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A New Flavian Military Site at Roecliffe, North Yorkshire

By M.C. BISHOP

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INTRODUCTION

In 1993, work began to upgrade to motorway status the A1 trunk road between Walshford and Dishforth, North Yorkshire (FIG. 1). The new road was to be placed immediately to the west of the existing dual carriageway, which would be downgraded to provide local access. Northern Archaeological Associates undertook the evaluation and trial excavation of areas that had been deemed archaeologically sensitive (as a result of a desk-based survey) for Bullen and Partners on behalf of the Department of Transport. The area currently under consideration (FIG. 2) lay to the west of the A1, bounded by Roecliffe (or Bar) Lane to the south and the river Ure to the north (Areas 1 and 2), the two sites being separated by a dismantled railway line. In addition, the site of the north abutment of the new Arrows Bridge over the Ure was examined (Area 3), as well as the site of a roundabout at the junction of Roecliffe Lane and the planned service road, which was subsequently examined in 1995 and has been designated Area 4.

TOPOGRAPHY, GEOLOGY AND HYDROLOGY

The site of the new military base (SE 387 665) lies within the parish of Roecliffe, 0.5 km west of the town of Boroughbridge, North Yorkshire, and 1 km north-east of the village of Roecliffe itself. It is situated on a slight rise overlooking a bend in the river Ure, at a height of 21 m OD. The Roman road popularly known as Dere Street crossed the Ure at Aldborough (*Isurium Brigantum*) to the east of Boroughbridge, whilst Boroughbridge itself was the site of the later crossing point used by the Great North Road (the A1). The new site would appear to be associated with at least one, and possibly two, previously unknown crossings of the Ure.

The solid geology of the site is Bunter Sandstone, whilst the soils are fine loams over glaciolacustrine clay.[1] From the south, the land descends gradually to the floodplain of the Ure immediately to the west of the A1 embankment, but there is a pronounced, if slight, terrace to the east of it. To the west of the site, however, the river flows through a slight defile between the higher land on either side of it, with no appreciable flood plain at that point.

The Ure at Boroughbridge is notorious for its periodic episodes of flooding, and during the course of excavations the river rose sufficiently high to obscure the weir near the town and

[1] The Foggathorpe 2 association, widely found in the Vale of York: Jarvis *et al*. 1984, 201–4.

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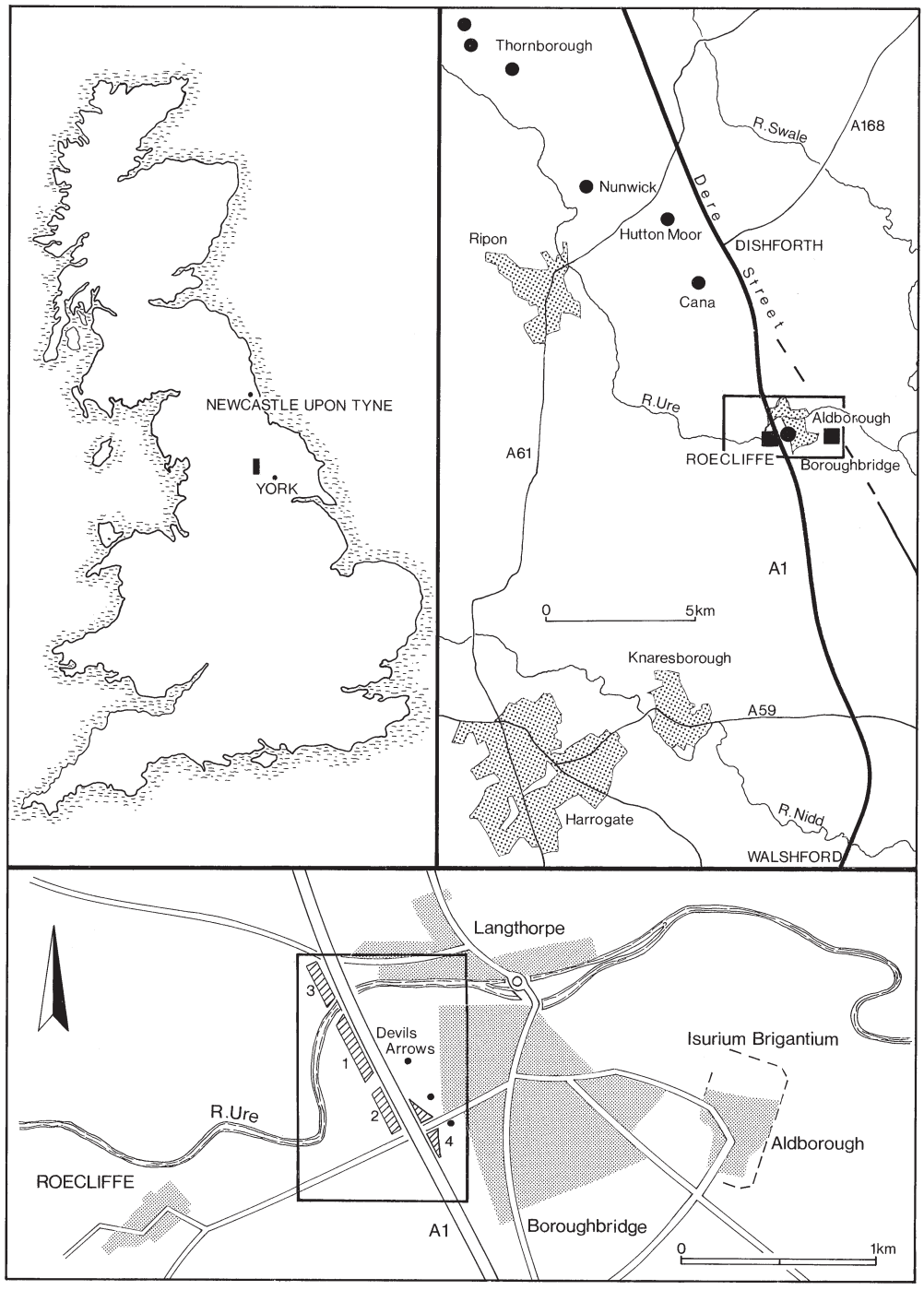

FIG. 1. Location plan showing Roecliffe.

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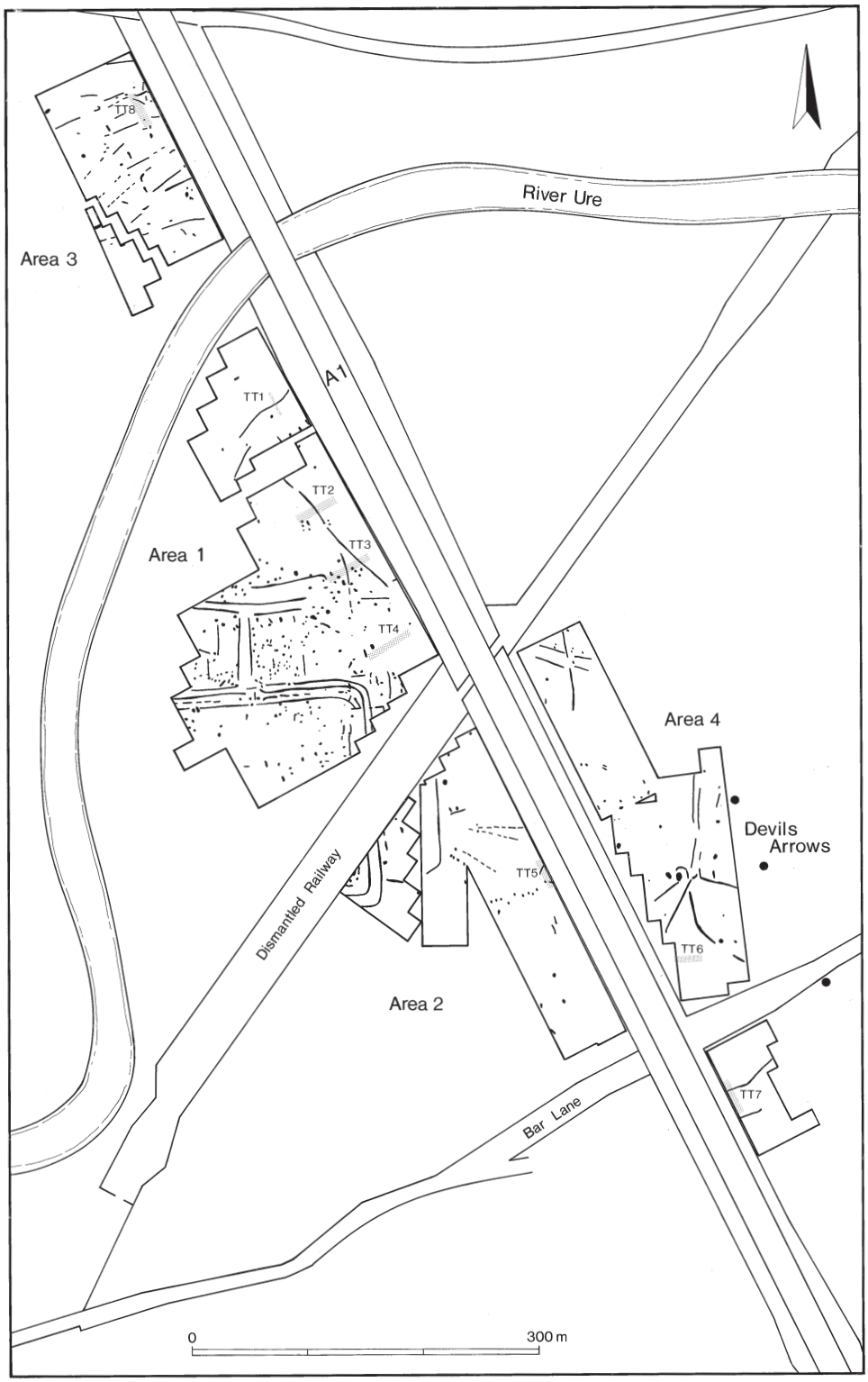

FIG. 2. Overall plan of the Roecliffe and Langthorpe sites in relation to the main topographical features, also showing the areas subject to geophysical survey and the locations of the trial trenches.

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flood the banks of the canal that bypasses it. A watching-brief on the stripping of the motorway corridor at the site of the south abutment of the new Arrows Bridge showed that the modern bank, despite having the appearance of a levee, may actually lie upon a natural sand bar in the river, with a palaeochannel between that and the northern limits of the extramural settlement south of the river.

Areas 1 and 2 possessed an unusually high water table, which readily flooded excavated features and frequently caused partial collapse of their sides (and this phenomenon was noted in the stratigraphy of excavated Roman features, see below).

THE ARCHAEOLOGICAL SETTING

The most important monument in the immediate vicinity of the Roecliffe site is the Devil's Arrows standing stones (SE 391 666). These three (originally four) stones, which range in height between 5.5 m and 6.9 m, were set on a north–south line, albeit on a slight arc. Part of an extensive complex of ritual sites in the area,[2] probably dating to the late Neolithic and early Bronze Age, it has been suggested that this monument may have marked the crossing point of the river Ure.[3]

The Roman town of *Isurium Brigantum*, the modern village of Aldborough, lies immediately to the east of Boroughbridge; it is through Aldborough that Dere Street (the main Roman road running from York to lowland Scotland) passes and it is here that it crosses the Ure. *Isurium* is generally accepted as a Hadrianic foundation, with a possible Flavian military site beneath it.[4]

THE PROGRAMME OF WORK

It was in the hope of providing more detail of the prehistoric landscape surrounding the Devil's Arrows that the fieldwalking and geophysical survey in the area was originally undertaken, before the existence of the Roman site was known.

The affected corridor was explored by a programme of fieldwalking with selective geophysical survey, which was in turn followed by a series of evaluation trenches. The three evaluation trenches in Area 1, placed across the line of the corridor, were originally 40 m long, but the decision was taken whilst they were being examined to protect the main part of the corridor with a hardcore layer beneath the road embankment, and only strip (and archaeologically record) the line of the drain to the west of the embankment. This defined a 20 m-wide corridor to be excavated in Areas 1 and 2, whereas Area 3 consisted of much of the area of the north abutment.[5]

[2] Focused on the henge sites at Thornborough (SE 285 795), Hutton Moor (SE 353 735), Cana (SE 361 718), and Nunwick (SE 323 747).

[3] Castleden 1992, 249. Burl 1991, 21 (citing, but disagreeing with, Tutin 1954, 14) argues that survey work demonstrates that the river is now too deep to ford, but in doing so ignores the fact that the river has been canalised in modern times. Tutin suggested that the stones point towards the crossing, which would locate it approximately 100 m east of the A1 embankment. Interestingly, on 16 March 1322, when forces commanded by Andrew Harclay, loyal to Edward II, defeated the Earl of Lancaster at the Battle of Boroughbridge, a chronicler recorded that the wooden bridge at Boroughbridge 'was narrow and offered no path for horsemen in battle array. The Earl of Lancaster with his knights made their way to the ford of the river': Denholm-Young 1957, 124.

[4] Wacher 1975, 399.

[5] Prehistoric material from the A1 Walshford–Dishforth corridor, including late Neolithic or early Bronze Age features and finds from the Roecliffe excavations, will be published separately, although the Iron Age material from the *castra* site has been included here because of its apparent contemporaneity with the Roman occupation.

GEOPHYSICAL SURVEY AND FIELDWALKING

As part of the appraisal process, a fluxgate gradiometer survey of the motorway corridor and the immediate vicinity was undertaken by Geophysical Surveys of Bradford.[6] Once the northern corner of the *castra*[7] had been identified, further survey work was carried out to determine the character of the *castra* site and something of its extent and internal arrangements, although not specifically to map the entire fortification.[8] The area of the survey was constrained by certain physical parameters, notably the embankment of the existing A1 trunk road, the disused railway line (which, in the form of a shallow cutting, divides Areas 1 and 2), and present-day field boundaries.

INTERPRETATION

The *castra* was surrounded by double ditches (A), with about 6 m between their centre lines (FIGS 3–4), within the circuit of which two further parallel negative features (B) probably represent palisade trenches for a box rampart (in the region of 4–6 m wide). Although some features, presumably pits, are visible within the *castra*, no alignments are immediately obvious and no buildings appear to have been identified. Twin ditches (C) delineate a road (about 9 m wide) running north from the fort for 60 m, joining an east–west road (D, again bordered by ditches, but slightly narrower at about 6 m wide) which seems to be heading west to a crossing of the Ure. This same road was traced to the east of the A1, heading in an east-south-easterly direction, actually following the northern edge of the terrace above the floodplain of the Ure, and presumably passing just to the north of the existing Devil's Arrows. Only one fort gate, on the northern side, can be inferred on the basis of the geophysical survey: at the point where Road C meets the defensive ditches (A). However, the box rampart seems to have been continuous across the entrance-way, an effect perhaps caused by the presence of large post-holes for the gateway uprights. Any eastern gate has probably been removed by the railway cutting, whilst western and southern gateways fell outside the survey area.

Groups of linear features to the west (E) and east (F) of Road C, together with what appears to be pit activity, might indicate extramural settlement. Similarly, a linear feature, G (to the north of, and almost parallel to, Road D), and some associated pitting may belong with extramural activity.

A series of long linear features (H–J), apparently overlapping and concentric to the *castra*, may be identified as outworks of Wilson's Type 3.[9] Road D seemingly passed the southern terminal of Outwork H, before crossing Outwork I to the east of the A1 (the precise relationship between D and I is unclear). Outwork I curves slightly, before running under the A1 and re-emerging (possibly) as J; alternatively, J may represent part of another outwork altogether.

Linear feature K, running northwards from the north-east corner of the *castra* defences until it reaches Outwork H, is another notable, if not readily explicable, anomaly. Otherwise, traces of ridge and furrow cultivation are apparent (L, M, and N) and can be readily identified as earthworks (on the same alignment) in neighbouring fields.

6 GSB unpublished a.

7 The terms *castra* or 'base' have been preferred over 'fort', 'fortress', '*castellum*', or any other modern or interpretative terms. The whole question of fortification terminology will be dealt with in a forthcoming paper.

8 GSB unpublished b. The proposed road corridor avoided the *castra* site itself, but passed through the area where extramural settlement was anticipated.

9 Wilson 1984, 57–8.

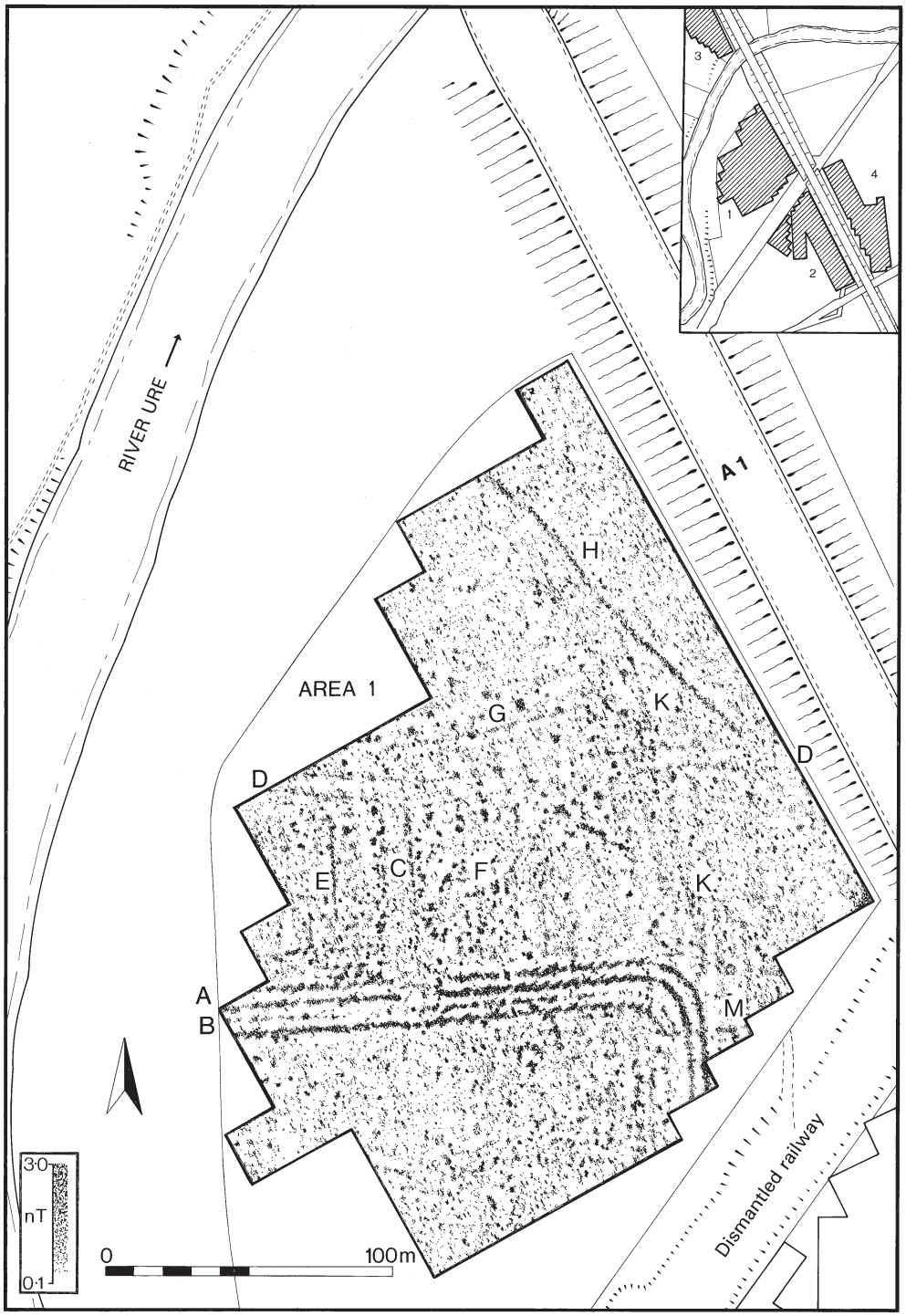

FIG. 3. Dot-density plan showing the results of the geophysical survey in Area 1.

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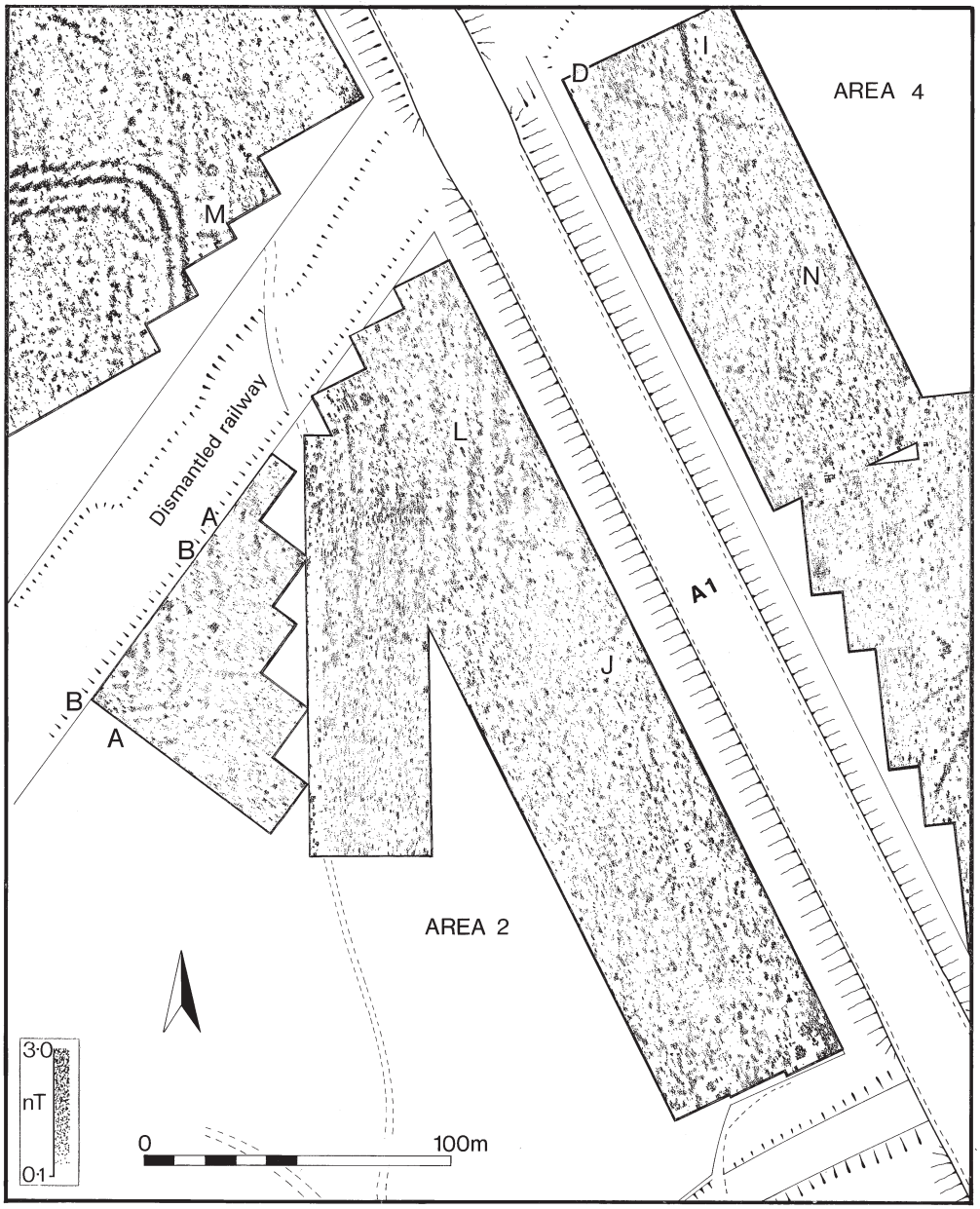

FIG. 4. Dot-density plan showing the results of the geophysical survey in Area 2.

The results from the survey to the north of the Ure (FIG. 5) were less impressive and were difficult to interpret prior to excavation, largely consisting of linear anomalies on a north-east/south-west alignment. None of the Roman period structures identified by excavation were readily apparent.

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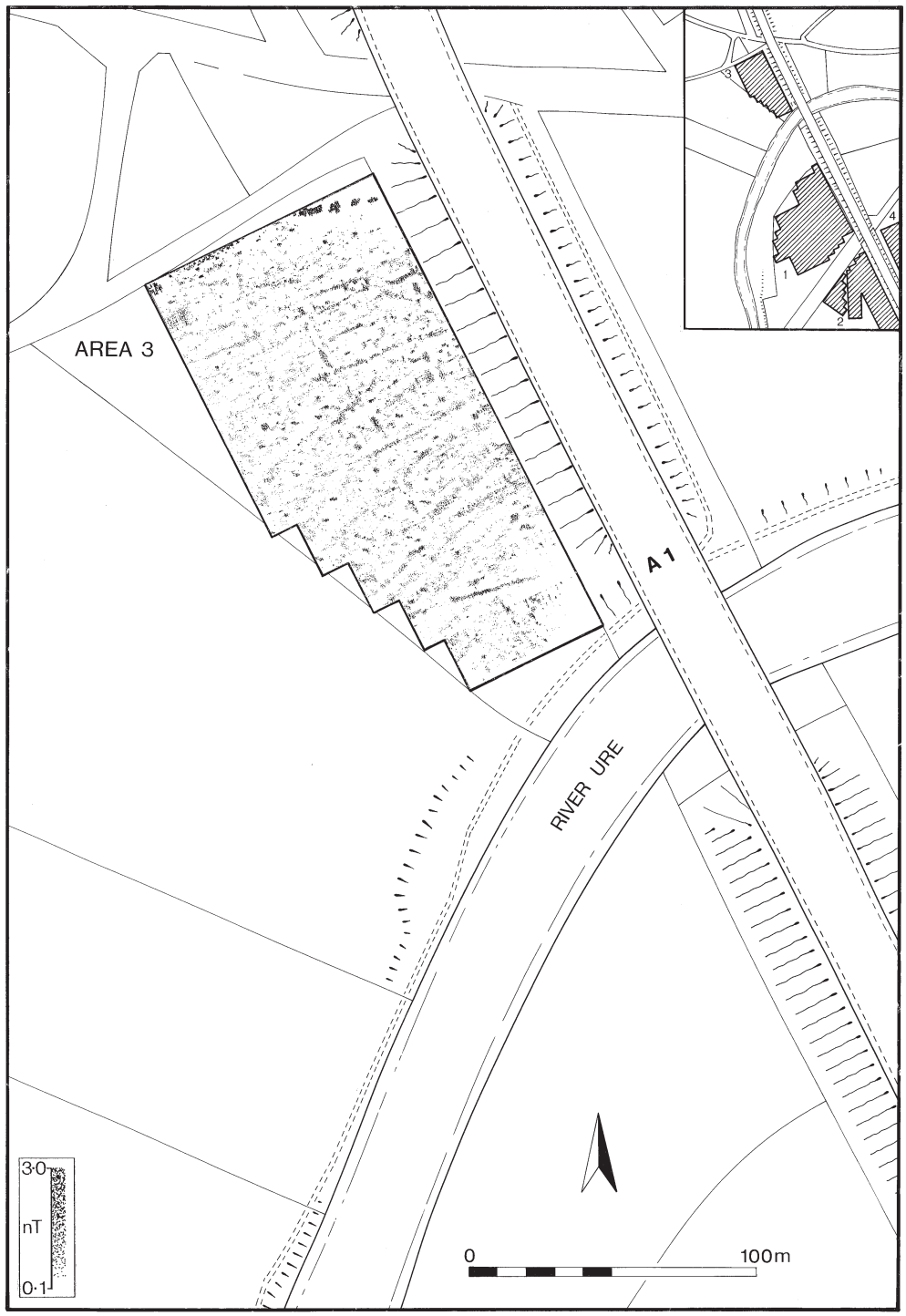

FIG. 5. Dot-density plan showing the results of the geophysical survey in Area 3.

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FIELDWALKING

No antiquarian finds are recorded from the site, but fieldwalking over the area of the military base produced some sherds of Roman pottery.[10] At the time of excavation, a controlled metal-detector survey of the corridor in Area 1, together with examination of the spoil heaps, produced significant amounts of post-medieval and some medieval finds, but revealed virtually nothing Roman.

EXCAVATION

TRIAL TRENCHING

A series of eight trial trenches were laid out (FIG. 2), Nos 2–4 falling within Area 1, No. 5 to the east of Area 2, No. 7 in Area 4, and No. 8 in Area 3. No. 1, on the floodplain of the Ure, and No. 6, north of Area 4, contained no proof of Roman occupation, but all the others produced positive evidence. Trenches 2–4 were subsequently incorporated as extensions to the Area 1 excavation corridor, whilst No. 8 adjoined Area 3. Trench 5 proved to have been severely truncated by agricultural activity, but a V-sectioned ditch on a north-east/south-west heading produced Roman pottery from its fill together with a military buckle (see below, p. 183). Trench 7 located a Roman road on an east–west bearing, surfaced with a single layer of river cobbles and bounded on either side by drainage ditches (one of which contained Roman pottery in its fill).

THE MAIN EXCAVATIONS

A 20 m-wide corridor was stripped under archaeological supervision using a 360 degree tracked excavator. This corridor corresponded to the embankment drainage, where destruction of archaeological deposits would be complete, but beneath the embankment itself, in Areas 1 and 2, a layer of hardcore was laid onto the topsoil to protect the underlying archaeology.

Since considerations of time were paramount, negative features were sampled and not completely excavated. Features such as pits or post-holes were half-sectioned, whilst only short lengths of linear features were excavated. Area 3 was stripped and dug first, in April 1993, then Area 1 between April and June, and Area 2 in June and July of the same year. The trenches in Areas 1 and 2 were stripped and recorded as far as the cutting of the dismantled railway line, which was later stripped under archaeological supervision (and proved to have removed all archaeological deposits at the time of its construction). In July and August of 1995, two further trenches were examined in Area 4.

Phasing

The phasing of Roecliffe has been extrapolated from relationships observed in Area 1, where the stratigraphy was best preserved. Secondary or later linear features could sometimes be suspected on the grounds of the nature of their fill: a slot that was dug and immediately backfilled as part of the structural process would be unlikely to include large amounts of occupation material unless it was being cut through demolition debris from an earlier phase, although it was possible that such 'slots' might be highly truncated roadside ditches. In many cases, phasing was localised and relative, rather than absolute.

Area 1 (Roecliffe north)

Within Area 1 (FIGS 6, 8–10), the main concentrations of features fell at the southern end and

[10] Ten definite sherds of Roman pottery were recorded, along with 164 probable or possible sherds.

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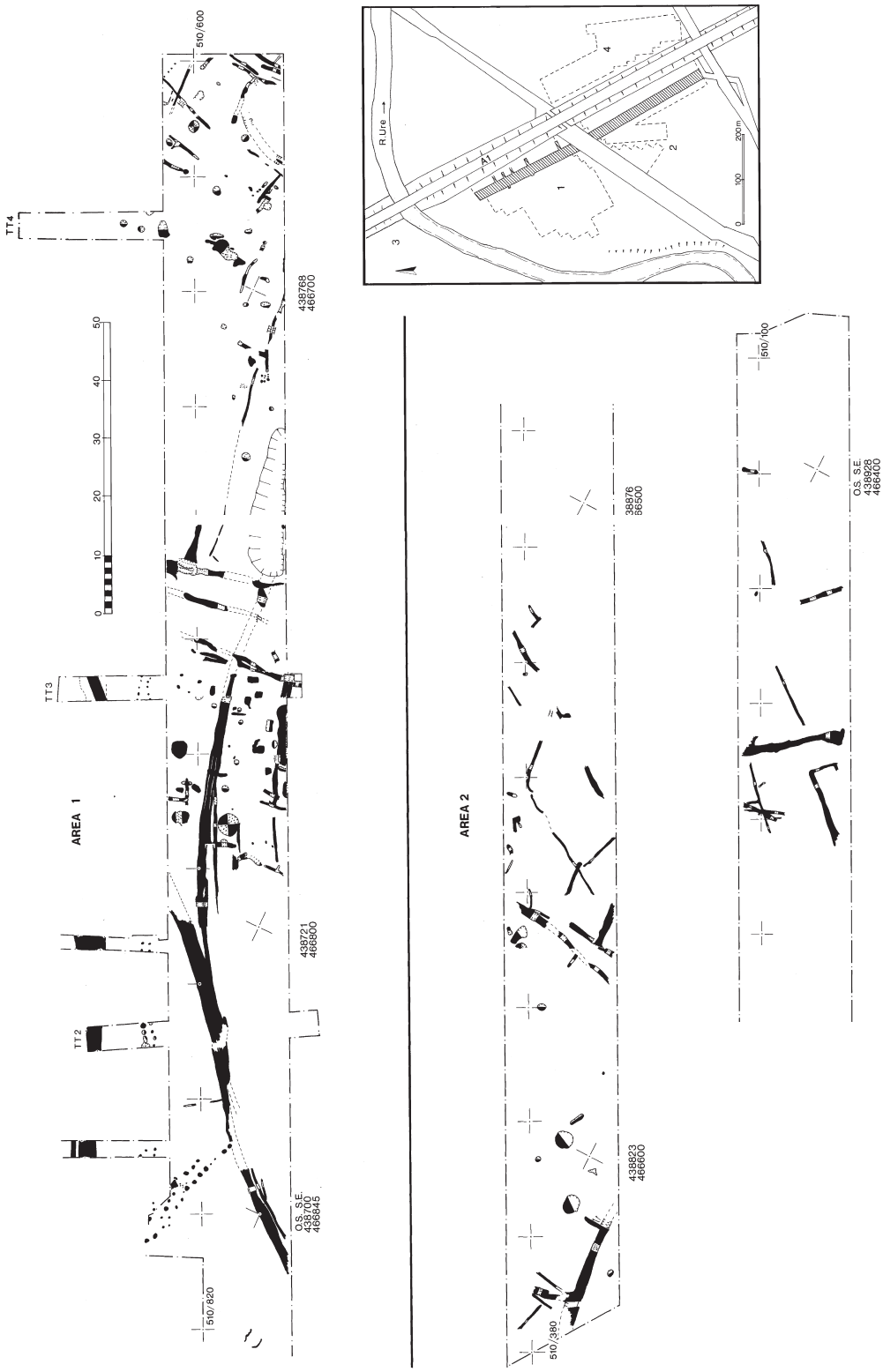

FIG. 6. The excavated features in Areas 1 and 2.

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FIG. 7. The excavated features in Area 3.

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towards the centre of the trench. Little Roman activity was detected at the northern end, but the absence of features between the central and southern zones was largely due to erosion by later agricultural activity.

