ART. IV – *Observations in the vicus of Stanwix Roman Fort on the site of the Miles MacInnes Hall, 1986*

By IAN CARUANA

THIS report summarises the results of a watching brief carried out by the author on the site of the Miles MacInnes Hall, Scotland Road in Stanwix at NY 400569 (Fig. 1). Following demolition of the Memorial Hall, erected 1910-11 in honour of a local dignitary (MacInnes, 1911, 264-8), the site was used for the construction of flats, called Miles MacInnes Court, by Cumbria Construction Ltd. of Penrith.

## Background

The Roman fort at Stanwix (Biggins & Taylor, 2000) is one of the least known of all the Hadrian's Wall forts. Its very position was only established accurately in a short digging campaign in 1939-40. The main results of this work were published (Simpson & Richmond 1941; *JRS* xxxi, 1941, 129-30) but no final report ever appeared. This work also gave a context to internal buildings excavated earlier in the 1930s (Simpson, 1933; Simpson & Hogg, 1935). Further refinements were added in 1984 when a small excavation in the car park of the Cumbria Park Hotel, just north of the internal fort buildings exposed in 1932-4, revealed the rampart and north curtain wall of the fort and some ditches. It also provided evidence that the 3.96 ha. fort of the *ala Petriana* was an enlargement of an earlier fort (Dacre, 1985).

Even less is known of settlement outside the fort. Topography and the presence of the Vallum must have limited the scope for settlement to the south. Chance finds have been made on the west side of the fort, including a dedication stone of A.D. 167 (*RIB* 2026; Simpson, 1932), found about 150 metres to the north of the present site; and the Roman well with the first century glass *phalera* from the west side of Scotland Road (Toynbee & Richmond, 1953; Hogg, 1974). The line of the Roman road to the north could be expected in the vicinity (Hogg, 1952, 153-4). East of the fort, traces of buildings were found fronting on to an east-west road some 300 metres from the fort (Smith, 1978) in an area not far from the Roman cemetery. These buildings must have been towards the outer limit of *vicus* settlement.

## Methods

Initial tests by engineers revealed that, surprisingly, there was up to two metres of made ground on the site. The builders, therefore, took the decision to remove the full depth of this soil within each of the wall foundation trenches. Although no prior arrangement had been made to excavate or monitor the site, it was felt that the possibility of development outside the west gate of the fort was worth testing. The revelation that there were two metres of made ground was unexpected, since the survival of Roman deposits in Stanwix is sometimes poor (*Britannia* viii, 1977, 373), and increased the hope of Roman remains. Circumstances, both physical and

financial, did not favour excavation but arrangements were made to observe the excavated foundation trenches as far as possible within the author's otherwise heavily committed work programme.

The contractors initially stripped off a small quantity of rubble and top soil which levelled the site. Starting from the Scotland Road frontage, in a series of discrete operations, they then excavated the foundation trenches for the walls, which were part-filled with foundation concrete. In addition, a number of service trenches were dug to a lesser depth. This took place over two to three weeks. In theory there was sufficient time to monitor all the sections revealed; in practice, since the precise time of excavating was unknown and a constant presence could not be maintained on site, direct observation of exposed sections was largely a matter of chance. Interpretation would have been difficult given the narrowness of the trenches, but the facility to remain on site for several hours a day would have permitted sections to be drawn and considerably enhanced the possibilities of reconstructing the plans of buildings.

Finds, mainly pottery and bone, were collected on site during the author's daily visit. Many of these were saved through the co-operation of the workmen on site. Most of the spoil was loaded directly into lorries and dumped on a private site in Scotby. Through the kindness of the contractor, I. H. McDermott, the dumps were examined nightly and scoured with a metal detector by Alan James, and a substantial quantity of finds recovered. Since the checks on the spoil dump were so frequent it was possible to tie down some finds to areas of the building site. However, almost all finds were unstratified and for the purposes of this report are treated as a single group.

The factors just noted are responsible for the structure of this report. Following the model of conventional reports, a brief description is given of the character of the structures. The features recorded are generally ill-defined and poorly located but in view of the conclusions to be drawn from the study of the finds, it is necessary to

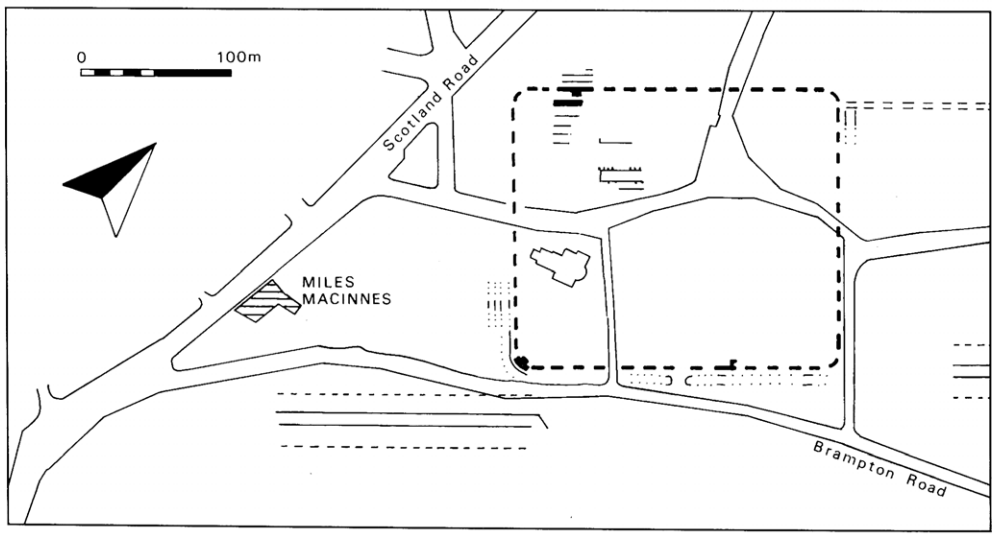


FIG. 1. The Roman fort at Stanwix and location of the watching brief.

show that structural evidence commensurate with these claims does exist. Since the site was an archaeological blank prior to building, the evidence recovered is presented in some detail. More emphasis is given, however, to the finds. Publication is not exhaustive and selection follows two principles. Firstly, those finds, mainly coins and samian pottery, which contribute to our understanding of aspects of the site, particularly chronology, are given detailed treatment. Secondly, other finds which are important in their own right are also described fully. The remaining material is summarised to indicate its presence but no attempt has been made to catalogue all the scraps of bronze and lead, the iron, animal bone or coarse pottery.

## **Stratigraphy and Observations** (Fig. 2)

The evidence of the engineers' test holes as to the depth of stratigraphy was everywhere confirmed. On the north side of the site there was at least 2.50 m of made ground. This depth decreased to the south, and possibly to the east, though this is not certain. Between 500 mm and one metre of this depth was plough or garden soil. The depth of plough soil decreased consistently to the south and was primarily responsible for the variation in the total depth of made ground.

Most of the Roman deposits gave no appearance of being waterlogged but some of the lowest levels almost certainly were. In addition to the leather described below some scraps of wood were also recovered. More important, if more enigmatic, were finds of structural timber. Some lengths of oak (M) from the southern part of the site were examined. One large squared post (N) was reported by a workman and located approximately (Fig. 2). Its size suggests a roofed building rather than something insubstantial. These features all appear to have been from an earlier phase of occupation than that described next.

At the extreme western edge of the site, in the section of a sewer trench running north-south in front of the new building, a series of metalled surfaces was noted (A on Fig. 2). Several layers of cobble were present underneath the usual soil overburden. Hints of metalling were seen at one or two points further north but the trench was not properly visible. There were reports of abundant metalling in the north-west corner of the site, associated with much amphora, but this might have been part of a spread running eastwards. Cobble was not present in any of the trenches for the front walls of the flats.

The layering in the cobble, the fact of it being confined to a strip probably running north-south at the west edge of the site, and its position by the modern road, make it possible to suggest that this metalling is the east side of the Roman road north into Scotland. The exposure here was far too limited to regard this as proven but other circumstances lend weight to the idea (Caruana & Coulston, 1987). Further observations in 1993, when the carriageway of Scotland Road was dug up by British Gas, confirmed the presence of road metalling to a depth of one metre (*Britannia* xxv, 1994, 263-4).

