

APPENDIX 5

THE IRON (D) AND LEAD (E)

T G Padley

The Iron (D)

The ironwork recovered from the northern Lanes is similar in condition to that from the southern half of the Lanes site (Padley 2010), although the amount of significant material is small, being only about half as much again as from the southern Lanes. As there was twice as much copper alloy (*Appendix 4*), this suggests that there was genuinely less ironwork used on this part of the site. The distribution of the material, when examined by functional groups, is slightly different from that at the southern Lanes, but it must be stressed that the sample is small. Personalia are completely absent, and evidence for writing is represented by a single stylus. This latter might be explained by the conditions of preservation. Material connected with transport are represented by three items, whilst they were absent from the southern Lanes. Fasteners and fittings make up over 50% of the ironwork from this area, while the distribution between groups is more even in the southern part of the Lanes, with more items belonging to the group with no identified function.

The writing materials and items associated with transportation are of typical Roman types. The stylus (**D1**) is badly preserved and appears to be plain, with a circular, probably waisted, body and straight-sided eraser. The two lynch-pins (**D2**, **D3**) are both of Manning's type 2b (1985, 74, fig 20), which is the commonest type, and it is not uncommon for the lower part to be rebated. One of them (**D3**) was found in Period 17A (post-Roman), where it must be residual. Not enough survives of a hipposandal (**D4**) to say whether it belongs to Manning's type 1 or 2 (*op cit*, 63-5, fig 16). Both types are found in the later Roman period, with type 1 dating to between the early second and fourth centuries, and type 2 being slightly later, but in use before the third century (*ibid*); thus either type is a possibility in Period 11A (*Ch 4*).

Two of the tools recovered could be medieval, but are probably best seen as part of the Roman assemblage. The knife (**D5**), which was found in

Period 13 (post-Roman), is probably Roman, as it resembles Manning's type 19 (1985, 116, fig 29; 117, Q60, pl 55, Q60). However, the angled back is a tradition which is also found on early medieval knives and continues into the twelfth century, where it can be seen in some of the knives from London (Cowgill *et al* 1987, 78; fig A34, no 6, fig 80, no 6). A modelling tool (**D7**) is included here as it resembles the type 3 example from Combend in Gloucestershire (Manning 1985, 32, C12, pl 13, C12), even though it comes from post-Roman Period 14A and may thus be medieval.

The netting needle (**D8**) is not a bifurcated probe, as its U-shaped ends are set at right-angles to one another. It can be paralleled both in bronze (Wheeler 1930, 105, pl 42, nos 11-4) and iron (Manning 1985, 37, D38, pl 15, D38).

The fasteners and fittings are mainly of usual Roman kinds, but there are also some unusual items. The first of these is a rotary padlock (**D11**) from Period 11D well 226 (*Ch 4*, p 119). The details of the mechanism cannot be recovered, however, as the x-radiographs are not clear enough, even with computer enhancement. Allowing for this, the type is known from the Saalburg, as well as sites in Britain, including Silchester, Lullingstone, and Caerleon (Manning 1968, 411). A related type with a square case was recovered from Fishbourne (Manning 1971, 140-3), where there was a lug attached to the rear of the case, as on the Lanes example. The chain from this well (**D10**) was probably originally used with the padlock. One end would have been attached to the padlock using the loop on the back, as seen on the Fishbourne example, and any of the alternate rectangular links could have been fitted into the slot on the front, allowing different lengths to be secured. The four nails are included here, rather than being classed with the bulk finds, because they are either longer than usual (**D14-15**) or because they have ornamental heads (**D16-17**).

The remainder of the ironwork consists of items that have no currently identifiable function. They include fragments of tube (**D24**), strips (**D25-6**), and a rod (**D27**).

Catalogue

Written communication

D1 The stylus is in poor condition and has lost its original surface, but enough survives to establish that it had a circular-sectioned body, which may have expanded towards the point and the eraser. The surviving part of the point is short, and the eraser is wedge-shaped, probably with straight sides.

