

EXCAVATIONS AT MUMRILLS ROMAN FORT, 1958-60

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INTRODUCTORY

THE excavations described in this paper originated in the following circumstances. The Roman fort at Mumrills on the Antonine Wall was intensively explored by Sir George Macdonald and Dr Alexander Curle during the years 1923-8, and an admirably detailed account of the results was published in these *Proceedings*.¹ No traces of the fort can now be seen above ground, and the fragmentary remains that survive below the surface are not suitable for display. For these reasons, and also because part of the ground had already been built over, it was decided that there was not a good case for spending substantial sums of public money to prevent further development when the future of the site came up for consideration after the last war. At the same time the official agencies concerned were acutely aware of the probability that Mumrills still had valuable information to offer. Not only was it desirable

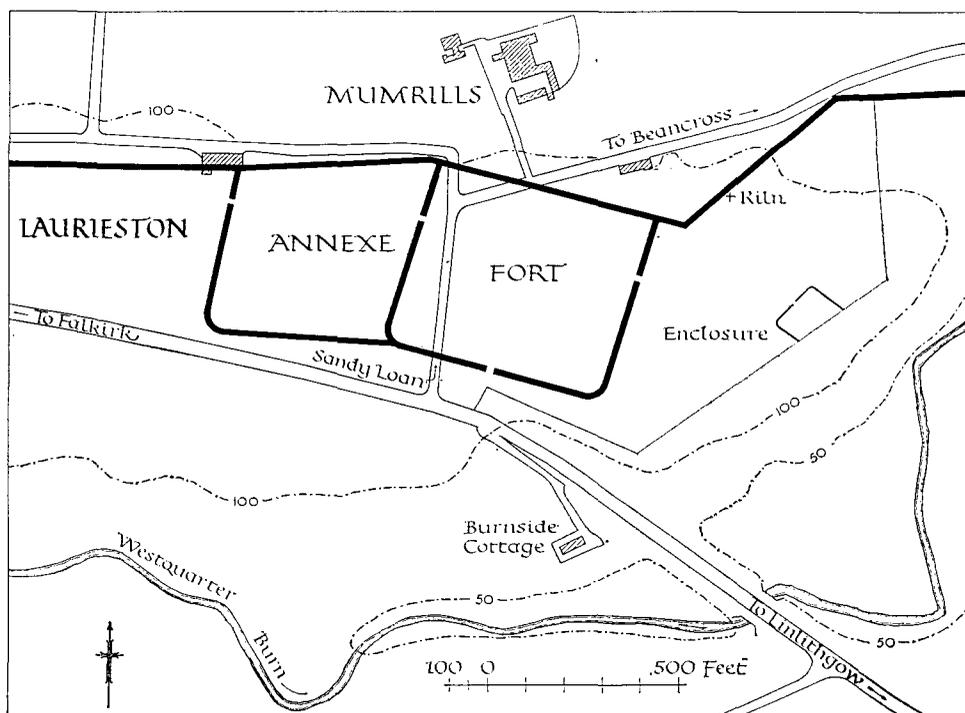


FIG. 1. Roman fort, Mumrills; outline plan

¹ Vol. LXIII (1928-9), 396-575: hereinafter referred to simply as the *Report*.

to check certain of Macdonald's conclusions regarding the occupational history of the site, but air-photographs taken by Dr St Joseph had revealed the crop-markings of hitherto unsuspected remains a short distance to the east of the Antonine fort.¹

Matters came to a head in 1958 when the portion of the site that lies to the west of the road known as Sandy Loan (fig. 1) was acquired for housing purposes; and immediate application was therefore made to the new owners, Messrs Mactaggart and Mickel, for permission to undertake a limited amount of excavation in the area. Through the good offices of Mr Douglas Mickel this request was granted, and, with the co-operation of the tenant, Mr D. McKinnon, four weeks work was carried out in that year. The success of this operation encouraged the hope that selective excavation in the field to the east of Sandy Loan might be equally rewarding, and a further three weeks work was accordingly undertaken there in 1960 with the ready consent of the owner, Lt.-Col. W. Forbes, C.B.E., and of the tenant of Mumrills farm, Mr John Smith.²

The excavations in both seasons were conducted jointly by the Royal Commission on Ancient Monuments and the Ancient Monuments Inspectorate of the Ministry of Works. Financial support was generously given by the Society of Antiquaries of Scotland from the Macdonald Bequest, and the Scottish Field School of Archaeology paid the expenses of four student helpers in 1960. In addition to the persons already named, the writer is indebted to Messrs Dunn and Wilson for permission to cut a trench in the enclosure at the back of their book-binding premises in 1958; to Miss A. S. Robertson who assisted with the direction of the work in 1960 and has kindly identified the coins; to Mr B. R. Hartley, Mr J. P. Gillam, Mrs K. F. Hartley and Mrs E. E. Richards for the reports which they have contributed on the pottery; and to the voluntary helpers who personally undertook the more intricate tasks and who shared in the supervision.³

THE 'AGRICOLAN FORT'

One of the most intriguing conclusions of the *Report* (pp. 400-6) is that there were actually two Roman forts at Mumrills, the western defences of the 6½-acre Antonine fort overlapping the eastern side of an Agricolan fort of similar size. The latter work was thought to have been one of the *praesidia* established along the Forth-Clyde isthmus⁴ in A.D. 80, and it was believed that its slight defences, consisting of a wooden palisade and a single ditch, had been largely destroyed in the succeeding period of occupation - the north side being obliterated by the great ditch of the Wall, and the

¹ *Journal of Roman Studies*, xli, 61.

² It is a particular pleasure to acknowledge the practical assistance given by Mr Smith at all stages of the work, since the Smith family has always been closely associated with exploration at Mumrills. Mr Smith's eldest brother, the late Mr James Smith, was responsible for the initial discovery of the fort some 50 years ago, while another brother, the late Mr Samuel Smith, took an active part in the excavations of 1923-8, and subsequently contributed several papers on further discoveries to these *Proceedings*.

³ Mr J. Barber, Miss Joan Beattie (Mrs Gillard), Mr and Mrs R. W. Feachem, Mr E. Henderson, Mr J. H. Hendrie, Miss D. Hunter, Mr A. MacLaren, Mrs V. Rae and Miss W. Simpson. Special thanks are due to Mrs Feachem who spent many weeks after the 1958 excavation in sorting, marking and assembling the hundreds of sherds found in the outermost ditch on the west side of the fort.

⁴ Tacitus, *Agricola*, 23.

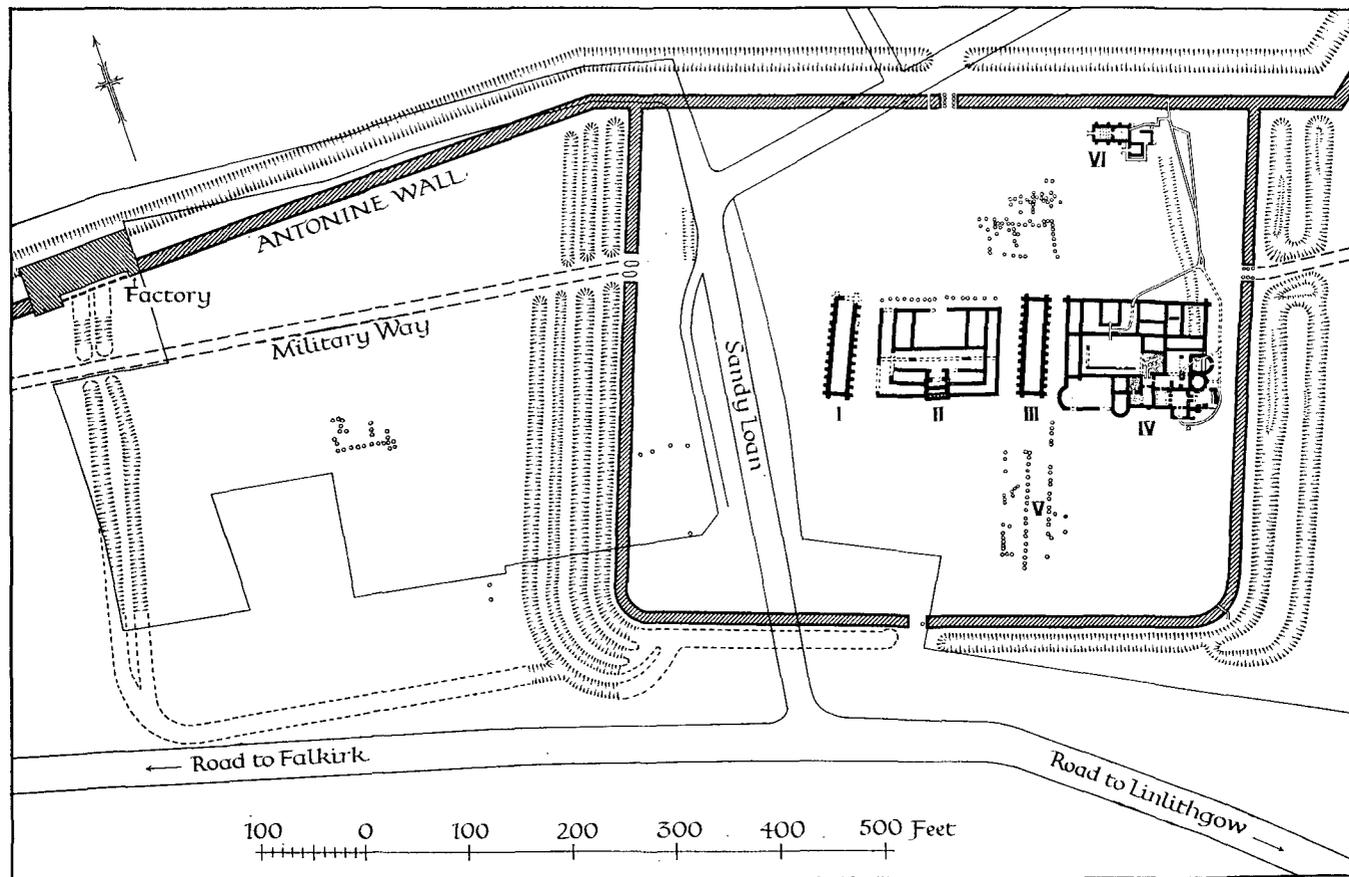


FIG. 2. Roman fort, Mumrills

west and south sides re-modelled to form the defences of an annexe serving the Antonine fort.

Although it is argued with great ingenuity, the case for the Agricolan fort has never been wholly convincing. At the outset it is difficult to accept the proposition that a general renowned for his skill in making the most of the *opportunitates locorum* would have spurned the tactical advantage offered by the ample top of the Mumrills plateau, and elected instead to pitch his fort in such a position that at least half of it rested on a steep northward-facing slope, thereby exposing it unnecessarily to direct assault. In detail, also, the evidence is loose and unsatisfactory, the remains of the supposed *praesidium* being too fragmentary, and too widely separated, to bear the weight of the construction placed upon them.

In the first instance therefore it was decided to test the west defences of the *praesidium* by cutting a section across the double ditches marked on Macdonald's plan, 10 ft. inside the fenced enclosure at the back of Messrs Dunn and Wilson's factory. Much to our surprise, no sign of any ditches was visible in this section, undisturbed gravel subsoil being present throughout the 90 ft. long trench at a depth of between 2 ft. and 2 ft. 9 in. below the turf. Evidently we had encountered by chance an original entrance-gap in the defences, and the significance of this discovery was at once apparent when it was related to the general plan (fig. 2). For the gap is not only sited in a direct line with the slightly oblique entrance through the western ditches of the Antonine fort, but lies too far to the north to have served as the west gate of the presumed Agricolan *praesidium*. In other words, Macdonald was right in thinking that the pair of ditches running south from the factory were the defences of an annexe contemporary with the Antonine fort, but the hypothesis that they were preceded by Agricolan defences on the same line is no longer tenable. Owing to the short time at our disposal, no attempt was made to establish the precise width of the gap, but trial trenches confirmed that the two ditches were present as shown on Macdonald's plan at distances of 12 ft. and 135 ft. respectively to the south of the enclosure fence. At the latter point search was made for an associated rampart but it had been completely ploughed away: traces of the turf of which it had evidently been composed were, however, observed in the filling of the inner ditch, and in the primary silt on the bottom of the same ditch there were found the rim of a cooking-pot and part of the base of a samian form 31, both of Antonine date.

With the collapse of the west defences the case for the Agricolan *praesidium* can no longer be sustained. The north side was always hypothetical, and although the *Report* states (p. 402) that the single ditch on the south side was cut through at its eastern end by all four ditches of the Antonine fort, the examination of these ditches in 1958 gave ground for thinking that the reverse may have been the case (*infra*, p. 99 n.). Lastly, the small ditch found near the entrance-gate to Field No. 2095 (*Report*, p. 404 and plan facing p. 574) possessed neither the profile nor the solid packing appropriate to a palisade-trench, and Macdonald's plan clearly shows that its axis was not strictly parallel to that of the presumed ditch underlying Sandy Loan. The purpose of the small ditch is in fact unknown, but a somewhat similar ditch ran northwards from the Commandant's House towards the Antonine Wall,

and was considered by Macdonald to have been dug for drainage purposes (*Report*, pp. 494-5).

THE DEFENCES OF THE ANTONINE FORT

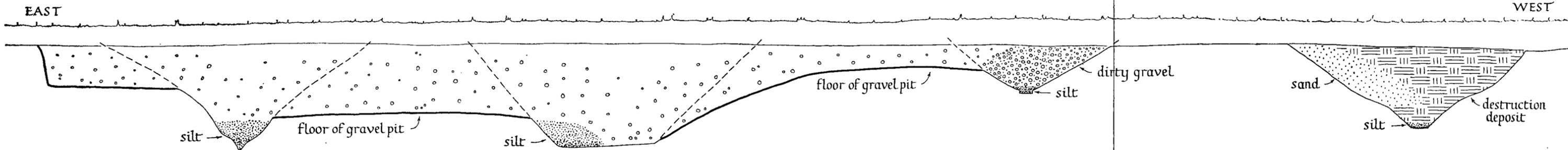
(1) In 1960 a section was cut through the *east defences*, 130 ft. north of the south-east corner of the fort (fig. 3, section D). Here only a few inches of rampart material had escaped the plough: it was composed entirely of puddled clay, and rested on a stone foundation similar to that of the Antonine Wall but only 12 ft. 6 in. in breadth. In front of the rampart there were two ditches, the inner one measuring 26 ft. in width and 7 ft. in depth, and the outer one measuring 17 ft. in width and 6 ft. 6 in. in depth (including a well-defined drainage-channel). The inner ditch was not original but had replaced a smaller, clay-lined ditch, some 13 ft. in width and 6 ft. in depth, the scarp and bottom of which had survived the re-cutting. This earlier ditch had been largely, if not wholly, filled with a solid mass of puddled clay, presumably derived from the adjacent rampart. The filling was clearly deliberate; and, since there was no trace of silt at the bottom of the ditch, it would seem that the defences had been slighted at a time when the fort was still occupied. It is also reasonable to infer that the 'midrib', which puzzled Macdonald by its sporadic occurrence in both ditches on the east side of the fort (*Report*, p. 417), was merely the accidental result of the process of re-cutting observed in section D. Such a 'midrib' is, in fact, visible in the section in question, at the junction between the original and secondary inner ditches, but the original outer ditch hereabouts had been completely obliterated by its successor.

(2) Examination of the *west defences* in 1923-8 revealed that there were three ditches to the north of the gate and four ditches to the south. The *Report* (pp. 420-1) adds that wherever the outermost of the four ditches was sectioned it showed 'three distinct surfaces, each of the three being proved by the pottery fragments lying on it to be Roman. It is thus clear that the fort had been twice abandoned and twice re-occupied before the final withdrawal, and that on neither of the occasions when it was re-occupied had it seemed worth while clearing the débris out of this particular ditch.' The prospect of obtaining stratified deposits of pottery covering the entire occupational history of the fort made it desirable to carry out a further inspection of the western defences in 1958, and a section (fig. 3, section A) was therefore cut across them 75 ft. north of the south-west corner of the rampart. Subsequently a partial section (fig. 3, section B) was dug nearby for control purposes, and then the outer ditch was completely cleared out for a distance of 100 ft. north of the modern wall shown crossing the defences on fig. 2. The results of this work were highly informative, though not in the directions expected.

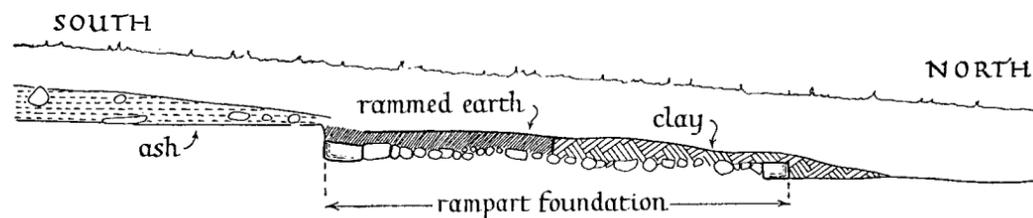
At the point chosen for the main section the rampart had been totally removed by cultivation,¹ and although four ditches had at one time been present three of them had been largely destroyed by quarrying away the gravel berms between them.

¹ During the preparation of house foundations in 1960, a portion of this rampart was exposed on the north side of the west gate. It consisted of clay on a stone foundation exactly as described by Macdonald (*Report*, p. 408).