Over much of the central part of the site was a spread of pink clay immediately below the soil. Its general character suggests it was not a feature *in situ* but more likely a demolition spread. Where concrete had already been poured into excavated trenches prior to observation this was usually the only layer to be seen below the top soil. In a few places more clearly defined features were seen. Clay and cobble

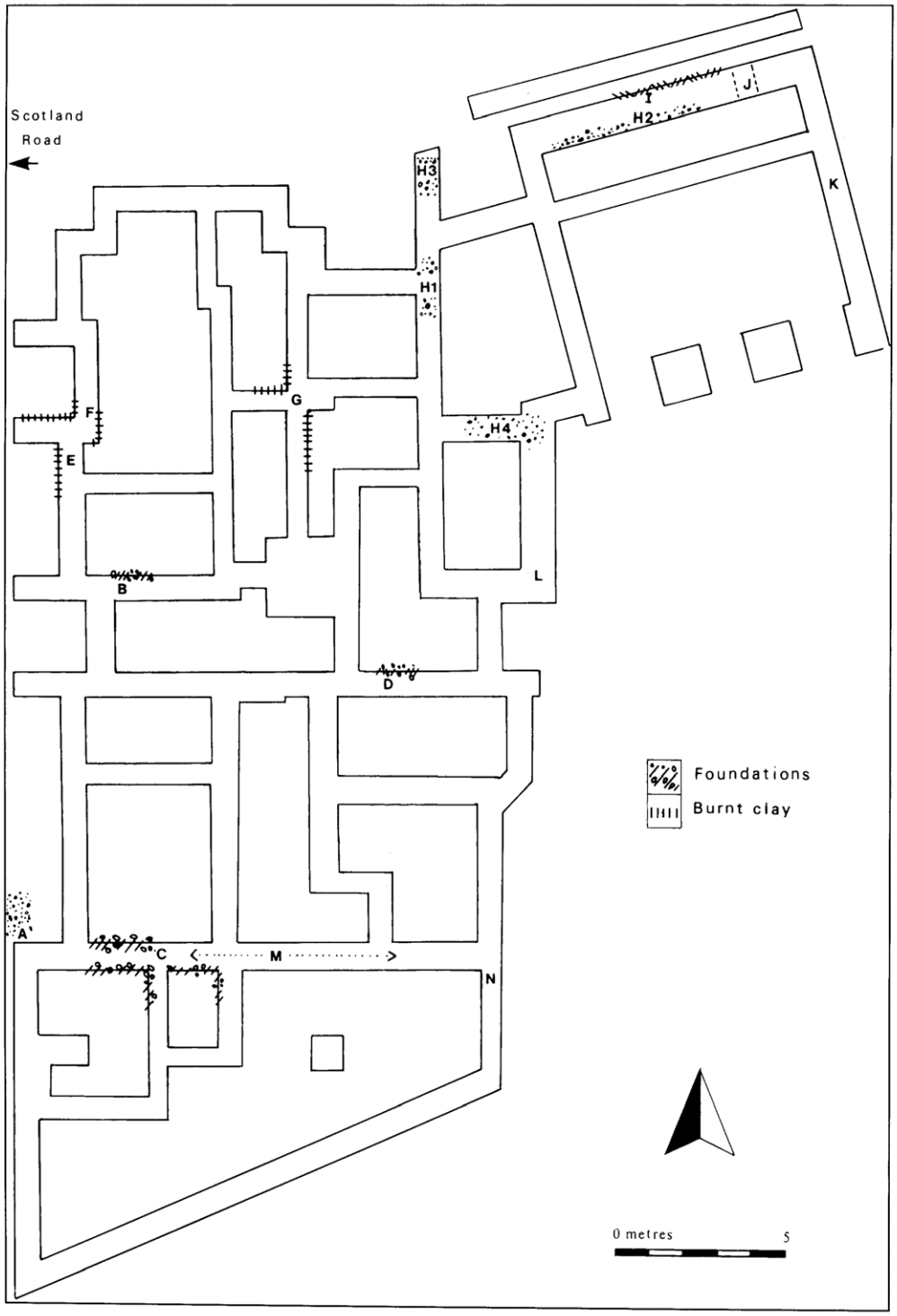


FIG. 2. Foundation plan of the MacInnes flats showing position of Roman structures.

foundations were observed at a number of points (B, C, and possibly D). The distribution of clay and cobble around the various trench sides at C suggest the existence of a corner. One possible reconstruction of the various exposures is to see a single building with a west wall running from B-C, a south wall running more or less west-east through C, and an east wall running parallel to B-C, through D. However, observation of the stratigraphy and the links across the various trenches failed to confirm that one building was present rather than several buildings, only a selection of whose walls were seen.

At three points (E, F, G) there were thick deposits of red burnt clay. A possible oven was seen at E at a depth of 650 mm with a minimum thickness of 120 mm. At F burnt clay was present at a depth of 750 mm to 1.45 m and resting on an old ground surface. Burnt red clay was present at G from a depth of 1 to 1.50 m. Although these various features have been referred to as ovens it was impossible to identify their size or function from the cross-sections available. No metal-working residues were found in the spoil scanned with a metal detector.

Towards the east of the site (below the car port) clay was absent and was replaced by gravel with at least two superimposed layers (H). The limit of the gravel to the north was seen at H3 and this was confirmed by the presence of clay along the length of the trench side opposite H2 at I. The eastern limit of the clay (I) was marked by red sandstones running across the trench north to south (J). Since clay was present at K it seems likely that the sandstones also marked the eastern limit of the gravel. The southern limit should be between H4 and L, where the workmen reported its absence.

Scattered throughout the plough soil were a number of large sandstone building stones that almost certainly originated in Hadrian's Wall. They may have been dispersed in an attempt to render this area cultivatable in post-Roman times.

**The Coins** by D. C. Shotter

| | Ruler | Denomination | Wear | Reference | Date | Sf no. |
|---|---|---|---|---|---|---|
| 1 | M. Antonius | Denarius | VW | Crawford 544 | 32-1 B.C. | N2 |
| 2 | M. Antonius | Denarius | VW | Crawford 544 | 32-1 B.C. | N15 |
| 3 | Vespasian | Denarius | VW | ? | 69-79 | N26 |
| 4 | Vespasian | Dupondius | VW | ? | 69-79 | N19 |
| 5 | Vespasian | As | VW | ? | 69-79 | N18 |
| 6 | Vespasian | As | VW | ? | 69-79 | N21 |
| 7 | Vespasian | As | VW | ? | 69-79 | N9 |
| 8 | Vespasian | As | VW | ? | 69-79 | N11 |
| 9 | Vespasian | As | VW | ? | 69-79 | N13 |
| 10 | Domitian (Caesar) | As | MW | ? | 72-81 | N10 |
| 11 | Domitian | Denarius | MW | ? | 81-96 | N3 |
| 12 | Domitian | Denarius | LW | ? | 85-96 | N7 |
| 13 | Nerva | Denarius | MW | RIC 37 | 97-8 | N5 |
| 14 | Trajan | Denarius | LW | Hill 282 | 106 | N6 |
| 15 | Trajan | Sestertius | MW | RIC 523 | 103-11 | N12 |
| 16 | Hadrian | Dupondius | MW | ? | 117-38 | N24 |
| 17 | Antoninus Pius | Sestertius | LW | RIC 779 | 145-61 | N25 |

| | | | | | |
|---|---|---|---|---|---|
| 18 Antoninus Pius | Dupondius | MW | ? | ?152-3 | N23 |
| 19 Antoninus Pius | Dupondius | MW | ? | 138-61 | N4 |
| 20 Faustina II | Denarius | LW | RIC (Marcus) 689 | 161-76 | N1 |
| 21 Faustina II | As | MW | RIC (Marcus) 1655 | 161-76 | N22 |
| 22 Faustina II | Sestertius | MW | RIC (Marcus) 1659 | 161-76 | N16 |
| 23 M. Aurelius | Sestertius | MW | ? | 161-80 | N14 |
| 24 M. Aurelius | Sestertius | VW | ? | 161-80 | N8 |
| 25 Tetricus I | Radiate copy | MW | ? | 271-3 | N17 |

The coins are shown distributed by coin period in the histogram in Fig. 3. These coins, together with those found at Stanwix at other times, are shown in Table 1.

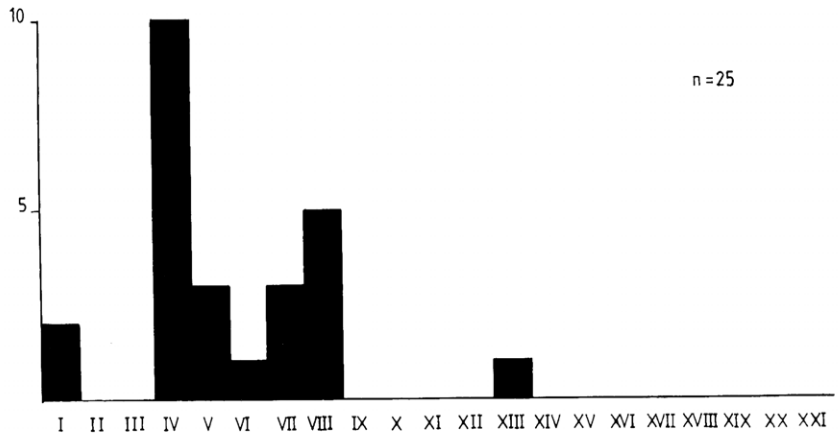


FIG. 3. Histogram of Roman coins distributed by coin period.