L: 122 mm; Diam (max): 6 mm

KLA C 1035, Fe 45, Period 11C

Transport and trade

D2 Linch-pin (Fig 177). Complete Manning (1985) type 2b linch-pin, with a fairly thin spatulate head. It is symmetrical and the slightly ogival top edge has a flat centre. This forms the base of a triangular loop on the face of the head. The head is separated from the square-sectioned shank by sloping shoulders. The lower 48 mm of the shank is rebated, and there is a semi-circular groove across the rebated part, 7 mm from the bottom.

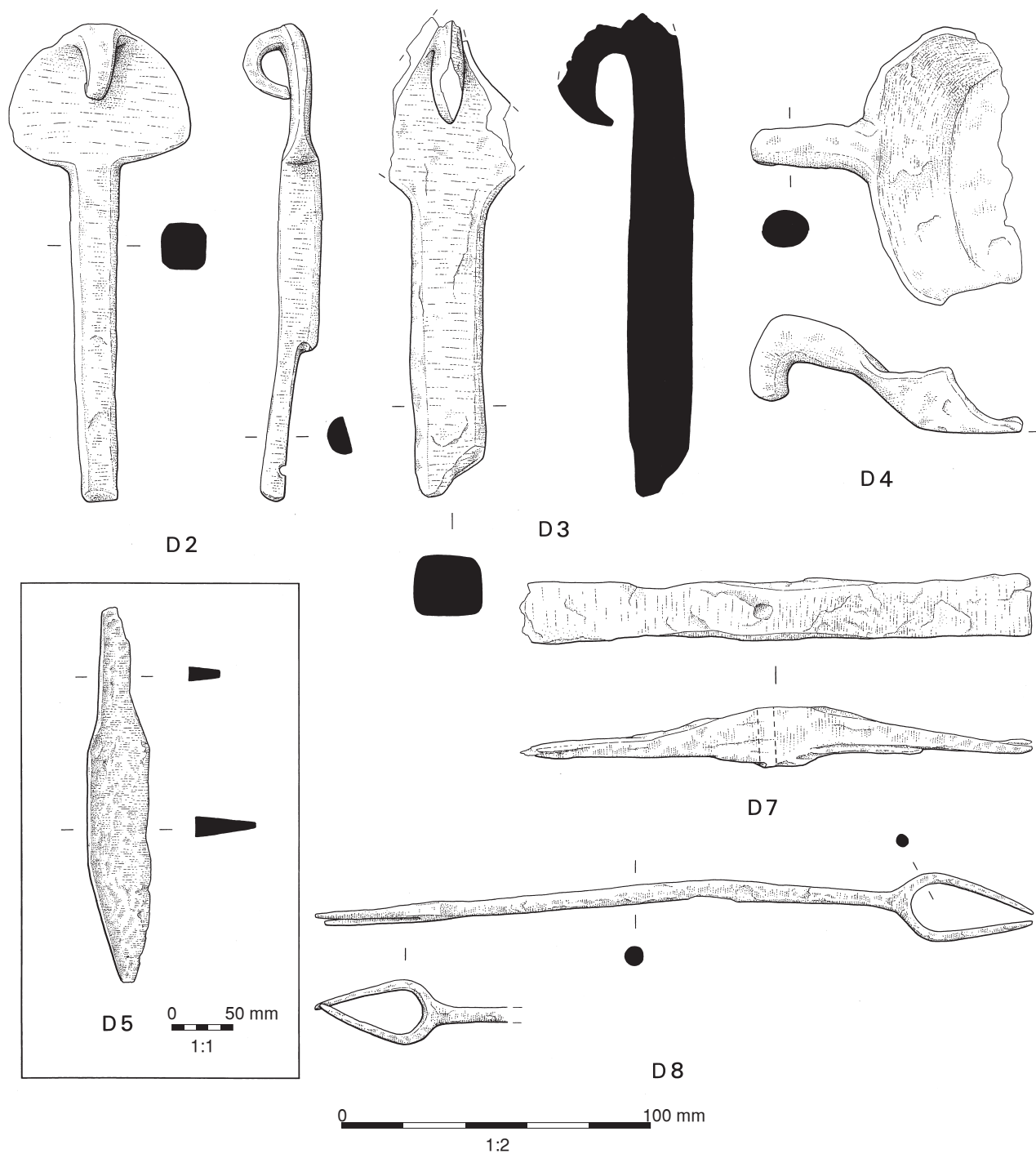


Figure 177: Iron linch-pins, hipposandal, and tools

L (overall): 154 mm; W (head): 59 mm;
W (shank): 14 mm; Th (shank): 13 mm;
Th (rebated part): 7 mm; W (groove): 3 mm
LAL B 164, Fe 4, Period 11E

D3 Linch-pin (Fig 177). Incomplete Manning (1985) type 2b linch-pin. The edges of the spatulate head have corroded, but the loop survives at the top of the head. The shank is separated from the head by sloping shoulders. L: 151 mm; W (head): 39 mm; W (shank): 22 mm; Th (shank): 20 mm
KLA C 241, Fe 19, Period 17A (Post-Roman)

D4 Incomplete Manning (1985) type 1 or 2 hipposandal (Fig 177). The plate survives to the rear of the wings, and it curves up to the round-sectioned hook. The plate has convex shoulders. The right-angled hook is not placed centrally in the surviving fragment. L: 86 mm; W: 90 mm