Pre-castra activity

A portion of a shallow ring ditch (2124/2016, 2147), possibly part of a hut circle, was located in the extreme south-western corner of the trench in Area 1, but no dating evidence was associated with this (save to note that, stratigraphically, it pre-dated the earliest Roman structures). This may have belonged with a V-sectioned ditch (2281, 2246) recorded in section at two points which possibly defined an enclosure around the hut circle.

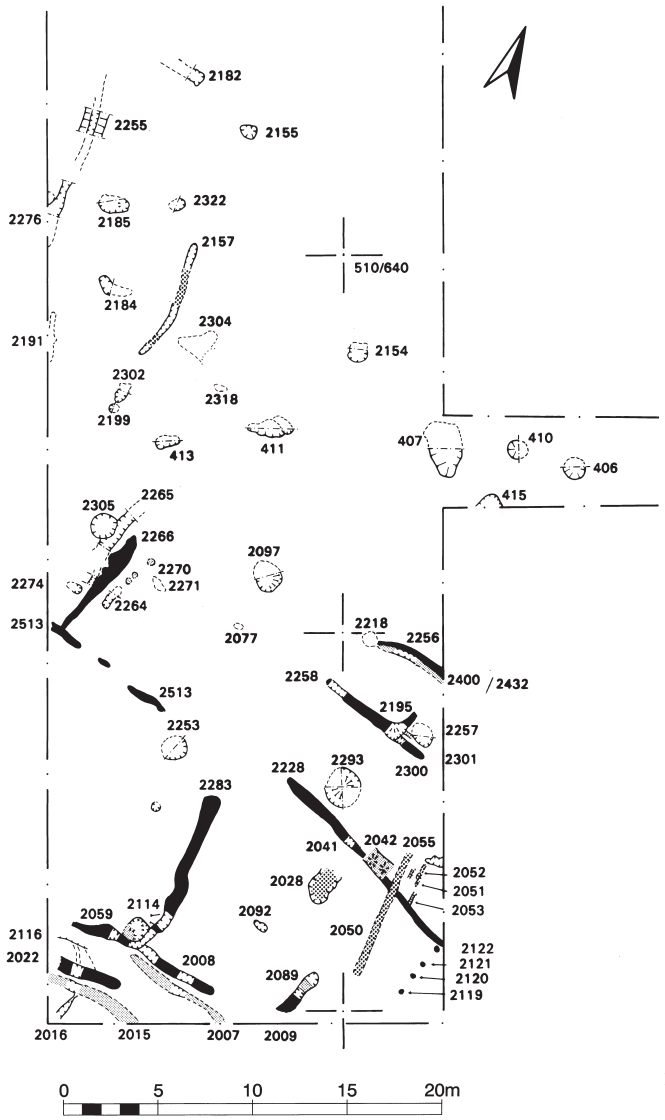

FIG. 8. Phased Roman features at the south end of Area 1.

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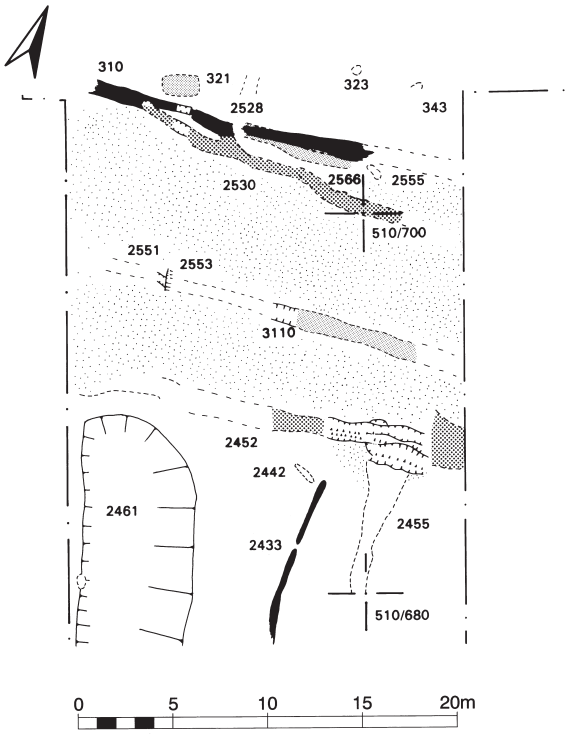

FIG. 9. Phased Roman features in the middle of Area 1.

A length of ditch with a V-shaped profile (2557, 2327) ran northwards beneath the east–west roads, to be cut by the outwork ditch at the point where they met. It may then have curved round to a north-easterly heading, where it seems to have been recorded in the same machine section as the outwork ditch (see below), albeit now filled with (and covered by) alluvial material, rendering it invisible from the level from which the outwork ditch had been cut. This ditch produced Roman material from its upper fills, indicating that it was at least partly open at the time of the arrival of the Roman army on the site.

Roecliffe I

The major features of the northern half of the site were the outwork ditch and the road (or, rather, its ditches), both of which were prominent on the geophysical survey. Given the need to balance the obvious importance of the opportunity to excavate an outwork of this nature with the constraints of available time, three sections (one hand-dug, two machined) were placed across the ditch and these produced a reasonably coherent picture. Apart from a 4 m length within Trial Trench 3, a total length of 75 m was uncovered in the excavation corridor of Area 1. Towards the north end of that trench, the ditch was cut into alluvial material overlying Neolithic features.

The section in Trial Trench 3 (FIG. 11, Section a) showed this ditch to be at least 2.5 m wide and 1.2 m deep, although these dimensions were the result of slight truncation by later ploughing. In the lower portion, the eastern face lay 7 degrees from the vertical, the western 31 degrees. The primary fill of yellowish brown clayey silt possessed lenses of dark brown material reminiscent

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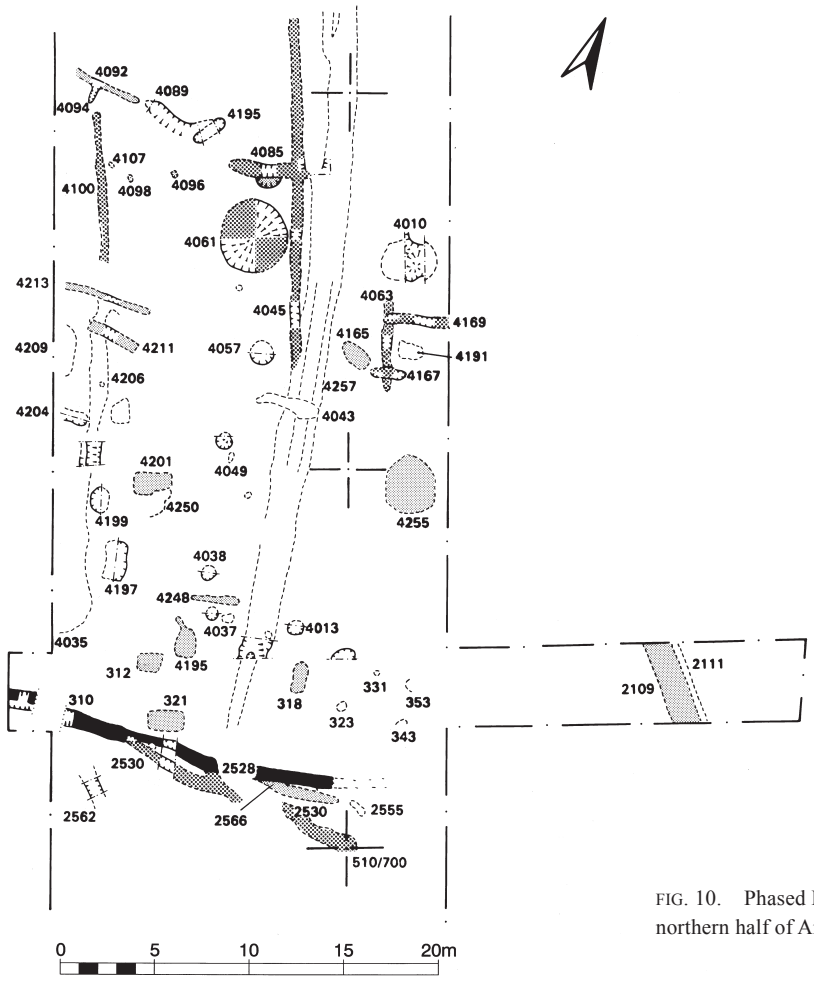

FIG. 10. Phased Roman features in the northern half of Area 1.

of the laminations that might be expected from backfilled turf.[11] A secondary fill of redeposited natural made it apparent that the ditch had been deliberately backfilled, possibly with material from a neighbouring (turf-cheeked?) rampart. The backfilling seems to have left a hollow, presumably the result of compaction, and this in time filled with a friable, mid-brown, sandy silt, probably a remnant ploughsoil which pre-dated the medieval agricultural activity. Further north (FIG. 11, Section b), the ditch also proved to be 2.5 m wide and 1.3–1.4 m deep and here the eastern face was 13 degrees from the vertical and the western 33 degrees. Again, the primary fill resembled backfilled turves, whilst the secondary material was redeposited natural. In the northernmost section (FIG. 11, Section c), the ditch, which had been truncated by later ploughing,

[11] Although analysis by Dr Maureen McHugh, of the Department of Agricultural and Environmental Science at the University of Newcastle upon Tyne, suggested that carbon values for this turf were 'only marginally greater than for the mineral fill'. A full report on the sampled soils is available in the site archive.

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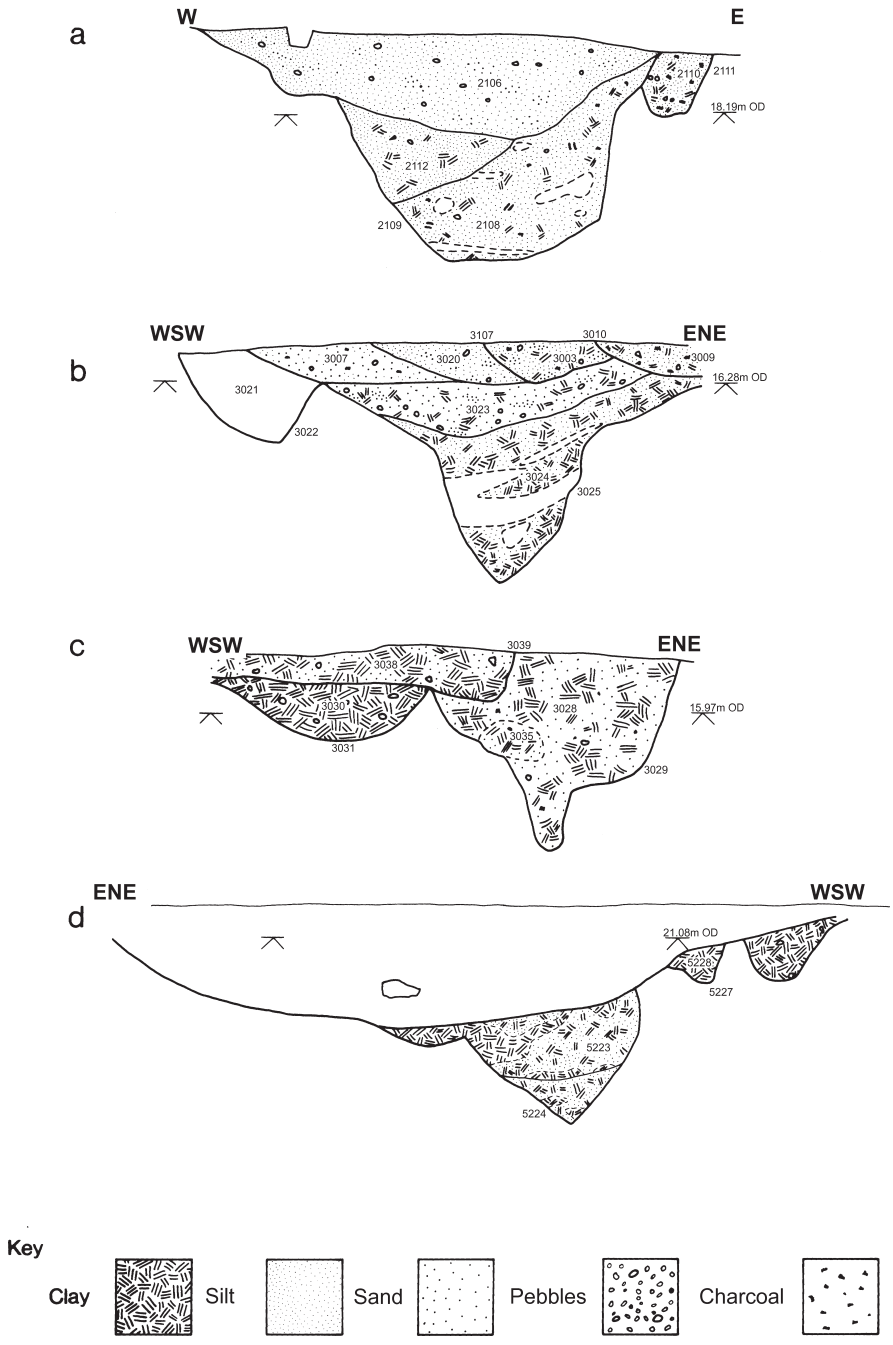

FIG. 11. Outwork ditch and slot sections.

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was 1.3 m wide and 1.05 m deep, but this time it included a pronounced 'ankle-breaker' at its base, 0.35 m deep and 0.25 m wide at the neck. The profile was more irregular, but above this slot it was 16 degrees from the vertical on the eastern face, and an average of 45 degrees on the west. The primary fill corresponded with the organic material noted elsewhere, although the secondary fill was closer to the alluvial material through which it had been dug.

An intriguing aspect of the outwork ditch was the nature of its accompanying features. In two instances, possible stake- or post-holes were noted on the eastern (outer) rim, in one case seemingly cut by the ditch (FIG. 11a). In the northernmost portion, the ditch ran parallel to, but cut, a shallower ditch on its western rim, 0.8–1.1 m wide and 0.5 m deep, with a U-shaped profile (FIG. 11c). This second ditch was filled with greenish grey clay and incorporated a sherd of Iron Age pottery (see below).

The east–west road identified on the geophysical survey (see above) was located, although the successive metallings had been very heavily disturbed and, in the case of the later surfaces, almost completely destroyed by medieval ploughing; it was clear, however, that a more complex sequence was involved than had been suggested by the survey. Successive realignments of the roadside ditches were indicated, with primary roadside ditches 2566 and 3110 to the north and south defining a road 8.5 m wide, uncovered for a length of 23 m as it crossed the corridor. The primary surface (2555) was identified at one point.

Elements of a number of structures could be associated with the first phase of Roman activity on the grounds of both stratigraphy (albeit limited) and, to a lesser extent, alignment. It is virtually impossible to reconstruct complete buildings, due to the widespread truncation on the site, though a series of structures was located at the southern end of the trench in Area 1. These could either represent fragments of three neighbouring strip buildings, or perhaps one large, complex structure, covering an area of at least 30 m by 20 m. The slots were generally quite shallow, which might suggest that they were beamslots for baseplates, but their sinuosity might militate against this and argue for their being truncated post-trenches (although no post impressions were ever noted in their bases).[12] Slot 2015, 0.5 m wide and 0.13 m deep, was ambiguous in nature, but 2007 (0.38 m across), 2089 (0.2 m), 2301 (0.17 m), and 2400 (0.4 m) were all less than 0.2 m deep and appear to have been beamslots.

There was a cluster of pits towards the mid-point (FIG. 10) of the trench,[13] the fills of many of which produced abundant secondary evidence of metalworking (see below). Actual structural elements were very infrequent and difficult to interpret, but there seems little reason to doubt the proximity of industrial activities, especially ironworking. Slots 4213 and 4204 may represent fragmentary remains of buildings aligned parallel to the east–west road.

Roecliffe II

The structures at the south end of Area 1 (FIG. 8) were replaced by other slots on a similar alignment.[14] As before, their character (widths 0.46–0.7 m and depths 0.1–0.34 m) suggests that they were intended for sleeper beams, but the nature of the building or buildings concerned remains equally elusive.

Roadside ditch 2566 was replaced by 2528 on a slightly different alignment, whilst the material which now filled Ditch 3110 was overlain by a side street aligned north–south. The surface of this was almost totally removed by medieval ridge and furrow at the highest point of the corridor,

[12] The criteria for distinguishing between the different types of construction method, post-in-trench or sleeper beam, are discussed by Hanson 1982, 171f.

[13] Including 312, 318, 321, 4195, 4197, 4199, 4201, and 4255.

[14] These certainly included 2022, 2008, 2059, 2283, 2228, 2258, and 2195.

although traces of wheel ruts impressed into the underlying natural material were noted at one point, together with the remains of a severely truncated roadside ditch, 2433.

It is difficult to isolate any occupation for this period immediately north of the east–west road, and it is possible that the spread of material identified as overlying Phase I, and underlying Phase III, structures was here the main feature of this phase.

Roecliffe III

The side street associated with the east–west road was cut off (FIG. 9) when a new ditch (2452) was cut for the south side of the main street, with a partner (2530) to the north, forming a road 10 m wide.

Fragmentary structures that belonged to this phase were noted at various places, one beam slot, 2050, at the south end of Area 1 (FIG. 8), was revealed for a length of 7 m; 0.33 m wide and 0.05 m deep, as with most features, it had probably been truncated. This was associated with a series of narrow partition slots on the same alignment or perpendicular to it, perhaps defining a corridor 1 m wide. Elsewhere, a series of slots represented buildings to the north of the road, overlying the area previously associated with metalworking (FIG. 10). Trenches 4045 and 4100 formed the east and west sides of a substantial strip building, aligned north–south, 10 m wide and at least 18 m long, with a partition marked by a stub trench (4085) and two post-holes, 4098 and 4096, 0.3 m and 0.4 m in diameter respectively. A large circular pit (4061), 4 m in diameter and 1 m deep, was situated south of the partition and showed clear signs of a recut in its fill, which was in turn filled with demolition debris. Part of another, similarly oriented, structure was found 4 m to the east, measuring at least 5 m long and 3 m wide.

A tile-lined hearth, formed from the characteristic Roecliffe tiles, with cross-hatched undersurfaces (see below), was situated near the northern edge of the main east–west road and deposits of charcoal showed that this had seen use.

The pits

Although the structural evidence from Roecliffe is less than satisfactory, especially for the earlier phases, there are many aspects to the site — not least the fairly brief duration of occupation — which render it of interest to students of Roman military archaeology. One of these is the morphology of the pits. It was apparent that a variety of sizes, forms, and functions were represented and, although many cannot be phased due to the inadequacies of the stratigraphy, they form an interesting reflection on the range of activities being carried out. Pit 2114, for example, which was primary and appears to have been structural in nature, contained both 'native' metalwork and pottery within its fill, along with more customary Roman finds.

Many of the pits showed signs of multiple fills, often alternating between rubbish deposits and clean fill. Whether this may have been due to deliberate backfilling or to natural collapse during periods of disuse was not clear. A good example of this was the sub-rounded 2097; whilst the sub-rounded 2293 also conformed to this pattern, it differed in having a distinct dump of stone (2430). Some pits, 2293 to some extent, but 4197 most noticeably, had quite clearly been truncated after filling, evidenced by their successive, slumped, earlier fills appearing as concentric rings around the central, uppermost one. The large circular pits, 4061 and 4255, remained enigmatic so far as their functions were concerned.

Area 2 (Roecliffe south)

The features in this area (FIGS 6, 12–14) were concentrated towards the northern and central regions of this trench but, unlike in Area 1, were uniformly degraded by later agricultural activity.

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No features that could unequivocally be assigned to any of the Area 1 phases were found in Area 2, largely as a result of the poor stratigraphic survival.

Structural remains

Another portion of the outwork ditch was noted in Area 2, first in Trial Trench 5, where a hand-dug section produced Roman pottery and a tinned military buckle (see below, p. 183). The ditch

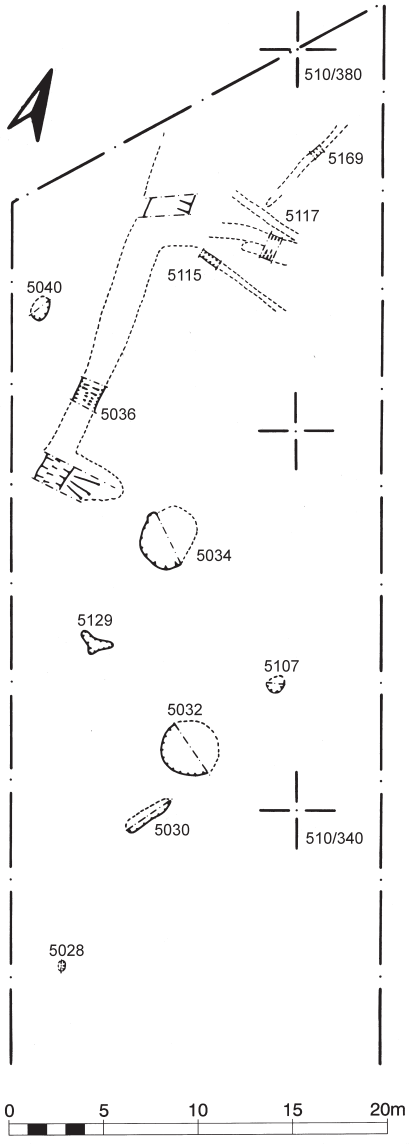

FIG. 12. Phased Roman features at the northern end of Area 2.

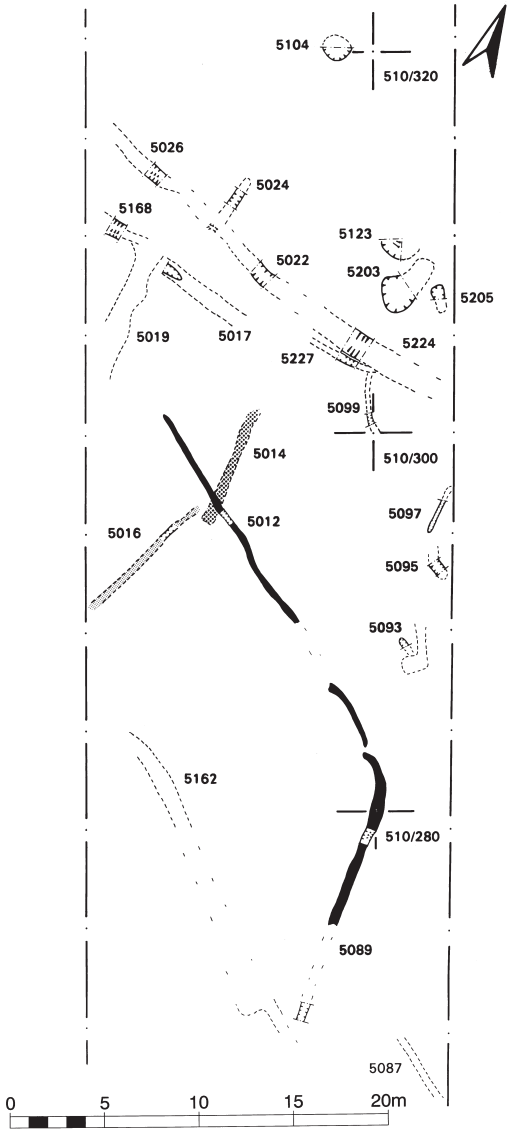

FIG. 13. Phased Roman features in the northern central region of Area 2.

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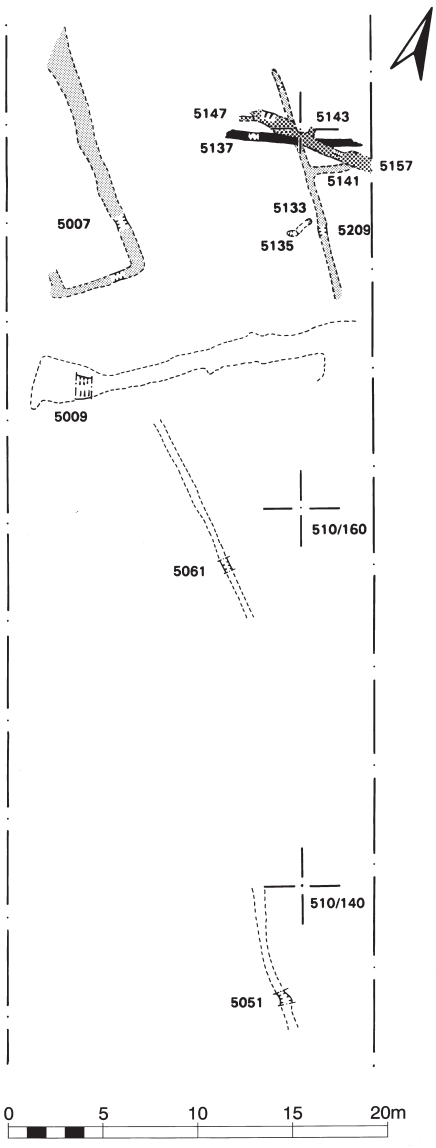

FIG. 14. Phased Roman features in the southern central region of Area 2.

probably corresponded to J on the geophysical survey (see above) and proved to be at least 2.5 m (and probably as much as 4 m) wide and 0.96 m deep. It was sectioned again, this time by machine, in the main Area 2 corridor, although its line could not be detected on the exposed surface (FIG. 11, Section d). Here it was 0.7 m deep but had been severely truncated by a furrow from later ploughing (which the machine had sectioned obliquely),[15] and was probably at least 1.1 m deep originally. The surviving width was 0.9 m, although it may have been nearer 1.5 m when originally dug. Insufficient of the profile survived to allow any comment on the steepness of the sides. On its south (outer) rim, it had evidently been accompanied by two slots, the nearer measuring 0.3 m wide by 0.2 m deep, the further 0.5 m wide and 0.35 m deep. Both had likewise been truncated by the furrow.

South of (and therefore outwith) the outwork ditch, a shallow slot (5007) defined three sides of a strip building 4 m wide and at least 14 m long. Some 10 m to the east was another building, at least 12 m long and divided by a partition no less than 4 m long; both of these structures were similarly aligned. Two further slots (5051 and 5061), slightly to the south but similarly aligned, may have belonged to buildings which were contemporary with these two structures. Other fragmentary slots which may have belonged to buildings were identified further north,[16] but little could be made of these.

There were other slots and gullies,[17] the function of which is unclear, but it is conceivable that they defined at least two phases of a road 10 m wide that has been almost completely ploughed out. Slot 5089 may then have belonged to a side street.

Three wells were found in Area 2. The southernmost (5105), circular and 1.5 m in diameter, was hand-dug to a depth of 3.8 m and a subsequent watching-brief produced organic deposits from a depth of *c*. 6–7 m, including

15 The section was also cut slightly oblique to the line of the ditch.
16 5067, 5083, 5087.
17 5026/5022/5224 and 5168/5017/5227 to the north and 5012 to the south.

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possible stable sweepings, wooden artefacts, and fragments of a tent (see below). Although it must originally have been lined (the subsoil through which it was cut is far too unstable for it not to have been), apart from the few fragments of planking at the very bottom of the fill, no definite sign of such a lining was found. A second well (5032) was located some 20 m to the north-west and this too proved to be 1.5 m in diameter; it was excavated to a depth of 2.9 m without bottoming it. The third and northernmost of the wells, 11 m north-west of 5032, was 3 m in diameter and at least 2.7 m deep. All three seem to have been deliberately backfilled. Possible signs of the planks in Well 5105 having been re-used may indicate that that feature did not belong to the first phase of activity on the site.

At the northern end of Area 2, besides more slots that were presumably structural,[18] there was a substantial ditch orientated north–south; the ditch fills produced Roman finds as well as some evidence of sedimentation in places, along with indications of deliberate backfilling.

The pits

The same range of sizes and shapes of pits was found as in Area 1, although they were fewer in number. The elongated 5203, for instance, contained the familiar multiple fills. The one category of pit that was added by this trench was, of course, the wells.

Area 3 (Langthorpe)

There were convincing indications of three phases of Roman occupation in Area 3 (FIGS 7 and 15), but there is of course no way of knowing whether these can be identified with the three phases of Area 1.

Structural remains

All of the Roman features identified in Area 3 had been severely truncated by later agricultural activity; so much so, in fact, that no original surfaces remained.

The first phase of Roman activity north of the Ure was represented by three pits (1114, 1136, and 1149) and a 6 m-long slot (1129), 0.54 m wide and 0.34 m deep. These features were cut into a possible buried soil, which overlay the remains of prehistoric activity on the site, and were in turn cut by later Roman structures.

The second phase was marked by a number of slots, mostly on either a north–south (1118 and 1121) or east–west (1140) alignment, and a possible north–south ditch (1123). The exception to this, 1112, was only traced in section and not in plan; this was aligned north-east–south-west and was 0.45 m wide and 0.28 m deep, with steep sides and a rounded bottom. The other slots ranged between 0.27 m and 0.32 m in width and the deepest only survived to 0.13 m. The ditch 1123, which was only examined in section but was seen to have 45 degree sides, contained evidence of demolition (burnt daub and charcoal) in its primary fill and a secondary, compacted, clay fill that may indicate deliberate backfilling prior to re-use of the site.

A number of pits and post-holes may have belonged to either of these first two Roman phases; two of the pits (1103 and 1105) contained burnt daub and charcoal in their fills.

The final phase of Roman activity was represented by a series of slots on the east–west alignment, some of which belonged to a rectangular building. Slot 1131 formed the northern side, 1101 and 1054 the eastern, and 1012 and 1100 the southern side of it, producing a structure measuring at least 15 m long (east–west) by 13 m (north–south). These structural elements ranged between 0.2 m and 0.47 m in width, and 0.13 m and 0.26 m in depth. Some of the other

[18] 5115, 5117 on east–west headings, and 5169 perpendicular to these.

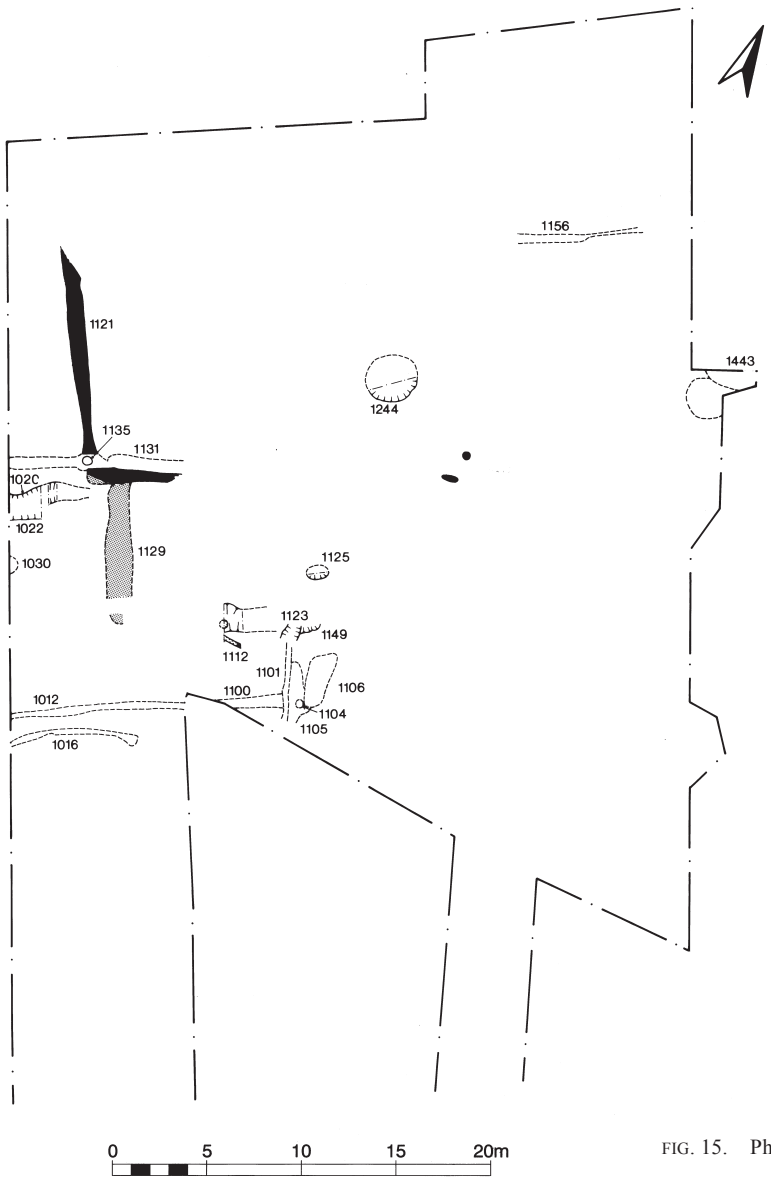

FIG. 15. Phased Roman features in Area 3.

slots (1066, 1020, 1022) may have formed internal partitions and these tended to be broader (0.5–1 m) than the main structural components.

There were also a number of features which remain unphased due to the lack of recognisable stratigraphical relationships but could be identified as Roman by their contents. An east–west ditch (1381), 1 m wide and 0.6 m deep, had a V-shaped profile and extended for at least 10 m (beyond the limits of excavation). Its fill included a silver denarius and several copper-alloy coins (see below, p. 176) found together in what may have been the remains of an organic purse.

The pits

Comparatively few Roman pits were noted in this area and it may be noteworthy that those that were located did not contain the multiple fills so characteristic of Areas 1 and 2.

Area 4 (Bar Lane)

No satisfactory phasing could be determined amongst the Roman (or possible Roman) features in this area.

