A flange fragment from a mortarium in a similar type of fabric but red-brown with a grey core. Probably made in the N of England, or just possibly in Scotland. In NMAS unregistered, US.
- *268 The fabric may be discoloured through burning but it appears to be orange-brown with grey and sometimes pink in the core and with a cream surface: the fine tempering includes quartz. Origin unknown. From the Antonine Wall ditch, US.

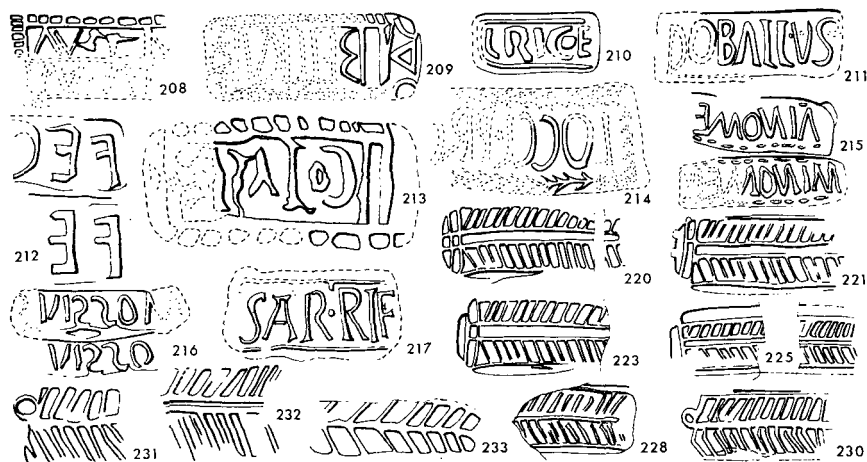


FIG 11 Rough Castle: mortaria stamps (1 : 2)

Comments

A total of about sixty different mortaria (no 259 a spout fragment is excluded), is represented by the rim-fragments. The places of manufacture are as follows:

	Stamps	Unstamped fragments, different mortaria	Total
Colchester	15	21	36
Mancetter–Hartshill	6	4	10
Corbridge	1	3	4
Eden valley (nr Carlisle)	1		1
Probably South Carlton	1	1	2
Probably Scotland	1	1	2
Rossington Bridge or Scotland	2		2
Northern England or Scotland		2	2
Unknown		1	1
	27	33	60

It must be said that the proportion of stamped to unstamped fragments indicate that the total for the Mancetter–Hartshill potteries is unduly low though no reason can be offered for this. Nevertheless, there can be no doubt that the 'herringbone' potters of Colchester, etc, supplied Rough Castle with up to 60% of its mortaria, more, in fact, than all other suppliers put together. The story would be much the same if only stamped fragments were considered and perhaps in view of the discrepancy in the Mancetter–Hartshill numbers, 55.5% from Colchester is a more reliable guide. The Mancetter–Hartshill potteries

provided at least 16.6% and Bellicus only 6%, while all other suppliers must be regarded as very minor indeed.

The numbers and proportion of Colchester mortaria at Rough Castle, Mumrills and Camelon contrasted with those at other sites in Scotland must mean that their main mortarium supplies came via the Forth, though some (nos 212 and 262-5 among others) would come from Newstead. One might expect that the Austinus mortarium (no 208, made near Carlisle), to be the result of troops carrying a modicum of supplies with them but his mortaria have too wide a distribution in Scotland for this to be readily accepted.

The mortaria from recent excavations at Bearsden (information David Breeze), are known to include an even higher proportion of mortaria from one pottery, that at Rossington Bridge, which presumably came N by road via Carlisle. There are no sites at which Mancetter-Hartshill mortaria stand out in this way but although they are in smaller numbers they seem to be more evenly distributed. It does, however, seem that further excavation and detailed study of the pottery already available from Scotland could well reveal more about the organisation of supplies. It seems likely that different areas received their main supplies from different sources instead of complete dispersal being from one main supply base at Newstead.

There is every reason to believe that trade with the Mancetter-Hartshill potteries existed from the beginning of the occupation of Scotland, being merely a continuation of the trade in the N of England. The Colchester trade was, however, a new thing, at least in mortaria though some had probably travelled N by coastal traffic in the Flavian period. We do not know the exact date at which the 'herringbone' potters started working or started sending mortaria N by coastal transport but the trade at least is likely to post-date the construction of the Wall even if only by a few years. This factor will also affect the distribution of the mortaria from the various potteries.

It was suggested in 1963 (Hull 1963, 115) that the army might have had a military contract with Colchester but this should be regarded as a possibility rather than a certainty. It would have been simpler for the army to buy through *negotiatores* and it is difficult to see what differences would necessarily result in the distribution of pottery.

Amphorae

- 269 Fragment of handle of amphora, in orange fabric, with stamp CORCLE. In NMAS FR 317, US. cf Callender 1965, no 426, probably Spanish, mid second century AD.
- 270 Fragment of handle of amphora, with stamp DOM. In NMAS FR 318, US. cf Callender 1965, no 552, South Spanish, c AD 140-80.
- 271 Two other amphora stamps, COR. . LL and ALFO. cf Callender 1965, no 425, probably of Spanish origin, mid second century AD, and no 37, Spanish (Anderson 1905, 493; Macdonald 1934, 455).
- 272 Rim and neck sherds of three amphorae, and two joining fragments of handle, in light brown-greyish-buff fabric, US. Rim, base and body sherds of amphora, in light brown-buff fabric, from the spoil heaps at the bath house. Fragments of two handles, in pinkish-buff fabric, from the main ditch. Amphora body sherds from the *via praetoria*, US; S barrack in W *praetentura*, associated with drip trench; HQ forecourt, US; E part of N barrack in W *praetentura*, US; W part of N barrack in W *praetentura*, US; and from W *intervallum* road, phase 3 road drain, sealed by burnt material.

Glass

Miss D Charlesworth, Inspectorate of Ancient Monuments, DOE

- *273 Beaker in good quality colourless glass, fragments give almost complete profile but no base, heavy strain cracking. Moulded, slightly everted rim, ground line in relief below, and another near the inward curve for the base.

The beaker is unusual because, although the glass is thick, the side has not been decorated. Similar beakers generally mould-blown, have a closed diaper of facets decorating the side between the two relief-cut lines (Isings form 21) and can be dated to the late 1st and early 2nd century. Examples found in Britain include fragments from Newstead, Lyne, Castlecary and Cadder (Charlesworth 1959, 41-2, fig 4) and dated examples from Cardean, Agricolan (Wilson 1969, 202, pl XIV, 1) and Caerleon, under the Trajanic rampart (Nash-Williams 1929, 257-8, fig 18, 2) and in the amphitheatre, c 100 (Wheeler &

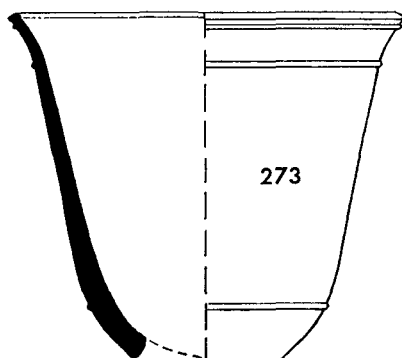


FIG 12 Rough Castle: glass beaker (1 : 2)

Wheeler 1928, 170, pl 34.5 & 6). The type has been more recently discussed in connection with the free-blown and faceted beakers at Fishbourne by Harden and Price (1971 340–1, nos 41–4). The probable centres of manufacture are Alexandria and Italy. From the drip-trench between the N ‘tent-like structure’ (fig 3) and the N *intervallum* road. The glass was associated with stones, spread from the *intervallum* road, which filled the drip-trench.

