THE OTHER FINDS

THE COINS, COUNTERS AND A TOKEN

by M M Archibald (Nu1-5, 7-33, 43),
D M Metcalf (Nu6) and S E Rigold (Nu35-42)

The coins

Nu1 Roman
Carausius AD 286-293.
'Antoninianus' *c.* AD 291.
Obv: IMPCCARAU———
Rev: (PA) X (AUGGG)
Mint mark: (S)|P
(MLXXI)

Wt: 2.42gm.
B(378) = 363. House 4, Phase 4/5. SF1759.
This coin has had a hole, diameter 3mm, made in the blank area of the flan in front of the face, indicating that it had been used as an ornament in Anglo-Saxon times. It is not possible to say when this was done.

Nu2 Roman
Uncertain emperor, period AD 364-378.
Æ 3 (fragment).
Mint: Lyons.
Rev: GLORIA ROMANORUM Emperor dragging captive.
Wt: 1.30gm.
A553. House 2, Phase 4B. SF1524.

Nu3 Roman
Uncertain emperor, period AD 364-378.
Æ 3.
Mint uncertain.
Rev: GLORIA ROMANORUM Emperor dragging captive.
Wt: 2.03gm.
F. House 8, unstrat. SF1852.

Nu4 Roman
'Minim', mid-4th century AD.
FEL TEMP REPARATIO prototype.
Wt: 0.36gm. Maximum diam: 7mm.
G146. House 9, Phase 5. SF2647.
Minims have been found on both religious and secular sites. Their contemporaneity with their prototypes was demonstrated by the coins from Brean Down where the temple erected in the 330s and in use until *c.* 367 contained large numbers of these coins but a neighbouring building of later date where occupation continued until at least 395 had very few (Boon 1964; 1965; 1974).

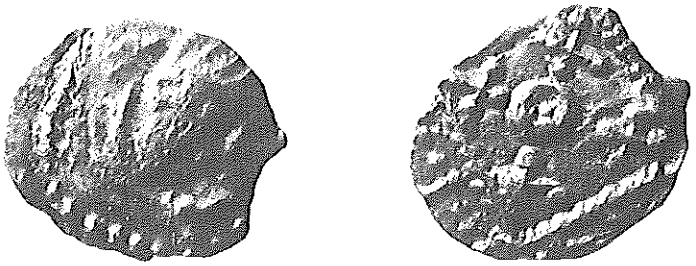
Nu5 Roman
'Minim', mid-4th century AD.
?FEL TEMP REPARATIO prototype.
Wt: 0.23gm. Oval shape, 7 × 6mm.
K. House 10, unstrat. SF2697.
Currency as Nu4.

Note on the Roman coins:
The above 5 coins were certainly not in circulation in the Anglo-Saxon period. They were residual in the soil like the sherds of pot and with the exception of Nu1 had probably escaped notice unless there is strong evidence to the contrary.

Nu6 Sceatta
Wt: 0.79gm.
A714. House 2, Phase 4A. SF1658.
The coin (Pl. 45), dating from AD 735 or a little later, is an imitation of BMC Type 3a, and the iconography of its obverse is particularly interesting. The V-shaped lines of drapery of the bust have been terminated, quite inappropriately, with animal heads (only the right-hand one is clearly visible on the Northampton specimen) like those on the torques of the 'wolf' sceattas, BMC Type 32a. As archaeological objects, such torques are virtually unknown from the Anglo-Saxon period, and their representation on coins is thus all the more intriguing (Metcalfe and Hamblin 1968: 34). Similar animal heads occur on pennies of Offa by the moneyers Alhmund, Ciolhard, and Tidwald (Blunt 1961).

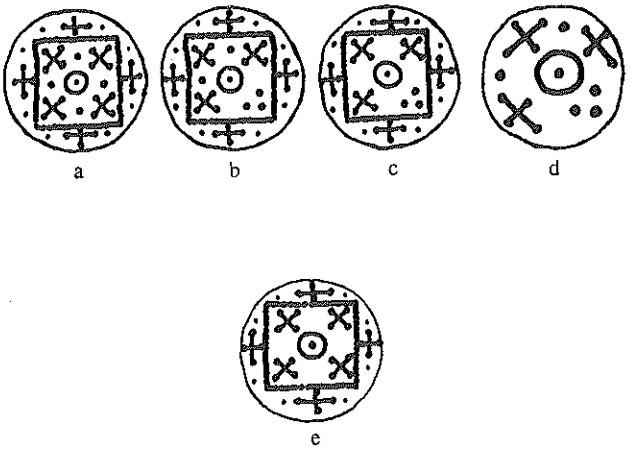
One other specimen is known, and it is so similar to the Northampton find that one has to look at the 2 side by side very closely to be sure that they are not, in fact, from the same dies. It is in the Ashmolean Museum Oxford, and weighs 0.98gm, as against the 0.79gm of the Northampton coin. X-ray analysis has shown that it contains just over 50% silver, with smaller amounts of gold, tin, zinc, and lead, the remainder of the alloy being copper (Metcalf and Hamblin 1968; analysis 0.125).

PLATE 45 *Saxon silver sceatta, Nu6.*



The regular coins of Type 3a (for which a west Sussex attribution has been provisionally suggested in Metcalf 1972: 65) usually have a pattern on the reverse of 4 crosses with 4 additional dots (Fig. 106a); or 3 crosses and one group of 3 dots, with 2 additional dots between the crosses (Fig. 106b); or the same without additional dots (Fig. 106c); and eventually without even the enclosing square of the standard (Fig. 106d).

Fig 106



The head on the obverses accompanying c and d is generally very coarse in style. The early coins in this sequence are evidently of good alloy, and one of variety b was found to contain *c.* 85% silver (Metcalf and Hamblin 1968; analysis 0.124). The later issues, however, became extremely debased, and often have the appearance of pure copper. The Northampton variety, which looks to be of moderately good silver, is imitated from an original of good style, before the head became fattened and linear.

The main reason for suggesting that the Northampton coin is imitative, then, is that the obverse, with animal heads added, is eclectic and unrelated in that respect to the prototype. It omits the cross in front of the face which is an important and regular feature of the design. Also, the V-shaped lines of drapery are quite unlike those of the original, where they are characteristically rounded to give a sculptural quality to the neck. Further, the reverse comprises an arrangement of dots (Fig. 106e) which seems to be unrecorded, and which would certainly be unusual, in the middle of the main series. The alloy, as well as the style, requires an intermediate date: the silver standard of the sceattas declined rapidly from around 95% in *c.* 730, to around 10% in *c.* 750 (Metcalf *et al.* 1968). It is unlikely that unofficial imitations would have contained more silver than the current issues, and on that basis the analysed specimen with *c.* 50% almost certainly antedates the 'London' series of sceattas, BMC Types 12-19, which seem to belong to the 740s (Metcalf 1972; 1976). The weight, finally, is distinctly on the low side for BMC Type 3a, which averages well over 1gm.

Although imitative, the coin is not necessarily an isolated production, the work of some small-time counterfeiter. The extreme similarity of the 2 known specimens, from different dies, hints at a more settled and regular output.

It is impossible to say where the Northampton coin was minted. 'Imitative' coins may in some instances merely be the products of

inferior die-cutters working in the same atelier as the man whose design they are imitating. There is, nevertheless, ample evidence that sceatta types were imitated at a distance, and since the 'wolf' type was intended primarily for circulation in Mercia (Metcalf and Walker 1967), a Midlands origin should not be ruled out. To revert to the animal heads on Offa's coins: specimens struck by the 3 moneyers who use them have been found mainly in or close to Middle Anglia (Chesterford, Essex; Luton, Beds.; Mentmore, Bucks.; Stilton, Hunts.; Weston, Hunts.) (Metcalf 1963: 41 and note 15; to the coins mentioned there can now be added an Alhmund found at Luton in July 1973). Whether the device had any local political significance or was esteemed for some other reason, and indeed whether this distribution pattern is securely based, will have to be judged in the light of future discoveries.

Nu7 Mercia
Berhtwulf AD 839-851.
Penny. North Group I, F, *c.* AD 843-848.
Uncertain mint.
Obv: BERHTVVLF REX Bust to right
Rev: +EAN+REDT Cross with upper and lower arms pattée; arms to left and right with crescents immediately above and below extremities (disconnected moline type); a tiny wedge in each angle.
Wt: 1.15gm (cleaned) = 17.7gr.
References: North 1961: 213-5; Lyon 1968: 228.
Area A unstrat (probably A713, House 2, Phase 4A). SF1666.

PLATE 46 *Silver penny of Berhtwulf of Mercia, Nu7.*

So great is the rarity of coins of Berhtwulf that the discovery of another example (Pl. 46), especially with a secure provenance, is of considerable numismatic importance. The coinage of Berhtwulf was divided by North into 2 stylistic groups which he considered to be chronological. The moneyer Eanred was hitherto unknown in the portrait coins of Group I although he was recorded in the portrait coins of Group II. A moneyer Eanred (not necessarily the same individual) also struck coins for Burgred, Berhtwulf's successor on the Mercian throne. Although the later Burgred coins bearing this name are of a style associated with coins of Ethelred of Wessex and Kent from the Canterbury mint, the earlier ones of highly idiosyncratic style have been associated with the London mint. Of the 10 moneyers recorded in Berhtwulf's portrait coinage only 3 were known in both groups while 5 were known only in Group II and 2 were known only in Group I. This led Lyon to put forward the view that the groups were perhaps not chronological but represented the products of different mints. He identified the style of Group I with coins of Ethelwulf of Wessex and Kent ascribed to the mint at Rochester and suggested, while acknowledging the historical difficulties posed by such an attribution, that the Berhtwulf coins of this style, i.e. of Group I, might also have been struck at Rochester. The discovery however of the Northampton coin, which increases the number of moneyers known in both groups to 4 and correspondingly reduces the number of moneyers known only in Group II to 4 also, suggests that it is perhaps only the rarity of surviving coins of Berhtwulf which had created the apparent association of particular moneyers with one style rather than the other. Future discoveries may well increase the moneyers known in both stylistic groups and hence very greatly reduce, if not exactly rule out, the likelihood that they could represent the products of different mints. (That the coinage of Berhtwulf may indeed have been larger than the surviving examples would lead us to believe is suggested by the fact that the obverse die of the Northampton coin of Eanred cannot be matched on any of the portrait coins in Group I struck by other moneyers.) If the Rochester theory is accepted then the Northampton coin adds another moneyer to those working at that mint. Bearing in mind the considerable historical difficulties of an extensive coinage for Berhtwulf at Rochester, a Mercian origin for the present coin seems more attractive and recalls the presence of a moneyer Eanred at a Mercian mint, possibly London, at the beginning of Burgred's coinage. The mint is therefore left as uncertain in the above entry but the discovery of this coin increases the onus of proof on those who propose that a substantial proportion of Berhtwulf's coinage was struck outside his kingdom.

The debasement of the currencies in Mercia and Wessex following the inception of the Danish incursions occurred during the issue of the lunette type and brought about the disappearance of all but stray survivors of the earlier coins of better metal and higher weight. An effective *terminus post quem* for the deposit of this coin, abnormal survivors apart, is *c.* 875 although it was most probably lost at least 10 years before that date.

Nu8 East Anglia
St Edmund Memorial.
Penny.
Obv: +SCEADMVN (or ND) letters very indistinct but legend may be reconstructed as shown. A in centre.
Rev: NIIMI≡MO a round cross.
Mint and moneyer uncertain.
Wt: 0.79gm (incomplete, and corroded) = 12.2gr.
Reference: Blunt 1969.
A(575) = 574. House 1, Phase 4B. SF1571.
The flan-size of this penny is smaller than the general run of St Edmund Memorial coins in the Cuerdale hoard buried *c.* 903. It is therefore more likely to belong to the later phase of the coinage *c.* 900-910. The obverse legend although indistinct appears to be quite literate and although the A on the obverse is of a late form the reverse cross is still of neat shape so the coin probably was produced somewhere before the end of the coinage say *c.* 900-905. There were only 19 St Edmund pennies, all but 2 of the later phase, in the large East Anglian hoard from Morley St Peter deposited *c.* 925. In the later 10th century hoards the large-flan fine metal coins of Edward the Elder and his successors had ousted the earlier small-flan, baser coins so an effective *terminus* for the currency of such coins may be placed *c.* 930.

Nu9 East Anglia
St Edmund Memorial.
Penny.
Wt: 1.83gm = 28.2gr (heavily impregnated with wax).
A576, House 1, Phase 4B. SF1456.
Little is visible on this coin but it is just possible to discern the prominent A which appears in the centre of the obverse of pennies of the St Edmund Memorial issue. The flan appears to conform to the larger size characteristic of those in the Cuerdale hoard deposited *c.* 903 but it is possible that a smaller-flan coin has been enlarged by the 'explosion' of the metal by corrosion. Currency as Nu8.

Nu10 ?East Anglia
?St Edmund Memorial.
Penny.
Wt: 0.10gm = 1.5gr (incomplete).
G145. House 9, Phase 5. SF2657.
Only a few small fragments from the edge of this coin were recovered. The types are circumscription on both sides and the style of lettering belongs to the 9th to 10th centuries. On one side, probably but not necessarily the obverse, the letters EA can be seen and the arc of the fragments suggests a smallish flan. Circumscription types are much rarer than line types for the West Saxon and English kings of this period and some of these may be eliminated on grounds of style. By far the commonest coins whose style would fit these fragments are the St Edmund Memorial issues and hence the tentative attribution proposed above. Currency as Nu8.

Nu11 Athelstan AD 924-939
Penny. BMC Type VIII.
Obv: +ÆDELSTANREX (///)
Rev: +M(A)NTCENMONORPIC
Mint: Norwich.
Moneyer: Manticen.
Wt: 0.47gm = 7.2gr (chipped and mended).
Reference: Blunt 1974: no. 286.
K160. House 10, Phase 4. SF2814.
Blunt dates the issue of the crowned-bust type to the period 933-939. In normal circumstances the absolute *terminus post quem* for the deposit of such coins is provided by the comprehensive recoinage which took place after 973. It appears that the restriking of the earlier coins was completed rapidly so that apart from stray survivors these coins are likely to have disappeared from currency by about 975. Since the relevant hoard evidence shows that the representation of coins of Athelstan had declined to about 1 in 10 by about 970, the actual deposit date of this coin is most likely to have been at least 10 years earlier.

Nu12 Edgar AD 957/9-975
Penny. BMC Type Ic.
Obv: +EADGARR+ M in field between G and A
Rev: rosette/LEOFH/+ + +/ELMMOT/rosette
Mint: Derby.
Moneyer: Leofhelm.
Wt: 0.61gm = 9.4gr (incomplete with some corrosion adhering).
A517. House 3, destrat. SF1314.
The moneyer Leofhelm was not hitherto recorded in Edgar Type Ic although he is known in the other early type, BMC Type III, both in the group without mint-signature and in coins with the signature of Derby. His associations are with the earlier period of Edgar's reign since he is known on coins without mint-signature in the previous two reigns but not in the later pre-reform type of Edgar, BMC II, nor in the post-reform issues struck after 973. Metrological investigations have shown that Type Ic was, in general, struck from finer silver than all the other pre-reform types of Edgar and corresponds in fineness to the issues of his immediate predecessors. This suggests that Type Ic is early in the reign and possibly the earliest in Edgar's name. The reform after 973 again delimits the currency of these coins so that the deposition of this coin may be placed within the bracket *c.* 960-975.

Nu13 Uncertain king
Penny, probably 10th century.
Wt: 0.70gm = 10.8gr.
A759. House 2, Phase 3A? SF1677.
This coin was very corroded and none of the original surface survives. No types or letters are visible. The date bracket could easily be narrowed if the coin were a halfpenny since this denomination was struck for limited periods but although this coin is almost small enough to be a halfpenny as it stands, it has lost a lot of metal. It still weighs 10.8gr which was the weight of by far the heaviest of the Anglo-Saxon halfpence listed by Blunt (1962: 48). It must therefore be a penny. Since the amount of gold as a trace element is a valuable pointer to the period of issue of English silver coins, this piece was submitted to non-destructive analysis by the X-ray fluorescence method by Dr Michael Hughes of the British Museum Research Laboratory. He reports that there was about 1% of gold present in silver which contained about 3-8% copper. The comparatively high gold content immediately pushes it back before the Reform of Edgar and the fineness of the silver to before all Edgar's issues except Ic which as has been suggested (cf. Nu12) is probably his first. Eliminating from the earlier side is more difficult since we do not have a comprehensive series of analyses for the pennies of the 8th and 9th centuries. All the base-silver coinages of the period of Burgred and Alfred can also be eliminated. Turning to the coin's superficial appearance, the lack of any surviving detail suggests that the designs and letters were not originally in very high relief although its condition would make it unwise to lay too great store by this feature. However, pennies of Offa whose low relief might have made them candidates can probably be eliminated because of their comparatively low gold content although, since only 2 coins have been analysed, caution must be exercised here. The low-relief, fine silver issues of Alfred must however remain a possibility as the one analysis of the London Monogram type shows both a high silver content and gold at about 1%. The most likely period suggested by all the available evidence remains, however, the first half of the 10th century. The *terminus* for its probable currency is again *c.* 975. (For the analyses on which this discussion is based see Hall and Metcalf 1972).

Nu14 Henry I AD 1100-1135
Penny. BMC Type XV.
Rev: ———S: ON———
Mint and moneyer uncertain.
Wt: 0.59gm = 9.1gr.
A407. House 1, Phase 5. SF1210.
The details of this coin are too corroded to enable die-comparisons to be made with coins from likely local mints and there are too many moneyers the form of whose name can end in S to enable the mint and moneyer to be identified. Type XV was Henry I's last type and although the exact date of its inception has yet to be established it is likely to be *c.* 1130. Coins of this type can survive in fairly large quantities in hoards buried early in the reign of Stephen. Unfortunately the hoard evidence from the middle of the latter's reign is very slight but coins of Henry I Type XV do not appear to have survived, except for strays, after *c.* 1145.

Nu15 Stephen AD 1135-1154
Cut-farthing. BMC Type VII.
Mint and moneyer uncertain.
Wt: 0.13gm = 2.0gr.
A128. House 3, garden. SF323.
No letter of the legend is certainly visible on this coin. It was compared with all the coins of the type in the British Museum and with other published speciments without any die-link being established. The imperfect striking of many coins at this period means that if the quarter corresponding to that on this cut-farthing happens to be illegible on the one published example of the die then a die-identity cannot be recognised. Type VII of Stephen was probably introduced following the Treaty of Winchester in 1153 and certainly remained current until the issue was recoined into Tealby type pennies after 1158. About 25% of the coins in the Awbridge hoard deposited *c.* 1165 were, however, still of Stephen Type VII. Cut coins furthermore generally survived for longer in currency than the pennies of the same type so although this coin is most likely to have been deposited by *c.* 1160 a longer life in circulation remains a possibility.

Nu16 Edward I AD 1272-1307
Halfpenny.
Mint: London.
Wt: 0.30gm = 4.6gr.
A192. House 3, Phase 6Dii. SF437.
This coin is too corroded to allow it to be attributed to a precise class in the Fox or more recent classifications but it certainly belongs to an early period of the sterling coinage between 1280 and 1290. Its condition likewise makes it difficult to form any accurate view of its degree of wear or to know whether the loss of metal at the edge is due to clipping or just to corrosion. Such coins survived in circulation into the early 15th century but the general aspect of this coin suggests a deposit date some time in the middle of the 14th century.

Nu17 Edward III AD 1327-1377
Half-groat. Pre-Treaty coinage, Series G, AD 1356-60.
Mint: London.
Wt: 1.19gm = 18.3gr (broken and mended, some corrosion still adhering).
E2. Phase pre-6. SF1795.
The condition of this coin makes its weight deceptive. It looks as if it had been struck somewhat off-centre but it is possible that it has been clipped. The condition of the coin makes it difficult to decide between these 2 possibilities. Its superficial appearance is not dissimilar to those in the Attenborough hoard of *c.* 1420, possibly a little better than some. A deposition date of *c.* 1400 may be suggested with margins *c.* 1380-1420.

Nu18 Edward III AD 1327-77
Groat. Pre-Treaty coinage, Series C, AD 1351-2.
Mint: London.
Wt: 3.48gm = 53.7gr.
G. House 9, unstrat. SF2691.
This coin displays relatively little wear but has been quite severely clipped. The weight suggests that it was current during the 60 grain groat period, 1412-1464 and the degree of wear that it was deposited earlier rather than later within this bracket. Its appearance is, for example, somewhat better than the general run of groats of Edward III present in the Attenborough hoard deposited in *c.* 1420. Abnormal clipping at a date prior to 1412 cannot however be ruled out, especially for a coin in such relatively unworn condition.

Nu19 Edward III AD 1327-1377
Halfpenny. Florin coinage, AD 1344-51, Type A.
Mint: London.
Wt: 0.42gm = 6.5gr (clipped and mended).
B(276) = 266. House 4, Phase 6A. SF1655.
This coin shows considerable wear but is not clipped. It is nevertheless in slightly better condition than most of the coins of the same denomination and period in the Attenborough hoard deposited *c.* 1420. The date-bracket within which it is most likely to have been lost is therefore 1400±10 years but an earlier or later deposit cannot be ruled out.

Nu20 Richard II AD 1377-1399
Halfpenny. Purvey Class IA5.
Mint: London.
Wt: 0.50gm = 7.7gr.
Reference: Purvey 1962: 102.
B(276) = 266. House 4, Phase 6A. SF1100.
Purvey's study places the issue of Class IA5 *c.* 1390. This coin has been clipped and its weight suggests that it was current during the 15 grain penny period, 1412-1464. Its appearance points to its having been deposited earlier rather than later within this bracket but the weight and condition of isolated specimens of the lower denominations can be misleading so that an earlier or later deposition date cannot be ruled out.

Nu21 Richard II AD 1377-1399
Halfpenny. Purvey Class I.
Mint: London.
Wt: 0.37gm = 5.7gr (chipped).
A111. House 2, garden. SF153.
The surviving detail on this coin is too indistinct to attribute it to a sub-class in Purvey's classification (cf. Nu20 above) but it certainly belongs to his Class I, struck *c.* 1382-91. Currency as Nu20 above.

Nu22 Uncertain king
Halfpenny: 2nd half of the 14th century.
Wt: 0.37gm = 5.7gr (some corrosion adhering).
A(209) = 208. House 3, Phase 6Di and ii. SF486.
The condition of this coin makes it difficult to comment upon its likely duration in circulation. It could easily have remained current into the 15th century but its comparatively full flan makes it more likely that it had not survived after the reduction in standard weight in 1412 although, since halfpence are not so consistent as the higher denominations, later currency remains possible.

Nu23 Ireland
Edward IV AD 1461-1483
Penny. Light coinage of AD 1473-1478.
Mint: Waterford.
Wt: 0.21gm = 5.7gr (about half of the coin present).
Reference: Seaby 1970: 39, no. 4379A.
A. Unstrat. SF19.
Irish coins of this period are found in circulation in England: there were for example 8 Irish pennies of Edward IV among the 163 pennies in the York No. 1 (Bootham) hoard deposited *c.* 1480. There is virtually no hoard evidence about the currency of pennies in England *c.* 1500. It is likely however that the proportion of earlier pennies in circulation declined rapidly after the introduction into currency of the prolific issues of pennies for Henry VII. Bearing in mind this coin's relatively unworn condition the likely *terminus* for its circulation may be placed *c.* 1500.

Nu24 Charles I AD 1625-1649
Farthing. Richmond Series, AD 1625-1634. Peck Type Ic.
Initial mark: trefoil.
Mint: London (contractor's mint).
Wt: 0.47gm = 7.2gr.
Reference: Peck 1964: 60, no. 192.
G71. House 10, Phase 7. SF2186.
The production of the Richmond and later contract farthings ceased at the end of 1644 and the need for small change was then met by the tokens of local tradesmen. Although there is little direct evidence the implication seems to be that the contractors' farthings had rapidly disappeared. An absolute *terminus* is however provided by the introduction of the regal halfpence and farthings in 1672.
The mis-striking of this coin—a common feature of the series—demonstrates the technique of production. These farthings were struck by a rotary press on strips of metal from which the coins were then mechanically chopped out by punches. Here the two processes have got out of phase with the strip dragging as it passed under the punch so that the type is not centred on the flan and there is an arc of metal missing from one side of the flan because the punch had cut into the hole left in the strip where the previous coin had been removed.

Nu25 Charles I AD 1625-1649
Farthing. Richmond Series, AD 1625-1634. Peck Type Ic.
Initial mark illegible.
Mint: London (contractor's mint).
Wt: 0.30gm = 4.6gr (corroded fragments).
G77. House 10, Phase 6B/C (?intrusive). SF2152.
Currency as above.

Nu26 George II AD 1727-1760
Farthing. Young Head issue, AD 1730-1739.
F. House 8, unstrat. SF1887.

Nu27 George II AD 1727-1760
Halfpenny. Old Head issue, AD 1754.
K1. House 10, unstrat. SF2412.

Nu28 George III AD 1760-1820
Halfpenny. AD 1799.
K. House 10, unstrat. SF2466.

Nu29 'Medley Halfpenny'
G2. House 9, destrat. SF1909.
This is one of the very common contemporary forgeries of 18th century halfpennies distinguished by poor style (illegible here) and thin, light-weight flans. They were issued during the last quarter of the 18th century. The condition of this piece and Nu30 is so bad, even for Medley halfpence, that it is possible that they had been used as washers or for some other industrial purpose.

Nu30 'Medley Halfpenny'
As Nu29 above.
C23. House 7, Phase 6ii (intrusive). SF159.

Nu31 'Medley Farthing' AD 1793
As Nu29 above but here the proper regal inscription has been replaced by GEORGE RULES.
K1. House 10, unstrat. SF2465.

Nu32 George IV AD 1820-1830
Farthing. AD 1822.
E, unstrat. SF1782.

Nu33 France
Napoleon III AD 1852-1870
10 centimes. AD 1856.
F. House 8, unstrat. SF1856.

Nu34 Victoria AD 1837-1901
Farthing. AD 1864.
C92. House 7, destrat. SF971.

The counters and a token

Nu35 Farthing Token, 1650s
Balance, star i.m. BIRD STREETE IN/ S between lozenges over I D (John Smyth?) NORTHAMPTON. 'Williamson's Boyne': Northants. no. 80.
C. House 7, unstrat. SF17.

Nu36 English jetton
Successor to 'sterling' series. Pierced from rev. Diam: 23mm. Lion passant guardant ('leopard') in quadrilobe, undulating line between groups of 3 pellets in border/ crown in circle joining 4 annulets, leaves, pellets and annulets in border. The rev. also occurs with the 'standing king' obv. of the 1350s and 60s (Barnard 1916: Eng. no. 39; Berry 1974: Pl. 6, no. 9). The obv. is distinct from the larger, later lion type. Not struck up but little worn: *c.* 1350s or early 1360s.
A. Unstrat. SF4.

Nu37 French jetton
Apparently late 'official' but rather unusual in technique and in having a rev. legend. Diam: 25mm. Shield of France 'modern', 5-pointed stars l. and r. Cross i.m., colon stops, AVE:MARIA: GRACIA: cinqfoil/ plain 3-strand cross flory, cinqfoils in quarters, 6-pointed star i.m. and stops, AVE.MARIA.GRACIA. Second quarter or middle of 15th century.
B171. House 4, Phase 6Di. SF381.

Nu38 Jetton, Tournai
Diam: 26mm. Sacred monogram ihs SALVATOR SECLOR(um)/ cross paty, lys in quarters, IN NOMINE DOMINI AME(n), star stops. Middle of 15th century.
A86. House 2/3, destrat. SF147.

Nu39 Jetton, 'Unplaced Central Group' (Franco-German Border?)
Diam: 22mm, twice pierced. Two lions sejant se-regardant, as on the Burgundo-Netherlandish 'Briquet' coinage of 1474, alternate Es and 5-pointed stars in border/ shield (unrecognisable), Vs and Ds on side in border. Later 15th century, probably soon after 1474—the 'Briquet' coinage was short-lived.
C(109) = 20. House 7, Phase 5. SF926.

Nu40 Jetton, Nuremberg
Reichsapfel in trilobe/ 3 crowns and 3 lys. Early, diam: 21mm, nicked edge. Large orb, nothing in spandrels or on crowns, garbled Lombardic letter. *c.* 1520.
C27. House 7, Phase 6ii. SF918.

Nu41 Jetton, Nuremberg
Reichsapfel in trilobe/ 3 crowns and 3 lys. Late, diam: 26mm, nicked edge. DAMIANVS KRAVWINCKEL/ RECHEN PFENNIG. *c.* 1570.
Unstrat. SF16.

Nu42 Jetton, Nuremberg
Reichsapfel in trilobe/ 3 crowns and 3 lys. Late, diam: 20mm. Rosette of 7 pellets i.m. each side, WOLFF.LAVFER.IN.NVRNBER/ RECH A PFENING. *c.* 1618-1660 (but early in his activity, *c.* 1620, yet much rarer in England than the similar small Hans Krauwinckels that are their immediate predecessors).
G71. House 10, Phase 7. SF2185.

Nu43 'To Hanover' counter
These counters have their genesis in the satirical medalets produced in 1837 to commemorate the departure of the unpopular Duke of Cumberland to become King of Hanover in succession to his brother William IV whose niece Queen Victoria was disqualified by her sex. The bulk of the pieces used as counters however were produced much later in the 1870s and 1880s. As these stampings were very cheap, they were often, as here, pierced for use as costume jewellery.
F7. House 8, Phase 7. SF1877.

THE RADIOCARBON DETERMINATIONS

by Carbon-14/Tritium Measurements Laboratory,
AERE Harwell

All mean dates are rounded to the nearest ±10 years and errors to ±5 years. Corrected results were obtained using Damon, Long and Wallick's tables (1972).