LAL C 213, Fe 6, Period 11A

Tools and industry

D5 Knife (Fig 177). Complete Manning (1985) type 19? knife blade, with minor damage to the tip and cutting edge. The tang is set central to the blade and separated from it by sloping shoulders. The back of the blade is slightly convex, before it drops down to the tip in a concave curve. The cutting edge is slightly convex. L: 60 mm; W (blade, max): 10 mm; Th (blade back, max): 2 mm
KLA B 7, Fe 4, Period 13 (Post-Roman)

D6 Tool: handle? A multangular-sectioned rod, which tapers from the middle towards each end. L: 100 mm; W (max): 5 mm; Th (max): 5 mm
LAL D 1022, Fe 32, Period 10B

D7 Modelling tool/small hammer (Fig 177). A rectangular-sectioned rod, which tapers in thickness towards each end. The taper is more abrupt on one side than the other, but this may be an effect of corrosion. There is an oval depression in the centre of the upper surface and a similar one in the centre of the bottom. L: 165 mm; W: 18 mm; Th: <1-18 mm
KLA D 13, Fe 1, Period 14A (Post-Roman)

D8 Netting needle (Fig 177). A complete netting needle, with a circular-sectioned stem with a U-shaped fork at each end. The forks are set at right-angles to each other. The whole object has been bent. L: 232 mm; Diam (stem): 5 mm; L (prongs): 39-44 mm
KLA C 935, Fe 37, Period 11D-12