- 274 Fragments of greenish glass from the base of a flask with an open pushed-in ring. The identification of the shape as a flask is determined by a fragment of infolded and flattened rim with part of the neck. It may be a handled vessel but normally the handle, being of thicker glass than the body of the vessel, survives. 1st–3rd century. From the burnt debris overlying all the road surfaces in the angle between the W rampart and the *ascensus*.
- 275 Fragments of multi-ribbed handle of greenish glass, 1st–3rd century. From E end of S barrack-block in *praetentura*, US.
- 276 Three fragments of window glass, green, rough on one surface so presumably moulded. From W end of N barrack-block in *praetentura*, US.
- 277 Fragments of a bangle, plano-convex section, green glass with a pot-hook trail in opaque white. These bangles are well known on sites between Hadrian’s and the Antonine Wall but in fact have a very wide distribution as Stevenson indicates (Stevenson 1976). They are more commonly found in the native settlement sites than in the Roman forts but at Newstead, for example, several were recorded. This bangle is Kilbride Jones type 3F (Kilbride Jones 1938, 366–95). The metal looks like Roman bottle glass and this may be another example of the re-use of Roman glass fragments. From the *lilia* spoil heaps, US.

Bronze

- *278 Small fragment of brooch of ‘elbow’ type, with spring and circular blue enamel inset. From W *intervallum* road, sealed by burnt material.
- *279 Two small bronze studs, corroded together, US.
- *280 Two fragments of mountings? From area between N rampart and *intervallum* road, in yellow clay and stones of rampart backing.
- *281 Small fragment of bronze, with spoon-like depression on one side, and slight grooves on other side. From N barrack in W *praetentura*, US.

Iron

- *282 One long thin nail, US.
- *283 and *284 Two irregular rings, with oval sections.

282, 283 and 284 from area immediately outside N rampart, US.

- *285 From N *intervallum* road, 1 bent nail from phase 3 road drain, 1 short nail on phase 1 road surface; 8 nails from area between N rampart and *intervallum* road, US; 2 nails from W *intervallum* road, in burnt material above all road levels; 1 nail from road between N and S barracks in W *praetentura*, S

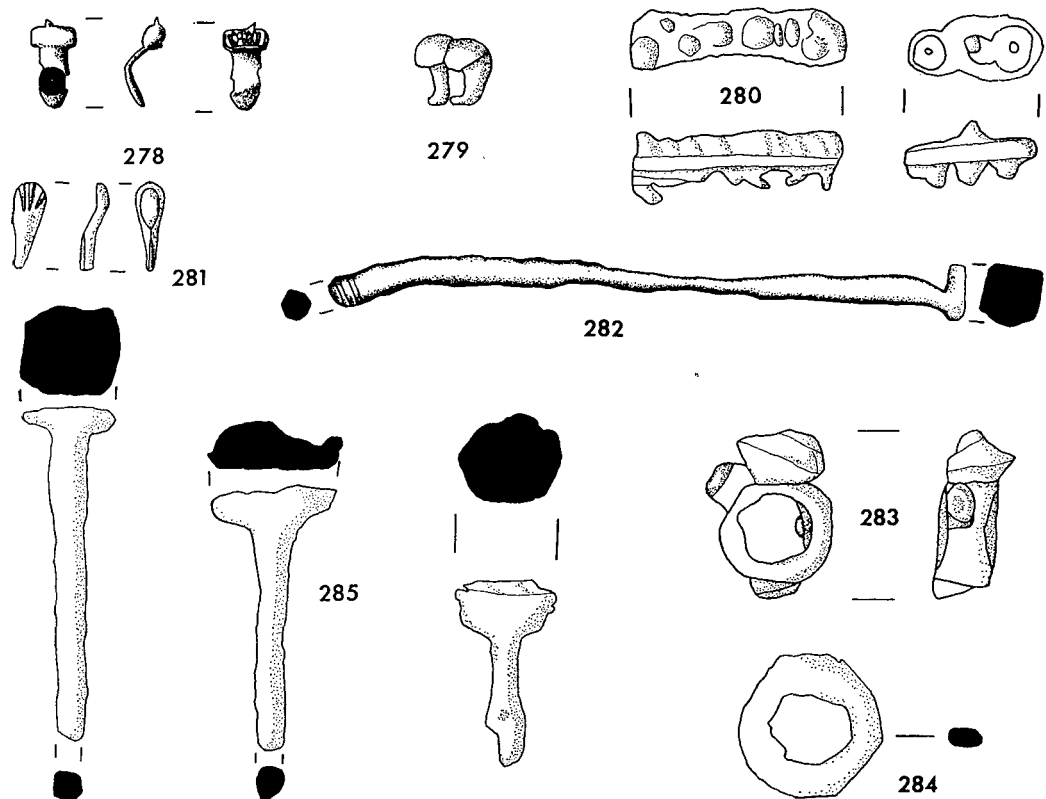


FIG 13 Rough Castle: metalwork (1 : 2)

on gravel surface of road; 1 bent nail from N barrack in *W praetentura*, 1 nail head from W rampart, associated with rampart pitching; 10 nails from the *lilia* spoil heaps, US; 1 nail from the main ditch, US; 1 nail from area immediately outside N rampart, US, and 42 nails, US.

286 Dr Elizabeth Slater has kindly contributed the following note:

Base of an oval iron bowl, less than 1 mm thick, with current dimensions 65 mm long and 45 mm across. It had a very rough surface and, as there was a thick deposit of corrosion product on one part of it, this was probably due to extensive corrosion. The corrosion product was identified as a mixture of iron and iron oxides by X-ray diffraction techniques, and the material of the bowl was identified as iron from this and from its appearance. A sample has been sent to the Research and Reactor Centre, East Kilbride for neutron activation analysis to confirm this initial diagnosis.

Lead

287 Short round object – weight? From W part of N barrack in *W praetentura*, US.

288 Two joining fragments of spoon-shaped object – mould? From area between N rampart and *intervallum* road, US.

289 Flat, spoon-shaped object with slightly raised edges – mould? From road between N and S barracks in *W praetentura*, US.

Slag and baked clay

Dr Elizabeth Slater, Department of Archaeology, University of Glasgow

290 Four pieces of baked clay and vitrified material. Three pieces fitted together to give a semi-circular mass, of maximum diam 200 mm, with a thickness increasing from the edge to a maximum value

of 45 mm. The lower, curved surface was of baked clay which had fused to the upper layers of porous, silicious material. Samples were taken of the vitrified material and X-ray diffraction and analysis showed that it contained small pieces of iron, iron oxides and silicates – the overall composition was of a fayalite slag, a mixture of iron, oxygen and silicon. This type of slag is typical of primitive copper and iron smelting but the presence of small pieces of iron in this sample indicates that it is the result of iron smelting. The shape and composition of these three samples indicate that they came from a bowl furnace, with the inner lining at the base of the furnace fusing with the smelting product. The slag had not been tapped from the furnace. The fourth sample had a similar composition to the other three but differed in form. It was a mixture of slag, charcoal and pieces of iron with a few pieces of baked clay entrapped within it. It was rectangular in shape, 40 mm by 60 mm, with a maximum thickness of 35 mm. A small portion of the surface was smooth and curved and it may also have come from the base of a furnace. From the drain cut through the phase 3 *intervallum* road.

- 291 Piece of baked clay, of irregular shape, but with a smooth, curved outer surface. Maximum length 45 mm; width 35 mm with a variable thickness averaging about 10 mm. The outer surface had suffered the more intense heating, with a blackened layer extending about 1 mm in from the surface. The fabric was clay with small inclusions of mica, but no added temper. There was a groove running across the rough inner surface which, with the curved outer surface, suggested that this was part of a tube or tuyère of clay, the outer surface of which was heated during use. A definite, positive identification is difficult when only part of an object survives and, in this case, the groove was very narrow for a tuyère, less than 10 mm in diameter (if this portion is representative of the whole object) and it did not follow the convex curve of the outer surface.
- 292 Two pieces of baked clay, each with one flat surface, otherwise of an irregular shape. One was almost square, of side measurement 30 mm and maximum thickness 13 mm. The other was triangular, 20 mm across, and of maximum thickness 15 mm. They were similar in fabric to 291, clay with some mica and sand but no added temper. They were red in colour and had been subject to some degree of heating. Their form and fabric suggest that they were part of a structure, rather than an artefact.
- 293 Piece of baked clay, roughly rectangular in shape, with one smooth surface, otherwise irregular in form. Maximum length 60 mm, width 35 mm with a maximum thickness of 20 mm. The smooth upper surface, which was slightly concave, had been subject to the most heat with a blackened, burnt layer extending about 2 mm in from the surface. Similar in fabric to 291 and 292.