Structural remains (FIGS 16–17)

Area 4 had been heavily damaged by later agricultural activity and only one linear feature to the north of Bar Lane could be identified as Roman, and then mainly because of its alignment with

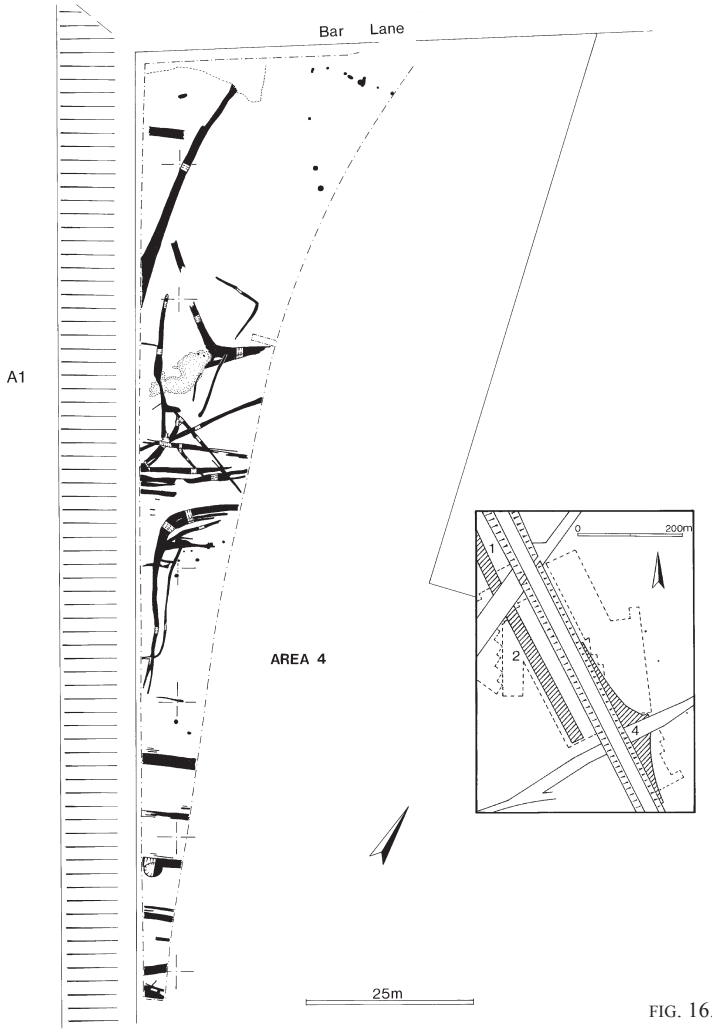

FIG. 16. The excavated features in Area 4.

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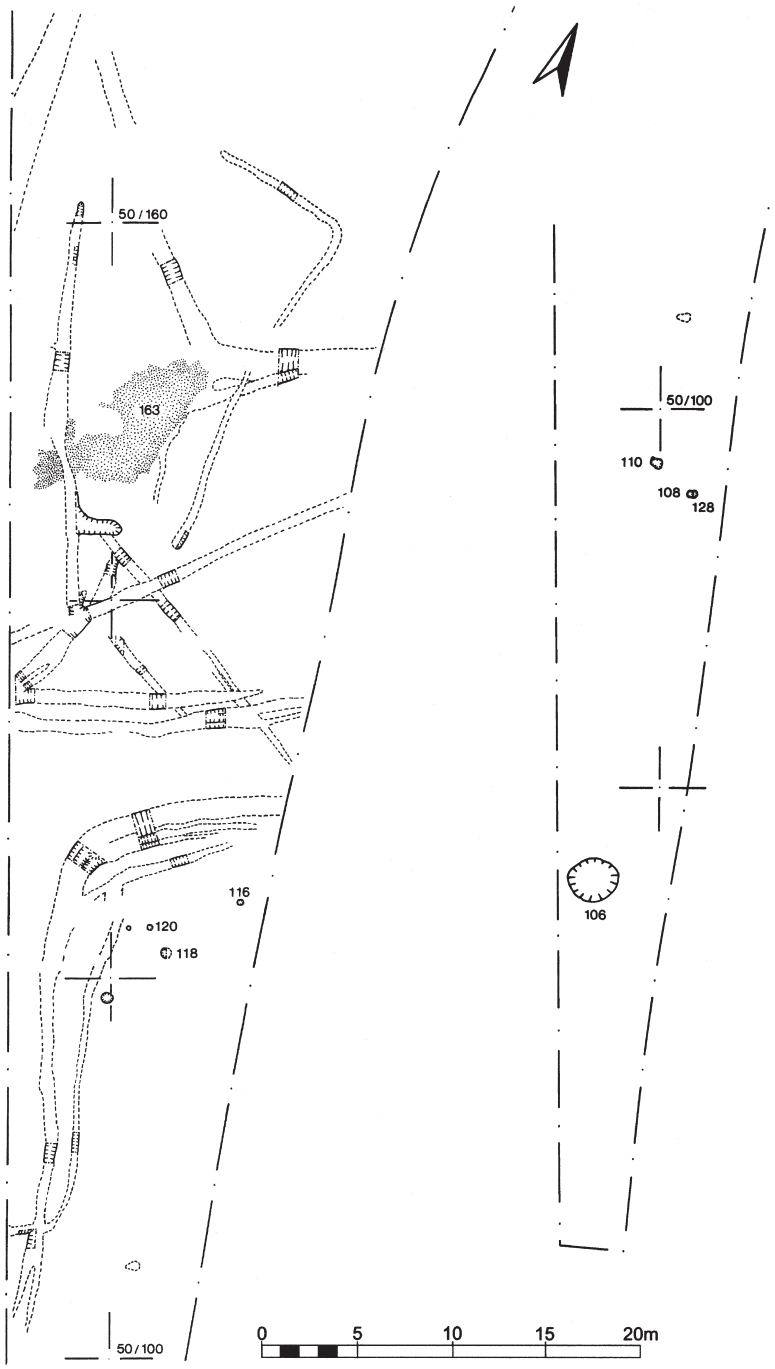

FIG. 17. Roman features in Area 4.

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known Roman linear features in Area 2 (on the opposite side of the A1). The bulk of the Roman activity in this area was found to the south of Bar Lane and this comprised a fragmentary road surface, part of a cremation cemetery, and an indeterminate number[19] of linear negative features which may have served as boundaries of some kind.

The metalled surface (163) was preserved in a slight depression, which protected it from plough damage, and for the most part consisted of a single layer of stones pressed into the natural clay. These stones were mainly rounded, but with some angular examples, and fragments of samian were noted in amongst the cobbling; in some places there were indications of there having been a secondary surfacing.

Three cremation burials were noted, the remains of the deceased in each case being placed in a coarseware vessel before interment in a small pit (108, 110, 128; 108 was cut into 128). The tops of all the cinerary vessels were truncated by ploughing. Associated with these pits (but not stratigraphically linked) were some small (up to 0.56 m in diameter) circular pits (116, 118, 120) filled with burnt material, mainly charcoal.

Perhaps the most interesting feature associated with the cremations, although 20 m to the south of them, was a large, sub-circular pit (106) containing layers of burnt material and animal bone. The pit was 2.5 m in diameter and 0.7 m deep and was filled with a succession of bone-rich deposits and thin clay sealing layers (see FIG. 18), suggesting five main depositional events. The bone was too friable for laboratory examination, but *in situ* inspection revealed the majority of bones present to have belonged to cattle, with some pig and sheep/goat included.

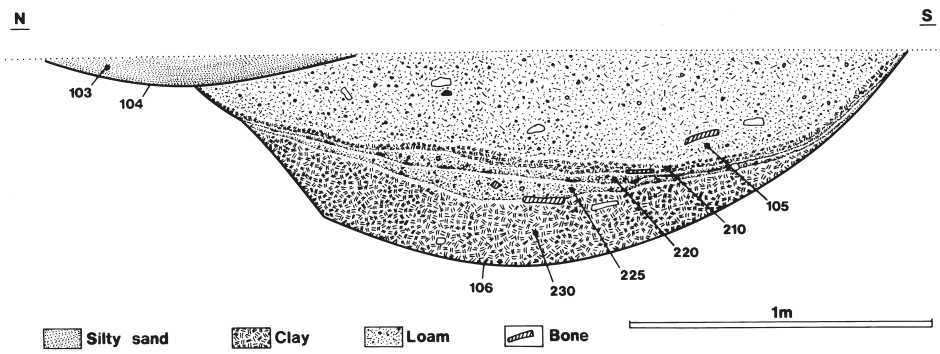

FIG. 18. Section through cremation cemetery pit.

THE FINDS

THE IRON AGE POTTERY *By* T.G. Manby

In this small series, weighing 894 g, at least twelve vessels are represented, mostly by rim fragments; bases are clearly under-represented. No complete profile could be assembled nor the capacity of any vessel be calculated and a very limited range of forms can be identified: the

[19] None produced satisfactory dating evidence, so certainty over whether they were prehistoric or Roman was not possible.

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majority are jars and essentially all are in a characteristic fabric. The sherds are generally in fresh condition and not excessively fractured; only the smaller show wear and weathering.

Fabric

Hard, well-fired, brittle fractures show a finely laminated wall structure. Surfaces are harsh to the touch and generally dark in colour; only one sherd shows oxidisation affecting its exterior. The tempering agent is coarse sand ranging from sub-angular fragments to rounded grains; these give a surface sparkle to an otherwise matt body. An additional inclusion of a fragment of slag was noted in a sherd from a small jar from Context 2400.

The nature of the quartz temper suggests an ultimate origin in the Millstone Grit series of the Pennines. The nearest outcrops are 14 km west of Roecliffe and its erosion products are carried eastwards as river sand by the rapidly flowing rivers Skell and Laver into the Ure.

Forms

Profiles are slack, with indistinct, rounded shoulders. Barrel-shaped jars with everted moulded rims divide on the basis of rim diameter into:

Medium *c.* 12–18 cm across (Nos 1–6)
Small *c.* 10 cm across (No. 9)

Large-capacity jars for storage are significantly absent. Carbonised material on the exterior of the medium jars points to a function in cooking. No. 4 is a bowl with splayed rim and rounded shoulder; No. 5 is a globular vessel with tapering rim that may also be a bowl.

Rims are all simply out-turned from the body and moulded; there are no applied and developed forms. Two rims (Nos 4–5) are upright and tapering, distinct from the main series. Only simple angled bases are present and base sherds are under-represented in ratio to rims.

Surface treatment

This is confined to hand working, with some finger moulding around the base interiors and thumbing around the necks; there is also finger smoothing inside the rim (No. 3) and one instance of knife trimming around the base (No. 11). Shallow furrows occur, left by pulling the fingers up the interior.

TABLE 1. SUMMARY OF THE IRON AGE POTTERY BY CONTEXT

Context	Feature	Sherd Weight (g)	Sherd Total	Rim Sherd	Base Sherd	Vessel Total (min.)	R/B material present
Unstratified		100	12	–	–	1	
2125	Pit 2114	4	125	1	–	2	•
2221	Slot 2255	10	1	–	–	1	
2238	Slot 2247	100	4	1	–	2	•
2450	Pit 2466	359	24	4	1	5	•
2529	Ditch 2530	40	3	–	–	1	
3021	Ditch 3022	5	1	–	–	1	
4200	Fill of 4201 (Rectangular feature)	125	7	3	1	4	•
Totals		**745**	**177**	**7**	**2**	**17**	

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Half the contexts are features of Roman date, including 2450 which provided the largest group. The condition of the sherds does not indicate subjection to a period of surface exposure after breakage. There were no joins between the context groups and the contemporary nature of the whole assemblage cannot be established. Carbonised residues on some of the jars indicate a usage in food preparation before breakage and dispersal.

Catalogue of illustrated pottery (FIGS 19–20)

1. Jar rim sherds. 14 cm diameter. Moulded rim with internal bevel, thumb pressing below the lip. Rough hard dense fabric, dark brown exterior, internally dark grey on the bevel passing down to orange-brown interior. Much angular quartz with occasional fragments >5 mm. The exterior shows irregular firing cracks suggestive of a coil construction and faint traces of vertical brushing. Remains of a carbonised layer on the rim bevel. A third sherd of this vessel. Wall thickness 7–8 mm. *Area 1: 2125*
2. Jar rim, 16.5 cm diameter. Out-turned rim with narrow smoothing facets inside; thumb pressing externally in the shallow neck. Finger pressing in rows internally. Hard heavy laminated dark grey, brown-toned exterior; harsh surfaces with exposed temper, much quartz sand and sub-rounded clustered quartz grains and fragments >1 mm. Wall thickness 7 mm. *Area 1: 2238*
3. Jar rim fragment, 18 cm diameter. Out-turned rim with marked finger-tip furrowing around bevel. Rough hard laminated, dark brown exterior extending over bevel well down the interior before changing to buff. Profuse coarse quartz sand and some fragments >2 mm. Wall thickness 1–9 mm. *Area 1: 2450*
4. Bowl rim, 18.5 cm diameter. Out-splayed rim, thinning to a smoothed lip. Rough hard laminated brown exterior with dark grey tones, orange-buff interior with grey toning, grey core. Profuse quartz sand. Slightly diagonal finger-tip fluting on the interior. *Area 1: 2450*
5. Rim of a globular jar or bowl, 21 cm at the girth. Upright thinning rim to a rounded lip. Rough hard laminated exterior, dark grey with traces of a carbon deposit up to 2 cm below the lip and brown in the neck. Thin orange-brown interior surface, worn off in places. Profuse quartz sand temper. Slightly diagonal finger-tip furrows up the interior. *Area 1: 2450*
6. Rim of jar, 13 cm diameter. Out-turned rim, rounded lip. Rough hard dark grey exterior, orange-brown interior. Profuse coarse quartz sand. Wall thickness 6 mm. *Area 1: 2450*
7. Body and neck fragment, 15 cm girth. Rough hard brown with darker toned exterior, orange interior, grey core. Profuse quartz sand. Wall thickness 7 mm. *Area 1: 2450*
8. Base angle of small jar. Rough hard dark brown exterior, buff-brown interior. Profuse quartz sand. Inner surface cut by impressions of ?grass fragments. Also some small wall sherds. Wall thickness 6 mm. *Area 1: 2450*
9. Rim of a small jar, 10 cm diameter. Out-turned rim with faint thumb pressing in the neck. Rough hard dark brown exterior, buff-brown interior. Profuse coarse quartz sand with some ironstone. Wall thickness 5 mm. *Area 1: 4200*
10. Rim and body sherds of a small jar, uncertain diameter. Rough hard laminated dark grey. Profuse coarse quartz sand, some ironstone fragments. Wall thickess 5 mm. *Area 1: 4200*
11. Base fragment, 6.5 cm diameter, and neck fragment of a jar. Rough hard laminated dark grey exterior, orange-buff interior. Profuse coarse quartz sand. Vertical knife trimming around the base angle and finger pressing on the interior. Wall thickness 5 mm. *Area 1: 4200*

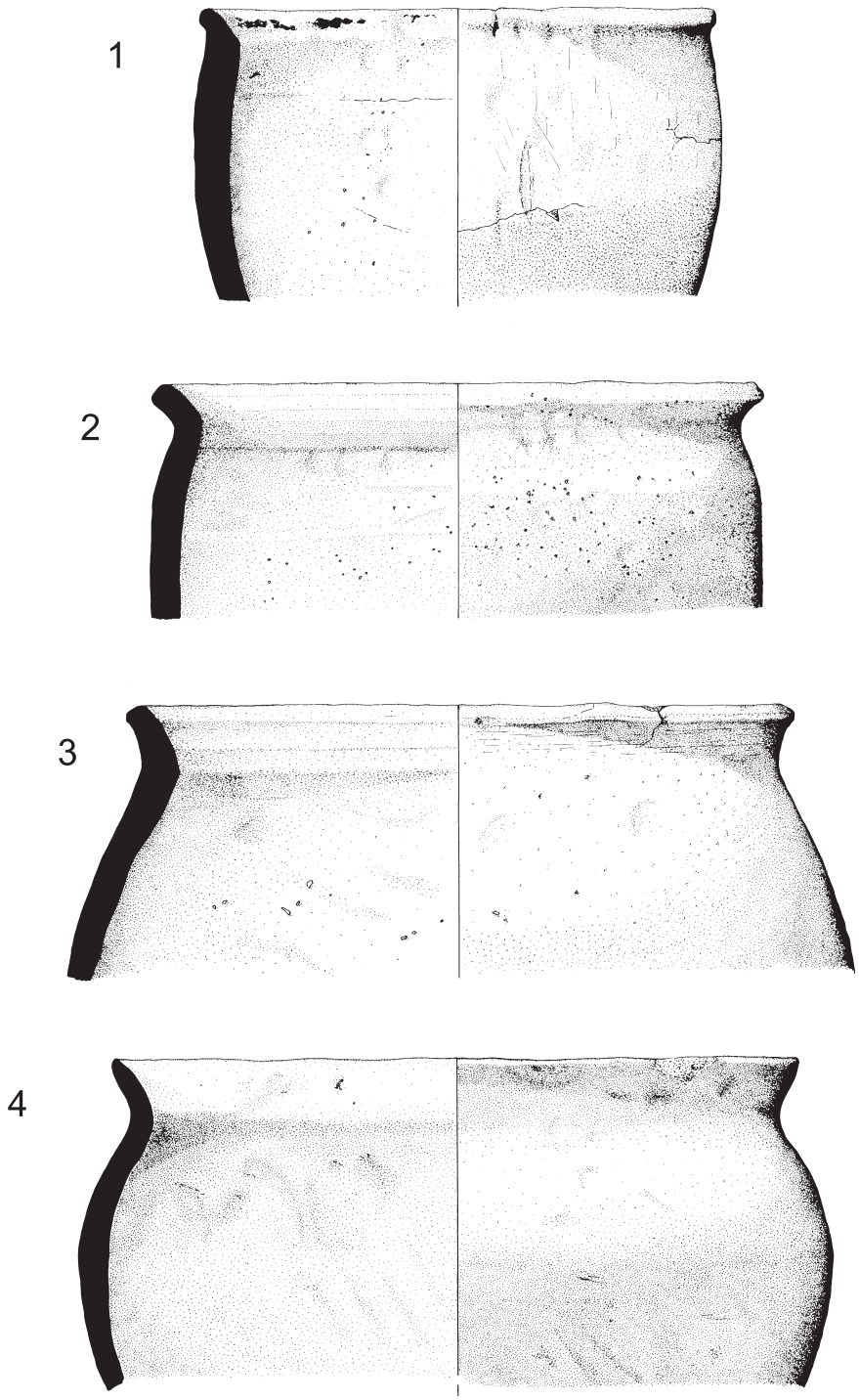

FIG. 19. Iron Age pottery from Roman contexts (scale 1:2).

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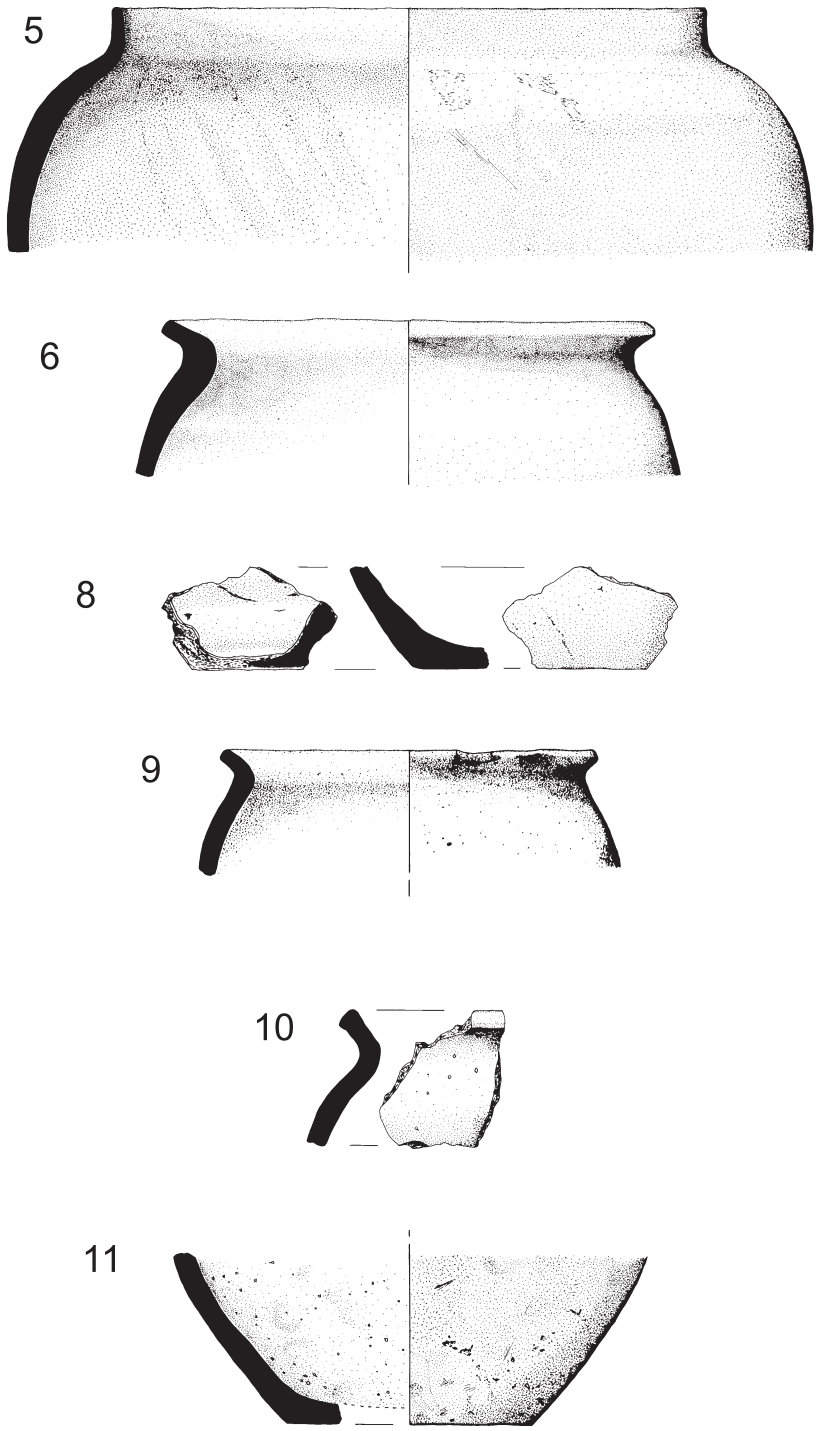

FIG. 20. Iron Age pottery from Roman contexts (scale 1:2).

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Discussion

Roecliffe lies on the north-south interface zone of the lowlands of the vales of Mowbray and York and the Pennine uplands to the west. In contrast to eastern Yorkshire, this western half of Yorkshire has few excavated sites of Iron Age date that can provide pottery assemblages for comparison with Roecliffe. The only major assemblage is that from the first-century A.D. oppidum of Stanwick, near Richmond, that overlies earlier occupation and field-systems.[20] In contrast to the imported Roman wheel-made ceramics, its 'native (Brigantian) ware' is characterised by jars with high rounded shoulders and thickened and out-turned rims in coarse gritty fabrics; bowl forms are scarce, with some in finer fabrics.[21] The Stanwick pottery stands at the end of a domestic pottery tradition that developed widely across northern England during the later first millennium B.C.[22] Following the Roman conquest slack-profiled handmade jars in the Iron Age tradition continued to be made; as the coarse tempered 'native wares' they appear with wheel-made Romano-British pottery in second-century A.D. deposits locally at Aldborough.[23]

The extent of the Roecliffe assemblage and the nature of its associations impose limitations on the chronological and functional comparisons. Support for dating the Roecliffe pottery to on-site activity immediately preceeding or contemporary with the Roman conquest of A.D. 71–74 is suggested by the presence of vessel/rim types parallel to those at Stanwick associated with the later first-century A.D. occupation. Jars 1, 3, and 5 and Bowl 4 are forms current at Stanwick.[24]

A scarcity of excavated sites results in the development typology and chronology of Iron Age pottery being little known across the western half of Yorkshire. Apart from Stanwick, there are two further sites in the same interface along the eastern margin of the Pennines that provide chronologically earlier associations. St Giles Hospital, on the river Swale, is a small assemblage that has an accompanying fourth-century B.C. radiocarbon dating.[25] Hard-fired, quartz-tempered, dark fabrics similar to Roecliffe predominate. The second site is Dalton Parlours, on the river Wharfe, 22 km south of Roecliffe. Simple jars, some with developed rims, dominate this assemblage associated with ring-groove round houses set within enclosures.[26] This assemblage is typologically distinct from the Roecliffe pottery; it has an accompanying series of radiocarbon dates with a mean of 2320–2090 BP and a calibrated range of 480 to 1 B.C. There is a wide range of fabrics, petrological study recognising six, which include an erratic-tempered series; Fabric B had a high proportion of coarse quartz of crushed Millstone Grit and sandstone origin and Fabric C had additionally some crushed iron slag, the same combination noted in a sherd from a site at Ledston, 20 km further south.[27] Apart from Fabric E, represented by a single bowl that is a likely import from North Lincolnshire, the petrological study supported local manufacture using selected raw materials.

Also related are assemblages from sites to the east from the North York Moors and in lowland Cleveland for general comparisons to the simple rim forms and body character present at Roecliffe. Vessel types can be selectively paralleled in Iron Age assemblages in the Cleveland Hills, such as Roxby.[28] Parallels can also be found at Thorpe Thewles, on the edge of lower Teesdale, amongst pottery of both the Iron Age phases, II and III.[29] There was a significant use of

20 Haselgrove *et al*. 1990.
21 Wheeler 1954, 38–44, fig. 12.
22 Challis and Harding 1975, 11ff.
23 Myers *et al.* 1959, 35–6, figs 7.12 and 11.31; Jones 1971, 61, fig. 14.163.
24 Wheeler 1954, 41, fig. 12.4, 10, 18 and 31.
25 P. Cardwell, awaiting publication.
26 Wrathmell and Nicholson 1990, 128–30, fig. 94.
27 Wrathmell and Nicholson 1990, 131–5.
28 Inman *et al.* 1985, 187, 199, 203, and 208.
29 Heslop 1987, 57–71, figs 44–7.

both quartz and dolerite as tempering agents. Attention was drawn to the poor thermal absorption properties of such materials but carbonised residues on quartz-tempered jars indicate that they had been used for cooking. There is a recurring use of selected locally available raw materials across the regional Iron Age potting tradition, but no linkage between the physical properties of the tempering agents and the functional uses of the vessel types.

THE ROMAN POTTERY *By* J.N. Dore

The samian (FIG. 21)

A total of 269 fragments of samian was recovered. The following vessel types were represented:

Type	**Sherds**	**Rim%**
Ritterling 1	5	10
Dr 15/17	4	8
Dr 18	66	124
Dr 18R	2	0
Dr 27	31	122
Dr 29	36	85
Dr 30	9	0
Dr 37	30	21
Dechelette 67	1	0
Curle 11	1	6
Indeterminate	84	0

(For forms 29, 30, and 37 the minimum vessels represented by these figures are 9, 1, and 4, respectively.)

Decorated and stamped samian By Brenda Dickinson

This small collection of samian comes from the South Gaulish factory of La Graufesenque. It is immediately apparent from the ratio of forms 29:30:37 that we are dealing with an early Flavian collection. The carinated bowl, form 29, went out of production *c.* A.D. 85, but survived in use for some years after that, though it tends not to turn up in any great quantity in later Domitianic contexts and was eventually replaced by form 37. On sites founded in the early 80s A.D. it was still relatively common. At Inchtuthil and Strageath, for instance, the ratios of form 29 to 37 are 5:4 and 6:5, respectively, but at Newstead, which was occupied for twenty years or so, the proportion is 11:30. The closest parallel for the Roecliffe material is a group of South Gaulish samian deposited in a pit at the York fortress in the early 70s, which produced the forms in question in the ratio of approximately 2:1.[30]

One bowl of form 29 is in the style of a potter who was at work in the 50s A.D., though it may be from a mould which had been in use for a long time. However, many of the details on the earliest bowls are found on vessels stamped by potters whose careers began in the 60s, such as Germanus i. Others are on bowls in the pit group at the York fortress noted above, or occur in the finds from the fort at Castleford.[31]

[30] Dickinson and Hartley 1993, 723.
[31] B.R. Hartley and B.M. Dickinson, forthcoming.

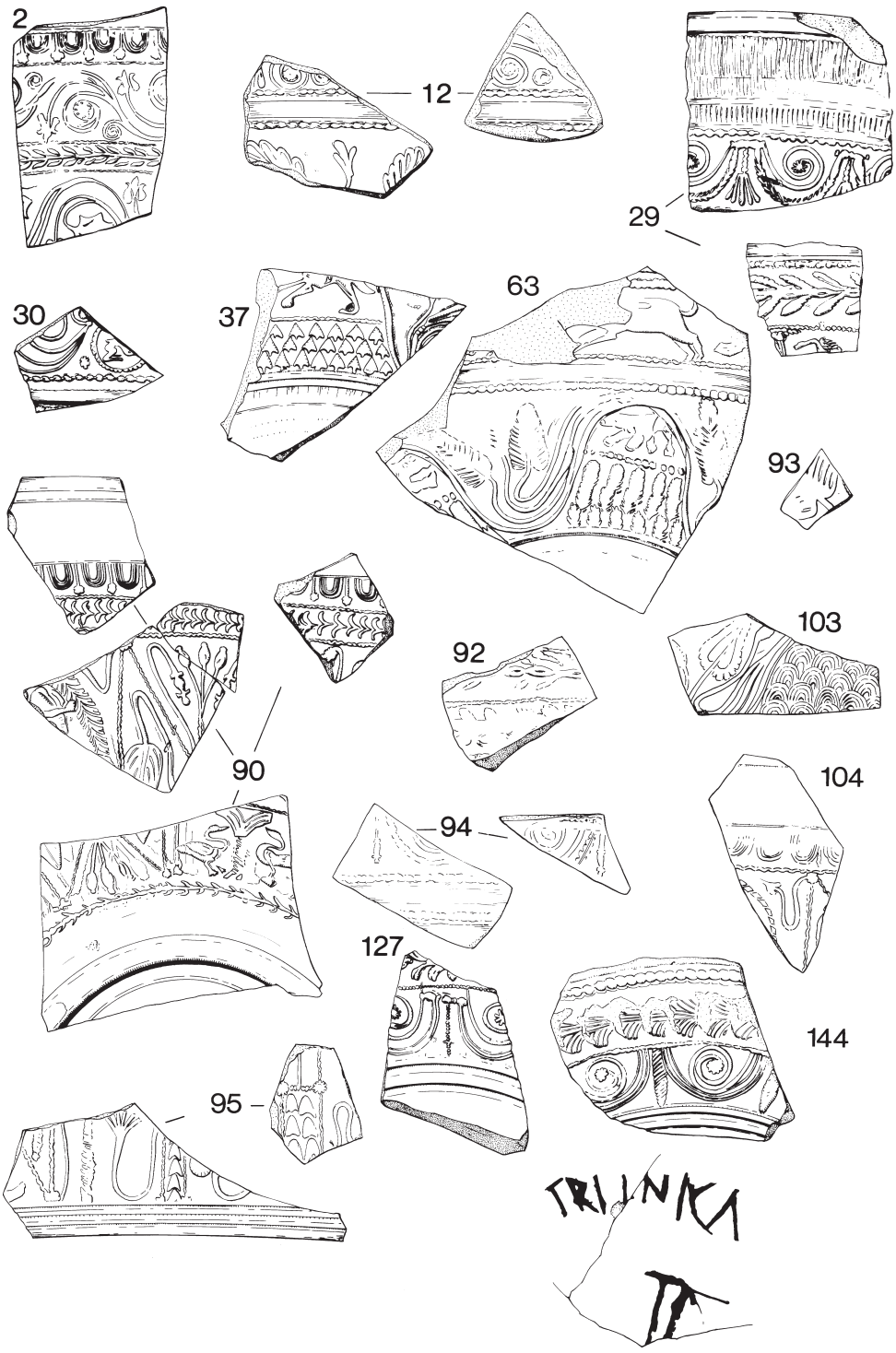

FIG. 21. Decorated samian (scale 1:2).

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The bowls of form 37 would not be out of place at Welsh forts founded under Frontinus, or in the Pompeii Hoard of A.D. 79, but they are generally rather different from the ones which occur on Agricolan sites in Britain or at forts on the German Limes. Three of them are in the style of Calvus i, who was probably at work by *c*. A.D. 65. A fourth has an internal groove just above the level of the top of the ovolo, a feature of the earliest examples of the form, which did not survive into the later Flavian period.

The dating evidence of the three identified potters' stamps is less conclusive, but it does not conflict with that of the decorated ware.

Very few parallels for the samian have been noted in Agricolan material from Scotland, but it would not be impossible for some of the vessels discussed here to have arrived on the site as late as A.D. 85. However, the bulk of the evidence, from the decorated ware at least, suggests a period of use *c*. A.D. 70–80.

The coarseware from Areas 1–3 (FIGS 22–25)

Fabrics

The fabric of each vessel was examined in the hand and under a binocular microscope (×20 magnification) equipped with an eyepiece graticule graduated in mm. The following details were recorded:

Colour: body colour across the vessel-wall supplemented where necessary with core, margin, and surface colours; precise Munsell values were not recorded but a set of Munsell Soil Colour Charts,[32] removed from its binder and mounted on a neutral grey card, was always within sight during pottery processing, in order to provide some degree of visual calibration and ensure some standardisation of descriptive terms throughout the report. The following list gives an approximate correspondence between the descriptive terms used here and Munsell codes:

Orange/brown and dark brown: Hue 5YR; orange/brown: 5/6 & 5/8 – 6/6 & 6/8
Dark brown: Value < 5, Chroma > 2
Orange/red: 2.5YR 5/8–10R 5/8
Red/brown: Hue 2.5YR–10R, Value < 5, Chroma > 4
Pink: 10R 6/4–6/6
Orange: around 5YR 7/8
Orange/yellow: around 7.5YR 7/8
Yellow: Hues 10 YR and 2.5 Y, Value > 6, Chroma > 4

Inclusion type: without recourse to thin-sectioning and the petrological microscope, inclusions were only recorded under general headings: e.g. quartz, iron, volcanically-derived, limestone, mica etc.

Inclusion size: two estimates of the texture of each type were recorded; the first relates to the size of the major fraction, the second is the maximum grain size. In cases where the grains were well sorted the two estimates have the same value. Five categories were used:

Texture 1 (T1): not > 0.1 mm
Texture 2 (T2): not > 0.2 mm
Texture 3 (T3): not > 0.5 mm
Texture 4 (T4): not > 1 mm
Texture 5 (T5): not > 2 mm

[32] 1975 edn.

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The density of inclusions was expressed as the percentage of the area of the fresh break examined under the microscope which was occupied by inclusions. This was estimated by comparison with standard charts.[33] The values and their associated terms are as follows:

Sparse: 0–10%
Moderate: 10–30%
Abundant: 30%+

The catalogue

The catalogue of pottery is available in the site archive and as a PDF file from the Archaeological Data Service (at http://ads.ahds.ac.uk/) and is arranged by excavated context, with samian preceding coarseware in each context entry.

The information for each coarseware vessel is arranged as follows: post-excavation processing catalogue number(s) (these Featured Vessel Numbers are marked on the sherds in waterproof ink); vessel class; fabric description (see above); diameter in centimetres; rim percentage.

Discussion

The total amount of pottery recovered is relatively small and the association between closely datable pieces and unequivocally phased contexts not particularly strong. Thus, we can only discuss the question of the dating of the phases of the *castra* at a general level by considering the assemblage as a whole.