RC1 Bone from F(282) = 56: House 8, mixer spread, Phase 3.
ad 640±90 = AD 670±95. Harwell ref. HAR-1246.
SF3304.

RC2 Bone from F56 and its equivalent (F272, 274, 284, 291): House 8, mixer spread, Phase 3. ad 650±60 = AD 680±65. Harwell ref. HAR-1245.
SF3303.

RC3 Bone from F293: House 8, mixer 2 bowl, Phase 3.
ad 870±60 = AD 900±70. Harwell ref. HAR-1452.
SF3336.

RC4 Bone from N133: Area N, layer associated with stone (?)church, Phase 3.
ad 710±80 = AD 740±85. Harwell ref. HAR-1720.
SF3482.

RC5 Bone from A759: House 2, gully, Phase 3A?
ad 840±80 = AD 870±85. Harwell ref. HAR-1244.
SF3302.

RC6 Bone from (J14) = A759: House 2, gully, Phase 3A?
ad 920±80 = Ad 940±85. Harwell ref. HAR-1454.
SF3337.

RC7 Soil containing charcoal from K172: House 10, Grubenhaus 2B, Phase 4.
ad 760±70 = AD 780±80. Harwell ref. HAR-1225.
SF2854.

RC8 Bone from K177: House 10, Grubenhaus 2A, Phase 4.
ad 1070±70 = AD 1090±80. Harwell ref. HAR-1437.
SF3339.

RC9 Bone from K171: House 10, Grubenhaus 3, Phase 4.
ad 1250±70 = AD 1250±75. Harwell ref. HAR-1431.
SF3338.

THE COPPER ALLOY OBJECTS

by G E Oakley (Cu2-297) and L E Webster (Cu1) with a contribution by J. Bayley

In few cases is it possible to date metal-work more closely than the pottery with which it is associated. Most types had a long life and could survive in use for more than a generation, then were more likely to have been melted and re-fashioned than discarded.

Several objects are probably of Early or Middle Saxon date although none was found in a context of that date. The applied disc brooch, Cu1, is the earliest datable find. The 8th century Irish shrine mount, Cu44, the finger ring, Cu14, and the folding balance arm, Cu89, are also early forms. Other items which may possibly pre-date the Late Saxon period are the buckle Cu18 and the buckle or hinge plate Cu30. Elaborate punched decoration on sheet metal (Cu35 and 73, Pl. 48) may be found on Saxon and medieval objects but the chip-carved design on the stylus, Cu100, is probably 8th century.

Items such as belt attachments and box fittings may have been manufactured on the site as the scatter of sheet clippings implies. Bronze slag (see Cleere below p. 278) and the fragments of Late Saxon crucible and mould (Cu292-4) also suggest the manufacture of cast objects both in the Late Saxon period and in the 15th century. Approximately 150m to the north-west recent excavations (NDC site code M139) have recovered further evidence of Late Saxon metal-working with many crucible fragments. Items of personal attire such as belt fittings, pins and lace-tags may well have been made along St Peter's Street in the later Middle Ages (perhaps in House 4).

Monetary exchange, at times throughout the whole Late Saxon-medieval period, is suggested by the small balances for weighing coins and a ten-penny weight (Cu89-93).

The writer acknowledges with thanks helpful discussions on the copper alloy finds with Mr J Cherry and Mrs L E Webster, Mr J Graham-Campbell (on Cu44) and Miss J Bayley (AML) for work on the metal-working evidence.

(The large number of Scandinavian parallels may be misleading. Scandinavian contact is not necessarily implied but rather it may reflect the comparative paucity of published late Saxon and early medieval finds from this country.)

Brooches and pin head

Fig. 107; Pl. 47, Cu1-7

The brooches are of three kinds: disc, annular and penannular. The disc brooch, Cu1, is typologically datable to the late 5th or early 6th century; it is conceivable that it was discarded several generations later having survived as an heirloom.

Two annular and three penannular brooches are all from 12th to 14th century contexts. None appears to be typologically earlier. The large annular brooch, Cu3, is a common fastening for heavy loose-woven or slotted garments. The small brooch, like Cu4, has been discussed by Russell-Smith (1956) and could have a variety of uses about the person to secure items of clothing, e.g. the hose. The penannular brooches are more elaborate and presumably intended for show.

Cu2 is a fragmentary disc which could be the head of a pin or alternatively a dress-fastener. The disc is comparable in size with the heads of two pins from Whitby (Peers and Radford 1943: Fig. 13, nos. 7 and 7a) and the bone pin WB46 from this site (p. 310). The concentric ring design on both could be token decoration for stone settings like those on a pin from Hitchin (Wilson 1964: Pl. IIa. The eccentric hole in Cu2 could be for a link to another pin as disc-headed pins sometimes come in sets (Wilson 1964: 57). The two holes might alternatively be the means of attachment to clothing if the disc is a dress fastener (cf. Addyman and Hill 1969: Fig. 27, no. 6).

Catalogue

Cu1 Composite disc brooch (Pl. 47). The brooch consists of a circular thin bronze sheet with *repoussé* decoration, the edges turned over the corroded remains of a thin iron base plate. The underside of the brooch is overlaid with a thick pad of iron-impregnated vegetable debris, but there are indications of the original iron pin. The decoration consists of a central small round boss surrounded in turn by a plain zone contained within a ring of beading, a broad zone consisting of 6 small, round bosses alternating with 6 tear-shaped bosses with beaded surrounds, and 2 outermost concentric zones of beading.

PLATE 47 *Early Saxon composite disc brooch, Cu1.*

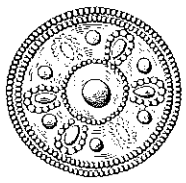
The brooch evidently belongs to the wide class of Germanic round brooches of composite construction which emerge in the 4th C AD and continue throughout the pagan period in a variety of regional forms in western Europe (Thomas 1967; Böhme 1974: 24-28; Werner 1961: 40-41). These variations may be wide, but in essence the brooches consist of an upper decorative *repoussé* foil, usually of bronze but sometimes of silver, fixed by soldering or mechanical means to a base plate, usually of bronze. A separate rim attachment may additionally be used to protect the edge of the brooch.

The construction of the Northampton brooch is noteworthy in 2 respects: its attachment to an iron base plate, and the folded-over bronze rim. These features are not found amongst the Anglo-Saxon so-called applied brooches, nor on their continental analogues. Both these features, however, can occur on 7th C Frankish brooches, though these are generally larger and more elaborate in decoration (e.g. Werner 1961: 40, Pl. 39; Joffroy 1974: 76, 109, Fig. 57). However, a brooch of similar size, construction and decoration was found in Howletts, Kent, grave 26 (British Museum reg. no. 1936, 5-11, 100). This, like the Northampton one, consists of an iron base plate with superimposed bronze *repoussé* foil; there is no certain indication, in its present corroded state, that the bronze foil was folded over the edge. The decoration consists of a small central setting of blue glass *en cabochon,* from which radiate 4 ribbed bars set crosswise, which split at the ends into 2 outward-curling scrolls: these alternate with 4 oval bosses in plain frames, the whole surrounded by 2 zones of plain beading.

The oval and tear-shaped framed bosses of the Howletts and Northampton brooches are clearly skeuomorphic of similarly shaped glass settings, which, like the round blue glass settings on the Howletts brooch, are well known on late and sub-Roman metal-work, and which occur, sometimes in conjunction with beaded frames, on 4th C precursors of the applied brooches from free Germany (e.g. Thomas 1967: 96, Fig. 1, Pl. II). Somewhat nearer in date, they also appear on an unprovenanced bronze applied brooch in the British Museum (reg. no. 1872, 5-20, 10), which also has a cruciform arrangement of decoration closely similar to that of the Howletts piece. The associations of the Howletts brooch are not closely datable, even if one accepts this grave as a closed find. They consist of 42 translucent blue glass beads and a bronze ring from a necklace, fragments of a patched bronze bowl, a lump of iron pyrites, a bronze tube and fragmentary bronze ring. The beads, however, suggest a date somewhere between the later 5th and first half of the 6th C (cf. Böhner 1958). This dating is reinforced by the decoration of the brooch, which, with its unprovenanced parallel, is evidently related to the 5th C floriate cross series of applied brooches, which appear both in England and on the continent (Böhme 1974: 26, 28;

Fig 107

Copper alloy objects 1



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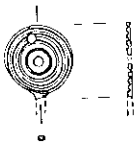

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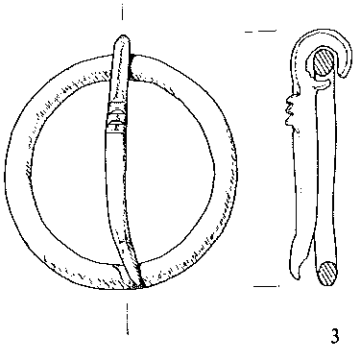

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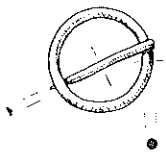

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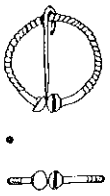

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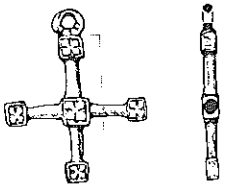

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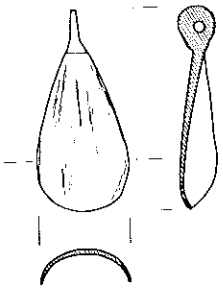

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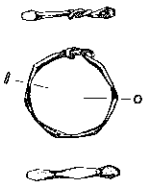

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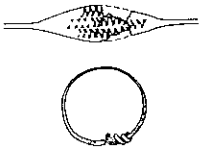

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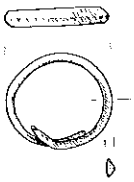

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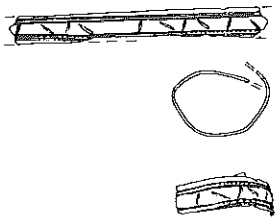

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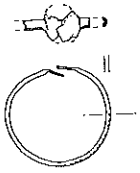

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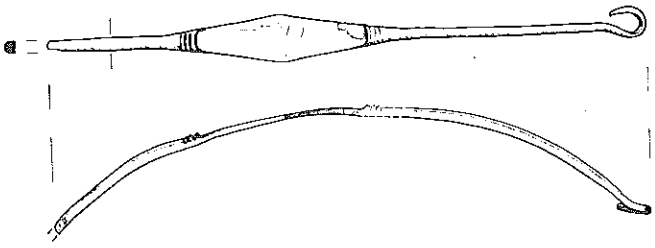

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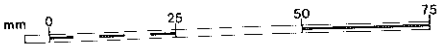
Scale 2:3



Welch 1975 and 1976). (It may indeed be argued that the oval bosses between the arms of the cross derive ultimately not from glass settings but from the oval decorative elements set between the cross arms on some of the earliest of the group (e.g. Galgenberg (Sahlenburg) grave 19) and on the late Roman metal-work with this motif.) The flatness and irregularity of the design on all 3 of these brooches suggest craftsmen working at some remove from the continental models of the first half of the 5th C and their English derivatives. The solidity of the Howletts and Northampton brooches is reminiscent rather of Frankish early 6th C disc brooches where iron is indeed widely used as a base for *cloisonné*, while the glass settings, flaccid design and coarse *repoussé* look forward in a more general way to the later 6th C Frankish copies of Kentish disc brooches (e.g. de Ricci 1911: Pl. III, nos. 32 and 33), and the north French bronze *repoussé* brooches of the 7th C mentioned above.

The Howletts brooch on grounds of style and context should probably be dated somewhere within the late 5th and early 6th C: the nature of its construction suggests the possibility of its being a Frankish import to the kingdom of East Kent, which was of course closely associated with northern France, as many other imports show. Closer parallels for the Northampton brooch are lacking, and the general similarities of both composition and decoration with the Howletts brooch strongly suggest a similar date and origin.

The drawing shows a reconstruction of the design. The plate shows the excavated remains after conservation.
Diam: 34mm; Th: approx. 3mm. K185. House 10, Phase 4. SF3028.

Cu2 Disc-shaped pin head or fastener? Thin disc of copper alloy or debased silver with central hole and concentric grooves and ridges, partly obscured by corrosion, on one side only; back plain. Second hole nearly opposite small projection from edge which could be stump of pin shank or hook of dress-fastener. See discussion on p. 248.
Diam: 13.5mm. K187. House 10, Phase 4/?5. SF3070.

Cu3 Annular brooch. Heavy plain ring. Pin with moulded 3-humped crest. Cf. London Museum 1967: Pl. LXXVII, no. 2.
Diam: 45.5mm. B(276)=266. House 4, Phase 6A. SF1645.

Cu4 Annular brooch. Small plain ring. Pin has flattened triangular section.
Diam: 21mm. G92. House 9, Phase 5. SF2523.

Cu5 Penannular brooch. Hoop decorated with continuous incised line over 4/5 of its length giving beaded appearance. Terminals of thin hemispheres in pairs: one threaded on hoop, the other soldered on end. Part of one missing. Plain pointed pin loosely wrapped around hoop.
Diam: 19mm. A391. House 1, Phase 5. SF1116.

Cu6 (not ill.) Penannular brooch. Plain round wire (diam: 1.5mm) hoop. Terminals corroded away. Finer wire (diam: 0.6mm) pin, broken.
Diam of hoop: 19mm. B(427)=187. House 4, Phase 5. SF1754.

Cu7 Penannular brooch. Flattened wire hoop inscribed with zigzag line one side, terminals curled over on same side. Fragment of pin. Similar brooch from Whitby (Peers and Radford 1943: Fig. 12, no. 13).
Diam: 18mm. G92. House 9, Phase 5. SF2611.

Pendants

Fig. 107; Cu8-9

Medieval pendants were attached to belts as well as to necklaces (Fingerlin 1971: Abb. 533). Harness pendants were usually heavier and often heraldic (London Museum 1967: 118-122) whereas Cu8 and 9 are fairly light and more suited for human adornment.

The cross, Cu8, is small though sturdy but its suspension hole is not transverse like most harness pendants. The arrangement of bosses at the junction and ends of equal arms is matched by a harness pendant in Aylesbury Museum (reg. no. 158.31) and a number of medieval crosses from Novgorod exhibit crosslets on each boss like Cu8 (Thompson 1967: Fig. 87, especially no. 7). A large lead cross from Whitby with a central boss only is likened to others in 11th or early 12th century burials of monks (Radford 1940b). Cu8, sturdily made and decorated on both sides, is obviously designed as a neck pendant for the living.

Cu9 may well be a belt pendant and would have been suspended from a fitting like Cu41 and 42. Cf. circular pendant with attachment from Lyveden (Bryant and Steane 1971: Fig. 12n) and 14th or early 15th century pendant of teardrop shape from Southampton (Platt and Coleman-Smith 1975: no. 1749).

Catalogue

Cu8 Pendant cross. Equal-armed plus loop for suspension. On each round-sectioned arm and at junction a square boss decorated on front and back with incised marks outlining crosslet.
W: 28mm. B(407)=217. House 4, Phase 5. SF1701.

Cu9 Pendant. Cast copper alloy gilded on convex surface only; inside roughly finished. Medieval.
L: 40mm. G165. House 9, garden. SF2670.

Finger rings and bracelet?

Fig. 107; Cu10-17

Two finger rings (Cu10, 12) and the possible bracelet (Cu17) are stratified in Late Saxon layers. Other rings also appear to be of Saxon types. Cu10 and 11 are hoops made by intertwining the ends, like the wire rings in 7th century graves (Meaney and Hawkes 1970: 37-8). This method of fixing continues to the Viking period at least and Cu11 is closely paralleled at Birka (Arbman 1943: Taf. 143, nos. 6-11). Penannular strip rings also appear to be Saxon in origin and Cu14 may be compared with the two rings from a 5th or 6th century grave at Reading, each with elements of the design (Hawkes and Dunning 1961: Fig. 14b). Cu16 is the only example with possible remnants of a bezel.

Cu17 may possibly be a bracelet, its hooked end resembling those on 4th century Roman bracelets (e.g. Brodribb *et al.* 1973: Fig. 54), Saxon necklets (e.g. Clough *et al.* 1975: Fig. 8b) and the silver armlet 'ring money' found in 9th and 10th century hoards like that in Cuerdale (Hawkins 1847). The expanded and moulded centre section resembles certain 'strap-ends' from Southampton (Addyman and Hill 1969: Fig. 27, nos. 1 and 2).

Catalogue

Cu10 Finger ring made from wire pinched flat in 5 places to produce diamond-shaped facets. Tapered ends intertwined.
Diam: 18mm. G148. House 9, Phase 4. SF2671.

Cu11 Finger ring, torn and twisted; drawing is restoration. Cut strip beaten out wide and thin towards centre, ends intertwined. 3 rows of walked scorper design. Late Saxon, residual.
W: 7mm; Diam: *c.* 16-17mm. A(384)=256. House 1, Phase 5/6A. SF1079.

Cu12 (not ill.) Finger ring. Plain penannular wire hoop with irregular surface fissures due to corrosion. Slightly rounded ends just overlap.
Diam: 16-18mm; Th: 1.7mm. F79. House 8, Phase 4B. SF2076.

Cu13 Finger ring. Triangular section penannular hoop, ends tapered and overlapping.
W: 3.5mm; Diam: 19-21mm. B(165)=117. House 4, Phase 6A. SF1605.

Cu14 Finger ring. Penannular strip bordered by punched parallel lines with angled incisions between. Both ends broken. Probably Saxon.
W: 6mm. C88. House 7, destrat. SF308.

Cu15 (not ill.) Finger ring? Plain strip of irregular width, ends overlapping.
Diam: 10-12mm; W: 1-2mm; Th: 0.3mm. B198. House 4, Phase 6B. SF447.

Cu16 Finger ring. Hoop of thin strip scored on inside, half-round profile outside. Broken and corroded wide flat ends were perhaps soldered to bezel, now missing. Slight ridging on outside of hoop opposite ends.
Diam: 19-21mm. A(239)=170. House 3, Phase 6C-Di/6Di. SF846.

Cu17 Bracelet? Both ends D-section: one hooked sideways, other broken. Central part flattened and expanded with moulding but no visible decoration. Back shows seam along centre, so bracelet made from sheet metal rolled up lengthwise, then shaped.
L: 130mm. C(145)=144. House 7, Phase 4. SF1696.

Belt attachments

Figs. 108-9; Cu18-43

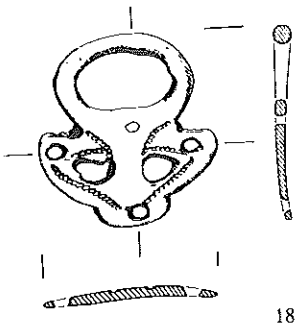
These comprise buckles (Cu18-29), buckle plates for attachment to the belt (Cu30-4), strap fittings (Cu35-43) including stiffeners, decorative mounts and strap ends. Small buckles of late medieval date could be for shoes (see also the pewter buckle Pb3).

Most stratified belt fittings come from 15th century contexts, a few 14th century. While it is possible to suggest dates for the unstratified items these must be tentative. However, Cu19 and Cu20 seem to be earlier medieval types while designs like Cu29 could be post-medieval.

There is some doubt about the date and identification of Cu18 and Cu30.

Fig 108

Copper alloy objects 2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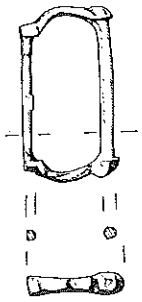
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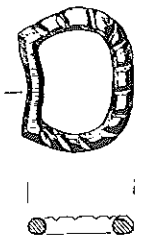
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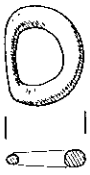
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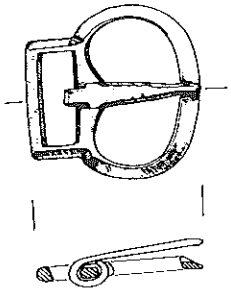
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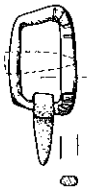
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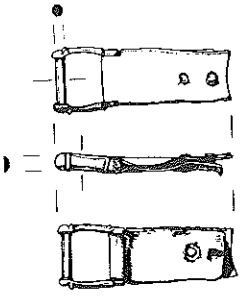
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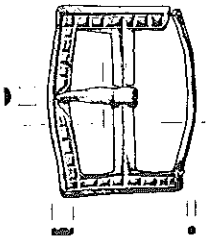
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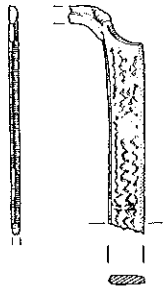
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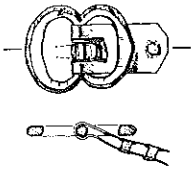
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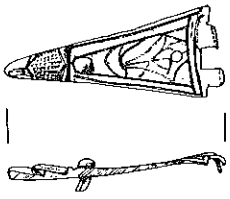
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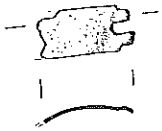
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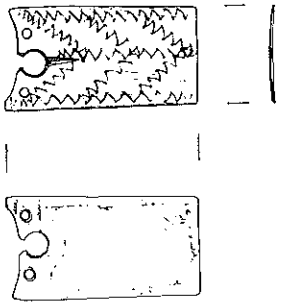
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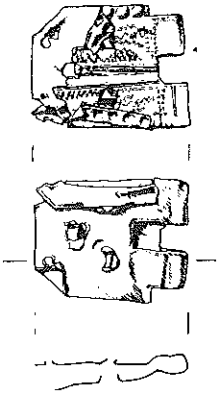
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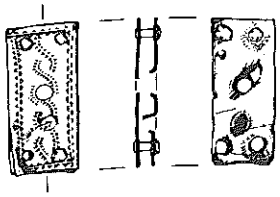
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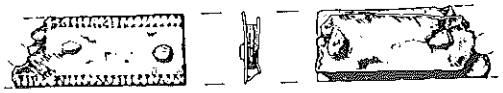
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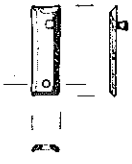
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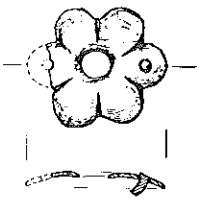
Scale 2:3

Copper alloy objects 3

Fig 109



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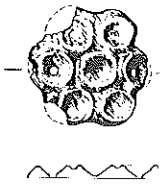

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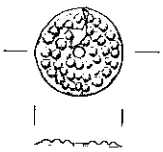

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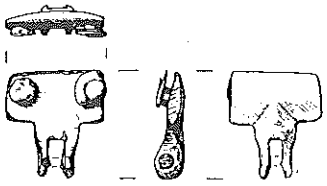

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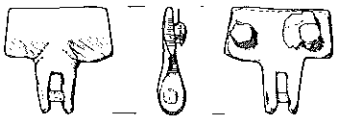

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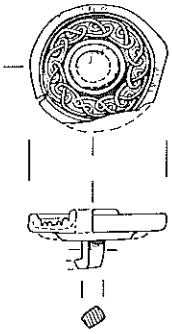

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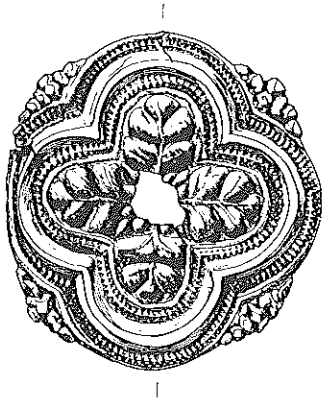

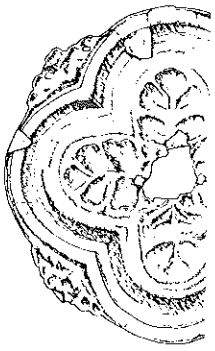

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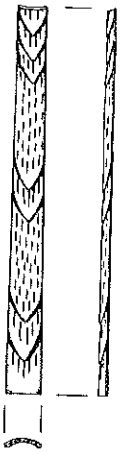

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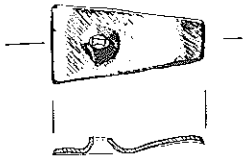

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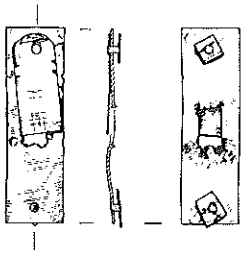

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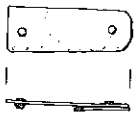

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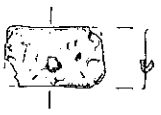

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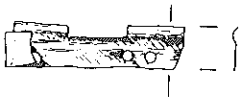

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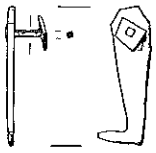

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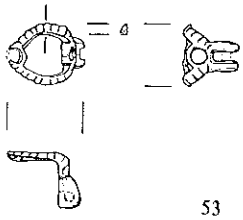

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Scale 2:3

talogue

18 Buckle? Circular loop cast in one piece with triangular attachment plate with holes for 3 rivets. Lines of punched decoration around 2 cut-outs in plate may indicate a face with 2 eyes. Central hole detected by X-radiation may have held buckle pin, possibly iron. However, 2 observations suggest an alternative interpretation: attachment plate has slightly concave back and loop shows signs of wear on inside as if used for suspension. Could be mounting for handle of wooden or leather bucket.

No parallel for the latter interpretation located. Much smaller buckle with fixed loop from Bury St Edmunds (Moyse's Hall Museum: cat. no. 1977-915 OS) has oval attachment plate with single central cut-out, 3 rivet holes, and design of birds' heads in late 7th C style. This type of buckle, discussed with one from Shakenoak (Brodribb *et al.* 1971: 108-110, Fig. 46, no. 65), is of 7th C date (Böhner 1958: Taf. 43). However, the rough finish and general character of Cu18 appear more likely to be later.
L: 38.5mm. F, unstrat. House 8. SF1848.

u19 Buckle. Straight sides with decoratively moulded ends. Thinner square-sectioned bar carried pin, now missing, in rounded groove. Hexagonal bar shows wear from tip opposite. Cf. more elaborate 13th C example excavated in Hamburg (Fingerlin 1971: 65, Abb. 43, Kat. no. 104) and closer parallel from Stoylake (Fingerlin 1971: Abb. 86, Kat. no. 224).
L: 35mm. B, unstrat. SF1589a.

u20 Buckle fragment. Oval loop with moulded slot for pin rest, traces of gilding and decorative grooves. Bar for strap attachment missing. Type assigned to third quarter of 13th C by Fingerlin (1971: Abb. 27-30, especially 30).
L: 17mm. B(234) = 218. House 4, Phase 6A. SF772.

u21 Buckle. Deeply cut notches across heavy cast loop give 'cabled' appearance. Flat back bears rough tool marks. Bar shows signs of wear from pin and strap attachment. Similar buckle with square IHS-engraved plate, probably 14th C, from London (Guildhall Museum 1903: Pl. 88, no. 14). Medieval, residual.
L: 29mm. A23. House 1, Phase 6Biv. SF58.

u22 Buckle fragment? Steeply angled round corner of buckle loop? Outer surface cut with transverse notches. Possibly part of long narrow curved buckle fashionable in mid-15th C (Fingerlin 1971: Abb. 329-335, 493). Medieval.
W: 5mm. F, unstrat. House 8. SF1965.

u23 Buckle or link. Heavy D-shaped loop with narrow bar, possibly from harness. Possibly medieval.
L: 19.5mm. C88. House 7, destrat. SF320.

u24 Buckle. Well finished with round bar for strap behind shaped bar with slot for pin. Oval loop has notch for pin rest. Similar buckle from Duston near Northampton (Card *et al.* forthcoming). 15th C iron buckles of same shape on the continent (Fingerlin 1971: Abb. 323, 321).
L: 35mm. A(35) = 34. House 2, Phase 6Bi. SF205.

u25 Buckle. Small rectangular loop with shallow incised grooves near corners. Iron strip pin corroded to side once rode on long bar.
L: 22mm. C55. House 7, Phase 6i. SF416.

u26 Buckle and strap attachment. Cast buckle with decoratively moulded ends and hexagonal bar. Single piece sheet metal strap-end passes around second bar and was fixed to belt by 2 rivets. One side of it carefully shaped and chamfered. Similar item from Lyveden (Bryant and Steane 1969: Fig. 16h).
L: 35mm. A224. House 1, Phase 6Bi. SF708.

u27 Buckle. Flat rectangular loop slightly curved on outer side with central bar carrying pin in recess and thin round bar on fourth side, now broken, for belt attachment. Decoration of wide U-shaped grooves. Pin, of 1mm thick strip wrapped neatly around central bar, has 2 incised lines on bend and half-round profile towards tip and is recessed on back where it rests on buckle.

Buckles with separate bar for belt attachment, usually with a more rounded loop, were made in early 13th C (Fingerlin 1971: 36, Abb. 8-11) but rectangular shapes became more popular in 15th C.
L: 38mm. G111. House 10, Phase 6Aii. SF2541.

u28 Buckle fragment. Decorated with 3 lines of walked scorper, worn and corroded. If shallow groove marks central pin rest then length of buckle was *c.* 80mm. Wide belts were fashionable in late 14th and 15th C (Fingerlin 1971: 177, Abb. 301).
L: 44mm. C30. House 7, Phase 6iii. SF232.

u29 Double buckle with strap attachment. Cast buckle with oval loops and central bar carrying thin sheet attachment. Slot for pin has embossed chamfer around edge. Remains of iron pin and 2 iron rivets. Double buckles, oval loops and narrow belts were fashionable in second half of 15th C (Fingerlin 1971: 185-6).
L. of buckle: 21.5mm. B20. House 4, destrat. SF66.

Cu30 Buckle plate? Triangular plate shaped like bird's head at apex. 2 holes for rivets or studs, 1 in position, and 2 projecting lugs for attachment to buckle. Central recess between lugs is deeper to accommodate buckle pin. Feathers on bird's head indicated by rows of shallow punch marks. Rest of plate bordered by parallel lines executed by tracer (Lowery *et al.* 1971: 173) containing curvilinear design faintly traced. Stud has domed head and tapering shank, hence doubt whether fixed to belt or more solid object such as book cover or casket, but deeper central recess in short side argues in favour of buckle rather than hinge.