Wood and Charcoal

J W Barber, Central Excavation Unit, SDD (AM)

Although it was possible to identify each sample, as the surfaces had suffered damage, evidence for the woodworking techniques used was lacking.

- 294 Four fragments were of similar proportions with roughly rectangular cross-section, 15–20 mm thick and 60–70 mm wide. Their lengths varied but since it is clear that fragments 2 and 3 had been cut at the time of excavation that is not a meaningful dimension. Fragments 1, 2 and 4 are radially split planks, 1 and 2 of *Quercus* (Oak) and 4 of *Abies alba* (Silver Fir). Fragment 3, *Quercus*, is a sawn plank.
- 295 A heavily carbonised piece of *Carpinus betulus* (Hornbeam). Its original form would seem to have been that of a serrated disc with a central perforation, somewhat like a cog wheel: it may be the offcut created by drilling a circle of small holes in order to produce a single large hole in a plank. The hole would have been about 10 mm in diameter and the plank 25 mm thick.
- *296 A curious paddle-like object with an elongated oval paddle face 210 mm long and 70 mm wide set at right angles to a rectangular stock, 70 mm by 20 mm in cross-section and 110 mm long. It seems to be complete in that the stock is neatly cut, not broken. It is fashioned from a single piece of *Quercus*.
- *297 190 mm long, 38 mm wide and 27 mm thick (maximum dimensions); now oval in section. It is fashioned from a piece of *Betula* (Birch) and shows wear on its 'edges'. There are clear cut marks on one edge. Probably a spoke of a wheel; cf Curle 1911, 292 & pl LXIX, 2 & 2A, where the spokes illustrated are 'probably of willow'. The oval shape of the Rough Castle spoke is presumably the result of later pressure.

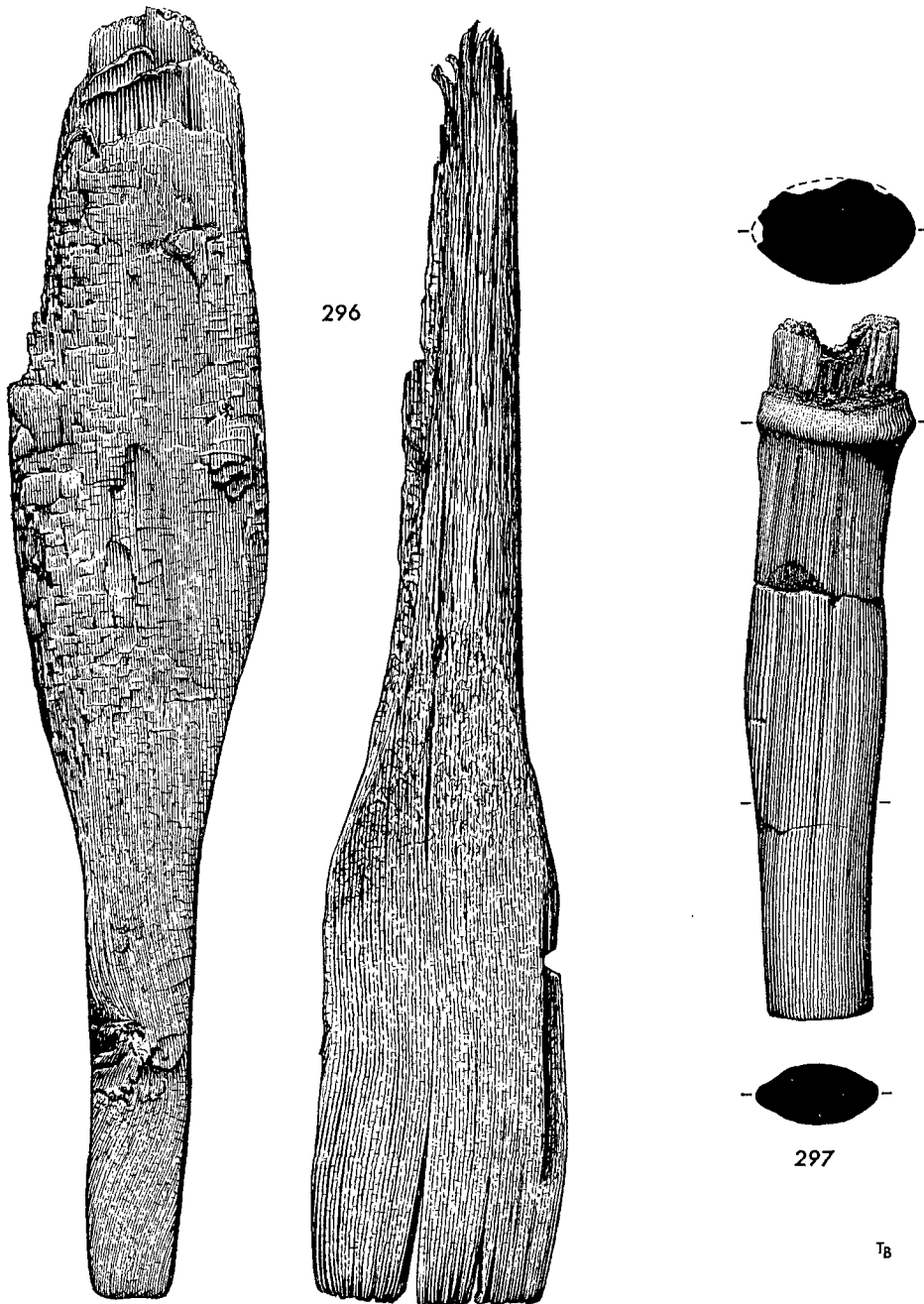


FIG 14 Rough Castle: wood (1 : 2)

T_B

- 298 This seems to be part of a stake tip, now carbonised. Only 120 mm of its length survives and it would have been a little more than 40 mm in diam originally. This is identified as *Pinus* probably *silvestris* (Scots Pine).
- 299 The most distorted of all the wood fragments, this survives as a hemispherical mass, carbonised on its curved surface. Its base is oval, 70 mm by 90 mm and it is 40 mm high. Its original form is not readily discernible and since it is a very knotty and distorted fragment it may never have been a fashioned object. This also is *Abies alba*.
- 300 A single large piece of charcoal of *Pinus*, again probably *silvestris*.
- 301 Eight pieces of *Fraxinus excelsior* (Ash) charcoal. Some, at least are parts of the same tree.
- 302 Four large fragments of *Pinus Silvestris* charcoal. Two are clearly from the same tree.
- 303 A single small fragment of *Betula* charcoal.

With the exception of the hornbeam, all of the wood species identified could have been found locally during the Roman period. The hornbeam is almost certainly an import, possibly from southern England where it would have been readily available.

Samples from each specimen have been kept at the palaeoecology laboratory of the Central Excavation Unit for Scotland.

Textiles

J P Wild, Department of Archaeology, University of Manchester

Both textiles are replaced by the corrosion products of the iron to which they adhere, but their structure is clear in places.

- 304 Two layers of half-basket weave, c 5 cm² in all. It is a regular weave and the spin quality of the yards is good. Fibre indeterminate.
System (1), doubles, weak Z-spun, c 14 pairs per cm, maximum length 3.5 cm.
System (2), singles, Z-spun, c 10 per cm, wide set, maximum length 2 cm.
The yarn in (2) is of the same quality and weight as that in (1), but it is harder spun and may represent the warp.
From area between N rampart and *intervallum* road, US.
- 305 While the amalgam of corrosion products carrying the textiles do not make a direct join, it is clear that they belong together. Same textile as 304, amounting to c 2.5 cm², US.

Half-basket weave, with pairs of yarns in one system, is relatively common in the Roman world, both for wool and linen textiles (Wild 1970, 46).

Animal bones

G W I Hodgson, Duncan of Jordanstone College, Dundee

The animal remains apparently all came from mammals and consist of bone fragments, teeth and antler.

All the material is in a poor state of preservation and this is thought to be related to soil conditions rather than destruction by heat or force. Most of the fragments are associated with heavy deposits of *vivianite*. All the items are from the N ditch, with the exception of 314, which is from the bath-house spoil-heap.