The forty-one coins recorded do not provide a sample of sufficient size for meaningful comment. However, a few points emerge:

i) The recently recovered group of twenty-five coins is largely concentrated into the period A.D. 69-180, and derives from an area outside the fort itself. At first sight, the large proportion occupied by Flavian issues is striking and could suggest pre-Hadrianic, even first century, activity. However, detailed examination of these coins shows that all, except one *denarius*, exhibit considerable wear, suggesting that their "date of loss" is unlikely to fall before at least the second decade of the second century, and may in fact derive from a Hadrianic construction phase. This suggestion would appear to be confirmed by the better state of the three issues of Nerva and Trajan.

ii) The number of *denarii* in this group from Periods IV and V, as well as the two of M. Antonius, suggests the presence, presumably for construction purposes, of a unit paid predominantly in this denomination – namely legionaries.

iii) The low showing of Hadrianic coins is indicative of abandonment in the early

TABLE 1. Summary of all coins recorded from Stanwix, by coin period.

| | 1986 | Others | Total |
|---|---|---|---|
| I (to A.D. 41) | 2 | – | 2 |
| II (41-54) | – | – | – |
| III (54-68) | – | – | – |
| IV (68-96) | 10 | 4 | 14 |
| V (96-117) | 3 | 4 | 7 |
| VI (117-138) | 1 | 4 | 5 |
| VII ( 138-161) | 3 | 1 | 4 |
| VIII (161-180) | 5 | – | 5 |
| IX (180-192) | – | – | – |
| X (192-222) | – | 1 | 1 |
| XI (222-235) | – | – | – |
| XII (235-259) | – | 1 | 1 |
| XIII (259-275) | 1 | – | 1 |
| XIV (275-294) | – | – | – |
| XV (294-324) | – | – | – |
| XVI (324-330) | – | – | – |
| XVII (330-346) | – | – | – |
| XVIII (346-364) | – | 1 | 1 |
| XIX (364-378) | – | – | – |
| XX (378-388) | – | – | – |
| XXI (388- ) | – | – | – |
| Total | 25 | 16 | 41 |

(Not included are the seven *asses* of Vespasian found in 1962 at Eden Bridge: Robertson, 1968, 63-6).

Antonine period in connection with the advance into Scotland (Shotter, 1976; 1979). We may also view the strong resurgence of coins of Antoninus and Marcus Aurelius as consistent with the abandonment of the Scottish frontier early in the reign of Marcus (Hartley, 1972a), and the consequent refortification and continued occupation of Stanwix at least into the late second century.

iv) Beyond the late second century, the new group provides only one coin (from XIII), whilst other finds yield only three (one each from X, XII and XVIII). Since the excavated group comes from an area outside the fort, it cannot be used for comment on the fort itself. Other sites, such as Ribchester (Shotter, 1985) and Lancaster, have demonstrated that fort and *vicus* can yield markedly different patterns of coin-loss, and that *vicus* sites may produce no coins from periods when the fort was garrisoned. This *may* suggest, not that the *vicus* as a whole was abandoned, but that its effective centre was "mobile".

v) It is worth noting that the coin-sample from Castlesteads shows a similar poverty of third century material (*CW2*, xxii, 1922, 221ff), although this may represent a freak of sampling (Shotter, 1979), since the record derives largely from an antiquarian collection.

vi) Although other finds marginally change the third and fourth century picture, and make some difference at the earlier end of the sample by introducing further Flavian, Trajanic and Hadrianic issues, this would not appear to be in such numbers as to

invalidate the suggestions in i-iii (above). However, it has to be remembered that the find of seven Flavian *asses* in 1962 at Eden Bridge is taken to indicate a loss in the first century, perhaps in connection with road construction work (Robertson, 1968, 63).

**Samian Ware** By B. Dickinson

The samian is listed below in Tables 2-5 according to the number of sherds per form. Where two or more sherds go together the maximum number of vessels is given in brackets.

The sources are:
M Montans
MV Les Martres-de-Veyre
L Lezoux
C-F Chémery-Faulquemont
A Argonne
R Rheinzabern
EG East Gaulish, unspecified

The bulk of the samian in this collection is of the later second and first half of the third century, but about one quarter of it is Hadrianic, possibly with a few Trajanic pieces. This early material (Table 2) comprises a rather limited range of vessels, both plain and decorated; the commonest forms being 18/31, 18/31R and 37. Of particular interest is a dish of form 18/31 from Montans, probably the first second-century piece from that pottery to be recorded on Hadrian's Wall, though the ware is widespread in Antonine Scotland (Hartley, 1972a, 32). Also belonging to the early material are three vessels from Les Martres-de-Veyre. One of them is almost certainly Trajanic and the others could be either Trajanic or Hadrianic. The rest of the samian comes from Lezoux. It includes a stamped dish of Macrinus ii and decorated ware including two or three bowls by Sacer i or an associate, and one each by the Quintilianus i group and X-6. The work of all these potters has been noted previously on the Wall, but Sissus ii, represented by one bowl, has not. Both the gaming counters in this collection belong to the pre-Antonine period.

TABLE 2. Pre-Antonine (mainly Hadrianic) Samian

| Forms | No. of Sherds | Sources | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | M | MV | L | C-F | A | R | EG |
| 18/31 | 3 | 1 | 1 | 1 | – | – | – | – |
| 18/31 or 31 | 3 | – | – | 3 | – | – | – | – |
| 18/31-31 | 4 | – | – | 4 | – | – | – | – |
| 18/31R | 10 (9) | – | – | 10 (9) | – | – | – | – |
| 27 | 2 | – | 1 | 1 | – | – | – | – |
| 30 or 37 | 3 | – | – | 3 | – | – | – | – |
| 31 | 1 | – | 1 | – | – | – | – | – |
| 33 | 1 | – | – | 1 | – | – | – | – |
| 37 | 7 (6) | – | – | 7 (6) | – | – | – | – |
| Curle 11 | 1 | – | – | 1 | – | – | – | – |
| – | 1 | – | – | 1 | – | – | – | – |
| Total | 36 (34) | 1 | 3 | 32 (30) | – | – | – | – |

TABLE 3. Hadrianic or Antonine Samian

| Forms | No. of Sherds | Sources M | MV | L | C-F | A | R | EG |
|---|---|---|---|---|---|---|---|---|
| 18/31R | 1 | – | – | – | – | – | – | 1 |
| 37 | 2 | – | 1 | – | 1 | – | – | – |
| Total | 3 | – | 1 | – | 1 | – | – | 1 |

While the quantity of samian recovered is not large, it is noticeable that the proportion of decorated to plain ware is higher than usual. This highlights the virtual absence of late-Hadrianic to mid-Antonine material (Table 3). Only two decorated bowls are potentially of this date, those of Cettus of Les Martres-de-Veyre and Satto/Saturninus of Chémery-Faulquemont, but both of them could belong equally well to either the Hadrianic occupation or to the early 160s, as could an East Gaulish dish of uncertain origin. There is nothing by Docilis i, whose work occurs in roughly equal proportions both on Hadrian's Wall and in Scotland (Hartley, 1972a, 32), but the most striking feature of the samian is the complete absence of decorated ware of the Cerialis-Cinnamus group. This occurs, though not in great quantity, elsewhere on the Wall and is common in Antonine Scotland (*ibid.* 33).

By contrast, three of the four bowls in the developed style of Cinnamus have one of his latest ovolos (1), dated A.D. 155-75 by Hartley. The group also contains three bowls by his associate Secundus v and two by Albucius ii, whose career was roughly contemporary with theirs. Bowls by Banuus and Paternus v, or an associate, will not be earlier than A.D. 160.

The Antonine plain ware, like the Hadrianic, is not very varied, though there may be no significance in this (Table 4). Later second century forms such as 79, 80 and the gritted samian mortarium, form 45, are not represented, but many of the dishes of form 31 and all those of form 31R are clearly after A.D. 160.

TABLE 4. Antonine and Third Century Samian.

| Forms | No. of Sherds | Sources M | MV | L | C-F | A | R | EG |
|---|---|---|---|---|---|---|---|---|
| 18/31 | 1 | – | – | 1 | – | – | – | – |
| 18/31R | 1 | – | – | 1 | – | – | – | – |
| 18/31R or 31R | 1 | – | – | 1 | – | – | – | – |
| 30 or 37 | 4 | – | – | 4 | – | – | – | – |
| 31 | 24 (22) | – | – | 19 | – | – | 5 (3) | – |
| 31R | 8 | – | – | 7 | – | – | 1 | – |
| 33 | 14 | – | – | 10 | – | 1 | 3 | – |
| 36 | 1 | – | – | 1 | – | – | – | – |
| 37 | 38 (34/33) | – | – | 33 (31/30) | – | – | 5 (3) | – |
| 38 | 1 | – | – | 1 | – | – | – | – |
| 38 or 44 | 1 | – | – | 1 | – | – | – | – |
| Bowl | 4 (3) | – | – | 3 (2) | – | – | 1 | – |
| Jar | 2 | – | – | 2 | – | – | – | – |
| – | 4 | – | – | 4 | – | – | – | – |
| Total | 104 (97) | – | – | 88 (85/84) | – | 1 | 15 (11) | – |

TABLE 5. Percentage of Samian from each source, by sherd count.

| SOURCE | % |
|---|---|
| Montans | 0.7 |
| Les Martres-de-Veyres | 2.8 |
| Lezoux | 84.0 |
| Chémery | 0.7 |
| Argonne | 0.7 |
| Rheinzabern | 10.0 |
| East Gaulish (other) | 0.7 |

The evidence of the samian, then, indicates a break, or reduction in occupation in the early to mid-Antonine period, with an implied resumption *c.*A.D. 160.