Cf. 9th C strap-ends with animal heads like those from Whitby (Wilson 1964: nos. 114-122) and Southampton (Addyman and Hill 1969: Fig. 27, nos. 3 and 4). Possibly Late Saxon or medieval.
L: 38mm. G, unstrat. SF2392.

Cu31 Buckle plate. Rectangular with curved side cut with central decorative hole and related deep groove between 2 rivet holes. Surface bears walked scorper design. Back shows diagonal tool marks and traces of attachment, presumably by solder, to buckle with forked frame. Type current in second half of 14th C (Fingerlin 1971: Abb. 180, 181 and 183—latter from Wiltshire has same decoration). Plain plate with buckle from Lyveden (Steane and Bryant 1975: Fig. 42, no. 21).
L: 38mm. B(73) = 7A. House 4, Phase 6Di. SF72.

Cu32 Buckle plate. Type similar to Cu31. 3 rivet holes along curved edge damaged by corrosion. Back shows tool marks. Traces of attachment visible before conservation along 3 straight sides.
L: 30mm. F, unstrat. House 8. SF1872.

Cu33 Buckle plate. Narrow piece of sheet, badly corroded and broken, with recess for pin between lugs for attachment to buckle.
W: 9mm. A224. House 1, Phase 6Bi. SF635.

Cu34 Buckle plate. Single piece folded over remains of leather strap (not shown) with recesses cut for buckle sides and pin. Broken front has central groove, haphazard walked scorper design now obscured by corrosion, edged with rows of *repoussé* bosses. 2 crude rivet holes pushed through both sides from front and 3 further holes in plain back suggest re-use. Probably medieval.
L: 30mm. A, unstrat. House 2. SF768.

Cu35 Belt fitting. Twin rectangular plates fastened by 4 rivets. Front plate decorated and perforated off centre within an arc of the design. Back plate plain but pierced twice from behind after assembly, once opposite hole in front. Design executed by punch shaped like thick letter V opposite smaller triangle, top of V being fixed distance from base of triangle, offset to left. Impressions varied by altering angle of tool? Similar tool used on Cu73 and 77. Possibly fitted across width of belt to take buckle pin through hole (cf. Fingerlin 1971: Abb. 452). Medieval.
L: 29mm. A196. House 3, garden. SF653.

Cu36 Belt fitting. Rectangular plates held by 2 rivets, remains of leather strap between. Walked scorper design along margins of wider plate. Both plates broken across original hole. Medieval.
W: 14mm. Unstrat. SF879.

Cu37 Belt fitting. Rectangular chamfered plate slightly curved across width. 1 rivet in place and hole for second countersunk at back. Probably 1 of set of belt stiffeners mounted transversely, some having central hole for buckle pin (cf. Fingerlin 1971: Abb. 359, 360). Medieval.
L: 17.5mm. G(56) = 44. House 9, Phase 5-6. SF2045.

Cu38 Belt fitting. Flower-shaped with central aperture for buckle pin. Fixed to belt by 2 rivets, 1 in position, broken across second hole. Incised lines dissect the 6 petals. Smaller rosettes on narrow belt, second half of 14th C from London (Fingerlin 1971: Abb. 187; or London Museum 1967: Fig. 63, no. 7).
W: 24mm. K, unstrat. House 10. SF2434.

Cu39 Belt fitting? Decorative mount of thin sheet cut to shape then stamped, probably in a mould, by a sharp tool from behind, with 7 slightly hexagonal *repoussé* circles with dimpled centres. Holes in centres of 2 circles held iron rivets.
W: *c.* 25mm. B171. House 4, Phase 6Di. SF379.

Cu40 Belt fitting? Thin disc with *repoussé* bosses in 3 roughly concentric rings around central hole. Damaged by corrosion.
Diam: 17.5mm. C(109) = 20. House 7, Phase 5. SF973.

Cu41 -2 Belt attachments. 2 almost identical cast fittings, subsequently trimmed, with integral rivets and projecting hinge. Both once gilded and attached to tablet-woven braid, fragments of which were preserved by metal corrosion products (see T1), so that hinges projected from side of braid. Rivets were fitted with thin sheet washers at back of braid. Cu42 has remains of iron pin in hinge. Cu41 and 42 were found some 300mm apart in the excavation. Possibly for attachment of purse, knife, or ornaments such as Cu9 to belt or harness. Cf. Steane and Bryant 1975: Fig. 43, no. 55.
Cu41. L: 21mm; W: 18mm. B(250) = 198. House 4, Phase 6B. SF794.
Cu42. L:20.5mm; W: 21mm. B278. House 4, destrat. SF795.

3 Strap-end. Plain piece of sheet bent double and roughly trimmed to rounded shape at corners. Fixed to remains of leather strap by single rivet. Medieval.
L: 18mm. G165. House 9, garden. SF2666.

ttings from caskets and wooden leather objects

. 109-10; Cu44-72

section includes items whose purpose is difficult to define. y were probably mounted on wooden or leather objects. Several ear to be casket fittings (Cu44-59), notably the mount from an shrine Cu44. Decorative studs (Cu60-8) could be used on ess or furniture. Ferrules (Cu69-70) were probably fitted on den staves.

alogue

4 Shrine mount? Badly corroded disc with raised rim and central boss, perhaps a setting for glass, amber, or semi-precious stone, now missing. Relief design of 11 interlace knots, 3 of them crowded into a smaller space than the others, in zone between boss and rim. The interlace does not appear to be chip-carved but rather rounded in profile, though the extent of corrosion makes it difficult to be sure. Traces of gilding within interlace and inside rim. Corroded separate bronze back has heavy rectangular stem projecting from centre possibly bent sideways close to back, probably a means of attachment.

Mrs L E Webster and Mr J Graham-Campbell agree that this is almost certainly a mount from a house-shaped shrine, like those seen on the outer case of the Lough Erne shrine, and is of late 8th C date and Irish manufacture like the strays from Scandinavian sites such as Skjervum and Solstad in Norway (Mahr 1932: Pl. 9 and Pl. 17; 1940: 110).

Similar objects occur as spoil from Viking raids in Scandinavian graves in Lewis (Shetelig 1940: II, 75, Fig. 43) and Birka, Sweden (Arbman 1943: Grab 644, Abb. 266). A disc with exactly similar interlace, though with a wavy border, was found in a woman's grave at Frigstad, Norway, reused as a brooch (Shetelig 1940: V, Fig. 6). The possibility, however, of religious contact with Ireland in the Middle Saxon period cannot be discounted.
Diam: 25mm. C, unstrat. House 7. SF1786.

5 Plaque. Gilt bronze with quatrefoil *repoussé* foliage design within raised border outlined by surface tooling, possibly using a roulette. Further groups of stylised foliage on edge between lobes. Probably once attached to fabric or leather at centre where present hole has torn edges. On back one small triangular flap folded back from perimeter survives. Possibly 2 per lobe can be presumed to help secure the plaque.

A set of smaller silver gilt roundels with 6-lobed design from a mid-14th C hoard are published as belt mounts (Fingerlin 1971: Abb. 351, Kat. no. 30). A sexfoil of larger and heavier construction from Geddington, Northants, is identified as a badge (Steane 1975). Probably late medieval.
W: 66.5mm. C, unstrat. House 7. SF6.

6 Mount. Convex cast strip tapering uniformly from one end to the other. Moulded profile like overlapping shingles of varying length with short incised longitudinal dashes arranged in groups. Complete, though found bent and broken (shown restored). No visible means of attachment. Could have been soldered, perhaps as ridge-piece, to roof-shaped lid of casket. Cf. Gandersheim casket (Wilson 1964: Pl. Ia) and Pershore censer-cover, with shingles and integral ridge-pieces (Wilson 1964: Pl. XXVII, no. 56).
L: *c.* 77mm. A(228) = 151. House 3, Phase 6C-Di/6Di. SF570.

7 Trapezoidal mount. Thick plate with pentagonal *repoussé* boss cut off at top and pierced by roughly rectangular hole. Edges of plate chamfered and burr on back not trimmed off. Medieval.
L: 29mm. A111. House 2, garden. SF252.

8 Casket fitting? Plain rectangular plate with central square hole once attached to thin ?wooden box by 2 rivets with sheet metal roves. Separate flap pivoting on one rivet perhaps covered keyhole? Edges of large plate slightly chamfered. Medieval or later.
L: 39mm. A33. House 2, garden. SF214.

9 Casket or strap fitting. Plate with 2 rivets, 1 holding on back a smaller plate, possibly broken. Faint traces of decoration on larger plate now obscured by corrosion.
L: 25mm. G12. House 9, Phase 6iii. SF1904.

0 Plate with rivet. Thin rectangular plate, corners broken, one edge bent up, the other down. Rectangular rivet (like that used to secure Cu47?) near centre.
L: 19.5mm. C111. House 7, Phase 5. SF921.

Cu51 Casket hinge? Very thin metal plate complete at one end but folded and broken off at the other. 3 rivet holes and 2 flaps for wrapping round slender hinge pin. Original length, if symmetrical, at least 58mm. Medieval.
L: 35mm. A237. House 3, garden. SF572.

Cu52 Casket catch. L-shaped with pivot and retaining rove.
L: 27.5mm. G104. House 10, Phase 6A? SF2705.

Cu53 Casket fitting? Possibly decorative hinge attachment or clasp from small casket. Open loop perpendicular to back of hinge has decorative notches and small loop (broken?) at end. This and other hole near bend perhaps held rivets. Holes for hinge pin in lugs now obscured by corrosion. Surface gilded. Perhaps related to binding like Cu54. Medieval.
W: 12mm. A104. House 2, garden. SF291.

Cu54 Binding. Openwork decorative binding for leather or wooden object such as casket. Curved arms end in flattened terminals perforated for fixing and now broken. Made from strip flat on back and roughly rounded on front. Toolmarks give decorative ridged effect. Stem and branches, now bent, were probably prised off flat surface.

See discussion in Jope and Threlfall (1959: 267-8). Further 12th C group including branching pieces from Ipswich (West 1963: Fig. 56, nos. 1-5); another from 12th C Wareham Castle (Renn 1960: Fig. 19b). 2 fragments from Greyfriars, Northampton (Oakley 1978a: Cu19 and 20).
L: 60mm. B148. House 4, Phase 6C/?B. SF906.

Cu55 -59 Binding? 4 strips, possibly binding from caskets. All have an irregular longitudinal groove on one or both wide faces, as if squeezed between rollers. Cu55 and 58 have one flat face bearing transverse tool marks and a rivet near one end projecting from the grooved side. Cu55 has another rivet hole at the other end. Cu56, which joins 57, may be unfinished as its edges are roughly trimmed by cuts and although together longer than Cu55, there are no rivet holes between the broken ends. Cu55, analysed by X-ray fluorescence, consists of gunmetal (major constituents: copper, zinc, tin; minor: lead). Medieval.

Cu55 L: 133mm. A116. House 3, garden. SF264. AML766649.
Cu56 L: 98mm (with Cu57 total L: 166mm). A113. House 3, garden. SF265.
Cu57 (not ill.) L: 68mm (joins Cu56). A100. House 3, garden. SF143.
Cu58 L: 37mm. B, unstrat. SF1589b.
Cu59 (not ill.) L: 86mm; W: 2.5-3mm; Th: 1.5mm. A130. House 3, garden. SF3088.

Cu60 Ornamental stud. Sheet metal pressed into domed hexagonal shape and clipped around base after moulding. One rivet in place and hole opposite for another. Medieval.
W: 14mm. A33. House 2, garden. SF209.

Cu61 Stud head. Roughly hexagonal domed hollow head with hole for stud pushed through from top.
Diam: 9.5mm. N(6) = 5. N, Phase 6/7ii. SF3368.

Cu62 Stud. Domed head with heavy shank possibly soldered within. White pasty substance under head may be original setting or support when mounted on ?wooden surface. Medieval.
Diam: 16mm. A445. House 3, garden. SF1238.

Cu63 Stud. Decorative flat head incised with 18 V-shaped grooves radiating from centre. Roughly circular long tapering shank. Cf. heads with central hole for stud from Saxon inhumation at Bergh Apton, Norfolk (Green and Rogerson 1978: Fig. 80, D), and Dinas Powys (Alcock 1963: Fig. 19, no. 2).
Head diam: 13.5mm. A438. House 2, Phase 5A? SF1227.

Cu64 Stud. Slightly domed head with traces of incised lines, rest corroded.
Head diam: 9.5mm. A436. House 1, Phase 5. SF1291.

Cu65 Stud. Domed hollow head with incised lines across gilded surface. Square section shank.
Head diam: 9mm. C41. House 7, destrat. SF44.

Cu66 Stud? Heavy rectangular head with humped profile gilded on top. Square shank set off-centre.
L: 11.5mm. F, unstrat. House 8. SF1866.

Cu67 Stud head? Oval, domed in centre. Traces of iron shank.
L: 15mm. C68. House 7, destrat. SF193.

Cu68 Washer or rove? Badly corroded oval object with roughly rectangular hole, edges splayed on one side. Probably used with rivet or stud.
L: 15mm. C121. House 7, Phase 5. SF979.

Cu69 Ferrule. Heavy cylindrical fitting tapering in thickness towards 4 mitred points. No decoration visible but surface corroded. No means of fixing except perhaps by turning points inwards. Mounted on wooden staff?
Diam: 22-24mm. F(137) = 57. House 8, Phase 4D. SF2155.

Catalogue

Cu18 Buckle? Circular loop cast in one piece with triangular attachment plate with holes for 3 rivets. Lines of punched decoration around 2 cut-outs in plate may indicate a face with 2 eyes. Central hole detected by X-radiation may have held buckle pin, possibly iron. However, 2 observations suggest an alternative interpretation: attachment plate has slightly concave back and loop shows signs of wear on inside as if used for suspension. Could be mounting for handle of wooden or leather bucket.

No parallel for the latter interpretation located. Much smaller buckle with fixed loop from Bury St Edmunds (Moyse's Hall Museum: cat. no. 1977-915 OS) has oval attachment plate with single central cut-out, 3 rivet holes, and design of birds' heads in late 7th C style. This type of buckle, discussed with one from Shakenoak (Brodribb *et al.* 1971: 108-110, Fig. 46, no. 65), is of 7th C date (Böhner 1958: Taf. 43). However, the rough finish and general character of Cu18 appear more likely to be later.
L: 38.5mm. F, unstrat. House 8. SF1848.

Cu19 Buckle. Straight sides with decoratively moulded ends. Thinner square-sectioned bar carried pin, now missing, in rounded groove. Hexagonal bar shows wear from tip opposite. Cf. more elaborate 13th C example excavated in Hamburg (Fingerlin 1971: 65, Abb. 43, Kat. no. 104) and closer parallel from Stoylake (Fingerlin 1971: Abb. 86, Kat. no. 224).
L: 35mm. B, unstrat. SF1589a.

Cu20 Buckle fragment. Oval loop with moulded slot for pin rest, traces of gilding and decorative grooves. Bar for strap attachment missing. Type assigned to third quarter of 13th C by Fingerlin (1971: Abb. 27-30, especially 30).
L: 17mm. B(234) = 218. House 4, Phase 6A. SF772.

Cu21 Buckle. Deeply cut notches across heavy cast loop give 'cabled' appearance. Flat back bears rough tool marks. Bar shows signs of wear from pin and strap attachment. Similar buckle with square IHS-engraved plate, probably 14th C, from London (Guildhall Museum 1903: Pl. 88, no. 14). Medieval, residual.
L: 29mm. A23. House 1, Phase 6Biv. SF58.

Cu22 Buckle fragment? Steeply angled round corner of buckle loop? Outer surface cut with transverse notches. Possibly part of long narrow curved buckle fashionable in mid-15th C (Fingerlin 1971: Abb. 329-335, 493). Medieval.
W: 5mm. F, unstrat. House 8. SF1965.

Cu23 Buckle or link. Heavy D-shaped loop with narrow bar, possibly from harness. Possibly medieval.
L: 19.5mm. C88. House 7, destrat. SF320.

Cu24 Buckle. Well finished with round bar for strap behind shaped bar with slot for pin. Oval loop has notch for pin rest. Similar buckle from Duston near Northampton (Card *et al.* forthcoming). 15th C iron buckles of same shape on the continent (Fingerlin 1971: Abb. 323, 321).
L: 35mm. A(35) = 34. House 2, Phase 6Bi. SF205.

Cu25 Buckle. Small rectangular loop with shallow incised grooves near corners. Iron strip pin corroded to side once rode on long bar.
L: 22mm. C55. House 7, Phase 6i. SF416.

Cu26 Buckle and strap attachment. Cast buckle with decoratively moulded ends and hexagonal bar. Single piece sheet metal strap-end passes around second bar and was fixed to belt by 2 rivets. One side of it carefully shaped and chamfered. Similar item from Lyveden (Bryant and Steane 1969: Fig. 16h).
L: 35mm. A224. House 1, Phase 6Bi. SF708.

Cu27 Buckle. Flat rectangular loop slightly curved on outer side with central bar carrying pin in recess and thin round bar on fourth side, now broken, for belt attachment. Decoration of wide U-shaped grooves. Pin, of 1mm thick strip wrapped neatly around central bar, has 2 incised lines on bend and half-round profile towards tip and is recessed on back where it rests on buckle.

Buckles with separate bar for belt attachment, usually with a more rounded loop, were made in early 13th C (Fingerlin 1971: 36, Abb. 8-11) but rectangular shapes became more popular in 15th C.
L: 38mm. G111. House 10, Phase 6Aii. SF2541.

Cu28 Buckle fragment. Decorated with 3 lines of walked scorper, worn and corroded. If shallow groove marks central pin rest then length of buckle was *c.* 80mm. Wide belts were fashionable in late 14th and 15th C (Fingerlin 1971: 177, Abb. 301).
L: 44mm. C30. House 7, Phase 6iii. SF232.

Cu29 Double buckle with strap attachment. Cast buckle with oval loops and central bar carrying thin sheet attachment. Slot for pin has embossed chamfer around edge. Remains of iron pin and 2 iron rivets. Double buckles, oval loops and narrow belts were fashionable in second half of 15th C (Fingerlin 1971: 185-6).
L. of buckle: 21.5mm. B20. House 4, destrat. SF66.

Cu30 Buckle plate? Triangular plate shaped like bird's head at apex. 2 holes for rivets or studs, 1 in position, and 2 projecting lugs for attachment to buckle. Central recess between lugs is deeper to accommodate buckle pin. Feathers on bird's head indicated by rows of shallow punch marks. Rest of plate bordered by parallel lines executed by tracer (Lowery *et al.* 1971: 173) containing curvilinear design faintly traced. Stud has domed head and tapering shank, hence doubt whether fixed to belt or more solid object such as book cover or casket, but deeper central recess in short side argues in favour of buckle rather than hinge.

Cf. 9th C strap-ends with animal heads like those from Whitby (Wilson 1964: nos. 114-122) and Southampton (Addyman and Hill 1969: Fig. 27, nos. 3 and 4). Possibly Late Saxon or medieval.
L: 38mm. G, unstrat. SF2392.

Cu31 Buckle plate. Rectangular with curved side cut with central decorative hole and related deep groove between 2 rivet holes. Surface bears walked scorper design. Back shows diagonal tool marks and traces of attachment, presumably by solder, to buckle with forked frame. Type current in second half of 14th C (Fingerlin 1971: Abb. 180, 181 and 183—latter from Wiltshire has same decoration). Plain plate with buckle from Lyveden (Steane and Bryant 1975: Fig. 42, no. 21).
L: 38mm. B(73) = 7A. House 4, Phase 6Di. SF72.

Cu32 Buckle plate. Type similar to Cu31. 3 rivet holes along curved edge damaged by corrosion. Back shows tool marks. Traces of attachment visible before conservation along 3 straight sides.
L: 30mm. F, unstrat. House 8. SF1872.

Cu33 Buckle plate. Narrow piece of sheet, badly corroded and broken, with recess for pin between lugs for attachment to buckle.
W: 9mm. A224. House 1, Phase 6Bi. SF635.

Cu34 Buckle plate. Single piece folded over remains of leather strap (not shown) with recesses cut for buckle sides and pin. Broken front has central groove, haphazard walked scorper design now obscured by corrosion, edged with rows of *repoussé* bosses. 2 crude rivet holes pushed through both sides from front and 3 further holes in plain back suggest re-use. Probably medieval.
L: 30mm. A, unstrat. House 2. SF768.

Cu35 Belt fitting. Twin rectangular plates fastened by 4 rivets. Front plate decorated and perforated off centre within an arc of the design. Back plate plain but pierced twice from behind after assembly, once opposite hole in front. Design executed by punch shaped like thick letter V opposite smaller triangle, top of V being fixed distance from base of triangle, offset to left. Impressions varied by altering angle of tool? Similar tool used on Cu73 and 77. Possibly fitted across width of belt to take buckle pin through hole (cf. Fingerlin 1971: Abb. 452). Medieval.
L: 29mm. A196. House 3, garden. SF653.

Cu36 Belt fitting. Rectangular plates held by 2 rivets, remains of leather strap between. Walked scorper design along margins of wider plate. Both plates broken across original hole. Medieval.
W: 14mm. Unstrat. SF879.

Cu37 Belt fitting. Rectangular chamfered plate slightly curved across width. 1 rivet in place and hole for second countersunk at back. Probably 1 of set of belt stiffeners mounted transversely, some having central hole for buckle pin (cf. Fingerlin 1971: Abb. 359, 360). Medieval.
L: 17.5mm. G(56) = 44. House 9, Phase 5-6. SF2045.

Cu38 Belt fitting. Flower-shaped with central aperture for buckle pin. Fixed to belt by 2 rivets, 1 in position, broken across second hole. Incised lines dissect the 6 petals. Smaller rosettes on narrow belt, second half of 14th C from London (Fingerlin 1971: Abb. 187; or London Museum 1967: Fig. 63, no. 7).
W: 24mm. K, unstrat. House 10. SF2434.

Cu39 Belt fitting? Decorative mount of thin sheet cut to shape then stamped, probably in a mould, by a sharp tool from behind, with 7 slightly hexagonal *repoussé* circles with dimpled centres. Holes in centres of 2 circles held iron rivets.
W: *c.* 25mm. B171. House 4, Phase 6Di. SF379.

Cu40 Belt fitting? Thin disc with *repoussé* bosses in 3 roughly concentric rings around central hole. Damaged by corrosion.
Diam: 17.5mm. C(109) = 20. House 7, Phase 5. SF973.

Cu41 -2 Belt attachments. 2 almost identical cast fittings, subsequently trimmed, with integral rivets and projecting hinge. Both once gilded and attached to tablet-woven braid, fragments of which were preserved by metal corrosion products (see T1), so that hinges projected from side of braid. Rivets were fitted with thin sheet washers at back of braid. Cu42 has remains of iron pin in hinge. Cu41 and 42 were found some 300mm apart in the excavation. Possibly for attachment of purse, knife, or ornaments such as Cu9 to belt or harness. Cf. Steane and Bryant 1975: Fig. 43, no. 55.
Cu41. L: 21mm; W: 18mm. B(250) = 198. House 4, Phase 6B. SF794.
Cu42. L:20.5mm; W: 21mm. B278. House 4, destrat. SF795.

Cu43 Strap-end. Plain piece of sheet bent double and roughly trimmed to rounded shape at corners. Fixed to remains of leather strap by single rivet. Medieval.
L: 18mm. G165. House 9, garden. SF2666.

Fittings from caskets and wooden or leather objects

Figs. 109-10; Cu44-72

This section includes items whose purpose is difficult to define. They were probably mounted on wooden or leather objects. Several appear to be casket fittings (Cu44-59), notably the mount from an Irish shrine Cu44. Decorative studs (Cu60-8) could be used on harness or furniture. Ferrules (Cu69-70) were probably fitted on wooden staves.

Catalogue

Cu44 Shrine mount? Badly corroded disc with raised rim and central boss, perhaps a setting for glass, amber, or semi-precious stone, now missing. Relief design of 11 interlace knots, 3 of them crowded into a smaller space than the others, in zone between boss and rim. The interlace does not appear to be chip-carved but rather rounded in profile, though the extent of corrosion makes it difficult to be sure. Traces of gilding within interlace and inside rim. Corroded separate bronze back has heavy rectangular stem projecting from centre possibly bent sideways close to back, probably a means of attachment.

Mrs L E Webster and Mr J Graham-Campbell agree that this is almost certainly a mount from a house-shaped shrine, like those seen on the outer case of the Lough Erne shrine, and is of late 8th C date and Irish manufacture like the strays from Scandinavian sites such as Skjervum and Solstad in Norway (Mahr 1932: Pl. 9 and Pl. 17; 1940: 110).

Similar objects occur as spoil from Viking raids in Scandinavian graves in Lewis (Shetelig 1940: II, 75, Fig. 43) and Birka, Sweden (Arbman 1943: Grab 644, Abb. 266). A disc with exactly similar interlace, though with a wavy border, was found in a woman's grave at Frigstad, Norway, reused as a brooch (Shetelig 1940: V, Fig. 6). The possibility, however, of religious contact with Ireland in the Middle Saxon period cannot be discounted.
Diam: 25mm. C, unstrat. House 7. SF1786.

Cu45 Plaque. Gilt bronze with quatrefoil *repoussé* foliage design within raised border outlined by surface tooling, possibly using a roulette. Further groups of stylised foliage on edge between lobes. Probably once attached to fabric or leather at centre where present hole has torn edges. On back one small triangular flap folded back from perimeter survives. Possibly 2 per lobe can be presumed to help secure the plaque.

A set of smaller silver gilt roundels with 6-lobed design from a mid-14th C hoard are published as belt mounts (Fingerlin 1971: Abb. 351, Kat. no. 30). A sexfoil of larger and heavier construction from Geddington, Northants, is identified as a badge (Steane 1975). Probably late medieval.
W: 66.5mm. C, unstrat. House 7. SF6.

Cu46 Mount. Convex cast strip tapering uniformly from one end to the other. Moulded profile like overlapping shingles of varying length with short incised longitudinal dashes arranged in groups. Complete, though found bent and broken (shown restored). No visible means of attachment. Could have been soldered, perhaps as ridge-piece, to roof-shaped lid of casket. Cf. Gandersheim casket (Wilson 1964: Pl. Ia) and Pershore censer-cover, with shingles and integral ridge-pieces (Wilson 1964: Pl. XXVII, no. 56).
L: *c.* 77mm. A(228) = 151. House 3, Phase 6C-Di/6Di. SF570.

Cu47 Trapezoidal mount. Thick plate with pentagonal *repoussé* boss cut off at top and pierced by roughly rectangular hole. Edges of plate chamfered and burr on back not trimmed off. Medieval.
L: 29mm. A111. House 2, garden. SF252.

Cu48 Casket fitting? Plain rectangular plate with central square hole once attached to thin ?wooden box by 2 rivets with sheet metal roves. Separate flap pivoting on one rivet perhaps covered keyhole? Edges of large plate slightly chamfered. Medieval or later.
L: 39mm. A33. House 2, garden. SF214.

Cu49 Casket or strap fitting. Plate with 2 rivets, 1 holding on back a smaller plate, possibly broken. Faint traces of decoration on larger plate now obscured by corrosion.
L: 25mm. G12. House 9, Phase 6iii. SF1904.

Cu50 Plate with rivet. Thin rectangular plate, corners broken, one edge bent up, the other down. Rectangular rivet (like that used to secure Cu47?) near centre.
L: 19.5mm. C111. House 7, Phase 5. SF921.

Cu51 Casket hinge? Very thin metal plate complete at one end but folded and broken off at the other. 3 rivet holes and 2 flaps for wrapping round slender hinge pin. Original length, if symmetrical, at least 58mm. Medieval.
L: 35mm. A237. House 3, garden. SF572.

Cu52 Casket catch. L-shaped with pivot and retaining rove.
L: 27.5mm. G104. House 10, Phase 6A? SF2705.

Cu53 Casket fitting? Possibly decorative hinge attachment or clasp from small casket. Open loop perpendicular to back of hinge has decorative notches and small loop (broken?) at end. This and other hole near bend perhaps held rivets. Holes for hinge pin in lugs now obscured by corrosion. Surface gilded. Perhaps related to binding like Cu54. Medieval.
W: 12mm. A104. House 2, garden. SF291.

Cu54 Binding. Openwork decorative binding for leather or wooden object such as casket. Curved arms end in flattened terminals perforated for fixing and now broken. Made from strip flat on back and roughly rounded on front. Toolmarks give decorative ridged effect. Stem and branches, now bent, were probably prised off flat surface.

See discussion in Jope and Threlfall (1959: 267-8). Further 12th C group including branching pieces from Ipswich (West 1963: Fig. 56, nos. 1-5); another from 12th C Wareham Castle (Renn 1960: Fig. 19b). 2 fragments from Greyfriars, Northampton (Oakley 1978a: Cu19 and 20).
L: 60mm. B148. House 4, Phase 6C/?B. SF906.

Cu55 -59 Binding? 4 strips, possibly binding from caskets. All have an irregular longitudinal groove on one or both wide faces, as if squeezed between rollers. Cu55 and 58 have one flat face bearing transverse tool marks and a rivet near one end projecting from the grooved side. Cu55 has another rivet hole at the other end. Cu56, which joins 57, may be unfinished as its edges are roughly trimmed by cuts and although together longer than Cu55, there are no rivet holes between the broken ends. Cu55, analysed by X-ray fluorescence, consists of gunmetal (major constituents: copper, zinc, tin; minor: lead). Medieval.