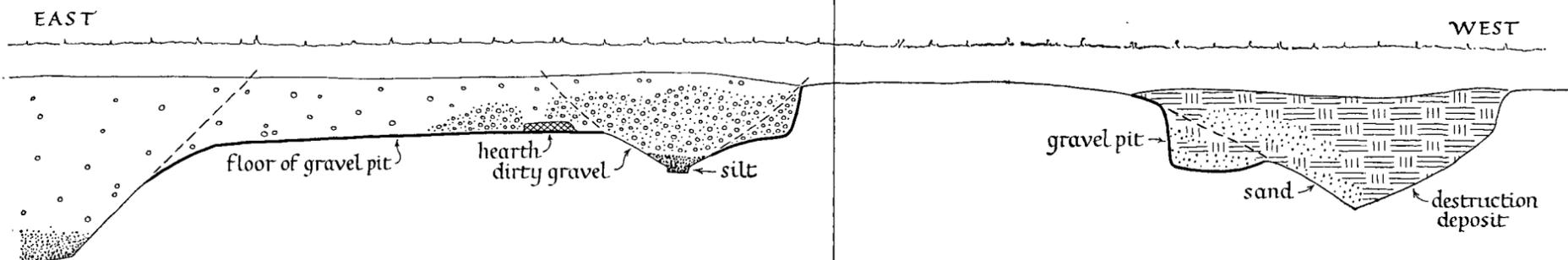
A WEST DEFENCES



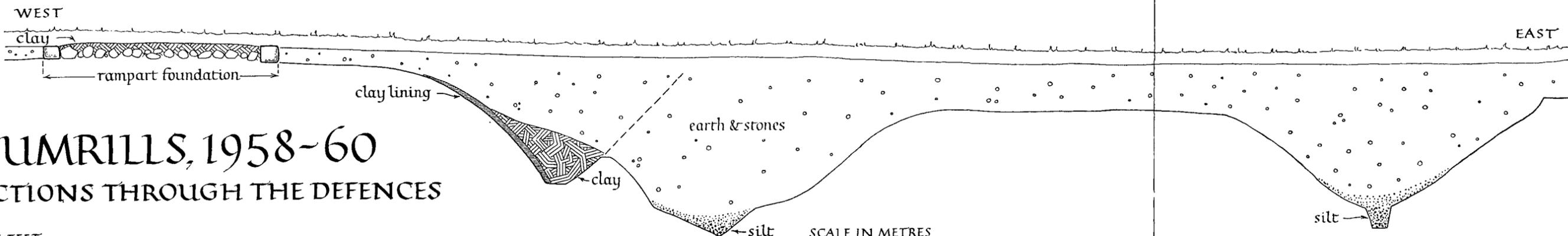
C NORTH DEFENCES



B WEST DEFENCES



D EAST DEFENCES



MUMRILLS, 1958-60
SECTIONS THROUGH THE DEFENCES

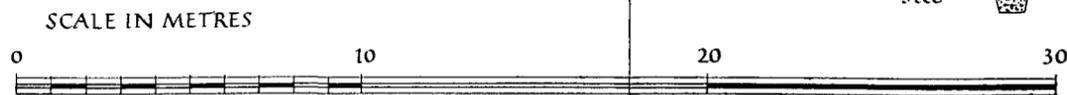


FIG. 3

By chance, the outermost ditch retained its original profile in section A, but when the 100 ft. length was exposed it was found that this ditch also had been rendered useless, in this case by digging a series of small gravel-pits intermittently along the scarp (fig. 3, section B). In these circumstances it was not possible to determine the precise dimensions of the ditches: all that can be said is that, allowing for the loss of one foot of subsoil since Roman times, the inner pair probably measured about 18 ft. in width by 7 ft. in depth, while the outer pair were somewhat smaller.

Immediately following the extraction of the gravel, the wrecked ditch system had been completely obliterated by filling it in to the level of the surrounding ground. But the filling was not uniform. In the inner pair of ditches it consisted simply of imported topsoil which yielded only four scraps of coarse pottery¹ and a *denarius* of Vespasian (p. 99, no. 1). The third ditch, on the other hand, had been filled with dirty gravel thrown in from the counterscarp, while the filling of the outermost ditch was different again. For the most part it comprised miscellaneous domestic rubbish, but mixed with this were pockets of coarse sand, derived from the quarry-pits and rejected by the gravel diggers, and bands of dirty gravel similar to that in the third ditch. During the clearance of the 100 ft. stretch of the outer ditch a careful watch was kept for the successive levels referred to by Macdonald, but although tip-layers could be distinguished there was no suggestion that the filling represented three separate deposits. On the contrary it was manifest that the ditch had been filled in a single operation and simultaneously from both sides, the sand and gravel being shovelled in from the scarp and the domestic rubbish from the counterscarp. Even if the stratigraphy had not been clear on this point, the testimony of the pottery contained in the rubbish was decisive: for not only did the same types of vessels occur at different horizons, but in several instances fragments of the same vessel were actually found at both the top and bottom of the filling.

Detailed reports on the pottery obtained from the fourth ditch are given below (pp. 100 ff), but the following points call for notice here.

- (i) The quantity of pottery is much larger than would be expected from a normal rubbish dump of comparable size, and the distribution of the sherds was uneven. In some parts of the ditch they occurred in great numbers, tightly packed together, whereas in other parts scarcely any pottery was present.
- (ii) A substantial number of vessels had been heavily burnt in what must have been a general conflagration.
- (iii) This conflagration had taken place after some, at least, of the vessels had been broken, since joints could be established between burnt and unburnt fragments.
- (iv) Of the three mortaria which could be wholly or largely reconstructed (p. 111 f, nos. 3-5), one did not appear to have been used, while the others were only moderately worn. The possibility must therefore be allowed that the pottery in the ditch had been deliberately, and not accidentally, broken.

Apart from pottery, the outer ditch also contained a good deal of burnt wood, burnt daub, and miscellaneous ironwork (chiefly carpenters' nails and tackets from

¹ i.e. a second-century cooking-pot rim, and three wall fragments probably of the same date.

shoes); occasional traces of burnt bone; five coins (p. 99 f., nos. 2-6); part of a pseudo-Venus figurine in pipeclay; a bronze strap-end; and fragments of four knee-brooches (Collingwood V-type no. 82 (two), one V-type no. 83, and one with a flat semicircular plate for a head). Two objects in this deposit, the figurine¹ and an infant's feeding bottle (fig. 14, no. 69: Pl. XI, no. 3), have not been previously recorded in Scotland and their presence provides confirmation for the natural deduction that the debris in the outer ditch emanated from the adjacent civil settlement and not from the fort.

Re-examination of the western defences in 1958 thus revealed evidence for one reconstruction at Mumrills, following the destruction of the *vicus* by fire, and since this reconstruction involved a drastic reorganisation of the fort defences it seems unlikely that the fire was accidental. Rather it must be inferred that the fort was either successfully assaulted and sacked by native forces on some occasion, or that it was deliberately razed by the garrison as a prelude to a temporary withdrawal.

The relatively small amount of silt present in the bottoms of the ditches on the west side of the fort (fig. 3, section A) indicates that the evacuation was of short duration, but when the site was re-occupied it was decided to do away with these ditches. They were accordingly converted in part into quarries for the gravel which would be required for re-surfacing roads in and around the fort, and were then filled in. The topsoil filling was doubtless a by-product of adjacent quarries, but the origin of the dirty gravel in the third and fourth ditches is obscure. The most likely explanation is that it represents the material from an upcast mound that formerly occupied the berm between the third and fourth ditches. Such mounds were probably employed more often than is realised to increase the effectiveness of Roman ditches. They are easily eradicated by ploughing, but fine examples still survive at Lyne² and Ardoch,³ while others have been recorded in Scotland at Inchtuthil,⁴ at Oakwood temporary camp,⁵ and on the Antonine Wall.⁶ As was to be expected, the outermost ditch was largely filled by sweeping in the debris of the adjacent civil settlement, and subsequently a road was laid across it at one point (*Report*, p. 421).

It seems certain, however, that the history of the western defences was more complicated than it appeared in section B. For, away from the area of the gravel quarries, Macdonald found that the profiles of all four ditches were well-preserved, and he observed that the inner ditch 'stood alone in having a well-marked ledge or shelf on the counterscarp for at least a part of its length'.⁷ Such ledges almost invariably denote re-cutting, and it is reasonable to assume that the re-cutting responsible for this feature was contemporary with that noted in the section cut through the east defences. Moreover, if the inner ditch in section B had been re-cut, it is easier to understand why there was no rampart material in the bottom to correspond with the clay filling of the original inner ditch on the east. In short,

¹ For the significance and distribution in Britain of these objects, see *Archaeologia Cantiana*, LXXII, 60 ff.

² *P.S.A.S.*, xxxv (1900-1), plan p. 169. Excavation in 1959, as yet unpublished, showed that the marginal mounds on the south side of the fort had been capped with stone to prevent erosion.

³ *ibid.*, xxxii (1897-8), plan facing p. 438 and section 2.

⁴ *Journal of Roman Studies*, XLIII, 104-5.

⁶ *Antonine Wall Report*, 139.

⁵ *P.S.A.S.*, LXXXVI (1951-2), 85.

⁷ *Report*, p. 417, and figs. 3 and 13.

there are good grounds for thinking that the Mumrills defences were overhauled on two occasions, and that the levelling of the western ditches is to be assigned to the second reconstruction. This is a point to which we shall return (*infra*, p. 98) when the evidence of the coins and pottery is considered.

(3) The *north rampart* of the fort was re-examined in 1960 in a section cut 65 ft. east of the north gate (fig. 3, section C). The rampart was based on the Antonine Wall foundation, here 14 ft. 8 in. in breadth,¹ and was stepped into the subsoil on the south. As Macdonald observed (*Report*, pp. 407-8), it was of composite construction, the outer half consisting of puddled clay and the inner half of rammed earth. This curious construction, paralleled at the Brecon Gaer,² did not appear to be the result of re-facing an originally homogeneous rampart with a different material,³ since both the soil and clay were laid directly on the stones and filled the interstices between them. Behind the rampart a deposit of ash and heavily burnt stones from a nearby oven was traced for a distance of 10 ft. into the fort, but the destruction of the upper levels by cultivation discouraged further exploration. Nor was it considered worth while to section the Antonine Ditch, although its south lip was located 23 ft. in front of the stone foundation.

THE ANNEXE

In the course of Macdonald's excavations a great deal of exploration was carried out inside the annexe, but with meagre results (*Report*, p. 500). A number of widely separated pits and considerable quantities of pottery testified to some sort of occupation, but the only signs of buildings consisted of a group of post-holes situated near the centre of the annexe. As so much of the ground had been previously disturbed, work inside the annexe in 1958 was confined to a single trench, 140 ft. in length and 6 ft. in width, which was cut parallel to, and 30 ft. to the north of, the modern wall that crosses the western defences of the fort on fig. 2. Its eastern end was 30 ft. from the outermost ditch. The results of this trench were disappointing, the only structural remains found being a small fragment of a building, 40 ft. from the eastern end of the trench, which had had a paved floor and walls of wattle-and-daub resting on a stone foundation. Heavy burning on the stonework showed that the building had been destroyed by fire. Westwards from these remains as far as the end of the trench, the ground had been quarried for gravel in Roman times to a depth of 4 ft., and subsequently filled with dirty sand over which a capping of large boulders had been laid (Pl. XI, no. 2). This 'boulder area', as Macdonald termed it (*Report*, p. 500), was evidently of Roman origin since a Roman oven had been built directly on top of it at one point, but its purpose was not obvious. Absence of metalling showed that it was not a road or a parade-ground, and it must be assumed that it was intended simply to consolidate the loose filling beneath, so providing a stable foundation on which new buildings could be erected. No such buildings were however

¹ Macdonald's assumption (*Report*, p. 407) that the foundation had been deliberately increased in breadth on the north side of the fort is no longer tenable. It is now known that the breadth of the Wall foundation is not constant throughout its entire length, but varies from 14 ft. to as much as 16 ft. in places.

² Wheeler, R. E. M., *The Roman Fort near Brecon*, 7.

³ As, for example, at Oakwood (*P.S.A.S.*, LXXXVI (1951-2), 88).

traceable in the area, and it seems reasonable to conclude that none ever existed. Otherwise, in spite of the destruction caused by later cultivation, some remains of their floors should have survived in company with the oven.

THE STRUCTURE OF THE ANTONINE WALL

Summarising the results of a number of sections which had been dug under his supervision, Macdonald described the structure of the Antonine Wall between the River Forth and Watling Lodge as follows:

In no single instance was it possible to detect the faintest trace of the dark lines which were invariably present in the west. Instead, there was apparent above each line of kerbs a great white mass of what proved to be wrought clay, which must, in some cases at least, have been carried a considerable distance. In the eastern part of its course, then, the Rampart was not caespiticious: no sods had been used in its construction. It was a firmly compacted mound, probably of earth with a substantial stiffening of clay, although the possibility that clay alone may have been used can hardly be definitely excluded; in one place the whitish mass actually rose to a height of 3 feet 3 inches above the stones.¹

Some modification of this statement is now required in the light of the following observations made in 1958-60.

- (i) A section cut through the Rampart in 1958, 400 ft. west of the north-west corner of the fort, revealed the stone foundation at a depth of 4 ft. below the surface (Pl. XI, no. 1). It was 14 ft. 5 in. in width and consisted of a spread of cobbles of varying sizes, many of them quite small, bounded by the usual hammer-dressed kerb-stones. The kerb-stones had been dressed on the spot and the waste material packed between and behind them. The Rampart itself survived to a height of 18 in. and showed no trace whatsoever of clay. The core was composed largely of natural sandy subsoil, with occasional turves thrown in in haphazard fashion, and was faced on both sides with laid turfwork 18 in. broad.² Leaching had dissolved most of the colour out of the turfwork, leaving it whitish-grey in appearance, but its layered structure was clearly visible in places, particularly on the southern face.
- (ii) A similar construction to that noted in (i) was observed in widely-spaced sections cut across the line of the Rampart in Polmont Park, three-quarters of a mile east of Mumrills, in 1960.³ Again, no clay was present.
- (iii) Two sections of the Rampart were exposed in 1960, 20 yds. and 30 yds. respectively west of the north-west corner of the fort, when an access road to the new housing estate was being made. In both cases the core was composed largely of brown sandy loam, but the facings were of stiff yellow clay. The best preserved facing, at the front of the Rampart in the westernmost section, stood to a height of 3 ft. 4 in. (fig. 4),⁴ and patches of clay amongst the fallen

¹ *The Roman Wall in Scotland*, 2nd ed., 87. Cf. also *P.S.A.S.*, XLIX (1914-15), 120-3; *ibid.*, LIX (1924-5), 281-5.

² The expansion at Bonny-side East was similar in construction (*P.S.A.S.*, xc (1956-7), 166).

³ cf. *infra*, p. 322 f.

⁴ Initially the facings were presumably battered, and the fact that the outer side of the facing in fig. 4 is vertical is doubtless due to subsequent displacement caused by pressure from the core.

rampart material immediately in front of the kerb showed that it had originally been higher. On the other hand it was only 18 in. broad at the base, covering no more of the foundation than the kerbstone, and the same was true of the facing at the back of the Rampart. These proportions must imply

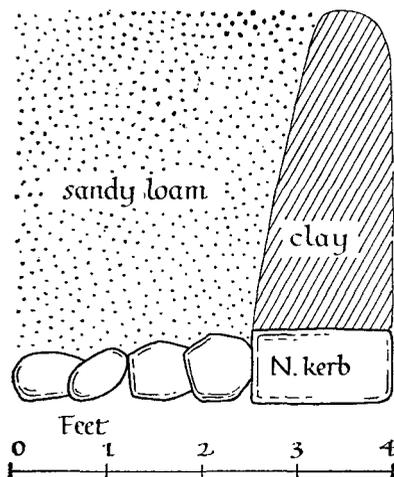


FIG. 4

that the facings formed a capping or skin which completely covered the core of the Rampart, and the same is no doubt true of the equally narrow turf facings described in (i) above.

- (iv) Careful examination of the stone foundation showed that the Rampart had likewise been faced with clay from the north-east corner of the fort eastwards for a distance of at least 16 ft. 6 in., beyond which point the foundation has been entirely rooted out. The south facing was 2 ft. 3 in. broad at the base, but the north facing, all traces of which had been removed by the robbing of the kerbstones, cannot have exceeded 2 ft. in breadth. One further detail noted at this corner was that the stone foundation of the east rampart of the fort was not bonded with the Antonine Wall foundation, but slightly overlapped the south kerb which had been slotted into the subsoil as shown in fig. 3, section C. It follows therefore that the Antonine Wall foundation had been laid first and the cradling for the east rampart added afterwards, though probably not long afterwards.

The observations described above thus endorse Macdonald's conclusions that the Rampart of the Antonine Wall was of composite construction in the eastern sector. But the use of clay facings was confirmed only on either side of Mumrills fort, where the stretches of Rampart in question could well have been constructed by the fort builders, in advance of the arrival of the Rampart proper, as happened in the case of the wing walls at Balmuildy.¹ Beyond the immediate vicinity of the fort further excavation is clearly needed to resolve the contradiction between Macdonald's de-

¹ Miller, S. N., *The Roman Fort at Balmuildy*, Pl. LVIII.

scription of the structure of the Rampart and the results obtained in 1958-60. In the meantime, all that can safely be said is that whereas clay may have been used as facing material elsewhere than at Mumrills, it certainly did not take the place of turf throughout the eastern sector of the Wall.