With two exceptions noted above, the East Gaulish ware is late second or early third century. Most of it comes from Rheinzabern and includes a decorated bowl in the style of Belsus. The plain ware includes two cups of form 33 which were never stamped, a practice apparently adopted in the third century. One is from Rheinzabern, the other seems to be in Argonne fabric. It is not possible to be sure from such a small quantity of East Gaulish samian whether the absence of Trier ware or the presence of a vessel from Chémery-Faulquemont is significant. Pottery from this source is not common in Britain, but another example is known from Carrawburgh in an Antonine context (B. R. Hartley, personal comment).

As would be expected, most of the samian is Lezoux ware (Table 5). The collection offers few surprises and raises no new questions about the supply of samian to Hadrian's Wall, unless the late Montans piece is to be treated as an object of trade. It will be interesting to see whether the Hadrianic material from other Wall forts eventually yields more samian from this source.

*Potters' stamps* (Not illustrated)

1 AVGVSTINVS, on form 31. Augustinus of Rheinzabern. Die 7a.
Augustinus is one of the potters who stamped dishes of both form 18/31R and its successor, form 31R. He will, therefore, be second century, rather than later. This stamp occurs on a variant of form Ludowici Tb from the Housesteads *vicus* (R. Birley, 1962, 132), which is presumably after A.D. 160. A stamp from another die is known from Newstead. *c.*A.D. 160-80.

2 BVTVRO [•𐅵], on form 31. Buturo of Central Gaul. Die la.
Most of the fabrics associated with this stamp belong to the range produced at Les Martres-de-Veyre in the early Antonine period and the use of a palm branch in the stamp is typical of this pottery. However, the fabrics of a few vessels, including this, suggest that Buturo ended his career at Lezoux. The dish is deep-walled, almost in the manner of the Pudding Pan Rock form 31s, and is consistent with a date after A.D. 160. The stamp occurs (burnt) in the Verulamium Second Fire deposits (Hartley, 1972b, S131).

3 [CΛV]PIRRΛ•M, on form 31. Caupirra of Lezoux, where the die la is known to have been used.
The stamp appears on both forms 18/31R and 31R, suggesting activity both

before and after A.D. 160. Stamps from other dies occur at Verulamium in Period IIC (*c.*A.D. 140-50) and in the Second Fire deposits there (after A.D. 150). *c.*A.D. 140-70.

4 MACRINI•M, on form 18/31-31. Macrinus ii of Lezoux, where the die la' is known to have been used.
The die for this was made, by *surmoulage*, from an impression on another pot. The stamp occurs in the Birdoswald Alley and, probably, at Benwell. *c.*A.D. 125-50.

*Graffiti* (Fig. 4)

1 L IVLI, on sherd of samian ware. The tail of the first letter is consistent with L and the gap suggests a *praenomen* but other letters are possible. Probably an owner's mark. *RIB* 2501.827.

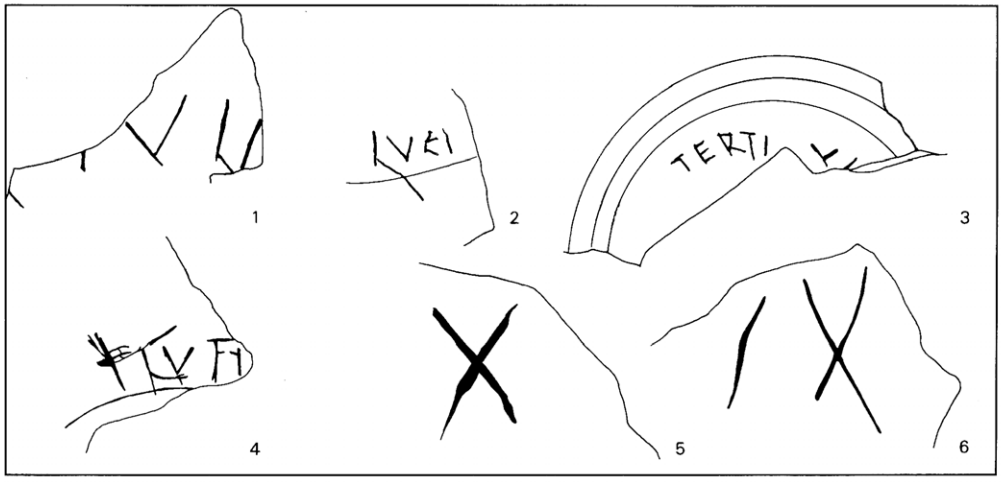


FIG. 4. Graffiti on Roman pottery (scale 1:1).

2 LVCI, scratched after firing upside down on the outside of wall of form 31 with a stamp of BVTVRO (No. 2 above) dated *c.*A.D. 140-65. The third letter is unclear since it appears to be an E. The pattern of scratching is, however, consistent with C and this makes better sense. Of Lucius, probably an ownership mark. *RIB* 2501.303.

3 TERTI VI[, on the base of a Central Gaulish samian form 31R. The final letter could be L or I. A reading of Tertius is not likely since the final letter is unlikely to have been S and there is a gap after I suggesting two words. Grammatically a reading such as Of Tertius U1[ or Of Tertius Vi[talis? seems better. Mid- to late-Antonine. *RIB* 2501.541.

4 TLVTI?[, on the outside of East Gaulish (Rheinzabern) samian form 31. The strokes of the inscription are accompanied by a number of additional scratches

which make interpretation difficult. T seems likely for the first letter, LV are straightforward. The end is more difficult. TI are possible but so might be FL, FI, etc. An owner's name is again suggested. Late second or first half of the third century. *RIB* 2501.819.

5 X, on an amphora wall sherd just next to the handle. Probably a number indicating capacity. *RIB* 2494.74.

6 IX, on an amphora wall sherd. A number 9 but 11 if read the other way up. Frere in *RIB* suggests a measure of capacity, 9 *modii* (= 78.79 litres). *RIB* 2494.61.

*Mortarium stamp* (Fig. 5)

The stamp is impressed twice, once on either side of the spout although one side is very fragmentary. Inside an ansate panel with an ornate border there are two lines of lettering with a stamp of AVSTINVS, a local potter operating in the period A.D. 125-60. Austinus started working at Wilderspool and seems to have moved to Carlisle around A.D. 125/30. Several examples are recorded from The Lanes (Hartley, forthcoming).

FIG. 5. Mortarium stamp (scale 1:1).

*Amphora stamp* (Fig. 6)

Stamp reading L Q S on an amphora handle of Dressel 20 fabric from southern Spain (identified by J. Taylor) and is dated A.D. 80-130. The stamp is Callender No. 922 (1965) and is similar to his illustration in Fig. 9.38 but without the stops (*CIL* XV 3109a, K, L). The distribution of this stamp is wide with examples quoted from Carlisle, Corbridge, St Albans, Rome, and many forts in Germany and France. (The amphora handle remains in the possession of Nick Pocock who kindly lent it for drawing).

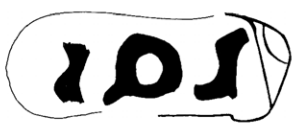

FIG. 6. Amphora stamp (scale 1:1).

*Coarse pottery*

Louise Hird has kindly examined the coarse pottery and reports that there is nothing present which deviates from the chronological picture given by the samian and the

coins and nothing of sufficient intrinsic interest to merit publication in the present context.

*Roman brick and tile*

The tile can be most readily presented in tabular form (Table 6).

TABLE 6. Quantities of Roman brick and tile of different forms

| Type | No. of sherds | % Age | Weight | % Age |
|---|---|---|---|---|
| Tegula | 19 | 43.2 | 7.531 | 61.7 |
| Imbrex | 10 | 22.7 | 1.930 | 15.8 |
| Brick | 2 | 4.5 | 1.583 | 13.0 |
| Flat tile | 4 | 9.1 | 0.563 | 4.6 |
| Flue tile | 3 | 6.8 | 0.303 | 2.5 |
| Pentagonal tile | 1 | 2.3 | 0.185 | 1.5 |
| Unidentified | 5 | 11.4 | 0.101 | 0.8 |
| Total | 44 | 100 | 12.196 kg | 99.9 |

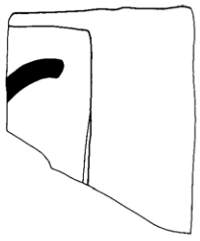

FIG. 7. Tile stamp (scale 1:1).

A small fragment of a relief-stamped tile was also found (Fig. 7) but the border and fragment of one letter cannot be matched with any known die, and the stamp represents a new die form. Possibly of [LEG II AV]G or [LEG VI VI]C but an auxiliary unit such as [ALA AV]G cannot be excluded.

*The lamp* (Fig. 8)

Complete lamp in a smooth orange fabric with a patchy mid- to dark grey slip. Part of the base has been reduced to a grey colour but there is no sign of sooting to suggest use. L. 90 mm.