Cu55 L: 133mm. A116. House 3, garden. SF264. AML766649.
Cu56 L: 98mm (with Cu57 total L: 166mm). A113. House 3, garden. SF265.
Cu57 (not ill.) L: 68mm (joins Cu56). A100. House 3, garden. SF143.
Cu58 L: 37mm. B, unstrat. SF1589b.
Cu59 (not ill.) L: 86mm; W: 2.5-3mm; Th: 1.5mm. A130. House 3, garden. SF3088.

Cu60 Ornamental stud. Sheet metal pressed into domed hexagonal shape and clipped around base after moulding. One rivet in place and hole opposite for another. Medieval.
W: 14mm. A33. House 2, garden. SF209.

Cu61 Stud head. Roughly hexagonal domed hollow head with hole for stud pushed through from top.
Diam: 9.5mm. N(6) = 5. N, Phase 6/7ii. SF3368.

Cu62 Stud. Domed head with heavy shank possibly soldered within. White pasty substance under head may be original setting or support when mounted on ?wooden surface. Medieval.
Diam: 16mm.'A445. House 3, garden. SF1238.

Cu63 Stud. Decorative flat head incised with 18 V-shaped grooves radiating from centre. Roughly circular long tapering shank. Cf. heads with central hole for stud from Saxon inhumation at Bergh Apton, Norfolk (Green and Rogerson 1978: Fig. 80, D), and Dinas Powys (Alcock 1963: Fig. 19, no. 2).
Head diam: 13.5mm. A438. House 2, Phase 5A? SF1227.

Cu64 Stud. Slightly domed head with traces of incised lines, rest corroded.
Head diam: 9.5mm. A436. House 1, Phase 5. SF1291.

Cu65 Stud. Domed hollow head with incised lines across gilded surface. Square section shank.
Head diam: 9mm. C41. House 7, destrat. SF44.

Cu66 Stud? Heavy rectangular head with humped profile gilded on top. Square shank set off-centre.
L: 11.5mm. F, unstrat. House 8. SF1866.

Cu67 Stud head? Oval, domed in centre. Traces of iron shank.
L: 15mm. C68. House 7, destrat. SF193.

Cu68 Washer or rove? Badly corroded oval object with roughly rectangular hole, edges splayed on one side. Probably used with rivet or stud.
L: 15mm. C121. House 7, Phase 5. SF979.

Cu69 Ferrule. Heavy cylindrical fitting tapering in thickness towards 4 mitred points. No decoration visible but surface corroded. No means of fixing except perhaps by turning points inwards. Mounted on wooden staff?
Diam: 22-24mm. F(137) = 57. House 8, Phase 4D. SF2155.

Catalogue

Cu18 Buckle? Circular loop cast in one piece with triangular attachment plate with holes for 3 rivets. Lines of punched decoration around 2 cut-outs in plate may indicate a face with 2 eyes. Central hole detected by X-radiation may have held buckle pin, possibly iron. However, 2 observations suggest an alternative interpretation: attachment plate has slightly concave back and loop shows signs of wear on inside as if used for suspension. Could be mounting for handle of wooden or leather bucket.

No parallel for the latter interpretation located. Much smaller buckle with fixed loop from Bury St Edmunds (Moyse's Hall Museum: cat. no. 1977-915 OS) has oval attachment plate with single central cut-out, 3 rivet holes, and design of birds' heads in late 7th C style. This type of buckle, discussed with one from Shakenoak (Brodribb *et al.* 1971: 108-110, Fig. 46, no. 65), is of 7th C date (Böhner 1958: Taf. 43). However, the rough finish and general character of Cu18 appear more likely to be later.
L: 38.5mm. F, unstrat. House 8. SF1848.

Cu19 Buckle. Straight sides with decoratively moulded ends. Thinner square-sectioned bar carried pin, now missing, in rounded groove. Hexagonal bar shows wear from tip opposite. Cf. more elaborate 13th C example excavated in Hamburg (Fingerlin 1971: 65, Abb. 43, Kat. no. 104) and closer parallel from Stoylake (Fingerlin 1971: Abb. 86, Kat. no. 224).
L: 35mm. B, unstrat. SF1589a.

Cu20 Buckle fragment. Oval loop with moulded slot for pin rest, traces of gilding and decorative grooves. Bar for strap attachment missing. Type assigned to third quarter of 13th C by Fingerlin (1971: Abb. 27-30, especially 30).
L: 17mm. B(234) = 218. House 4, Phase 6A. SF772.

Cu21 Buckle. Deeply cut notches across heavy cast loop give 'cabled' appearance. Flat back bears rough tool marks. Bar shows signs of wear from pin and strap attachment. Similar buckle with square IHS-engraved plate, probably 14th C, from London (Guildhall Museum 1903: Pl. 88, no. 14). Medieval, residual.
L: 29mm. A23. House 1, Phase 6Biv. SF58.

Cu22 Buckle fragment? Steeply angled round corner of buckle loop? Outer surface cut with transverse notches. Possibly part of long narrow curved buckle fashionable in mid-15th C (Fingerlin 1971: Abb. 329-335, 493). Medieval.
W: 5mm. F, unstrat. House 8. SF1965.

Cu23 Buckle or link. Heavy D-shaped loop with narrow bar, possibly from harness. Possibly medieval.
L: 19.5mm. C88. House 7, destrat. SF320.

Cu24 Buckle. Well finished with round bar for strap behind shaped bar with slot for pin. Oval loop has notch for pin rest. Similar buckle from Duston near Northampton (Card *et al.* forthcoming). 15th C iron buckles of same shape on the continent (Fingerlin 1971: Abb. 323, 321).
L: 35mm. A(35) = 34. House 2, Phase 6Bi. SF205.

Cu25 Buckle. Small rectangular loop with shallow incised grooves near corners. Iron strip pin corroded to side once rode on long bar.
L: 22mm. C55. House 7, Phase 6i. SF416.

Cu26 Buckle and strap attachment. Cast buckle with decoratively moulded ends and hexagonal bar. Single piece sheet metal strap-end passes around second bar and was fixed to belt by 2 rivets. One side of it carefully shaped and chamfered. Similar item from Lyveden (Bryant and Steane 1969: Fig. 16h).
L: 35mm. A224. House 1, Phase 6Bi. SF708.

Cu27 Buckle. Flat rectangular loop slightly curved on outer side with central bar carrying pin in recess and thin round bar on fourth side, now broken, for belt attachment. Decoration of wide U-shaped grooves. Pin, of 1mm thick strip wrapped neatly around central bar, has 2 incised lines on bend and half-round profile towards tip and is recessed on back where it rests on buckle.

Buckles with separate bar for belt attachment, usually with a more rounded loop, were made in early 13th C (Fingerlin 1971: 36, Abb. 8-11) but rectangular shapes became more popular in 15th C.
L: 38mm. G111. House 10, Phase 6Aii. SF2541.

Cu28 Buckle fragment. Decorated with 3 lines of walked scorper, worn and corroded. If shallow groove marks central pin rest then length of buckle was *c.* 80mm. Wide belts were fashionable in late 14th and 15th C (Fingerlin 1971: 177, Abb. 301).
L: 44mm. C30. House 7, Phase 6iii. SF232.

Cu29 Double buckle with strap attachment. Cast buckle with oval loops and central bar carrying thin sheet attachment. Slot for pin has embossed chamfer around edge. Remains of iron pin and 2 iron rivets. Double buckles, oval loops and narrow belts were fashionable in second half of 15th C (Fingerlin 1971: 185-6).
L. of buckle: 21.5mm. B20. House 4, destrat. SF66.

Cu30 Buckle plate? Triangular plate shaped like bird's head at apex. 2 holes for rivets or studs, 1 in position, and 2 projecting lugs for attachment to buckle. Central recess between lugs is deeper to accommodate buckle pin. Feathers on bird's head indicated by rows of shallow punch marks. Rest of plate bordered by parallel lines executed by tracer (Lowery *et al.* 1971: 173) containing curvilinear design faintly traced. Stud has domed head and tapering shank, hence doubt whether fixed to belt or more solid object such as book cover or casket, but deeper central recess in short side argues in favour of buckle rather than hinge.

Cf. 9th C strap-ends with animal heads like those from Whitby (Wilson 1964: nos. 114-122) and Southampton (Addyman and Hill 1969: Fig. 27, nos. 3 and 4). Possibly Late Saxon or medieval.
L: 38mm. G, unstrat. SF2392.

Cu31 Buckle plate. Rectangular with curved side cut with central decorative hole and related deep groove between 2 rivet holes. Surface bears walked scorper design. Back shows diagonal tool marks and traces of attachment, presumably by solder, to buckle with forked frame. Type current in second half of 14th C (Fingerlin 1971: Abb. 180, 181 and 183—latter from Wiltshire has same decoration). Plain plate with buckle from Lyveden (Steane and Bryant 1975: Fig. 42, no. 21).
L: 38mm. B(73) = 7A. House 4, Phase 6Di. SF72.

Cu32 Buckle plate. Type similar to Cu31. 3 rivet holes along curved edge damaged by corrosion. Back shows tool marks. Traces of attachment visible before conservation along 3 straight sides.
L: 30mm. F, unstrat. House 8. SF1872.

Cu33 Buckle plate. Narrow piece of sheet, badly corroded and broken, with recess for pin between lugs for attachment to buckle.
W: 9mm. A224. House 1, Phase 6Bi. SF635.

Cu34 Buckle plate. Single piece folded over remains of leather strap (not shown) with recesses cut for buckle sides and pin. Broken front has central groove, haphazard walked scorper design now obscured by corrosion, edged with rows of *repoussé* bosses. 2 crude rivet holes pushed through both sides from front and 3 further holes in plain back suggest re-use. Probably medieval.
L: 30mm. A, unstrat. House 2. SF768.

Cu35 Belt fitting. Twin rectangular plates fastened by 4 rivets. Front plate decorated and perforated off centre within an arc of the design. Back plate plain but pierced twice from behind after assembly, once opposite hole in front. Design executed by punch shaped like thick letter V opposite smaller triangle, top of V being fixed distance from base of triangle, offset to left. Impressions varied by altering angle of tool? Similar tool used on Cu73 and 77. Possibly fitted across width of belt to take buckle pin through hole (cf. Fingerlin 1971: Abb. 452). Medieval.
L: 29mm. A196. House 3, garden. SF653.

Cu36 Belt fitting. Rectangular plates held by 2 rivets, remains of leather strap between. Walked scorper design along margins of wider plate. Both plates broken across original hole. Medieval.
W: 14mm. Unstrat. SF879.

Cu37 Belt fitting. Rectangular chamfered plate slightly curved across width. 1 rivet in place and hole for second countersunk at back. Probably 1 of set of belt stiffeners mounted transversely, some having central hole for buckle pin (cf. Fingerlin 1971: Abb. 359, 360). Medieval.
L: 17.5mm. G(56) = 44. House 9, Phase 5-6. SF2045.

Cu38 Belt fitting. Flower-shaped with central aperture for buckle pin. Fixed to belt by 2 rivets, 1 in position, broken across second hole. Incised lines dissect the 6 petals. Smaller rosettes on narrow belt, second half of 14th C from London (Fingerlin 1971: Abb. 187; or London Museum 1967: Fig. 63, no. 7).
W: 24mm. K, unstrat. House 10. SF2434.

Cu39 Belt fitting? Decorative mount of thin sheet cut to shape then stamped, probably in a mould, by a sharp tool from behind, with 7 slightly hexagonal *repoussé* circles with dimpled centres. Holes in centres of 2 circles held iron rivets.
W: *c.* 25mm. B171. House 4, Phase 6Di. SF379.

Cu40 Belt fitting? Thin disc with *repoussé* bosses in 3 roughly concentric rings around central hole. Damaged by corrosion.
Diam: 17.5mm. C(109) = 20. House 7, Phase 5. SF973.

Cu41-2 Belt attachments. 2 almost identical cast fittings, subsequently trimmed, with integral rivets and projecting hinge. Both once gilded and attached to tablet-woven braid, fragments of which were preserved by metal corrosion products (see T1), so that hinges projected from side of braid. Rivets were fitted with thin sheet washers at back of braid. Cu42 has remains of iron pin in hinge. Cu41 and 42 were found some 300mm apart in the excavation. Possibly for attachment of purse, knife, or ornaments such as Cu9 to belt or harness. Cf. Steane and Bryant 1975: Fig. 43, no. 55.
Cu41. L: 21mm; W: 18mm. B(250) = 198. House 4, Phase 6B. SF794.
Cu42. L:20.5mm; W: 21mm. B278. House 4, destrat. SF795.

Cu43 Strap-end. Plain piece of sheet bent double and roughly trimmed to rounded shape at corners. Fixed to remains of leather strap by single rivet. Medieval.
L: 18mm. G165. House 9, garden. SF2666.

Fittings from caskets and wooden or leather objects

Figs. 109-10; Cu44-72

This section includes items whose purpose is difficult to define. They were probably mounted on wooden or leather objects. Several appear to be casket fittings (Cu44-59), notably the mount from an Irish shrine Cu44. Decorative studs (Cu60-8) could be used on harness or furniture. Ferrules (Cu69-70) were probably fitted on wooden staves.

Catalogue

Cu44 Shrine mount? Badly corroded disc with raised rim and central boss, perhaps a setting for glass, amber, or semi-precious stone, now missing. Relief design of 11 interlace knots, 3 of them crowded into a smaller space than the others, in zone between boss and rim. The interlace does not appear to be chip-carved but rather rounded in profile, though the extent of corrosion makes it difficult to be sure. Traces of gilding within interlace and inside rim. Corroded separate bronze back has heavy rectangular stem projecting from centre possibly bent sideways close to back, probably a means of attachment.

Mrs L E Webster and Mr J Graham-Campbell agree that this is almost certainly a mount from a house-shaped shrine, like those seen on the outer case of the Lough Erne shrine, and is of late 8th C date and Irish manufacture like the strays from Scandinavian sites such as Skjervum and Solstad in Norway (Mahr 1932: Pl. 9 and Pl. 17; 1940: 110).

Similar objects occur as spoil from Viking raids in Scandinavian graves in Lewis (Shetelig 1940: II, 75, Fig. 43) and Birka, Sweden (Arbman 1943: Grab 644, Abb. 266). A disc with exactly similar interlace, though with a wavy border, was found in a woman's grave at Frigstad, Norway, reused as a brooch (Shetelig 1940: V, Fig. 6). The possibility, however, of religious contact with Ireland in the Middle Saxon period cannot be discounted.
Diam: 25mm. C, unstrat. House 7. SF1786.

Cu45 Plaque. Gilt bronze with quatrefoil *repoussé* foliage design within raised border outlined by surface tooling, possibly using a roulette. Further groups of stylised foliage on edge between lobes. Probably once attached to fabric or leather at centre where present hole has torn edges. On back one small triangular flap folded back from perimeter survives. Possibly 2 per lobe can be presumed to help secure the plaque.

A set of smaller silver gilt roundels with 6-lobed design from a mid-14th C hoard are published as belt mounts (Fingerlin 1971: Abb. 351, Kat. no. 30). A sexfoil of larger and heavier construction from Geddington, Northants, is identified as a badge (Steane 1975). Probably late medieval.
W: 66.5mm. C, unstrat. House 7. SF6.

Cu46 Mount. Convex cast strip tapering uniformly from one end to the other. Moulded profile like overlapping shingles of varying length with short incised longitudinal dashes arranged in groups. Complete, though found bent and broken (shown restored). No visible means of attachment. Could have been soldered, perhaps as ridge-piece, to roof-shaped lid of casket. Cf. Gandersheim casket (Wilson 1964: Pl. Ia) and Pershore censer-cover, with shingles and integral ridge-pieces (Wilson 1964: Pl. XXVII, no. 56).
L: *c.* 77mm. A(228) = 151. House 3, Phase 6C-Di/6Di. SF570.

Cu47 Trapezoidal mount. Thick plate with pentagonal *repoussé* boss cut off at top and pierced by roughly rectangular hole. Edges of plate chamfered and burr on back not trimmed off. Medieval.
L: 29mm. A111. House 2, garden. SF252.

Cu48 Casket fitting? Plain rectangular plate with central square hole once attached to thin ?wooden box by 2 rivets with sheet metal roves. Separate flap pivoting on one rivet perhaps covered keyhole? Edges of large plate slightly chamfered. Medieval or later.
L: 39mm. A33. House 2, garden. SF214.

Cu49 Casket or strap fitting. Plate with 2 rivets, 1 holding on back a smaller plate, possibly broken. Faint traces of decoration on larger plate now obscured by corrosion.
L: 25mm. G12. House 9, Phase 6iii. SF1904.

Cu50 Plate with rivet. Thin rectangular plate, corners broken, one edge bent up, the other down. Rectangular rivet (like that used to secure Cu47?) near centre.
L: 19.5mm. C111. House 7, Phase 5. SF921.

Cu51 Casket hinge? Very thin metal plate complete at one end but folded and broken off at the other. 3 rivet holes and 2 flaps for wrapping round slender hinge pin. Original length, if symmetrical, at least 58mm. Medieval.
L: 35mm. A237. House 3, garden. SF572.

Cu52 Casket catch. L-shaped with pivot and retaining rove.
L: 27.5mm. G104. House 10, Phase 6A? SF2705.

Cu53 Casket fitting? Possibly decorative hinge attachment or clasp from small casket. Open loop perpendicular to back of hinge has decorative notches and small loop (broken?) at end. This and other hole near bend perhaps held rivets. Holes for hinge pin in lugs now obscured by corrosion. Surface gilded. Perhaps related to binding like Cu54. Medieval.
W: 12mm. A104. House 2, garden. SF291.

Cu54 Binding. Openwork decorative binding for leather or wooden object such as casket. Curved arms end in flattened terminals perforated for fixing and now broken. Made from strip flat on back and roughly rounded on front. Toolmarks give decorative ridged effect. Stem and branches, now bent, were probably prised off flat surface.

See discussion in Jope and Threlfall (1959: 267-8). Further 12th C group including branching pieces from Ipswich (West 1963: Fig. 56, nos. 1-5); another from 12th C Wareham Castle (Renn 1960: Fig. 19b). 2 fragments from Greyfriars, Northampton (Oakley 1978a: Cu19 and 20).
L: 60mm. B148. House 4, Phase 6C/?B. SF906.

Cu55-59 Binding? 4 strips, possibly binding from caskets. All have an irregular longitudinal groove on one or both wide faces, as if squeezed between rollers. Cu55 and 58 have one flat face bearing transverse tool marks and a rivet near one end projecting from the grooved side. Cu55 has another rivet hole at the other end. Cu56, which joins 57, may be unfinished as its edges are roughly trimmed by cuts and although together longer than Cu55, there are no rivet holes between the broken ends. Cu55, analysed by X-ray fluorescence, consists of gunmetal (major constituents: copper, zinc, tin; minor: lead). Medieval.

Cu55 L: 133mm. A116. House 3, garden. SF264. AML766649.
Cu56 L: 98mm (with Cu57 total L: 166mm). A113. House 3, garden. SF265.
Cu57 (not ill.) L: 68mm (joins Cu56). A100. House 3, garden. SF143.
Cu58 L: 37mm. B, unstrat. SF1589b.
Cu59 (not ill.) L: 86mm; W: 2.5-3mm; Th: 1.5mm. A130. House 3, garden. SF3088.

Cu60 Ornamental stud. Sheet metal pressed into domed hexagonal shape and clipped around base after moulding. One rivet in place and hole opposite for another. Medieval.
W: 14mm. A33. House 2, garden. SF209.

Cu61 Stud head. Roughly hexagonal domed hollow head with hole for stud pushed through from top.
Diam: 9.5mm. N(6) = 5. N, Phase 6/7ii. SF3368.

Cu62 Stud. Domed head with heavy shank possibly soldered within. White pasty substance under head may be original setting or support when mounted on ?wooden surface. Medieval.
Diam: 16mm. A445. House 3, garden. SF1238.

Cu63 Stud. Decorative flat head incised with 18 V-shaped grooves radiating from centre. Roughly circular long tapering shank. Cf. heads with central hole for stud from Saxon inhumation at Bergh Apton, Norfolk (Green and Rogerson 1978: Fig. 80, D), and Dinas Powys (Alcock 1963: Fig. 19, no. 2).
Head diam: 13.5mm. A438. House 2, Phase 5A? SF1227.

Cu64 Stud. Slightly domed head with traces of incised lines, rest corroded.
Head diam: 9.5mm. A436. House 1, Phase 5. SF1291.

Cu65 Stud. Domed hollow head with incised lines across gilded surface. Square section shank.
Head diam: 9mm. C41. House 7, destrat. SF44.

Cu66 Stud? Heavy rectangular head with humped profile gilded on top. Square shank set off-centre.
L: 11.5mm. F, unstrat. House 8. SF1866.

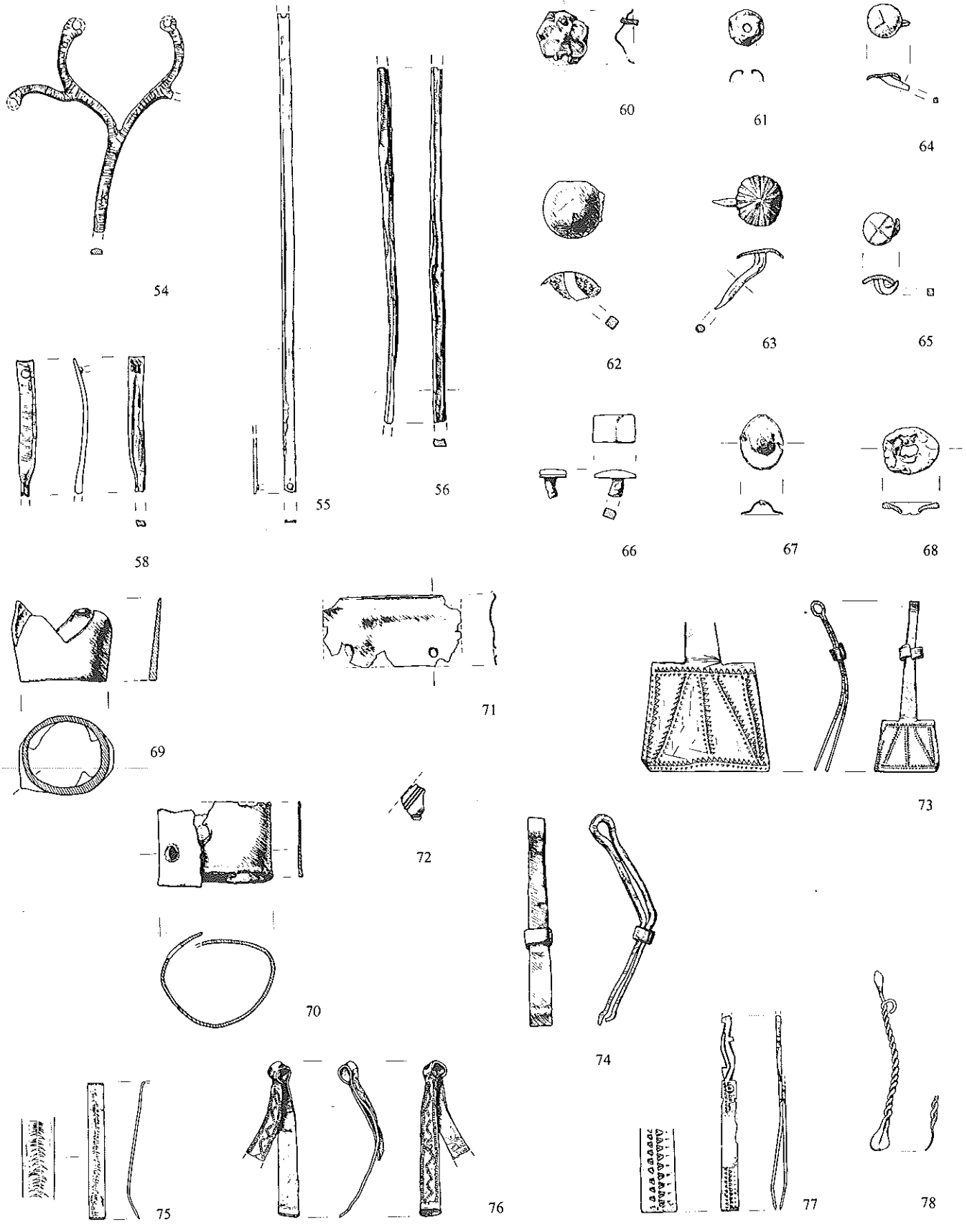
Cu67 Stud head? Oval, domed in centre. Traces of iron shank.
L: 15mm. C68. House 7, destrat. SF193.

Cu68 Washer or rove? Badly corroded oval object with roughly rectangular hole, edges splayed on one side. Probably used with rivet or stud.
L: 15mm. C121. House 7, Phase 5. SF979.

Cu69 Ferrule. Heavy cylindrical fitting tapering in thickness towards 4 mitred points. No decoration visible but surface corroded. No means of fixing except perhaps by turning points inwards. Mounted on wooden staff?
Diam: 22-24mm. F(137) = 57. House 8, Phase 4D. SF2155.

Fig 110

Copper alloy objects 4



Cu70 Ferrule? Sheet strip, tapering in thickness across width, bent into circle so that 2 holes nearly overlap. Could be ferrule from staff, secured by single nail, or rolled up piece of binding. Residual.
W: *c.* 21mm. A92. House 1, Phase 6A. SF1480.

Cu71 Uncertain. Rectangular thin sheet fragment bent near one edge and with holes for 2 rivets near other edge. Badly corroded. Possibly from binding of wooden object.
L: 38.5mm. E11. E, Phase pre-6. SF1808.

Cu72 Uncertain. Tiny fragment of sheet decorated with 3 parallel grooves near original edge. 2 other grooves at an acute angle may border an edge now obscured by corrosion.
L: 9.5mm A(568)=461. House 2, Phase 6Ai. SF1419.

Toilet implements

Fig. 110; Cu73-9

Tweezers and other toilet implements were common in Roman and Saxon periods being frequently found in sets linked together (e.g. Hills 1977: Fig. 116). One pair of tweezers, Cu74, is stratified in a Late Saxon context and the pair with expanded terminals, Cu73, has parallels which may be Saxon. The sliding loops on the arms of Cu73 and 74 may be for clamping the jaws in the closed position or merely to prevent loss from a chatelaine. The use of punched decoration on Cu73, 76 and 77 suggests Saxon affinities but also occurs on the medieval belt fitting Cu35. However, tweezers from medieval excavated sites seem to be rare.

Close parallels to the tweezers with expanded terminals, Cu73, are listed by F Williams (1977: 185). None is well dated though two from West Stow, Suffolk, may have come from a Saxon cemetery (Moyse's Hall Museum, Bury St Edmunds: cat. no. K28). The type seems to originate among the Franks in the region of Trier (Böhner 1958: Taf. 62, nos. 3 and 4; undated example from area of Barbara Thermae in Trier in Rheinisches Landesmuseum: inv. no. 12270). The elaborate pair with fancy soldered terminals from Pleshey Castle, Essex (F Williams 1977: Fig. 41, no. 9), comes from a late medieval context and a fragment from Greyfriars, Northampton (Oakley 1978a: Cu3), is not stratified. (The apparent absence on both these sites of Saxon occupation make somewhat difficult an interpretation of the tweezers as residual Saxon.) All bear punched decoration similar in detail and design to Cu73.

The handle of the riveted tweezers, Cu77, has a cut outline reminiscent of late Roman metal-work (cf. Brodribb *et al.* 1968: Fig. 30, no. 20) which may support an early date.

Cu78 and 79 are ear scoops or unguent spoons. A mid-14th century scoop of similar construction, though of pewter, comes from Southampton (Platt and Coleman-Smith 1975: no. 1901) and a copper alloy example from Whitby (Peers and Radford 1943: Fig. 14, no. 66).

Catalogue

Cu73 Tweezers (Pl. 48). Made from single piece of sheet folded over and cut to shape. Wide flat trapezoidal terminals, lacking the usual jaw angle or chamfer, can be held together by sliding loop down handle. Both faces of terminals decorated by punched V with attendant triangle to upper left (cf. punch used on Cu35 and Cu76). Design shown enlarged. Handle now bent, original L: *c.* 50mm. Saxon or medieval.
W: 18mm. A130. House 3, garden. SF327.

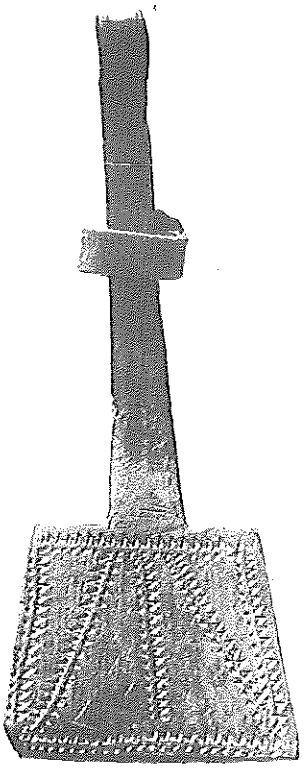
Cu74 Tweezers. One-piece with loop at top, widening slightly towards angled jaws. Sliding loop on arm. No trace of decoration but badly corroded surface. Now bent, original L: *c.* 63mm.
W: 8.5mm. A553. House 2, Phase 4B. SF1529.

Cu75 Tweezer fragment. Broken arm with outward bow and jaw chamfered on both sides. Inner face shows file marks, outer face polished and decorated with very fine but erratic walked scorper. Medieval.
L: 38mm. A404. House 3, garden. SF1247.

Cu76 Tweezers. One-piece with slightly tapered arms, one broken. Jaw chamfered on inside. Both arms decorated with annular punch, most impressions overlapping. Original L: *c.* 48mm. Saxon or medieval.
W: 6mm. G2. House 9, unstrat. SF2709.

Cu77 Tweezers. 2 arms riveted together, then shaped, one broken above rivet. Intact arm has elaborately cut outline to handle with simple punched line down centre. The cut edges are carefully chamfered. Lower part of both arms decorated with punched impressions continuing over rivet head. Punch is similar to that used on Cu35 and Cu73 but tripartite, with an additional triangle below the rather blunt base of the V. On the complete arm more weight has been put on the left triangle; on the other the impressions are more even. Part of design shown enlarged. Insides of angled arms bear diagonal tool marks. Jaws chamfered on both sides. Saxon or medieval.
L: 55mm. A22. House 1, Phase 6A. SF845.