THE ENCLOSURE

To the east of the fort Miss Robertson examined a rectilinear enclosure (fig. 1) which had been revealed as a crop-marking on air-photographs taken by Dr J. K. St Joseph.¹ It proved to be a temporary Roman work, bounded by a single ditch with (presumably) a palisaded upcast bank inside it, and measured 130 ft. internally from north-east to south-west. The transverse dimension was at least 95 ft. but could not be accurately determined since the whole of the south-east side of the enclosure has been destroyed by erosion of the steep scarp of the plateau. In the centre of the north-west side an entrance was defined by two post-holes, 5 ft. apart, situated on the line of the presumed bank and facing a gap in the ditch 9 ft. in width. As the post-holes were 1 ft. in diameter but only 1 ft. in depth it was evident that ploughing had removed at least 1 ft. of the sand and gravel subsoil since Roman times. But although no trace of the bank survived *in situ*, it seems reasonable to suppose that it was composed simply of upcast from the ditch since there was no trace of turf or clay in the ditch filling. The ditch was W-shaped in some places, and V-shaped (both with and without a drainage-channel) in others: where best preserved it measured 5 ft. in width by 3 ft. in depth. The Roman origin of the enclosure was proved by its shape, and by the discovery of amphora fragments lying on the subsoil at the bottom of the ditch; while an Antonine date was established by a piece of a flat-rimmed bowl in black-burnished ware, found in the primary slit. A number of other Roman sherds, all apparently of the second century, were also found higher up in the filling of the ditch. The purpose of the enclosure is uncertain, though its slight nature suggests that it was intended to hold stores rather than to accommodate troops. Exploratory trenches in the interior revealed several widely scattered post-holes, but one of these was probably post-Roman, since a piece of a column shaft had been used as a packing-stone, and all of them may well have been contemporary with the structure discovered in the vicinity by the late Mr Samuel Smith.² A post-Roman date must certainly be assigned to a small oval ditched enclosure which can be seen on the air-photographs adjoining the north-east side of the Roman enclosure, and which proved to incorporate part of the latter's ditch in its circuit. Owing to the general denudation of the area, however, it did not seem worth while to pursue the exploration of this later feature.

CONCLUSIONS

The elimination of the supposed *praesidium* raises the question whether there is any evidence whatsoever that Mumrills was occupied by Agricola's troops in the first century A.D. Tactical considerations suggest that the most likely site for an early

¹ Nos. DH 32-33 in the Cambridge University Collection of Air-Photographs.

² *P.S.A.S.*, LXXIII (1938-9), 319 ff.

fort would be the eastern end of the plateau, immediately overlooking the gap in the escarpment between Mumrills Braes and the Cadger Brae, where there is ample room for a small post of the kind found at Croy Hill and Bar Hill. But neither Macdonald's exploratory trenches nor Dr St Joseph's air-photographs have disclosed the slightest indications of such a post either here or elsewhere on the plateau. The testimony of the pottery is hardly more encouraging. For Mr B. R. Hartley, who has examined the whole of the samian ware found in the course of the excavations of 1923-8 and 1958-60, reports that there is no Flavian or even Flavian-Trajanic material amongst it, the potters' stamps which were cited by Macdonald (*Report*, pp. 520-2) as first-century, or potentially first-century, being in fact Antonine. And amongst the thousands of coarse sherds which have been recovered from the site there are only one or two which are typologically earlier than the second century,¹ and all of these could well have survived in use until the Antonine period. A somewhat different impression is however conveyed by two coins – an *as* of Nero and an *as* 'very probably' of Domitian (p. 99 f, nos. 4-5) – which were discovered 40 ft. apart, in the destruction deposit in the outermost ditch on the west side of the fort in 1958. Dr C. H. V. Sutherland, who was invited by Miss Robertson to give a second opinion on these coins, writes that 'neither shows any great degree of wear, and this suggests that they had not circulated for more than a relatively quite short time, judged by the life of a normal bronze coin, when they were lost – say in the Flavian period: surely not later than that'. Provided therefore that the coins had not been temporarily out of circulation for some time (e.g. in a hoard) they would seem to provide the strongest evidence obtained to date for an Agricolan occupation. But such evidence cannot be regarded as conclusive in view of the lack of corroboration from structural remains or pottery, and the wide latitude that has to be allowed to cover exceptional cases in estimating the life of a coin.²

Summarising the results of the 1923-8 excavations, Macdonald concluded (*Report*, p. 574) that the Antonine fort was twice destroyed and twice rebuilt before it was finally abandoned towards the end of the second century. The results of the 1958-60 excavations seem to be entirely in accord with this opinion. The first break in the occupation is marked by the deliberate demolition of the fort, the clay rampart being slighted and cast into the inner ditch, and the internal buildings completely wrecked. The systematic nature of the destruction suggests that it may have been the work of the garrison itself prior to withdrawal, and it is reasonable to connect this episode with the now generally accepted view that Scotland was temporarily abandoned by the Romans on the occasion of the Brigantian revolt of A.D. 155-8. There is some evidence that the ensuing interval, which separates the first and second Antonine periods in Scotland, was of comparatively short duration,³

¹ e.g. a mortarium (*Report*, fig. 91, no. 3), a carinated jug (*Report*, fig. 106), and a jar decorated with barbotine rings (*infra*, p. 120, no. 60).

² No bronze coins of Nero have been previously recorded from the Wall, but two of Domitian were discovered inside the Antonine fort at Balmuldy (Miller, S. N., *The Roman Fort at Balmuldy*, 112), and a third at Mumrills itself during the excavations of 1923-8 (*Report*, p. 551). This last coin, which was found in the field on the east side of Sandy Loan, was minted in A.D. 73 or 74, and, like the two coins under consideration, was not greatly worn when lost. Nevertheless, Macdonald did not claim it as being a legacy of the supposed Agricolan occupation.

³ *P.S.A.S.*, LXXXIV (1949-50), 25.

and at Mumrills re-occupation was attended by large-scale reconstruction including the rebuilding of the rampart from the foundations,¹ the re-cutting of the ditch system and the erection of a new *principia*.

At an intermediate stage in the 1958-60 excavations, it was thought that the levelling of the west ditches of the fort was also to be referred to the first reconstruction,² but this conclusion is no longer tenable. For if, as seems most likely, the ledge observed by Macdonald in the innermost of the west ditches denotes re-cutting (*supra*, p. 92), the levelling of the ditches must represent a subsequent overhaul of the defences following a second destruction in which the *vicus* was burnt to the ground. It is uncertain whether this destruction was again the work of the Roman troops themselves, as a prelude to evacuation, or resulted from a successful native assault. But the inclusion amongst the wreckage of such items as coins, personal ornaments, footwear and even a clay figurine from a household shrine, together with the rapidity with which the site was re-occupied, might be thought to argue in favour of the latter alternative.

This second destruction, like the first, has been recognised in other forts on the Antonine Wall, and it is tempting to regard it, with Macdonald, as the work of the northern tribes who, according to Dio, broke into the province early in the reign of Commodus and inflicted a severe defeat on the Roman forces sent to oppose them, killing the general in command.³ Unfortunately although a large haul of relics, principally potsherds, was recovered from the destruction debris in the outermost of the west ditches at Mumrills, it has not been possible to establish a precise date for the deposit. Mr Gillam's analysis of the coarse pottery suggests that it was formed 'distinctly later than A.D. 140 and distinctly earlier than A.D. 200, with a slight bias towards the later date', and he points out that a 'date in the period A.D. 170-185 would fit these requirements' (p. 114). But this span cannot be reduced by reference to the other material in the ditch. The latest of the five coins (p. 100, no. 6) is an *as* of Antoninus Pius, minted in A.D. 154-5 and not much worn when lost; while the stamped mortaria, studied by Mrs Hartley, give a *terminus post quem* for the deposit of A.D. 150-155, and possibly of A.D. 160 (p. 113). The samian, too, is, in Mr Hartley's opinion, 'clearly later than A.D. 150'. But amongst the plain wares there is 'nothing certainly late Antonine, and much that can be paralleled in deposits thought to be early Antonine', while the most striking feature of the decorated ware is the complete absence of the products of potters who are generally considered to have begun work after A.D. 160 (p. 109). This discrepancy between the samian and the coarse pottery is one of the most surprising results of the excavation, and there is no obvious explanation for it. If the coarse pottery has been correctly dated, it would seem that from *circa* A.D. 160 to A.D. 170/85 the Mumrills garrison was not able to obtain the latest products of the samian factories, and was being supplied instead with obsolescent or discontinued lines. Yet one late second-century potter, CETTVS, is represented in a small group of samian found in a rubbish-pit in the

¹ At both the north-west and south-east corners of the fort Macdonald found that the original culverts through the stone cradling of the rampart had been modified prior to the re-erection of the superstructure (*Report*, pp. 409-10).

² *Journal of Roman Studies*, I (1960), 91.

³ Dio, LXXIII, 8.

annexe in 1961 (p. 109 f). Further discussion of the problem would be profitless until Mr Hartley has completed his detailed survey of samian ware in Scotland. But there is a growing suspicion that differences in sources of supply (possibly as a result of contracting), rather than political circumstances, may be responsible for deviations already observed in the pottery sequences on Antonine sites in Scotland, compared with those regarded as normal on military sites in the north of England. Hence the outstanding importance of Mrs Hartley's discussion of the origins of the stamped mortaria from Mumrills, and of Mrs Richard's report on the spectrographical analysis of samples of black-burnished ware (p. 129 f).

Little fresh information about the third period of occupation was forthcoming in 1958-60. The ditches on the west side of the fort were filled in at this time,¹ and a road was laid across the outer one, but no sign of re-cutting was observed in the east ditches and there is a hint that the reconstruction of the annexe buildings was not completed. It is therefore still uncertain whether the final evacuation of the site took place in the earlier years of the reign of Commodus, as Macdonald believed, or whether, as others have thought, it was deferred until A.D. 196. It seems highly doubtful whether further excavation inside the fort would be any more successful in resolving this problem, but there is still one task which would be well worth doing within the rampart, namely the complete examination of a barrack block. Although it is not a practicable proposition at the present time, this project should certainly be undertaken if the development that has overtaken the western part of the site should ever extend across the Sandy Loan.

THE COINS

by MISS A. S. ROBERTSON, M.A., F.S.A., F.S.A.SCOT.

Details of the seven coins found during the excavations of 1958-60 are as follows:

West defences, in the filling of the second ditch

1. *Denarius* of Vespasian (A.D. 77-78). Fairly well worn. (C.216, R.I.C. 110, B.M.C.216).

West defences, in the destruction deposit in the outermost ditch

2. *Legionary denarius* of Mark Antony (c. 32-31 B.C.). Very much worn (C.36?).
3. *Denarius* of Nero (A.D. 64-68). Worn. (C.119, R.I.C.45, B.M.C.74-6).
4. *As* of Nero (A.D. 54-68). Much corroded but does not seem to be much worn. (C.(Nero) 247, R.I.C.361, B.M.C.376).

¹ The elimination of the western ditches is difficult to account for except on the supposition that the annexe defences were adjudged to be sufficient protection, and it may be that the latter were not constructed until the beginning of the third period. It will be recalled that the annexe ditch did not terminate against the outermost of the four ditches at the south-west corner of the fort, as might have been expected if the two systems had been coeval, but continued across the berms between the fourth and second ditches. Macdonald naturally deduced from this that the annexe ditch was the earliest, but a similar effect would have been produced if the fort ditches had been deliberately filled up and then the annexe ditch dug through the filling. This, in fact, is precisely what the plan in the *Report* shows (facing p. 574), whereas the re-drawn plan published in the second edition of *The Antonine Wall in Scotland* (p. 195) conveys a somewhat different impression.

5. As very probably of Domitian, minted either under Vespasian (A.D. 69-79) or under Titus (A.D. 79-81).
6. As of Antoninus Pius (A.D. 154-5). Much corroded but not much worn. (C.117, R.I.C.934, B.M.C.1971 ff).

Annexe, surface find

7. *Sestertius* probably of Hadrian. Too much corroded to estimate wear.

THE SAMIAN WARE¹

by B. R. HARTLEY, M.A., F.S.A.

Any substantial group of Antonine samian is at least potentially important. If it can be firmly related to a dated historical event, it becomes invaluable to the student of samian. If it cannot, its immediate value is less, but full record is essential, as it may help eventually with some of the present problems. It would be idle to pretend that the evidence for dating closely samian of the Antonine period is satisfactory. There is no chance of it being so until large groups of decorated samian come from closely dated contexts, such as the Antonine I levels of sites without Hadrianic but with divided Antonine occupations that are dated by inscriptions. (The material from later Antonine deposits is necessarily less valuable, since it is impossible completely to allow for residual and survival sherds.)

The dates suggested for the Antonine potters in Stanfield and Simpson's *Central Gaulish Potters* are based, as far as possible, on evidence from dated military sites, but as this evidence is so deficient, subjective guesses have inevitably been involved. While most students of samian probably accept the broad trend of the dating, it will be clear that great care is needed in applying it, especially as the later dating proposed is in some ways potentially more dangerous when arguing from *termini post quos*. However, the dates suggested below agree closely with the Stanfield-Simpson series. They are discussed as a whole below (p. 108 f).

Figure-types are quoted from Déchelette (D.) in preference to Oswald (O.).

I. From the destruction deposit in the outermost ditch on the west side of the fort

(a) *Decorated ware* (figs. 5 and 6)

1. Form 37. A burnt fragment with rivet-hole. Typologically, this is the earliest sherd in the deposit and is assignable to IANVARIS or another of the group associated with QVINTILIANVS (cf. *CGP*, Pl. 69, 9). It shows many of the same features as a bowl from the earlier excavations at Mumrills (*Mumrills 1928*, fig. 78, 21). Figure-types: D. 331, O. 581; dog similar to D. 930/4, previously noted on a QVINTILIANVS Group bowl from Rossington Bridge. There are enough frag-

¹ The following abbreviations are used:

Balmuildy: S. N. Miller, *The Roman Fort at Balmuildy*.

CGP: J. A. Stanfield and Grace Simpson, *Central Gaulish Potters*.

D.: Refers to the list of figure-types in J. Déchelette, *Les vases ornés de la Gaule romaine*, tome II.

Mumrills 1928: G. Macdonald and A. O. Curle, *The Roman Fort at Mumrills, near Falkirk* (P.S.A.S., LXIII).

O.: F. Oswald, *Index of Figure-types on Terra Sigillata*.

O & P: F. Oswald and T. D. Pryce, *Introduction to the Study of Terra Sigillata*.

Wroxeter 1923-7: D. Atkinson, *Report on Excavations at Wroxeter 1923-7*.

ments in the style of this group in Scotland to allow the suggestion that they were still working in the early Antonine period, though probably little after A.D. 145.

2. Form 37. A burnt fragment from an unusually thick bowl. I have not seen fragments in this precise style elsewhere. The ovolo with slender tongue turned to the left was used by AVITVS, VEGETVS and IANVARIS II (*CGP*, figs. 14, 1 and 34, 1) and other Lezoux potters who did not normally export to Britain. The use of a straight wreath, unusual in Central Gaulish ware, also recalls the AVITVS-VEGETVS Group, so there may be some connection with their workshop. Hadrianic-Antonine (?).

3. Form 37. One large and two small fragments, giving almost half the bowl. Slightly sandy orange fabric with brownish glaze. The footstand is fairly heavily worn. Poor workmanship: most of the figures are only partly impressed and the vertical bead-rows run into the ovolo. The decoration is much less crowded than with most bowls of the mid-second century, and the use of very wide panels is notable. The scheme of panels is: (a) a figure in the attitude of O. 360/1, but smaller and with no trace of the scarf; (b) 'candelabrum', D. 1115; (c) O. 656; (d) D. 282, larger version; (e) as (b); (f) as (c); (g) as (a); (h) as (b); (j) D. 111. The ovolo is blurred, but reminiscent of ones used by DOCILIS (*CGP*, Pl. 91, 5) and CASVRIVS (*CGP*, Pl. 132, 10 and 11).

No signed or stamped bowl of this potter is known, though there are several sherds with the distinctive large panels and astragali across the borders which should probably be assigned to him. They include an old find from Mumrills (*Mumrills 1928*, fig. 79, 29 and 39 - the same bowl) and vessels from Balmuildy (*Balmuildy*, Pls. 33-34, nos. 32, 33, 41 and 42 - all from the same bowl), Rough Castle, Corbridge, Chester, Verulamium and Wilderspool (all unpublished). Perhaps the Corbridge sherd tentatively assigned to CASVRIVS (*CGP*, Pl. 135, 42) should be added: it at least suggests a connection between our potter and CASVRIVS. But some bowls of DOCILIS, with large panels and astragali across the borders, come closer to the style of this piece. DOCILIS, moreover, used both the ovolos known on the sherds quoted above. However, his work is always more crowded and his normal glaze is quite different. Presumably, then, we have to do with a Hadrianic-Antonine or early Antonine potter who started work in association with DOCILIS and who survived long enough to have some contact with CASVRIVS.

4. Form 37. Thirty-seven sherds, together giving almost the whole bowl. Footstand little worn. Reddish brown glaze. The basic decoration is in four panels: (a) Perseus, D. 146; (b) hare, D. 950, in festoon over bear, D. 817; (c) Diana, D. 68, in medallion over D. 787; and (d) a vertical series of dolphins, close to D. 1057 in shape and size, but with striated tail. These panels are repeated four times, except that one of the series of dolphins is replaced by a Pan, D. 411.