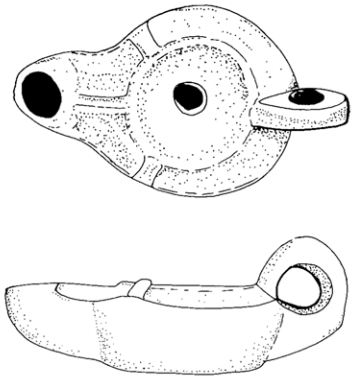

FIG. 8. Roman lamp (scale 1: 2).

*Glass* (Not illustrated)

The Roman sherds include a cup or bowl rim in colourless glass (Isings, 1957, Form 85) dated mid-second to early third century; a pale green jar rim of first to third century date, and a large bottle in blue-green glass.

*Lead seal* (*RIB* 2411.84: Fig. 9)

Oval seal with thread impression running from top to bottom. The obverse reads ALP, the A and L being ligatured, between branches at top and bottom. The reverse has HRD over two four-pointed stars and a crescent moon.


FIG. 9. Lead sealing (scale 1:1).

Since many of this type of lead sealing bear the name of a Roman army on one side, it seems likely that the obverse bears a record of the *ala Petriana* which is the only known garrison for Stanwix fort (*Not. Dig. Occ.* xl, 45). If so this is the first record from the site itself bearing the name of the unit. The date of the seal is uncertain but is likely to be after about A.D. 160 when the fort at Stanwix was enlarged to take the *ala Petriana.*

**Brooches** By T. G. Padley

1 Trumpet Brooch (Fig. 10.1), Collingwood Type R(ii) (Collingwood & Richmond 1969, 286-303)

The head of the brooch is a large oval in shape. The upper surface is plain except for a single groove which outlines the perimeter. The front part of the bow has a solid oval cross-section. It rises with a sharp curve to the central ornament, which is in the form of a typical acanthus style knob with the usual tripartite arrangement, a narrow button with four rectangular cusps on either side. Three of these are on the upper surface, whilst the fourth is on the underside, as the decoration continues on to the underside of the bow. On each side of the central ornament is a zone of decoration consisting of a band flanked on each side by a groove. The band was probably originally milled but as the brooch is worn this is not clear. The rear part of the bow has a lozenge-shaped cross-section. The upper surface is decorated by a groove delineating each edge. The foot knob is missing. The majority of the catch-plate is also missing, but enough remains to say that it began at the rear of the band behind the central ornament.

The brooch had a sprung pin with the spring having an internal chord. There were originally five coils on one side and four on the other. It was attached to a central lug on the underside of the head. In addition, the brooch had a separate headloop, of which only part survives. The legs of the loop were inserted into the centre of the spring. The loop had a collar made from a crumpled strip of metal, decorated on the upper surface by two grooves. When found, this was facing inwards. Originally, there may have been a lug on the outer face of the head, opposite the bow, but the state of preservation makes this unclear. In Fig. 10 the loop and collar have been re-positioned. L. 58 mm (min.). W. of head 28 mm.

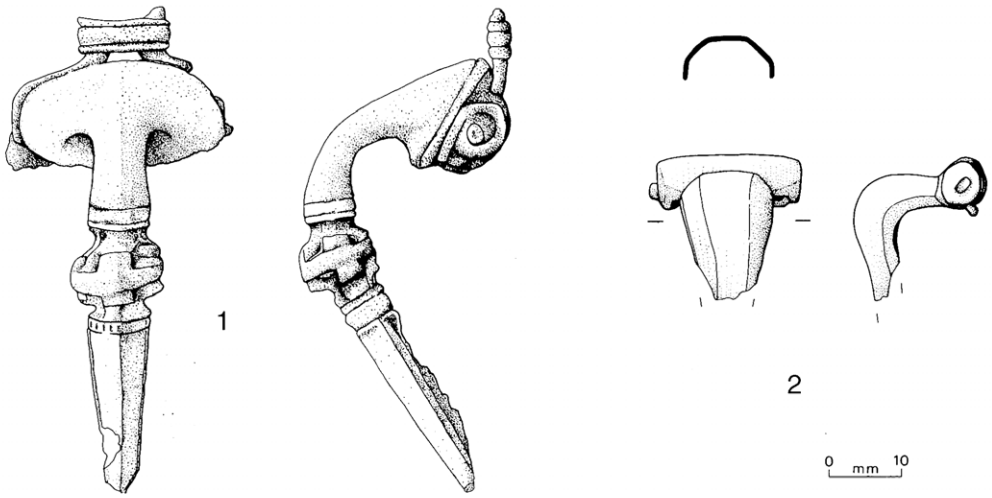


FIG. 10. Roman brooches (scale 1:1)

2 Knee Brooch (Fig. 10.2), Collingwood Type V.
The head of the brooch is semi-cylindrical, with end-plates to hold the axial bar for the spring. The bow is hollow and has five facets. It is wide at the top and tapers. The foot and catch-plate are missing. The pin was sprung and has an internal chord with four coils on one side and three on the other. The outer surface is tinned. L. 22 mm (min.). W. of head 20 mm.

The trumpet brooch was first found in Britain in the 70s of the first century A.D., and continued in use until the late second, making it one of the longest lived brooch types. A consequence of this is that it is also one of the most numerous, with a wide distribution covering the whole of England and southern Scotland. The Stanwix example is of the large, fully developed trumpet type, and is conventionally dated to the beginning of the second century.

Knee brooches were introduced into Britain from the Rhineland early in the second century and continued in use into the third. The type represented by the Stanwix example is one which is found mainly in the north but scattered examples occur as far as Hampshire.

**Leather** By S. Winterbottom

The finds include discarded pieces from the bottom units (composite soles) of nailed shoes, waste from leather working, and parts of stitched articles other than shoes. In general appearance all these items resemble leather from Roman contexts in Carlisle. The shoe remains are in most details standard examples of Roman work though No. 2 is unusual in one respect.

The principal collections of material with which the non-shoe finds can be compared come from the excavations in Carlisle at Castle Street (Padley & Winterbottom, 1991) and Annetwell Street (Winterbottom forthcoming a. and b.)

These large assemblages derive from late first to mid-second century contexts and contain a high proportion of discarded tent leather, apparently the parts rejected as unsuitable for reuse. Other items of military equipment represented there are shield and saddle covers, while a significant proportion of pieces derive from objects as yet unrecognised. In this respect the small collection from Stanwix is fairly typical: two pieces (Nos 13 and 15) could well come from leather tents but Nos 12 and 14 are likely to be parts of other objects. There are parallels for No. 14, but nothing exactly resembling No. 12 has so far been found.

The leatherworking seams and hems referred to in the catalogue are described in Padley and Winterbottom (1991, 245-51). They belong to a standard repertoire of stitching types used in Roman military contexts in the first and second centuries. Examples come from various continental and British sites including, recently, the forts at Vindolanda and Birdoswald (van Driel-Murray, 1990, 109-37; Mold, 1996).

## Catalogue

*Shoes* (Fig. 11)

1 Part of an insole (A) and midsole (B) from a nailed shoe. B is 12-14 mm narrower than A and was fixed slightly off centre below it, as can be deduced from corresponding nail holes. Together the holes in both pieces suggest a nailing pattern consisting of a single row of nails around the edge, a row up the centre, and additional scattered nails. Before nailing the pieces were held together by means of thonging along the centre line. A fragment of this thong remains on A and the impression of its continuation appears on the underside of B. L12.
Insole: L. 120 mm. W. 79 mm. Th. 2-3 mm.
Midsole: L. 101 mm. W. 65 mm. Th. 2-3 mm.

2 Piece of a single layer from the bottom unit of a nailed shoe, probably from a midsole. Part of one original edge and an end survive. The form of these suggests the piece comes from the heel. Heavily nailed, with a row of nails down the centre and around each edge. Between the rows of nails are thonging slits 6 mm long and 15-20 mm apart. Thonging slits on nailed shoes are generally paired and occur on the centre line or close to the edges. The intermediate position of these and the absence of any close pairing (*cf.* Nos 1 and 3) are more unusual. L13.
L. 98 mm. W. 60 mm. Th. 1-2 mm.

3 Part of a nailed shoe insole. Heavily nailed with two rows down each edge and intermittent nailing on the centre line. Thonging slits below tread. L18.
L. 110 mm. W. 86 mm. Th. 3 mm.

4 Fragment of a single layer from the bottom unit of a nailed shoe. (Not illustrated). L12C.
L. 57 mm. W. 45 mm. Th. 2 mm.

5 Slightly tapering strip with one nail hole at the wider, cut end and a second torn hole at the other end. Cut edges down both sides. Probably shoe material,

perhaps a wedge or packing piece between two layers of the bottom unit. (Not illustrated). L12D.
L. 39 mm. W. 20 mm. Th. 2 mm.

6 Roughly rectangular fragment with nail holes at the edges. Two edges are torn and two apparently cut. Shoe leather; waste, or packing as No. 5. (Not illustrated). L12E.
L. 41 mm. W. 25 mm. Th. 1 mm.