Cattle

- 306 3 slightly worn mature upper molars M3, 2, 1.
- 307 A single neural arch from a large bovine-like vertebra.
- 308 Four fragments probably from the same right radius (distal width = 72 mm).
- 309 Part of the proximal end of a left metatarsal.
- 310 Several fragments from long bones. These fragments are not butchers' chippings but appear to have split off from the main bones by weathering.

Horse

- 311 2 mature premolar teeth from the upper jaw PM4, 3.
- 312 Shaft and distal of an equine metapodial (distal width = 47 mm).

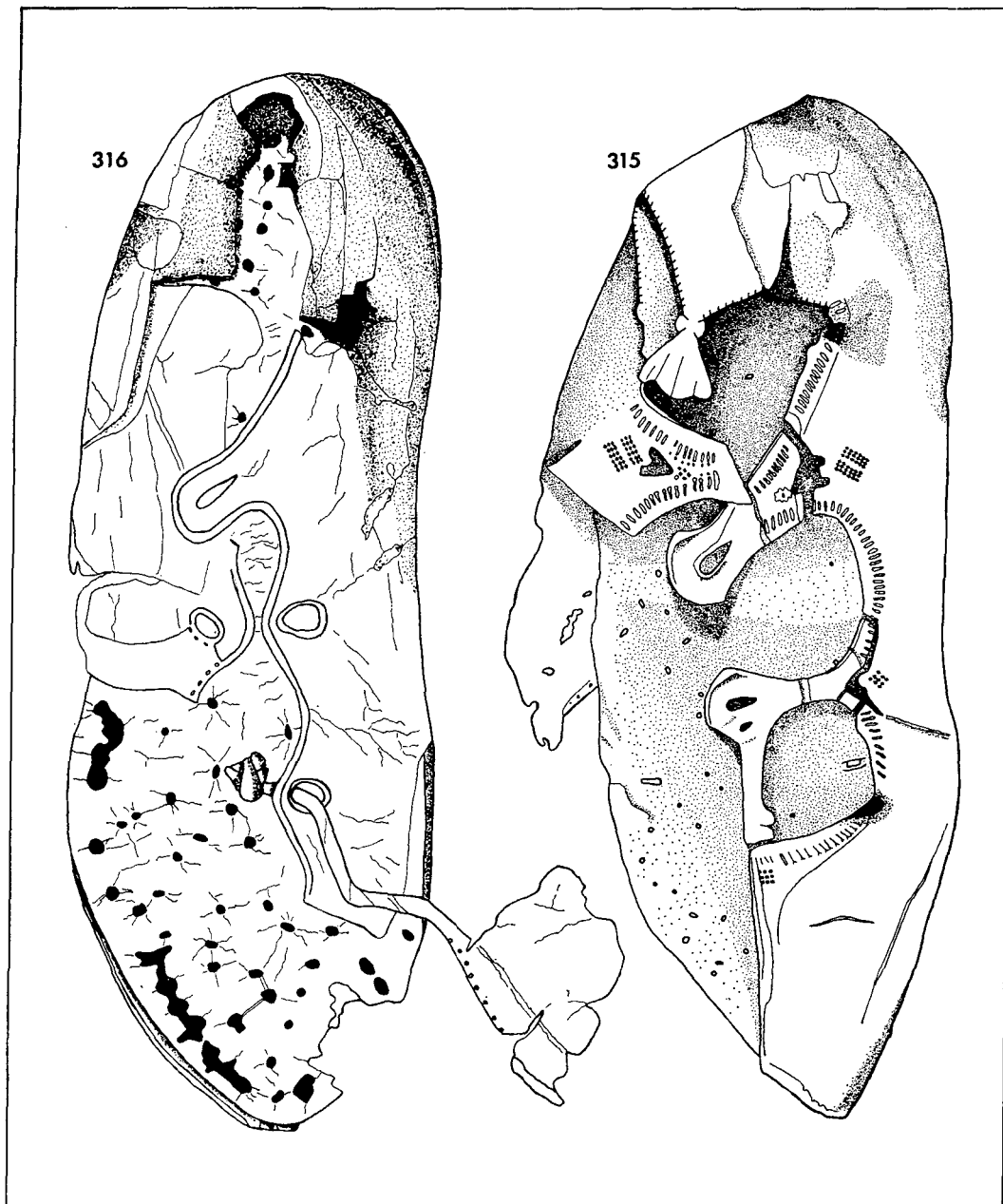


FIG 15 Rough Castle: leather (1 : 2)

Red deer

313 2 heavily eroded tines from antlers.

? Pig

314 A fragment of a heavily eroded incisor tooth - possibly from pig.

Leather

The sixty-three fragments of leather consist of soles, heel stiffeners, uppers, offcuts and scraps. Two shoes are nearly complete, with sole and upper still attached. The uppers mostly appear to belong to *calcei*, which were made up of at least four parts – a nailed outer sole, an insole, a heelguard or stiffener, and a one-piece upper, stitched at the front of the vamp. Most shoes also had a middle sole consisting of several layers of leather between the outer and inner soles. Thongs were used to hold all the layers together. Keppie divided the *calcei* from Bar Hill into three types; his classification has been followed, where possible (Keppie 1975, 68–77).

- *315 *Calceus*, right foot, with insole, middle sole, heel stiffener and upper. Insole has pairs of slits forming tunnel holes for thong. Middle sole consists of three thicknesses of leather thonged together; bottom layer has been perforated by hob nails. Semi-circular heel stiffener, with lower margin folded and tucked under bottom layer of middle sole.
- Upper consists of quarters, complete inner side of vamp, and part of outer side. Quarters decorated with two very slight semi-circular projections on either side and with a short triangular tab at centre; top edge marked, inside and out, with slight cuts, possibly imitating the pattern left by a hem stitch. The quarters end with a latchet on each side. Inner one complete, though broken; its wider end perforated by an approximately triangular hole, c 8 by 13 mm, other end by an oval hole, c 4 by 10 mm. Outer latchet broken; also has triangular hole. Both latches decorated with stamped diamond pattern above and below triangular holes, and with rouletting along both margins; rouletting ends c 10 mm from oval hole. Rouletting also parallel with top edge of quarters, as far as semi-circular projections, and along top edge of vamp. Inner side of vamp has second latchet, connected to both centre of vamp and the seam, leaving oblong cut-out area. Now torn at junction of strap and centre of vamp, but cut edges suggest triangular hole similar to those on latches at throat. Two oval holes on latchet, c 2.5 by 9 mm and c 1.5 by 4 mm. Stamped diamond pattern beneath junction of straps and vamp. Toe seam survives, with stitching channel of flesh to grain holes, stitch length 4 mm. Bottom margin of upper folded and tucked under margin of heel stiffener and middle sole. From the main ditch, US. cf Keppie Type A (1975, 68–69, 71, fig 22.1, 3, 5).
- *316 *Calceus*, right foot, outer sole with hob nails, middle sole, insole, heel stiffener and upper. Hob nails penetrate outer sole, middle sole, insole and bottom margins of heel stiffener and upper; the latter have been tucked in between middle and outer soles. Upper comprises quarters, small part of outer side of vamp, most of inner side of vamp, and loose fragment of vamp with thong which passes through an eyelet on inner side. Quarters very worn, no top edge survives. Inner side has one elongated tab or latchet at ankle, with pointed oval hole, c 3 by 13 mm, and two rounded projections on vamp, each with an oval eyelet, c 6 by 9 mm. Tab and projections have been lined or faced with a thin strip of leather, stitched to upper along top edge and round the perimeters of two of the eyelets. Toe of vamp is missing. Thong passes through eyelet nearest front of vamp. One end of thong knotted, other end is continuation of fragment of upper with stitching channel with grain to edge holes, stitch length c 4 mm; probably toe seam of outer side of vamp. Outer side of vamp very worn, only one projection and eyelet survives, opposite middle one on inner side. Eyelet is oval, 4 × 8 mm. Stitching channels with grain to flesh holes, stitch length c 3–3.5 mm, round eyelet and along top edge, most probably for facing, which does not survive. From the main ditch, US. cf Keppie Type C, but without the radiating strips (1975, 72, 74, 76, fig 24.40, 41).
- *317 *Calceus* fragment of upper, with quarters and part of both sides of vamp. Raised peak at centre of quarters. Stubs of parallel ribbing on both sides of vamp. Bases of stubs are marked by small arcs cut into the leather, but which do not perforate it. Top edges between centre of quarters and ribbing cut in tightly scalloped formation – cut, not stitched. Very worn. US. cf Keppie Type B (1975, 70, 73, fig 23, 18, 19, 20).
- 318 *Calceus*, very small fragment of upper, with stubs of parallel ribbing. US. cf Keppie Type B (1975, 70, 73).
- *319 *Calceus*, four fragments of upper.
- Fragment with rounded projection and oval eyelet, c 4 × 8 mm; stitching channels of grain to flesh holes, stitch length 3.5 mm, round hole and along top edge, probably for attachment of facing.
 - Thin strip with two rounded projections, each with an oval eyelet, c 4 × 8 mm, and with stitching channel of grain to flesh holes, stitch length 3.5 mm; most probably facing for (a).