The broadest possible range for the assemblage is *c*. A.D. 60–120. However, if the site had been occupied for this length of time one would expect much larger quantities of pottery overall and the presence of a number of types which overlap the limits of the range, e.g. pre-Flavian and Hadrianic types. In the absence of these types, we can suggest a much narrower range. The narrowest reading of the combined date ranges of the types composing the assemblage yields a minimum range for the asssemblage of A.D. 70–90.

Amphorae

The examples of Dressel form 20 call for no comment. 'Carrot' amphorae are coming to be recognised as something of a feature of military sites of the first-century A.D. At York they occur from Period I, that is, soon after A.D. 71;[34] they also occur at Elginhaugh,[35] Inchtuthil,[36] Corbridge,[37] and Cardean.[38]

Flagons

The flagon types are confined to the ring-neck type and its immediate associates and derivatives. This is somewhat atypical, for, although the ring-neck flagon is regarded as a quintessentially Flavian type, a much broader range of flagon types is usually found on most Flavian sites.

Beakers

There are no examples of 'pre-Flavian' types. No. 5 (Context 1011) is likely to be a fragment of

[33] See, for example, Terry and Chilingar 1955.
[34] Monaghan 1993, 271.
[35] Unpublished, no. 2.
[36] Darling 1985, 335.
[37] Museum Catalogue nos CO 3042, 3613, 5928, 9348.
[38] Unpublished.

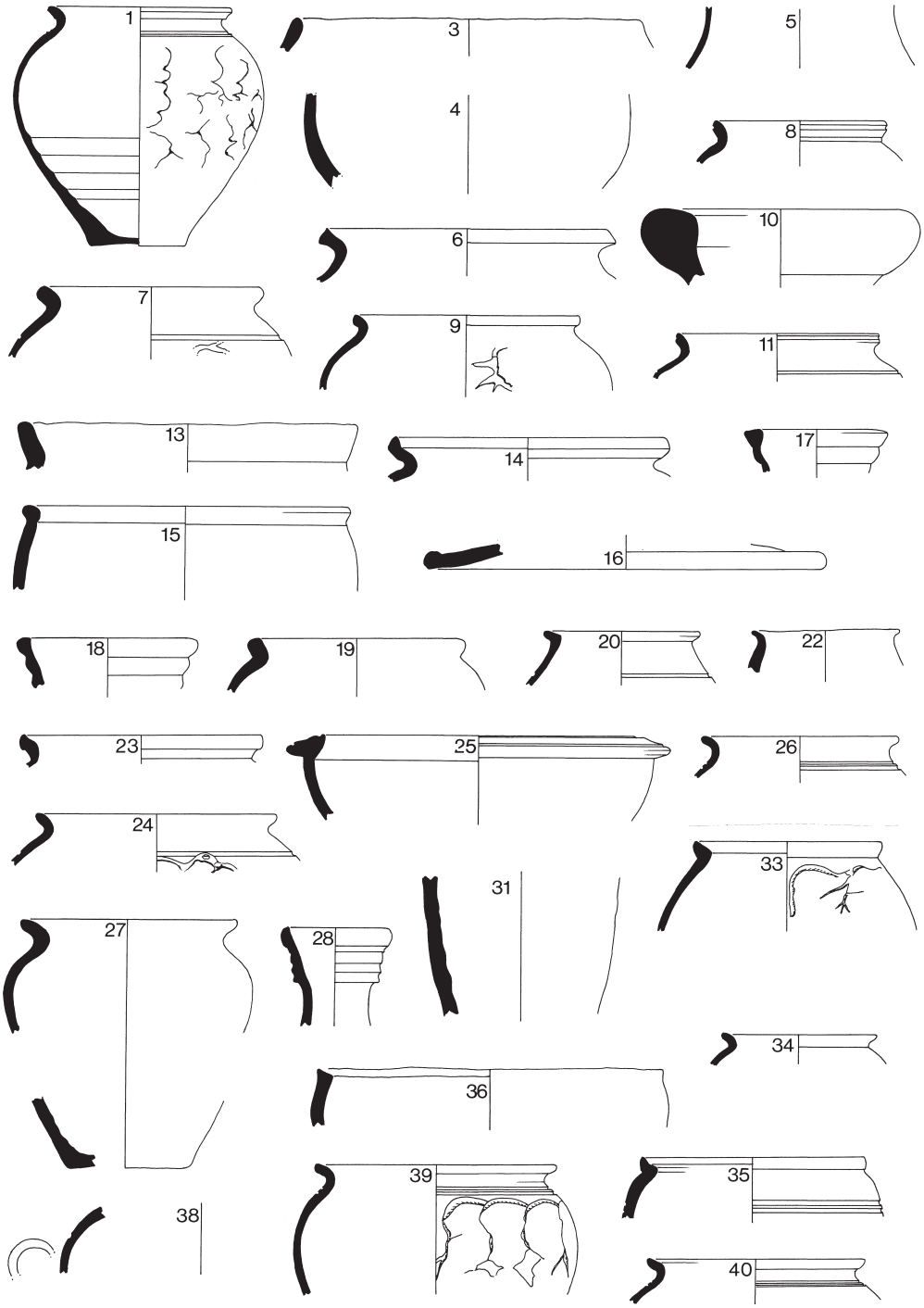

FIG. 22. Coarse ware (scale 1:4).

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a beaker of Camulodunum form 120,[39] which from its occurrence on sites in Scotland[40] appears to continue in use well into the Flavian period.

Jars

Of the jars in the assemblage a few have date ranges which carry them into the second century A.D., but none need necessarily not be Flavian. Examples for which close parallels can be found are as follows:

No. 7, Context 1059: Elginhaugh,[41] Corbridge,[42] Hadrian's Wall Turret 39A.[43]

No. 134, Context 5202: Elginhaugh Featured Vessels 190, 548, 788.

No. 33, Context 2035, FV 1027, Context 5202; a popular and consistent Flavian type: Brough on Humber,[44] Carlisle Castle Street,[45] Vindolanda,[46] Corbridge,[47] Corbridge Red House,[48] Malton,[49] Old Penrith,[50] Piercebridge,[51] Ribchester,[52] Watercrook.[53]

No. 11, Context 1193, FV 8, Context 1059; a distinctive type, the groove on the outer rim face being uncommon: Corbridge,[54] Vindolanda,[55] Malton;[56] quite a close parallel is known from Elginhaugh.[57]

No. 1, Context 309: a close parallel occurs at Corbridge Red House.[58]

No. 83, Context 2450: Corbridge;[59] this type has marked similarities to a pre-Flavian type from Usk.[60]

No. 23, Context 2024: Corbridge;[61] related forms are particularly popular at Corbridge and Vindolanda.

No. 123, Context 5088; this and FVs 78 and 112, are probably among the earliest coarseware vessels in the assemblage: Brough,[62] Carlisle Castle Street,[63] Carlisle Annetwell Street,[64] Vindolanda,[65] Corbridge,[66] Hayton,[67] Ribchester.[68]

39 Hawkes and Hull 1947.
40 Newstead, Inchtuthil, and Camelon.
41 Unpublished, FV 813.
42 Museum Type Series, Type JA 31 00, Catalogue no. CO 3403.
43 Simpson 1976, nos 26 and 28.
44 Wacher 1969, no. 15.
45 Taylor 1991, no. 102.
46 Hird 1977, nos 4, 9, 284, and 452.
47 Forster and Knowles 1913, no. 26; see now also Corbridge Museum Type Series Type JA 20 00, Catalogue no. CO 4224.
48 Hanson *et al.* 1979, no. 43.
49 Mitchelson 1964, no. 103.
50 Unpublished.
51 Unpublished.
52 Turner *et al.* 1988, no. 514.
53 Lockwood 1979, no. 130.
54 Museum Type Series types JA 8 00 and 9 00.
55 Hird 1977, no. 459.
56 Corder 1930, fig. 7, no. 11.
57 Unpublished FV 927.
58 Hanson *et al.* 1979, nos 11, 15.
59 Museum Type Series type JA 10 00.
60 Greene 1993, type 11.4.
61 Museum Type Series type JA 7 00.
62 Corder and Romans 1937, no. 21, earliest occupation, Pits I and III.
63 Taylor 1991, nos 44, 91–3, 99–100, 247–8; of these no. 44 occurs in the earliest context: Period 3B dated to the late 70s to mid-80s A.D.
64 Unpublished: occurring in Period 3 construction dated A.D. 72/3.
65 Birley and Birley 1938, no. 25; Hird 1977, no. 445.
66 Richmond and Birley 1953, no. 11.
67 Johnson 1978, nos 20, 21.
68 Turner *et al.* 1988, nos 230, 645, 646.

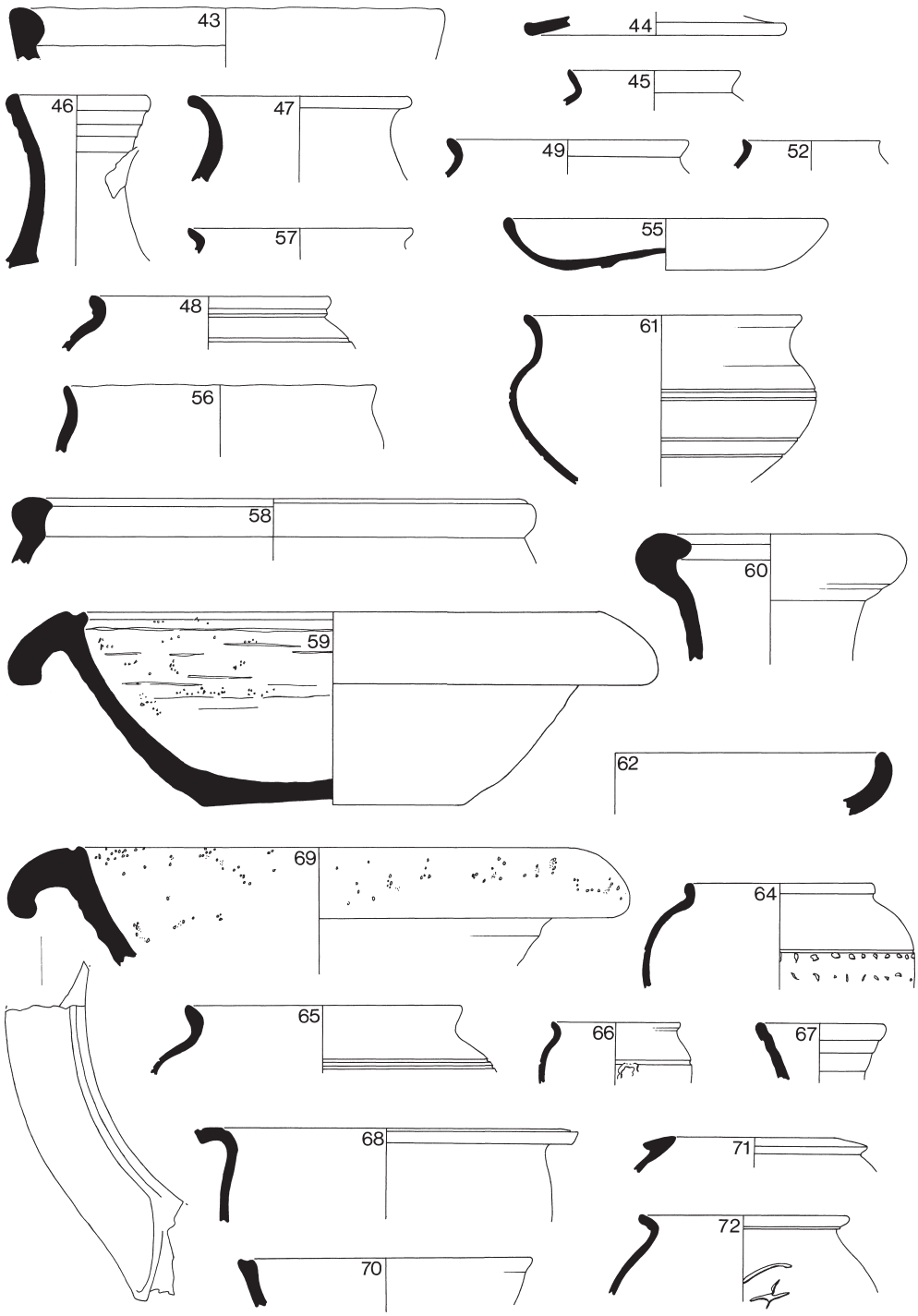

FIG. 23. Coarse ware (scale 1:4).

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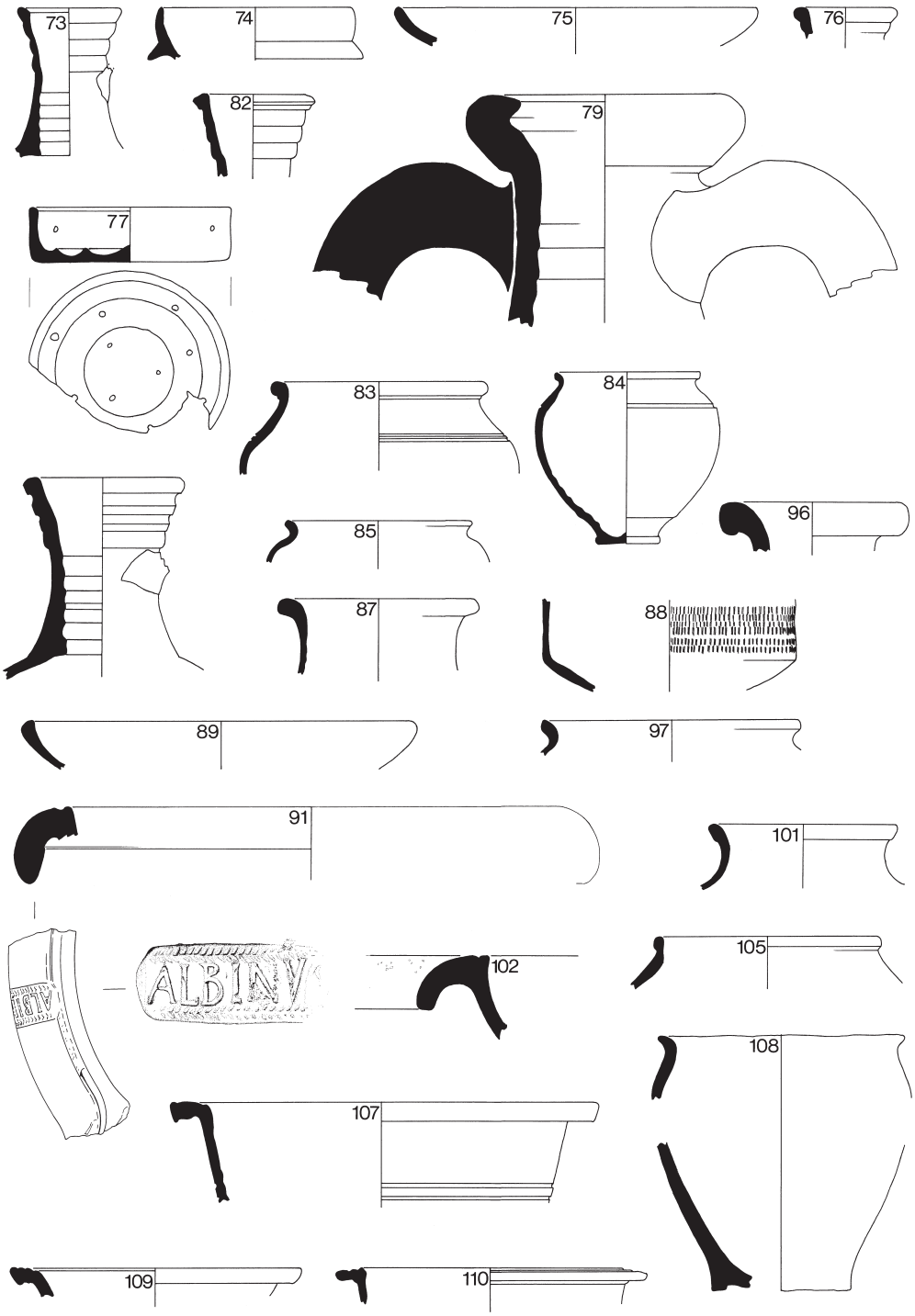

FIG. 24. Coarse ware (scale 1:4).

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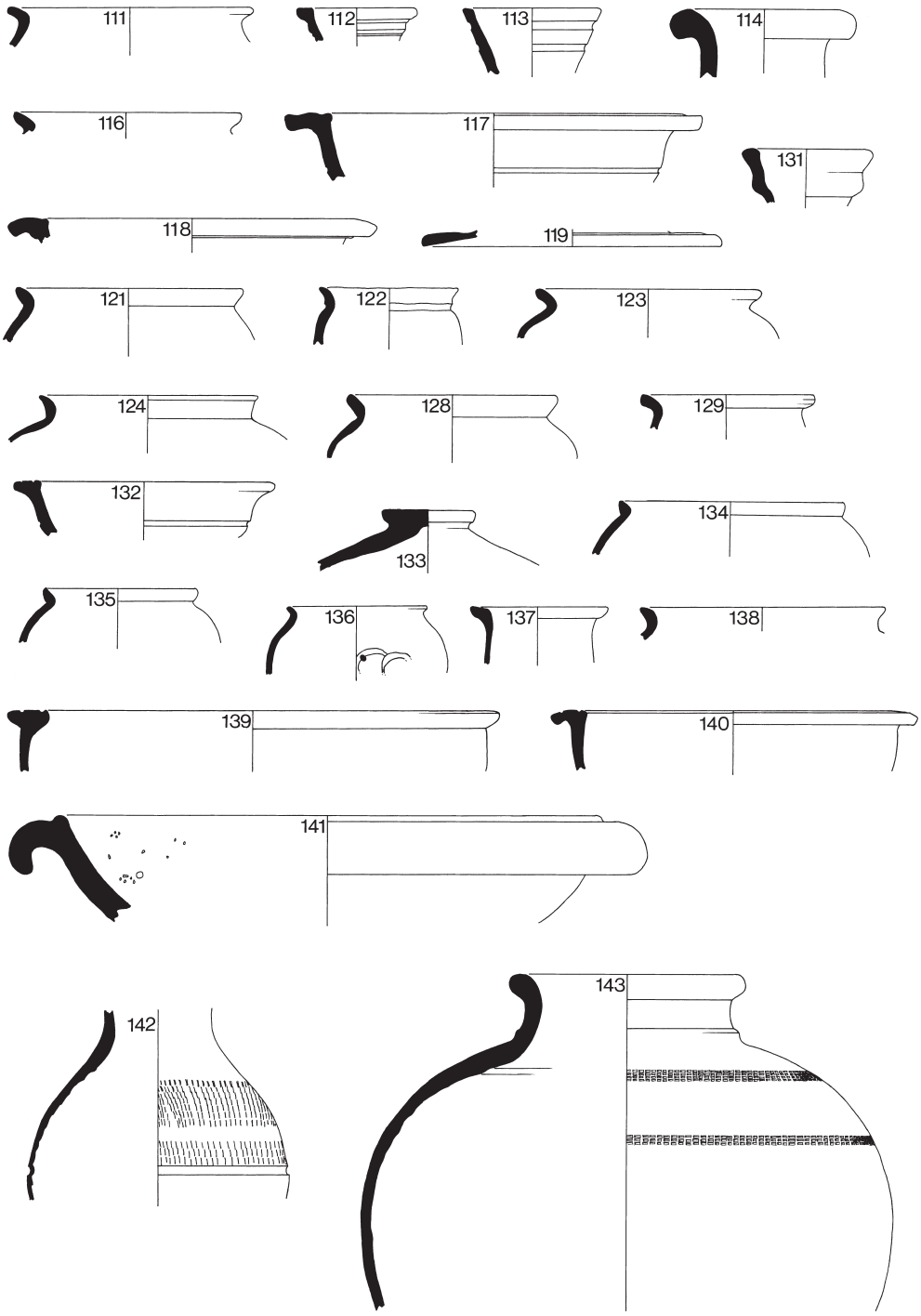

FIG. 25. Coarse ware (scale 1:4).

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No. 64, Context 2208, FV 112, Context 4200; these and FV 1017 are probably among the earliest coarseware vessels in the assemblage: Brough on Humber,[69] Carlisle Annetwell Street (occurring in levels associated with the Period 3 construction dated A.D. 72/3–76/9), Carlisle Castle Street,[70] Hayton,[71] Malton.[72]

No. 14, Context 1527: Brough.[73]

No. 35, Context 2035: Elginhaugh.[74]

No. 142, Context 5225: a particularly fine example of an early narrow-mouthed jar. The cordon at the neck is an early feature. The stamped nature of the decoration on the shoulder invites comparison with Parisian Ware.[75] Although several of the Parisian Ware motifs use orthogonal lattices, they are usually short sections which are used individually rather than as continuous bands. In addition, neither the form of the vessel nor the fabric are usually found in Parisian Ware.

Bowls and dishes

All of the bowls and dishes can be paralleled on Flavian sites in northern Britain. Examples for which close parallels can be found are as follows:

No. 116, Context 5003: Malton.[76]

No. 108, Context 5011: Lancaster,[77] Ilkley.[78]

No. 139, Context 5202: Vindolanda,[79] Carlisle,[80] Carlisle Blackfriars,[81] Scalesceugh Kiln Type 18.[82]

No. 68, Context 2222: seen by the writer at Vindolanda;[83] this type has clear pre-Flavian antecedents.[84]

No. 25, Context 2027: not precisely similar but possibly related to types found at Vindolanda and Corbridge.[85] The Vindolanda and Corbridge types were made at Brampton.[86]

No. 74, Context 2244: Terra Nigra, Camulodunum Form 58,[87] Baldock Form 18;[88] a significantly earlier form than is usually found in the Agricolan North, A.D. 35–70.

No. 55, Context 2194: Terra Nigra, Camulodunum Form 16.[89] This form appears to continue into the Flavian period. A number of examples are known from Brough[90] and Malton;[91] one example is known from Cardean.[92]

No. 61, Context 2202: 'Belgic', see, for example, Camulodunum Types 220, 221.[93] It is interesting to note

69 Wacher 1969, no. 446, pre-construction.
70 Taylor 1991, no. 659.
71 Johnson 1978, no. 19.
72 Corder 1930, 57, no. 17: 'numerous small fragments of this ware occur in the early layers'; Mitchelson 1964, no. 83.
73 Corder and Romans 1937, nos 27–9, 103.
74 Unpublished FV 292.
75 cf. Corder 1956, Rigby 1980, and Rigby and Stead 1976.
76 Corder 1930, fig. 7, no. 4.
77 Jones and Shotter 1988, no. 272.
78 Hartley 1966, no. 17.
79 Hird 1977, no. 178.
80 Hogg 1964, no. 3, from drainage ditch material below the level of the earliest road.
81 Taylor 1990, no. 4, from Period IIb, A.D. 79+.
82 Unpublished.
83 Contexts VI 68, 69, 75.
84 See, for example, Greene 1993, type 19.3, from Usk.
85 cf. Hird 1977, no. 165 from Vindolanda.
86 Hogg 1965.
87 Hawkes and Hull 1947.
88 Rigby 1980, 230.
89 Hawkes and Hull 1947.
90 e.g. Corder 1956, fig. 7, no. 5; 1936, fig. 12, nos 72, 73.
91 Corder 1930, fig. 7, no. 13.
92 Unpublished.
93 Hawkes and Hull 1947.

that Belgic-derived vessels of this general form continue to occur in the early levels in the milecastles on Hadrian's Wall. However, the clean lines and fine fabric of the Roecliffe example suggest a first-century A.D. date.

No. 15, Context 1652: Carlisle Castle Street;[94] vessels of generally similar form occurred at Elginhaugh.[95]

Mortaria[96]

Nos 69, 101, and 140 (Contexts 2224, 4198, and 5202 respectively) are all of a rim-type used most frequently by potters of Hartley Group I.[97] No. 59 (Context 2201) is of a rim-type used by potters of Hartley Group II.[98] Group I is dated by Hartley A.D. 55–85, Group II slightly later, A.D. 65–100+, though this rim form is thought by Hartley to be slightly earlier. FVN 103 (Context 4005) is a product of the Verulamium region, stamped by Albinus, and dated by Hartley to A.D. 60–90.

Coarseware from Area 4

Vessel from Contexts 109 and 129 (FIG. 26)

Sufficient joins exist between the sherds from Contexts 109 and 129 to enable the reliable reconstruction of the top and bottom sections of a vessel or vessels. Probably, but not certainly, these sections belonged to the same vessel, and the reconstruction drawing shows them as such. The maximum girth of the top section can be established as 310 mm. The neck and rim are missing. Possibly they were not present when the vessel was buried, possibly they were removed subsequently by ploughing. No handle fragments were recovered and there are no indications of handle springers on any of the surviving wall sherds. The height of the vessel has been restored simply by continuing the curvature of the wall of the upper section. Sufficient survives of the wall of the upper section below the shoulder to suggest that this is a valid reconstruction, though an alternative showing a taller, more cylindrical vessel might be possible if the wall of the upper section had bellied out below the lowest surviving point rather than narrowing to the base as shown.

The indications are that the vessel was initially hand-made in sections which were then assembled on a slow wheel or tournette. Many of the sherds (mostly but not exclusively from the top section) are cream-brown in colour with a thick, deep black core. There are, however, indications that these sherds may have been refired (though whether before or after the vessel was broken is not clear). Some of the sherds have a distinctive, slightly sugary texture and exhibit a tendency to laminate, and one or two show discoloured areas of their surfaces which suggest more direct contact with heat. A smaller number of sherds (mostly from the lower section) show what may be the original fabric colour: orange-brown (2.5YR 5/8) with a cream-brown outer surface (7.5YR 7/4) and a pinkish-brown inner surface (nearest: 5YR 7/6). Inclusions: common well-sorted quartz (0.2–0.3 mm, max. 0.5 mm), sparse rounded red and black iron-rich grains (0.2–0.3 mm), and occasional black vitreous grains (0.2–0.3 mm) set in a compact, well-fired matrix.

The knobbed base of the vessel is its most interesting surviving feature. It means that without

94 Taylor 1990, nos 33 and 281; of these no. 33 was from a context dating to the late 70s to mid-80s A.D.
95 Unpublished.
96 Report on the stamped mortarium by K.F. Hartley.
97 Hartley 1977.
98 Hartley 1977.

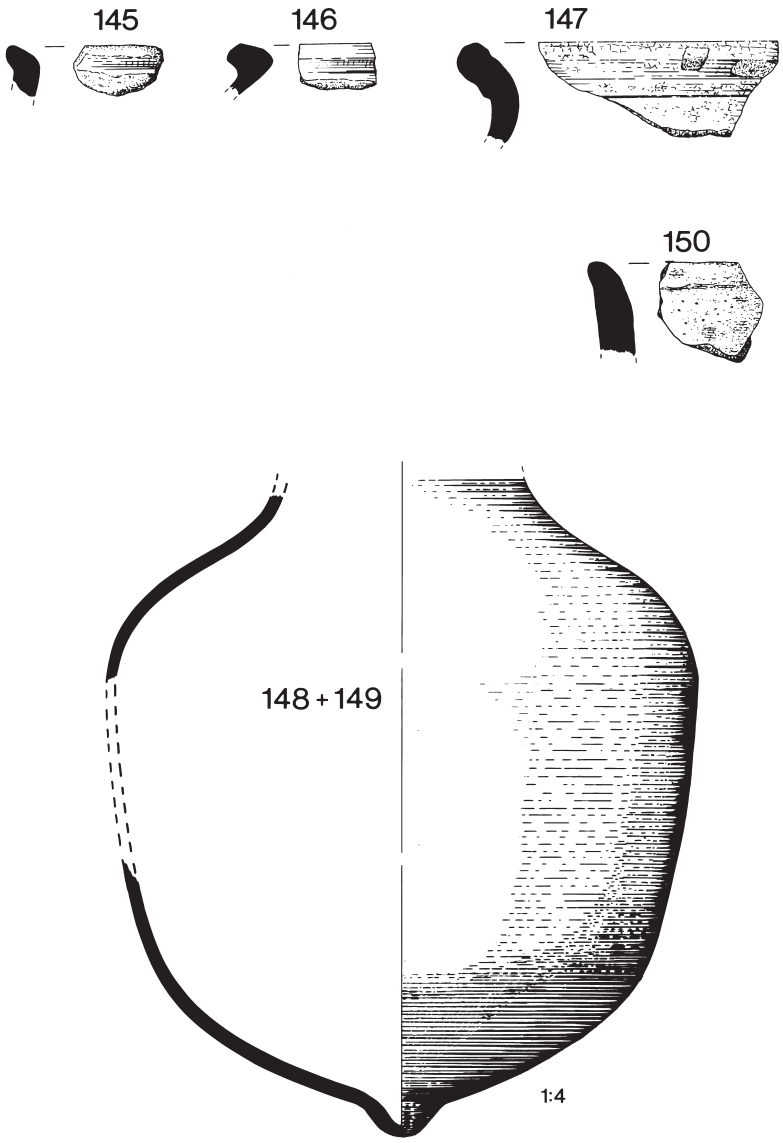

FIG. 26. Coarse ware from Area 4 (scale 1:4).

support the vessel could not have stood vertically but rather would have rested, without any great stability, on its side, and the contents, particularly if they were liquid, would have had to be sealed inside to prevent spillage. This in turn strongly suggests that the vessel was intended for storage and transport rather than for cooking or presentation, and places it within the class of vessels usually designated as amphorae, though, as reconstructed, it is somewhat small and the walls are rather too thin for it to be paralleled among known amphora types.

THE COINS *By* R.J. Brickstock

Twenty-eight coins, or coin-like objects, produced by the excavations were sent for identification after cleaning and conservation by the Department of Archaeology, University of Durham. Of these, one (No. 27) is an Edward I silver penny of A.D. 1301–10, from the Canterbury mint, while a second is a Victorian penny (No. 28; minted 1863). The remainder are of Roman date and form a very closely-dated assemblage providing powerful evidence for the period of occupation of Roecliffe.

No. 19a appears to be merely the impression left in the soil by a coin, probably No. 19, while the corroded fragments that make up No. 22a include the exposed edge of a coin fragment which is probably part of No. 22. With the exception of No. 24, an illegible issue which is probably a first-century A.D. as, the remaining coins (Nos 1–23) are closely identifiable.

The bronze coinage spans a very narrow date range: seven Claudian copies (Nos 4–10), produced no earlier than A.D. 41; an as of Nero (No. 11; A.D. 64–8); and eleven coins from the reign of Vespasian (A.D. 69–79). The four Roman silver denarii (Nos 1–3 and 12) encompass the years from 80 B.C. through to A.D. 69, the earliest issues being very worn, the latest only slightly so, demonstrating clearly the economic residuality inherent within individual archaeological contexts as a direct result of the longevity of the silver-rich denarius within the stable currency system of the early Empire.

No. 1, a denarius of the moneyer L. Procilius issued in Rome in 80 B.C., was found corroded *en rouleau* with four bronze coins of Vespasian (Nos 20–3); this group can be regarded as a small purse hoard. Careful conservation allowed these coins to be separated and cleaned, revealing three dupondii of A.D. 71–73, all of PAX type (though not die-linked), and a sestertius (No. 23) issued in Lyons in A.D. 77–78. As none of these bronze (or more correctly *orichalcum*) coins shows more than slight wear, this hoard could have been deposited soon after that date.

No. 23 may well be the latest coin produced by the present excavations: the coins of Vespasian outside the hoard (Nos 13–19) cannot be identified more closely than the date range A.D. 71–79 with the exception of No. 19, issued in A.D. 71. Again, none are more than very slightly worn, indicating that the numismatic history of the site can extend no more than a very few years after the latest issue dates.

The coins can also offer an indication of the date of the initial occupation of the site. Copies of the asses and dupondii of Claudius, predominantly copies of asses with the reverse type of Minerva bearing a shield and flourishing a spear (represented here by Nos 4–10), were produced to off-set a scarcity of official coinage. This scarcity followed the senatorial decision to withdraw the coinage of Gaius (Caligula, A.D. 37–41), and the authorities' failure to alleviate the resulting shortage: coinage of Claudius bearing the title *pater patriae* (*c*. A.D. 43–54) is very rare, and, furthermore, no base-metal coinage was produced during the first decade of the reign of Nero (A.D. 54–68). As a result, copies of the latest extant types, the earlier issues of Claudius, were produced in large quantity and very variable quality during the period *c*. A.D. 44–64.

There is increasing acceptance of a rough correlation between, on the one hand, date of production and, on the other, the general quality of copying and degree of adherence to the prototype. Copies are generally graded according to four categories (the fourth being the most degraded), following a categorisation devised by Sutherland.[99] Thus, at sites in the South and East established at or soon after the Claudian invasion, e.g. Colchester,[100] the majority of the Claudian copies lie within the upper gradings; by contrast at sites established somewhat later in

[99] Sutherland 1935.
[100] Kenyon 1987, 24–41.

the process of Roman expansion west and north, e.g. Usk, a Neronian site founded *c*. A.D. 58,[101] Alcester,[102] and Wroxeter,[103] the copies fall predominantly into the lower categories.

The seven examples in the present assemblage (Nos 4–10), all heavily corroded (so that no judgement can be offered on the basis of surface wear), fall entirely within the lowest two of Sutherland's categories: on the model set out above, this should allow us, while noting the statistical possibilities of error inherent in a small coin list, to discount a Claudian or early Neronian foundation, and to postulate a date very late in the Neronian period or, more likely, early in the reign of Vespasian. Indeed, the entire assemblage represents a typical subset of the everyday coinage that might have been available at that period.

One coin (No. 12) is worthy of mention on numismatic grounds. This is a denarius of the Civil War period (A.D. 69): the obverse type is of Jupiter Capitolinus, in place of the more normal imperial bust, a sensible precaution at a time when the imperial throne was changing hands rapidly and thus potentially invalidating coin bearing the emperor's head almost as soon as it could be produced. This example is a rare brockage, i.e. the obverse design also appears in incuse on the reverse, the result of a coin sticking to the reverse die as it was struck and thus leaving its impression on the next coin struck in place of the regular reverse design.