Fasteners and fittings

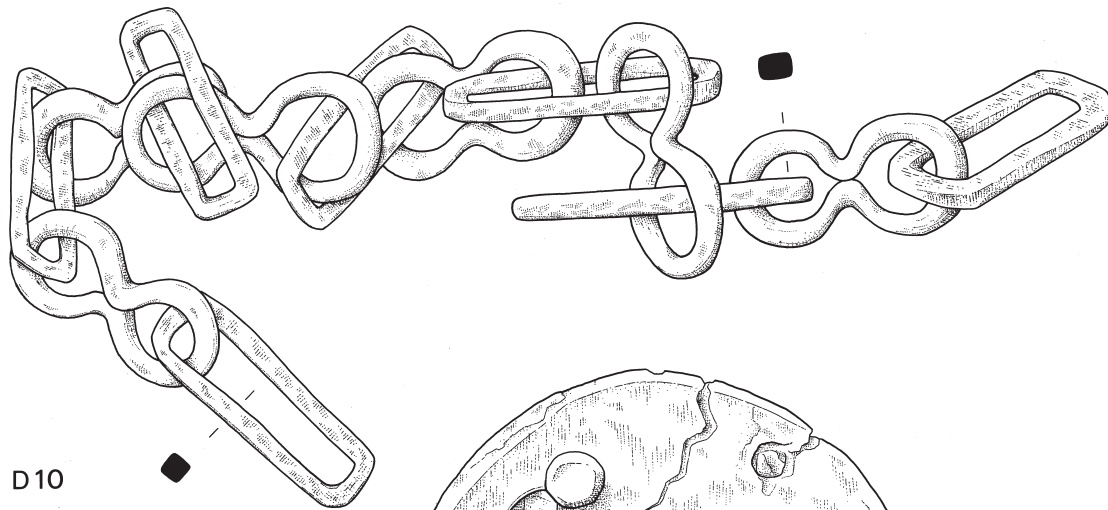
D9 Chain link. Complete large link made from a rectangular-sectioned rod. L (link): 93 mm; W (link): 71 mm; W (rod): 7 mm; Th (rod): 7 mm
LAL D 1100, Fe 34, Period 9

D10 Chain (Fig 178). The chain is made up of alternating rectangular links, which vary in size, and figure-of-eight links, which have touching centres. It is uncertain how many links there were originally. This chain was probably used with rotary padlock **D11**. The alternating links would have allowed the length to be adjusted, as any of the rectangular links could have been used in the slot of the padlock. Originally, the other end of the chain would have been attached to the loop on the rear of the padlock case. Rectangular links: L: 30-37 mm; W: 12-16 mm; Th: 2-4 mm
Figure-of-eight links: L: 31 mm; W: 15-16 mm; Th: 5 mm
LAL D 232.13, Fe 20, Period 11D

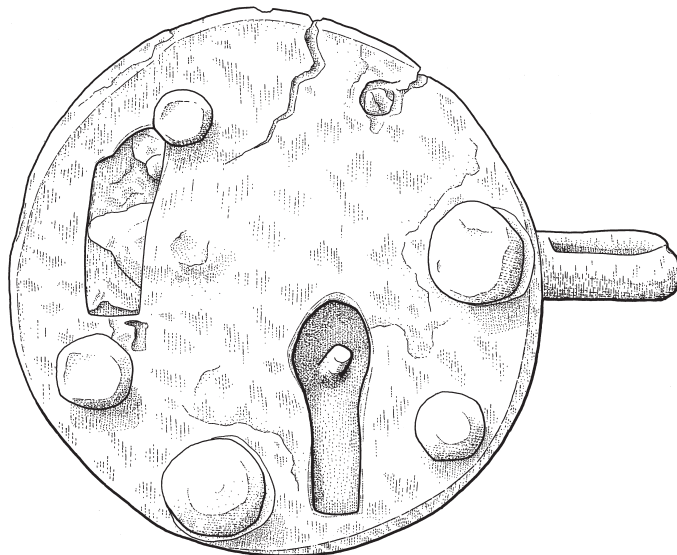
D11 Padlock (Fig 178). Complete rotary lock-type padlock, with only minor surface damage. It has a cylindrical case, the front and rear formed by discs, each with their edge turned down to form a flange. The side is formed by a strip held inside the flanges. No seam is visible in the side, but there is a crack running front-to-back through the flanges and on to the face of the padlock, which may mark the position of the join. On the front face, there are five dome-headed rivets and the remains of a sixth, which has lost its head. The case was held together by the three smaller rivets and the one which has lost its head. The two larger examples, both of which had a brass collar round them, seem to have had a different purpose.