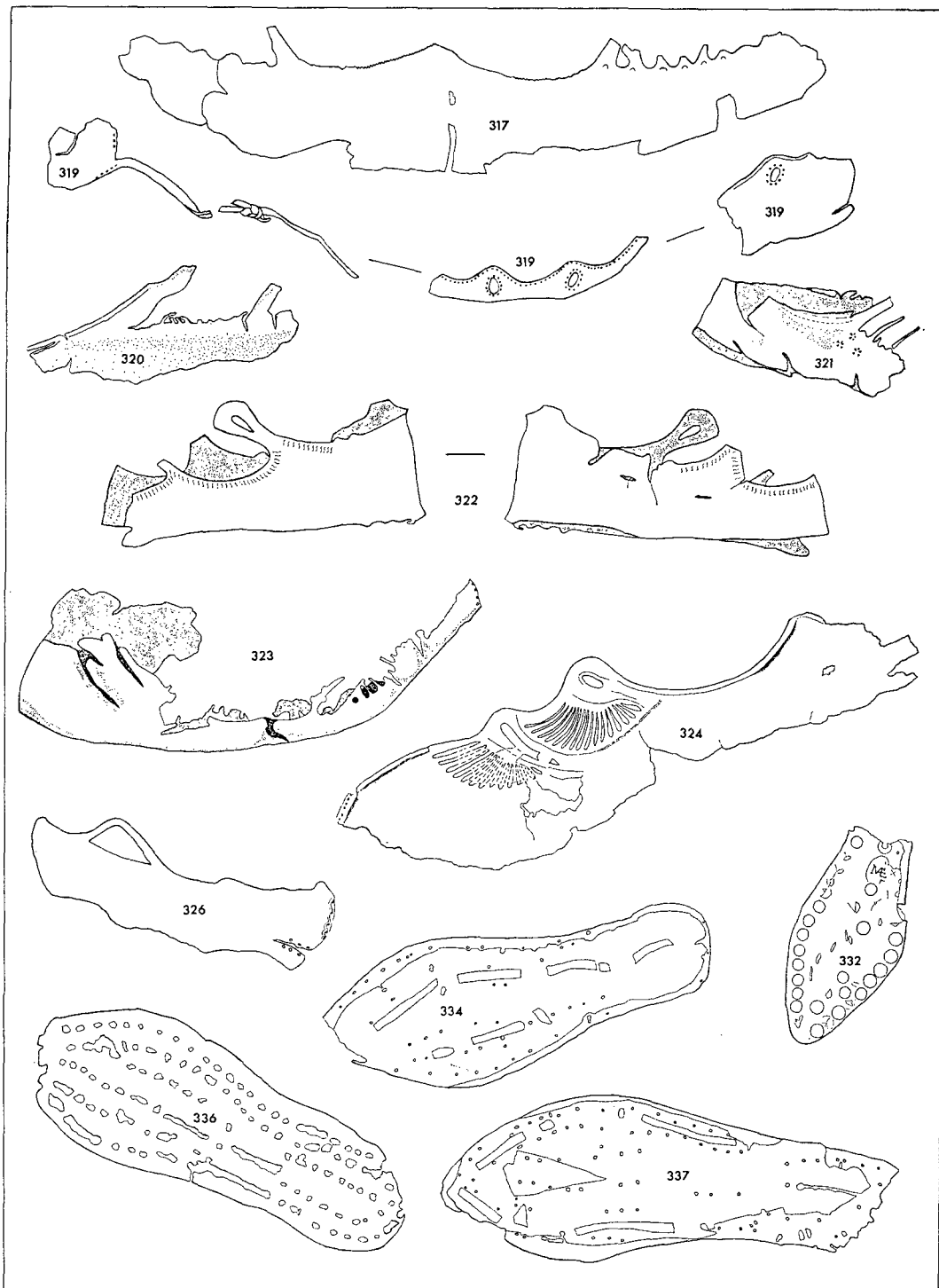


FIG 16 Rough Castle: leather (1 : 4)

- c. Fragment with two stitching channels, one with edge-grain holes, stitch length 4 mm, other with grain to flesh holes, stitch length 3 mm, and with one edge continuing as thong which joins (d). Most probably front of vamp with toe seams.
- d. Two fragments of thong knotted together, one joining thong of (c); thong passes through an eyelet of (a).
- US. cf Keppie Type C (1975, 72, 74, 76).
- *320 *Calceus*, fragment of upper, with stubs of thin ribs and with stitching channel of grain to edge holes along one edge. Very worn, stitch length not measurable US. cf Keppie Type B or C? (1975, 70, 72, 73).
- *321 *Calceus*, fragment of upper, with quarters and part of vamp of one side. One side of quarters very worn, but on the other, remains of stitched top edge formed by folding leather over and stitching it with grain to flesh seam, stitch length 3.5 mm. On same side, part of 5 mm thick rib and stubs of 6.2 mm thick ribs; beneath ribs, three stamped rosettes. Bottom edge of fragment folded and perforated with holes from hob nails of sole. US. cf Keppie Type C? (1975, 72, 73 fig 23.5).
- *322 *Calceus*, fragment of upper, with quarters and parts of both sides of vamp. Top edge of quarters does not survive but probably ended in a raised peak at the centre. On both sides of quarters two very slight round projections, similar to those on 1. On one side, elongated ankle tab on latchet with oval eyelet, 5 × 15 mm, and beginning of second, thinner tab or strap. On other side, stump of ankle latchet. Rouletting parallel with top edge on both sides. US. cf Keppie Type A (1975, 68, 69, fig 22.1).
- *323 *Calceus*, heel stiffener and fragment of upper. Bottom edge of stiffener flattened for attachment to sole, and pierced by hob nails. Very worn quarters and parts of both sides of vamp survive, with stumps of thin strips, similar to those found on *calcei* of Keppie Type C. One side of vamp ends with stitching channel of grain to flesh holes, stitch length 4.5–5 mm – toe seam. Bottom edge folded and pierced by nails. cf Keppie Type C (1975, 72, 73, fig 23.25).
- *324 *Calceus*, fragment of vamp of upper, with stump of ankle latchet, and with two rounded projections; one with a short oval eyelet, 5 × 13 mm, the other with a longer hole, 6 × 28 mm, with short triangular hole, 4 × 5 mm, beneath it. Area beneath both eyelets decorated with cut-out pattern of radiating strips. Fragment ends in stitching channel of edge to grain holes, stitch length 3–4 mm – toe seam. US. cf Keppie Type C (1975, 72, 73, fig 23.26, 28).
- 325 *Calceus*, fragment of vamp of upper, with stumps of parallel ribs, and with bottom edge perforated by holes for hob nails. NMAS FR 398. cf Keppie Type B (1975, 70, 73, fig 23.19).
- *326 *Carbatina*? Fragment of upper with one loop, and one edge-flesh seam, stitch length c 5 mm, and, at right angles to it, short split, with sides stitched together with edge-flesh seam. NMAS FR 399. cf Keppie 1975, 59, 62, 63, fig 20.11, 12, 14.
- 327 Fragment of leather with pair of parallel stitching channels with grain to flesh holes stitch length 5–5.5 mm – toe seam? At lower edge of fragment, traces of holes made by hob nails. Probably part of upper of *calceus*. US.
- 328 *Calceus*, very worn fragment of upper consisting of quarters, and one side of vamp, with stumps of fine ribbing and part of toe-seam with grain to edge holes, stitch length c 3 mm. US. cf Keppie Type C (1975, 72, 73).
- 329 Five other fragments of upper, two with bottom edge folded and pierced by nails, one with stitching channel of grain to flesh holes, stitch length c 5 mm. US.
- 330 Heel stiffener, approximately semi-circular, maximum height c 45 mm, bottom edge folded for attachment to sole, and pierced by nails. Grain side inwards. US.
- 331 Fragments of 7 similar heel stiffeners, maximum height 25 mm, 40 mm, 45 mm, 50 mm, 55 mm US.
- *332 Sole. Slim forepart of small right sole inscribed on underside with a monogram ME. Pointed toe. Consists of two layers of leather, held together with iron hob nails, ends of some of which penetrate the insole, and have been hammered flat. Insole has grain side up. Nail pattern: around edge, and up centre of forepart in irregular zig zag. Position of some missing nails marked by slight cracks and by circular impressions. Maximum surviving length 135 mm, thickness c 8 mm, excluding hob nails. US.
- 333 Sole. One layer of left sole with pointed toe, with holes for hob nails, and with 4 pairs of tunnel holes, one with fragment of thong. Grain side uppermost. Maximum surviving length 275 mm, maximum width 99 mm, thickness 3 mm. US.