Catalogue

Abbreviations

Mints
LG: Lyons; RM: Rome; CA: Canterbury

Denominations
AS: As; DP: Dupondius; DEN: Denarius; SEST: Sestertius

References
cat: numbers refer to RIC unless otherwise stated.
RIC: H. Mattingly *et al*., *The Roman Imperial Coinage*, vols 1–9 (London, 1926–1984)
[vol. 1 (2nd edn), by C.H.V. Sutherland (1984); vol. 2 by H. Mattingly and E.A. Sydenham (1926)]
CR: M.H. Crawford, *Roman Republican Coinage* (Cambridge, 1974)
NORTH: J.J. North, *English Hammered Coinage*, vol. 1, *c*. 600–1272 (2nd edn, London, 1980)
PECK: C. Wilson Peck, *English Copper, Tin and Bronze Coins in the British Museum 1558–1958* (2nd edn, London, 1964)

A copy or counterfeit of a particular ruler/issuer is denoted by single quotation marks, e.g. 'CLAUDIUS I', and by the use of a lower case 'c' in the catalogue reference, e.g. c.G3 of 100 = a grade 3 copy RIC 100.[104] The use of the word 'of' indicates that a precise catalogue reference has been obtained; 'as' is used, for both official issues and copies, to denote an incompletely catalogued coin.

The condition (wear) of both the obverse and reverse is denoted by the following abbreviations:
UW: Unworn; SW: Slightly worn; W: Worn; VW: Very worn; EW: Extremely worn; C: Corroded; NSU: Not struck up.

The flan diameter (diam:) is given in millimetres (mm) and the weight (wt:) in grams (g), while the die-axis is given according to the hour-hand of a clock, e.g. 6 = reverse struck at 180 degrees to obverse.

[101] Boon 1982, 3–15; Manning 1981.
[102] Brickstock and Casey 1994, 157–62.
[103] Brickstock and Casey forthcoming.
[104] Graded according to Sutherland 1935.

No.	Ruler			
1	L. PROCILI F		denom: DEN	Obv. Laureate head of Jupiter, r., behind SC, border of dots
	date: 80 B.C.	mint: RM	cat: CR 379/1	Rev. Juno Sospita stdg. r., behind head L. PROCIL[I]/F
	diam: 18.5 mm	wt: 3.7 g	wear: VW/VW	die axis: 3
2	P. ACCOLEIUS LARISCOLUS		denom: DEN	Obv. P. ACCOLEIVS LARISCOLVS Bust of Diana, r.
	date: 43 B.C.	mint: RM	cat: CR 486	Rev. Triple cult statue of Diana Nemorensis
	diam: 19.5 mm	wt: 3.1 g	wear: VW/VW	die axis: 5
3	AUGUSTUS		denom: DEN	Obv. CAESAR AVGVSTVS - DIVI F PATER PATRIAE
	date: 2 B.C.–A.D. 4+	mint: LG	cat: 210	Rev. CL CAESARES (in ex.) AVGVSTI F COS DESIG PRINC IVVENT
	diam: 19.0 mm	wt: 3.6 g	wear: W/W	die axis: 4
4	'CLAUDIUS I'		denom: AS	Obv. [TI CLAVDIVS CAESAR AVG PM TRP IMP]
	date: A.D. 41+	mint: –	cat: c.G3 as 100	Rev. Minerva SC
	diam: 24.0 mm	wt: 4.3 g	wear: C/C	die axis: 6?
5	'CLAUDIUS I'		denom: AS	Obv. [TI CLAVDIVS CAESAR AVG PM TRP IMP]
	date: A.D. 41+	mint: –	cat: c.G3 as 100	Rev. – [SC]
	diam: 23.0 mm	wt: 4.6 g	wear: C/C	die axis: ?
6	'CLAUDIUS I'		denom: AS	Obv. [TI CLAVDIVS CAESAR AVG PM TRP IMP]
	date: A.D. 41+	mint: –	cat: c.G3 as 100	Rev. – [SC]
	diam: 26.0 mm	wt: 4.6 g	wear: C/C	die axis: 6?
7	'CLAUDIUS I'?		denom: AS?	Obv. –
	date: A.D. 41+	mint: –	cat: c.G3 as 100	Rev. – [SC]
	diam: 24.5 mm	wt: 4.3 g	wear: C/C	die axis: ?
8	'CLAUDIUS I'?		denom: AS	Obv. ?[TI CLAVDIVS CAESAR AVG PM TRP IMP]
	date: A.D. 41+	mint: –	cat: c.G3/4 as 100	Rev. – [SC]
	diam: 20.0 mm	wt: 2.4 g	wear: C/C	die axis: ?
9	'CLAUDIUS I'?		denom: AS	Obv. ?[[TI CLAVDIVS CAESAR AVG PM TRP IMP]
	date: A.D. 41+	mint: –	cat: c.G3/4 as 100	Rev. – [SC]
	diam: 20.5 mm	wt: 2.4 g	wear: C/C	die axis: ?
10	'CLAUDIUS I'?		denom: AS	Obv. –
	date: A.D. 41+(C1)	mint: –	cat: c.G3/4 as –	Rev. –
	diam: 19.0 mm	wt: 0.5 g	wear: C/C	die axis: ?
11	NERO		denom: AS	Obv. [NERO CLAVD..] CAESAR {AVG GER....]
	date: A.D. 64–68	mint: –	cat: as 419	Rev. – [SC]
	diam: 27.5 mm	wt: 10.7 g	wear: SW/C	die axis: 6
12	CIVIL WAR, BROCKAGE		denom: DEN	Obv. [IOM] – CAPITOLINVS Jupiter, l.
	date: A.D. 69	mint:	cat: 125b	Rev. Incuse, obverse design
	diam: 19.5 mm	wt: 3.3 g	wear: SW/SW	die axis: 12

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No.	Ruler			
13	VESPASIAN		denom: DP	Obv. [IMP CAES.. VESP]ASIAN AVG CO[S...]
	date: A.D. 71–79	mint: –	cat: as 469	Rev. – [SC]
	diam: 26.0 mm	wt: 7.6 g	wear: ?SW/C	die axis: 6
14	VESPASIAN		denom: DP	Obv. [IMP CAES(AR) VESPASIAN(VS) AVG COS III..]
	date: A.D. 71–79	mint: RM?	cat: as 475	Rev. [PAX AVG] SC
	diam: 22.0 mm	wt: 4.2 g	wear: SW/SW	die axis: 7
15	VESPASIAN		denom: AS	Obv. [IMP CAES VESPASIAN AVG COS ...]
	date: A.D. 71–79	mint: –	cat: as 482	Rev. [AEQVITAS AVGVSTI] S[C]
	diam: 21.5 mm	wt: 3.4 g	wear: C/SW	die axis: 6
16	VESPASIAN		denom: AS	Obv. [IMP CAES.. VESPA]SIA[N AVG COS ...]
	date: A.D. 71–79	mint: –	cat: as 482	Rev. ?[AEQVITAS AVGVSTI SC]
	diam: 26.5 mm	wt: 2.2 g	wear: C/C	die axis: 6
17	VESPASIAN		denom: AS	Obv. [IMP CAES VESPASIAN AVG COS...]
	date: A.D. 71–79	mint: –	cat: as 486	Rev. – [SC]
	diam: 22.5 mm	wt: 3.3 g	wear: C/C	die axis: 6
18	VESPASIAN		denom: AS	Obv. [IMP CAES VESPASIAN AVG COS...]
	date: A.D. 71–79	mint: –	cat: as 486	Rev. [FIDES PVBLICA] SC
	diam: 24.5 mm	wt: 6.0 g	wear: C/SW	die axis: 6
19	VESPASIAN		denom: AS	Obv. [IMP CAES] VESPASIAN AVG COS [III]
	date: A.D. 71	mint: RM etc.	cat: 486	Rev. FIDES [PVBLICA] SC
	diam: 28.0 mm	wt: 4.5 g	wear: SW/SW	die axis: 6
19a	Illegible soil impression		denom: AS	Obv. (probably soil impression left by 1378 AE/1)
	date: (A.D. 71?)	mint:	cat: –	Rev.
	diam: 0.0 mm	wt: 0.0 g	Wear:	die axis:
20	VESPASIAN		Denom: DP	Obv. [IMP C]AESAR VESPASIAN [AVG COS..]III
	date: A.D. 71–73	mint: RM/LG	cat: 475/740	Rev. PAX [AVG] SC
	diam: 29.0 mm	wt: 11.8 g	wear: SW/W	die axis: 7
21	VESPASIAN		denom: DP	Obv. [I]MP CAESAR VESP[ASIAN AVG COS III..]
	date: A.D. 71–73	mint: RM/LG	cat: 475/740	Rev. PAX AVG SC
	diam: 27.5 mm	wt: 8.4 g	wear: SW/SW	die axis: 6
22	VESPASIAN		denom: DP	Obv. IM[P CAESAR V]ESPASIAN AVG COS IIII
	date: A.D. 72–73	mint: LG	cat: 740	Rev. [PAX] AVG [S]C
	diam: 28.0 mm	wt: 8.6 g	wear: SW/SW	die axis: 7
22a	Illegible AE fragment		denom: DP/AS	Obv. Labelled as 'Poss. grass packing and coin frags':
	date: (A.D. 72–73?)	mint: –	cat: –	Rev. Protruding edge of AE coin perhaps part of 1378 AB/2
	diam: 0.0 mm	wt: 0.0 g	wear: C/C	die axis:

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No.	Ruler			
23	VESPASIAN		denom: SEST	Obv. [IMP CAES VESPASIAN AV]G PM TRP PP COS VIII
	date: A.D. 77–78	mint: LG	cat: 752	Rev. [SALVS] AVGVSTA SC
	diam: 32.0 mm	wt: 17.3 g	wear: SW/SW	die axis: 6
24	ILLEGIBLE ?COIN		denom: AS?	Obv. –
	date: C1?	mint: –	cat: –	Rev. –
	diam: 24.0 mm	wt: 3.1 g	wear: C/C	die axis: ?
25	EDWARD I		denom: 1d	Obv. EDWAR R ANGL DNS [HYB]
	date: 1301–10	mint: CANT	cat: NORTH 1039/1	Rev. CIVITAS CANTOR
	diam: 18.0 mm	wt: 1.3 g	wear: W/W	die axis: 1
26	VICTORIA		denom: 1d	Obv. [VICTORIA D:G:] – BR[ITT: REG:F:]D:
	date: 1863	mint:	cat: PECK 1655	Rev. ONE – PENNY
	diam: 30.0 mm	wt: 8.3 g	wear: VW/VW	die axis: 12

No.	Find date	Site	Context	Finds Code	Comments
1	–	Area 3	1378	AB/1	coin 1 of 2
2	–	Area 3	1325	AA	
3	–	Area 1	2027	AA	
4	–	Area 1	2439		
5	09/07/93	Area 2	5174	AC	
6	09/07/93	Area 2	5174	AD	
7	15/07/93	Area 2	5225	AF	
8	05/07/93	Area 2	5001	AA	
9	01/07/93	Area 2	5001	AB	
10	–	Area 1	4081	AA	
11	–	Area 1	2070	AA	
12	15/07/93	Area 2	5225	AG	
13	08/07/93	Area 2	5033	AD	
14	05/07/93	Area 2	5029	AA	
15	–	Area 1	2128	AA	
16	–	Area 1	4203	AA	
17	09/07/93	Area 2	5174	AH	
18	–	U/S	U/S	AA	
19	–	Area 3	1378	AE/1	(1 of 2)
19a	–	Area 3	1378	AE/2	(2 of 2)
20	–	Area 3	1378	AA/2	Coin 2 of 3
21	–	Area 3	1378	AA/3	Coin 3 of 3
22	–	Area 3	1378	AB/2	Coin 2 of 2
22a	–	Area 3	1378	AB/2?	Frag of coin 2?
23	–	Area 3	1378	AA/1	Coin 1 of 3
24	–	Trial Tr3	317	AE	
25	09/07/93	Area 2	5174	AE	
26	–	Area 2	5001		

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SMALL FINDS: COPPER-ALLOY AND IRON *By* M.C. Bishop (FIGS 27–31)
(Dimensions recorded are, unless otherwise stated, maxima)

Copper-alloy

1. A T-shaped Colchester Derivative of 'sawfish' type decorated with five pairs of opposing triangles inlaid with enamel (originally red). It has a round, forward-facing footknob with a vertical groove (with possible vestiges of enamel in it) and there is a notched crest leading up to a ring, now largely missing. The bow has a flat back and the wings were cylindrical, although now largely missing. Only part of the catchplate survives.
   The distribution of these brooches is primarily southern, but there are some northern examples, from Templeborough and Carlisle,[105] which may suggest a predominantly pre-Flavian date. Although the form is comparatively rare, a parallel piece (but without the characteristic serrated edges) is known from Thetford, Norfolk.[106]
   L: 34 mm; W: 13 mm. *Area 1: 2013 AA*
2. Slender trumpet brooch with a small button, narrowing to the foot. Four turns of the spring survive; although the pin had almost completely disappeared at the time of excavation, its line could be traced in the ground and it seems still to have been engaged in the catchplate.
   L: 44 mm; W: 12 mm. *Area 2: 5174 AF*
3. The head and spring assembly of a headstud brooch. The remaining portion of the bow is rectangular in section and has broken just below the stud, which remains *in situ*. The wings are decorated with vertical grooves. The spring has eight coils including the pin, which has broken off just below the spring. The lug, decorated with two grooves, is cast as one with the bow, but the headstud has been attached with a washer beneath it. The headstud is decorated with enamel inlay, consisting of a central white dot surrounded by a ring of what was probably originally red.
   L: 20 mm; W: 18 mm. *Area 1: 4200 AA*
4. A fantail brooch with a frontal disc and a hinged pin. The base of a headloop survives above the wings, which are decorated with simple vertical grooves. The catchplate survives but is slightly damaged. There are mouldings above and below the disc, that below comprising three beads, that above a V-shaped groove on a bead. It is decorated with enamel inlay on the roundel and the tail: on the roundel, a white central dot with concentric rings of red and then a dark residue which may originally have been blue enamel, possibly imperfectly fired; two parallel stripes of red run the length of tail from the moulding just below the roundel to the foot.[107]
   L: 40 mm; W: 16 mm. *Area 3: 1150 AA*
5. The knobbed terminals of a penannular brooch of Fowler's Type A1 adhering to organic fragments, possibly bone and leather.
   L: 21 mm; W: 11 mm. *Area 1: 2290 AA*
6. Fragment of the chape guttering of the scabbard of a Pompeii-type sword. The object has a U-shaped section and a 158 degree angle in it, a common angle for sword scabbards of this type. The outside of the guttering has been tinned at one end and marked by light raised lines, presumably a crude form of the palmette usually found decorating such chapes. No rivet-holes can be detected in the sides of the guttering, although there may

[105] Templeborough: France and Gobel 1985, 79; Carlisle: T. Padley pers. comm.
[106] Hattatt 1982, 73, no. 31.
[107] For a similar brooch from Woodcock Hall, see Brown 1986, fig. 19, 126.

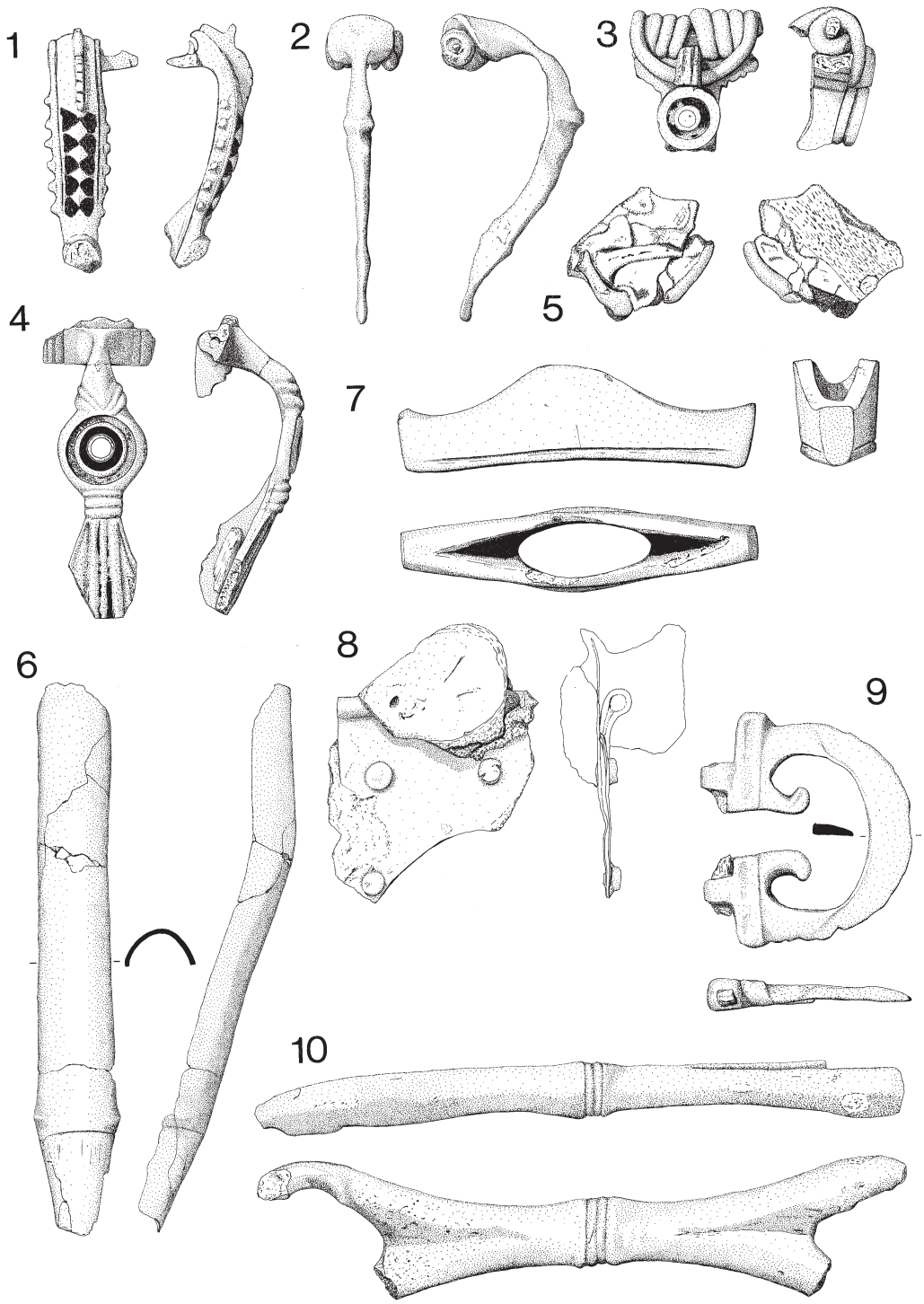

FIG. 27. Copper-alloy small finds, Nos 1–10 (scale 1:1).

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have been one at the point of fracture on the angle. On the inside, an incised line runs the entire length of the object at the base of both sides. The object was associated with organic substances (including grass) upon burial, mineralised remains being found with it, as were a number of small ferrous flakes (hammerscale?).

This sword type is named after four examples found at Pompeii.[108] A more complete chape than the Roecliffe example was found at Caerleon which had an angle of 160 degrees, as does a piece from Neuß.[109]

L: 81 mm; W: 11 mm; Th: 1 mm. *Area 2: 5225 AD*

7. Sword handguard of Piggott's Type IVa or 'cocked hat'.[110] The two faces of the object have been decorated with a simple incised line just above the base. The upper aperture, where there is a small casting flaw, provides a likely tang width, whilst the lower does the same for the blade width and thickness. There are two instances of damage visible: on the top edge, half-way between the tang aperture and the terminal is a cut caused by the handguard being struck at an angle; a second instance of damage is a scratch on the opposite face, perhaps the result of a glancing blow. XRF analysis suggests a high tin bronze.

'Cocked hat' and 'crown' handguards are known from a number of Roman military sites of the later first century A.D. in northern Britain, including Manchester, Newstead, and Fendoch.[111] Similar handguards have been found on sites associated with the *legio II Augusta* in the West Country, where they date to the post-conquest period. Finds are known from Hod Hill and Waddon Hill.[112]

L: 58 mm; W: 15 mm; H: 16 mm; Deduced Tang W: 22 mm; Deduced Tang Th: 10 mm; Deduced Blade W: 50 mm; Deduced Blade Th: 7 mm. *Area 1: 2115 AA*

8. '*Lorica segmentata*' lobate hinge still *in situ* on its iron plate. The hinge itself and that part of the body containing the shoulders and their two rivets survive, as does one of the lobes and its rivet head. The plate and the fitting on it have fractured across the neck of the lobate hinge, where the double thickness of the copper-alloy fitting is clearly visible. Due to heavy corrosion, it is not possible to determine the thickness of the armour plate. The rivet heads are small and domed, suggesting they are originals and not repairs. The object was found associated with leather fragments, now adhering to the top of the hinge.

Lobate hinges were found on the shoulder plates and collar assemblies of Corbridge type segmental armour.[113]

Hinge L: 30 mm; Hinge W: 30 mm; Hinge Th: 1 mm. *Area 1: 2450 AE*

9. Tinned belt buckle, retaining some of the iron spindle (2 mm in diameter) in its hinge loops. The loop of the buckle is wedge-shaped in section (although it develops a slight raised lip on the inner edge on either side of the apex) and terminates in two inward-curving lobes. There is a basal bar with a broad transverse groove above each of the hinge loops; the piece is unusual in that the basal bar is not joined. Cf. examples from Richborough, particularly an item from Hod Hill that features both a split basal bar and a lip on the inner edge of the loop.[114]

L: 31 mm; W: 34.5 mm; Th: 5 mm. *Trial Trench 5: 509 AA*

[108] Three of which were published in Ulbert 1969a, along with a general discussion on the type.
[109] Caerleon: Evans and Metcalf 1992, 128, no.114; Neuß: Ulbert 1969a, Taf. 26,b.
[110] Piggott 1950, 1–28.
[111] Manchester: MacGregor 1976, no. 148; Newstead: ibid., nos 51–4; Fendoch: ibid., no. 146.
[112] Hod Hill: Brailsford 1962, fig. 1, A2–5; pl. IIA; Waddon Hill: Webster 1960, fig. 7, 212; 1979, fig. 30, 57.
[113] Robinson 1975, 177.
[114] Richborough: Cunliffe 1968, pl. XXXV, 96; Grew and Griffiths 1991, fig. 11, 72; Hod Hill: Richmond 1968, fig. 56, 7.

10. Mouthpiece from a derivative three-link bit, with the loops at either end damaged. Broad but shallow V-shaped grooves lead from the loops almost to the central decorative band, consisting of a central swelling with three incised grooves, worn smooth (presumably through use in a horse's mouth). The most complete of the loops shows considerable wear caused by the associated cheekpiece (now missing). One of the breaks is patinated and thus occurred before deposition.
Derivative three-link bits are not unknown on Flavian military sites: cheekpieces have been found at Castleford (stratified) and Newstead (unstratified). Cf. examples from Holderness and Middlebie.[115]
L: 95 mm; W: 22.5 mm; Th: 9 mm. *Area 1: 4200 AB*
11. Part of a junction loop from horse harness, probably of the 'spectacle' type. The hollow-cast loop itself survives, although the surface is heavily corroded and has broken at the point where the incised line surrounding the first rivet-hole of the worked body would be. Faint traces of the incised V decoration usually found on such objects can be seen on the upper surface of the loop. Another incised line across the base of the loop was probably coated in tin (XRF analysis was unable to confirm this) and, given that the original surface has been lost, this suggests the object was originally tinned. The inner edges of the loop, however, show clear signs of wear caused by movement on the junction ring — fracture at this point of wear was the most common cause of failure on these fittings.[116]
L: 27 mm; W: 15.5 mm; H: 18 mm. *Area 2: 5031 AA*
12. Male strap fastener from cavalry harness, with an upturned neck and simple bar. The body is rectangular with moulded decoration at the neck end, consisting of a thickening of the body itself, the beginning of which is marked by a broad bead between two narrower ones. On the underside, two studs, originally cast in one with the fitting, can be seen, used to secure the object to its leather strap (the extra rectangular plate and roves are, as is usual, missing), the organic remains of which appear to be *in situ*. No trace of surface patination survives.[117]
L: 65 mm; Head W: 8 mm; Body W: 9.5 mm; Body Th: 2 mm; Deduced Strap Th: *c*. 3 mm. *Area 2: 5104 AC*
13. Fragmentary cast bell, originally oval and pyramidal in form. XRF analysis indicated a high tin bronze. Cf. examples from Aldborough, Corbridge, and Colchester.[118]
L: 32 mm; W: 14 mm; H: 31 mm; Th: 3 mm. *Area 1: 2099 AC*
14. Domed stud with a sub-rectangular sectioned shank. Cf. examples from the Doncaster shield, Caerleon, and South Shields.[119]
D: 18 mm; H: 19 mm; Head H: 10.5 mm; Shank L: 17 mm; Shank W: 3 mm; Shank Th: 2 mm. *Area 1: 2212 AA*
15. Disc head from a stud, with a slightly domed centre and a damaged area where the shank has been removed. XRF analysis indicates a bronze.
D: 30 mm; Th: 0.5 mm. *Area 1: 2297 AA*

[115] Castleford: report in press; Newstead: Curle 1911, pl. LXXV, 6; MacGregor 1976, no. 7; Holderness: ibid., no. 10; Middlebie: ibid., no. 5.
[116] cf. an example illustrated by Bishop 1988, fig. 50 Type 1.
[117] cf. a similar example in Bishop 1988, fig. 55, 8c.
[118] Aldborough: Bishop 1997; Corbridge: Bishop and Dore 1989, fig. 80, 89; Colchester: Crummy 1983, no. 1663.
[119] Doncaster: Buckland 1978, fig. 5, 1; Caerleon: Evans and Metcalf 1992, 137, no. 160; South Shields: Allason-Jones and Miket 1984, 3.938.

16. Circular-sectioned ring, more worn on one section than over the rest of its circumference. Cf. examples from South Shields.[120]
Ext D: 33.5 mm; Int D: 21.5 mm; Th: 5.5 mm. *Area 2: 5033 AC*

17. Three conjoining fragments of disc mirror with two highly polished (tinned?) surfaces, one convex and one concave. The edge of the disc is bevelled. There are parallel striations on the concave face on at least four orientations, in perpendicular pairings. XRF indicates this to be a leaded, high tin bronze.
L: 63.7 mm; W: 41.3 mm; Th: 0.7 mm; Reconstructed D: *c*. 90 mm. *Area 1: 2035 AB*

18. Slightly concave fragment of a disc mirror, both (tinned?) faces of which were highly polished and now have a black patina. Part of the original bevelled edge survives. The concave face is marked by parallel striations in two orientations, the more common almost following the curve of the edge, the less common at 90 degrees to these. XRF analysis shows the patina to have a high tin content.
L: 22 mm; W: 20.6 mm; Th: 0.9 mm; Reconstructed D: *c*. 70 mm. *Area 1: 2222 AC*

Dr G. Lloyd-Morgan kindly contributed the following note on the mirror fragments:

> Mirrors of this type would originally have had a simple handle with either a baluster-shaped grip, or the more commonly found loop-shaped grip. The handle would have been separately cast and soldered on. In some instances, examples of more complete mirror discs have been found with a few concentric circles lightly turned on the concave underside.[121] In this instance, no traces of this slight decoration have been observed.
>
> This type of simple, lightweight mirror has been found not only in Britain but also in a number of provinces within the North-Western Empire. Of the examples from Britain, seven items in varying degrees of completeness and preservation, are now in the Colchester and Essex Museum, having been excavated during the later part of the nineteenth century.[122] Two of these mirrors were found with other copper-alloy items in their respective graves.
>
> Three incomplete examples have been found during excavations in London; one from Borough High Street is a fragment from the inner part of the disc and has part of two turned concentric circles on the concave side of the disc.[123] Another fragment with a surviving edge was found at Fenchurch Street in 1983, with a diameter *c*. 60 mm. The fragment measured 39.1 by 17.9 mm and had a variable thickness between 0.9 and 1.6 mm.[124] Another fragment with an edge surviving was found on the foreshore deposit in the Fleet Valley area and was associated with a Trajanic pot. The piece measured 55.2 by 26 mm, with a thickness *c*. 0.7–0.8 mm and diameter estimated as *c*. 90 mm.[125]

[120] Allason-Jones and Miket 1984, most notably 3.1254.

[121] Lloyd-Morgan 1981, 37–43, Group G hand mirrors with variant sub-groups, and distribution map on p. 36 and fig. 2.

[122] No. 204 (diam. 72 mm) from West Lodge, Western Cemetery, Colchester; no. 504 (diam. 65 mm) from Grave Group 94, Joslin colln.; no. 816 (dated *c*. A.D. 100–80, exhibited to the Society of Antiquaries of London; *Proc. Soc. Antiq. London* vol. 4 2nd series 1870, 433 on 20 January 1870), found with tweezers, phallic amulet, bracelet with pierced coin attached; no. J509 (diam. of disc 108 mm); no. J517 (diam. disc 83 mm), found with two ring fittings and attached strips from a box or casket; no. J523 (diam. disc 78 mm); no. J525 (diam. disc 84 mm disc), incomplete and poorly preserved; Joslin Colln un-numbered (diam. disc 96 mm), some corrosion on concave side.

[123] Schwab 1978, 219, no. 87, present size of fragment 37 by 33 mm; thickness 0.8 mm.

[124] Museum of London SF no. FEN83 context 2804 no. 915. Museum of London SF no. FEN83 context 2804 no. 915.

[125] Museum of London SF no. VAL88 3F acc. no. 4991.

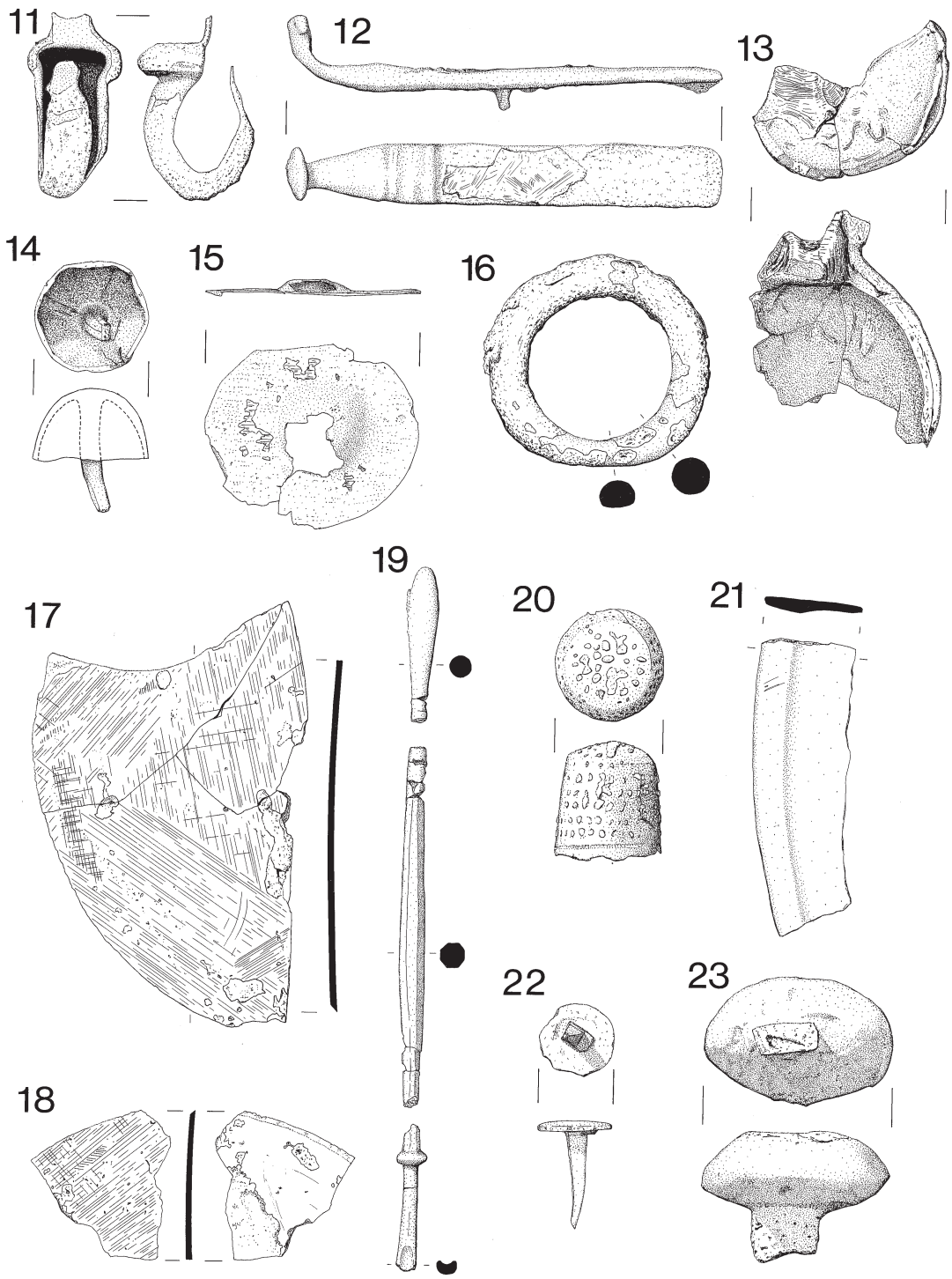

FIG. 28. Copper-alloy small finds, Nos 11–23 (scale 1:1).

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Some of the mirrors have not survived very well, others have been found in pieces and can be carefully reconstructed. The brittleness of the alloy used — a high percentage tin bronze — is susceptible to accidents in the home, and it may be for this reason that these mirrors have occasionally been found in contact with the remains of a protective wooden case or box, as for instance a find from Grave 171 at Nijmegen Hatert in 1979, dated by a beaker to *c.* A.D. 40–110.[126]

19. Fragmentary olivary probe, circular in section and swelling towards the middle of the shaft. The implement at the opposite end to the probe is missing, although it lay beneath one pronounced bead and comprised a shallow groove on one side, broken at the point where the object began to broaden. See examples of probes from Italy, London, and South Shields.[127]
L: 100 mm; D: 5 mm. *Area 1: 2194 AC*

20. A thimble worked from sheet metal. There is a shallow groove just above the base and then nine circuits of pounced dimples to the apex. The object may have been tinned inside and out, but XRF analysis was inconclusive.
Copper-alloy thimbles were known in the Roman and medieval periods; Roman examples[128] tend to be broad and short with a fairly domed appearance, unlike the present piece, which is closer in form to a modern thimble, as were medieval and post-medieval examples.[129] The fact that the object was found at the base of a medieval furrow may support a post-Roman date.
D: 16.5 mm; H: 17 mm; Th: 0.5 mm. *Area 2: 5174 AA*

21. Fragment of rim of a vessel, distorted by twisting, and broken at either end and below the rim. There is a broad, if slight, swelling at the lip.
L: 44 mm; W: 15 mm; Th: 1 mm; Lip Th: 1.5 mm. *Area 1: 5174*

22. Very slightly domed, disc-headed tack with an intact, square-sectioned shank. XRF and appearance show the object to have been tinned. Cf. pieces from Caerleon.[130]
D: 11 mm; H: 16 mm; Shank L: 14 mm; Shank W: 4 mm. *Area 2: 5174 AB*

23. Ovoid terminal with short length of rectangular-sectioned, slightly curving, shank, all cast in one piece.
L: 28.5 mm; W: 19 mm; H: 22 mm; Shank L: 10 mm; Shank W: 10 mm; Shank Th: 6 mm. *Area 1: 2099 AA*

24. Square-sectioned rod, tapering at either end and bifurcating at one, perhaps as a result of re-working.
L: 147 mm; W: 7 mm; Th: 6.5 mm. *Area 1: 2450 AB*

25. Fragments of folded sheet and a hinge associated with organic material, possibly leather. The largest piece of sheet has been folded over three times, possibly to make it small enough to fit into a crucible for remelting. The hinge, which may have an iron spindle, seems to be the hinge and base of a pin from a brooch. The dimensions given are for the largest fragment and the hinge.
L: 20 mm; W: 13 mm; Th: 0.5 mm; Hinge W: 9.5 mm; Hinge D: 6 mm. *Area 1: 2531 AA*

[126] This rare piece with (?)leather lining the inside of the base of the box was drawn to the writer's attention by Dr J.K. Haalebos, who also supplied an illustration.