The details of decoration are all typical of a potter whose work is found at most British sites occupied in the Antonine period and is also common in the Danube provinces. Constant and characteristic features of his bowls are the use of a straight line under the ovolo, of borders of rather coarse beads without masks at the junctions, and of the dolphin, sometimes in vertical series, more often used, partly impressed,

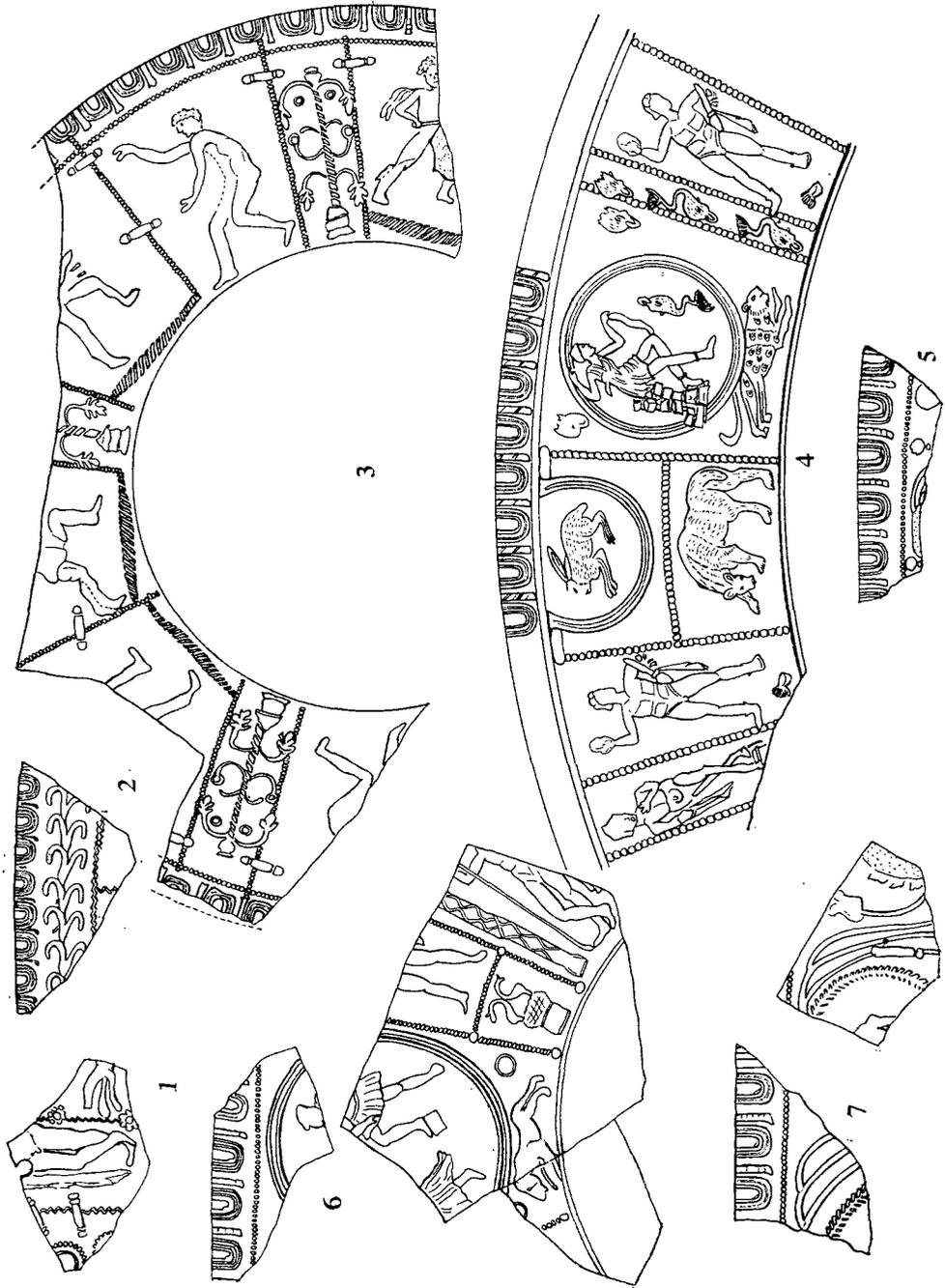


FIG. 5. Decorated samian ware (1/2)

as a space-filler in the corners of panels with large medallions. When partly impressed, the dolphin often appears as an almost formless blob on the bowl. The workmanship is always slipshod.

The potter's name is given by an unpublished bowl from Great Chesterford (in Saffron Walden Museum) with the mould-stamp SECVND()F in the decoration. Presumably the name was SECVNDVS (cf. Oswald, *Stamps*, p. 289 for a record on a mould from Lezoux, and *Wroxeter 1923-7*, Pl. 43, 40a). His work has been assigned to PVGNVS by Stanfield and Miss Simpson (*CGP*, Pls. 154-5, where I would attribute nos. 14-16 and 22 to this potter with confidence, and others less certainly). His commonest ovolo is that on the Saffron Walden and Mumrills bowls: it appears to be indistinguishable from CINNAMVS ovolo 3 (*CGP*, fig. 47).

There is no site-dating evidence. The close connection with CINNAMVS suggests activity after A.D. 150, but his bowls have not yet appeared in the Pennine forts occupied in the Antonine period.

5-8. These bowls would normally be assigned to CINNAMVS. The ovolo is generally similar to CINNAMVS ovolo 3, and is usually confused with it, but in fact the tongue is quite different and in clear impressions is seen to consist of six close-fitting squarish beads instead of being unified and having two diagonal striations. The left side of the ovolo core is always defective. That this ovolo was used by PAVLLVS is certain, as it is on a signed mould of his from Lezoux (unpublished, Roanne Museum: cf. also the Camelon bowl, *CGP*, Pl. 165, 2). It may also have been used by AVENTINVS and probably also by potters who did not stamp their bowls. So far, I have never seen it on a stamped CINNAMVS bowl, and it is noticeable that the glaze of pieces on which it is found is usually more brilliant than his. The associated borders often have rather irregular beads, sometimes slightly larger and more widely spaced than with CINNAMVS. Many of the unstamped fragments from the Antonine Wall and elsewhere that have been assigned to CINNAMVS probably belong to this series and it may be convenient to use the term 'PAVLLVS Group'. The styles of decoration are usually more elaborate than those of CINNAMVS and the Group tends to have its own repertoire of figure-types. Among published material, *CGP*, Pls. 157 ff, nos. 7, 12, 33, 71, 73 and 75 all have features that perhaps link them with the PAVLLVS Group rather than with CINNAMVS, and a piece from an Antonine I context at Newstead should perhaps be attributed to him rather than to CINNAMVS (*P.S.A.S.*, LXXXIV, p. 27, no. 8). On the other hand, a PAVLLVS bowl (though in a typologically later style) occurred in the Wroxeter Gutter (*Wroxeter 1923-7*, Pl. 35, G6). On present evidence, PAVLLVS and his associates could well be contemporary with CINNAMVS, but the distinction is clearly worth bringing to the attention of students of samian ware, because there may well be slight differences in chronology involved.

5. Form 37. A substantial fragment, mostly plain band, in pinkish fabric with fine matt reddish glaze. The ovolo is discussed above. Panel decoration with a small double medallion that is especially common with the PAVLLVS Group.

6. Form 37. Six sherds, some burnt, giving the basic scheme of decoration. Pale fabric with brilliant reddish glaze. The ovolo is the same as the last, but the tongue

is more blurred. Although the horizontal divisions between the beads in the ovolo tongue only show in a strong cross-light, the slightly sinuous edges of the tongues are characteristic. Figure-types: (a) Minerva, D. 77, and Vulcan, D. 39, in a large medallion over bear, D. 820 (?); (b) Perseus, D. 146, over D. 1069; and (c) column and D. 331. Cf. *CGP*, Pl. 165, 4 – from a signed PAVLLVS mould.

7. Form 37. Two fragments. Pale fabric, dull, red-brown glaze. Ovolo blurred, but apparently of PAVLLVS type. Large scroll decoration with medallion in lower concavity (cf. *CGP*, Pl. 162, 58 – CINNAMVS).

8. Form 37. Four joining sherds from a freestyle bowl. Orangi fabric with fine reddish glaze. Ovolo very blurred, but probably of PAVLLVS Group type. Figure-types: D. 766 and D. 867 (twice). The leaf tips in the field are especially common on bowls with this ovolo, though CINNAMVS also used similar ones occasionally.

9. Form 37. Three fragments. Pinkish fabric, high red-brown glaze. The ovolo has been smoothed out by the finisher. Panel decoration with part of the lion D. 766. The leaf-tips in the field recall *CGP*, Pl. 163, 71.

10. Form 37. Two fragments in pinkish fabric with brilliant reddish glaze. A panelled bowl with leopard O. 1510 or the like, sphinx D. 497 and leopard D. 798. The general style suggests the work of CINNAMVS or the PAVLLVS Group.

11. Form 30. A fragment in pale fabric with red-brown glaze. CINNAMVS no. 3 ovolo with clear diagonal striations and squared ends. Neat fluting above the ovolo, but no internal groove. This is part of a bowl found in the earlier excavations (*Mumrills 1928*, fig. 79, 32).

12. Form 37. A slightly burnt fragment from the stamped CINNAMVS bowl previously published (*Mumrills 1928*, fig. 77, 8). The new piece does not add to the decoration.

13. Form 37. A fragment in slightly sandy pinkish fabric with bright reddish glaze. The ovolo is CINNAMVS type 1 (*CGP*, fig. 47). The lozenge and cup are both known on stamped CINNAMVS bowls.

14. Form 37. Three fragments, one burnt, in pinkish fabric with dull brown glaze. The ovolo (*CGP*, fig. 47, 4) is known on bowls of CARANTINVS and CINNAMVS. It was also used by another potter, as it occurs on several bowls with large astragalus borders which are not recorded for the two potters named (cf. *Mumrills 1928*, fig. 80, 58). The bear (D. 808?) and plant are not recorded for them either.

15. Form 37. Two pieces from a bowl in slightly purplish fabric with dull brown glaze. The arrangement of the freestyle decoration is typical of CRICIRO (cf. *CGP*, Pl. 118, 17) and I have noted this ovolo on several bowls in his style, though not yet on a signed one. It was also used by DIVIXTVS (*CGP*, fig. 33, 2, though the central core is usually clearly visible), not, however, with borders of wavy lines. Figure-types: lion, D. 766; serpent on rock, D. 960, bis, and bear, D. 808.

CRICIRO must have begun work in close connection with SACER, ATTIANVS or DRVSVS II, judging by the closeness of their styles, but his work could be entirely Antonine, as Stanfield and Simpson suggest (*CGP*, p. 211).

16. Form 37. A scrap in pinkish fabric with red glaze. This ovolo is known on

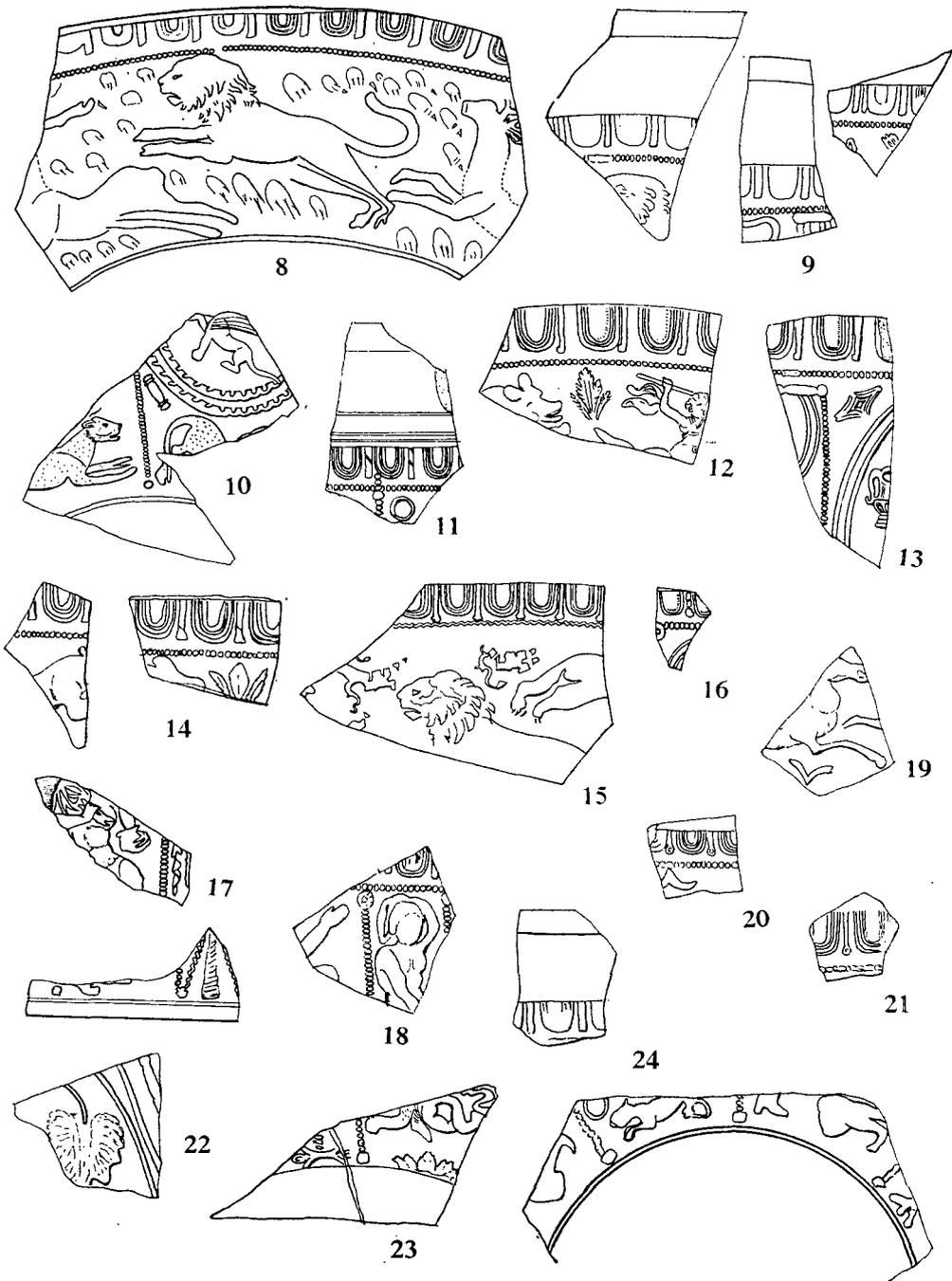


Fig. 6. Decorated samian ware (1/2)

the bowls of SACER, ATTIANVS, CRICIRO and DIVIXTVS. The ring terminal on the border suggests the work of one of the last two, probably CRICIRO, whose work is common on the Antonine Wall.

17. Form 30. Two heavily burnt fragments, clearly from a DIVIXTVS bowl (*CGP*, Pl. 115, 1-3). Satyr, D. 364. I do not know the reason for the late initial dating suggested in *CGP* (p. 210), though his stamp occurs on plain ware in the Wroxeter Gutter Find (*Wroxeter 1923-7*, p. 140).

18. Form 37. A fragment in pale fabric with chocolate-brown glaze. Panel decoration: Cupid, D. 229 and caryatid, D. 1207a (CRICIRO, DIVIXTVS). There is a ring terminal on the vertical beadrow. The style recalls DIVIXTVS and ADVOCISVS but the ovolo appears to have a plain tongue not known in their work.

19. Form 37. A fragment in yellowish orange fabric with dull brown glaze. The V-shaped plant in the field suggests the work of IANVARIS II (*CGP*, Pl. 119), but the horse appears to be a new type (cf. O. 1897).

20. Form 37. Pale fabric, bright glaze. This has the rounded ALBVCIVS ovolo and the fragment is from the bowl found in the earlier excavations (*Mumrills 1928*, fig. 79, 37). Cf. no. 21.

21. Form 37. Three fragments in the same fabric as the last, showing only the square ovolo with ring terminal to the tongue. This was shared by ALBVCIVS and PATERNVS, but the similarity of the fabric to that of no. 20, and traces of small astragali in the border below, point to the former.

22. Form 30. One fragment from a thin bowl with large scroll. The leaf was used by ATTIANVS, so the bowl may have come from his workshop or from that of one of his many associates.

23. Form 37. Two joining fragments from a panelled bowl with a sea-monster (D. 38) and acanthus leaf tip. Unassignable.

24. Form 37. Pale fabric with brown glaze. Crude workmanship. The curious use of partial impressions of a charging bear (D. 820, or the like) is without published parallel, so far as I know, but the bowl is clearly Antonine.

25-31. (not illustrated). Small pieces from seven bowls, all Central Gaulish and too fragmentary for identification.

32-33. Two decorated bowls from the 1923-8 excavations have not been taken into account above. One (*Mumrills 1928*, fig. 79, 35) cannot be assigned to a particular potter; the other is by Stanfield's X-6 (*ibid.*, fig. 80, 53 - two contiguous fragments; cf. *CGP*, Pls. 74-76), who was active c. A.D. 120-50.

(b) *Potters' stamps on plain samian* (fig. 7)

1. *CARATVS* on form 18/31 or 31. A rare potter with no site-datings (*Oswald, Stamps*, p. 61). Typologically, this piece is Hadrianic-Antonine. There is no other record from Scotland.

2. *CETVS* on form 27. *Oswald* (*Stamps*, pp. 75, 372) almost certainly conflates two or more potters. *CETTVS*, formerly known as the Small S Potter, worked at Martres de Veyre, as M. Raymond Terrisse assures me, but stamps with single T,

often in a decorative frame or between phalli, occur on standard Lezoux ware. No other Scottish record.