- *334 Sole. Two layers of left sole, held together with thongs. Upper layer is smaller, and is filling or packing, not insole. Holes indicate position of hob nails. Maximum surviving length 235 mm, maximum width 92 mm, thickness 3 mm, excluding filling. US.
- 335 Sole. Two layers of left sole, one of which constitutes filling or packing. Tunnel holes indicate that the two layers were held together with thongs. Holes mark position of hob nails. Maximum surviving length 271 mm, maximum width 104 mm, thickness c 3 mm. US.
- *336 Sole. One layer with holes for hob nails. Maximum length 243 mm, maximum width 93 mm, thickness c 2 mm. US.
- *337 Sole, fragment, probably left, consisting of insole and filling held together with thongs; triangular offcut - extra packing. Holes for hob nails. Maximum surviving length 271 mm, maximum width 100 mm, thickness 8.5 mm. US.
- 338 Sole, fragment, possibly child's shoe, most of forepart missing. Holes for nails, and tunnel holes for thongs. Maximum surviving length 169 mm, thickness c 2 mm. US.
- 339 Fragments of 16 soles, with holes for hob nails, six with tunnel holes for thongs. US.
- 340 Offcut, with nail holes - most probably part of filling of sole. US.
- 341 13 similar offcuts. US.

The heelguards and fragments of soles are probably part of *calcei*, although they could belong to *caligae* (Keppie 1975, 78).

DISCUSSION

The fort at Rough Castle was demonstrated in 1903 to be secondary to the Antonine Wall rampart (Anderson 1905, 459). The foundations of the W and E ramparts of the fort were wider and constructed at a higher level than the Antonine Wall rampart and rested against the S face of that rampart. The fort thus falls into the same class as Westerwood, Croy Hill, Cadder and possibly Bearsden, which are all additions to the Antonine Wall (Gillam 1975, 52), though unlike Westerwood, Croy Hill and Bearsden there is a causeway across the Wall ditch outside the N gate of the fort at Rough Castle. However, it may be noted, for what it is worth, that the causeway is not symmetrically placed in front of the gate, but lies slightly to one side. It has been suggested that the so-called wagon park, the small defended enclosure immediately NE of the E gate of Rough Castle, could have been a primary fortlet, later adapted for a different use. This, however, would not explain the off-centre position of the causeway, not least because there are no causeways outside the N gates of the fortlets at Seabegs Wood, Croy Hill, Glasgow Bridge, Wilderness Plantation and Duntocher (Watling Lodge was a special case as it guarded the road through the Wall, while the position at Kinneil is not known), just as, with the exception of certain special cases, there are no causeways outside the N gates of milecastles on Hadrian's Wall.

The fort at Rough Castle is the second smallest on the Antonine Wall. It measures 0.6 ha (1.5 acres) over the ramparts, 0.4 ha (1 acre) internally. The garrison at one time, probably in the first Antonine period, was *cohors VI Nerviorum* (RIB 2144 & 2145), one of the smallest type of auxiliary unit in the Roman army, containing six centuries of 80 men each. Nevertheless the fort was incapable of holding all the men in the unit and many must have been permanently outposted.

The fort was defended by a turf rampart on a stone base, 6.1 m wide to the W, S and E, 4.3 m wide to the N where the fort was attached to the rear of the Antonine Wall. An *ascensus* by the W gate led to the top of the rampart. The berm beyond the W rampart was metalled. Two ditches lay beyond the rampart on the southern circuit of the defences, three between the W gate and the NW corner, one on the N front and none between the E gate and the NE corner: an annexe, containing the bathhouse, was attached to the E side of the fort. The N front of the fort was further protected by 10 rows of defensive pits (*lilia*). There is no obvious tactical reason for these pits as the N approach rises slightly towards the fort.

The batter on the outer face of the W rampart, 78 degrees, is unusually steep. Jones (1975, 70) has noted in his study of pre-Hadrianic fort defences in Britain that earth – as opposed to timber – revetted ramparts were battered at an angle of between 65 and 75 degrees. Recent work at the fort at Strageath (Frere 1979, 37) has demonstrated that the outer face of the E rampart in the Flavian period, which was constructed on a timber strapping, had a slope of 67 degrees, while the rear face, standing to a height of 1.2 m, was vertical. The turf sector of Hadrian's Wall at the front had a batter of 76 degrees above its turf base while the back had a slope of 78 degrees though this probably changed after the first few courses of turf to a more gentle profile (Simpson & Richmond 1935, 9 & 13). On the Antonine Wall similar wide variations in the angle of batter have been noted. The best survey is still that carried out by the Glasgow Archaeological Society in the 1890s (GAS 1899). In three sections the turf-work stood 1.2–1.5 m high. At Croy Hill E expansion (section 11) the batter on the S face was 62½ degrees, at Croy Hill W expansion (no 12A) it averaged 56½ degrees, but at Bar Hill section 1 the S face sloped at an angle of 83½ degrees. At the fort on Bar Hill 10 years later one section near the NE corner revealed an angle of slope of about 75 degrees (Macdonald & Park 1906, 22). These comparanda emphasise the unusually steep angle of the outer face of the W rampart at Rough Castle: in the sections noted only two, those at Strageath and on the Antonine Wall at Bar Hill, surpass that at Rough Castle for steepness. The range of angle of slope noted above demonstrates how difficult it is to attempt the restoration of any rampart profile and in particular to try to determine the original height of a rampart.

The fort contained the normal complement of principal buildings: headquarters, commanding officer's house and granary, all in stone. Space was so much at a premium that the commanding officer's house was partly built over the *intervallum*. The buildings located in the *praetentura* were of timber. The initial occupation in the W half of this area appears to have been temporary, but this was succeeded by two timber buildings. The northerly block was 5.79 m wide and 26.52 m long while its neighbour was 6.25 m wide and presumably 26.52 m long. These buildings are in the appropriate position for barracks, but they are much shorter than normal barrack-blocks, which vary in length from 41 m to 50 m. The nature of the site has, however, obviously restricted the size of the buildings and barrack-blocks of similar length have been found at some sites in SW Scotland where similar conditions prevailed. The two rooms at the W end of the N block are of the size normally found in barrack-blocks, while the appearance of a verandah in the S building suggests that it was not a storehouse or workshop. It is also unlikely that the buildings should be compared to the barrack-like buildings at Pen Llystyn, interpreted as a hospital (Hogg 1968, 133–4), and at Corbridge forts II, III, IVA and possibly also IA and IB, interpreted as quarters for the administrative staff (Gillam 1977, 58–9), as all these buildings were located in the central range and not the *praetentura* or *retentura*. In short, there is no reason to assume that these two buildings were not barrack-blocks, conforming to an arrangement prophesied by Macdonald (1933, 174–6).