[127] Italy: Jackson 1986, fig. 4, 30, 33–5; London: Wilmott 1991, figs 76, 255 and 78, 278; South Shields: Allason-Jones and Miket 1984, 3.451, 3.453.

[128] e.g. Fishbourne: Cunliffe 1971, fig. 51, 147–8.

[129] Platt and Coleman-Smith 1975, figs 243, 1798; 245, 1868 and 1890.

[130] Evans and Metcalf 1992, 138, nos 181–5.

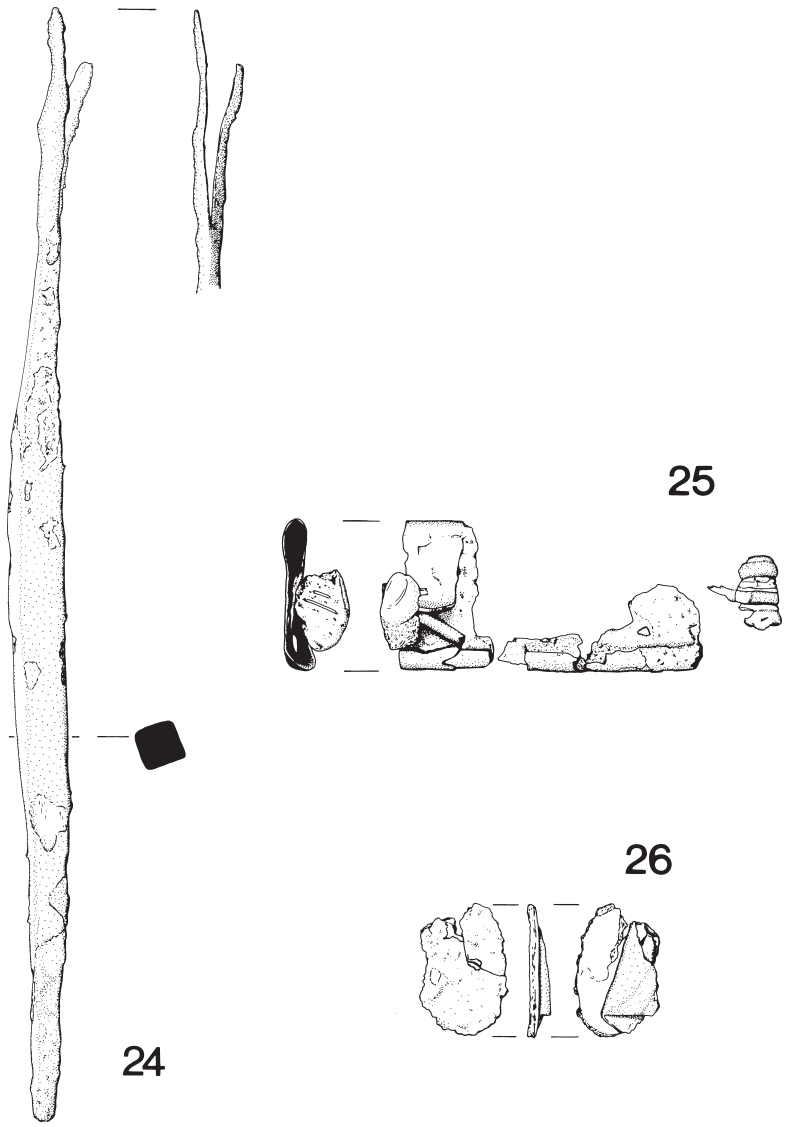

FIG. 29. Copper-alloy small finds, Nos 24–6 (scale 1:2).

26. Fragment of folded sheet with an attached organic substance, possibly leather, interleaved between the folds.
L: 17 mm; W: 11 mm. *Area 2: 5031 AB*

27. (Not illus.) Lump of waste from casting process, with charcoal remnants in pits on the surface.
L: 34 mm; W: 19 mm; Th: 7 mm. *Area 1: 4064 AA*

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Iron

28. *Pilum* head and length of shank, both apparently circular in section, which is rather unusual (and may be a result of cleaning, since at one point a square-sectioned length is visible). The shank has been broken and curled back upon itself, at which point it is square in section.[131]
L: 302 mm; Head L: 56 mm; Head D: 12 mm; Shank D: 7 mm. *Area 1: 2194*
29. Fungiform socketed spear butt, probably from a javelin to judge by its socket diameter. No remains of mineralised wood were found in the socket. Cf. examples from the Corbridge Hoard, Rheingönheim, and Rottweil.[132]
L: 52 mm; Head D: 10 mm; Socket D: 15 mm. *Area 1: 2035*
30. Fungiform spear butt with a split socket and pierced by a nail-hole, probably from a javelin.
L: 38 mm; Socket D: 11 mm; Head D: 10 mm. *Area 2: 5033*
31. Knife or razor of Manning's Type 7b with a downward-curving blade, a looped terminal, and a broad, flat, tang pierced by two rivet-holes, used to secure a handle of two bone plates, one on either side of the tang. Cf. examples from Newstead and the Corbridge Hoard.[133]
L: 213 mm; W: 22 mm; Blade Th: 5 mm;Tang Th: 4.5 mm; Loop D: 25 mm. *Area 1: 2183*
32. Part of the blade and tang of a knife, too incomplete to determine the form.
Blade L: 45 mm; Blade W: 15 mm; Blade Th: 4 mm; Tang L: 21 mm; Tang Th: 4 mm. *Trial Trench 3: 313*
33. A sophisticated linchpin of Manning's Type 1c, with a crescentic head bearing a rectangular projection, partly missing, and with a sub-rectangular aperture in it. The body of the object is circular-sectioned for the main part, but is nearer sub-rectangular towards its lower end, where it is pierced by a circular aperture. The lower hole held a retaining pin which kept the linchpin in place in the axle, and this retaining pin would be secured to the linchpin by means of a chain or cord attached to the projecting lug, thus preventing its loss. This example is unusual in having a circular-sectioned body, although it may originally have been square prior to cleaning. The inner curvature of the crescentic head gives some indication of the diameter of the wheel hub to which it belonged.[134]
H: 147 mm; W: 110 mm; Head Th: 11 mm; L Head Projection: 55 mm; L Body: 115 mm; W Body: 20 mm; Axle D: 90 mm. *Area 2: 5202 AD*
34. Rectangular-sectioned bar, with one end bent down and then out. A break at the opposite end, probably antique, suggests another arm is missing from the object. Possibly a joiner's dog.
L: 166 mm; W: 13 mm; Th: 5 mm. *Area 1: 2438*
35. A joiner's dog, rectangular (near square) in section, one arm complete, the other damaged in antiquity. Cf. examples from Colchester, Strageath, and Fishbourne.[135]
L: 120 mm; W: 47 mm; Arm W: 9 mm; Arm Th: 5 mm. *Area 2: 5104 AD*

[131] For *pila* in general, see Manning 1985, 159–60.
[132] Corbridge Hoard: Allason-Jones and Bishop 1988, fig. 20, 60–3; Rheingönheim: Ulbert 1969b, Taf. 46, 24–5; Rottweil: Planck 1975, Taf. 36, 4.
[133] Newstead: Curle 1911, pl. LX, 6; Corbridge Hoard: Allason-Jones and Bishop 1988, fig. 96, 92.
[134] cf. examples from Germany: Garbsch 1986, 58, nos 37–9.
[135] Colchester: Crummy 1983, nos 4071–2; Strageath: Frere and Wilkes 1989, fig. 89, 199–200, 202–4; Fishbourne: Cunliffe 1971, fig. 62, 67–8.

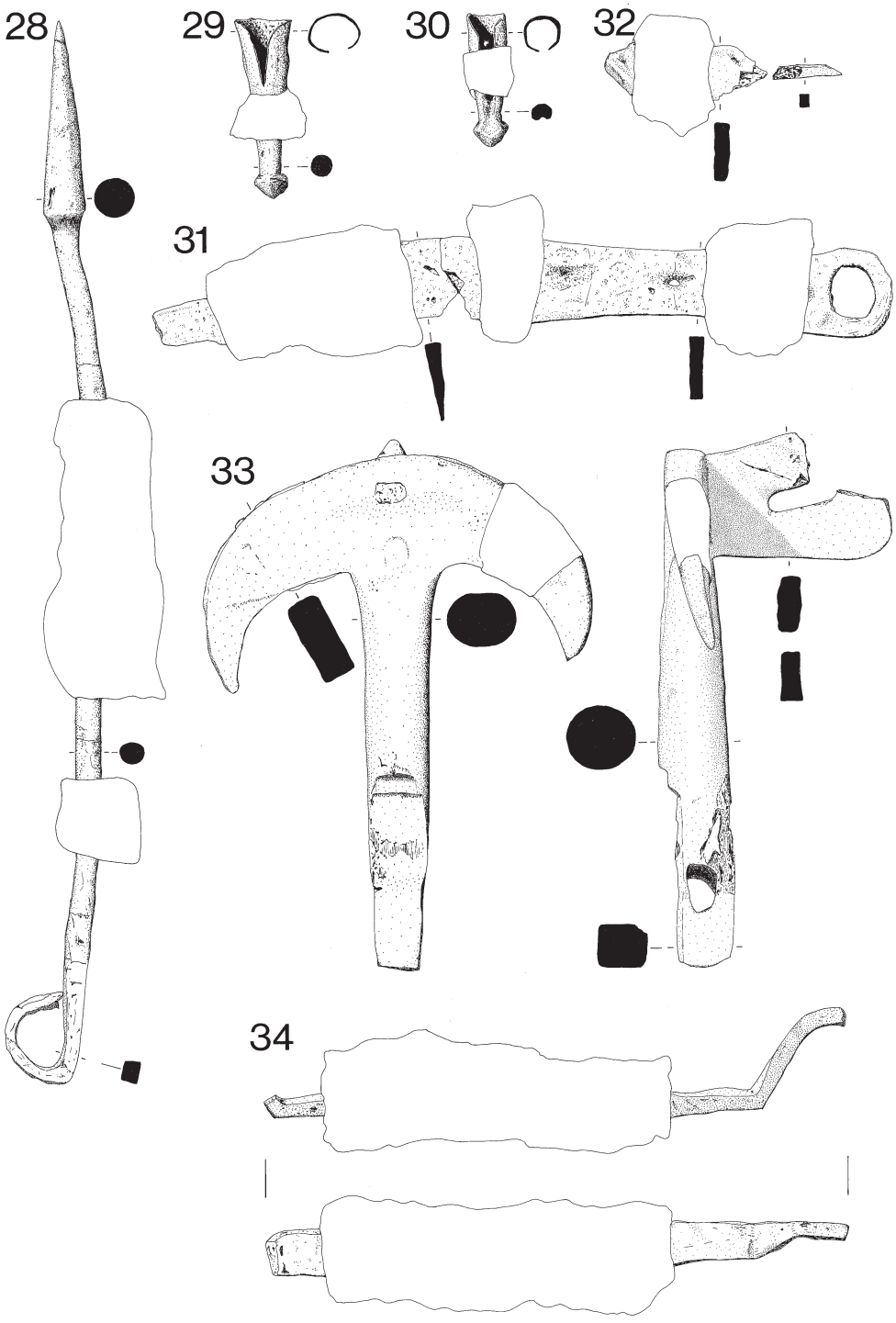

FIG. 30. Iron small finds, Nos 28–34 (scale 1:2).

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36. A T-shaped clamp or holdfast with an anchor-shaped head. Both the head and the shank are rectangular in section. Most of one of the arms of the head is missing. Cf. examples from Hod Hill, Borough Hill, and Corbridge.[136]
L: 50.5 mm; Head W: 49 mm; Head Th: 9 mm. *Area 1: 4005 AB*
37. Nail of Manning's Type 1A,[137] with square-sectioned shank and square, flattened pyramidal, head, lacking its tip. Cf. similar-sized nails from the Corbridge Hoard and Gloucestershire.[138]
L: 136 mm; Head W: 25 by 26 mm; Shank Th: 10 mm. *Area 1: 2002*
38. Several lengths of wire, some strands twisted together in threes. Wire is a comparatively rare find, but was an essential component in the manufacture of ring mail armour or, as is more likely with these lengths of three-strand wire, some sort of suspension cable or bracelet.
Three-strand section: L: 32 mm; D: 3 mm; Individual Strand D: 1 mm. *Area 1: 4001*
39. Z-shaped bit and part of the shank from a slide-key of Manning's Type 1. It has one tooth on either of the short arms, and three on the long arm. Cf. examples from London and Colchester.[139]
L: 50 mm; W: 31 mm; L of Teeth: 19 mm; Shank Th: 6 mm. *Area 2: 5033*
40. Hobnails, some still corroded to each other in the same plane, showing that they were *in situ* on a boot (which had presumably decayed) when deposited. This conclusion is supported by the fact that one of the surviving shanks has clearly been hammered over to clench it to the sole leather.[140] Three of the nails appear to form a portion of an arc, a classic Roman nailing pattern.[141] Roman hobnails were normally conical when new, so the examples here, being rounded, show clear signs of wear.
L: 36 mm; W: 17 mm; Hobnail D: 9 mm; Hobnail H: 15.5 mm; Shank L: 10 mm; Deduced sole thickness: 7 mm. *Area 2: 5031*
41. Rectangular-sectioned ring, slightly oval in shape, with overlapping terminals.
D: 33 by 31 mm; Int D: 19 by 16.5 mm; Th: 5 mm. *Area 1: 2070*
42. Fragmentary ring.
D: 21 mm; Th: 4 mm. *Area 2: 5011*
43. A rectangular-sectioned bar, flattened at either end, and with a further small piece of rod corroded onto it. Possibly a billet awaiting further working.
L: 55 mm; W: 10–16 mm; Th: 7.5 mm; L of Rod: 32 mm. *Area 1: 2222*
44. A square-sectioned rod, slightly bent, with a flared, rectangular head.
L: 166 mm; Th: 5 mm; Head W: 8 mm; Head Th: 6.5 mm. *Area 1: 2031 AA*
45. Rectangular-sectioned rod with a flared, spatulate, end and curved terminal. The shank of the object appears to have been cut.
L: 34.5 mm; W: 21 mm; Th: 8.5 mm. *Area 1: 2070*
46. Short length of rod, rectangular-sectioned for the most part, but circular-sectioned and tapering to a point at one end.
L: 30 mm; W: 5.5 mm; Th: 5 mm; L of Rectangular-sectioned Portion: 17.5 mm. *Area 1: 4221*

136 Hod Hill and Borough Hill: Manning 1985, R70–2; Corbridge: Bishop and Dore 1989, fig. 91, 28.
137 Manning 1985.
138 Corbridge Hoard: Allason-Jones and Bishop 1988, figs 86, 120, 125; 87, 165; Gloucestershire: Manning 1985, pl. 63, R87.
139 Manning 1985, pl. 41, O45–7.
140 van Driel-Murray 1986, 23–4, fig. 11.
141 ibid., fig. 13.

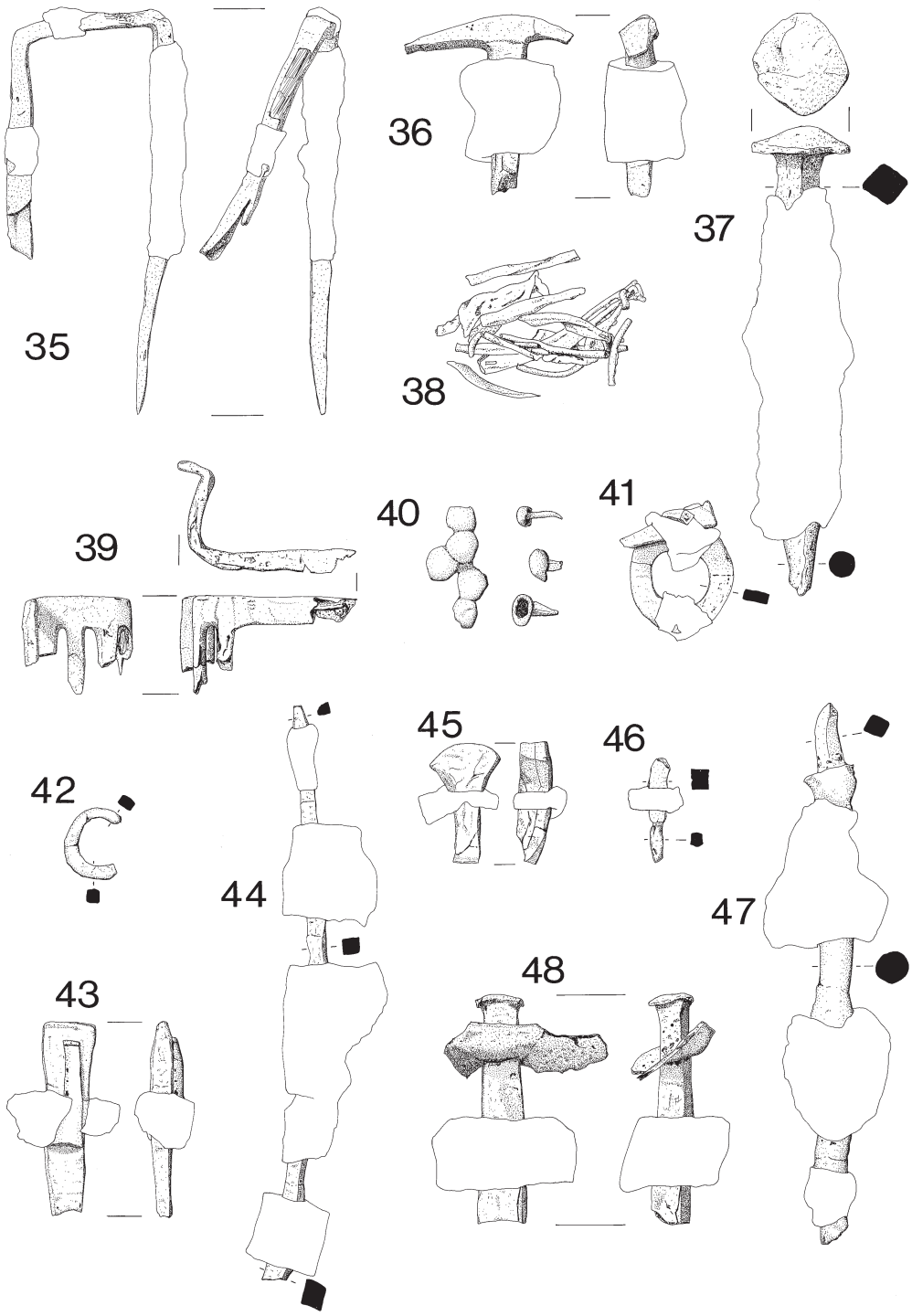

FIG. 31. Iron small finds, Nos 35–48 (scale 1:2).

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47. Circular-sectioned rod, tapering towards one end, where an ancient break shows it to have turned through 90 degrees. The break at the other end is modern.
L: 158 mm; D: 10 mm; D at Angle: 6 mm. *Area 2: 5104*
48. Fragment of sheet, pierced by a square-sectioned (broadening to rectangular-sectioned) bar, the head of which has spread through hammering. The end of the bar appears to have broken in antiquity. The sheet has been distorted on one edge. Only one small portion of original edge may survive.
Sheet L: 50 mm; Sheet W: 30 mm; Sheet Th: 2 mm; Bar L: 65 mm; Bar W: 9–14 mm; Bar Th: 8–9 mm; Head W: 13 by 15 mm. *Area 1: 2222*
49. Two fragments of sheet, the larger with a right-angled corner to its two edges and a rivet through it. The sheet is distorted and may have been in the process of being reworked.
Larger Piece: L: 45 mm; W: 27 mm; Th: 1–2 mm; Smaller Piece: L: 32 mm; W: 29 mm; Th: 1 mm. *Area 1: 4009*

Discussion

The Roman small finds from Roecliffe are characteristic of a Flavian military site in Britain, insofar as they represent typical finds encountered for the period, and were not very large in number.

Military equipment clearly indicates the presence of legionary infantry and auxiliary cavalry, a common troop type mixture for the first century A.D. Legionary infantry are represented by a fragment of *lorica segmentata* and a *pilum* head and shank; whilst there has been some doubt cast upon the uniqueness of legionary use of segmental cuirasses,[142] the *pilum* is indisputably exclusively legionary on presently available evidence.[143] Cavalry equipment not only included a junction loop and a strap fastener, but also part of a derivative three-link bit. Taken together with the native-type sword handguard, this is perhaps suggestive of the presence of native horsemen, along with the regular auxiliary cavalry. Javelin butts might result from the presence of auxiliary cavalry or light infantry. The tinned buckle could be either auxiliary or legionary, but is almost certainly a piece of infantry equipment.

Heavy transport is reflected by the linchpin, and possibly the cast copper-alloy bell, and recalls the Roman army's association with presumably private hauliers and parts suppliers described in the Vindolanda writing-tablets.[144]

Evidence of the personal lives of the inhabitants can also be seen. Fragments of two mirrors, objects with a distribution centred on Nijmegen, may belong with a razor as personal property. The few brooches found were early Flavian in character, the 'sawfish' example intriguingly paralleled by a piece from Carlisle, another Cerealian foundation. Part of a medical or toilet implement, like all of these above mentioned items, could equally well have belonged to the soldiers as to their civilian followers.

Two issues come to the fore: first, the military nature of the finds from the *vicus* areas north and south of the Ure, and second, the degree to which 'native' elements were included within the population of the sites. Military finds, almost invariably the result of clearance operations at the end of a period of occupation, are common in *vici*, particularly in the second and third centuries A.D. (examples include sites like Buch in Germany). As such, the finds tell us little or nothing about the everyday life of the *vicus*, but instead reflect this one brief episode at the end of the life of a site.[145] The native finds, on the other hand, are part of a pattern whereby such artefacts occur

142 Maxfield 1986.
143 Bishop and Coulston 1993, Appendix.
144 Bowman and Thomas 1987, 140–2.
145 Bishop 1986, 717–23.

at early Roman military sites throughout Britain and perhaps reflect the route by which British Celtic design motifs entered into Roman taste, materialising as the 'Celtic renaissance' of the second century A.D. It seems clear that there were already Britons serving with the Roman army by the time of Mons Graupius, although in what capacity is not known.[146]

WOODEN ARTEFACTS *By* T.G. Padley[147]

The wood recovered from the bottom of Well 5105 in Area 2 comprised four radially-split oak planks, an offcut of an unidentified softwood, and a handle.[148]

The four planks are all similar in that they are radially-split and made of oak. In addition, they each have one smooth surface and one which has chop marks on it. The chop marks are not randomly oriented, as there are two major directions visible, each going across the grain of the planks. They are also fairly short, up to 50 mm long. These features are similar to those noted on some of the planks from the fort site at Annetwell Street, Carlisle;[149] here they were interpreted as scratches left by the hobnails of Roman footwear on floorboards. This is not certain, as at Annetwell Street the scratches were found on both sides of some of the planks. However, the marks could be seen as evidence of these planks having been floorboards at some point in their history.

The offcut has curved outer and inner surfaces, which could be taken as evidence of it being part of a barrel stave. Additional evidence for this is that it is made of softwood, like many barrels from Carlisle.[150] However, against this is the fact that the edges are square to the surfaces, as the edges of staves were usually at an angle to the surfaces.

The handle (FIG. 32)

A piece of roundwood, probably a coppiced rod, has been carved into a rough handle. The roundwood has been shaped by having two sides flattened, giving it a sub-rectangular cross-section. The top and bottom have been left with their natural curve. At one end, the natural shape of the wood has been used to make the grip. This has been further enhanced by the partial removal of a side-shoot. Species not identified. L: 392 mm; W (max.): 48 mm; Th (max.): 37 mm.

The expanded end of the handle is similar to that found on wooden artefacts which are not made from roundwood. These occur on many items from all over the country, and date from the Iron Age, such as those from the Glastonbury Lake Village,[151] into the Roman period, such as a scoop from The Lanes, Carlisle.[152] Unfortunately, there is no evidence of what the handle was attached to, or used for.

146 Tacitus, *Agricola* 32, has Calgacus refer to Britons in Roman service at the battle.

147 Carlisle Archaeological Unit, Department of Leisure and Community Development, Carlisle City Council, Civic Centre, Carlisle, CA3 8QG.

148 A full catalogue of the pieces is available in the archive report.

149 Caruana forthcoming.

150 Padley 1991, 206, no. 787, fig. 184; 1995, 278, no. K28.

151 Bulleid 1968, pl. 17, nos 4, 5.

152 Padley forthcoming.

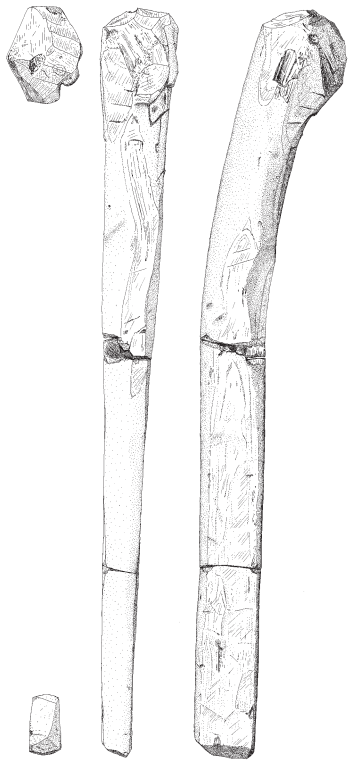

FIG. 32. The wooden handle from the well (scale 1:4).

LEATHER *By* C. van Driel-Murray[153] (FIGS 33–34)

Organic preservation at Roecliffe was generally very poor, but a number of fragments of leather were recovered from the bottom of the fill of Well 5105 in Area 2.

Catalogue

1. Eight fragments fitting together to form a corner fragment of a tent wall with a Seam IIa to the left and a Seam IIb along the top (thread impressions flesh side). The actual corner is missing, but fraying of the edges suggests ripping along stitching, probably marking the position of the patch association (No. 3). The top seam has been re-stitched in places. Parallel to the top seam, a fold has been drawn out to the grain side (front); this has paired stitches on either side of the fold, as well as odd stitches in the crease; possibly a repair or reinforcement. The leather is thin, flabby, delaminated and separated in places, but with a smooth grain structure: it tends more to hairsheep than goat.
2. Small cut and torn fragment with a Seam IIb and a fold as on No. 1, also with paired stitching on either side of the fold and tacking with thread impressions on the flesh side

[153] Laan van Ouderzorg 107, 2352 HL Leidendorp, Netherlands.

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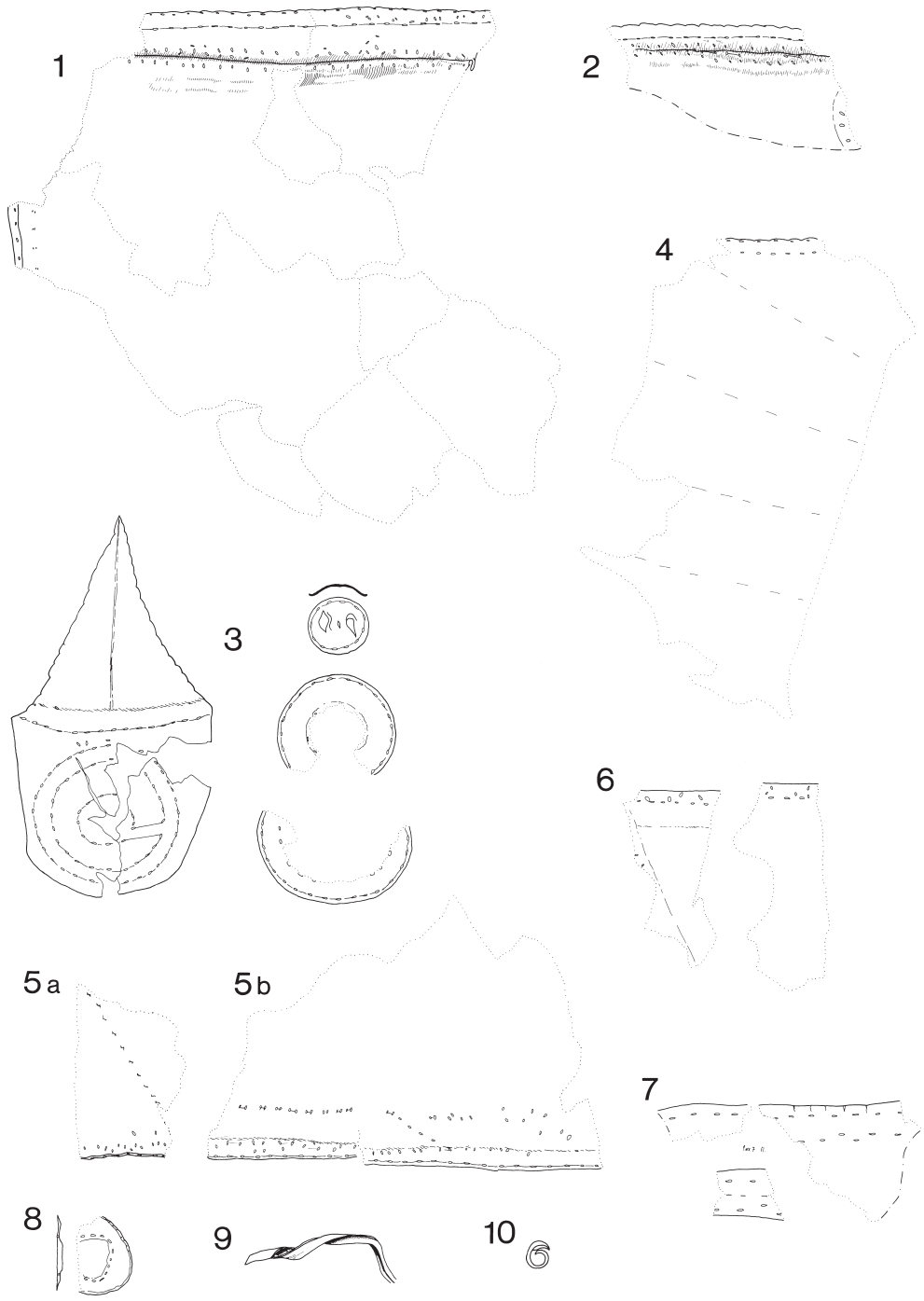

FIG. 33. The leather finds from the well (scale 1:4).

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actually in the crease. To one side, a few stitch-holes and an impression on the grain side mark the position of patch No. 3. The fold seems to flatten out to the left. Worn leather, thicker and stiffer than No. 1, not split: goat?

3. Disintegrated guy-rope patch association with thread impressions of three concentric circles of stitching on the grain side of the triangular backing patch and the remains of the three superimposed front patches, each showing thread impressions on the outer ring of stitching only. The small uppermost patch is strongly domed, though not deformed by stress on the two thong-holes. It is likely to have been sewn over the thong passing to the back, which has ripped out the centre of the other patches, as well as the seam corners. The triangular backing patch is crossed by the stitching of a Seam IIb and is whipped at the top to fragment No. 5a. Two vertical impressed lines bisecting the triangle are probably guide lines. Sheep/goat.
4. Strongly folded fragment with a short length of a Seam IIb; smooth dark leather. The direction of the grain excludes a join to the Seam IIa at the side of piece No. 1, but if the fold along the top of this piece is not a continuous feature, No. 4 might belong elsewhere along this seam.
5a. Small fragment of the tent roof to which patch No. 3 was sewn. Edged by a Seam IIa, with a tiny fold. Thick, weathered leather, probably goat.
5b. Probably belongs to No. 5a, though no fit. Seam IIa with tiny fold, with creasing and a depression visible on the grain side along the line of the seam felling stitches. Parallel to this is crude tunnel stitching of a repair strip attached to the outside.
6. Two small delaminated splits of sheepskin with odd stitch-holes.
7. Two scraps with a Hem IVa and a scrap of the binding; delaminated, cowhide.
8. Skivved-down oval of leather used to plug a natural hole in a skin by depressing the edges and sewing it to the flesh side.
9. Twisted strip of goatskin, perhaps a loop belonging to the patch association No. 3.
10. Small curl of leather, perhaps a thong.
11. (Not illus.) A large piece of featureless skin with a crease line down the middle; worn, weathered tough skin, similar in character to No. 5 and therefore perhaps also from the roof.

In addition, a number of delaminated scraps of sheep and goatskin, mainly belonging to Nos 1 and 6.

Discussion

Amongst various odd scraps, the most interesting piece is the discarded guy-rope patch association.[154] The totally disintegrated fragments represent the two adjoining wall panels (Nos 1 and 2, possibly 4), the ripped out patches (No. 3) and the roof panel (No. 5) (see FIG. 34a for arrangement). The horizontal seam joining the tent roof and wall is a fairly narrow Seam II, which was reinforced on the outside by a strip tacked over the junction. Three superimposed patches are sewn to the outside to take the leather loop (No. 9?) to which the guy-rope would have been attached. At the back, the patch position is reinforced by a triangular patch which was already in position when the wall length was sewn to the roof. The triangular top was whipped down once the tent was complete. The backing patch provides a reinforcement for the guy-rope attachment as well as protecting the seam junctions from damage by the tent poles. The differential damage suffered by the patches and the lack of thong impressions on either the

[154] van Driel-Murray 1990, 109–37.