3. *DVPPIVS* on form 33. A rare potter, who made both form 27 and form 79. His work has previously been noted at Newstead (Oswald, *Stamps*, pp. 112, 383).

4. *MARCELVS* on form 31 (Ludowici Sa). There was more than one Central Gaulish potter with this common name. The stamps from Regis House must be early Hadrianic (*Ant. Jour.*, xxv, p. 76), but records on form 80 attest at least one

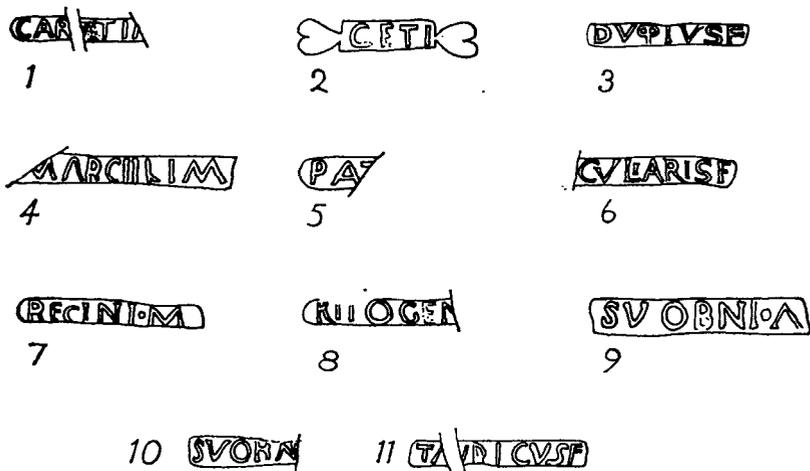


FIG. 7. Samian stamps (1/1)

Antonine potter. The lettering of the Mumrills stamp connects it with a *MARCELVS* represented by two stamps in the Verulamium Fire. Four examples from Newstead.

5. *PATNA* (?) on form 27. Although only the first three letters remain, their position on the base points to a short name, and only *PATNA* seems to qualify. No previous Scottish record.

6. *PECVLARIS* on form 31. This is the seventh stamp from Scotland. It also occurs in the Verulamium and Worcester Fires. (To judge by the distribution, the die reading *PECVLIAFE* is East Gaulish, and should be left out of account in assessing the potter represented at Mumrills. Cf. Oswald, *Stamps*, pp. 237, 413.)

7. *REGINVS* on form 31. Some of the stamps in the nominative with F (Oswald, *Stamps*, pp. 260, 415) probably belong to a Trajanic-Hadrianic potter (*Ant. Jour.*, xxv, p. 76 – with eight examples from Regis House). Stamps in the genitive with M are certainly Antonine and occur in the Verulamium and Worcester Fires. Five others are known in Scotland.

8. *RITOGENVS* on form 31 (Sa). Ten examples from Scotland, two in the Worcester and one in the Verulamium Fire.

9. *SVOBNI*... on form 31 (Oswald, *Stamps*, pp. 309, 420). Stamps reading *SVOBNI* or *SVOBNILLI*, more or less fully, are among the commonest from Antonine sites in Scotland (eight others noted before). *SVOBNI* is probably an

abbreviation of the longer form, as it never appears with the nominative ending and one die reads SVOBNI.F. The lettering of all the stamps is similar.

The only other stamp from a significant context is from the Wroxeter Forum Destruction (*Wroxeter* 1923-7, p. 172).

10. SVOBN[on form 27. See no. 9. The position of the stamp here suggests the longer form of the name.

11. TAVRICVS on form 31 (Oswald, *Stamps*, pp. 313, 421). This is the only record in Scotland. Seven examples, from a different die, were found in the Wroxeter Forum Gutter (*Wroxeter* 1923-7, p. 145) and another in the Aquincum Hoard (*Archeologiai Értésítő*, XLIX, 1936, p. 34). These site-finds demand activity lasting at least into the 160's.

(c) *Plain samian*

The plain samian requires little comment. It is all typologically Hadrianic-Antonine or Antonine. Forms 79, 80, 31R, the samian mortaria, and Ludowici Tg/Tx are all absent. A rim-count gave the following (necessarily approximate) figures: form 27 - 6; form 33 - 12; form 38 - 3; Curle 22 - 1; form 18/31 (Tq) - 11; form 18/31R - 1; form 31 - 8; form 18/31 or 31 - 14 (probably mostly the former). Two uncommon vessels were one of the small rouletted cups based on form 30 (*O & P*, Pl. LXXV, 13 is close) and a jar of form 72 (*O & P*, Pl. LXXVII, no. 6 for the form, no. 4 for the decoration of 'cut-glass' facets).

(d) *The date of the samian from the destruction deposit*

The plain ware includes a high proportion of form 27, which is believed to have gone out of use in Central Gaul during the early Antonine period and is absent in the Wroxeter Forum Gutter and at Pudding Pan Rock (both after A.D. 160). Among the dishes, the large deep form 31R is missing, as are other typically late-Antonine forms, such as Walters 79 and Ludowici Tg, while the 31's are mainly the shallow variety that seems to have been characteristic of the earlier finds (*Mumrills* 1928, fig. 87).

None of the potters' stamps occurs at Pudding Pan Rock (for which the range A.D. 160-200 covers all possibilities, and A.D. 160-90 is likely), and only one is common to Mumrills and the Wroxeter Gutter (TAVRICVS). On the other hand, there are several stamps in common with the large deposits of burnt samian at Verulamium and Worcester (MARCELVS, PECVLARIS, REGINVS and RITOGENVVS). At Verulamium, decorated bowls of ACAVNISSA, ATTIANVS, DOCILIS and SACER, and of other primarily Hadrianic potters, were in use at the time of the fire alongside products of fully Antonine factories, notably the CINNAMVS firm. This should indicate a date before A.D. 160. Similarly, the Worcester Fire assemblage is earlier than the Wroxeter Gutter Group, since bowls of the common potters known to have begun work after A.D. 160, such as CASVRIVS or DOECCVS, are absent from it, though common at Wroxeter.

The plain samian and stamps, then, are clearly Antonine, but there is nothing

certainly late Antonine, and much that can be paralleled in deposits thought to be early Antonine.

A similar situation is found with the decorated ware. There are a few vessels (nos. 1-3 and 33) which could have been made under Hadrian, or at the beginning of the Antonine period, though scarcely later. But the bulk of the deposit is undoubtedly fully Antonine. It includes bowls by potters found in Antonine I contexts at Corbridge (*Arch. Ael.*, 4th ser. xxxi, pp. 246 ff, no. 21, CRICIRO; no. 23, CINNAMVS) and Newstead (*P.S.A.S.*, lxxxiv p. 27), but equally likely to be noted in Antonine II contexts as well, as they frequently have been at Corbridge (*Arch. Ael.*, loc. cit., pp. 248 ff, with *ibid.*, xxviii, pp. 177-83). But the really striking feature of the Mumrills group is the absence of potters like ADVOCISVS, CASVRIVS, CETTVS, DOECCVS, PATERNVS and others, who are generally agreed to have begun work after A.D. 160 and who are typical of the Wroxeter Gutter Find and of those Pennine forts thought to have been re-occupied about A.D. 160. Indeed, except for CETTVS, they are entirely missing at Mumrills.

The samian as a whole is clearly later than A.D. 150. How much later one cannot be sure, though the notable absence of links with Pudding Pan Rock and Wroxeter suggests to the writer an interval of the order of a decade rather than of decades, provided no complications in the ordering and storing of samian have to be allowed for. This chimes well with the links suggested with the Verulamium and Worcester material.

Certainty is impossible as yet. The one point that is abundantly clear is that there are such distinct and curious gaps in the series of samian from Antonine sites in Scotland in general that discussion at greater length is demanded. It is hoped that this will soon be done.

II. A pit-group of samian ware (fig. 8)

A small group of samian found in a rubbish-pit near the centre of the annexe in 1961, during the preparation of house foundations, is published here, partly because it adds a few interesting pieces to the Mumrills repertoire, and partly because it includes what is normally considered to be the work of a late Antonine potter, and is the sort of ware that is missing from the destruction deposit.

1. Five joining sherds from a small form 37, probably by CINNAMVS, who often used this ovolo (*CGP*, fig. 47, 2), which he inherited or copied from SACER, on small bowls in his early period. It occurs on one in this style, but with the rim-stamp CINTVSMVSF, in the Verulamium Fire. Practically the whole scheme of decoration is preserved: (a) medallion with D. 38; (b) Vulcan, D. 39. *c.* A.D. 145-80.

2. Two fragments from the lower part of a bowl in the style of CRICIRO (*CGP*, Pl. 117, 4). The Apollo (D. 52) does not seem to have occurred on a signed bowl, but the caryatid (D. 656) and hare (O. 2129A) do, and the latter, together with the rosettes at the junctions, is diagnostic. *c.* A.D. 135-70.

3. Four fragments of a freestyle bowl in the style of CINNAMVS. Though

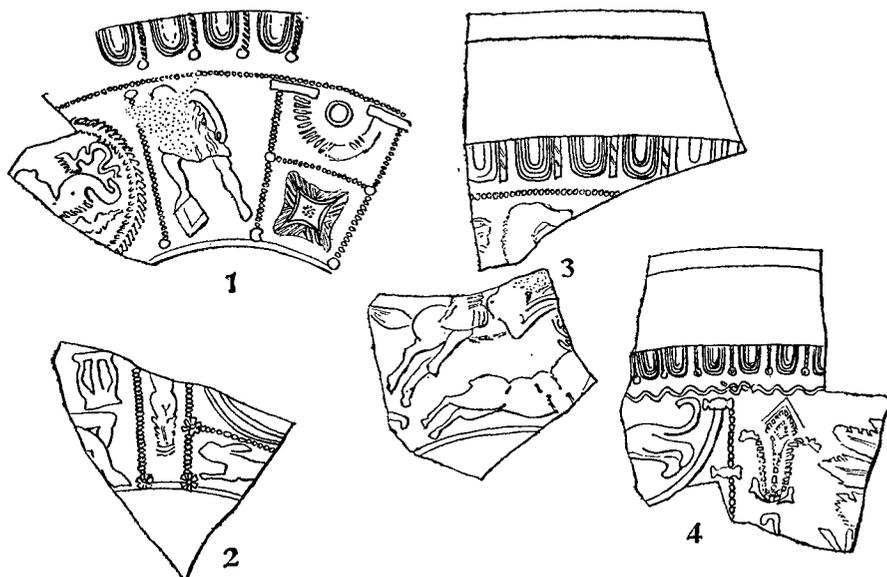


FIG. 8. Decorated samian ware (1/2)

smaller, and with ovolo 3, it is similar in many ways to no. 12, above, and has part of the same conventional bush (on an unillustrated sherd). *c.* A.D. 145-80.

4. Six sherds, joining in two groups, to give a substantial part of a bowl in the unmistakable style of GETTVS (*CGP*, Pls. 141-4), who is now regarded as a late second-century potter (cf. *CGP*, p. 247). The embarrassment of a sherd from an Antonine I group at Newstead (*P.S.A.S.*, LXXXIV, p. 27, 6) is now removed, as Professor Eric Birley agrees that it is not his work. Activity beginning after A.D. 160, and probably after A.D. 170, now appears likely.

THE STAMPED MORTARIA

by MRS K. F. HARTLEY

The following six mortarium stamps (fig. 9) were all found in the destruction deposit in the outermost ditch on the west side of the fort.

1. A flange fragment (not drawn) in hard, pipeclay fabric. The incomplete stamp is from one of the five or more dies used by BRVSCIUS, whose recorded distribution is: *Scotland* - Cramond; Duntocher; Mumrills (3) and Newstead; *England* - Aldborough; Chesterton, near Peterborough; Corbridge (4); Gloucester; High Cross; *Manduessedum*; Old Sleaford; Verulamium; Wildsworth, Lincs.; Wroxeter (2) and York.

Distribution, fabric and grit all point to a midland origin for his work, and either Hartshill or *Manduessedum* is indicated. There is no doubt about the general Antonine date, especially with a stamp from Duntocher, while the affinities of his

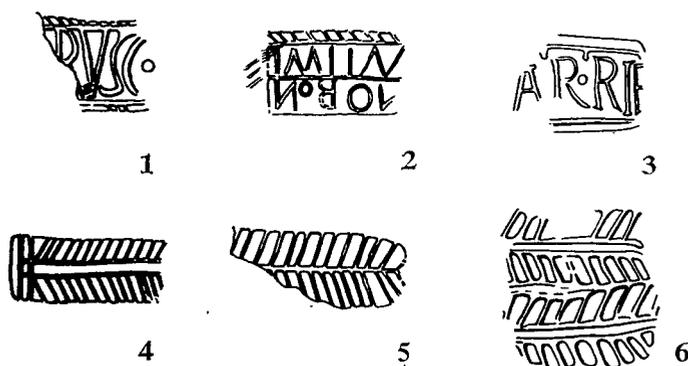


FIG. 9. Stamps on mortaria (1/2)

rims are with the earlier rather than the later Antonine midland potters. The range A.D. 140-75 is suggested.

2 (on fig. 10, no. 2). The mortarium has fine creamy fabric with buff slip, and abundant grey, brown, blue-black and white trituration grit. Two joining fragments give just under half the vessel, which is moderately worn. The partly impressed stamp reads IMIIMITVOBON, retrograde, when all there, but its purport is obscure.

Distribution: *Scotland* - Camelon; Mumrills (2); Newstead: *England* - Corbridge (3); Leicester (3) and a site near Market Overton. Production in the midlands in the Antonine period is indicated, but the site-record does not allow more precision.

3 (on fig. 10, no. 1). An almost complete mortarium in fine off-white fabric with brown, red-brown and a few white grits. The base and the grit are moderately worn. The stamp, from one of five dies reading SARRI, is usually taken as the genitive of SARRVS, though it could be an abbreviated nominative of SARRIVS, especially if the last strokes on this die are an F (for *fecit*), rather than a decorative feature.

Distribution: *Scotland* - Ardoch; Balmuildy (3); Bar Hill; Birrens; Camelon; Mumrills; Newstead; Rough Castle: *England* - Aldborough (4); Carlisle; Catterick (2); Corbridge (17); Elm, Wisbech; High Cross; Lanchester; Leicester (4); Lincoln (3); Little Hilland, Holbeach; Margidunum (2); Shenstone; Templeborough; Thistleton; Verulamium; Wilderspool and York. The record at kiln-sites is also relevant: Hartshill (3); *Manduessedum* (2); Cantley, Doncaster (3) and Rossington Bridge, near Doncaster (15).

This potter undoubtedly began his career in the midlands with kilns at Hartshill or *Manduessedum*, or both. It was probably only after some years that he moved to Rossington Bridge, near Doncaster, where he made mortaria in a totally different fabric. (The alternative explanation of two factories run concurrently has little to commend it.) The Mumrills mortarium is in Warwickshire fabric and is stamped with a die only used in the midlands.

An Antonine date of activity is assured by the weight of the evidence from the north. The general characteristics of his mortaria suggest a beginning about A.D. 140,

and a career lasting down to A.D. 170 or so, though the absence of his work in the Pennine forts reoccupied about A.D. 160 is curious in view of his prolific output, and may perhaps indicate a predominantly early Antonine date. Undoubtedly later products, stamped with another die, and in his northern fabric, come from Balmuildy and Camelon.

4 (on fig. 10, no. 3). A complete mortarium in sandy yellowish buff fabric with small and medium-sized grey, brown and white flint grits, which appears to be unworn. The herringbone trademark is from one of many similar dies used at the Colchester kilns. The distribution for this one is: *Scotland* - Ardoch; Cadder;

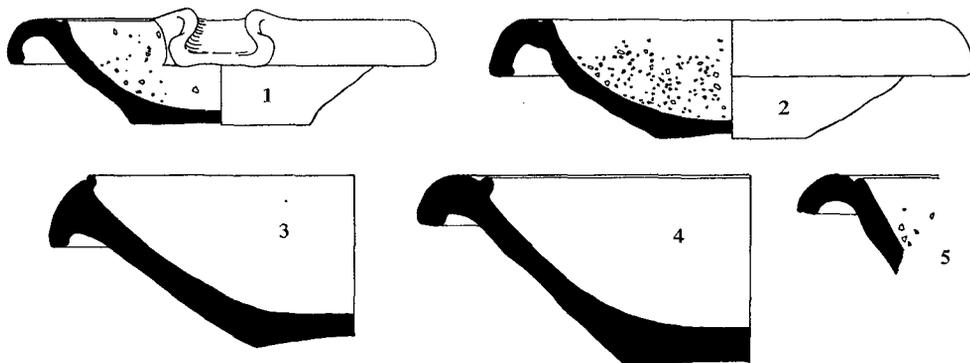


FIG. 10. Stamped mortaria (1/4)

Camelon (4); Castlecary; Inveresk; Mumrills (6) and Rough Castle (2): *England* - Colchester (kilns and *colonia*, 15); Corbridge (3); Great Chesterford (2); London; Richborough (3); Verulamium (4) and Wilderspool.

See no. 5 for further comments.

5 (on fig. 10, no. 4). An almost complete mortarium in the same fabric as no. 4. Although much grit is missing, the vessel is only moderately worn. The stamp is again from a die used at the Colchester kilns.

Distribution: *Scotland* - Balmuildy; Cadder; Camelon; Castlecary; Inveresk; Mumrills (3); Old Kilpatrick (2) and Rough Castle: *England* - Colchester (kilns and *colonia*, 9); London, and Kent.