PLATE 48 *Copper alloy tweezers, Cu73.*



Cu78 Ear scoop or unguent spoon. Made from single length of drawn wire bent double and twisted. Bowl made by flattening wire at bend. Suspension loop made with one free end, the other flattened into finial possibly serving as nail cleaner? Medieval.
L: 49mm. Unstrat. SF57.

Cu79 (not ill.) Ear scoop or unguent spoon. As Cu78 but made from slightly thicker wire (diam: 1.2mm) and now bent. Original L: *c.* 52mm.
B240. House 4, Phase 6D/?C. SF643.

Sewing implements

Fig. 111; Cu80-8

Included here are needles (cf. Peers and Radford 1943: Fig. 13, no. 8) and thimbles of medieval type (see discussion of typology in Moorhouse 1971c: 60, under no. 66) and a product of the sheet metal industry in the second half of the 15th century in the form of part of a pressed sheet of buttons, a sign of mechanisation if only on a small scale. Presumably the blanks would have been cut from the sheet with a cylindrical cutter and used as the bases for cloth-covered buttons.

The needle case, Cu80, is a type found in metal or bone in Viking contexts, usually with a suspension ring near the centre (Brown 1974: 152; Arbman 1943: Taf. 168; O'Riordain 1971: Fig. 21b).

Catalogue

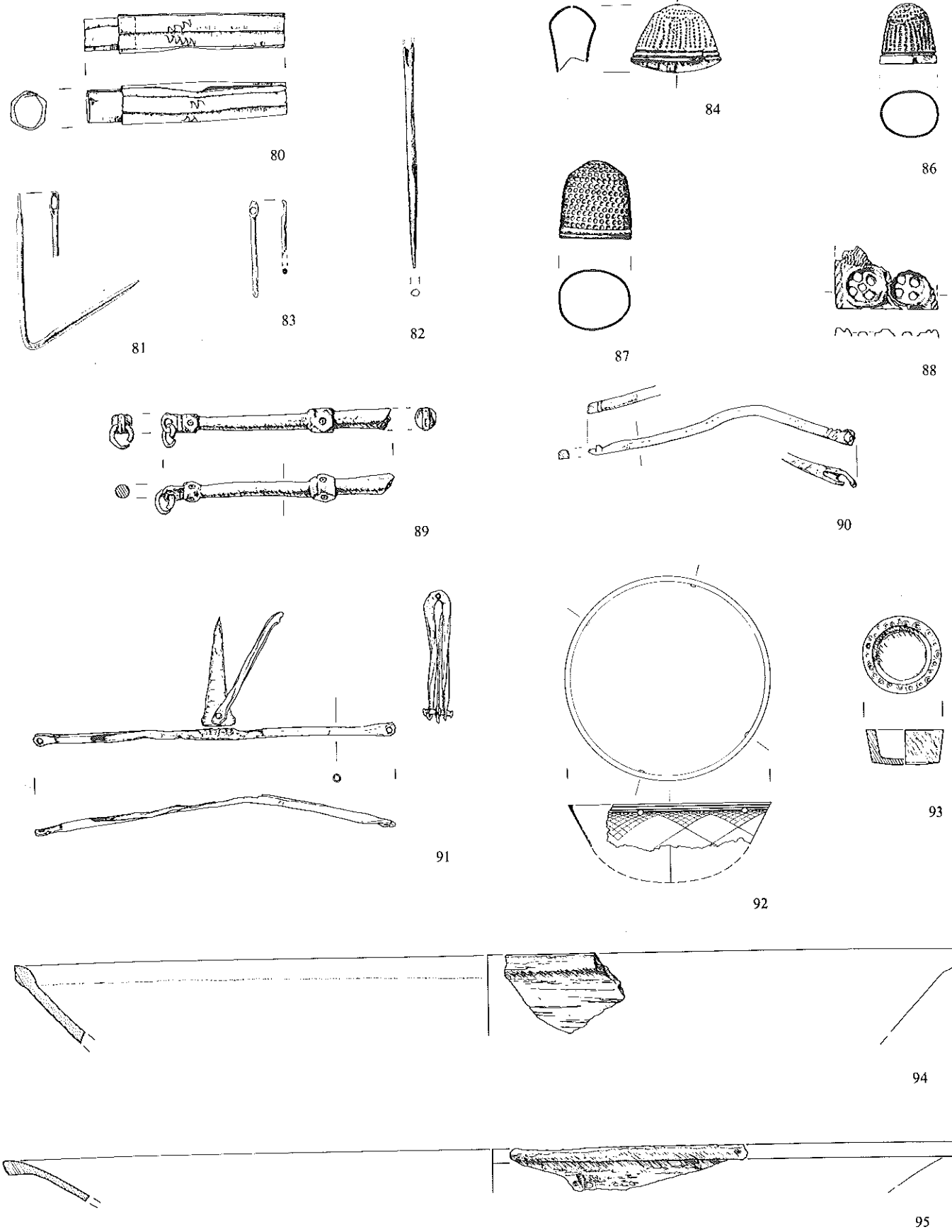
Cu80 Needle case. Hexagonal cylinder of thin sheet metal soldered along join and with smaller liner inserted with solder at 1 end. Other end shows signs of having similar fixture. 4 facets of main cylinder have short lengths of walked scorper decoration. Faint transverse tooling also visible.
X-ray fluorescence tests revealed major constituents of tin and lead in the solder with smaller amounts of copper and zinc probably coming from the metal joined by it. Late Saxon or medieval.
L: 55mm. A111. House 2, garden. SF196. AML770991.

Cu81 Needle. Made from drawn wire. Eye cut in countersunk groove. Long point with 3 facets bearing diagonal file marks. Medieval.
L: 77mm. B34. House 4, destrat. SF30.

Cu82 Needle. Broken across eye. Irregular section sharpened with facets towards point. Medieval.
L: 63mm. Unstrat. SF1588.

Fig 111

Copper alloy objects 5



Cu83 Bodkin. Thick drawn wire flattened at end and drilled with round hole. Broken shaft re-sharpened. Medieval.
L: 27mm. A218. House 2, garden. SF787.

Cu84 Thimble. Thin sheet metal, now bent out of shape. 2 pleats in side, hence probably spun into shape on lathe. 2 incised lines around base. Rows of small irregular round punch marks up sides and around top, 1 in centre. Medieval.
H: *c.* 16mm; Diam: *c.* 16mm; Th: 0.5mm. Unstrat. SF7.

Cu85 (not ill.) Thimble. 2 irregular lines around base. Round irregular punch marks all over. Medieval.
H: 19mm; Diam: *c.* 20mm; Th: 0.8mm. B, unstrat. House 4. SF1039.

Cu86 Thimble. Cast? Single groove at base. Round punch marks, overlapping, appear square, in vertical rows.
H: 17mm. A(220) = 170. House 3, Phase 6C-Di/6Di. SF537.

Cu87 Thimble. Moulded base with groove. Regularly spaced deep punch marks in continuous spiral, roughly horizontal. Clear patch at top.
H: 22mm. G9. House 9, Phase 6ii. SF1881.

Cu88 Button sheet. Pressed thin sheet with blanks for buttons. Edges of sheet embossed, perhaps for strength while handling. Button rims merge in centre. Both have 4 holes punched by same composite tool. One extra hole in left button's centre. Sheet had walked scorper marks before pressing.
L: 28.5mm. B74. House 4, Phase 6Di. SF255.

Weighing apparatus

Fig. 111; Cu89-93

Trade in the Saxon and early medieval world involved use of coin and silver bullion weighed carefully to check value. Small balances, some with folding arms, are common finds. Sets of scales and weights were carried on the person and occasionally turn up in graves of the Pagan Saxon and Viking periods. Early Saxon balances are not of the folding type (Skinner and Bruce-Mitford 1940: 92) but these are common in Viking contexts (Shetelig 1940: V, 155-166; Arbman 1943: Taf. 126). Recently, folding balances have been found in eastern England in Late Saxon contexts: at Yarmouth (Rogerson 1976: Fig. 51, no. 3), Thetford (Knocker MS: Fig. 134, no. 1) and North Elmham (Wade-Martins 1970: 65, Fig. 19D), Norfolk; also at Goltho, Lincolnshire (Beresford 1975: Fig. 44, no. 37).

Though none of the balance arms Cu89-91 is well dated statigraphically they must all be of Saxon or early medieval date. The crumpled fragments of the unfinished scale pan Cu92 are almost certainly Late Saxon. Close parallels to rim form and decoration occur at Birka, Sweden (Arbman 1943: Taf. 126) and Dolven, Norway (Shetelig 1940: V, Fig. 132a and b). Kisch (1959: 162) says that four-string pans were usual in the Orient.

Polyhedral metal weights marked in ring-and-dot with their value and found in Scandinavian contexts (e.g. Arbman 1943: Taf. 127, nos. 10-13) were used in medieval Arabia (Kisch 1959: 162). Perhaps the mouldings on the folding balance arm Cu89 derive their form from these weights? However, the same mouldings occur on Germanic toilet articles (Brown 1974: Fig. 53, nos. 1, 3 and 4), 7th century keys from Gotland (Nerman 1969: Taf. 41-44, 125-127 and 194) and are common on Late Saxon pins in England: e.g. Whitby (Peers and Radford 1943: Figs. 13 and 14), York (Waterman 1959: Fig. 11, nos. 7 and 12) and Southampton (Addyman and Hill 1969: Fig. 26, nos. 6-8).

Zoomorphic finials are known on balance arms from Ronaldsway, Isle of Man (Skinner and Bruce-Mitford 1940), and Croy, Inverness (Megaw 1940: Fig. 1), though neither is of the same type as Cu90.

The lightweight construction of Cu91 is matched by two balances, one also folding, found at Old Sarum, Wiltshire (Musty 1958-60): Fig. 5, B and C).

Extensive trade brought the Scandinavians and English into contact with Arabian coinage (Foote and Wilson 1970: 191-231). The Arabian half-dirhem was taken by Offa of Mercia as a weight standard for the Saxon penny and this pennyweight of 22.5 grains (1.57gm) remained standard until the 14th century (Skinner and Bruce-Mitford 1940: 90-1). Thus Cu93, at 15.5gm, weighed the equivalent of ten pennies or half an ounce. A set of nesting weights like Cu93 but of Tudor date may be seen in the Museum at Winchester.

Catalogue

Cu89 Folding balance arm. Tapering arm has 2 cubic bosses chamfered across corners with incised ring-and-dot on each face. Angled hinge, now broken, slotted into centre part of balance. Free end has perforation and link for suspension of scale pan.
L: 63mm. F, unstrat. House 8. SF2052.

Cu90 Folding balance arm. D-section roughly shaped arm with filing marks on flat underside, now bent. Slotted at an angle and drilled transversely for pivot, one side broken. Free end has appearance of a stylised animal head though ridge may only locate scale pan suspension.
L: *c.* 78mm. P4. Road in front of House 10, unstrat. SF3371.

Cu91 Balance arm and pivot. Lightweight balance made from thin sheet metal. 2 parts formerly joined (by solder?) along base of pointer cut from flat sheet. Suspension loop and arm both of sheet rolled lengthwise and flattened at ends and centre. Pointer base fitted within centre of arm and both pivoted on pin through pointer held by ends of suspension loop. Holes drilled at top of loop and ends of arm for attachment of scale pans.
L: 100mm. A, unstrat. House 2. SF396.

Cu92 Scale pan. Rim only, found crumpled and folded: drawing shows reconstruction. Smooth outer profile, flat top, thinning rapidly below rim. Outer face decorated with finely incised lines: 3 horizontal lines below rim then a curved lattice pattern with alternate areas left blank. Details obscured by corrosion and distortion of shape. 3 holes 1.5mm in diam perforated below rim but another marked out. They are placed symmetrically but not equidistant, i.e. in pairs 37mm apart with 55mm between, measured around circumference. Late Saxon.
Diam: *c.* 59mm. G145. House 9, Phase 5. SF2649.

Cu93 Weight. Bowl-shaped weight with convex base designed as part of graduated set nesting within one another for use in concave scale pan. Top of rim stamped with annular punch to discourage tampering with weight, also deliberate tooling pattern on sides. Present weight after conservation is 15.5gm.
Diam: 21.5mm B(276) = 266. House 4, Phase 6A. SF1663.

Vessels

Figs. 111-2; Cu94-9

Cast bronze cooking pots, Cu94-96, became common only in late medieval times and were often repaired or remelted (Le Patourel 1973: 91). They occur in wealthy households, e.g. at King John's hunting lodge, Writtle, Essex (Rahtz 1969: Fig. 50, nos. 107-109). Cu96 is similar in profile to a vessel from North Elmham, Norfolk (Rigold 1962-3: Fig. 35, no. 8).

Sheet metal vessels were often repaired by patches held by rivets. Cu97 is similar to a vessel from Bolingbroke Castle, Lincolnshire (Drewett 1976: Fig. 16, no. 68). Cu98 may well be a repair from such a vessel and Cu99 is an example of a common type of rivet used in such repairs (e.g. Rahtz 1969: Fig. 50, no. 115).

With other evidence for metal-working on this site (p. 263) these fragments could be simply waste material intended for re-melting.

Catalogue

Cu94 Cast vessel rim fragment. Slightly beaded with sharp top. Interior polished, exterior rough.
Diam: *c.* 260mm. Unstrat. SF47.

Cu95 Cast vessel rim fragment. Exterior rough; interior not quite smooth has striations perpendicular to rim. Residual in wall.
Diam: *c.* 270mm. C8. House 7, Phase 6i. SF259.

Cu96 Cast vessel rim fragment. Angle uncertain. Exterior shows rough filing marks; interior smoother, has marks on outer part.
Diam: *c.* 260mm. G2. House 9, unstrat. SF1886.

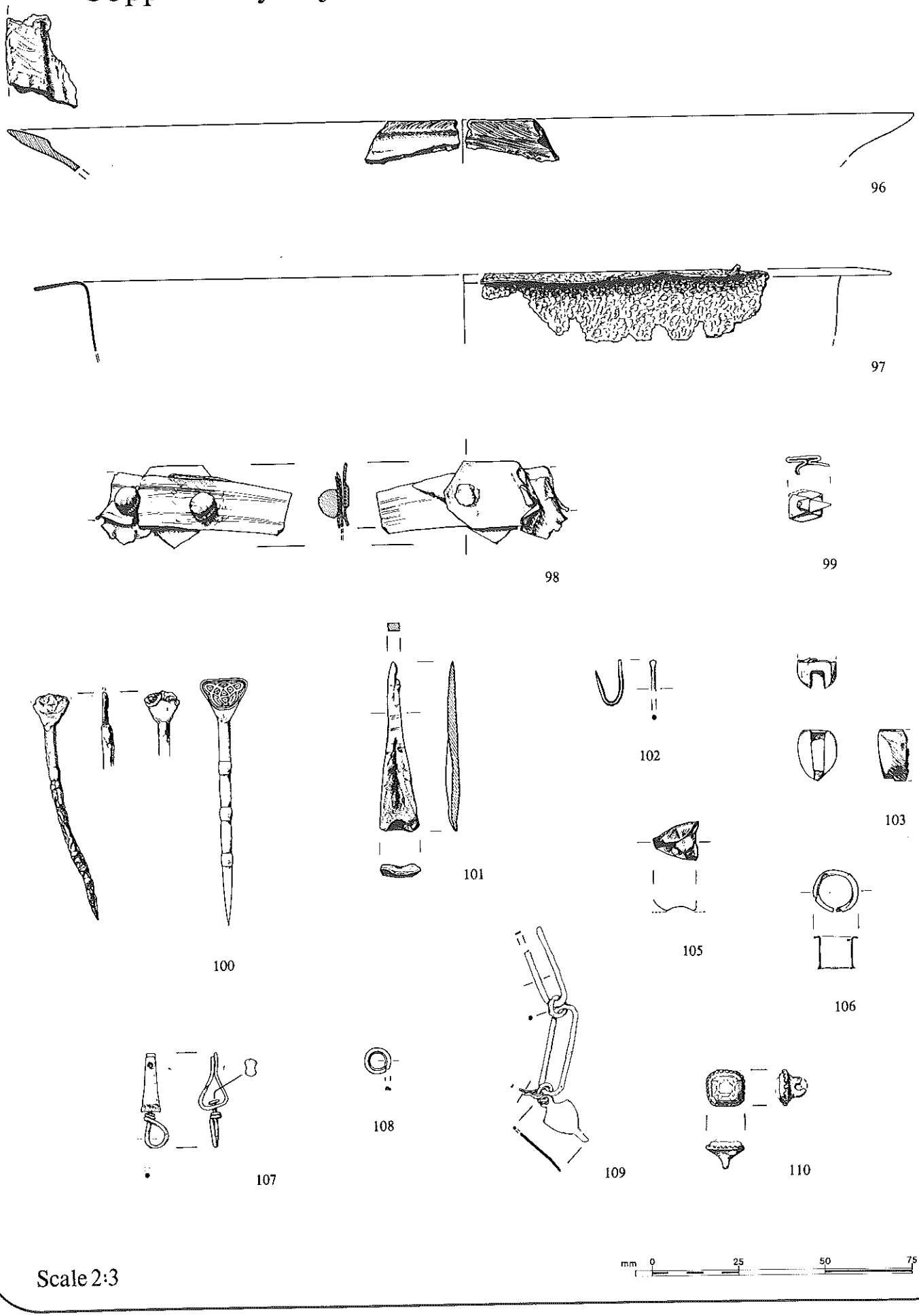
Cu97 Sheet vessel rim fragment. Thin metal with dimpled surface, beaten into shape. Flat-topped rim is of irregular width due to method of manufacture. Sooty deposit on exterior.
Inside diam: *c.* 220mm. B(152) = 7a. House 4, Phase 6Di. SF585.

Cu98 Sheet vessel repair? 3 thicknesses of thin sheet held by 2 round-headed ornamental rivets finished flat on inside. Centre sheet appears broken all around edges. Outer strip has lengthwise striations on both sides. Inside piece is thicker and clipped at the ends. Probably medieval.
L: 54mm. A53. House 2, unstrat. SF55.

Cu99 'Paperclip' rivet. Made from long diamond-shaped strip of sheet with ends folded twice.
L: 12mm. C55. House 7, Phase 6i. SF978.

Fig 112

Copper alloy objects 6



Miscellaneous tools and accessories

Fig. 112; Cu100-10

Most items in this section are everyday ephemera but Cu100 must be of special significance in view of the important Middle Saxon and possibly ecclesiastical establishment at the W end of the site. Cu107 is a possibly Saxon curiosity.

Catalogue

Cu100 Stylus. Flat triangular head, broken and possibly folded back along top edge, has gilded chip-carved interlace on face and plain back. Badly corroded shaft appears to have knops at intervals between which it swells in diameter. Drawing shows tentative restoration beside present appearance. Head shape is restored on basis of decreasing thickness from top of shaft but precise outline is uncertain. Original L. estimated c. 72mm.

Saxon styli were probably used to write on wax tablets and their broad heads to erase previous messages, as in the Roman period. Wilson (1964: 63) gives only 2 findspots for Saxon styli, both monasteries. Recently another has been found at Jarrow (Webster and Cherry 1972: 150) and a further possibly Saxon example at Breedon-on-the-Hill, Leicestershire (Clough *et al.* 1975: 46), also sites of Saxon monasteries.

At Whitby (Peers and Radford 1943: Fig. 15) one stylus with interlace on its triangular head and a moulded shaft, like that postulated for Cu100, is dated to the 8th C by Wilson (1964: 200, no. 131). Other styli from the same site are less certainly Saxon (Wilson 1964: 63) but a styliform pin (Peers and Radford 1943: Fig. 15, no. 3) is paralleled at Northampton Castle (Sharp 1882: Pl. IV, no. 7). From pre-conquest levels at St Augustine's Abbey, Canterbury, come 2 styli and 2 styliform pins. (Radford 1940a: 507).

Cu100 is obviously Saxon because of its interlace design which is not unlike that on the book mounts from Whitby, dated by Wilson (1964: nos. 105-7) to the 8th C. It is smaller than most of the other styli but comparable with the smallest from Whitby. A heavier type of stylus, possibly of 8th or 9th C date, comes from Greyfriars, Northampton (Oakley 1978a: Cu4).

L: 67mm. D51. House 5, Phase 4/5. SF1781.

Cu101 Chisel or gouge? Tapering tang and broad expanding tip, very thin at bottom edge. Wide V-shaped groove down centre merges into curved cutting edge.
L: 49.5mm. A90. House 1, Phase 6Biii. SF85.

Cu102 Fish hook. Small plain hook made from drawn wire. Sharpened end bent up, other end flattened. Probably medieval.
L: 13mm. A, unstrat. House 1. SF340.

Cu103 Bolster. Heavy cast bolster for junction of blade and handle of knife. Deep slot at front, back broken.
L: 14.5mm. G(56)=44. House 9, Phase 5-6. SF2326.

Cu104 (not ill.) Bell. Spherical, rumbler type (cf. Platt and Coleman-Smith 1975: Pl. 120). Made in 2 pieces soldered around middle. Suspension loop of strip metal emerged through slot in upper hemisphere. Bottom crushed and shape uncertain.
Diam: c. 23mm. G71. House 10, Phase 7. SF2188.

Cu105 Folded disc. Thin sheet disc, possibly domed in centre, edges folded inwards. Perhaps unfinished *repoussé* object or stud head.
Diam: c. 15mm. A414. House 1, Phase 5. SF1199.

Cu106 Cylindrical fitting. Thin sheet cylinder with out-turned flanges. Liner for hole in wooden object?
Diam: 11mm. C(22)=18. House 7, Phase 7. SF84.

Cu107 Swivelling link. Looped strip of sheet with hole for rivet at pinched ends has swivelling link passing through hole in centre. Wire link has flat kidney-shaped head within loop which can swivel when not under tension. Other end of wire twisted round itself twice makes link.

Similar but larger objects from Vendel period (late 6th to 7th C) graves in Gotland, Sweden, have 1 or 2 rivets through strip which appears broken off (Nerman 1969: Taf. 82, nos. 706, 707; Taf. 212, no. 1732).

L: 29mm. G127. House 9, Phase 5. SF2699.

Cu108 Chain link. Flat one side, chamfered on other.
Diam: 8mm. G(56)=44. House 9, Phase 5-6. SF1979.

Cu109 Chain with pendant. Long flat links alternate with small round links, one carrying plain charm cut from flat sheet plus folded strip for further attachment. Bracelet? Probably post-medieval.
L. of long link: 27mm. C26. House 7, destrat. SF35.

Cu110 Jewelled link. Multifaceted translucent white gem or glass set deeply in metal case with beaded edge with loop on back. Cuff link? Probaby post-medieval.
L: 11mm. G2. House 9, unstrat. SF1940.

Rings

Fig. 113; Cu111-20

Catalogue

Cu111-4 4 similar roughly finished oval rings, probably cast, fairly flat both sides with chamfered edges, showing filing marks and signs of wear on inside. 2 are stratified but all probably late medieval. Possibly harness or curtain rings. Cf. Biddle *et al.* 1959: Fig. 19, no. 5; Platt and Coleman-Smith 1975: nos. 1821, 1822.

Cu111 Diam: 20-22mm. C, unstrat. House 7. SF14.

Cu112 Diam: 21mm. G43. House 9, Phase 6i. SF1962.

Cu113 (not ill.) Diam: 22mm. B/C, unstrat. House 7. SF924.

Cu114 (not ill.) Diam: 18-20mm. A100. House 3, garden. SF123.

Cu115-20 Twisted wire rings. 7 rings made from thin drawn wire twisted together at ends. Use unknown. Found in 16th and 17th C contexts elsewhere (e.g. Biddle *et al.* 1959: Pl. XXIB; Platt and Coleman-Smith 1975: nos. 1817-20, and 1871; Drewett 1976: Fig. 16, no. 78). Late medieval.

Cu115 Diam: 10mm. G9. House 9, Phase 6ii. SF1939.

Cu116 (not ill.) Diam: 10mm. A, unstrat. House 1. SF268.

Cu117-9 (not ill.) Diams: c. 9, 9 and 12mm. C23. House 7, Phase 6ii. SF158.

Cu120 (not ill.) Diam: 8-10mm. K, unstrat. House 10. SF2467.

Pins

Figs. 113-4; Cu121-252

132 pins were found on the site. They are made from round wire often showing longitudinal striations due to the wire-drawing process. Two unusual and two common types of head are illustrated and the catalogue lists types with contexts.

A few pins, mostly of early medieval date, have unusual heads. Cu153 has a globular head probably soldered on. Cu161 has a larger, slightly domed head with facets. One early pin (not ill.: Cu207) has a globular head (not analysed) apparently of lead alloy and Cu203 (not ill.) a hollow hemisphere threaded on the shaft, obviously incomplete and possibly comparable with a pin with glass inset head from Greyfriars, Northampton (Oakley 1978a: 151).

Most of the heads are of type H1 (Cu185), made of a twist or two of the same wire around the shaft, occasionally several turns of a thinner wire (Cu192, 195). In type H2 (Cu220) the wire-wound head has been moulded into a spherical shape (Tylecote 1972: 184). In type H3 (not ill.) the sides of the wire head are squeezed into a square. Average shaft diameter is about 0.8mm, ranging from 0.5mm to 1.5mm.

Of the 132 pins found eight come from pre-15th century layers, 54 from 15th century and 43 from 16th or 17th century contexts; 27 are undated. Though no extravagant claims can be made using such small groups, two main trends can be seen:

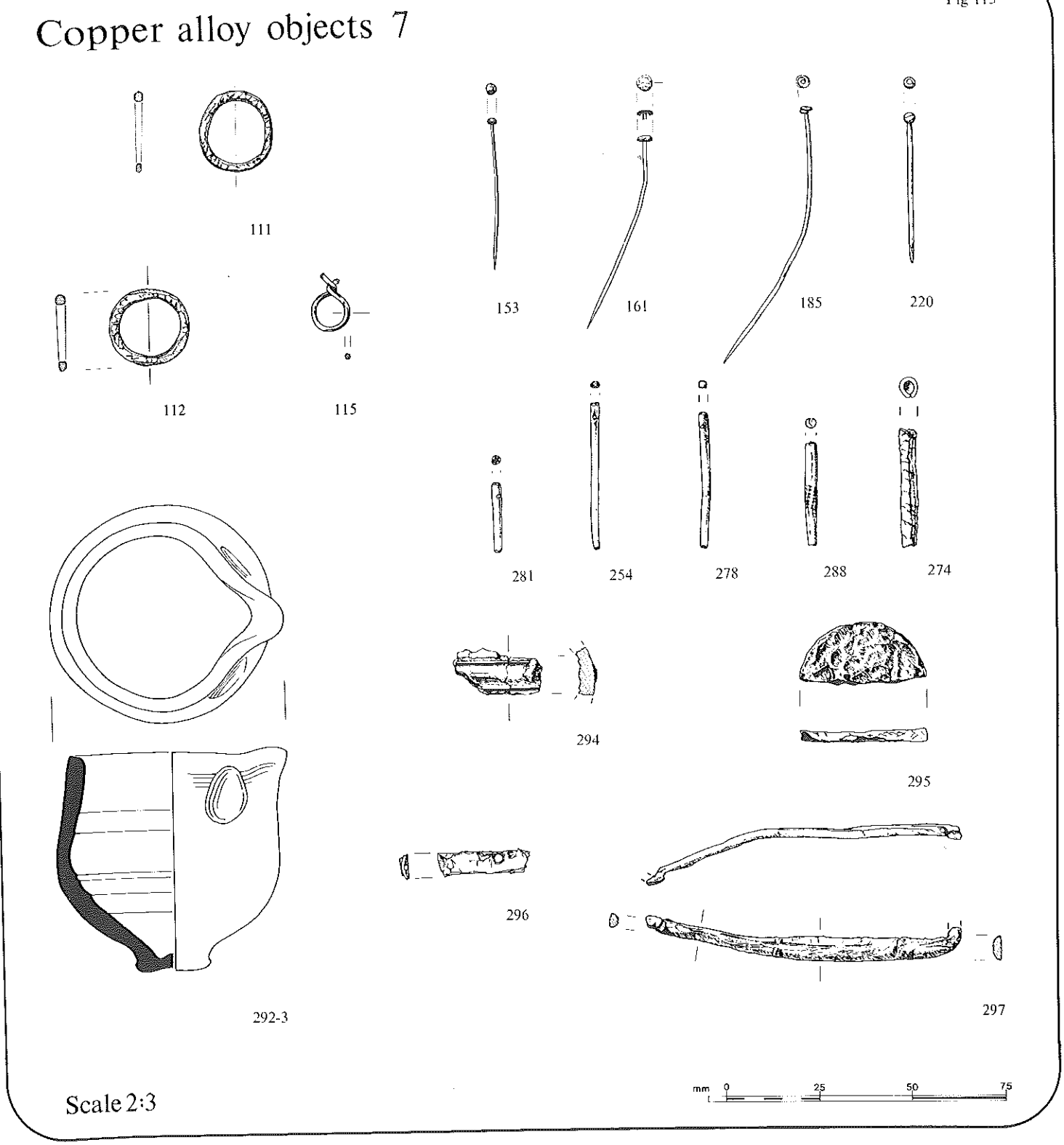
1 16th and 17th century pins tend to be shorter (73%, of 37 measurable pins, less than 30mm) than 15th century pins (only 8%, of 49 pins, less than 30mm). None of the later group is longer than 50mm but 18 of the 15th century pins are longer than this, ranging up to nearly 100mm (see Fig. 114).
2 Type H2 heads are more common in the 16th-17th century group (49%, of 41) than in the 15th century group (11%, of 53).