There are also two openings on the front face, one of which, the keyhole, is a rectangular slot with a rounded expansion at one end. The other opening is a rectangular slot, which is slightly curved on the inside edge and at one end. Originally, this would have held a chain link (see **D10**). The end of the bolt is visible.

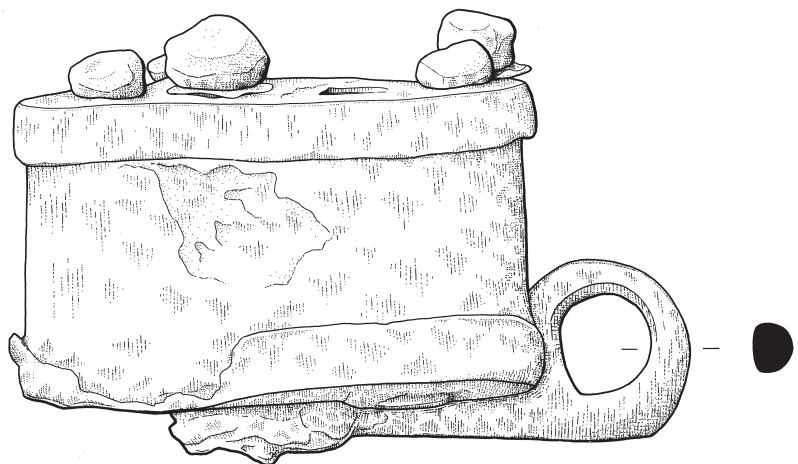
A rectangular-sectioned bar with a loop at one end has been welded on to the back. Originally, this would have held the other end of a chain, which could be inserted into the slot on the front face. X-rays of the padlock are not clear enough, even with computer enhancement, to show the internal mechanism, but it appears to be a rotary lock intended for use with a key with a hollow tubular end to receive the spike visible in the upper part of the keyhole.



D10



D11



0 50 mm

1:1

Figure 178: Iron chain and padlock

Diam: 68 mm; Th: 38-40 mm; L (keyhole): 28 mm; L (slot): 25 mm; Diam (smaller rivet): 9-10 mm; Diam (larger rivet): 13 mm
LAL D 232.13, Fe 22, Period 11D

L: 33 mm; W (ring): 28 mm; W: 5 mm; Th: 4 mm
KLA C 205, Fe 11, Period 17C (Post-Roman)

D12 Ring. Complete rectangular-sectioned, slightly teardrop-shaped, ring.

D13 Ring. Complete rectangular-sectioned ring.
Diam: 27 mm; W: 5 mm; Th: 3 mm
KLA C, Fe 21, unstratified

- D14** Complete Manning (1985) type 1A nail.
L: 198 mm; W: 9 mm
LAL D 1306, Fe 38, Period 4B
- D15** Very large, Manning (1985) type 1B nail. The point is missing and the head is damaged.
L: 169 mm; W: 9 mm; Diam (head): 30 mm
LAL D 1306, Fe 43, Period 4B
- D16** Manning (1985) type 7 nail, about half the head missing. The flat head was originally oval, and has a short tapering, rectangular-sectioned shank on the underside.
L (head): 16 mm; W (head): 20 mm
LAL D 1100, Fe 44, Period 9
- D17** Manning (1985) type 7 nail, part of the head missing. The original shape of the head is uncertain, but was probably multangular, possibly hexagonal. The tapering shank has a square cross-section.
L (head): 14 mm; W (head): 9 mm
LAL D 1016.06, Fe 45, Period pre-10C
- D18** Rod/nail. A rectangular-sectioned rod, tapering at one end.
L: 181 mm; W: 9 mm; Th: 9 mm
LAL C 146, Fe 7, Period 11A
- D19** L-shaped wall hook? A rectangular-sectioned rod bent into an L-shape. It tapers towards the end of the long arm.
L: 110 mm; W: 8-17 mm; Th: 6 mm
KLA C 1028, Fe 44, Period 11D-12
- D20** Joiner's dog. The main part is a rectangular-sectioned strip. At the more complete end, it narrows and is bent at a right-angle to form a triangular projection.
L (main body): 152 mm; W (main body): 25 mm; Th (main body): 6 mm
LAL C 121, Fe 4, Period 11D
- D21** Ferrule (Fig 179). A hollow conical ferrule made from folded sheet metal. A lap seam is visible on one side. Some minor damage.
L: 129 mm; Diam (max): 28 mm
LAL D 1013, Fe 33, Period 10B
- D22** Fitting. A rectangular-sectioned strip, which is pierced with irregular holes, all punched through the strip in the same direction. The hole nearest the more complete end is 19 mm from it.
L: 175 mm; W: 32 mm; Th: 2-3 mm; L (hole): 5 mm; W (hole): 5 mm
LAL D 232.14, Fe 23, Period 11D