7 Piece of a single layer from the bottom unit of a nailed shoe. Possibly from an insole since the grain surface is smooth and worn. Holes, 4-8 mm across from nailing at *c.* 10 mm from the edge. (Not illustrated). L17.
L. 60 mm. W. 26 mm. Th. 1.5 mm.

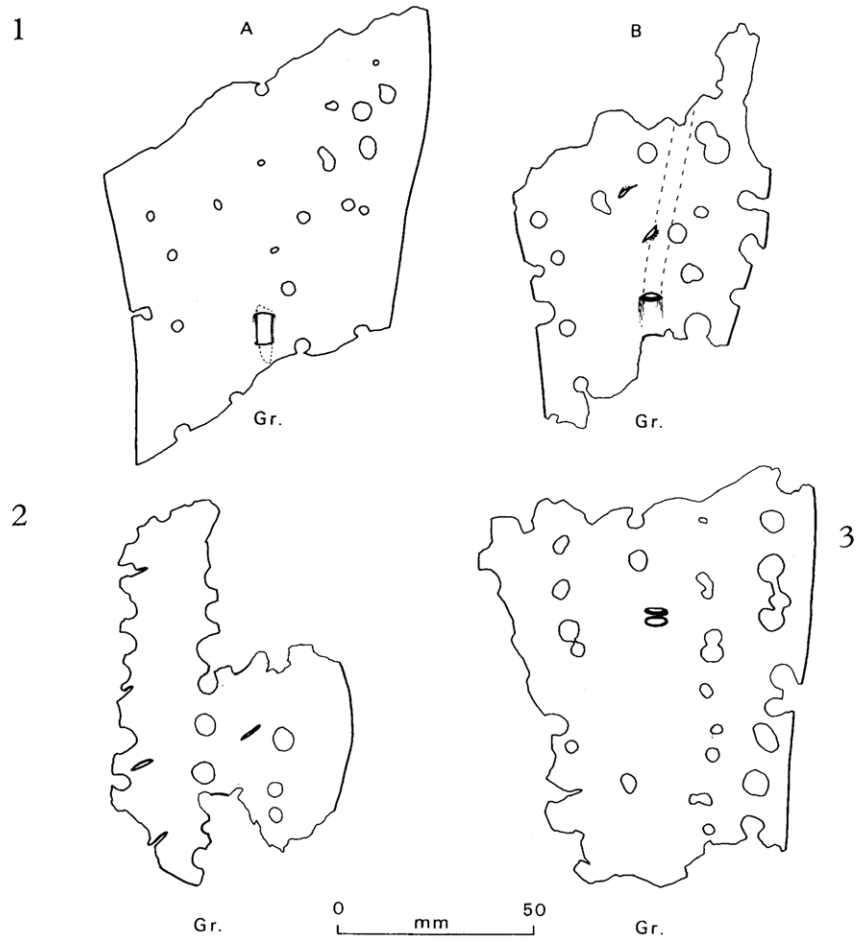


FIG. 11. Roman leather (Gr. = grain side, scale 1:2).

*Shoemaking offcuts* (Not illustrated)

8 Elongated triangle with one side part straight, part curving. L1.
L. 102 mm. W. 23 mm. Th. 4 mm.

9 Originally an elongated triangle but with one end and part of an edge torn away. Now in three pieces. L5A.
L. 117 mm. W. 60 mm. Th. 3-4 mm.

10 Irregular shape with one concave edge. L5B.
L. 102 mm. W. 80 mm. Th. 1 mm.

11 Cutting-out piece with the hide edge on one side. The other edges are i) concave, ii) straight and iii) "L" shaped. L6.
L. 123 mm. W. 118 mm. Th. 4-6 mm.

*Non-shoe material* (Fig. 12)

12 Leather strip now in three pieces. Folded down the centre with the grain side to the inside and apparently packed with a fibrous material of which small lumps remain. Stitching down the length of the strip goes through both thicknesses. Both ends are original although one is damaged and there are signs of additional stitching at each end.

Stitched and folded strips are a common find among Roman leatherwork. They were used as bindings for hems as well as in the construction of watertight seams. No. 12 is unusual in that it is folded onto the flesh side (inside) of the leather and not onto the grain side (shiny, outside), and that it retains what seem to be fragments of a packing material, or possibly of a cord. In these respects it resembles none of the familiar seam or hem components, and its purpose is unknown. One possible use might have been as a handle to a leather satchel (*cf.* Robertson *et al.*, 1975, p. 91, Fig. 28) but the absence of thread impressions on the exterior of the piece would suggest that it was, itself, contained within further thicknesses of leather or of another covering material. L9.
L. 328 mm. W. 34 mm. Th. 1.5 mm.

13 Stitched piece with torn sides and a secondary cut edge opposite the stitching. The stitched edge is flat, with two rows of stitch holes at 3 and 6 mm from it. The outer holes are oblique and without thread impressions while the inner ones lie parallel to the edge and are connected by a continuous thread impression on the flesh side. At 19 mm from the edge is a row of torn "tunnel" stitches (passing only part-way through the leather) opening at right angles to the edge. No. 13 appears to derive from a Type III(i) reinforced seam but is unusual in having two outer rows of stitching. The inner one (with thread impressions) suggests a repair to the seam, probably after the reinforcing strip had become detached. L10.
L. 120 mm. W. 110 mm. Th. 1-1.5 mm.

14 Stitched along one side. The opposite side is secondary cutting and the ends are torn. The stitched edge is in two sections which meet at an angle of around 160 degrees. Below the angle the stitching is that of a seam, while above it the edge has been hemmed. That edge (Hem VI) was originally folded down and small,

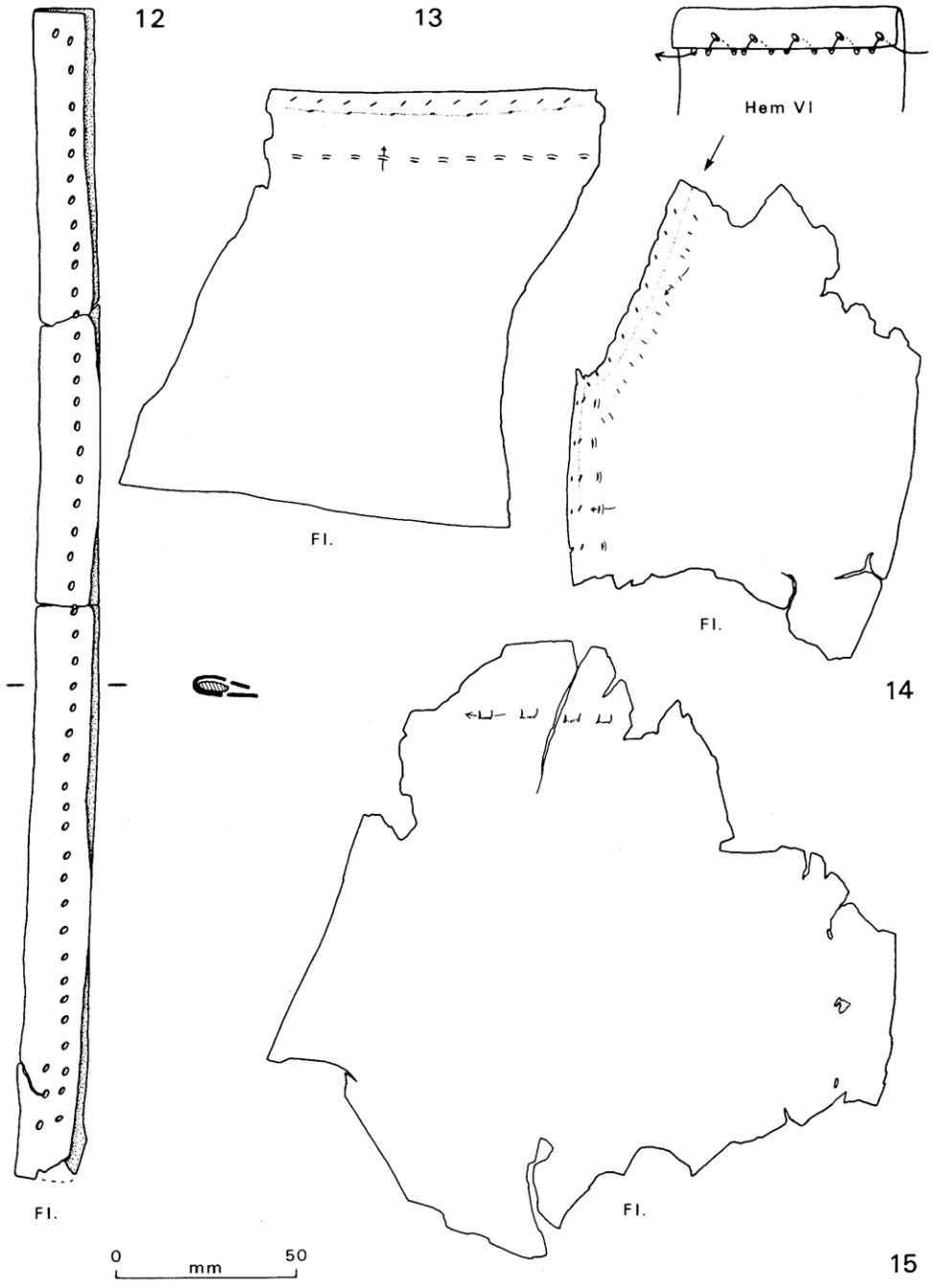


FIG. 12. Roman leather (Fl. = flesh side, scale 1:2).

oblique stitch holes and indentations mark the passage of the thread over the edge. The intention was probably to create small "tunnels" on the flesh side passing only part-way through the leather but in fact the thread went right through and has left impressions on the grain side. The seamed edge was also originally folded down and the stitching is that of a Type IIa(i) or of a Narrow Reinforced (NRa(i)) seam. As on No. 13, however, there is an additional row of stitch holes. These are the small, outermost, holes without thread impressions. In this case it is likely that the holes were produced accidentally while sewing the seam and do not represent a repair. Parallels for this have been found on three pieces from the Annetwell Street excavations, coming from late first and early second century Type II and Narrow Reinforced seams (Winterbottom forthcoming a. C10, C92, C189).