15th century pins are concentrated to the rear of House 4 with a scatter in other houses, excluding House 5, but not all medieval garden deposits were extensively excavated. Most 16th-17th century pins come from House 10 which had almost the only well-preserved post-medieval deposits.

Six selected pins were analysed by X-ray fluorescence at the Ancient Monuments Laboratory (AML reference numbers in catalogue) by Miss J Bayley. Three from pre-14th century contexts (Cu133, 206 and 207) are chiefly of copper while one has a trace of lead in its shaft (the pin with a ?lead alloy head: Cu207). Two 15th century pins (Cu189 and 190) are of brass (copper plus zinc). The last, from a mid-13th to 14th century context, consists of brass (copper and zinc) with a trace of lead (Cu155).

X-ray fluorescence does not give exact figures for the proportions of metals present and will not recognise very tiny amounts but in view of the corroded state of excavated finds detailed analysis would be of dubious value. Brinklow (1975), working on finds from York,

Fig 113



examined a wide range of artefacts and a large number of pins from one site using a similar method. He found wide compositional variation and no correlation with date or type, concluding that re-melting of old artefacts was a likely cause.

The Northampton results, amounting to a suggestion that earlier pins may be of copper with little or no alloy and later pins of brass, are insufficient to be conclusive. Further analyses would not help as so few pins are early.

Brinklow (1975) discusses historical references to medieval pin-making, implied by the gild of wire-drawers in York (from the late 13th century) and confirmed by the company of pin-makers in London (14th century). Clearly pin manufacture in this country was even then on some scale (*contra* Phillips, quoted in Tylecote 1972: 183) though perhaps a luxury trade.

Catalogue (not ill. except Cu153, 161, 185 and 220)

List in House and Phase order. Head type given as H1, etc, H-(head missing)

Cu121 H2. L: 21mm. A(266) = 149. House 1, Phase 6A. SF713.
Cu122 H-. L: 47mm. A(423) = 67. House 1, Phase 6A. SF2655.
Cu123 H2, H-. L: 99, 60 + mm. A223. House 1, Phase 6B.
-4 SF607, 675.
Cu125 H1. L: 50mm. A23. House 1, Phase 6Biv. SF50.
Cu126 H1. L: 33mm. A(7) = 5. House 1, Phase 6Biv. SF336.
Cu127 H1. L: 29mm. A4. House 1, Phase 7. SF393.
Cu128 H2. L: 33mm. A173. House 1, Phase 7. SF410.
Cu129 H1(2). L: 47, 35mm. A204. House 1, Phase 7.
-30 SF468, 471.
Cu131 H3. L: 38 + mm. A42. House 1, destrat. SF27.
Cu132 H2. L: 26mm. A27. House 1, unstrat. SF409.
Cu133 H-. L: 89mm. A553. House 2, Phase 4B. SF1526. AML 770994.
Cu134 H-. L: 28 + mm. A144. House 2, Phase 6A-B. SF521.

Cu135 H-. L: 55mm. A(35) = 34. House 2, Phase 6Bi. SF458.
Cu136 H1. L: 46mm. A225. House 2, Phase 6Bi. SF611.
Cu137 H1. L: 30mm. A(105) = 103. House 2, Phase 6Biii. SF138.
Cu138 H1. L: 37mm. A33. House 2, garden. SF227.
Cu139 H2(2). L: 23, 25mm. A104. House 2, garden.
-40 SF286, 288.
Cu141 H-. L: 42mm. A524. House 2, garden. SF1351.
Cu142 H-. L: 41mm. A47/65. House 2, destrat. SF3293.
Cu143 H1. L: 30mm. A53. House 2, unstrat. SF28.
Cu144 H2. L: 27mm. A65. House 2, destrat. SF398.
Cu145 H1. L: 54mm. A, unstrat. House 2. SF386.
Cu146 H2. L: 38 + mm. A208. House 3, Phase 6Di & ii. SF487.
Cu147 H1. L: 23mm. A208. House 3, Phase 6Di & ii. SF496.
Cu148 H1(2). L: 31, 36mm. A163. House 3, Phase 6Dii.
-9 SF407, 464.
Cu150 Upset. L: 34mm. A269. House 3, garden. SF269.
Cu151 H1, H2. L: 57, 28mm. A, unstrat. House 3. SF22, 24.
-2
Cu153 Globular. L: 41mm. B(439) = 187. House 4, Phase 5. SF1760.
Cu154 H-. L: 36 + mm. B117. House 4, Phase 6A. SF634.
Cu155 H2. L: 31mm. B(151) = 117. House 4, Phase 6A. SF587. AML770995.
Cu156 H1. L: 39mm. B(122) = 110. House 4, Phase 6C. SF529.
Cu157 H2(2). H1, H-. L: 52, 51, 45, 36mm. B(73) = 7a. House 4, Phase 6Di.
-60 SF114, 116(3).
Cu161 Domed, H1(6). L: 45 to 76mm. B(167) = 7a. House 4, Phase 6Di.
-7 SF598.
Cu168 H1. L: 32mm. B(192) = 7b. House 4, Phase 6Di, poss. 6C. SF915.
Cu169 H1. L: 52mm. B74. House 4, Phase 6Di. SF255a.
Cu170 H2. L: 45mm. B86. House 4, Phase 6Di. SF1071.
Cu171 H1(3). L: 46, 42, 40mm. B158. House 4, Phase 6Di.
-3 SF375.
Cu174 H-. L: 38mm. B158. House 4, Phase 6Di. SF382.
Cu175 H1(10). L: 37 to 57mm. B158. House 4, Phase 6Di.
-84 SF402.
Cu185 H1. L: 76mm. B170. House 4, Phase 6Di. SF1036.
Cu186 H1, H-(2). L: 49, 38, 57mm. B171. House 4, Phase 6Di.
-8 SF442(2), 480.
Cu189 H1(2). L: 36, 77mm. B171. House 4, Phase 6Di. SF481, 449.
-90 AML770992-3.
Cu191 H1. L: 36mm. B20. House 4, destrat. SF48.
Cu192 H1(3½ turns fine wire). L: 33mm. C48. House 7, Phase 6i. SF60.
Cu193 H3. L: 36mm. C(70) = 17. House 7, Phase 6i. SF239.
Cu194 H1. L: 34mm. C49. House 7, Phase 6i-ii. SF283.
Cu195 H1 (3½ turns fine wire). L: 27mm. C49. House 7, Phase 6i-ii. SF512.
Cu196 H2. L: 23 + mm. C(22) = 18. House 7, Phase 7. SF163.
Cu197 H1(3), H2. L: 38, 73, 21 +, 24mm. C13, 14, 82, 67. House 7, destrat.
-200 SF161, 257, 510, 186.
Cu201 H1/2, H- (handmade, tapering). L: 35, 35 + mm. F, unstrat.
-2 House 8. SF1874, 1856.
Cu203 Hollow hemisphere (broken). L: 48mm. G(120) = 119. House 9, Phase 5. SF2517.
Cu204 H1, 2. L: 32, 21mm. G2. House 9, unstrat. SF1894, 1931.
-5
Cu206 H-. L: 45mm. K113. House 10, Phase 5. SF2727. AML 770996.
Cu207 Globular, lead alloy. L: 48 + mm. K188.1. House 10, Phase 5. SF3047. AML 770997.
Cu208 H-(2). L: 87, 81 + mm. G134. House 10, Phase 6Aiii-B.
-9 SF2601.
Cu210 H1(3). L: 58, 48, 29mm. G77. House 10, Phase 6B-C.
-2 SF2428(2), 2484.
Cu213 H1(3), H2(3), H-. L: 27-46mm. G(96) = 87. House 10, Phase 7.
-9 SF2459, 2424(6).
Cu220 H2(9), H-(2). L: 24-40mm. G68. House 10, Phase 7. SF2096(9),
-30 2095(2).
Cu231 H2. L: 25mm. G70. House 10. Phase 7. SF2124.
Cu232 H2(12), H1(1). L: 21-29mm. G71. House 10, Phase 7. SF2208,
-44 2182(12).
Cu245 H1, H2. L: 16 +, 25mm. G73. House 10, Phase 7. SF2179,
-6 2210.
Cu247 H1. L: 37 + mm. K28. House 10, Phase 7. SF2586.
Cu248 H-. L: 44mm. G21/33. House 10, Phase post-7. SF2005.
Cu249 H1, H3. L: 36, 34mm. G2. House 10, unstrat. SF2075, 2079.
-50
Cu251 H2(2). L: 42, 26mm. K1. House 10, unstrat. SF2467, 2468.
-2

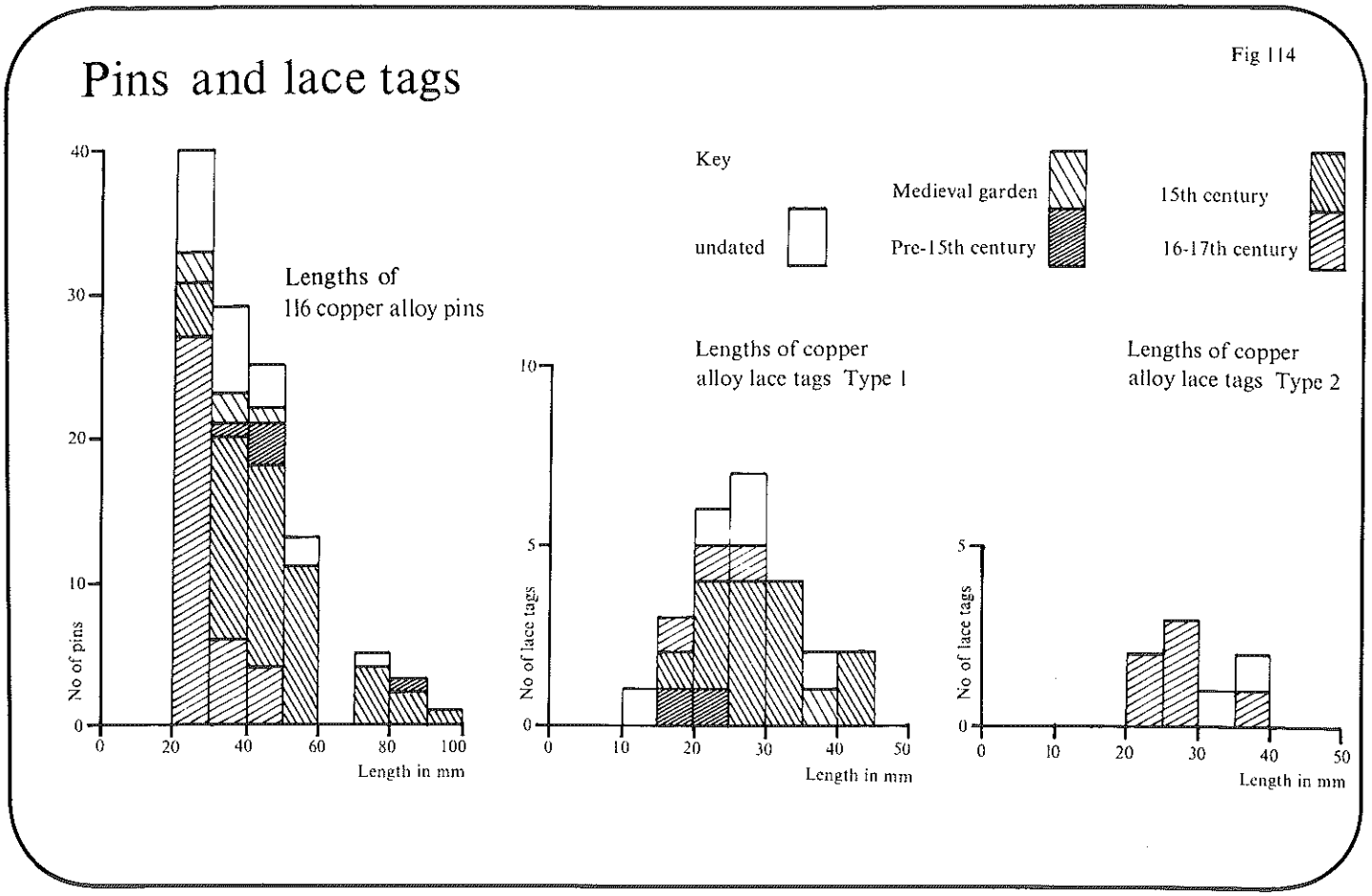
Lace tags

Figs. 113-4; Cu253-91

The 39 tags found, some containing traces of the leather thongs or laces which they terminated, are of two types, both made from copper alloy sheet. Laces were used to fasten clothing, chiefly of leather. See discussion by Goodall (in Drewett 1975: 144-5).

Type 1 tags (Cu281 and 254) are made from a piece of sheet just wide enough to roll tightly around the end of the lace without

Fig 114



overlapping. Near the open end, where the lace entered, a small transverse hole carries a tiny rivet, usually copper alloy but occasionally iron. Two examples have two rivets (Cu268 and 278). Type 1 tags are carefully finished with free end rounded off neatly and rough edges at top and bottom removed by small cut chamfers. Length ranges from 14 to 44mm (see Fig. 114).

Type 2 tags (Cu288) are made from a wider piece of thinner sheet folded twice from each edge towards the centre. The lace is securely gripped by both sides of the tag all along its length with no need for a rivet. Length ranges from 22 to 39mm (see Fig. 114).

The seven type 2 tags include six stratified in mid-16th to 17th century deposits. All the earlier tags are of type 1. Three tags pre-date the 15th century; 18 come from 15th century contexts; nine from 16th-17th century deposits; nine are undated.

Distribution possibly reflects the uneven extent of excavation of medieval garden areas with 15 tags from House 4. The post-medieval tags all come from House 10, the only area where post-medieval deposits were encountered in depth.

Analysis of two tags by X-ray fluorescence showed both to be of copper + zinc, i.e. brass (Cu258 and 270). A trace of arsenic in the earlier tag (Cu258) was not detected on repeating the test.

Sheet metal-working on the site evidenced by discarded off-cuts (p. 264) could have included manufacture of lace tags.

Catalogue (not ill. except Cu254, 274, 278, 281 and 288)

Cu253 T1. L: 22mm. A42. House 1, destrat. SF26.

Cu254 T1. L: 40mm. A111. House 2, garden. SF194.

Cu255 T1. L: 29mm. A(220) = 170. House 3, Phase 6C-Di/6Di. SF571.

Cu256 T1. L: 20mm. A(228) = 151. House 3, Phase 6C-Di/6Di. SF579.

Cu257 T1. L: 23mm. A208. House 3, Phase 6Di & ii. SF497.

Cu258 T1. L: 27mm. B187. House 4, Phase 5. SF485. AML 770998.

Cu259 T1. L: 25mm. B(368) = 259. House 4, Phase 6B. SF1618.

Cu260 T1. L: 35mm. B(122) = 110. House 4, Phase 6C. SF529.

Cu261 T1. L: 44mm. B246. House 4, Phase 6D/?C. SF687.

Cu262-3 T1(2). L: 25, 17 + mm. B(69/49) = 7a. House 4, Phase 6Di. SF613, 621.

Cu264-6 T1(3). L: 26, 31, 32mm. B(167) = 7a. House 4, Phase 6Di. SF598.

Cu267 T1. L: 32mm. B19. House 4, Phase 6Di. SF267.

Cu268 T1 (2 rivets). L: 41mm. B158. House 4, Phase 6Di. SF402.

Cu269 T1. L: 27mm. B170. House 4, Phase 6Di. SF1036.

Cu270 T1. L: 28mm. B171. House 4, Phase 6Di. SF481. AML 770992.

Cu271-2 T1(2). L: 28, 34mm. B20. House 4, destrat. SF48.

Cu273 T1. L: 26mm. C88. House 7, destrat. SF312.

Cu274 Large, roughly made, possible tag? L: 32mm. C13. House 7, destrat. SF150.

Cu275 T1. L: 24 + mm. G(56) = 44. House 9, Phase 5/6. SF1981.

Cu276 T1. L: 30mm. G11. House 9, Phase 6i. SF1964.

Cu277 L: 26mm. G(38) = 9. House 9, Phase 6ii. SF1966.

Cu278-9 T1 (2 rivets), T2. L: 37, 37mm. G2. House 9, unstrat. SF2053, 2039.

Cu280 T1. L: 22mm. G104. House 10, Phase 6A? SF2552.

Cu281 T1. L: 19mm. G107. House 10, Phase 6Aii. SF2526.

Cu282 T1. L: 25mm. G66. House 10, Phase 7. SF2368.

Cu283 T2. L: 39mm. G70. House 10, Phase 7. SF2125.

Cu284-7 T2(4). L: 27, 27, 25, 22mm. G71. House 10, Phase 7. SF2180, 2183(3).

Cu288 T2 (sheet previously tooled). L: 28mm. G73. House 10, Phase 7. SF2211.

Cu289 T1. L: 19mm. K28. House 10, Phase 7. SF2574.

Cu290-1 T1(2). L: 17+, 14mm. K1. House 10, unstrat. SF2420, 2675.

Copper alloy working and waste products

Fig. 113; Cu292-7

Direct evidence for melting of copper alloys on the site consists of Late Saxon crucible fragments (Cu292-3), a piece of a mould (Cu294), and a few pieces of slag with copper inclusions from House 4, Phases 5 (B(428) = 187), 6B (B198), 6C (B(253) = 96), 6Di (B(73) = 7a), 6Di/?6C (B(192) = 7b) and 6D/?C (B(356) = 355), House 5/6, unstrat (B32), House 7, Phase 5 (C(73) = 20 and B(326) = C20) and destrat. (C13), and House 10, Phase post-7 (G(33) = 21), identified by Mr H F Cleere.

Waste products from industrial activity are of four types: partly worked raw material and unfinished, possibly scrap, objects (Cu295-7); indeterminate lumps of copper alloy (25 pieces); off-cuts from sheet metal (38 pieces); pieces of drawn wire (12). The sheet and wire fragments could be waste from the manufacture of belt fittings, lace tags, pins and a wide range of other possibilities. Unfinished objects possibly indicating manufacture on site include the binding strip Cu56/57 and scale pan Cu92, but this had been crumpled up as if for remelting. The small vessel fragments Cu94-7 may also have been brought to the site for this purpose.

Most of this waste material was examined at the Ancient Monuments Laboratory by Miss J Bayley who selected typical pieces for analysis by X-ray fluorescence (AML references given for these items). Her opinions are incorporated in this text.

Crucible fragments and mould

Two fragments of crucible and a piece of a mould bear greenish vitreous deposits on the exterior and one crucible fragment a reddish deposit inside which suggests copper alloy melting and casting. The crucibles are of typical Late Saxon form, thin-walled and of small size, like many fragments found recently in levels underlying Northampton Castle (NDC site no. M139). Only one complete example has been found but the St Peter's Street fragments are from a similar vessel with a pouring lip, pinched out between two fingers and thumb from a plain upright or slightly inturned rim, and a small flat pedestal base (see illustration).

Another vessel from the same context as Cu292, with a pouring lip but with no signs of use, could also be a crucible (pottery no. 20). Small thicker-walled vessels in the coarse ceramic type W4 (chiefly from House 7, Phase 5) could be crucibles or lamps (pottery no. 471). Pieces resembling this fabric have been used for melting metal on the Castle site.

The type of object being cast in the mould is not known.

Catalogue

Cu292 Crucible fragment. Pale grey vitrified fabric with small elongated voids and occasional black glassy inclusions. Patchy greenish 'glaze' on reddish exterior. Thumb-print indicates fragment is from body just below lip.
Th: 4mm. A576. House 1, Phase 4B. SF3335.

Cu293 Crucible fragment. Grey partly vitrified fabric with plentiful small elongated voids running diagonally across wall (suggesting coil construction) and some quartz grains. Grey-green 'glaze' on exterior and pink glassy deposit on interior. Fragment highly curved, from near base of vessel.
Th: 4mm. C(109) = 20. House 7, Phase 5. SF3495.

Cu294 Mould fragment. Two parallel ridges on smooth interior with curved profile between. Fabric has abundant well-sorted quartz grains in cream coloured matrix (not dissimilar to W1, see p. 158). Curved exterior is rough with blobs of dark green vitrified deposit.
L: 23.5mm. W. between ridges: 6mm. G193. House 9, Phase 4/5. SF2736.

Partly worked material

Cu295 Gunmetal ingot fragment? Roughly beaten into thin disc and broken across centre. Main constituents: copper, zinc and tin; minor/trace lead.
Diam: 34mm. B148. House 4, Phase 6C/?B. SF940. AML 766630.

Cu296 Strip. Fragment of uneven thickness cut along both sides, possibly by shears, and drilled with a circular hole burred over on one side. One end distorted, the other broken. Surface marks suggest gripping in ridged jaw.
L: 25mm. A576. House 1, Phase 4B. SF1490.

Cu297 Unfinished casting? Bent rod with half-round section, ends broken, rough edges and surface deeply scored. Suggestions of moulding at each end of wider central section.
L: 87mm. A(300) = 235. House 1, Phase 6A. SF757.

Indeterminate lumps

25 lumps, now mostly corroded, could perhaps be waste splashes of molten metal from a casting process though in general they lack the expected drop or dribble-like form. A few stratified Late Saxon pieces come from Houses 1 and 8. One is heavily corroded bronze (House 8, Phase 4A—AML 766582: copper + tin). A scatter in medieval garden deposits of House 7 could be residual. Lumps in 15th century layers are widely scattered. One piece is a lead-rich

pewter or possibly solder (House 10, Phase 6B—AML 766584: mainly lead with tin and copper and trace of zinc).

Phases of contexts containing lumps of copper alloy (no. of lumps):

House 1, Phases 4(1), 5(2), 6A(1), garden (1).
House 2, Phase 6Bi(1), garden (1).
House 4, Phase 6Di(1).
House 7, Phase 5(4), destrat (1), unstrat (1).
House 8, Phases 3(1), 4A(1), 4B(1), 6i(1), unstrat (3).
House 9, unstrat (1).
House 10, Phases 6Ai(1), 6B(1).
Unstrat (1).

Sheet off-cuts and fragments

38 fragments of irregular shapes and sizes, some showing signs of having been cut off larger pieces, were widely scattered over the site. Late Saxon pieces were found in Houses 1 and 8. One piece from an Early/Middle Saxon context is bronze (House 8, Phase 2. AML 766626: copper + tin, trace lead). A concentration of fragments in medieval garden deposits of House 3 includes one from a pre-13th century context. Two pieces analysed are bronze (House 3, Phase pre-5/5—AML 770999: copper + tin, trace lead; House 3, garden—AML 766589: copper + tin, ?trace zinc). Two other pieces from pre-Conquest contexts were analysed: one, heavily corroded, is apparently copper (House 10, Phase 4/5—AML 766628); the other bronze (House 1, Phase 5—AML 766612: copper with traces of tin and lead).

These analyses contrast with the two lace tags examined which were both brass. Brinklow (1975) found lace tags of fairly pure brass the norm. Perhaps the sheet metal was used for other articles.

Phases of contexts containing sheet off-cuts (no. of pieces):

House 1, Phases 4C(1), 5(2), 6Bi(1), unstrat (2).
House 2, Phases 5A-B(2), 6Bi(1), 6Biii(1), garden (1).
House 3, Phases pre-5 or 5(1), 6Dii(1), garden (4), unstrat (1).
House 4, Phase 6Di(1), unstrat (3).
House 5, unstrat (3).
House 7, Phases 5(1), Phase 6i(1), destrat (1).
House 8, Phases 2(1), 4 or 5(1), unstrat (2).
House 9, Phases 5-6(1), 6i(1).
House 10, Phases 4?/5(2), 5(1), 7(1).

Wire fragments

12 pieces of drawn wire show no other signs of finishing. They could be raw material for pin-making. Wire from post-medieval contexts is thicker than the medieval pieces. Analysis of two typical pieces shows both to be brass (House 2, garden—AML 766590: copper + zinc; House 10, Phase 7—AML 766621: copper + zinc, trace lead).

Phases of contexts with wire fragments (no. of fragments):

House 1, Phase 5(1). House 2, garden (1). House 3, garden (3).
House 7, Phase 5(1). House 8, unstrat (1). House 10, Phase 6B(1), 7(4).

THE LEAD ALLOY OBJECTS

by G E Oakley (Pb2-51) and B W Spencer (Pb1)

Lead alloy finds (Fig. 115) of pewter (tin + lead), not analysed but judged rather by their light weight and hardness which is greater than lead alone, include a pilgrim badge, buckle, spoon and bottle cap (Pb1-5).

The other objects, apparently of unalloyed lead, were cast or fabricated from sheet. Cast objects include a decorated spindle whorl (SW1, p. 287), weight (Pb6), and two patches for vessels (Pb7-8), one of pottery. Pb7 bears a clear textile impression (T5, p. 307). It suggests that one method of patching involved holding a piece of cloth across the hole in the vessel to be mended, possibly on the outside, to contain the molten lead and prevent the spread of excess within the vessel.

Items fabricated from lead sheet (Pb10-16) include a weight, thin binding for the corner of an object, possibly a book cover or box lid of wood or leather, and two discs with deliberately scratched designs, perhaps tokens or weights. Pieces of sheet (Pb15-16) associated with a clay-lined trough in House 4, Phase 6B, could be the remains of a channel for liquids.

Four pieces of window came (Pb17-20) could be scrap from windows of nearby churches for remelting; Pb20 is screwed up into a spiral (see also painted glass fragments, p. 296).

23 offcuts from sheet lead (Pb21-43) suggest that fabrication took place on site while six once molten driblets indicate occasional melting. The largest piece of partly worked lead, Pb49 from House 10, Phase 4, weighs 463gm. 13 pieces come from contexts earlier than Phase 6. These fragments could be from lead roofing.

Catalogue

Pb1 Pilgrim badge (Pl. 49), probably pewter. A lozenge-shaped plaque with pearled edges, on which is depicted the figure of a king wearing a crown and robes of state. He holds an orb in his left hand and a sceptre (interrupted in this instance by a blow-hole in the casting) over his right shoulder. He stands between the letters R and H. On the reverse side are the stubs of the pin and clasp that were originally cast in one piece with the badge.

PLATE 49 *Lead alloy pilgrim badge, Pb1.*

Several badges of this sort have been found at London. Though they differ in detail from the Northampton specimen as well as from each other, they are essentially alike. The same figure of the king also adorns a somewhat larger group of solid, circular badges. Examples of these, too, come from London but at least 7 have been excavated elsewhere, in places as far apart as Ludlow and Rouen; and 2 have come from deposits dated *c.* 1490-1510—the fillings of the outer town ditch near the Bargate, Southampton, and of the dock at Baynard's Castle, London (Spencer 1978). Details of style and subject-matter on badges of both types—such as a tiny Tudor rose in one instance—are consistent with a date around 1500, and the medallic shapes of the badges reflect the fashionable forms of early Renaissance hat-ornaments.

That such a remarkable number of these fragile souvenirs have survived is clearly an indication that they were intended to commemorate pilgrimages to a shrine of major importance and that they were being mass-produced to satisfy a popular, if rather short-lived, demand at the very time when the practice of pilgrimage generally was falling into disrepute and steady decline.

The only royal saint who could have given rise to such evidence of popular devotion at this time was King Henry VI (1422-61). He was already widely venerated as a miracle-working saint by 1484, when Richard III moved his remains from the relative obscurity of Chertsey to St George's Chapel, Windsor. Within months Richard's successor, Henry VII, was actively encouraging the cult and seeking its formal authorisation and for the next 20 years Windsor was to become a national centre of pilgrimage and the scene of many miracles.

The figure of the king on the pilgrim badges is similar to the few surviving devotional pictures of Henry VI and the attribution is made the more certain by the letters H(enricus) R(ex) on the badge from St Peter's Street and on another found (1975) on the Thames foreshore at London.
W: 28mm. House 1, unstrat. SF1.

Pb2 Pewter fragment. Cast openwork ornament, perhaps a motto, with 2 rings for sewing on to garment?
W: 14mm. A8. House 1, Phase 6Biv. SF109.

Pb3 Pewter buckle. Double looped with pie crust decoration, bar corroded.
L: 22mm. House 4, unstrat. SF18.

Pb4 Pewter spoon. Hexagonal section handle, knop missing, and remains of steeply angled bowl. Probably 15th C. Cf. London Museum 1967: 128-133.
L: 87mm. A(6) = 5. House 1, Phase 6Biv. SF160.

Pb5 Pewter bottle cap. Hole through cap held iron fitting (remains of 2 wires). Probably 18th C.
Diam: 34mm. C26. House 7, unstrat. SF36.

Pb6 Lead weight with slightly flattened base and vertical perforation for cord.
H: 25mm; Wt: 72.5gm. A414. House 1, Phase 5. SF1215.

Pb7 Lead vessel patch. Narrow groove around edge suggests thin (metal) vessel. Back bears textile impression plus traces on edge of front. See T5.
L: 60mm. A436. House 1, Phase 5. SF1279.

Pb8 Lead vessel patch on potsherd (ceramic type T2) with wavy line decoration. Patch externally moulded into neat rectangle. Inside lead has spread in molten state and bears possible poor textile impression (ridges chiefly in 1 direction, 10 per 5mm).
External L: 23mm. C121. House 7, Phase 5. SF1017.

Pb9 Uncertain. Flat piece with round projection. Possibly incomplete patch for vessel.
W: 45mm. K54. House 10, pre-Phase 6. SF2594.

Pb10 Lead weight. Made from sheet folded to 3 thicknesses and pierced for suspension.
L: 31mm; Wt: 35.3gm. B158. House 4, Phase 6Di. SF378.

Pb11 Binding. Thin sheet triangular binding from right-angled corner on flat object 2-3mm thick, edges crimped together. No decoration except moulded surface. Seam possibly along split edge now folded over.
L: 60mm; Th: *c.* 1mm. A111. House 2, garden. SF181.