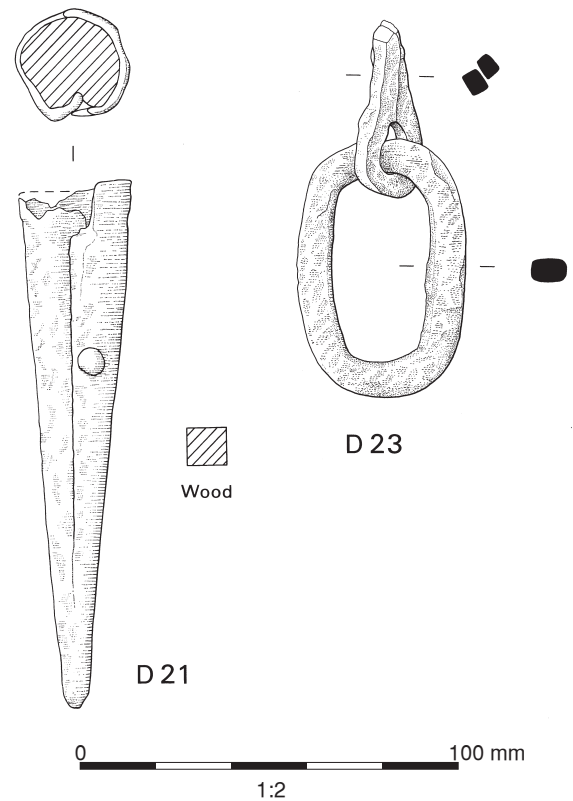


Figure 179: Iron fittings

- D23** Fitting (Fig 179). An oval ring, with a double-spiked loop attached. The ring has a rectangular cross-section. The double-spiked loop is made from a length of rectangular-sectioned rod. The legs are set close to, and parallel to, one another, and the points are missing. There is a teardrop-shaped expansion to accommodate the ring.
L (ring): 67 mm; W (ring): 43 mm; L (double-spiked loop): 46 mm
LAL B 163, Fe 3, Period 11E

Other iron objects

- D24** Tube. Four fragments of circular-sectioned tube.
L (largest fragment): 54 mm; Diam: 19 mm
LAL D 1307, Fe 41, Period 4B
- D25** Unidentified object. The fitting consists of a rectangular strip, which narrows at one end and curves round. There are two holes through the strip, each of which has an iron rivet surviving in it.
L: 95 mm; W: 28 mm; Th: 5 mm
KLA C 948, Fe 43, Period 10A-11B
- D26** Unidentified object. A rectangular-sectioned strip of iron. At one end it has the beginnings of a possible tang, separated from the main part by sloping shoulders. The other end is

thinner and curves.
L: 289 mm; W: 18-22 mm; Th: 5 mm
KLA D 342, Fe 8, Period 11A

- D27** Unidentified object. A rectangular-sectioned rod, which has been bent into a U-shape.
L (as bent): 126 mm; W (rod): 5 mm; Th (rod): 5 mm
LAL D 232.13, Fe 19, Period 11D

The Lead (E)

Unlike the other metals, the same number of significant lead objects came from the northern Lanes as from the southern part of the site (Padley 2010). Half the pieces can be assigned to functional groups, while the others have no readily identifiable function. The only functional group represented in both the northern and southern Lanes is 'tools and industry'. A plumb-bob (E4) could equally have been a steelyard weight, although the majority of these are made of copper alloy, such as those from South Shields (Allason-Jones and Miket 1984, 173-4, nos 3.475-7).