No. 14 belongs to a small group of stitched pieces with an oblique junction of seam and hem, all of which appear to derive from the same class of object, so far unidentified. In each case the angle at which the edges meet is virtually identical although different seam and hem combinations occur (Padley & Winterbottom, 1991, No. 1195: junction of Seam IIa and Hem IVa; *ibid*, No. 1198: junction of Seam IIIa and unidentified hem; Winterbottom forthcoming b. No. 125: junction of Seam II/IIIa and Hem IVa). The pieces listed are all well stratified and come from contexts dated to no later than A.D. 103/5. L4A.
L. 110 mm. W. 97 mm. Th. 1 mm.

15 Panel corner piece with the remains of two stitched edges at right angles. The upper edge (as illustrated) has tunnel stitches, most probably from a seam, although any outer stitching has been cut or torn away. The right hand edge has three stitch holes 18-20 mm apart, the lack of any thread impressions suggests a bound hem or a beaded (bound) seam. L7.
L. 176 mm. W. 172 mm. Th. 1-1.5 mm.

## Other Finds

Among sixteen other bronze items there was a large flat-headed stud, an acorn terminal perhaps from a dropper handle, and a broken loop from a harness fitting. Apart from a couple of molten lumps, the remainder were modern buttons, buckles, etc. There was also about 25% of a lava lower quern, diameter about 450 mm. The ironwork included a Type 4 hipposandal (Manning, 1985, 65, Fig. 16), a long wedge, and a fragment of ?waterpipe.

## Conclusions

Even before the 1984 excavations at the Cumbria Park Hotel it was noted that the large stone fort of 3.96 ha. (9.78 acres) was probably not the first fort on the site (Birley, 1961, 207). This was based on the observation that the Vallum, as traced in the 1930s, was apparently laid out in relation to a somewhat smaller fort than the large stone fort, the south-west corner of which came very close to the Vallum, which had already deviated from the southern side of the earlier fort. The 1984 excavations confirmed this observation by the discovery of Hadrian's Wall ditch

sealed by the north rampart of the fort (Dacre, 1985). That this was not simply the manifestation of the "fort decision", which saw the introduction of forts to an already built wall and the obliteration of Turret 65b, is demonstrated by an unnoticed discovery of 1932. A plan of the excavations dated November 1932, now in Tullie House, shows that the northernmost of the five walls, found in the *retentura*, rested on the remains of a stone wall 8 feet wide. This wall must be Hadrian's Wall. At this point on the Wall it is unlikely that the Turf Wall had been converted to stone by the time that the "fort decision" was made in the mid-120s.

Nothing is known about the extent of the primary fort except that it must have been smaller than 3.96 ha., and possibly considerably so. The earliest levels noted on this site, including the surviving timber and other organic remains, and some of the samian, are probably contemporary with this fort. Given the position of the site they are likely to be part of early *vicus* development linking the fort with the main north-side road into Scotland and the bridge over the river Eden.

Taking our cue from the coinage and the samian, it is clear that the bulk of the archaeology disturbed in 1986 was contemporary with the enlargement of the fort. Although it is impossible to interprete the remains it is also clear that the area comprised buildings, roads or yards, and ovens associated with the *vicus*.

More important, the evidence from the Miles MacInnes site can be added to the stratigraphic and dating evidence recovered in 1984 and before, to make several points in the later history of Stanwix fort clearer:

i) the samian evidence discussed in this report demonstrates more clearly an early to mid-Antonine hiatus that was suggested by the 1984 finds;
ii) this material confirms Dacre's tentative conclusion (1985, 68) that the enlargement of the fort was Antonine in date;
iii) since the *ala Petriana* was the only milliary ala in the province of Britain there can be little doubt that the large fort belonged to this unit, although the only documentary link between the site and the unit comes from the *Notitia Dignitatum*;
iv) the high status of this unit, as Shotter shows, is matched by the high value coin-loss in the second half of the second century on the Miles MacInnes site.

The history of the site is certainly linked with the *ala Petriana* but this ala cannot have been the Hadrianic garrison. It is worth examining the reasons in more detail. The diploma of A.D. 122 (*CIL* xvi 69), found in Hungary, listing most of the auxiliary units in the army of Britain records the *ala Petriana* as milliary. This is confirmed by the Stannington diploma of A.D. 124 (*RIB* 2401.6). It had already been made milliary by the end of Trajan's reign i.e. before A.D. 117 (Birley 1957, 11, based on *CIL* xi 5669 = *ILS* 2728 add.) The unit was not milliary in a diploma of A.D. 98 (*CIL* xvi 43), nor on the late first century tombstone of Flavinus in Hexham Abbey (*RIB* 1172). *CIL* xi 5669 has the unit with two torques allowing Jarrett (1994, 38) to propose that the ala's second torque, as well as its elevation to milliary status, took place in Trajan's reign. The inscription, from Carlisle (*RIB* 957), with mention of only a single torque is likely, therefore, to be Trajanic in date. Jarrett's suggestion that the ala was in Carlisle under Trajan does literally mean the fort at Carlisle, not Stanwix, which only in modern times has become a suburb of Carlisle. In the light of the evidence given in this report it is clear that, while the unit

was enlarged under Trajan (A.D. 98-117), the fort was only enlarged in the 160s. The fort cannot, therefore, have been increased in size while the unit was in garrison. It may be relevant that an *emeritus* (veteran) from the unit was buried at Old Penrith (*RIB* 935) perhaps after the Trajanic period, since his *nomen* was Ulpius. *Emeriti* are very often recorded at, or close to, sites where they had once served (Birley, 1983). If the *ala Petriana* was stationed at Carlisle under Trajan (and perhaps later), the *emeritus* may have served there. It is unlikely to have been at Old Penrith under Hadrian, since the fort was empty then, but it is not impossible that the unit could have been present in Period I when the fort could have been considerably larger than the visible fort (Austen, 1991, 226 & Table 6). Whatever the truth, it could not have been at Stanwix in either reign.

It has been tempting to view the rich hoard of bronze finds recovered from King's Meadow in 1930 as belonging to the *ala Petriana*. This hoard which was identified by Collingwood as originating in a metal-worker's shop, is more plausibly seen as a votive hoard deposited in a watery context, perhaps an arm of the river Eden (Manning, 1972, 249 n. 148). In the hoard were items of equipment with ownership graffiti from soldiers in various cavalry *turmae* (*RIB* 2427.16, .17, and .20 : Collingwood 1931). However, Collingwood dated the brooches to before A.D. 150 and the coins from the deposit terminated with Hadrian, leading him to the conclusion that he was looking at a group that was coeval with the Wall. A tombstone from Stanwix (*RIB* 2030) depicting a rider trampling a fallen enemy must also be that of a Roman cavalryman. This type of tombstone is, on iconographic grounds, likely to be of a comparatively early date. The classic forms, including that of Flavinus in Hexham (*RIB* 1172), are Neronian and Flavian in date. The two latest (and somewhat debased) examples, are *RIB* 2030 (= *CSIR* 1, 6, No. 231) and *RIB* 1480 (= *CSIR* 1, 6 No. 191) from Chesters (without the figure being trampled), together with a fragment from Halton Chesters (*CSIR* 1, 1 No. 259). None are likely to be later than the reign of Hadrian. Both the King's Meadow finds and the cavalry tombstone suggest that the Hadrianic garrison at Stanwix was also an ala, but necessarily a quingenary one. Together with the *ala Augusta* at Chesters these two are the only certain cavalry units on the Wall under Hadrian (Austen & Breeze, 1979, 123). Halton Chesters may also have been built for a cavalry unit though the evidence is lacking. At one time there appeared to be an absence of cavalry units on the Wall, but it does now appear that full cavalry units did garrison the key points on the Wall.