Pb12 Disc, perhaps token or weight. Uneven wrinkled surfaces with deliberate scribed design of rough circles and lines. Cf. similar design, larger disc from York (Richardson 1959: Fig. 28, no. 4).
Diam: 21.5-22.5mm; Wt: 3.75gm. A434. House 2, Phase 5A? SF1251.

Pb13 Disc, perhaps token or weight. Cut from sheet with scratched lines on one face. Edges chamfered on same side.
Diam: 17.5-18mm; Wt: 2.8gm. Unstrat. SF1593.

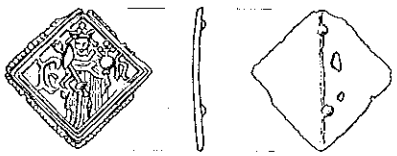
Pb14 Utilised offcut? Long curved piece cut down both sides but one end a rounded point, other flattened and broad with end chamfered.
L: 88mm. A247. House 2, unstrat. SF698.

Pb15 (not ill.) Sheet fitting. 2 pieces probably joining with remains of iron nail at side. Ends corroded, possibly once a U-shaped channel.
L: *c.* 200mm; W: *c.* 70mm; Th: 1-2mm. B280. House 4, Phase 6B. SF740, 805.

Pb16 (not ill.) Sheet fitting. 3 pieces overlapping at ends and fixed by broad flat-headed iron nails in pairs near opposite edges. Possibly once a curved channel.
L. of central piece: 83mm; W: *c.* 50mm; Th: 1-1.5mm. B280. House 4, Phase 6B. SF769.

Lead alloy objects

Fig 115



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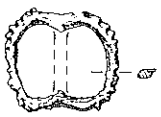

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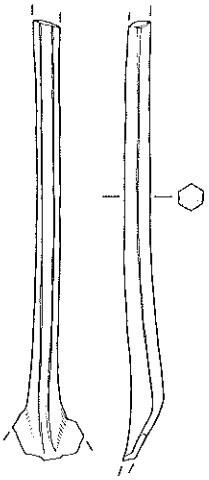

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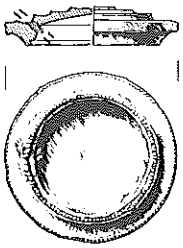

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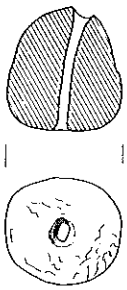

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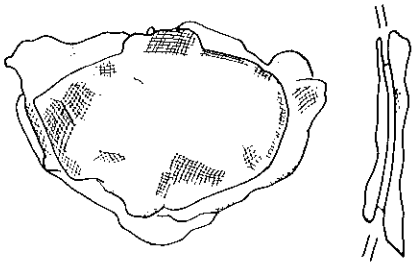

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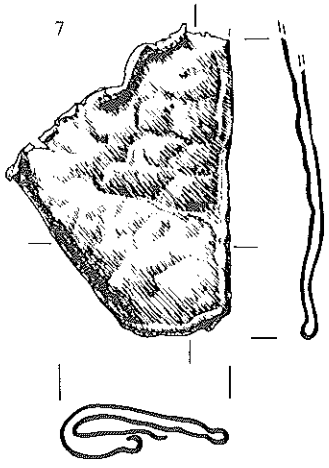

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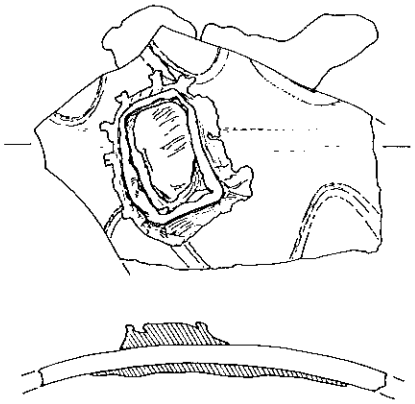

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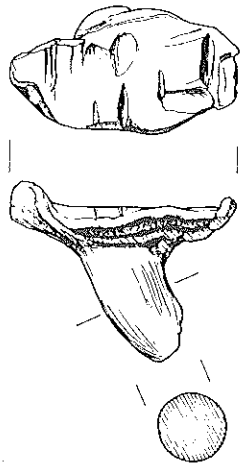

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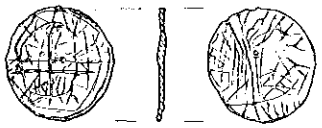

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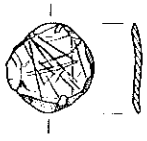

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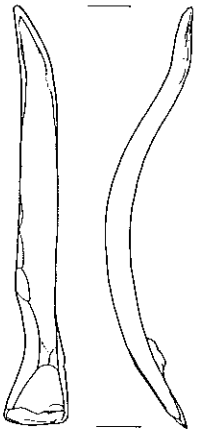

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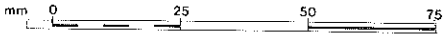


Pb17 -20 (not ill.) Lead window cames. Fragments of different sectional shapes.
Pb17 A439. House 1, Phase 5. SF1211.
Pb18 House 2, unstrat. SF387.
Pb19 A444. House 3, Phase 5. SF1508.
Pb20 Unstrat. SF876.

Pb21 -43 (not ill.) Lead sheet offcuts. Th: 1-2.5mm. in most cases. Large pieces weighed.
Pb21 A551. House 1, Phase 4C. SF1389.
Pb22 A421. House 1, Phase 4/5. SF1354.
Pb23 A(481) = 470. House 1, Phase 5. SF1289.
Pb24 A603. House 1, Phase 5. SF1505.
Pb25 A8. House 1, Phase 6Biv. SF78.
Pb26 A553. House 2, Phase 4B. SF1525.
Pb27 -8 A(244) = 144. House 2, Phase 6A-B. SF678-9.
Pb29 Wt: 115gm. A444. House 3, Phase 5. SF1478.
Pb30 Wt: 173gm. A276. House 3, Phase 6B. SF904.
Pb31 B15. House 4, Phase 6B. SF3121.
Pb32 B148. House 4, Phase 6C/?B. SF1120.
Pb33 B172. House 4, Phase 6Di. SF405.
Pb34 B(152) = 7a. House 4, Phase 6Di. SF565.
Pb35 B21. House 4, unstrat. SF620.
Pb36 B32. House 5/6, destrat. SF2098.
Pb37 C12. House 7, unstrat. SF290.
Pb38 F(128) = 19. House 8, Phase 5. SF2726.
Pb39 G39/40. House 9, destrat. SF1955.
Pb40 G13. House 9, unstrat. SF1905.
Pb41 G68. House 10, Phase 7. SF2092.
Pb42 K112. House 10, destrat. SF2740.
Pb43 N(115) = 8. Area N, Phase 4/5. SF3400.

Pb44 -51 (not ill.) Lumps and driblets (once molten).
Pb44 A576. House 1, Phase 4B. SF1451.
Pb45 A551. House 1, Phase 4C. SF1393.
Pb46 A256. House 1, Phase 5/6A. SF903.
Pb47 A(420) = 40. House 2, Phase 6Ai. SF1160.
Pb48 B144. House 5/6, Phase 4-6? SF287.
Pb49 Large lump, cut. Wt: 463gm. K187. House 10, Phase 4/?5. SF3043.
Pb50 Wt: 70gm. K188.1. House 10, Phase 5. SF3056.
Pb51 Offcut from lump. N102. Area N, Phase 3. SF3401.

THE IRON OBJECTS

by I H Goodall (Fe1-119), B Ellis (Fe120-1)
and G E Oakley (the nails)

All objects except Fe2 and the nails have been X-rayed.

Lock furniture

Fig. 116; Fe1-14

Fe1 Box padlock with T-shaped key slot, tube to seat free arm of lost U-shaped bolt and 2 holes for its paired spines (cf. Fe4). Chains were probably attached to mounts formerly located in holes in top and bottom of case, in the manner of a comparable box padlock from Hungate, York (Richardson 1959: 81-3, Fig. 18, no. 4).
L: 39mm. A140. House 1, Phase 4. SF1545.

Fe2 Shaped padlock case made of sheet metal plates brazed and held together by U-shaped binding strips and decorated on 2 sides by applied strips in the form of scrolls and strips with zig-zag. The fin and edge-set tube projecting from one side and the broken rectangular bolt entry in one end indicate that the padlock operated with a conventional U-shaped bolt similar to Fe4-6, although the semicircular case projection with key slot and hole for key tip in opposing sides imply that it was opened by a revolving key bit. There is no end keyhole to admit a conventional padlock key.
The padlock is unusually shaped although it is basically just a box padlock with an integral side expansion. The combination of separate bolt and revolving key recalls box padlocks from earlier contexts at Birka, Sweden (Arbman 1945: Taf. 273, 6a-c); although the principle was employed in some later padlocks the Northampton example is unlikely to relate to them.
L: 55mm. A(479) = 119. House 1, Phase 5. SF1317.

Fe3 Barrel padlock case strengthened by upper and lower shaped pivoting fins and by 4 rods held between the end-plates. The free arm and spine of the padlock bolt as well as the key survive within the case, but are broken as they emerge from it. A padlock of similar form and date is known from Christchurch, Hants. (Goodall forthcoming a) and some shaped pivoting fins from Winchester, Hants., (Goodall forthcoming b). The majority of these latter are from 10th and 11th century contexts, although some are later.
L: 108mm. F207. House 8, Phase 4B. SF2227.

Fe4 U-shaped padlock bolt with circular end-plate, split spine and broken leaf springs and free arm. Suggestions of decorative cylinders on top of the end-plate recall the more complex padlock bolt from Weoley Castle, Warks., (Oswald 1962-3: 129, Fig. 51, no. 2).
L: 75mm. K75. House 10, Phase 5. SF2688.

Fe5 Padlock spine and double leaf spring, both broken.
L: 57mm. C121. House 7, Phase 5. SF980.

Fe6 Padlock spine, broken, with double leaf spring.
L: 100mm. A605. House 1, Phase 5. SF1539.

Fe7 Shaped ward from lock with perforated fixing arms, one incomplete, and 2 concentric collars grouped around the inner side of the keyhole. The positioning and size of the collars determined the form of the ward cuts on the key bit.
L: 160mm (originally *c.* 180mm). B(372) = 285. House 4, Phase 6A. SF1667.

Fe8 Padlock key with broken stem and elaborate bit. Early type used with box padlock with T-shaped slot like Fe1 (Arbman 1943: Taf. 274).
L: 60mm. A462/3. House 3, destrat. SF1257.

Fe9 Key with elongated bow with decorative grooves, L-shaped bit and non-ferrous plating.
L: 120mm. K187. House 10, Phase 4/?5. SF3145.

Fe10 Key with circular plate bow and broken bit.
L: 47mm. House 2, unstrat. SF10.

Fe11 Tip of hollow key stem rolled in one with bit, which has no ward cuts.
L: 50mm. G85. House 9, Phase 5. SF2593.

Fe12 Bit and stem of key, the hollow stem with separately applied bit.
L: 31mm. B117. House 4, Phase 6A. SF475.

Fe13 Key with non-ferrous plating, solid stem and stepped bit.
L: 135mm. B170. House 4, Phase 6Di. SF360.

Fe14 Figure-8 hasp with part of supporting link.
L. of hasp: 63mm. G(56) = 44. House 9, Phase 5/6. SF2274.

Door furniture

Fig. 117; Fe15-30

Fe15 Strap hinge fragment with incomplete nailed terminal.
L: 63mm. C121. House 7, Phase 5. SF992.

Fe16 Strap hinge fragment with U-shaped hanging eye.
L: 91mm. A(242) = 235. House 1, Phase 6A. SF623.

Fe17 Strap hinge with U-shaped hanging eye, terminal bent over.
L: 136mm. B86. House 4, Phase 6Di. SF272.

Fe18 Part of U-shaped hanging eye.
L: 75mm. C(73) = 20. House 7, Phase 5. SF952.

Fe19 (not ill.) Strap hinge fragment.
L: 95mm. W:35mm. G9. House 9, Phase 6ii. SF1924.

Fe20 Broken strap hinge with U-shaped hanging eye.
L: 180mm. A46. House 2, Phase 6Bii. SF3253.

Fe21 Hinge terminal and broken strap.
L: 87mm. G71. House 10, Phase 7. SF2196.

Fe22 (not ill.) Strap hinge fragment.
L: 92mm. W: 34mm. G71. House 10, Phase 7. SF2200.

Fe23 Hinge pivot, the shank with down-turned end for setting in masonry.
L: 115mm. B(275) = 218. House 4, Phase 6A. SF755.

Fe24-30 Hinge pivots with pointed shanks for insertion into wood or walls.

Fe24 Pivot worn at base of guide arm by turning hinge.
L: 103mm. A(335) = 334. House 1, Phase 6A. SF836.

Fe25 L: 53mm. C23. House 7, Phase 6ii. SF192.

Fe26 L: 46mm. A(47) = 46. House 2, Phase 6Bii. SF3291.

Fe27 L: 77mm. A(209) = 208. House 3, Phase 6Di & ii. SF504.

Fe28 L: 70mm. B158. House 4, Phase 6Di. SF374E.

Fe29 (not ill.) Guide arm retaining stub only of shank.
L: 42mm. Diam: 9mm. A208. House 3, Phase 6Di & ii. SF495.

Fe30 L: 83mm. A141. House 2, garden. SF368.

Knives, daggers, shears

Fig. 118; Fe31-55

Fe31 Folding knife with antler scales (see WB78) decorated with rings and dots and lines and held together by 3 iron rivets. The asymmetrical blade pivots on one rivet, the second acts as a stop for it when both open and closed and the third holds one end of the handle together. Illustration omitting decoration shows knife closed (above) and open (below). The folding knife blades from Winchester, Hants., (Goodall forthcoming b) are principally from 10th- to 11th-century contexts, although a few come from later contexts.
L: 103mm. A(567) = 547. House 1, Phase 4C. SF1439.

Fe32 Dagger blade fragment, possibly pattern-welded.
L: 182mm. C123. House 7, Phase 4. SF1096.

Fe33-43 Knives with whittle tangs for insertion into handles, those complete or nearly so all having characteristic medieval blade forms. Fe34, 37, 41-3 (not ill.) are fragments of tang and blade stubs.

Fe33 L: 99mm. K177. House 10, Phase 4. SF2906.

Fe34 (not ill.) L: 44mm. K171. House 10, Phase 4. SF2834.

Fe35 L: 77mm. K187. House 10, Phase 4/?5. SF3144.

Fe36 L: 139mm. A546. House 1, Phase 4C? SF1380.

Fe37 (not ill.) L: 81mm. A(567) = 547. House 1, Phase 4C. SF1732.

Fe38 L: 120mm. G89. House 9, Phase 5. SF2382.

Fe39 L: 80mm. G111. House 10, Phase 6Aii. SF2546.

Fe40 L: 135mm. B171. House 4, Phase 6Di. SF430.

Fe41 (not ill.) L: 48mm. A225. House 2, Phase 6Bi. SF547.

Fe42 (not ill.) L: 75mm. A(7) = 5. House 1, Phase 6Biv. SF41.

Fe43 (not ill.) L: 58mm. A111. House 2, garden. SF173.

Fe44-52 Knives with scale tangs to which handles were riveted. Surviving tang ends are all shaped, those of Fe44 and 52 with copper alloy caps soldered in place and Fe50 with a nib on which an end cap was impaled. Fe44 and 47 have bone scales, Fe49 wooden scales. Non-ferrous shoulder plates were commonly placed in front of the handles of these knives: they survive on Fe46-9, and the solder which formerly held them in place is visible on Fe44 and 51. Fe44 has tubular copper alloy rivets and a larger collar near the butt; Fe45-6, 48-9 have iron rivets. Fe47 and 51 have inlaid cutlers' marks on the blades.

Fe44 L: 142mm. G107. House 10, Phase 6Aii. SF2491/2512.

Fe45 L: 200mm. A206. House 1, Phase 6Bi. SF503.

Fe46 L: 178mm. B158. House 4, Phase 6Di. SF374A.

Fe47 L: 174mm. B171. House 4, Phase 6Di. SF388/483.

Fe48 L: 95mm. B(167) = 7a. House 4, Phase 6Di. SF358.

Fe49 L: 277mm. A204. House 1, Phase 7. SF478.

Fe50 L: 68mm. A111. House 2, garden. SF177.

Fe51 L: 100mm. A111. House 2, garden. SF195.

Fe52 L: 40mm. G104. House 10, Phase 6A? SF2706.

Fe53-5 Shears, Fe53 complete.

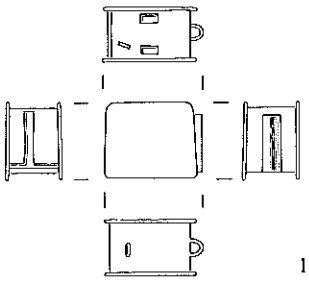
Fe53 L: 223mm. G145. House 9, Phase 5. SF2650.

Fe54 L: 253mm. A(243) = 144. House 2, Phase 6A-B. SF700/706/707.

Fe55 L: 64mm. B171. House 4, Phase 6Di. SF433.

Fig 116

Iron objects 1



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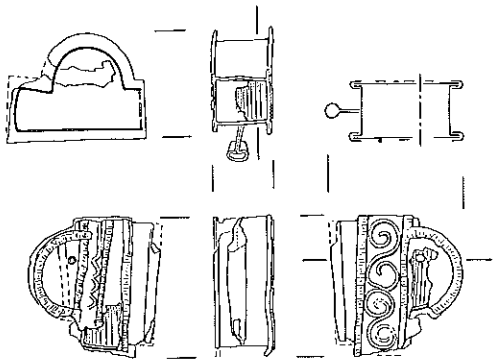

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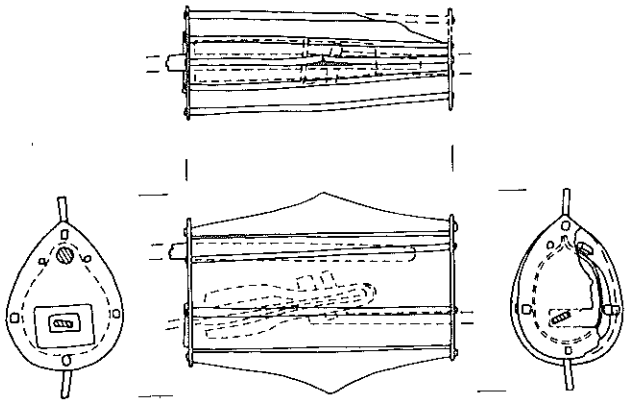

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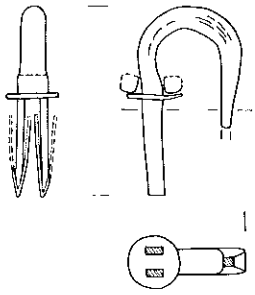

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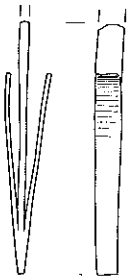

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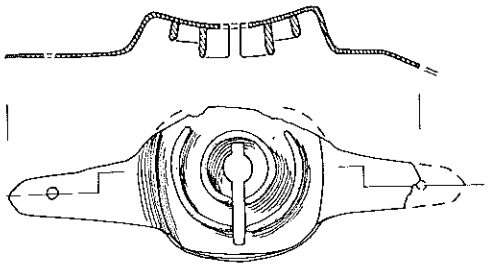

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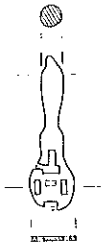

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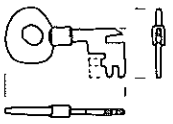

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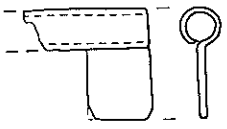

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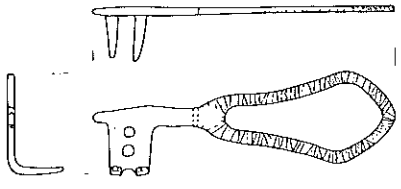

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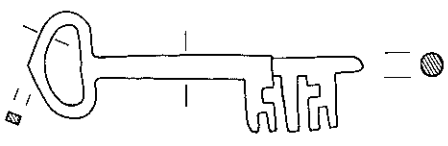

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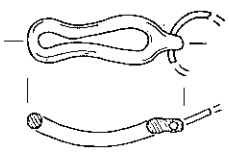

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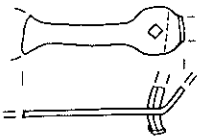
Scale 1:3

Fig 117

Iron objects 2



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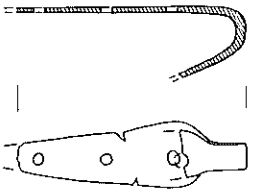

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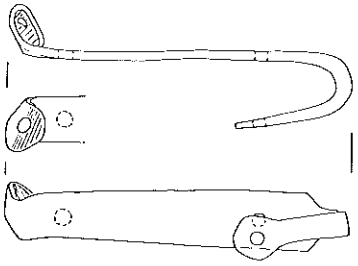

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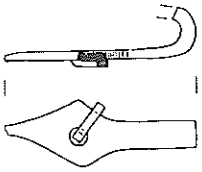

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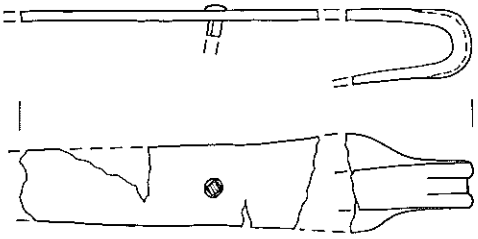

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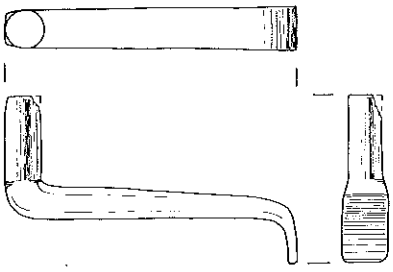

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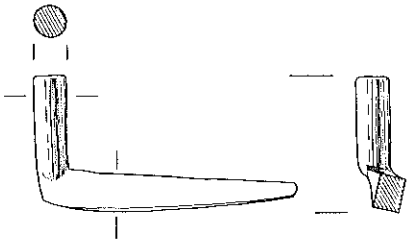

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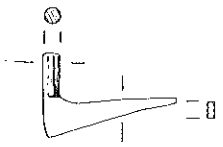

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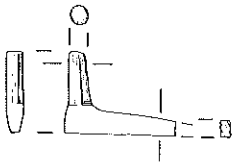

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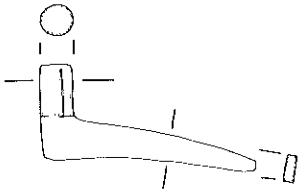

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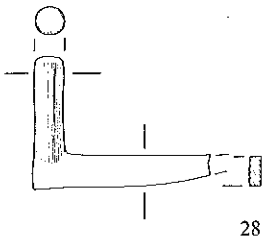

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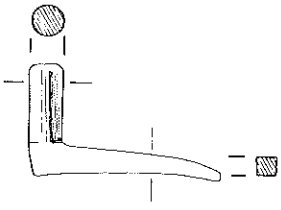

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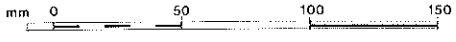
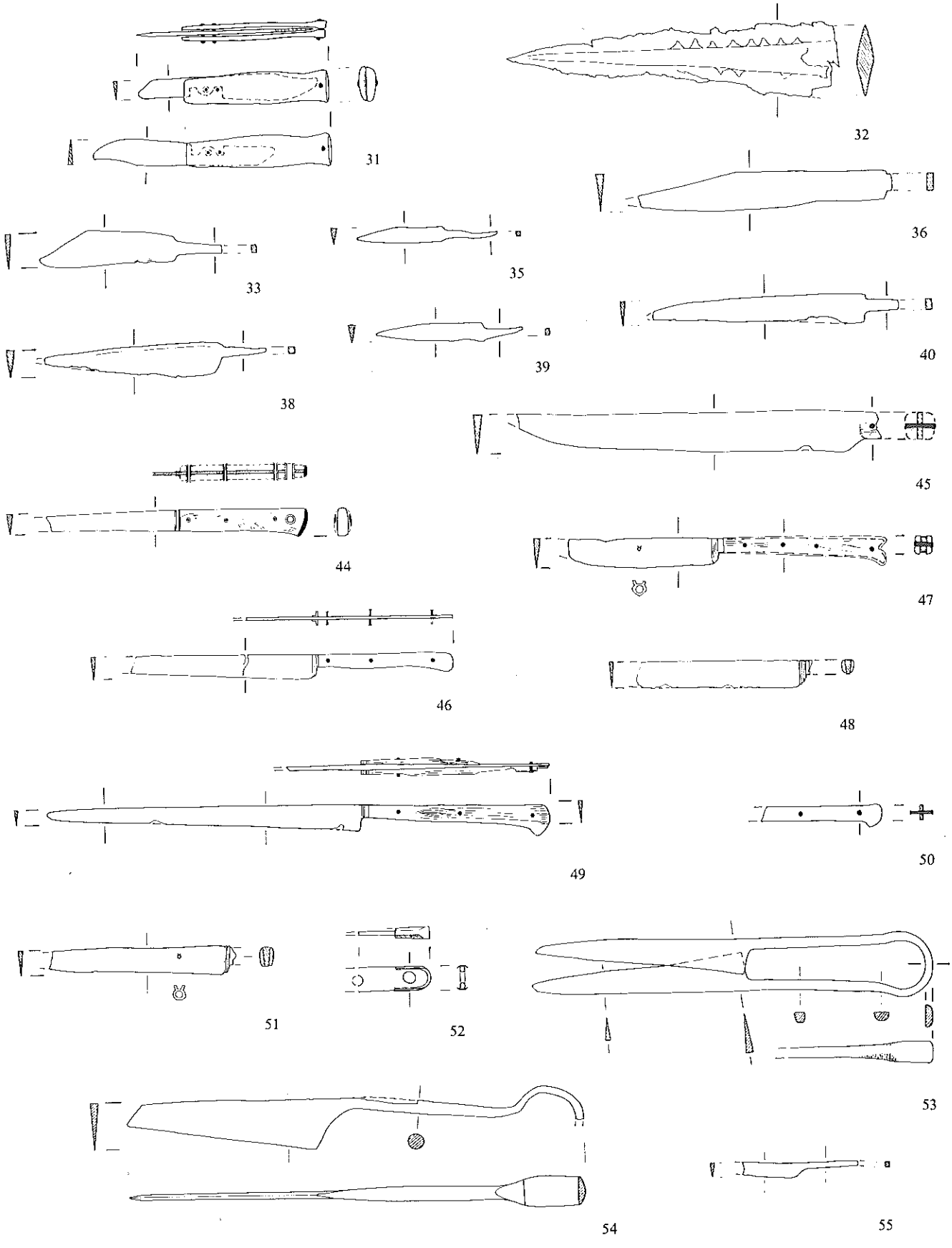


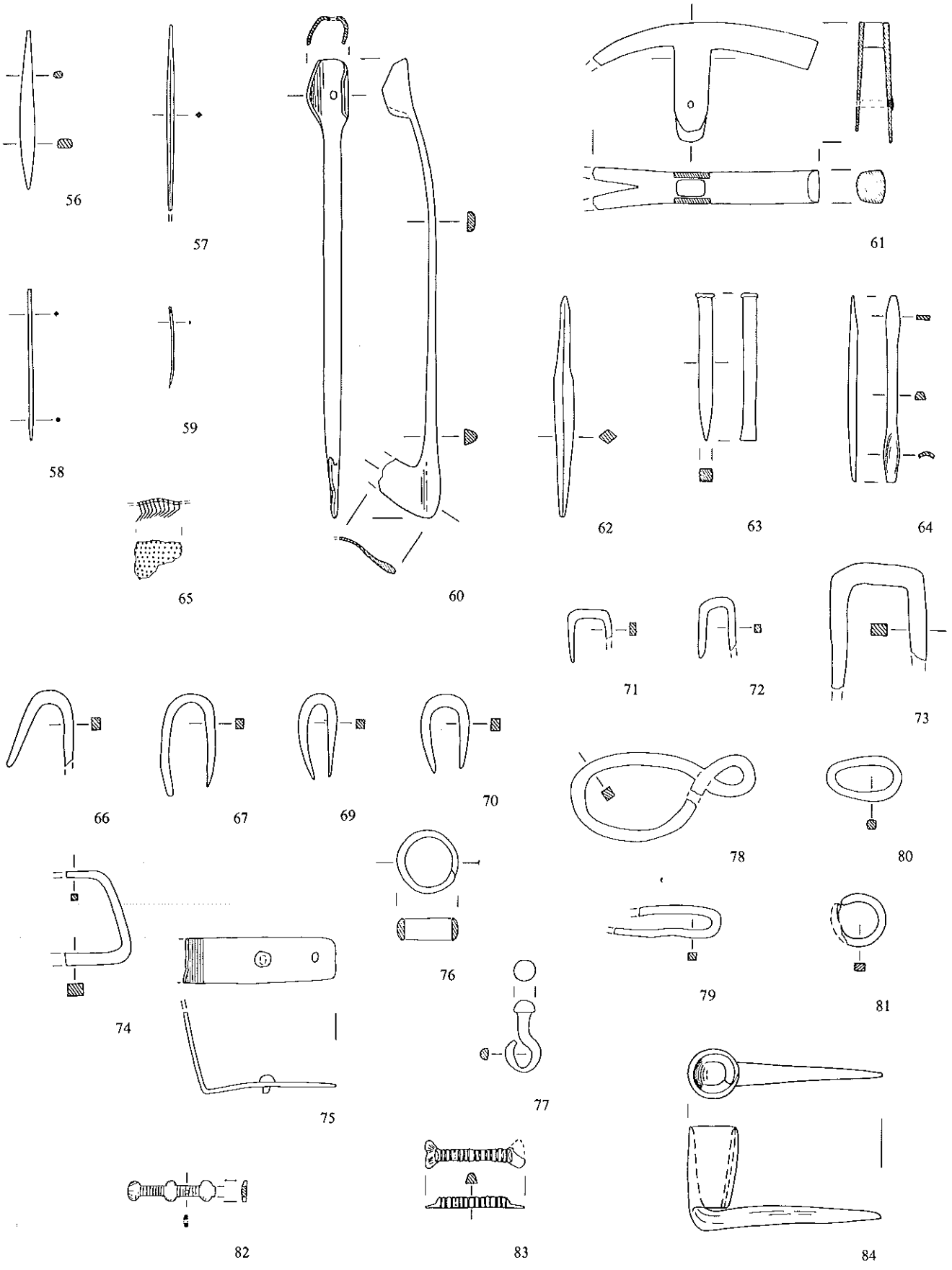
Fig 118

Iron objects 3



Iron objects 4

Fig 119



Scale 1:3

mm 0 50 100 150

Tools

Fig. 119; Fe56-65

Fe56 -8 Awls.