The other items all belong to different functional groups from those found in the southern Lanes. The first of these is a disc (E1), which has been identified as a counter, as it has a lightly incised X on the underside, and is similar to graffiti found on the underside of counters made of other materials (Crummy 1983, 91, 2244, fig 94, no 2244, fig 94, 2307, fig 96, no 2307). There are two lead sheets (E2-3), which have a row of rectangular holes surrounded by circular impressions along one edge, and then have been rolled into tubes. These are not curse tablets, as no writing was found on the interior surface. Two similar pieces were recovered from Corbridge (Allason-Jones 1989a, 201, nos 67-8, fig 98 no 67), where it was suggested that they were used as patches, and that the impressions were made by heads of studs/nails which were used to hold them in position.

Military items are represented by a single *plumbata* (E5), similar to others recovered from within the fort at Carlisle (Padley in prep b). These were used on late Roman throwing arrows, but the specimen from the Lanes was residual within a post-Roman (Period 13) deposit. However, the possibility of the piece being a fishing-net weight cannot be completely dismissed.

Finally, religion is represented by a lead figurine of Diana (E6; McCarthy *et al* 1982, 84-5). As the

figurine was found in a late post-medieval context, its dating rests on art-historical grounds. The pose of the goddess is the classic depiction of Diana, and is similar to the small bronze figure from Cirencester (Toynbee 1964, 85). Toynbee has noted (*pers comm*) that there is no iconographic reason why the figurine should not be Roman, and that it would, therefore, be an important addition to the very small existing list of lead sculptures from Roman Britain.

Among the pieces of lead with no identifiable function is a block with a stamped top surface (E7). The arrangement of rectangular and D-shaped depressions is deliberate and it is probably a trial-piece, possibly for a slide-key.

Catalogue

Recreation

- E1** Counter. Complete irregular disc of lead, with cut edges. One face is plain, while the other has a lightly incised X on it.
Diam: 18 mm; Th: <1 mm
LAL C 97, Pb 16, Period 11E

Building materials

- E2** Sheet. A sub-rectangular fragment of sheet, which has been roughly rolled into a tube. There is a row of three 4 mm square holes, surrounded by circular impressions 21 mm in diameter, along one edge. The holes are 18-21 mm apart.
L: 89 mm; W (rolled): 19-33 mm
LAL D 980.02, Pb 22, Period 10B
- E3** Sheet. A sub-rectangular fragment of sheet, which has been roughly rolled into a tube. There is a row of rectangular holes, surrounded by circular impressions 20-22 mm across, along one edge.
L: 107 mm; W (rolled): 34 mm; L (hole): 3 mm; W (hole): 4 mm
LAL D 983, Pb 21, Period 10B

Tools and industry

- E4** Complete plumb-bob, in the form of a roughly conical casting with a circular depression in the base. The other end is flat and there are irregular facets around it.
L: 28 mm; Diam: 9 mm
KLA B 289, Pb 679, Period 11D-12

Militaria

- E5** *Plumbata*. Complete, circular-sectioned 'bead', which is wider in the middle than at the ends. It is made from a rolled sheet, as the seam is clearly visible at one end.
L: 47 mm; Diam: 9-13 mm; Diam (int): 3 mm
KLA B 679, Pb 1920, Period 13 (Post-Roman)