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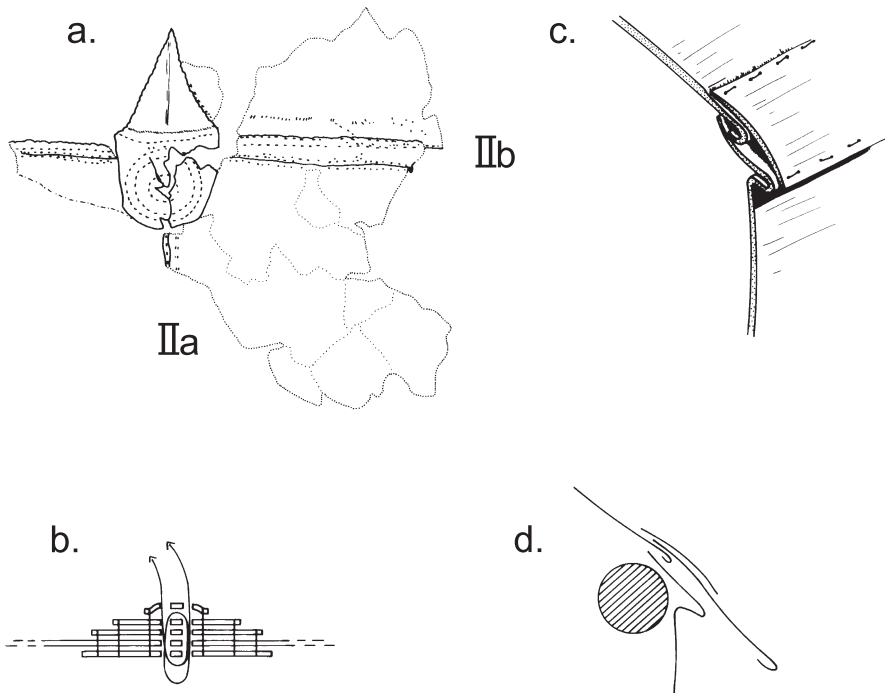

FIG. 34. The leather finds from the well (not to scale).

backing patch or the small top patch suggest that the thong first passed to the back, where it was looped round the tent pole and then to the front, where the guy-ropes could be attached (FIG. 34b). The small patch must have been sewn over the first turn of the thong, thus explaining the domed shape and also why it survived intact, while the other patches are ripped. With the corner of the wall panel tied to a tent pole, sudden outward stress — wind billowing out the tent wall, for instance — could have ripped the whole patch association out, especially if (as here) poor-quality leather had been used.

Triangular backing patches occur in Period II at Vindolanda (last decade of the first century A.D.) and are frequent in the Carlisle Castle Street complex, which is contemporary.[155] The feature does not appear at Valkenburg (A.D. 40–42), nor in Vindolanda Period III, and may, therefore, be either time- or unit-specific. The use of a Seam II may also be an early feature, since it is the favoured seam at Valkenburg, while both Vindolanda and Carlisle employ either Seam III or narrow reinforced seams in this position.

As usual the b-side of the seam (No. 1) is covered by the downward fold of the a-side of the roof panel (No. 5). The unusually narrow seam fold on No. 5 may be the reason for attachment of a repair strip over the outside since this join could hardly be strong enough for the tensions of the roof/wall junction. The entire seam may well have come loose: the depression on the outside of the panel, above the actual seam fold, has no constructional explanation, but could have been

[155] Padley and Winterbottom 1991, figs 231–5.

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caused by restitching the eaves flap to the outside, where it could be covered by the additional strip (FIG. 34c). The pinched-out fold at the top of the wall panel may have been necessary to provide a more secure attachment point for the repair strip since the leather is of such poor quality and it would also have gathered away excess flabby leather from a no doubt sagging and stretched panel. Since the wall/roof junction falls just above the supporting poles, the repair strip would have covered the actual angle, with the pinched out fold marking the true wall top (FIG. 34d). As the fold appears to flatten out towards the edge of No. 2, it may however be only a short makeshift repair.

Noteworthy is the fact that different types and qualities of leather were combined in a single tent. Though weathered, as is to be expected, the roof panels are of good-quality, firm goatskin, while at least one of the side panels is of sheepskin, probably local hairsheep. This is thinner, less strong, and delaminates easily and, in view of the grain pattern, was probably a little too small for the required panel size. As a result, less suitable areas were included in the panel, leading to stretching and also, perhaps, to the tearing out of the guy-rope attachment. Tents from Vindolanda Period II also seem to show selection of leather, with the best being used, as here, for the roof and front, and the poorest for the less exposed rear. This might suggest that the best-quality goatskin was in short supply, and was being filled out with local sheepskins, or that the army was obtaining mixed consignments of skins, which were arranged to the best advantage.

WORKED STONE *By* J.C.N. Coulston

Catalogue

1. Upper milling stone. Buff sandstone. Th: 230 mm; max. diam: 345 mm. Complete. Beehive quern upper stone; very roughly finished all over; steeply elongated convex, asymmetrical upper face. The latter is weathered. Flat, well-smoothed lower grinding surface. There are two 'perforations' in this, one elliptical (L: 20 mm), 45 mm from the edge of the skirt, the other circular and centrally placed (diam: 17 mm; D: 37 mm). The first is a naturally occurring nodule which has eroded away, but the second has such smooth and regular sides as to indicate cutting with a drill. *Area 3: 1157 AA*
2. Upper milling stone. Buff sandstone. Th: 155 mm; max. diam: 338 mm. Near complete with some pieces chipped away from the skirt and minor chipping all around its edge. Beehive quern upper stone. The upper surface is very roughly dressed with some large pitting, gashing, and, above the skirt, small dimpling. A large and irregularly shaped, truncated conical cutting has been made in the top of the stone (L: 103 mm; W: 78 mm; D: 50 mm). This may represent an abandoned attempt to cut a perforation through the whole thickness of the stone. The lower, grinding surface is worn very smooth and is markedly concave. There is a central conical eye (diam: 24 mm), which appears to retain part of an iron spindle *in situ* (diam: 18 mm). *Area 3: 1002 AA*
3. Upper milling stone. Millstone grit. Th: 28 mm; diam: 120 mm. Incomplete, one fragment broken radially out from the eye and across the skirt. The elevated convex upper top face is rough and pitted with damage. Part of a truncated conical eye survives. The flat lower face has grinding wear. *Area 3: 1562*
4. Fragmentary milling stone. Mayen lava. Three fragments: Th: 30–75 mm; L: 41–114 mm; W: 23–70 mm. Three small pieces of quern stone with all surfaces worn or broken. The smallest has a hint of surviving striae on one face. *Area 1: 2237*
5. Fragmentary milling stone. Mayen lava. Four pieces: Th: 28–37 mm; L: 34–59 mm; W: 30–48 mm. All surfaces are worn or badly degraded. One piece may exhibit part of the concave grinding surface of an upper stone, but this is far from sure. U/S

6. Fragmentary milling stone. Mayen lava. Six pieces: Th: 6–11 mm; L: 10–22 mm; W: 6–19 mm. All surfaces are worn or badly degraded. *Area 1: 2013*
7. Fragmentary milling stone. Mayen lava. Th: 14 mm; L: 24 mm; W: 21 mm. All surfaces are broken or badly degraded. *Area 1: 2194*
8. Upper milling stone (FIG. 35). Millstone grit. Th: 50 mm; original diam: *c*. 330 mm; approx. 10 per cent surviving. One fragment of an upper quern stone, very weathered overall and broken, leaving a section of side face and adjacent skirt. The upper face is a little irregular, and has a shallow, truncated wedge-shaped cutting made into the skirt area (L: 45 mm; W: 24–40 mm; D: 9 mm). The latter may represent the attachment point for an iron rynd fitting. The side face is smooth. The grinding surface is well worn and slightly dimpled. *Area 1: 2150*

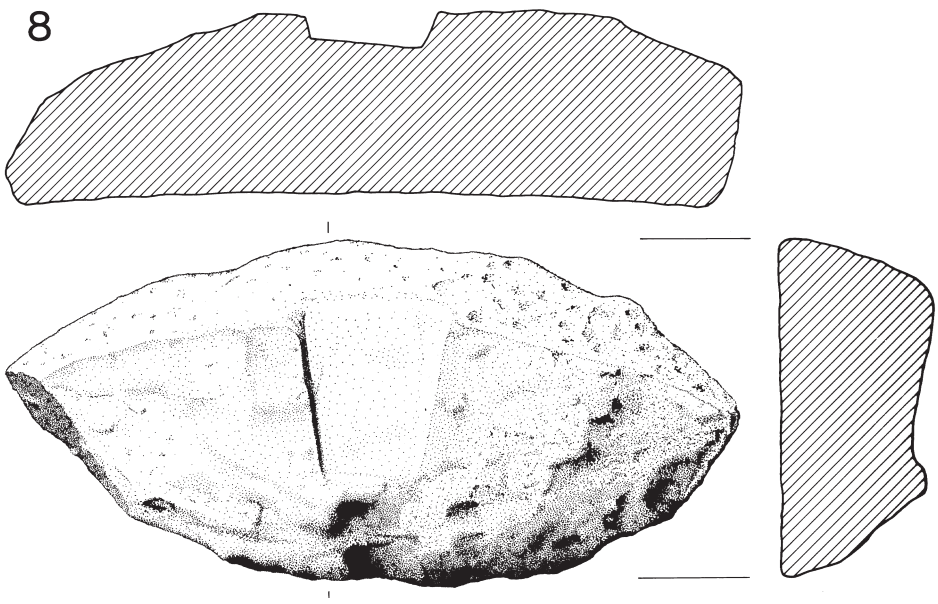

FIG. 35. Worked stone artefacts (scale 1:4).

9. Fragmentary milling stone(?). Local buff sandstone. Th: 115 mm: L: 150 mm; W: 110 mm. All surfaces damaged except for the flat base(?) face. One curving side surface may represent the side of an upper beehive quern stone, and the flat surface its grinding face. However, it is perhaps more likely that the latter is the product of natural splitting, the former of fortuitous damage. *Area 1: 4084*
10. Shaped stone. Red sandstone. Th: 85 mm: L: 125 mm; W: 122 mm. Piece broken across one end and the bottom face. The other end is chipped and cracked. The stone is smooth and compacted on all its surviving faces, perhaps from use as a grinder with a saddle quern. *Area 3: 1658*
11. Stone disc. Buff sandstone. Th: 37 mm; diam: 105 mm. Piece, flat on one side and convex on the other. Some chipping damage around the skirt. The flat face exhibits an incised groove. Use unclear, perhaps as a rubber. *Area 3: 1008*

12. Stone disc. Local buff sandstone. Th: 20 mm; L: 75 mm; W: 70 mm. Irregularly shaped, flat stone. Smooth and compacted overall. *Area 1: 4083*
13. Worked(?) stone. Buff sandstone. Th: 26 mm; L: 93 mm; W: 80 mm. The stone is chipped around its lower edges and worn overall. One face is flat, the other convex. A lunate cutting has been worn along one edge. The piece may have been employed as a small whetstone as well as a rubber (see No. 5). *Area 3: 1001*
14. Shaped(?) stone. Compact local buff sandstone. Th: 90 mm; L: 180 mm; W: 121 mm. The stone is broken irregularly on all its edges. The top and bottom faces are flat and smooth, with traces of burning on the top. Use unclear. *Area 3: 1562*
15. Whetstone(?). Local buff sandstone. Th: 55 mm; L: 150 mm; W: 65 mm. Elliptical stone with all surfaces compacted and worn, with flattish top and bottom faces. River boulder or whetstone. *Area 1: 4214*
16. Whetstone(?). Ferrous sandstone. Th: 45 mm; L: 109 mm; W: 61 mm. Rectilinear block with flat surfaces. Possibly used as a whetstone. These are common finds on Roman military sites.[156] *Area 1: 2290*
17. Rounded stone. Gritstone. Th: 50 mm; L: 90 mm: W: 70 mm. Stone ball of flattened elliptical shape. Worn surface with a groove on one face. The latter is likely to be a geological structural product, and the piece may be the result of riverine shaping, not human agency. *Area 1: 2516*

Discussion

This sample of stone artefacts is very small. Nevertheless, some basic observations may be made about the character and dating of the finds, not least because of the nature of the structural evidence north and south of the river Ure.

A number of pieces come from early, pre-Roman pits and other features. They are from stone-working traditions which are different from the usual range of products in use in the Roman period (e.g. No. 10). Others are distinguishable only by context. The rounded stone (No. 17), for example, might be identified as a missile for military use had it been recovered from a securely Roman context.

The beehive querns (Nos 1–2), on the other hand, are of a type which superseded the functionally more basic saddle quern, but which is well represented on Roman military sites as an influence of native practice.[157] Their presence on the north bank of the Ure, rather than on the fort side, may be indicative of pre-Roman activity, but it is not conclusive. Simple stone discs (Nos 11–12) are likewise not diagnostic, being common on both northern native and Roman sites.[158] That being the case, there is still one indubitably Roman artefact, a quern, from north of the river (No. 3).

It may be significant that all the Mayen lava quern fragments were found south of the Ure (Nos 4–7). This type of milling stone is closely associated with Roman army activities during the first century and into the second.[159] The Millstone Grit quern (No. 8) is a good, closely dated, early example of this type.

[156] Allason-Jones and Miket 1984, 12.28–43; Coulston forthcoming, nos 48–66.
[157] e.g. Jones 1974, 129, nos 67–8; Allason-Jones and Miket 1984, 12.72; Welfare 1985, 155–6, nos 1–3; Coulston forthcoming no. 1.
[158] cf. Allason-Jones and Miket 1984, 12.23; Coulston forthcoming, nos 40–5.
[159] Welfare 1985, 156–7.

GLASS *By* Denise Allen (FIG. 36)

Catalogue

Cast and ground

1. Two fragments from the base of a pillar-moulded bowl of blue glass. Outer surface has shallow, converging ribs, inner surface is rotary-polished. Original dimensions indeterminable. (Not illus.) *Area 1: 2035*
2. Body fragment of a pillar-moulded bowl of dark brown glass. Part of one rib extant, inner surface rotary-polished. Original dimensions indeterminable. (Not illus.) *Area 1: 2450*

Mould-blown

3. Body fragment of blue-green glass. Mould-blown: part of two almond-shaped bosses extant. Diam. of vessel *c*. 5 cm. *Area 2: 5033*

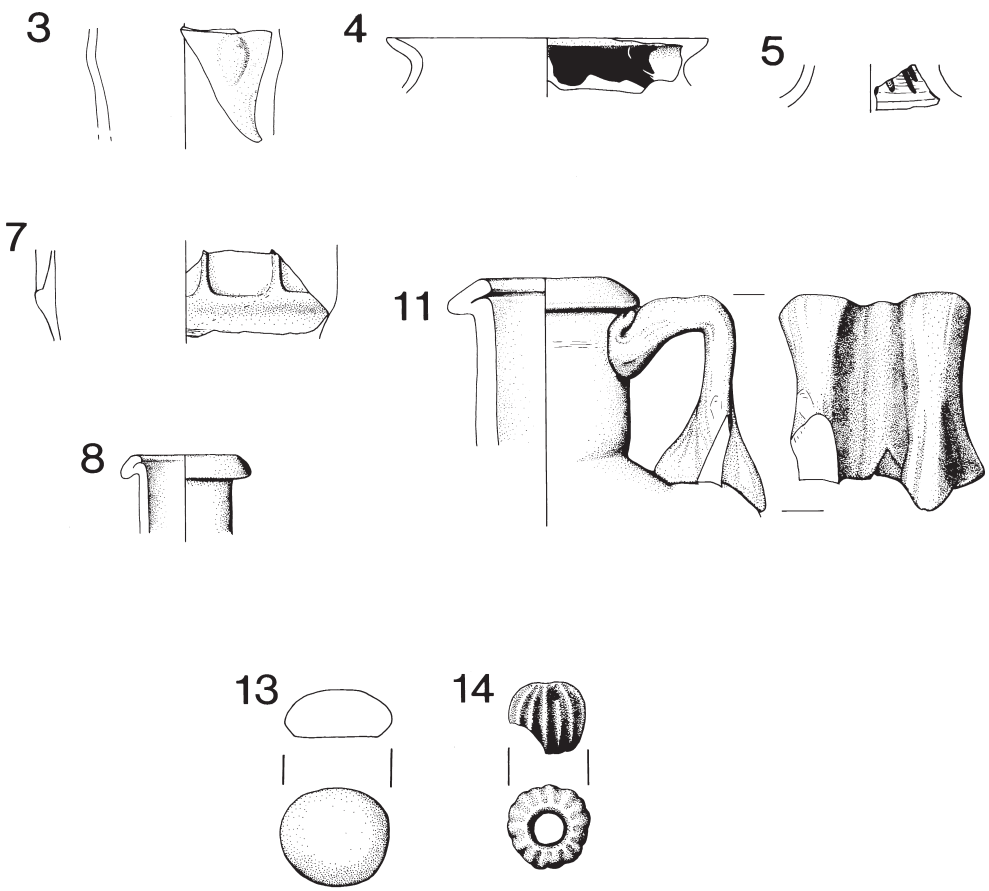

FIG. 36. Glass vessels (scale 1:4) and artefacts (scale 1:1).

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Blown

4. Rim fragment of a beaker or cup of yellow-green glass. Rim outflared and fire-rounded; outer surface has large marvered blobs of opaque white glass. Diam. of rim *c*. 8.5 cm. *Area 3: 1001*
5. Small fragment from the lower neck of a flask or jug of blue-green glass. Outer surface has tool marks demarcating the line between neck and body, and elongated marvered blobs of opaque yellow and blue glass. Diam. at base of neck *c*. 4 cm. U/S
6. Tiny fragment of ?blue-green glass with a marvered trail of blue glass. Original dimensions indeterminable. (Not illus.) *Area 1: 2013*
7. Lower body fragment of a beaker of yellow-green glass. Lower part of two vertical ribs extant, joined at the base into a U-shape. Diam. of body *c*. 8 cm. *Area 1: 2450*
8. Rim fragment of a jug or flask of dark brown glass. Rim folded outward, upward, and inward to form sloping lip, diam. *c*. 3 cm. *Area 1: 2225*
9. Rim fragment of a bottle, jug, or flask of blue-green glass. Rim folded outward, upward, and inward to form sloping lip, diam. *c*. 3 cm. (Not illus.) U/S
10. Fragment of the cylindrical neck of a bottle, unguent bottle, jug, or flask of blue-green glass; diam of neck *c*. 1.8 cm. (Not illus.) *Area 1: 4060*
11. Rim, neck, and handle of a bottle of blue-green glass. Rim folded outward, upward, and inward to form sloping lip, diam. 5.5 cm; cylindrical neck; angular, three-ribbed handle attached at shoulder and just below rim. There are horizontal scratches visible around neck just below lip, which continue beneath handle attachment, and must have been caused during manufacture. *Area 3: 1325*

Other bottle fragments:

U/S	1 body fragment, cylindrical bottle
	1 body fragment, prismatic bottle
Area 1: 2005	7 body fragments, indeterminate bottle shape
Area 1: 2031	1 body fragment, prismatic bottle
	1 body fragment, square bottle
Area 1: 4200	1 base fragment, cylindrical bottle
Area 2: 5011	1 body fragment, square bottle
Area 2: 5031	4 shoulder fragments, indeterminate bottle shape

Objects

12. Plano-convex disc of opaque white glass; slightly irregular, particularly on underside. Diam. 1.5 cm; height 0.6 cm. *Area 1: 2450*
13. Plano-convex disc of opaque white glass; slightly irregular, as above. Diam. 1.3 cm; height 0.5 cm. *Area 1: 4221*
14. Melon bead of turquoise glass paste. One chip missing; badly abraded, but some glaze still visible in grooves. Diam. 1.1 cm; length 0.9 cm. *Area 1: 2194 AA*

Window-glass

Only one blue-green fragment, from Area 1 (2017), of the cast matt-glossy variety.

Discussion

The assemblage comprises 57 fragments of vessel glass, two gaming pieces or counters, a melon bead, and one fragment of window-glass.

Most of the vessel glass is blue-green in colour — 43 fragments in all. In addition, five

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are yellow-green, three are polychrome, three are dark blue, two are brown, and only one is colourless. This is consistent with the suggested date range of A.D. 71–85 — some colourless vessels were being made by this time but they were not yet as common as during the second and third centuries.

Almost all the catalogued fragments are representative of pre- or early Flavian forms and decorative groups. Although the collection is small, it includes several quite fine items of tableware alongside the most common container types.

Nos 1 and 2 are from pillar-moulded bowls of blue and brown glass respectively. The form was extremely common during the first century A.D., but had ceased being made in these strong monochrome colours by *c*. A.D. 70–75.

No. 3 is from a mould-blown beaker of a type in fairly common circulation during the late Neronian to early Flavian periods. Its shape was almost certainly truncated-conical, and its decoration consists of almond-shaped bosses.[160] The glass from Vindonissa in Switzerland included examples representing most of the decorative range of these vessels, of which this fragment is Berger's variant a.[161]

There are three polychrome fragments decorated with marvered blobs and/or trails (Nos 4–6). Although the fragments are small it is clear that No. 4 is the rim of a beaker or cup, and No. 5 is from the lower neck of a flask or jug. The decorative technique was popular during the first half of the first century A.D., and was used on a wide variety of vessel forms.[162] Fragments have been found on many Claudian to early Flavian sites in Britain, including Kingsholm and *Camulodunum*, and a complete bath-flask was found in a context dated A.D. 80–90 at Richborough.[163]

Beakers with curved ribs, as represented by No. 7, were popular during the second half of the first century A.D. Berger published about 70 fragments from excavations at Vindonissa, and Welker has discussed the form in some detail with reference to fragments from Nida-Heddernheim.[164] British finds include examples from Caerleon, Chester, Gloucester, and Lincoln (all unpublished).

Nos 8–10 are all fragments of jugs, flasks, or bottles, none of them sufficiently diagnostic to enable close identification. There are, in addition, 18 fragments of common blue-green bottles, of which one rim, neck, and handle fragment, No. 11, has been catalogued. Vessels of this type account for a large proportion of any glass assemblage of first- to second- century A.D. date.

The two plano-convex discs, Nos 12–13, which may have been used as gaming pieces or for accounting, and the melon bead, No. 14, are common Roman finds. The former cannot be closely dated, and the latter is most common in first-century A.D. contexts.

Cast matt-glossy window-glass was used from the first to the end of the third centuries A.D.[165] In such a small assemblage the occurrance of only one piece is of uncertain significance.

[160] Price 1991, 70.
[161] Berger 1960, 53, no. 129, pl. 8.
[162] Mackenson 1978, 252.
[163] Kingsholm: Price and Cool 1985, 43, nos 17–20, fig. 17; *Camulodunum*: D.B. Harden in Hawkes and Hull 1947, 296, nos 23–7; Richborough: Harden *et al.* 1968, 58, no. 70.
[164] Berger 1960, 47–8, nos 110–15, pls 7 and 19; Welker 1974, 25–7.
[165] Boon 1966.

BUILDING MATERIAL *By* H. Dodge (FIGS 37–38)

The small quantity of material recovered from the site points towards a very early date in the Roman period. All the daub is the same bright orange fabric, well-prepared and homogeneous, sometimes with inclusions, including stones; this seems not to have been deliberate. All the material is very fragmentary; some is very abraded and resembles river-worn pebbles in shape and size. It is assumed that the abraded pieces are also daub. Some pieces have traces of the wattle framework to which the material was once applied; there is no evidence for keyed daubwork.

Daub

A detailed list of daub fragments is contained in the site archive. It is quite clear that the usual construction method for buildings within the *castra* was timber with wattle and daub. One fragment (2229 from Area 1) displays a possible lime wash on its surface.

Brick and tile

Very little brick and tile was recovered, the following being representative of material from Areas 1–3. They are all inexpertly made, indicating that whoever made them knew what they should look like but was not necessarily familiar with the method of manufacture. All were made from the same fabric, comparable to that used for the daub. None has been made in a wooden or sand mould. All have very uneven under-surfaces which were scored before firing with cross-hatched lines; this may have been a manufacturer's mark or a keying device.

1. (FIG. 37, 1) *Tegula*, orange fabric, 2.7 cm thick. This is a corner piece; the flange appears to have been removed or knocked off. The fabric is of good quality but it has been stretched and then pulled up to form the flange. There are faint traces on the upper surface that the clay was smoothed by hand, with the fingers leaving faint roughly parallel marks. Flange would have been *c*. 2.7 cm wide. *Area 2: 5033*
2. (FIG. 37, 2) *Tegula*, orange fabric. One straight edge. Maximum overall dimensions 120 mm by 85 mm by 45 mm. On one surface are traces of scoring in a diamond pattern. Manufacture very poor. On the upper surface there is apparently a second lump of clay in the process of being moulded to form the upper surface and possibly part of the flange. The method of manufacture was similar to that above, but the material was stretched too far and the flat area became too thin. In order to correct this, it was decided to mould an additional piece of clay (100 mm by 66 mm by 27 mm) onto the flat surface towards the flange. A depression (a thumb print?) possibly marks an attempt at this process. *Area 2: 5033*
3. (FIG. 38, 3) Part of brick, 130 mm by 65 mm by 27–32 mm. Orange fabric (stone inclusions). As with the the other examples the fabric has been markedly stretched during manufacture. Diamond scoring again appears on one flat face; this surface is not even. On the other side there are signs of smoothing with the hands but no individual finger marks. *Area 2: U/S*
4. (Not illus.) Two flat straight edges, large scale diamond scoring on one suface – two parallel lines and one cross hatch. 28 mm by 98 mm by *c*. 80 mm. Other surface possibly smoothed with hand? All surfaces heavily abraded. *Area 2: 5031*

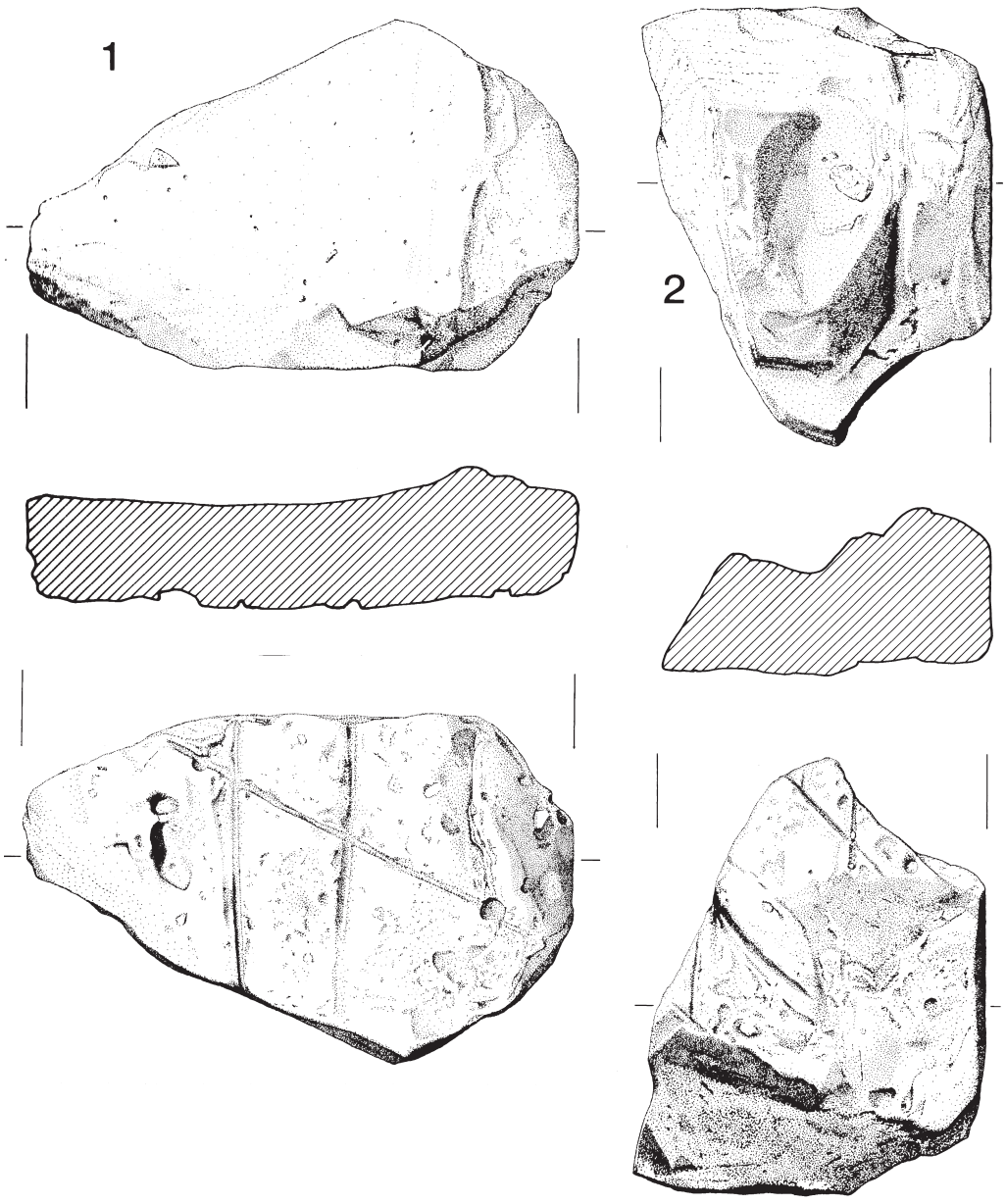

FIG. 37. Brick and tile fragments (scale 1:2).

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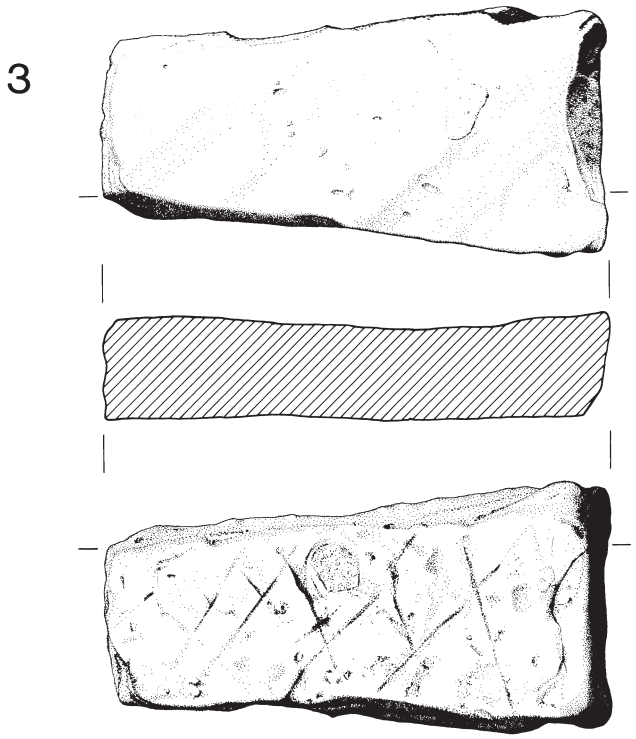

FIG. 38. Brick and tile fragments (scale 1:2).

THE PLANT REMAINS *By* Jacqueline P. Huntley[166]

Introduction

Bulk sampling of Areas 1, 2, and 3 had been undertaken and the material processed on-site using a modified Siraf tank with flots being retained upon 500μ mesh and the residues upon 1 mm mesh. One waterlogged sample was present and material from it was wet sieved to 500μ. A total of 178 contexts were initially sampled; following assessment it was recommended that 17 from Area 3 were fully processed and that all from the other areas should be re-sieved to 1 mm and then fully analysed. All fruits and seeds were sorted from the flots, at magnifications of up to ×40, and identified by comparison with modern reference material belonging to the author.

Other than the one waterlogged feature, discussed separately below, all of the archaeobotanical material had been preserved through carbonisation. As such it largely comprised cereal grains and associated chaff and weeds, as is to be expected in a country where natural fires are rare. Non-carbonised seeds were abundant in some contexts. These derived from *Fumaria officinalis* (fumitory), *Chenopodium album* (fat hen), and *Stellaria media* (chickweed); all are common arable weeds in the area today and are, indeed, considered to represent modern seed bank material. Modern fine rootlets were a problem in many of the flots and indicate the

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relatively shallow nature of the deposits. There is, therefore, the possibility of contamination of archaeological material due to biological activity in the soils.

Archaeological interpretation

For the samples associated with the extramural areas south of the river, with the exception of only two samples, all of the material is dated to the Roman period and, in fact, to the period A.D. 71–85/90; thus the whole material represents only a matter of twenty years. Although this may be of critical importance to the archaeological interpretation of the site, it is considered to represent such a relatively short period that the plant remains can probably be considered as a single assemblage. In addition, many of the samples could not be assigned to a single phase and so encompass the whole of the Roman period represented. The prehistoric and modern contexts produced so few remains as to preclude any sound interpretation.

The site grid co-ordinates were available for each sample and these were used to plot the distribution of the samples in the various multivariate groups in case material showed spatial distinction. Although these figures are not reproduced here, suffice it to say that representatives of most classification groups occurred in most areas of the site and that no clear patterns emerged. This reinforces the suggestion that the plant remains present here primarily represent background activity for the site as a whole.

Of particular interest is the paucity of plant remains in pits — usually places into which rubbish was thrown with alacrity. It has to be concluded that the fills of these features do not relate to any domestic material but rather reflect the more industrial nature of these parts of the site. Undoubtedly plant material was used in the fort itself, but it must have been disposed of elsewhere. Even under conditions of poor preservation carbonised material usually survives to some degree. The exception is Context 5104, a layer in a well, which was probably a deliberate discard of burnt grain.

Roman-period material was likewise recovered from north of the river, in Area 3. Twice as much material was recovered from Area 3 in spite of only a quarter of the number of samples being analysed. It seems clear that this site represents a more domestic area than that represented in Areas 1 and 2. It is of interest that more wheat is recorded from Area 3 whereas barley was the dominant cereal in Areas 1 and 2. This may simply reflect the rather low numbers overall but could indicate the use of barley for animal feed, probably for horses, and associated with the fort. Abundance of general small grasses, in particular *Sieglingia*, and *Montia* seeds suggests fine-sieving debris, thus perhaps indicating cereal processing to the north of the river.

The general species list is very similar to that for many other Roman sites within the North-East with hexaploid wheat, predominantly spelt, the most common wheat species and hulled barley generally the dominant cereal overall. Oats are more abundant here than for other sites, such as those discussed in van der Veen (1992) and Huntley (forthcoming). Without associated chaff fragments it remains unclear as to whether the oats are cultivated or wild, although their abundance and size range suggests the former. Rye is absent from the Roman material at this site.