The two buildings are best compared to the 'half' barrack-blocks found at some sites in SW Scotland (Table 3). They are a little longer, but rather narrower than the blocks at the contemporary fortlet at Barburgh Mill, Dumfriesshire (Breeze 1974, 136) and noticeably longer than similar buildings, interpreted as barrack-blocks, in the small forts at Raeburnfoot (Robertson 1961, 32–9) and Crawford (Maxwell 1972, 175). The two rooms at the W end of the N block compare well in area to barrack rooms at Bar Hill on the Antonine Wall and at Barburgh Mill (Table 4). The construction of one barrack-block with a verandah and another without is paralleled at Barburgh Mill and at Bearsden on the Antonine Wall, while the fact that the blocks did not face each other is again paralleled at Bearsden (*Britannia* 10, 1979, 277).

Some post-holes were located below the line of the *via praetoria* but no undoubted buildings were located in that part of the *E praetentura* examined. At Cadder on the Antonine Wall part of the *praetentura* was left free of buildings and a similar situation may have existed at Bar Hill and in part of the *retentura* at Bearsden (see Robertson 1979, figs 16, 18 and 20 for plans). However, it is possible that the two buildings in the *W praetentura* at Rough Castle did not form the two halves of one building but rather formed the *W* halves of two buildings which, albeit divided by an unusually wide *via praetoria*, spread across the whole width of the *praetentura* in the

TABLE 3

'Half-sized' barrack-blocks in Antonine I Scotland

Rough Castle fort	26.5 × 5.8 ? × 6.25
Raeburnfoot fort	18.0 × 7.3
Crawford fort	19.8 × 7.2
Barburgh Mill fortlet	{ 24.5 × 9.2/7.4 23.0 × 7.4

manner postulated at contemporary Crawford (Maxwell 1972, 175). The eastern sections of such buildings can have been no more than 15.24 m long. The total possible length of these two, hypothetical, divided barrack-blocks, 41.76 m, is a little on the short side, but still within the normal range of barrack-block lengths.

The two rooms at the *W* end of the *N* block together may have formed the officer's block or alternatively two of the *contubernia* for the men. There are pointers in either direction. In the *N* building the two end rooms did not project in the normal way of officers' suites and the building lacked a verandah which may suggest that the officer's quarters were elsewhere. However, at Bearsden one barrack-block did not have a verandah while another did and in neither building did the officer's quarters project. The two rooms are slightly different in size, but that is not unusual in barrack-blocks. The available floor space compares well to that in barrack rooms at Bar Hill, Barburgh Mill, Strageath and in forts on Hadrian's Wall, and is considerably more generous than that at Bearsden, though here the barrack blocks are unusually small (Tables 4 & 5).

The combined floor area of the two rooms is, however, much less than that provided for the officer at Barburgh Mill and in forts on Hadrian's Wall: Bearsden again is not strictly comparable owing to the unusual barrack-blocks here. This might be taken to suggest that the rooms were more probably barrack rooms. However, floor area is not a reliable statistic; the barrack-blocks at Bearsden may be anomalous but they did exist and were smaller than those

TABLE 4

Officers' suites and *contubernia* in Antonine I Scotland

	Timber/ Stone	Area of officer's suite (in sq m)	Area of <i>contubernia</i> (in sq m)
Rough Castle fort	T	46.7	24.6 21.8
Bar Hill fort	T		
Bearsden fort	T	25.6	14.4
		21	14.4
Strageath fort	T	?	27
		?	20.6
Barburgh Mill fortlet	T	64.7	22

TABLE 5

Officers' suites and *contubernia* in forts of the Hadrianic period on Hadrian's Wall

	Timber/ Stone	Area of officer's suite (in sq m)	Area of <i>contubernia</i> (in sq m)
Wallsend	S	70	24
Benwell	S	90	29
Housesteads	S	76	25
	S	74	26
Birdoswald	S	?	26

at Rough Castle. Further, the unit at Rough Castle was a *cohors quingenaria peditata*, whereas the statistics quoted for Hadrian's Wall refer to larger units, possibly allowed more generous accommodation (Breeze & Dobson 1969, 27–31). It would thus not be impossible for a centurion stationed at Rough Castle to be allowed only 46.7 sq m floor area.

There is another consideration. Most the samian ware (and it may be noted all three fragments of window glass (276)) recovered from this half of the *praetentura* was found at the W end of the N building (19, 20, 22, 25–29) or on the W *intervallum* (21, 24, 31 and 33) rather than the E end of this building (34 & 38) or its neighbour (37). Work at Bearsden has suggested that there at least usually only the officers used samian ware (Breeze 1977), and if the same is true at Rough Castle it seems probable that the centurion occupied one, or more likely both, of the two rooms at the W end of the N building. The average width of each *contubernium* in the remaining putative 33.83 m of the barrack-blocks, assuming that there were the normal 10 rooms, will have been 3.38 m, and the floor area of each room nearly 20 sq m, a not ungenerous allowance. However, this is all speculative and further discussion must await the excavation of the rest of the *praetentura*.

It may finally be noted that it seems unlikely that there is space for a similarly arranged barrack-block in the *retentura*: only 6 m separates the S wall of the commanding officer's house and the N edge of the *intervallum* street, insufficient for a barrack-block and a road, though a narrower stores building could have been squeezed in. However, this *intervallum* street may not be primary and the wider distance of 12 m between the rear wall of the commanding officer's house and the N face of the rampart would have been wide enough to accommodate a 6 m wide barrack-block bordered by a path to the N and a road to the S: the move of the S gate of the fort a few metres to the E may point to modifications being carried out in the *retentura* during the life of the fort (Macdonald 1933, 176). The E end of the central range was presumably occupied by timber buildings as no stonework was found here in 1903. The available space E of the headquarters building, including the E *retentura*, measures 30 m by 15 m, and there is some indication that the buildings were arranged running N–S. The buildings could have been store-houses and/or workshops. Conceivably as space was so precious two 'half' barrack-blocks were placed here (Macdonald 1933, 176), but this seems unlikely: it would certainly be most unusual. The discovery of horses' teeth at Rough Castle (311 & 312) is unremarkable as the officers would have been mounted, and baggage animals may also have been present, but it does emphasise that there may also have been stables within the fort.

It is clear that at least two, and more probably three or four, of the six centuries of *cohors VI Nerviorum* were outpostted. The outstations manned by these troops presumably included the adjacent fortlets at Watling Lodge and Seabegs Wood, but as each of these fortlets probably held no more than 32 men some soldiers must have been stationed elsewhere as well. *Cohors VI Nerviorum* may have been divided between two forts, possibly Rough Castle and Falkirk, in the same way that it has recently been suggested that *cohors IV Gallorum* was divided between

Castlehill and Bearsden towards the W end of the Wall (*Britannia*, 9, 1978, 413). The pottery assemblage is clearly Antonine in character and there is no hint of an occupation at Rough Castle before the 140s though there are, as is to be expected in an Antonine fort, a number of sherds from Hadrianic-early Antonine vessels (59, 67, 71 and 78). The occupation of the fort, on ceramic evidence alone, continued as long as any other site of the Antonine Wall, with the possible exception of Castlecary (Hartley 1972, 28, fig 2A). There are a number of mid to late Antonine fragments and in particular five which are dated later than about 160, (75, 201, 204, 231 & 247; cf 18, 69, 209, 260-2). This suggests that the occupation of the fort continued through both the first and the second Antonine periods, about 142 to about 163. Four rim sherds (204), possibly all from the same vessel though found, unstratified, a little distance apart, represent the latest dated pottery from the site. The vessel(s) is a plain dish of anonymous form and of a type hitherto considered to have been introduced into the north towards the end of the second century. It seems better, however, to bring forward the date of the arrival of this type of dish in the north rather than push backwards the date of the abandonment of the fort.

Two phases of building have been noted in the *praetentura*. The first appears to have been of a temporary nature and was presumably succeeded after no great an interval by the permanent buildings. Three phases were noted in the *intervallum* street and on the W berm, while inside the W and N ramparts there appear to have been slight buildings of lean-to construction in the later days of the occupation of the fort. In only one area, the commanding officer's house, a building notably prone to modification, did the 1903 excavators note 'evidence of alteration or additions . . . the most complete and finished workmanship side by side with that of an inferior character' (Buchanan 1905, 481).