This distribution for the stamps of nos. 4 and 5 is entirely typical of Antonine products of the Colchester kilns. The military zone, pre-eminently the forts of the Antonine Wall system, formed the only substantial market outside south-eastern England, and coastal transport direct to the Forth is indicated (see M. R. Hull, *Colchester Kilns*, Society of Antiquaries Research Report, forthcoming).

That the Colchester herringbone stamps are entirely Antonine is suggested by their notable concentration on Antonine sites in Scotland and by their associations at the Colchester kilns. It is, however, difficult to achieve more precise dating on present evidence. On the whole, production before about A.D. 150 seems unlikely, and it may not have begun until after A.D. 160.

6 (on fig. 10, no. 5). Slightly sandy, buff fabric, burnt black in parts. Large,

pebble-like white, black and grey grits, sparse and unevenly distributed. There are two herringbone trademarks close together on the rim. No other stamps from this die are known.

As this mortarium did not appear to be from Colchester, it was subjected to spectrographic analysis. Both the general characteristics of the fabric, especially the grit, and the analysis suggest, though they do not prove, manufacture in the Verulamium region. If this is correct, the mortarium ought to have been made before about A.D. 150, when the practice of stamping had disappeared there. Furthermore, the markets of the Verulamium potteries had shrunk greatly by the middle of the second century, and it is most unlikely that one of their mortaria would have reached Scotland after A.D. 150 at the latest.

Several factors indicate that the Colchester mortaria are the latest in the group. A study of the stamps from forts in Scotland shows that approximately one-third of the mortaria of the Antonine Wall came from Warwickshire, one-third from Colchester, and the rest chiefly from the north. The fact that most of the pottery came from civilian sources in the midlands and south suggests the possibility of contracting, while the entire absence from Scotland of stamps of some important Warwickshire potters, namely SENNIVS, MAVRVS and IVNIVS, who began work after A.D. 160, raises an interesting possibility. It is, perhaps, conceivable that any later occupation drew its supplies of mortaria mainly from the Colchester kilns.

The stamped mortaria give a *terminus post quem* for the deposit of A.D. 150-5, and possibly of A.D. 160.

THE COARSE POTTERY

by J. P. GILLAM, M.A., F.S.A., F.S.A.SCOT.

The pottery illustrated on figs. 11-15 and described below was found in the destruction deposit in the outermost ditch on the west side of the fort. All fragments of coarse pottery vessels, except the stamped mortaria (*supra*, pp. 110 ff) have been taken into consideration. At least 322 separate vessels are identifiable, and of these a representative selection of 91 has been drawn.

Taken together, the pottery forms a homogeneous and undoubtedly Antonine group. A limited number of types of vessel is present in any one class. Where different types are present they are such as might have been simultaneously in use, either because they were derived from separate sources, or because they were immediately successive in typological development and vessels of the earlier type had not fully wasted out by the time those of the later had come into general use.

A small number of pieces, notably no. 84, are typologically pre-Antonine, but none is Flavian, and all must be regarded as from vessels which had survived in use rather than as survivals as rubbish from an Agricolan occupation.

The condition of the pieces varies and is indicated in the descriptions. Many, but not all, of the cooking-vessels had seen considerable use. A number of vessels had been subject to intense heat, doubtless in the fire which destroyed the settlement, in some instances, e.g. no. 14, after they had been broken.

The deposit would seem then to be composed of vessels, old and new, in use immediately before the violent destruction of the settlement.

Almost every type represented in the deposit is also found in the destruction deposit assigned to A.D. 197 at Corbridge. On the other hand, not all the types present at Corbridge are found in the Mumrills deposit. Those which are absent include for example certain bowls and dishes with rounded rims which emerged before the end of the second century and continued into the third, and certain distinctive types of mortaria, not absent from Scotland as a whole, to which a date in the closing years of the second century is usually assigned. This negative evidence is confirmed and given precision by the evidence of the samian and the stamped mortaria. Of the types common to both deposits, those to which an earlier typological date would be given are relatively commoner at Mumrills than at Corbridge. From this it follows that the deposit was formed at a point in time distinctly earlier than A.D. 197, yet not so very much earlier than the whole complexion of the pottery in use had changed.

A comparison with earlier groups gives the same general indication. A number of types of vessel, including for example nos. 38 to 42, which are present in large numbers at Mumrills, are completely absent from deposits of Period I A (Hadrianic) in the turrets and milecastles on Hadrian's Wall, and from the contemporary alley deposit at Birdoswald. They are also absent from deposits of the period A.D. 139-63 at Corbridge; while these are hardly sufficiently rich for the negative evidence to be completely reliable, the contrast with Mumrills, where the type is abundant, is surely significant. Even if undue weight is not placed on the Corbridge evidence, an appreciable lapse of time after the end of Period I A, in *c.* A.D. 140, must be allowed for types which had not arrived in northern Britain at all by then to have gained such an ascendancy at Mumrills. The same types had maintained and consolidated their ascendancy by the end of the century. In spite of the differences already noted, the general complexion of the Mumrills deposit is closer to that of A.D. 197 than to those datable to before *c.* A.D. 140.

The group includes a single specimen, no. 80, of a fine colour-coated beaker with barbotine decoration, the so-called hunt-cup. The specimen, which is probably a Colchester rather than a Nene Valley product, is typologically one of the earliest in the series. On present evidence, the date of first emergence of the type is *c.* A.D. 170. If this is accepted, then the group cannot be earlier than this.

Complete precision is unattainable from the coarse pottery alone, and the final dating of the group must be based on the total evidence, but from internal evidence it is clear that the deposit was formed distinctly later than A.D. 140 and distinctly earlier than A.D. 200, with a slight bias towards the later date. A date in the period A.D. 170-85 would fit these requirements, whatever its historical significance.

In the descriptions which follow, the degree of preservation of the vessel, the condition of the fragments and the present appearance of the fabric are indicated; the number given after many of the grey or black pieces is that of the sample which was spectrographically analysed, and cross-refers to the discussion which follows the descriptions; of set purpose no parallels are quoted to the majority of pieces, of whose

Antonine date there can be no question. The number of examples of each type or sub-class in the deposit, based on a rim-count, is given after the descriptions of the illustrated examples of each type.

The vessels are classified according to fabric:

- Nos. 1-28, kitchen wares in black-burnished fabric, category 1,
- Nos. 29-49, kitchen wares in black-burnished fabric, category 2,
- Nos. 50-56, kitchen wares in grey fabric,
- Nos. 57-70, other black and grey wares, and
- Nos. 71-91, all other fabrics.

1. Five conjoined fragments from a handled beaker of cooking-pot form, in black fabric, reddened by fire; the core is sandy and the outer surface burnished.

2. Three conjoined fragments from a beaker, perhaps once handled, in grey burnished fabric now largely turned white and orange by fire. (Sample no. 38.)

Including nos. 1 and 2 there are six examples of beakers of cooking-pot form.

3. Four fragments from a bead-rim cooking-pot in typical black-burnished fabric lightened to greyish-white by subsequent exposure to fire; there is soot on the surface. (Sample no. 36.)

Including no. 3 there are six examples of the type.

4. Single fragment from a short-rimmed cooking-pot in grey burnished fabric.

5. Single fragment from a short-rimmed cooking-pot in grey fabric, once burnished, but now made matt and lighter by fire. (Sample no. 26.)

6. Single fragment from a short-rimmed cooking-pot in grey burnished fabric, pink in fracture; there is soot on the surface. (Sample no. 28.)

Including nos. 4 to 6 there are nine examples of the type.

7. Six conjoined fragments, including most of the rim, of a cooking-pot in light-grey, lightly-burnished fabric; it has a tall rim with a wavy line on the neck. (Sample no. 21.)

8. Three fragments from a cooking-pot of the same type as no. 7, in black-burnished fabric with a reddish brown core; the outer surface is now matt and grey and caked with soot.

9. Eight fragments making up one quarter of a cooking-pot of the same type as no. 7, in black-burnished fabric, dense black also in fracture; although the surface is sooty, the fabric appears little changed, and is wholly typical of category 1 of the black-burnished wares. (Sample no. 17.)

Including nos. 7 to 9 there are twelve examples of the type.

10. Two fragments from a cooking-pot with an upright beaded rim, but without a wavy line, in black-burnished fabric. (Sample no. 22.)

11. Single fragment from a cooking-pot of the same type as no. 10, in dense black fabric, highly burnished.

12. Two conjoined fragments from a cooking-pot of the same type as no. 10; a patch of the surface remains black and burnished while the rest has been burnt to a matt light grey; no cross-hatching is visible.

Including nos. 10 to 12 there are seventeen examples of the type.

13. Two conjoined fragments from a cooking-pot of simple rim form, in grey burnished fabric, probably once black, with a reddish core. (Sample no. 18.)

No. 13 is the only example of the type.

14. Two conjoined fragments from a flat-rimmed bowl; one fragment is in black-burnished fabric, with a coating of soot, the other has been oxidised to a bright orange colour.

15. Single large fragment from a flat-rimmed bowl in grey fabric with a burnished surface now turned to a pinkish-fawn colour. (Sample no. 7.)

16. Two fragments from a flat-rimmed bowl in black-burnished fabric with a reddish-brown core. (Sample no. 2.)

17. Single fragment from a flat-rimmed bowl in sooty black-burnished fabric.

18. Three fragments from a flat-rimmed bowl in black-burnished fabric, reddish-brown in fracture. (Sample no. 6.)

19. Single fragment from a flat-rimmed bowl in grey fabric. (Sample no. 4.)

Including nos. 14 to 19 and nos. 24 and 25 there are twenty-seven flat-rimmed bowls or flat-rimmed dishes.

20. Two large fragments from a deeply chamfered bowl with a grooved or beaded rim, in black-burnished fabric, lightened by fire in places; there is a deposit of soot. (Sample no. 11.)

21. Two conjoined fragments from a bowl of similar type to no. 20, in dark-grey fabric with a lighter grey core.

22. Two fragments from a bowl of the same type as no. 21, in black-burnished fabric, with a lighter sandy core. (Sample no. 15.)

23. Two conjoined fragments from a bowl of the same type as no. 21, in dark-grey burnished fabric.

Including nos. 20 to 23 there are five examples of the type and a further ten rim fragments which may come from this or a similar type.

24. Six conjoined fragments forming half of a flat-rimmed dish with a scribed base, in black-burnished fabric, dense black and gritty also in fracture; the surface is soot-blackened.

25. Seven conjoined fragments from a flat-rimmed dish in black-burnished fabric. (Sample no. 1.)

Including nos. 24 and 25, and nos. 14 to 19, there are twenty-seven flat-rimmed dishes or flat-rimmed bowls.

26. Five fragments from a chamfered dish with a grooved or beaded rim, in black-burnished fabric, pink on the interior surface.

No. 26 is the only example of the type.

27. Three fragments forming about half a plain-rimmed dish in black-burnished fabric, pale and sooty in places. (Sample no. 10.)

28. Single fragment from a plain-rimmed dish in black-burnished fabric, grey in fracture. (Sample no. 14.)

Nos. 27 and 28 are the only examples of the type.

29. Single fragment from a bead-rim cooking-pot of distinctive form, in light-grey fabric with lighter grey burnished surface.

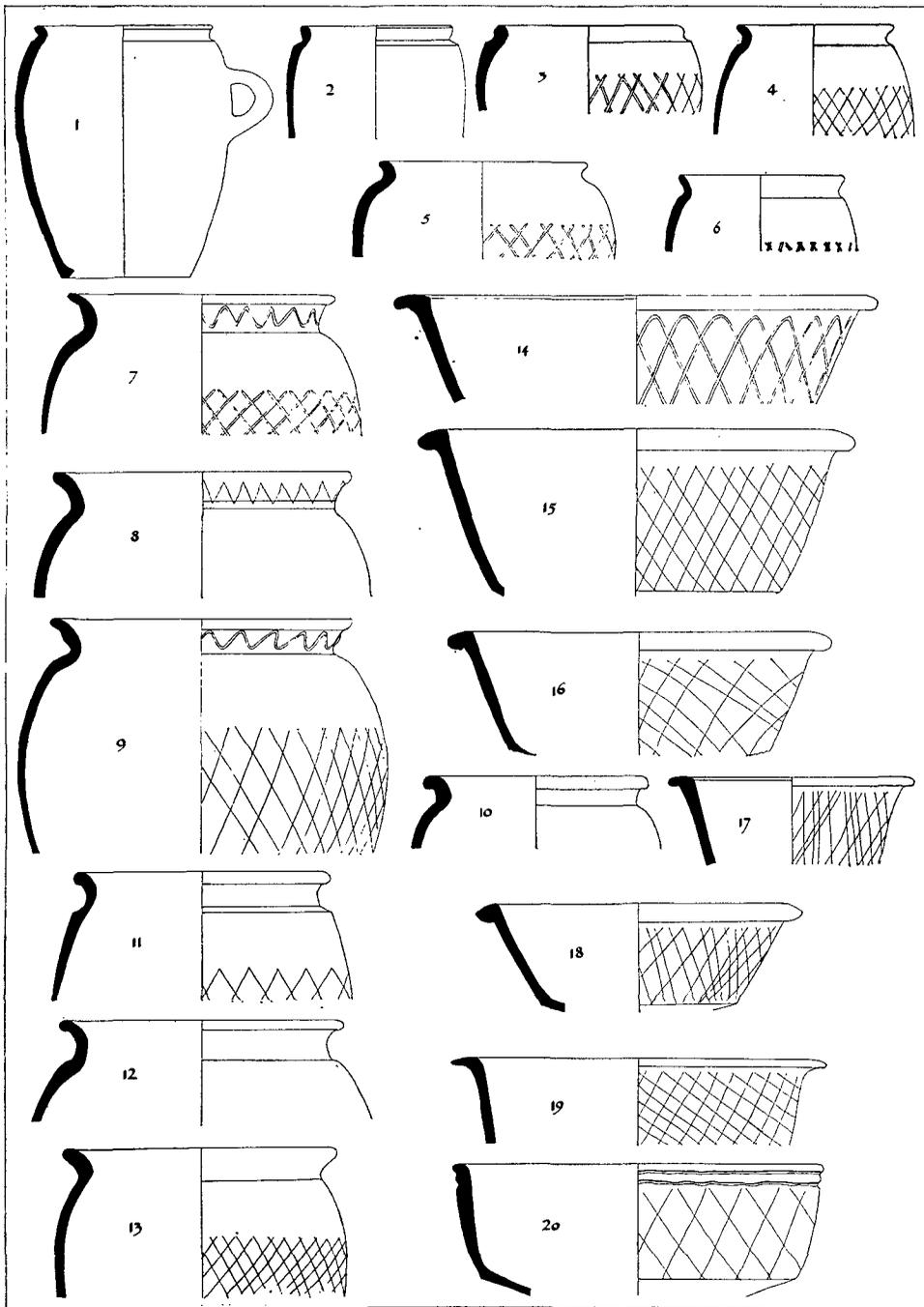


FIG. 11. Coarse pottery (1/4)

30. Three fragments from a vessel of the same type as no. 29, in black highly-burnished fabric. (Sample no. 31.)

31. Two conjoined fragments from a vessel of the same type as no. 29, in black-burnished fabric, now reddened by fire.

Including nos. 29 to 31 there are six examples of the type.

32. Single fragment from an atypical cooking-pot in grey fabric, once burnished. (Sample no. 19.)

No. 32 is the only example of the type.

33. Single large fragment from a cooking-pot with a cavetto rim decorated with a wavy line; in grey burnished fabric. (Sample no. 25.)

34. Six conjoined fragments from a cooking-pot of the same type as no. 33, in fine light-grey burnished fabric. (Sample no. 20.)

Nos. 33 and 34 are the only examples of the type.

35. Two conjoined fragments from a cavetto-rim cooking-pot in fine smooth grey fabric. (Sample no. 34.)

36. Single fragment from a cavetto-rim cooking-pot in fine black polished fabric.

37. Single fragment from a cavetto-rim cooking-pot in grey lightly-burnished fabric with pink and orange flame marks. (Sample no. 29.)

Including nos. 35 to 37 there are fifty-three examples of cavetto-rim cooking-pots.

38. Nine conjoined fragments forming almost half a bowl with a down-turned rim, in black-burnished fabric burnt pink and white in patches. (Sample no. 8.)

39. Single fragment from a bowl with a down-turned rim in grey burnished fabric turned pink on the surface. (Sample no. 9.)

40. Two conjoined fragments from a bowl with a down-turned rim, in grey fabric with a black-burnished surface.

41. Fragment from a bowl with a down-turned rim, in dark-grey burnished fabric with a pinkish tinge on the external surface.

42. Two conjoined fragments from a bowl with a down-turned rim in black-burnished fabric, pinkish-grey on the inner surface.

Including nos. 38 to 42 and no. 48, there are seventy-two bowls or dishes with down-turned rims.

43. Five fragments forming about half a bowl with a grooved rim; it is decorated with wavy lines; black-burnished fabric, now reddened and sooty.

44. Four conjoined fragments from a similar bowl to no. 69, in black-burnished fabric with an orange patch. (Sample no. 16.)

Including nos. 43 and 44 there are five examples of the type, and a further ten rim fragments which may come from this or a similar type.

45. Two conjoined fragments from a plain-rimmed bowl decorated with a wavy line, in dark-grey fabric with a black-burnished surface. (Sample no. 12.)

Including no. 45 there are three examples of the type.