Although five of the samples from Area 3 were dated as Roman/earlier there is no botanical evidence to suggest that they are anything but Roman. Of the remaining, and undated, samples from F79, three are clearly different. Contexts 1527, 1535, and 1562 are dominated by oats but with bread wheat co-dominant in 1527 and 1562 and rye very common in 1527. This mixture suggests a medieval or later date. In addition, abundant achenes of the stinking mayweed, *Anthemis cotula*, reinforce this suggestion. This is a plant of heavy clay soils and it is generally considered that improved ploughing techniques in the Middle Ages allowed cultivation of the heavier soils and hence the increased importance of a different suite of arable weeds. The other samples could all be Roman from their plant assemblages. This is also true for one sample dated to A.D. 1510–1550 by thermo-remnant magnetism, although its sparse plant remains are too few

to infer, seriously, a date. It lacks bread wheat, oats and rye but does contain hulled barley and hexaploid wheat.

The Flavian well from south of the river produced a highly organic fill. As it was discovered by mechanical excavator during the laying of the motorway embankment drain, excavation was not possible and a bulk sample only was grabbed. After wet sieving very little mineral material remained; a small amount of fine silt had been removed during processing. The bulk of the material was a well-preserved vegetable mat of monocotyledonous stems — most of these were referable to grasses, although sedges were present. Seeds were very rare and no carbonised seeds were present, although a few fragments of charcoal were. The seeds present represented primarily a wet grassland community — sedges, small grasses, selfheal — and it is suggested that the deposit represents hay or animal bedding. Occasional fragments of cereal straw were recovered. If hay then it was from a crop cut early in the season before the plants had flowered or seeded. It may, of course, represent dung, but the coarse nature of the material obviates ruminants. Horses are a possible answer. This particular deposit has to be seen as a discrete dumping episode given its restricted assemblage and does not, therefore, have the usual mixed characteristics of well deposits. This suggests either that the well was filled-in more or less at one go or that the sample only represents a short period of activity.

Summary

Although a moderate number of samples were analysed from the *vicus* area of the fort, relatively few plant remains were recorded and it is suggested that they reflect background activity of the site in the majority of cases. The results of multivariate analyses reinforce this suggestion with no clear groupings nor definitive axes of variation produced. Only in one pit is there an indication for dumping of a more domestic-type rubbish. This part of the *vicus* seems to have been an industrial zone rather than an ancillary domestic area. In comparison, samples from north of the river, but of the same date, have produced considerably more remains suggesting some domestic activity here. Hulled barley and hexaploid wheat, probably spelt, are the most common cereal grains and, with their associated weeds, are a typical Roman assemblage for the North-East of England. The associated weeds also indicate that a variety of soils were exploited. These included the acidic, sandy and well drained soils, the wetter ones presumably in the river valley, and some clearly had nutrient enrichment in the form of nitrogen, probably indicating a manuring regime.

A series of pits from the north of the river are dominated by bread wheat, oats and/or rye and are considered to represent later deposits, possibly medieval in date. They indicate at least some continuity in use of the site, although the period between Roman and this probable medieval activity remains 'dark'.

ANIMAL BONES *By* L.J. Gidney

This is a small collection of bones and shell from the bottom of the fill of Well 5105 in Area 2, but the preservation of bone at Roecliffe and Langthorpe was generally very poor. They were obtained from a bulk sample of *c*. 200 litres which was sorted to 1 mm. The bones are in an excellent state of preservation.

Species fragment counts:

Domestic		*Wild*	
Cattle	5	Water vole	6
Sheep/goat	9	Mouse/vole?	2
Pig	2	Frog/toad	9
Dog/fox	1	Oyster	2

The greatest volume of bone derives from the domestic species and appears to be culinary waste. The cattle bones had been comprehensively butchered in standard Roman fashion. The sheep/goat tibiae had been broken in half and the jaws and vertebrae chopped. The two pig bones had been chewed by a canid.

The cattle bones all appear to have derived from adult animals though there was no fusion or tooth evidence to suggest age of slaughter. The sheep/goat bones were all from immature animals. The mandible with Molar 1 unerupted derives from an animal probably less than five months old. The other mandible is probably from an animal aged less than eighteen months. This may correspond with the tibiae where the clear fusion lines suggest an age of death of about or less than two years. The radius is from an animal more than a year old. The two pig bones were from juvenile animals but canid damage has removed tooth and epiphysial ageing evidence.

Canids are represented by one thoracic vertebra. This falls into the size range of both dog and fox. The centrum has been eroded, probably prior to deposition, rendering closer identification difficult.

The bones of the above species may have been deposited deliberately as kitchen waste or floor sweepings. The immature sheep/goat and pig bones indicate production for food, while the mature cattle bones suggest that beef was the final product of animals valued primarily for milk and traction. The higher number of sheep/goat to cattle bones reflects the indigenous sheep-based pastoralism rather than the later cattle-based production stimulated by the Roman military market.

The smaller wild species may have accidentally fallen into the well. The six water vole bones all appear to derive from one individual. The two smaller mouse/vole bones may also derive from one animal. The nine frog/toad bones appear to represent more than one animal. Amphibians in particular may have been attracted to the well and, once having fallen in, been unable to escape. One complete oyster appears to be indicated by the top and bottom valves.

The low overall concentration of bone suggests casual dispersal rather than a deliberate dump of bone. This is in accord with the botanical interpretation, at this stage, of the well infill consisting largely of animal manure/byre waste. The animal bones, although well preserved, are not enough for comparisons with other sites to be made and must simply reflect a vignette of activity at this particular site during the Flavian period.

CREMATION BURIAL REPORT *By* Francesca Boghi[167]

(The following report is an edited version of the full archive report)

Context 126

About 400 g of bone were recovered in Urn 126. This quantity is very small compared to the amount of material recovered after modern cremations. The average modern value for females is *c*. 2000 g.[168] This scarcity can be largely attributed to post-depositional disturbance and loss rather than to incomplete collection of material at the pyre site.

The vast majority of fragments are larger than 10 mm but fragmentation is considered to be substantial since few fragments are larger than 2–3 cm and the maximum fragment size is very small being less than 6 cm. Varying degrees of fragmentation are to be expected as a result of the cremation process itself: tending, collection of bone especially while hot, separation of

[167] Calvin Wells Laboratories, Department of Archaeological Sciences, University of Bradford.
[168] McKinley 1993, 283–7.

bone from pyre debris, post-depositional disturbance, excavation, and post-excavation.[169] It is therefore difficult to attribute the high fragmentation of this material to purposeful behaviour at the time the cremation took place.

The presence of one individual with no contamination of bones from other individuals indicates that a new pyre site was built for this occasion or, more likely, that the pyre site was accurately cleared of all human remains after every cremation.[170]

The colour (white to tan) indicates that these human remains underwent extensive and uniform oxidation and were exposed to a heat of about 800°C.[171] Longitudinal and transverse cracking is the expected pattern for bone which is burned fresh and fleshed. There is little evidence of differences in the degree of burning according to anatomical parts beyond what is normally expected as a consequence of the differential distribution of tissue and body fat. Shielded surfaces such as joints are more poorly oxidised than feet and hands which are less protected by soft tissue.

The human remains were almost equally distributed between the two spits. The bone in both spits was randomly distributed. 57 per cent of the bone fragments recovered could be identified on the basis of their morphology. An average of 50 per cent of bone is normally identified in cremations from archaeological contexts.[172] Anatomical parts belonging to the appendicular skeleton are under-represented compared with axial parts. It is suggested that differential representation of anatomical parts may represent selective collection of cremated remains at the pyre site.[173] However, in this case there is no compelling evidence of such a practice. It appears that these results could be better explained considering that the portion of unidentified remains is likely to include many limb fragments which offered few markers for identification.

The surrounding deposits, the external and internal fill of this vessel, are similar in their composition. The main difference is in the percentage of charcoal content which was abundant in the external fill and absent inside the vessel, together with a slightly higher percentage of silt and sand within the internal deposits. A higher content of silt in the internal fill could possibly be the result of fine material filtering inside the pot from the external deposit after the lid and/or the sides of the vessels were fractured. A markedly higher content of charcoal in the external deposit relative to the internal fill is indicative of the deliberate separation of bones and pyre debris, the latter being collected from the pyre site but deposited outside the vessel. The techniques available to perform this consist in laying the whole pyre in water or willowing. Both practices are well known from ethnographic comparisons but can hardly be proved in an archaeological context.[174] Therefore, although deliberate separation appears to have taken place, it is difficult to infer the technique that was used for this purpose. A higher content of sand within the internal deposit could be indicative of the use of sand to help extinguish the pyre. However, the difference in sand content between the internal and external fill is not clear-cut and there is no evidence of siliceous slags which are expected if sand is sprinkled over the cremation or naturally present at the pyre site.[175]

Context 129

This context is characterised by the abundance of fired soil (from the internal fill) and charcoal

169 McKinley 1993; McKinley 1994a, 339–42.
170 op. cit.
171 Buikstra and Ubelaker 1968.
172 McKinley 1989, 65–76.
173 op. cit.
174 McKinley 1994b.
175 Henderson *et al.* 1987, 81–100.

(mainly from the external fill). The vessel contained only one very small fragment of cremated human bone (part of a vertebral body). Given that this context was disturbed by Context 126, it is possible that the bone is either residual (surviving post-depositional degenerative processes or disturbance) or intrusive (i.e. a small quantity of bone may have accidentally become part of the deposit due to non-human, plant, human, or mechanical disturbance). A third, but less likely, hypothesis is that the bone may be a 'token', i.e. it may represent the purposeful inclusion of bone elements from other individuals, possibly according to family relationships.[176] The bone evidence in this case is insufficient to determine whether the human bone from Contexts 129 and 126 belong to the same individual. However, even considering the bone to be intrusive, the rest of the findings (fired soil, charcoal, two iron nails) appears to indicate that this context was used as either a container for cremated human bones or was at least part of a cremation deposit, possibly as a container for pyre debris and personal possessions/grave goods. It is unlikely, however, that Contexts 126 and 129 were part of the same burial since 126 is later than 129 according to stratigraphic relationships. The two nails may represent the remains of footwear. Elements of footwear have been found in cremations, especially from south-eastern England dating to the first century A.D., and are associated with both sexes.[177] The symbolism of this finding in a funerary context implies a belief in travel in the after-life. This find could represent the adoption of elements of Roman burial practice by the local population.[178]

Context 109

The finds and interpretation of this context are similar to those advanced for Context 129. The characteristics of both internal and external fill are suggestive of a cremation deposit, although only a negligible amount of bone was recovered from inside this vessel. Given the number of finds from this context (two melted glass objects, one fragment of corroded iron, and one corroded iron nail), these are unlikely to be intrusive. The two melted glass objects could possibly represent glass phials, a common find in Romano-British cremations.[179] The X-ray examination of the corroded iron object may offer some more interpretative evidence.[180] As for Context 129, it is suggested that this context may have been part of a cremation deposit, possibly allocated to pyre debris and grave goods. The fact that this context was also badly truncated cannot fully explain the almost complete lack of bone, since the amount of undisturbed deposit would appear to be sufficient to assure the recovery of more human remains. In case of Context 109 the bone is more likely to be intrusive than residual.

SLAG *By* Gerry McDonnell and Paul Maclean[181]

Classification

The slags were visually examined and the classification is based solely on morphology. In general they are divided into two broad groups: diagnostic and non-diagnostic slags. The diagnostic slags can be attributed to a particular industrial process. These comprise the ironworking slags, i.e. smelting or smithing slags, and the non-ferrous residues. The non-diagnostic residues cannot be

[176] McKinley 1993; 1994a, 339–42.
[177] Philpott 1991, 165.
[178] ibid., 171.
[179] ibid., 119.
[180] Rob Janaway pers. comm.
[181] Ancient Metallurgy Research Group, Dept. of Archaeological Sciences, Bradford University.

directly ascribed to a process, but may be identified with a process by association with diagnostic residues, e.g. clay furnace lining with smelting slag. The non-diagnostic residues recovered from Roecliffe include cinder, hearth lining, and 'other material'. The residue classifications and details of the provenances are held in the site archive.

Discussion

The total quantity of smithing slags recovered from the samples is greater than that found in a normal scatter of ironworking debris. A total of 62 possible iron objects has been identified and separated from the slags.

The identification of an ironworking area, i.e. a place where ironworking has been carried out, relies on the identification of the residues. There are three criteria that normally must be satisfied to confirm ironworking activity: (i) the occurrence of significant quantities of smithing debris; (ii) the presence of micro-residues, in particular hammerscale; (iii) the distribution of the residues. A major difficulty of interpreting ironworking residues is the redeposition of slags in antiquity away from the working area, in particular the use of slags for hardcore and levelling. Therefore large deposits of slags may be recovered some distance from the area of working. However this is usually balanced by the occurrence of scale which is distributed around the area of working and not prone to redeposition, except during the clearing out of a smithy or its hearth. The evidence from this site shows that there is sufficient smithing debris to indicate iron smithing activity in close proximity to the areas excavated. This is supported by the quantities of hearth lining present, which occurs in significant amounts in smithy deposits, but less so with redeposited slags.

The majority of the cinder is probably associated with smithing, but some may be due to other processes (for example where it occurs on its own, as in Contexts 2031, 2061, and 2323 in Area 1).

A definite tuyere was found in a sample from Context 4225 and another possibly from Context 2005. Reconstructed tuyere diameters are in the order of 25–30 mm. Iron smithing debris occurred in Context 4225.

As for the 'crucible' material recovered from Contexts 317, 2438, 2561 and u/s, the thin walled (refractory) material from Contexts 2561 and u/s can be positively identified as belonging to crucibles used for melting copper-based alloys. They show the full range of copper-alloy components normally encountered in the past (Sn, Zn, Pb), however it is not known whether these elements represent the melting of a single alloy species (possibly a leaded gunmetal) or different alloy species melted in the same crucible. The thick wall (non-refractory) material found in Contexts 317, 2438, and 2561 do not reveal the presence of copper or its normal alloy constituents; instead they possess quantities of silicon, calcium, potassium and aluminium which are commonly found in normal pottery ceramics, but offer no direct evidence for being crucible material. Material from Context 317 possesses high levels of chlorine, and there may be a possibility that the original container may have been associated with the use of salt.

It is difficult positively to assign uses for the thick walled material. Analyses do not provide evidence for a technological (metalworking) function, but this does not preclude their use for metalworking. Yet these samples were not recognised as 'normal' pottery ceramics during post-excavation processing. Their true function remains open to further interpretation.

Conclusions

Both ferrous and non-ferrous metalworking processes have been identified from the Roecliffe excavations. The slag shows that iron smithing was carried out, although the extent and nature of the product has not been determined. There is sufficient evidence to postulate iron smithing close to the areas excavated.

In the case of non-ferrous metalwork, alloys of copper, tin, zinc, and lead were used. From the relatively small amount of material recovered it is expected that the copper-based alloy production was on a smaller scale than the iron production.

GENERAL DISCUSSION

THE DEVELOPMENT OF THE SITE

The extent of known and suspected Flavian military sites in the region can be seen in the accompanying figure (FIG. 40), although it must be stressed that such a map perforce lacks any subtleties of phasing within the broad Flavian heading. Roecliffe and Healam Bridge[182] fill the gap on the route between York and Catterick at points where it crosses water courses, the relevant distances being 28 km (17 Rm) between York and Roecliffe, 19 km (11½ Rm) from Roecliffe to Healam Bridge, and 19 km (11½ Rm) from Healam Bridge to Catterick. It may be that the Newton Kyme/Tadcaster–Roecliffe axis (21 km or 13 Rm) is of more relevance to the strategic situation in the region in early Flavian times than York–Roecliffe.[183]

To judge from the historical and archaeological evidence, Roecliffe has every appearance of being a Cerealian foundation. It was presumably intended to superintend a crossing of the river, towards which the east–west road was perhaps heading, although the identification of a contemporary settlement on the north bank of the river, at Langthorpe (SE 385 671), immediately opposite Roecliffe, raises the possibility of a north–south road underlying the present A1 embankment. This is further bolstered by the interpretation of the prehistoric monument, the Devil's Arrows, as marking the crossing of the Ure (and, perhaps, the line of a contemporary track heading for the Thornborough/Hutton Moor sites).[184]

The *castra* encompassed at least 2.5 ha within its ramparts and, if the northern gate was the *porta praetoria* and therefore centrally positioned, up to 3 ha.[185] However, given the Flavian tendency to align the *via praetoria* along the long axis of *castra*,[186] then the northern gate may be asymmetrically located and the defences might have included as much as 3.8 ha.[187] The geophysical survey suggests defences consisting of a box rampart within double ditches, with

[182] Hartley and Fitts 1988, 40. Cf. the results of recent fieldwalking in *Britannia* 23 (1992), 272–3.

[183] A useful summary of what is known about Newton Kyme can be found in Frere and St Joseph 1983, 110–13. The close proximity of a Neolithic henge monument (fig. 63) is noteworthy in the present context. Hartley and Fitts (1988, 36) suggest that the Rudgate, Margary 280, which passes Newton Kyme, is a later addition to the road network, by-passing York. Most recently, see Boutwood 1996, 340–4.

[184] Burl 1991.

[185] As such, it would be more than twice the size of the extensively excavated and probably contemporary Elginhaugh, which, it has been suggested, may have accommodated about 800 men: Hanson and Yeoman 1988, 5. This is, of course, considerably more than would be suggested by statistical analysis of later fort sizes (Bennett 1986, 707–16), where 480 infantry might be suggested for a fort the size of Elginhaugh, or perhaps a similar number of cavalry in the case of Roecliffe (ibid., Table III). Naturally, mixed garrisoning (indicated by the finds of military equipment from many early sites like Roecliffe: cf. Bishop and Coulston 1993, 209) would make nonsense of any such ad hoc computations. The contemporary (and – at 3.6 ha within the ramparts – only slightly larger) Rottweil III had eight barrack blocks in the *retentura* (Rüsch 1981, 29) and space for eight more in the *praetentura*, so could have held as many as 1,200 men.

[186] Johnson 1983, 31 notes favoured proportions of 1:1 or 3:2.

[187] If the 3:2 proportion applied. Contemporary sites at Rottweil III (Rüsch 1981, 26) and Elginhaugh (Hanson and Yeoman 1988) adhere to the 1:1 ratio, but Hayton (Johnson 1978) is 3:2. Jones (1975, 64) isolated a group of (usually approximately square) *castra* associated with the Flavian conquest of northern Britain, ranging in size between 1 and 1.5 ha, but Roecliffe would be much too large to accord with this observation.

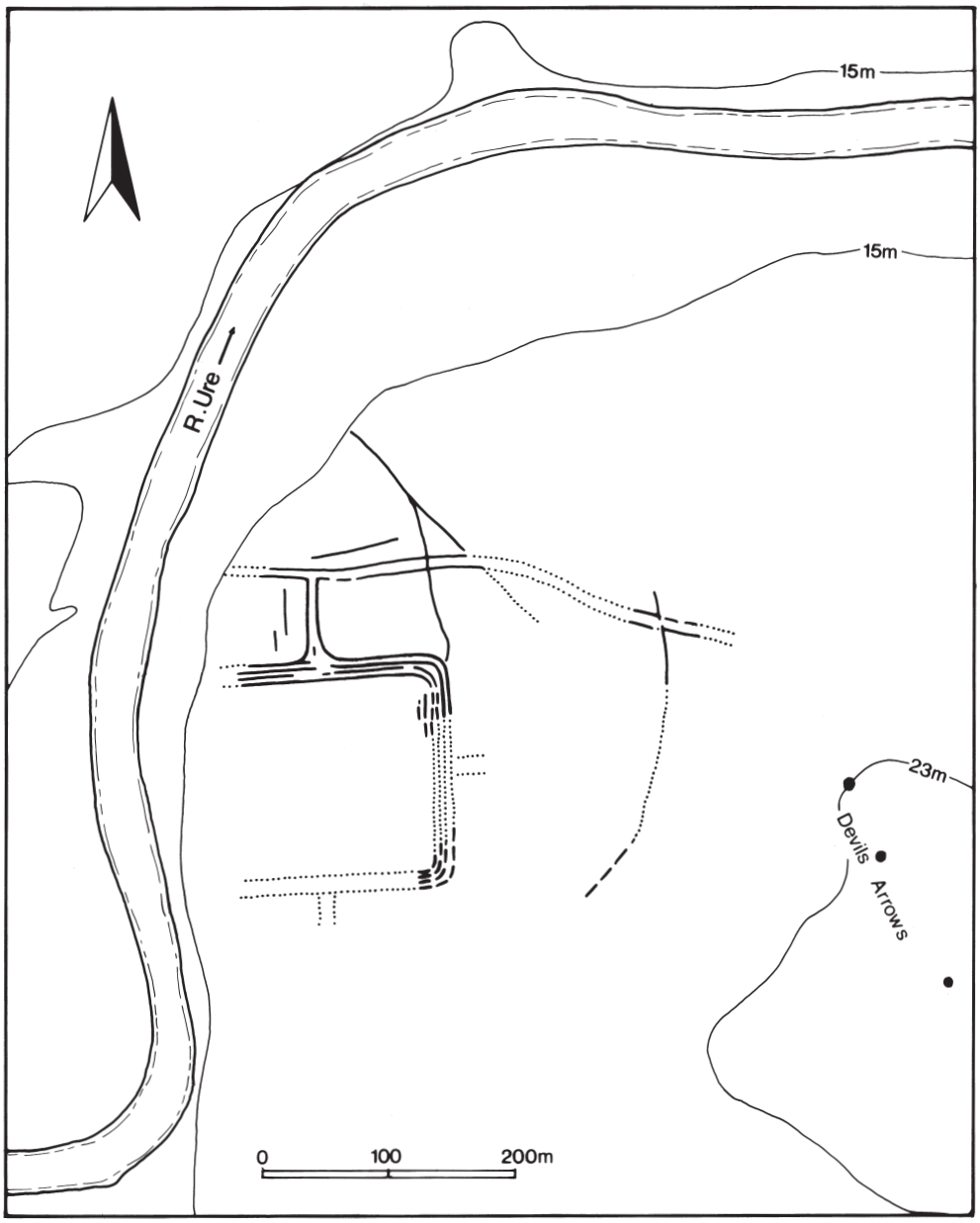

FIG. 39. Reconstructed plan of Roecliffe *castra* and its related features.

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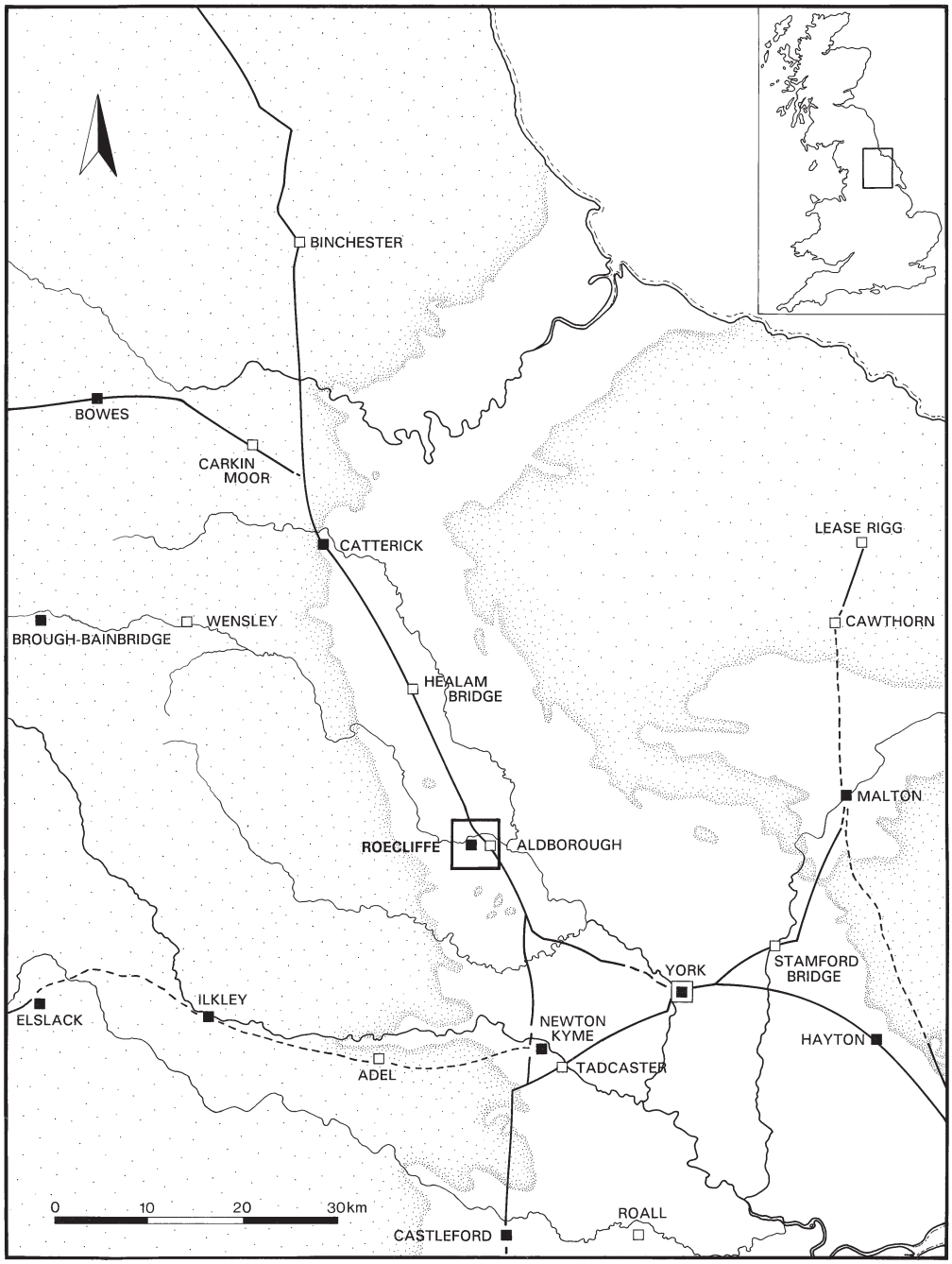

FIG. 40. The position of Roecliffe in relation to other contemporary or near-contemporary sites.

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the rampart apparently constructed within palisade trenches.[188] At approximately 5 m, the width of the rampart of Roecliffe is comparable with other contemporary sites with box ramparts.[189]

The *castra* was set within concentric outwork defences,[190] consisting of ditches with their ends overlapping so as to force an approaching enemy to present his unshielded side. The first segment was located in Field 76 to the north-east of the fort. The next portion was identified to the east of the A1 in Field 74, but the interval between this and the former section suggests that there is a length of ditch beneath the present dual carriageway embankment. The ditch itself was clearly intended to have a Punic profile,[191] the steeper face naturally being the outer (inward-facing) one. The profile varies slightly, acquiring an 'ankle-breaker' as it nears the river,[192] but remains more or less consistent. It is also normally accompanied by a slot, either on the outside lip (FIG. 11, sections a and d) or the inside (FIG. 11, section b). This is always cut by the ditch itself, but follows its course closely, and it is tempting to identify this as a lockspit designed to guide the ditch-cutting party.[193] The hints of obstacles in the ditches would also not be without parallel.[194]

Questions are raised by the confirmation by excavation that extramural buildings lay within the outwork defences. Considerations of whether it represents a *vicus* or an annexe tend to beg the question of whether there was indeed a difference. The finds within the wells (metallic military equipment, leather from tents) suggest a military involvement, but that need only be in the actual tidying-up and demolition process and need not reflect the everyday processes carried out there.[195]

The question of whether the outwork ditch was accompanied by a rampart is an important one. The evidence from the fill of the ditch in Area 1 points towards a turf-cheeked, earth-cored rampart accompanying it, yet the proximity of extramural structures makes it difficult to see where such a rampart could have been. A possible resolution may lie in the suggestion that, although the outwork was constructed at the same time, it may have gone out of use sooner than the *castra* and been backfilled to permit extramural expansion. Structures were certainly identified to the south of the outwork ditch in Area 2. Backfilling before the demolition of the fort might also explain the minimal amount of material such as burnt daub or charcoal in the fill which could be associated with that process.

This may have some bearing upon Wilson's suggestion[196] that outworks of this type may have been designed to protect the workforce in the initial stages of construction of the *castra*. The geophysical survey shows that the east–west road crosses the outwork ditches in two places, once in Area 1 (close to Trial Trench 3) and again in Area 4, but in the latter case it is noticeable that the outwork ditch continues across the line of the road (as defined by its side ditches), suggesting that the two were not contemporary (and, as a result of the excavations detailed here, possibly to be interpreted as the road post-dating the outwork defence).

The results of the geophysical survey appear to show the road heading westwards across

[188] As such, it bears comparison with the site at Stanway near Colchester, where similar palisade trenches have been identified from the air (Frere and St Joseph 1983, 92).

[189] Jones 1975, 82–3.

[190] Wilson 1984.

[191] Jones 1975, 106–8, fig. 20.

[192] Perhaps a sign of the need for frequent cleaning in this region? Cf. Jones 1975, 36 for ankle-breakers and cleaning.

[193] cf. Jones 1975, citing the example of Cawthorn, where such a trench was cut centrally for a portion of unfinished ditch.

[194] Jones 1975, 113–14.

[195] Bishop 1985, 8.

[196] Wilson 1984, 60.

Area 1 towards the Ure, presumably with the intention of crossing it. This road appears to have undergone at least three phases of development, acquiring side streets leading to the south and, if the metalling to the north is also related, to the north too. The fact that one of these streets led over a side ditch filled with rubbish suggests development related to expansion of the settlement, but its cutting by a later roadside ditch would indicate that it fell out of use again, perhaps indicating contraction. The fact that all of the roadside ditches were quite rich in finds may be an indicator of intense activity in the vicinity of the road.[197]

There were clearly modifications carried out to the original plan, but again the structures defined within the excavated area are insubstantial and lacking in coherence.

Roecliffe was probably abandoned in favour of the new site at Aldborough, possibly at the same time as the new base was constructed on the main site at Corbridge, usually accepted as after A.D. 85, and perhaps as late as the end of the 80s.[198] This would appear to be related to the construction of the road now known as Dere Street and the need to oversee the locations at which it crossed rivers like the Tyne or Ure, but the fact of its existence certainly hints at a pre-Roman prototype for the Dere Street, used by the Romans for their penetration into the northern extremes of Britain.

DATING AND HISTORICAL BACKGROUND

An interesting set of historical and archaeological considerations provide a theoretical chronological framework that can be tested against the excavated data. Q. Petillius Cerealis' incursions into the territory of the Brigantes in A.D. 71,[199] the year of his arrival in *Britannia* as *legatus Augusti pro praetore*,[200] serve as an obvious, although by no means unassailable, *terminus post quem* for the foundation of Roecliffe I.[201] The location of Roecliffe, only 2 km to the west of Aldborough (*Isurium Brigantum*), must bring into question the contemporaneity of any Flavian military site beneath the later town.[202] Since Aldborough, unlike Roecliffe, is situated on the Dere Street crossing of the Ure, it seems reasonable to assume Aldborough to be the later, Roecliffe the earlier, of two chronologically contiguous sites.

The dating of the construction of Dere Street is obviously crucial to such a discussion, although it might be unwise to assume that its formal constitution as an all-weather surface necessarily marked the first use of that particular route.[203] Discussions on the likely date of the withdrawal from Scotland[204] may have some bearing here, if, as would seem logical, they resulted in a

[197] What is not clear is whether this road swung to the north after crossing the river, passing close to the Langthorpe settlement, or whether it carried on in a westerly direction, perhaps up the Ure valley to Wensley, or south-west to Ilkley. As such, it would then be a precursor to Margary's 720a, the Aldborough–Ilkley road.

[198] Hobley 1989.

[199] Tacitus, *Agricola* 8.2–3; 17.1.

[200] Birley 1981, 68–9.

[201] For discussions of pre-Flavian Roman activity in Brigantia, see Hanson and Campbell 1986, 73–84.

[202] A Flavian fort beneath, or in the immediate vicinity of, the town is widely accepted (cf. Hartley and Fitts 1988, 40; Charlesworth 1971, 156; Frere 1987, 100). The evidence of the pottery is suggestive of a military presence (C. Dobinson pers. comm.) whilst early military equipment renders it almost certain (Bishop 1996, 1; cf. idem 1989, 5 for the reasons for this certainty). Taken together with limited evidence for military-type structures beneath the earliest town defences, it seems that it can only be a matter of when, not if, the military base beneath the town at Aldborough is identified.

[203] The Agricolan site at Beaufront Red House was located 700 m to the west of Dere Street at Corbridge, whilst Corbridge main site, possibly post-dating A.D. 86 (Bishop and Dore 1989, 140), marks the Tyne crossing of Dere Street, presupposing the existence of the road. The location of Red House may therefore be due to the use of the approximate route, if not the precise course, of the road, and a different crossing point to that later adopted.

[204] Hobley 1989, 69–74.

general re-deployment of forces and their garrison posts.[205] If the presumed Flavian military site at Aldborough was founded after *c.* A.D. 85, possibly as late as A.D. 88, then that would appear to provide a *terminus ante quem* for Roecliffe.

An intriguing aspect of the finds from Roecliffe is the presence within indisputably Roman contexts of items of Iron Age pottery and metallic finds belonging to the 'native' tradition. It is conceivable that this may be indicative of a native presence with the Roman army, possibly in the form of friendly native levies.[206] It is tempting, but probably unwise, to associate these items with pro-Roman elements within the Brigantes: as has already been mentioned, items of 'native' metalwork are not unknown in Roman military contexts in Britain in the first century A.D.

CONCLUSIONS

Although the structural remains of the extramural area at Roecliffe are disappointingly incoherent, the artefactual and environmental material, taken together with the geophysical survey, provide an interesting contribution to Roman military studies in the region and Britain as a whole. Not only do circumstances provide a satisfactorily narrow dating range which conforms well with what we know of the prevailing military situation from history and archaeology, but it also serves to shed light on the origins of Dere Street (and the route of the Great North Road) and the presumed military base at Aldborough. The geophysical survey, the sensitivity of which has, to some extent, been tested by the excavations, has provided a detailed picture of the *castra* and its environs (FIG. 39), and serves to counteract the lack of aerial photography of the site. Finally, an outwork defence has been studied in detail, with the possibilities noted that it was accompanied by a turf rampart and was backfilled to make way for development of the extramural settlement.

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[205] Hanson 1987, 161.
[206] See above, note 146.

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