A further point noted by Shotter is the paucity of third century coin finds, something not unique to the current site. Moreover, third and fourth century pottery was absent from the 1984 excavations (Dacre, 1985, 68), and rare at Tarraby Lane (Smith, 1978, 46-7). This gap in the material evidence from Stanwix is all the more surprising in the light of the richness associated with the newly arrived milliary ala presented here. What makes it so unexpected is that the *Notitia Dignitatum*, dating from the fourth or early fifth century, continues to place the *ala Petriana* at Stanwix. Does the *Notitia* record obsolete information for Stanwix? Was the garrison removed or down-graded to reflect a third century legionary presence in Carlisle? Since fourth century pottery was found inside the fort in 1934 (Simpson & Hogg, 1935, 257) the answer may not be simple and must await further work inside the fort.

Finally, observations at this site emphasize that a significant part of the civil

settlement was outside the west side of the fort and that any development between the edge of the fort, Stanwix churchyard, and the western side of Scotland Road needs to be monitored as carefully as proposals threatening the interior of the fort.

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I am grateful to Cumbrian Construction Ltd., through the agency of Mr Croasdale, for granting access to the site during the early stages of construction. The site engineer, Mr D. Russon, was a model of patient co-operation and supplied me with a trench plan which greatly simplified the recording of observations. I am grateful to the workers on site for answering my questions about what they observed in trenches dug when I was not present and for collecting Roman pot sherds for me. Among these I must single out Nick Pocock who gave some sherds of pottery and made others from his own collection available to me for recording. Mr I. H. McDermott gave permission to examine the spoil dumps without which this report would have been very sparse. The City of Carlisle funded that part of my work time spent on site. Most, however, of the work, including all the post-excavation work, was done on a voluntary basis. I am particularly grateful in this respect for the specialist reports from Brenda Dickinson, David Shotter, Susan Winterbottom, Louise Hird and Tim Padley. Special mention must also be given to Alan James who recovered most of the finds. The coins and all the metalwork were found using a metal detector but the recovery of most of the pottery, glass and leather was done at the same time. Fig. 10 was drawn by P. Cracknell and Wendy Moore, Figs 9, 11 and 12 by S. Winterbottom. Paul Austen and Sue Winterbottom read drafts of the report and suggested improvements.

## Bibliography

Austen, P. S., 1991, *Bewcastle and Old Penrith* C.W.A.A.S. Research Series No. 6.

Austen, P. S. and Breeze, D. J., 1979, "A New Inscription from Chesters on Hadrian's wall", *AA5,* vii, 115-26.

Biggins, J. A. and Taylor, D. J. A., 2000, "The Roman fort at Stanwix, Carlisle: a geophysical survey", these *Transactions.*

Birley, E., 1957, "Dalswinton and the Ala Petriana", *D. & G. Trans.* xxxv, 9-13.

Birley, E., 1961, *Research on Hadrian's Wall* (Kendal).

Birley, E., 1983, "Veterans of the Roman Army in Britain and Elsewhere", *Ancient Society* 13/14, 265-76.

Birley, R. E., 1962, "Housesteads *vicus*, 1961", *AA4,* xl, 117-33.

Callender, M. H., 1965, *Roman Amphorae* (Oxford).

Caruana, I. D., 1989, "Stanwix". In: C. M. Daniels (ed.), *The Eleventh Pilgrimage of Hadrian's Wall* (Newcastle-upon-Tyne), 30-32.

Caruana, I. D. forthcoming a, *The Roman Forts Carlisle: Excavations at Annetwell Street, 1973-84.*

Caruana, I. D. forthcoming b, *The Southern Defences and Third Century Barracks of the Roman Forts at Carlisle: Excavations on the Tullie House Extension Site, 1989.*

Caruana, I. and Coulston, J. C., 1987, "A Roman Bridge Stone from the River Eden, Carlisle", *CW2,* lxxxvii, 43-51.

Collingwood, R. G., 1931, "Roman Objects from Stanwix", *CW2,* xxxi, 69-80.

Collingwood, R. G. and Richmond, I. A., 1969, *The Archaeology of Roman Britain* (2nd ed., London).

Crawford, M. H., 1974, *Roman Republican Coinage* (Cambridge).

*CSIR* 1, 1: *Corpus Signorum Imperii Romani, Great Britain volume 1, fascicule 1, Corbridge and Hadrian's Wall East of the North Tyne* (Ed.), E. J. Phillips (Oxford, 1977).

*CSIR* 1, 6: *Corpus Signorum Imperii Romani, Great Britain volume 1, fascicule 6, Hadrian's Wall West of the North Tyne, and Carlisle* (Eds), J. C. Coulston and E. J. Phillips (Oxford, 1988).

Dacre, J. A. 1985, "An Excavation on the Roman Fort at Stanwix, Carlisle", *CW2,* lxxxv, 53-69.

Frere, S. S., 1972, *Verulamium Excavations.* Vol. 1 Reports of the Research Committee of the Society of Antiquaries of London, No. XXVIII (Oxford).

Hartley, B. R., 1972a, "The Roman Occupation of Scotland: the Evidence of Samian Ware", *Britannia* iii, 1-55.

Hartley, B. R., 1972b, "The Samian Ware", in: Frere 1972, 216-62.

Hartley, K.F., forthcoming, "The Stamped Mortaria". In: M. L. Hird & C. M. Brooks, *Roman and Medieval Carlisle, The Lanes Volume 1, Fascicule 3, The Pottery.*

Hill, P. V., 1970, *The Dating and Arrangement of the Undated Coins of Rome,* A.D. 98-148 (London).

Hogg, R., 1952, "The Historic Crossings of the River Eden at Stanwix and their Associated Road-systems", *CW2,* lii, 131-59.

Hogg, R., 1974, "Roman Glass Phalera from Stanwix", *CW2,* lxxiv, 217-8.

Isings, C., 1957, *Roman Glass from Dated Finds* (Gronigen/Djakarta).

Jarrett, M. G., 1994, "Non-legionary Troops in Roman Britain: Part One, The Units", *Britannia* xxv, 35-77.

MacInnes, A. G. (ed.), 1911, *Recollections of the Life of Miles MacInnes* (London).

Manning, W. H., 1972, "Ironwork Hoards in Iron Age and Roman Britain", *Britannia* iii, 224-49.

Manning, W. H., 1985, *Catalogue of the Romano-British Iron Tools, Fittings and Weapons in the British Museum* (London).

Mold, Q., 1996, "Leather". In: T. Wilmott, *Birdoswald: Excavations of a Roman Fort on Hadrian's Wall and its Successor Settlements 1987-92* English Heritage Archaeological Reports 14.

Padley, T. G. and Winterbottom, S., 1991, *The Wooden, Leather and Bone Objects from Castle Street, Carlisle: Excavations 1981-2* Fascicule 3 of C.W.A.A.S. Research Series No. 5.

*RIB* II: *The Roman Inscriptions of Britain. Volume II, fascicule 1* (eds.), S. S. Frere, M. Roxan and R. S. O. Tomlin (Gloucester).

RIC: Mattingly, H., Sydenham, E. A., Sutherland, C. H. V. *et al.* (eds.), *The Roman Imperial Coinage,* (London 1923-84).

Robertson, A. S., 1968, "Two Groups of Roman Asses from North Britain', *Numismatic Chronicle* 7, viii, 61-6.

Robertson, A. S., Scott, M. and Keppie, L. F. J., 1975, *Bar Hill: A Roman Fort and its Finds* B.A.R.16. (Oxford).

Shotter, D. C. A., 1976, "Coin Evidence and the Northern Frontier in the Second Century", P.S.A.S. cvii, 81-91.

Shotter, D. C. A., 1979, "Coin Evidence and the Roman Occupation of North-West England", in: N. J. Higham (Ed.), *The Changing Past* (Manchester), 1-13.

Shotter, D. C. A., 1985, "The Coinage of Roman Ribchester: A Discussion", in: B. J. N. Edwards and P. V. Webster (eds.), *Ribchester Excavations, Part I,* 86-93 (Cardiff).

Simpson, F .G., 1932, "Report of the Cumberland Excavation Committee for 1931. 3. Stanwix", *CW2,* xxxii, 147-8.

Simpson, F. G., 1933, "Report of the Cumberland Excavation Committee for 1932. 4. Carlisle and Stanwix", *CW2,* xxxiii, 275-6.

Simpson, F. G. and Hogg, R., 1935, "Report of the Cumberland Excavation Committee for 1934. 8. Stanwix", *CW2,* xxxv, 256-8.

Simpson, F. G. and Richmond, I. A., 1941, "Petriana and the Tactical Arrangement of Hadrian's Wall in Cumberland", *Durham University Journal* xxxiii, 2, 102-110.

Smith, G. H., 1978, "Excavations near Hadrian's Wall at Tarraby Lane, 1976", *Britannia* ix, 19-56.

Toynbee, J. M. C. and Richmond, I. A., 1953, "A Roman Glass Phalera from Carlisle", *CW2,* liii, 40-8.

van Driel-Murray, C. 1990, "New Light on Old Tents: the Evidence from Vindolanda", *Journal of Roman Military Equipment Studies* i, 109-37.

Winterbottom, S. forthcoming a. The Leather. In : Caruana forthcoming a.

Winterbottom, S. forthcoming b. The Leather. In : Caruana forthcoming b.