46. Single fragment from a short-rimmed bowl in black-burnished fabric, grey on interior surface, whitened by fire, and with a tarry deposit. (Sample no. 5.)

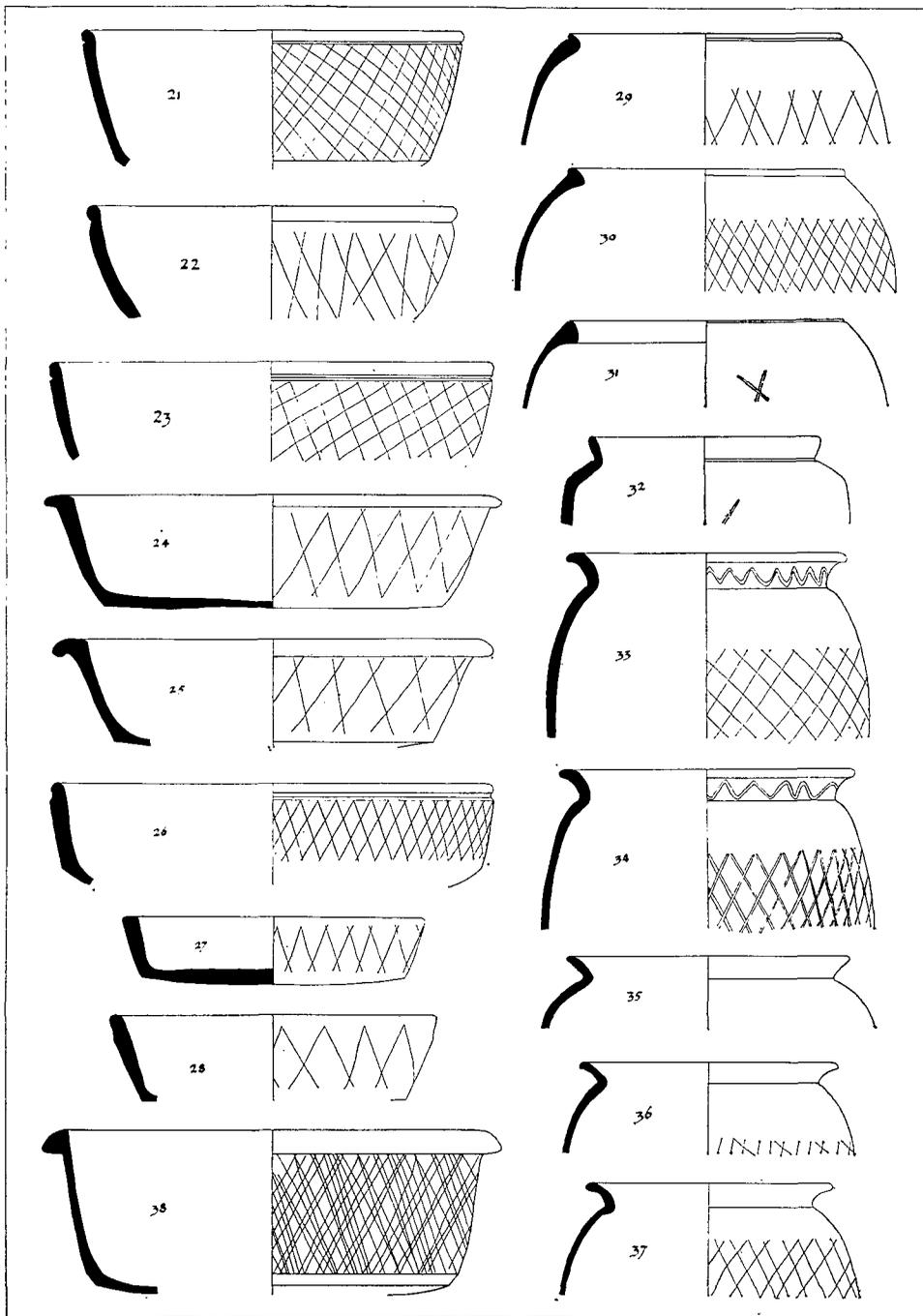


FIG. 12. Coarse pottery (1/4)

47. Two conjoined fragments from a short-rimmed bowl in hard light-grey fabric, with a tarry deposit. (Sample no. 3.)

Including nos. 46 and 47 there are three examples of the type.

48. Two conjoined fragments from a dish with a down-turned rim, in grey burnished fabric, burnt pink and white in places.

Including no. 48 and nos. 38 to 42, there are seventy-two dishes or bowls with down-turned rims.

49. Single fragment from a dish with a grooved rim, decorated with a wavy line, in dark-grey burnished fabric with a pinkish tinge. (Sample no. 13.)

No. 49 is the only example of the type.

50. Single fragment from a jar in grey fabric, possibly once with a darker surface but now pink through the effect of fire.

51. Two conjoined fragments from a jar in matt light-grey self-coloured fabric; there are traces of soot revealing that the vessel has been used as a cooking-pot.

52. Numerous conjoined fragments from a jar in light-grey self-coloured fabric; while the walls are fine, the surface of the interior of the base leaves no doubt that the vessel was thrown on a wheel; the outer surface is weathered, but even so it is doubtful if the vessel was ever cross-hatched; the outer surface is very sooty. (Sample no. 32.)

53. Single fragment from a jar in light-grey self-coloured fabric. (Sample no. 33.)

54. Single fragment from a jar in light-grey self-coloured fabric; there is soot on the edge of the rim. (Sample no. 23.)

55. Single fragment from a jar or wheel-made cooking-pot, in light-grey slightly sandy fabric.

Including nos. 50 to 55 there are ten examples of jars or wheel-made cooking-pots in grey fabric.

56. Thirteen conjoined fragments forming the greater part of a flat-rimmed dish with a scribed base, in light-grey self-coloured fabric, similar to that of the jars nos. 50 to 55.

No. 56 is the only example of the type quite certainly in a fabric other than one of the two main categories of black-burnished ware.

57. Two conjoined fragments from a narrow-mouthed jar in dull grey fabric, pink in fracture. (Sample no. 35.)

58. Some seventeen fragments from a narrow-mouthed jar in red-bodied fabric with matt black surface. (Sample no. 27.)

59. Two conjoined fragments from a narrow-mouthed jar in light-fawn fabric with grey surface.

Including nos. 57 to 59, there are seventeen examples of narrow-mouthed jars of various types.

60. Single fragment from a jar in light-grey self-coloured fabric with a matt surface decorated with barbotine rings; there is a tarry deposit on the surface, possibly the result of use over a smoky fire. Vessels with barbotine rings have been found in Flavian contexts in Scotland, and in northern Britain as a whole they seem to be pre-Antonine. It is however at least as likely that the present vessel had survived in

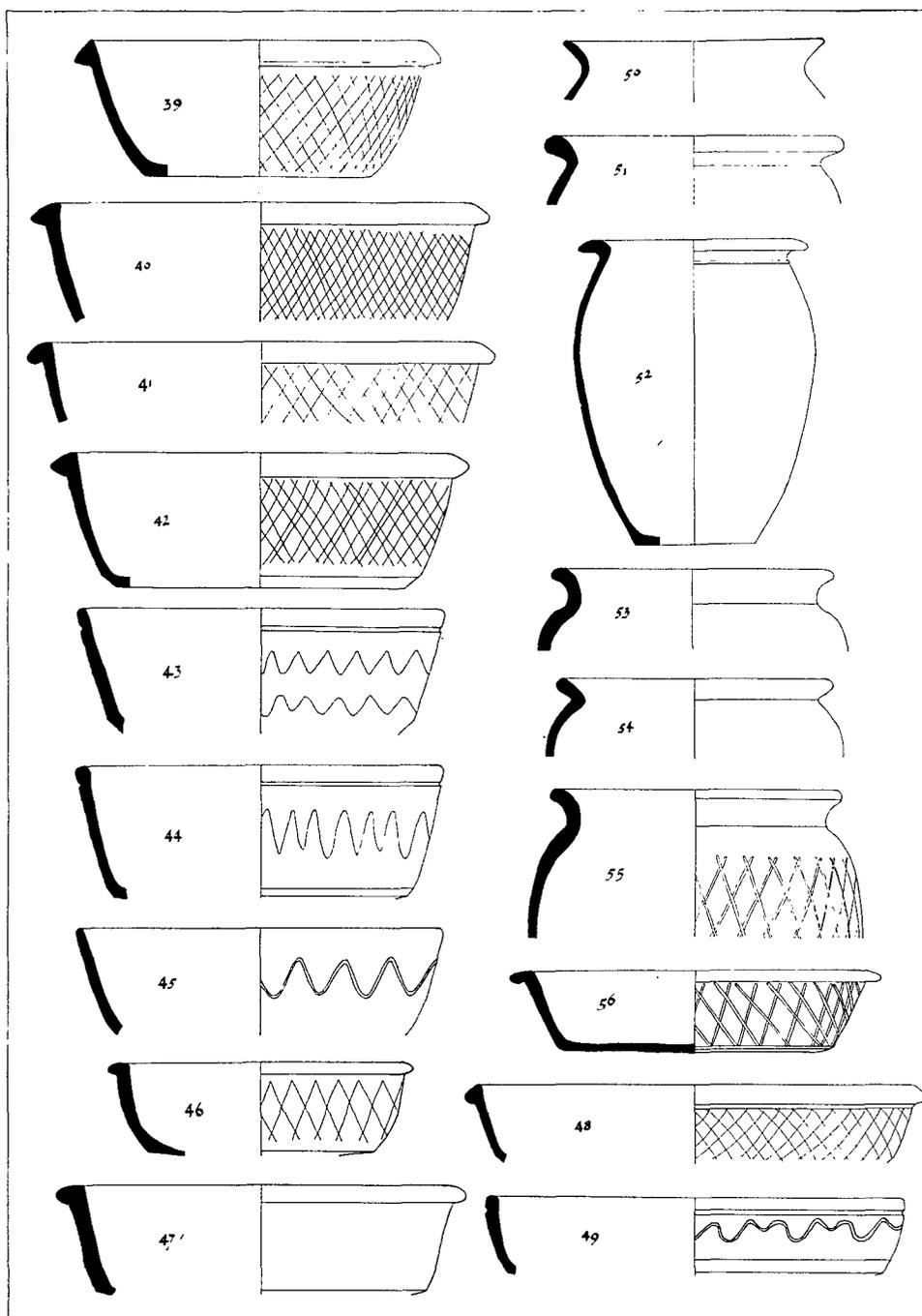


FIG. 13. Coarse pottery (1/4)

use from the immediately preceding decades and was already old when brought to the site, as that the fragment is a stray from an Agricolan occupation in the vicinity. (Sample no. 30.)

No. 60 is the only example of the type.

61. Single fragment, almost certainly from a poppy-head jar in spite of the absence of a cordon at the neck, in fawn fabric with a grey core and black highly glossy surface.

62. Two fragments from a poppy-head jar now burnt to a light-orange colour with a grey core.

63. Many conjoined fragments and a base, clearly from the same poppy-head jar in fine burnished fabric, now burnt to a light-greyish fawn colour, pink in fracture and with a grey core.

Including nos. 61 to 63 there are five examples of poppy-head jars.

64. Three fragments from a lid-seated jar in matt cream self-coloured fabric; there are traces of soot. (Sample no. 24.)

No. 64 is the only example of the type.

65. Two fragments from a beaker in black highly-burnished fabric, pink in fracture and with a blue core.

No. 65 is the only example of the type.

66. Eight fragments from a carinated wide-mouthed jar in light-grey self-coloured burnished fabric.

No. 66 is the only example of the type.

67. Two fragments from a segmental flanged bowl in light-grey fabric with a black highly-burnished surface. (Sample no. 37.)

No. 67 is the only example of the type.

68. Six fragments from a campanulate bowl in light-grey fabric with a darker grey surface. (Sample no. 39.)

No. 68 is the only example of the type.

69. An almost complete feeding-bottle in hard blue-grey unburnished fabric. (See also Pl. XI, no. 3).

No. 69 is the only example of the type.

70. Four conjoined fragments from a cheese-wring in light-grey fabric with a darker surface. (Sample no. 40.)

No. 70 is one of two examples of cheese-wrings.

71. Three conjoined fragments from an amphora in unusually fine, but otherwise typical, yellowish-buff sandy fabric.

No. 71 is one of two examples of amphorae.

72. Complete neck from a ring-neck flagon in red self-coloured fabric, now blackened on the surface.

73. Complete neck from a ring-neck flagon in white self-coloured fabric.

Including nos. 72 and 73 there are three examples of ring-necked flagons.

74. Single fragment from a flagon in weathered cream self-coloured fabric.

No. 74 is the only example of the type.

75. Numerous conjoined fragments from a jar in smooth slightly gritty reddish-

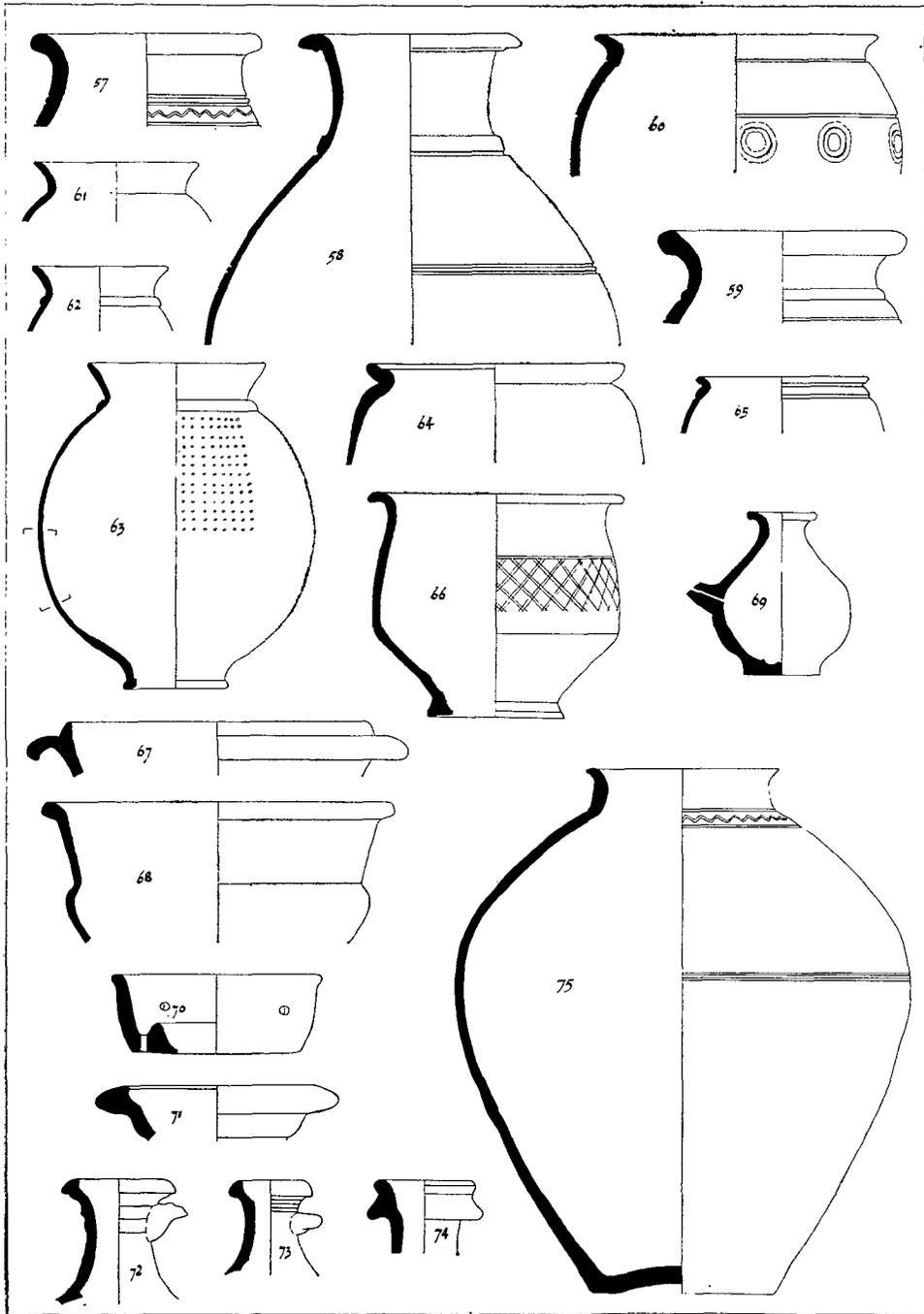


FIG. 14. Coarse Pottery (1/4)

brown fabric of native character, though technically superior to the native fabrics of adjacent districts.

No. 75 is the only example of the type.

76. Five conjoined fragments from a rough-cast beaker in yellow fabric with a dark brown surface and in places a blue core.

77. Three conjoined fragments from a rough-cast beaker in light-orange fabric with a brown coating.

78. An almost complete rough-cast beaker in cream-coloured fabric with a dark-brown coating.

79. Three conjoined fragments from a rough-cast beaker in white fabric with dark coating.

Including nos. 76 to 79 there are eight examples of rough-cast cups, indented or unindented, either white or yellowish-pink in fracture.

80. Many fragments from a beaker in pale orange fabric with a brown coating.

No. 80 is the only example of the type. Similar vessels made in the pottery kilns of the Nene Valley, in particular in the parishes of Castor and Waternewton, Northamptonshire, are normally white below the colour coating. On the other hand a vessel from Colchester, Essex, now preserved in the National Museum of Antiquities of Scotland, resembles the present example closely, both in the colour of the clay and in the style of the animal form. The possibility that the present example was made in Colchester rather than the Nene Valley has been tested and confirmed by analysis of the clay.