It would be foolhardy to relate these phases to the two or three periods recognised in other forts on the Antonine Wall. While it is possible, indeed probable, that the 1903 excavators removed the remains of the Antonine II occupation in the *praetentura* wholesale, it is possible, though unlikely, that the barrack-blocks excavated in 1957-61 had been occupied through both the first and second Antonine periods without a break. Indeed the case for occupation of the fort in Antonine II rests solely upon the ceramic evidence and as the date of the close of the second Antonine period in Scotland is now considered to be only about five years later than the end of the first phase it may fairly be questioned whether the date of the pottery can be so closely distinguished with certainty. This, however, is too large a problem to be discussed here. Accepting the pottery dating at face value the fort would appear to have been occupied through both Antonine periods, but the structural evidence for different phases of building cannot be related to these periods.

The range of pottery from Rough Castle reflects the normal pattern for an Antonine Wall fort. Most of the samian ware came from the Central Gaulish centres of manufacture, but the East and South Gaulish potters are also represented. The Mancetter-Hartshill, Colchester, South Carlton, Corbridge and Carlisle kilns all supplied mortaria while two vessels (212 & 265, cf also 266 & 267) were probably made in Scotland. However, between 50 and 60% of the market was supplied by the potters working at Colchester, presumably shipping their goods by sea to the Forth. The Colchester kilns also provided a considerable quantity of the black-burnished cooking and table-ware. Black-burnished ware was also supplied by potters working in Dorset, at Rossington Bridge in South Yorkshire and at another, unidentified, centre. As Rough Castle lies towards the E of the isthmus it is to be expected that black-burnished ware 2 from the Colchester area and Kent, which would have been shipped up the E coast, out-numbers black-burnished ware 1, most of which would have been imported via the W coast; in fact the relationship is 3 : 1. One vessel of Severn Valley ware has been recognised (89). Amphorae fragments

demonstrate communication with Spain. Finally, an interesting find is part of a glass beaker (273) probably manufactured in Italy or Alexandria. Most of the pottery – and presumably other goods – which came to Rough Castle were probably imported by sea, either to the Forth or the Clyde, and then shipped overland across the isthmus. However, the pottery from Corbridge, and perhaps elsewhere in the N of England and S Scotland, was probably transported completely by land.

Little can be said of life in the fort on the basis of the artefacts from the 1957–61 excavations. A quern is a not unusual find (14), and whetstones are to be expected (9–13). The range of metalwork (278–89) is uninformative. More interesting is the evidence for industrial activity in the form or part of a bowl furnace (290, cf 291 & 292): this may be related to the area of burning on the inside of the N rampart. The recovery of 63 fragments of leather (315–41), including two almost complete shoes, and a number of fragments of textiles (304–5), is also noteworthy. The leather fragments are mainly from *calcei*, the normal footwear of the auxiliary soldiers in the Antonine period (Keppie 1975, 78), and the textiles of a type relatively common in the Roman world. Cattle, deer and pig bones (306–10, 313–14) are common finds on military sites and reflect the varied diet of the Roman soldier (Davies 1971, 126–7). A variety of timber was available locally for woodworking and, presumably, burning – oak, birch, ash, silver fir and Scots pine (294–303) – though of course not all the artefacts need have been made at Rough Castle. The presence of a possible offcut (295) suggests that carpentry was practised at the fort. This object was of hornbeam, which would probably have had to be imported, possibly from S England: the wood may have been imported in a raw state or alternatively the offcut may have come from a re-used timber. It is unfortunate that most of the finds were unstratified.

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ARCHIVE

The finds will be deposited in the National Museum of Antiquities, the drawings in the National Monuments Record.

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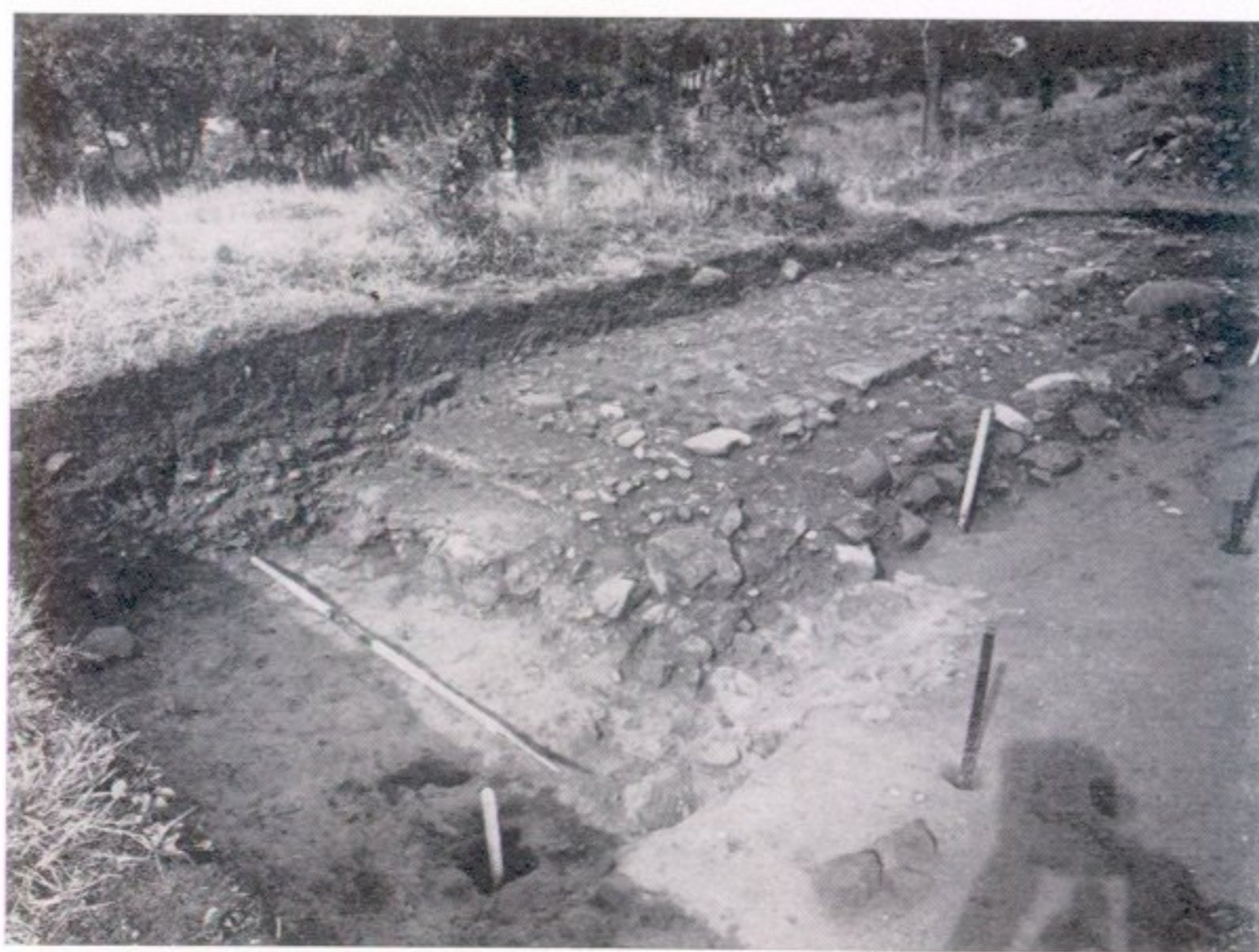
a 1903 W rampart section, as it appeared in 1957 before re-cutting: compare plates 37b and 38a



b 1957/59 W rampart section (a-a on figure 3)



a 1957/59 W rampart section: closer view of plate 37b (a-a on figure 3)



b N intervallum road: sectioned in steps to show three levels of metalling



a E end of paired barracks as excavated 1959 in NW quarter of fort: foreground, intervallum road; left, *via praetoria*; further end of excavated area, *via principalis*. Black pegs: post-holes of barracks; white pegs: lesser structures



b Stone-lined pit at N of *via principalis* as excavated 1961