Plate 123: Figurine of Diana

Religion

E6 Figurine (Pl 123). Largely complete cast figure of the goddess Diana. The figure is clad in a short-sleeved tunic with an overbold reaching to the knees. She is wearing short boots, and her hair is gathered into a knot at the nape of her neck. Her head is surmounted by a diadem. There is a hole, 4 mm square, in the small of her back, which probably held a quiver secured by a strap, which runs over the left shoulder, where it seems to be fastened. Originally, she held a bow (now missing) in her left hand, and was plucking an arrow from the quiver (also missing) with her right hand (McCarthy *et al* 1982, pl 3A).

Ht: 104 mm

LAL D 393, Pb 9, Period 19A (Post-Roman)

Other lead objects

E7 Complete sub-rectangular block (Fig 180). The top surface has a pattern formed by a

rectangular, and a D-shaped plain, stamp.

L: 27 mm; W: 23 mm; Th: 6-10 mm; Wt: 47.2 g

KLA B 188.05, Pb 98, Period 7-8A

E8 Tube (Fig 180). An irregular rectangular sheet rolled to form a tube.

L: 81 mm, W (rolled): 7 mm

LAL D 657.01, Pb 14, Period 11B

E9 Disc, with two irregular holes. One is just off-centre, while the other, which is larger, is towards one side.

Diam: 71 mm; Th: 2 mm; Diam (smaller hole): 4 mm; Diam (larger hole): 5 mm

KLA C 1126, Pb 48, Period 11C

E10 Rectangular-sectioned rod, which tapers towards one end, finishing in a blunt point. The other end has been flattened into an irregular curved projection.

L: 66 mm; W: 8 mm; Th: 8 mm

LAL D 502, Pb 11, Period 11E

E11 Strip, rolled into a cylinder (Fig 180).

L: 15 mm

KLA C 972, Pb 41, Period 11D-12

E12 Unidentified object. A sub-rectangular-sectioned rod, which tapers to a rough chisel-

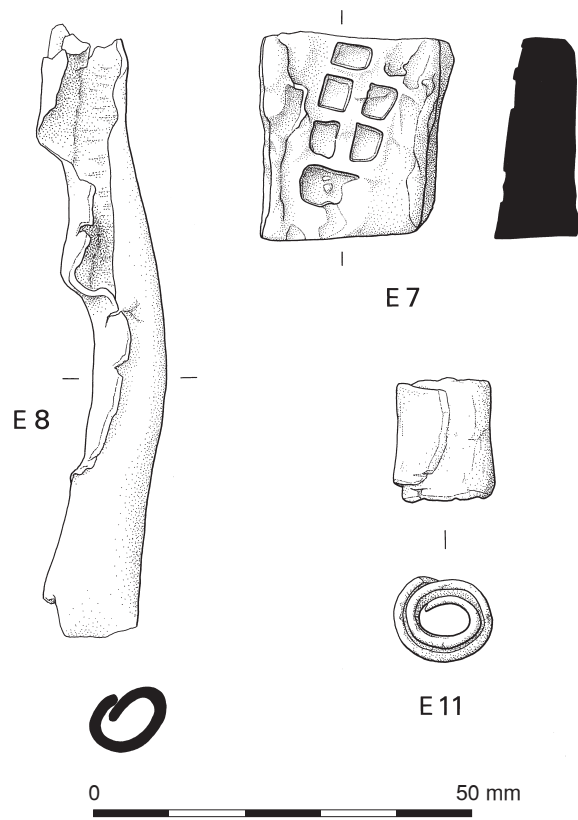


Figure 180: Lead objects

point at one end, and divides into two at the other. The divided end has a round domed expansion on one side, at right-angles to the rod. The other side is broken, but was

probably similar.

L: 65 mm; W (across wide end): 24 mm; W (rod): 5-7 mm; Th (rod): 7 mm

KLA C 1050, Pb 42, Period 11C