81. Two conjoined fragments from a jar in grey-brown fabric, once calcite-gritted and now pitted.

Including no. 81 there are two calcite-gritted vessels.

82. Seven conjoined fragments from a bowl reminiscent of Dragendorff's samian form 37, in smooth pinkish-orange self-coloured fabric.

83. Single fragment from a similar bowl to no. 82 in light pinkish-orange fabric with a grey core.

Nos. 82 and 83 are the only examples of the type.

84. Single fragment from a carinated bowl with a reeded rim, in creamy-yellow self-coloured fabric.

No. 84 is the only example of the type. This rim differs from that of the carinated bowls found in northern Britain in deposits dating from *c.* A.D. 80 to *c.* A.D. 125 (cf. *Newstead*, fig. 26 and Gillam's types 214 and 215). The reeding on these rims is invariably formed by not more than two grooves, and the section usually has a soft outline, though this varies according to place of manufacture. The reeding on no. 84 is composed of three sharp grooves, and to this the closest parallel is *Turret 50b* no. 94. This is a turret on the Stone Wall which replaced the Turf Wall on a different line, in the latter part of Hadrian's reign. As there can be no question on that site of survival as rubbish, the type is clearly Hadrianic. The present example was then almost certainly brought to Mumrills at the beginning of the Antonine period, and had not survived as rubbish from a Flavian occupation on the same site.

85. Single fragment from a mortarium in greyish-white fabric; the surface, including the grit, is largely abraded.

86. Single fragment from a mortarium in cream self-coloured fabric; a little sparse grey grit survives.

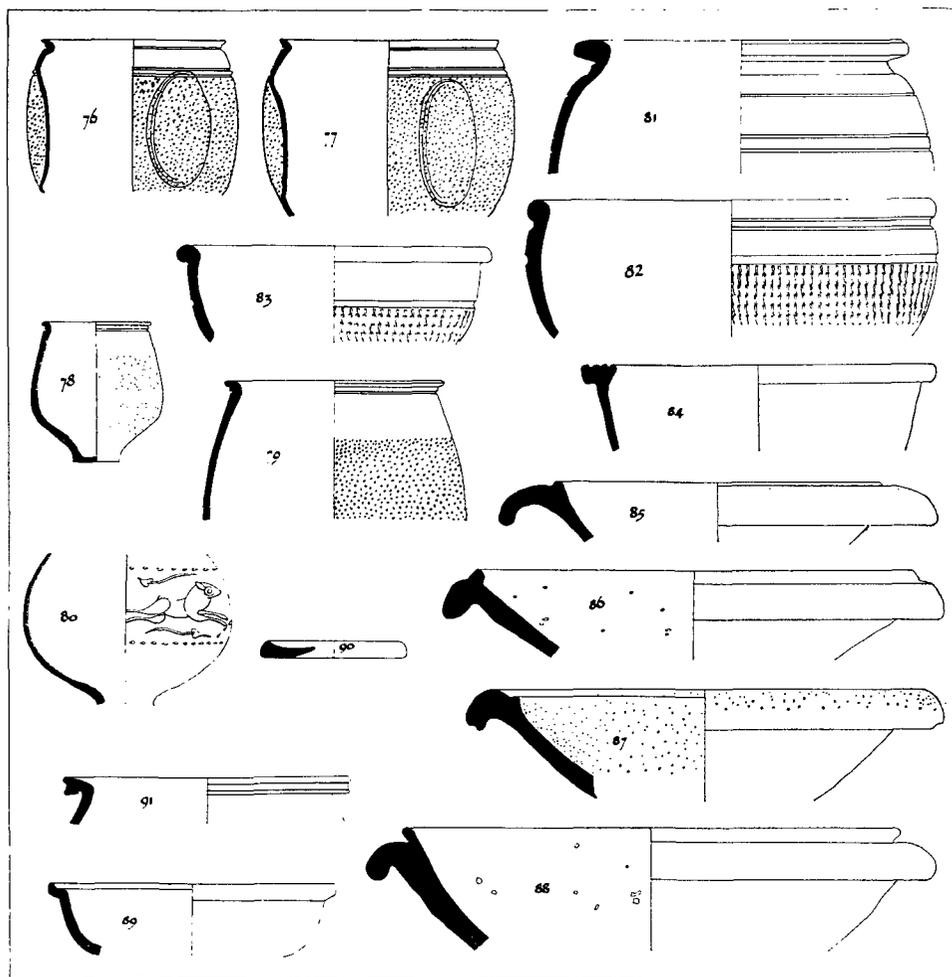


FIG. 15. Coarse pottery (1/4)

87. Two fragments from a mortarium in yellow gritty self-coloured fabric; small multicoloured grit.

88. Single fragment from a mortarium in cream self-coloured fabric; some sparse brown grit survives.

Including nos. 85 to 88 there are sixteen mortarium.

89. Two conjoined fragments from an atypical dish in smooth orange self-

coloured fabric; the dish is soot-blackened at the edge of the rim as if it had been used as a lid.

90. Single fragment from a miniature lid in matt creamy-white fabric.

91. Two fragments from the rim of an unusual jar in cream-coloured fabric; one fragment is sooty.

Nos. 89, 90 and 91 are each respectively the only examples of their several types.

The term black-burnished ware is now generally used, as being more accurately descriptive than fumed ware, for the distinctive fabric of most of those pottery vessels which were made for use over a fire. Nos. 1 to 49 in this report are all in the fabric thus defined, and are a fair sample of the range of forms for which the fabric was employed in the Antonine period.

The black-burnished cooking-pot first reached the vicinity of Hadrian's Wall in *c.* A.D. 125. It was made from a slightly gritty clay which probably had refractory qualities. Its walls are usually thin in proportion to the size of the vessel; this is in order both rapidly to conduct heat and also to resist cracking and flaking due to differential expansion. Thin-walled vessels of gritty clay cannot readily be thrown on a wheel; black-burnished cooking-pots were therefore hand-made and do not display the internal rilling of wheel-made vessels. The pots were invariably fired in reducing conditions, are always black (or dark grey) on the outer surface and often black throughout; frequently however the fabric has been altered by re-heating in oxidising conditions.

The same fabric was used for a widely distributed range of bowls and dishes, first introduced to the north at the same time as the cooking-pots. The forms of vessels which were introduced in Hadrianic times continued to be made and used with some morphological development in a single linear tradition, until mid-Antonine times and even until the close of the second century. These forms are represented at Mumrills by nos. 1 to 28, which may be defined as category 1 of the black-burnished wares. The typical fabric of category 1 vessels is more readily recognised than described, and precisely the same fabric as is encountered in Scotland and northern England is found commonly in Wales and the West Midlands, and less commonly throughout the whole province. Precisely the same range of forms is encountered, and it is clear that category 1 black-burnished wares were made at a single industrial centre, as yet unlocated. The industry had roots going back several generations in the south-west of England, and under Hadrian it greatly increased its production, not necessarily in the same region, and expanded its trade, mainly in the military market.

A second category of black-burnished wares is found commonly in Scotland, in Antonine contexts, but not closely dated within the Antonine period. Vessels of this category are also found in particular in deposits of the closing years of the second century at Corbridge. The fabric differs slightly in appearance from that of the first category; it is, for instance, less granular in fracture. The readiest distinction is however that of form. To take two examples: the cooking-pot with an almost upright beaded rim gives place to an unbeaded rim, either quarter-round (*cavetto*), or straight at about 45°; the flat-rimmed deeply chamfered bowl gives place to a bowl

with a slight chamfer and a short, down-turned rim. Each class of vessel represented in category 1 is also represented in category 2, though in each instance the type is distinctly different and the fabric is slightly different. Vessels of category 2 are represented at Mumrills by nos. 29 to 49. It is clear that all vessels of category 2 were made in the same industrial centre, but whether or not this was the same centre as vessels of category 1 is not immediately obvious.

Vessels of category 2 are abundant in the north in the closing years of the second century, alongside a smaller number of vessels of category 1. They are absent from Hadrianic deposits, and, for what that is worth, from the rather sparse deposits of the early Antonine period at Corbridge. Their first appearance in the north has been provisionally placed at *c.* A.D. 170. If both categories were made at the same centre the second presumably replaced the first, of which it was in a sense a development, and the examples of vessels of category 1 in late second-century deposits would have to be regarded as survivals in use.

In the present group, of 252 separate vessels in black-burnished fabric, represented by fragments, 96 are assignable to category 1 and 156 to category 2. If category 1 was a discontinued line, this degree of wasting out and replacement, 62%, would have taken less than a decade. It is not however certain that category 1 was a discontinued line for there are several indications that categories 1 and 2 may have been made in separate centres:

(i) The number of vessels of category 1 found in late second-century deposits at Corbridge is higher than would be expected if they were merely survivals in use of types which had gone out of production thirty years previously.

(ii) A small but significant number of examples of vessels of category 2 have been found in deposits in the Midlands and South reliably dated to the Hadrianic or early Antonine period when category 1 was certainly in full production.

(iii) A dual tradition may be seen in the bowls and dishes in the third century.

(iv) Typical early to mid fourth-century cooking-pots are obviously the much-developed lineal descendants of cooking-pots of category 1.

From this it appears possible that there were two main centres of production of black-burnished kitchen wares, of which one broke into the northern market later than the other, and largely, but not entirely, captured it from its rival.

Quite apart from the two main centres here inferred, many small kilns throughout the province produced kitchen wares in reduced fabrics, usually grey. The forms are generally similar to those of the main centre or centres, though different in detail. The vessels of cooking-pot form are for instance made of non-refractory clay, and are wheel-made. To distinguish them from the hand-made cooking pots the term jar is often used. They are represented at Mumrills by nos. 50 to 56.

Finally, reduced fabrics were also used at a variety of centres for a variety of forms other than kitchen wares of the three categories which have been considered. These types are represented at Mumrills by nos. 57 to 70.

To test the question of the origin of the two categories of black-burnished ware, samples from vessels of various classes in both categories, as well as from grey vessels falling into neither category, forty samples in all, were spectrographically analysed.

	<i>Sample number</i>	<i>Number in Report</i>	<i>Category</i>
<i>Group A</i>	1	25	1
	7	15	1
	10	27	1
	11	20	1
	14	28	1
	15	22	1
	17	9	1
	21	7	1
	22	10	1
	28	6	1
	36	3	1
	38	2	1
<i>Probably A</i>	18	13	1
<i>Intermediate A and B</i>	19	32	2
	5	46	2
<i>Group B</i>	3	47	2
	9	39	2
	12	45	2
	13	49	2
	27	58	neither
	29	37	2
	31	30	2
	34	35	2
<i>Probably B, in descending order of probability</i>	8	38	2
	20	34	2
	25	33	2
	26	5	1
	16	44	2
	37	67	neither
<i>Intermediate A and B</i>	4	19	1
	6	18	1
<i>Others with B</i>	30	60	neither
	35	57	neither
	2	16	1
<i>Neither A nor B</i>	40	70	neither
	24	64	neither
	32	52	neither
	39	68	neither
	23	54	neither
	33	53	neither

The analyses were made by Mrs E. E. Richards of the Research Laboratory for Archaeology and the History of Art, in the University of Oxford. The samples were analysed for sodium, magnesium, manganese, titanium, calcium and iron, and then classified into groups according to similarities of composition. Mrs Richards's tables are given in full below.

Mrs Richards found that half of the 40 samples fell into two groups, one of 12 and the other of 8 samples, which are lettered A and B respectively. Of the rest, 14 fall, in different ways, into groups intermediate between A and B, or fairly close to one or the other, while 6 fall into neither group.

When these groups are compared with the categories into which the vessels have been placed on typological grounds, the correlation is striking. The simplified table opposite gives Mrs Richards's A/B grouping, the sample number, the number in the report and the typological category.

Every vessel which falls into group A on analysis belongs typologically to category 1. With one exception, a narrow-mouthed jar, no. 58, sample no. 27, which falls into neither category, every vessel which falls into group B on analysis belongs typologically to category 2. Every vessel which falls outside the range of groups A and B on analysis also falls outside both typological categories. The correlation is so complete where the results are clear-cut that the border-line cases hardly matter. Even here it is noteworthy that the sample classed as probably A is of category 1, and that the majority of those classed as probably B are of category 2.

It may then be concluded with some confidence that the black-burnished wares were made in large factories, as has long been thought possible, and not in a number of scattered kilns. It also begins to seem probable that the two several typological categories were the products of two several factories. The precise sites of the factories still remain in doubt, though Mrs Richards's report indicates some possibilities.

APPENDIX I

Report on Black-burnished Ware from Mumrills

by MRS E. E. RICHARDS

The 40 samples received were analysed for sodium, magnesium, manganese, titanium, calcium and iron. Apart from a few exceptional samples the sherds can tentatively be divided into two groups. The compositions within the groups are fairly uniform but a few samples fall between these groups but not outside their range. This is the case with nos. 18 and 19, so that their assignment is uncertain.

On the basis of this analysis none of the sherds came from Colchester, although the largest group may have originated in the Herts./Middx. area. The agreement with the mortar no. 6 (with herringbone stamp) which came from Mumrills is striking.

The other main group resembles the Rossington Bridge/Cantley mortaria. No similarity to the Stibbington and Corbridge mortars could be found. Mancetter/

Hartshill is a possibility for one of the smaller groups but the evidence is not very good.

It remains to account for the 'odd' samples. One of these (no. 24) is in good agreement with the Lincolnshire analyses, while Wilderspool is suggested for the origin of nos. 32 and 39 because of their very high magnesium content. The Raetian mortars from Wilderspool are the nearest in composition to nos. 23 and 33.

The Society is indebted to H.M. Treasury for meeting the cost of the illustrations for this paper.

MUMRILLS BLACK-BURNISHED WARE

	<i>N</i>	% Na ₂ O	<i>n</i>	% MgO	<i>n</i>	% MnO	<i>n</i>	% TiO ₂	<i>n</i>	% CaO	<i>n</i>	% FeO	<i>n</i>	Remarks
Group A	12													
1		·10		·88		·014		·75		·60		5·0		
7		·24		·76		·011		·93		·52		6·8		
10		·14		·48		<·01		·54		·61		3·2		
11		·19		·85		<·01		·87		·73		4·4		
14		·16		·83		<·01		·68		·58		3·5		
15		·05		·74		<·01		·63		·51		3·3		
17		·11		·75		·01		·77		·53		4·9		
21		·13		·69		·013		·60		·49		3·8		
22		·23		·67		·01		1·02		·60		3·4		
28		·06		·61		·01		·77		·46		5·2		
36		·22		·71		<·01		·83		·62		4·3		
38		·25		·93		·01		·87		·59		5·2		
Average		·16		·74		·01		·77		·57		4·4		Compare with Verulamium mortaria. } Intermediate between A and B.
Range		·11--21	8	·52--96	11	·01--014		·54--1·0	12	·40--74	12	3·1--5·7	11	
18		·26		·75		·016		·92		·58		7·0		
19		·27		·99		·019		1·03		·67		7·0		
5		·27		1·0		·012		·96		·73		6·4		
40		·88		·96		·022		1·90		·52		10·0		
24		·13		·42		·010		3·70		·76		4·5		Compare with Lincoln area mortaria or Gt. Casterton colour-coated.
32		·35		3·90		·060		·96		·58		5·9		Compare with Wilderspool mortaria
39		·35		6		·079		1·45		1·03		6·3		
23		·56		1·55		·125		1·43		·35		9·0		Compare with Raetian mortaria from Wilderspool.
33		·26		1·70		·097		1·05		·42		7·5		

	<i>N</i>	% Na ₂ O	<i>n</i>	% MgO	<i>n</i>	% MnO	<i>n</i>	% TiO ₂	<i>n</i>	% CaO	<i>n</i>	% FeO	<i>n</i>	Remarks
Group 'B'	8													
3		.29		1.54		.022		1.03		.38		5.9		
9		.27		1.50		<.01		1.26		.40		6.2		
12		.27		1.40		<.01		1.04		.44		6.2		
13		.30		1.65		.016		1.08		.52		5.6		
27		.36		1.28		.011		1.28		.52		9.0		
29		.28		1.32		.01		1.13		.44		5.9		
31		.28		1.50		.012		1.04		.69		5.6		
34		.35		1.46		.011		.93		.45		5.8		
Average		.30		1.46				1.10		.48		5.9		
Range		.21-.39	8	1.02-1.90	8	1.01-.022		.77-1.43	8	.34-.62	7	4.1-7.7	7	Compare with Rossington Bridge/Cantley mortaria
8		.24		1.05		<.01		.96		.34		6.0		} Possibly group B
20		.29		1.10		.018		.77		.31		5.8		
25		.22		1.28		.030		1.13		.36		5.2		
26		.19		1.16		.010		.94		.60		4.2		
16		.38		1.03		<.01		.86		.36		5.6		
37		.63		1.27		.019		1.12		.38		7.6		
4		.35		.82		.019		.99		.35		7.0		} Intermediate between A and B.
6		.31		.94		.023		.95		.45		6.4		
30		.26		.89		.015		1.23		.51		4.8		
35		.44		.89		.013		1.15		.77		5.2		
2		.29		1.0		.022		.67		.69		5.9		

Key to table: *N* = total number of samples included in average value
Range = average value ± 30% of average value
n = number of samples in the range



1. Stone foundation of the Antonine Wall west of Mumrills



2. Part of the 'boulder area' in the Annexe



3. Infant's feeding-bottle