Fe56 L: 87mm. C123. House 7, Phase 4. SF1092.
Fe57 L: 103mm. B171. House 4, Phase 6Di. SF603.
Fe58 L: 83mm. A(66) = 64. House 3, Phase 6Diii. SF397.

Fe59 Needle with eye.
L: 45mm. A(486) = 484. House 1, Phase 5. SF1560.

Fe60 Object with blade, long stem and flanged socket with nailhole.
L: 253mm. A144. House 2, Phase 6A-B. SF399.

Fe61 Claw hammer-head, the elongated lugs with opposed holes for a nail through the shaft.
L: 123mm. B171. House 4, Phase 6Di. SF474.

Fe62 Reamer.
L: 122mm. G48. House 9, Phase 6i. SF1975.

Fe63 Small chisel with burred head.
L: 80mm. B171. House 4, Phase 6Di. SF477.

Fe64 Spoon bit.
L: 103mm. A100. House 3, garden. SF213.

Fe65 Several fragments of a wire brush, largest illustrated. L-shaped teeth set in a slender backing sheet probably of leather, but now impregnated with rust. Possibly used in carding.
L. of teeth: 12mm(bent); Th: *c.* 0.7mm. G69. House 10, Phase 7. SF2158.

Structural objects and miscellaneous fittings

Figs. 119-20; Fe66-86

Fe66 -70 U-shaped staples, Fe68 broken.

Fe66 L: 45mm. A557. House 1, Phase 5. SF1447.
Fe67 L: 56mm. G92. House 9, Phase 5. SF2553.
Fe68 (not ill.) L: 33mm. W: 35mm. A436. House 1, Phase 5. SF1277.
Fe69 L: 47mm. A(243) = 144. House 2, Phase 6A-B. SF808.
Fe70 L: 48mm. A(222) = 193. House 3, garden. SF839.

Fe71 -3 Flat-headed staples, all broken.

Fe71 L: 30mm. B(234) = 218. House 4, Phase 6A-B. SF829.
Fe72 L: 34mm. B85. House 4, Phase 6Di. SF1590.
Fe73 L: 69mm. C30. House 7, Phase 6iii. SF231.

Fe74 Wallhook with horizontal, ferrified wood graining on both sides.
L: 52mm. House 8, unstrat. SF2549.

Fe75 Corner strap, broken.
L: 72mm. (K33) = G77. House 10, Phase 6B/C. SF2682.

Fe76 Circular collar.
Diam: 35mm. A247. House 3, garden. SF697.

Fe77 Swivel hook.
L: 40mm. C(102) = 6. House 7, Phase 6i. SF1603.

Fe78 -80 Links.

Fe78 L: 100mm. K175. House 10, Phase 4. SF2887.
Fe79 L: 57mm. B(165) = 117. House 4, Phase 6A. SF514.
Fe80 L: 41mm. A(230) = 229. House 2, garden. SF786.

Fe81 Ring with butted ends.
Diam: 29mm. G21/33. House 10, Phase post-7. SF2006.

Fe82 Broken length of decorated binding strip with non-ferrous plating.
L: 48mm. A(662) = 553. House 2, Phase 4B. SF1556.

Fe83 Mount with decorative grooves, flattened incomplete terminals and non-ferrous plating.
L: 55mm. L28. SF2453.

Fe84 Candleholder, the socket set at right angles to the shank.
L: 105mm. B19. House 4, Phase 6Di. SF267.

Fe85 Trivet with upper part of one leg surviving.
L. of side: 293mm. G85. House 9, Phase 5. SF2656.

Fe86 Ferrule with nail and traces of wood in socket.
L: 88mm. A177. House 1, Phase 6Bi. SF421.

Arrowheads

Fig. 120; Fe87-9

Fe87 -89 Three socketed arrowheads, Fe89 with remains of wood, identified as oak (W16), in the socket. All medieval.

Fe87 L: 82mm. A404. House 3, garden. SF1244.
Fe88 L: 42mm. A100. House 3, garden. SF152.
Fe89 L: 76mm. A(222) = 193. House 3, garden. SF900.

Buckles and belt fittings

Fig. 120; Fe90-103

Fe90 -103 A wide range of buckle types, personal, from harness and from shoes, is represented. The pins of Fe90 and 98 rest against sheet metal cylinders; Fe96 has a swivelling bar against which the pin formerly rested. Fe91 and 95 are buckle pins. The belt slide, Fe102, which has decoration and non-ferrous plating, was used in conjunction with a buckle and plate in the manner of an example from Balladoole, Isle of Man (Bersu and Wilson 1966: 36-7, Fig. 26, Pl. VII, D). Fe92 and 101 have non-ferrous plating.

Fe90 L: 117mm. B285. House 4, Phase 6A. SF1724.
Fe91 L: 64mm. B97. House 4, Phase 6Di. SF400.
Fe92 Diam: 16.5mm. B166. House 4, Phase 6Di. SF367.
Fe93 L: 65mm. B171. House 4, Phase 6Di. SF413.
Fe94 L: 12mm. B(262) = 7b. House 4, Phase 6Di. SF725.
Fe95 L: 56mm. A100. House 3, garden. SF141.
Fe96 L: 45mm. A141. House 2, garden. SF597.
Fe97 L: 45mm. C63. House 7, Phase 7. SF968.
Fe98 L: 55mm. C63. House 7, Phase 7. SF967.
Fe99 L: 25.5mm. C(205) = 63. House 7, Phase 7. SF3232.
Fe100 L: 39mm. K28. House 10, Phase 7. SF2568.
Fe101 L: 45mm. G21. House 10, Phase 7. SF1967.
Fe102 L: 56.5mm. A45. House 2, destrat. SF525.
Fe103 L: 51mm. B(268) = 218. House 4, Phase 6A. SF799.

Horseshoes and horse furniture

Fig. 121; Fe104-21

Fe104 -16 Horseshoes. Fe104-7 are of early medieval type with countersunk nailholes. Fe107 is the most complete, although residual in its context. Fe104-6 (not ill.) are all arm tips with calkins. Fe108-16 are of the later type with rectangular nailholes and plain edges. The most complete are Fe108, 110, 114-6; the others are arm fragments with nailholes.

Fe104 (not ill.) A566. House 3, garden. SF1435.
Fe105 (not ill.) G165. House 9, garden. SF2715.
Fe106 (not ill.) A344. House 3, garden. SF831.
Fe107 L: 85mm. G(14) = 11. House 9, Phase 6i. SF2774.
Fe108 L: 119mm. B285. House 4, Phase 6A. SF1718.
Fe109 (not ill.) B(286) = 218. House 4, Phase 6A. SF801.
Fe110 L: 82mm. G9. House 9, Phase 6ii. SF1883.
Fe111 (not ill.) B171. House 4, Phase 6Di. SF602.
Fe112 (not ill.) A25. House 1, Phase 6Bi. SF455.
Fe113 (not ill.) B19. House 4, Phase 6Di. SF1591.
Fe114 L: 83mm. A141. House 2, garden. SF377.
Fe115 L: 101mm. G68. House 10, Phase 7. SF2097.
Fe116 L: 97mm. G(105) = 77. House 10, Phase 6B/C. SF2717.

Fe117 Bridle boss with recessed crescents and an oval in the dome and rivets and holes in the flange.
Diam: 80mm. B158. House 4, Phase 6Di. SF374C.

Fe118 Shackle from curb bit.
L: 91mm. A100. House 2, garden. SF125.

Fe119 Link from mouthpiece of bit.
L: 80mm. A476. House 1/2, destrat. SF1325.

Fe120 -1 Spur and buckle.

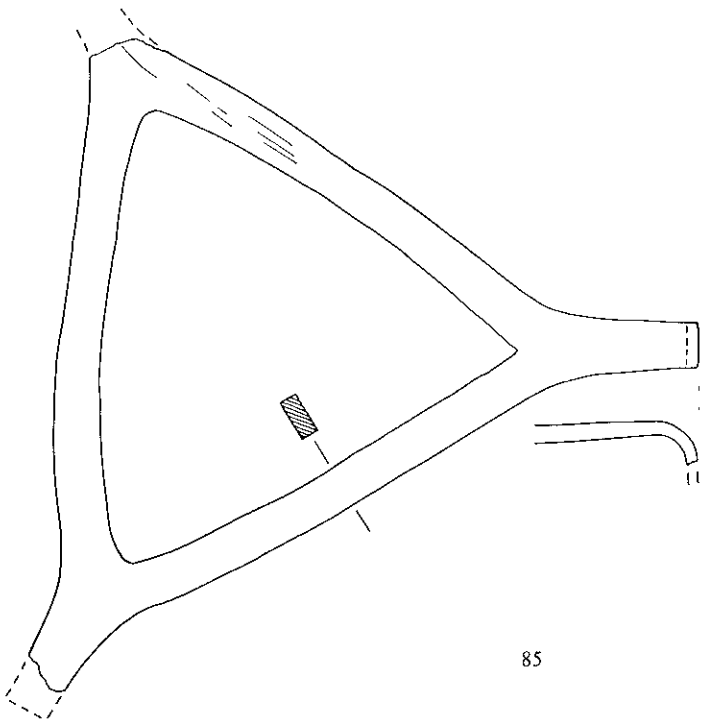
Fe120 Prick spur of Late Saxon type. Long straight sides with one remaining horizontal terminal and a short straight neck from the end of which projects a small spike. X-radiographs show the terminal to have been pierced with a horizontal slot and suggest the thickness of a turned back forward edge such as is often seen on contemporary spur terminals (Waterman 1959: Fig. 25, no. 8; Jope 1956: 39, Fig. 13, nos. 3-5). What appears to be a small bar lies diagonally across the terminal and is probably part of a simple attachment for the leather strap. A small circle surrounded by non-ferrous traces at the centre of the strap end aligns with one end of the diagonal bar.

A horizontal line of 10 circles of non-ferrous inlay observed along one arm is broadly similar to the decoration on the buckle Fe121 which therefore seems likely to have belonged to the spur.
L: *c.* 155mm. C(145) = 144. House 7, Phase 4. SF1691.

Fe121 D-shaped buckle decorated with a pattern of small circles of non-ferrous inlay and buckle pin. Below these is an indeterminable piece of iron, perhaps the plates of a strap end, and a second loop, undecorated but of similar size to the first and projecting at an angle from near its base. The similarity of decoration on both spur and buckle and their proximity when found suggest that they belong together.
W: 29mm. C(145) = 144. House 7, Phase 4. SF1692.

Fig 120

Iron objects 5



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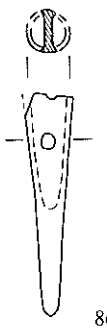

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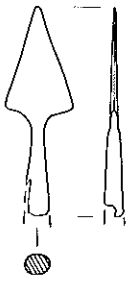

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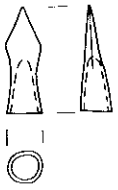

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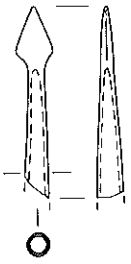

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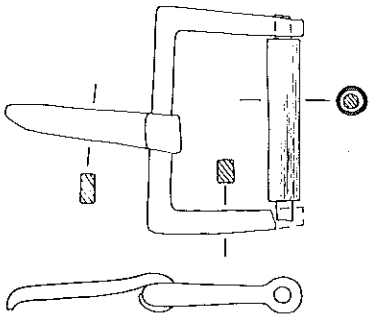

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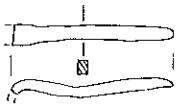

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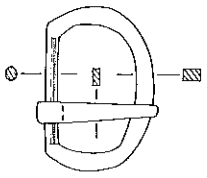

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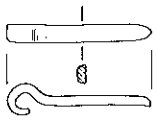

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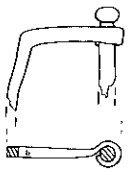

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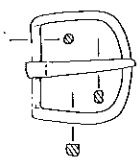

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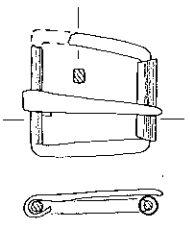

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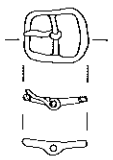

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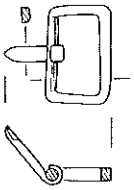

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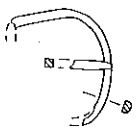

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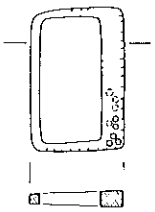

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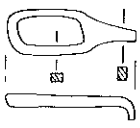

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Scale 1:3

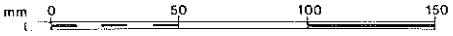
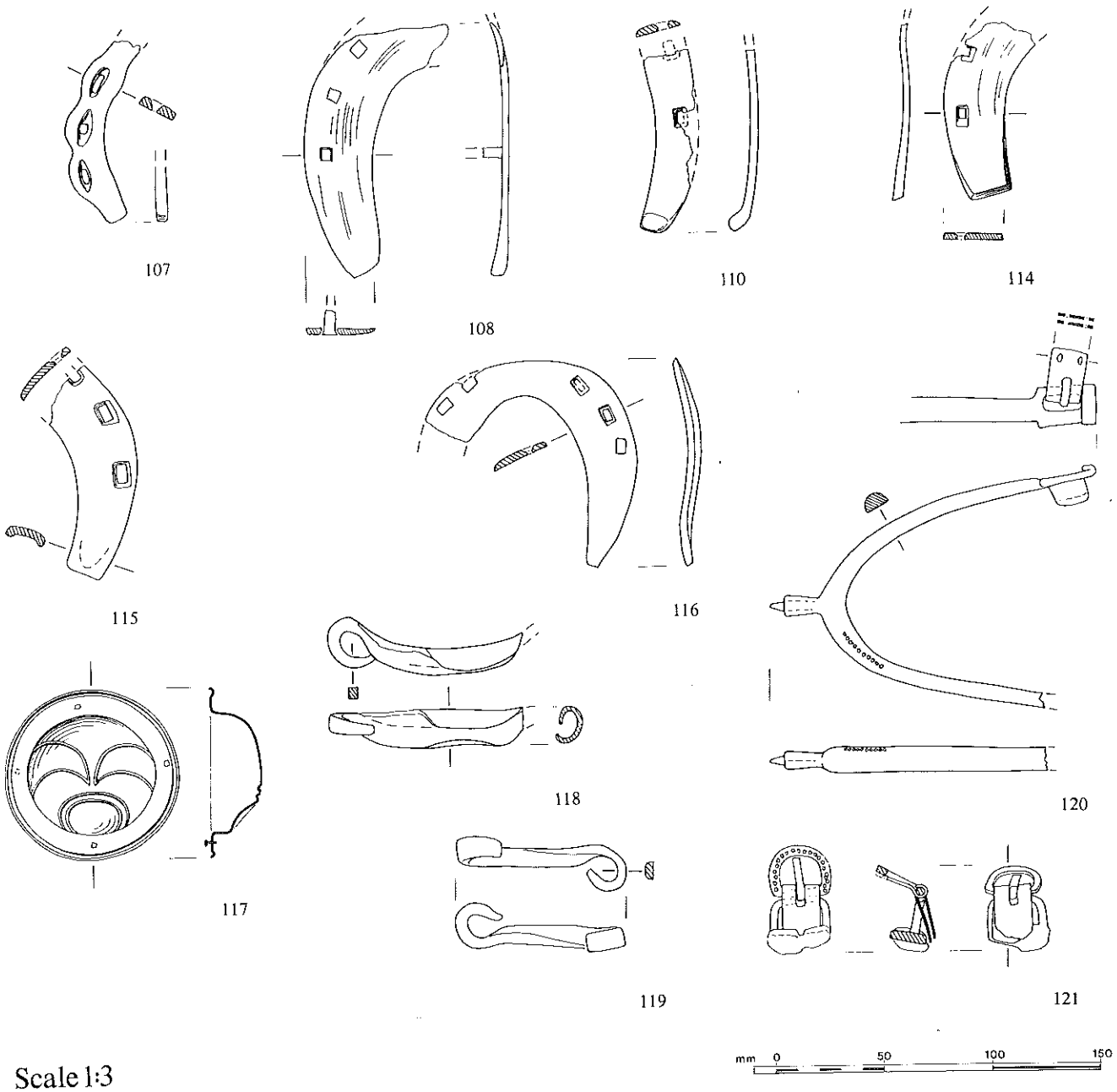


Fig 121

Iron objects 6



The iron nails

Fig. 122

993 iron nails were found. Most were too corroded to survive cleaning and many distorted by iron concretions. Ten types of head were distinguished by visual inspection. 9% were not classifiable because of corrosion and 14% had lost their heads. All had tapering shafts of rectangular section; these were graded into narrow (N: less than 3mm), medium (M: 3-5mm) and thick (T: greater than 5mm). Lengths of complete nails were recorded. Fig 122d shows the length distribution of each type listed below. Where this does not differ between grades of shaft the data are combined. The total number of nails and the proportions of shaft grades within each type are shown in Fig. 122a and the chronological range of types in Fig. 122b.

Nails are grouped into five period groups indicated on the figures comprising:

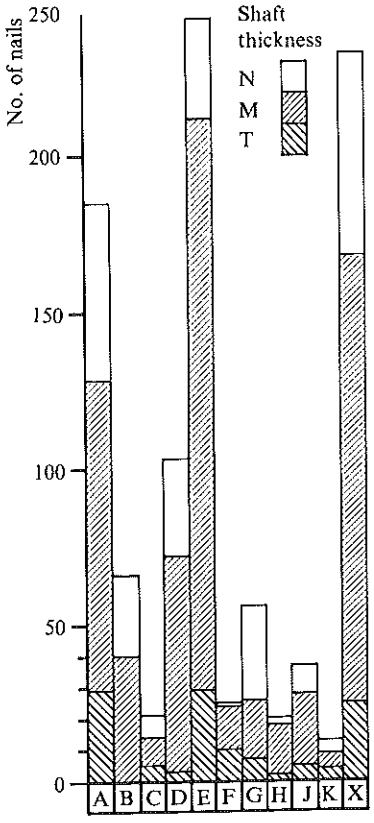
Group 1 up to 900
Group 2 900-1100
Group 3 1100-1400
Group 4 1400-1500
Group 5 1500-1650

The numbers of nails from each house (Fig. 122c) must reflect the extent of investigation as well as the state of preservation of deposits of various periods. Thus data for Group 5 comes exclusively from House 10 and less closely dated finds from House 7 are excluded. House 3 has a high proportion of ungrouped finds from the poorly stratified back yard. House 4 has more Group 4 nails because of the greater extent of buildings and stratified deposits. Group 2 nails broadly match the areas of Late Saxon activity indicated by other finds.

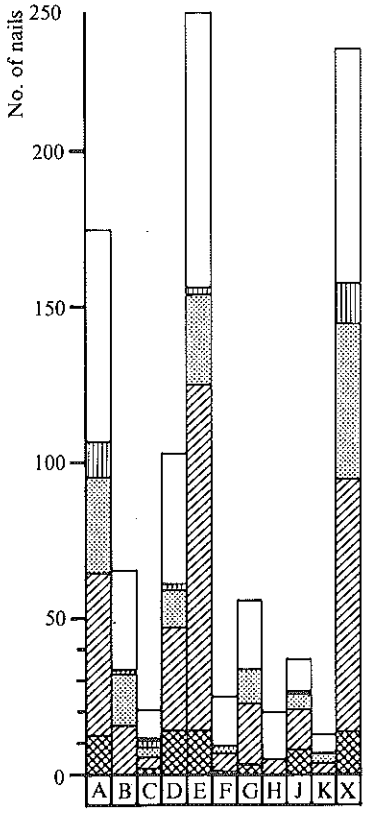
The distribution of nail types between houses (Table 27) is not marked by concentrations which might suggest either manufacture or another localised activity (such as shoeing of horses). The proportion of bent nails from each house is also fairly constant and may be taken as an indication that the nails were used and not newly made.

Fig 122

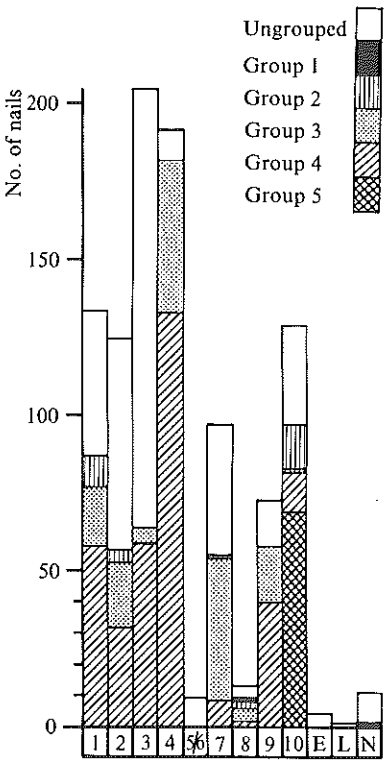
Iron nails



a) Numbers of different nail types and shaft thicknesses

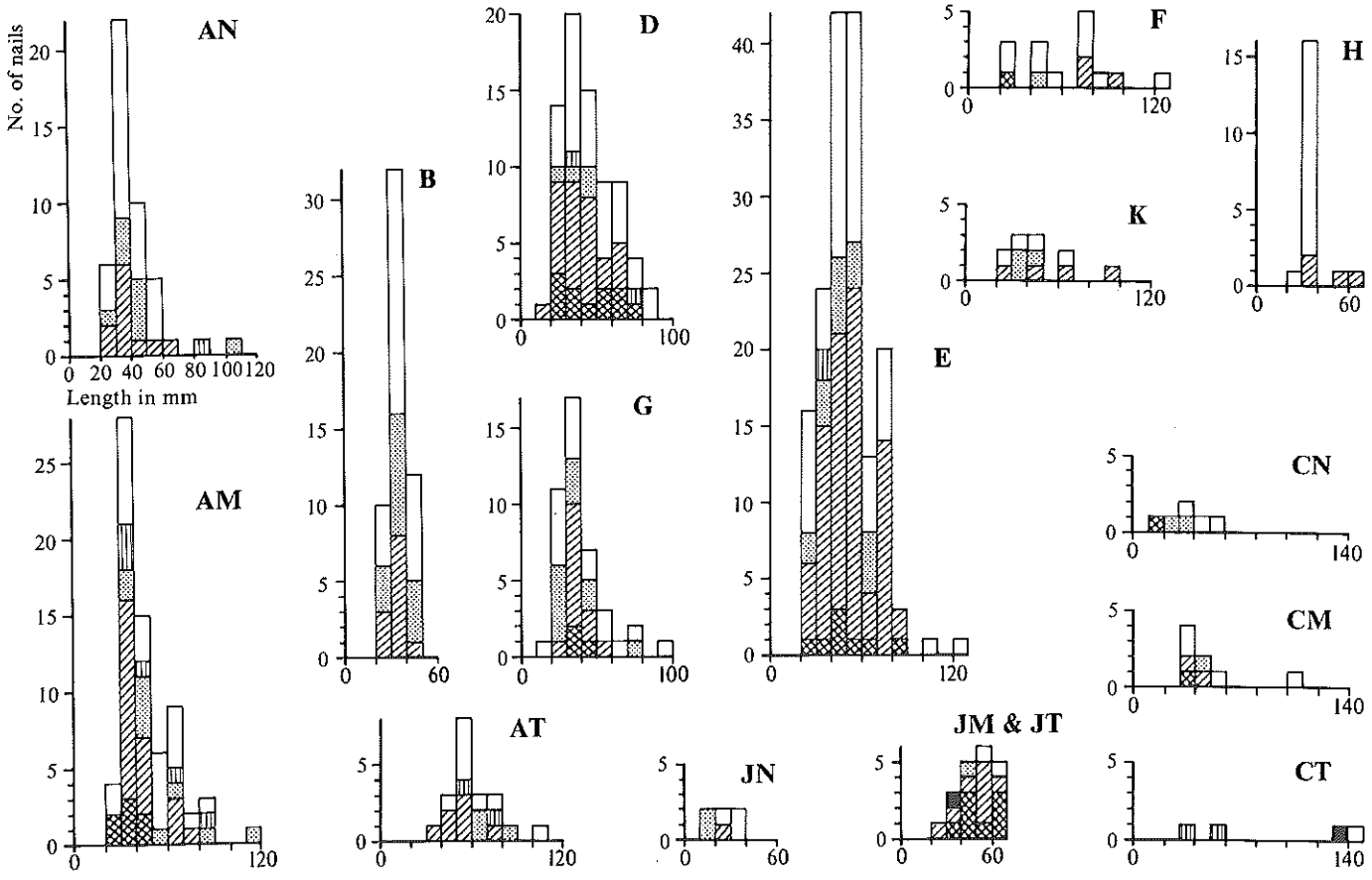


b) Numbers of nail types in period groups



c) Numbers of nail types per house, in period groups

d) Lengths of complete nails in period groups (key as b/c above)



Nail head types (range of head size in brackets)

A Minimal, e.g. shaft pinched flat or very slightly expanded. (Could include unfinished nails waiting to be 'headed'.)
B 'Fiddle-key' shape. Used with horse-shoes, cf. King's Lynn (Clarke and Carter 1977: Fig. 134, no. 41). (Head L: 13-15mm; W: 3-5mm; D: 8-10mm.)
C Circular, flat. (Head diam: CN 7-12mm; CM 10-12mm; CT 16-26mm.)
D Small rectangular, less than 10mm.
E Large recto-oval, thin and flat, greater than 10mm. Head L:W ratio 1.2:1 (Head L: 12-25mm, mean L: EN 14mm; EM 15mm; ET 19mm.)
F Large thick rectangular. (Head L: FM 9-20mm; FT 12-27mm.)
G T-shaped. Head W = shaft W. (Head L: GN and GM 8-16mm; GT 11-25mm.)
H Pyramid. Head 7mm square.
J Circular, domed. (Diam: 10-23mm.)
K Elongated recto-oval, flat. Head L:W ratio greater than 1.8:1. (Head L: KN 14-19mm; KM 16-25mm; KT 35-40mm.)
X Indeterminate because of corrosion, or missing.

Conclusions

Type B is not surprisingly confined to Groups 3 and 4. This type was used in medieval horse-shoes with wavy outline and was probably superseded by type G. Type H, restricted to House 3, is probably late medieval. Type E clearly predominates in Groups 3 and 4. Unusually large and heavy heads such as types F and K must indicate a special purpose. Type AN would be suitable for panelling where the head is not required to show but the uses of AM and AT are not immediately obvious. Large-headed studs such as CT and JT, notable in Groups 1 and 2, must be decorative, perhaps from doors or furniture, but lengths up to 145mm show that thick timbers were employed.

Nails of any type are rare in Groups 1 and 2. Group 4 nails outnumber those of Group 3 though the earlier period is longer. This must indicate greater use of nails for all structural purposes in the late medieval period. Where wooden pegs were formerly used nails were increasingly employed instead.

Table 27 Distribution of nail types (in houses)

Nail Type	House 1	2	3	4	5/6	7	8	9	10	F	L	N	Total
A	24	27	33	29	2	18	1	16	22	1	1	1	175
B	7	11	22	12		5	3	5	1				66
C	2	2	4	1		3	1		6	1		1	21
D	14	6	21	15		18		9	19			1	103
E	36	30	46	69	3	11	1	17	26			5	244
F	3	6	5	5		4			2				25
G	6	5	13	8	1	7		9	6	1			56
H			20										20
J	4	3	2	7	1	4	1	5	10				37
K	3	1	3	2		1	1	1	1				13
X	35	34	36	44	2	26	5	11	36	1		3	233
Total	134	125	205	192	9	97	13	73	129	4	1	11	993
Bent	39	28	50	44	1	18	1	35	37	3		3	

THE METALLURGICAL REMAINS

by H F Cleere

The metallurgical evidence from the St Peter's Street site is of two types: slag and other refuse materials, and structures associated with metallurgical operations.

Slags

The slags can be classified as follows:

1 Iron-smelting residues — primary (tap slag)
— secondary (furnace bottoms, cinder)
2 Iron-working residues — forging slags
— hammer scale
3 Copper-alloy (bronze) melting slag

In addition, some fragments of hard-baked clay furnace lining with closely adherent slag were found.

Primary and secondary smelting slag

Primary and secondary smelting slag occurred all over the site and in most periods. The earliest tap slag and furnace bottom (*c.* 1.5kg in all) came from Middle Saxon levels associated with mortar mixers 1 and 2 in House 8 (F(276) = 56 and F(282) = 56). Middle Saxon slag was also found in House 2 (A759).

Another major concentration (*c.* 1kg) was found in levels associated with the Late Saxon furnace A460 in House 1 (A460, (614) = 460, (633) = 460, 459, (628) = 459, (630) = 459, 644 and 574). It was noticeable that the particle size of the tap slag in this area was small, rarely exceeding some $1cm^3$. Tap slag also occurred in a number of secondary contexts in the proximity of furnace A460 (e.g. A(561) = 82, 119, (479) = 119, (523) = 119, 120, (489) = 120, (491) = 120, 140, 256, (260) = 256, (359) = 256, (577) = 385, 391, 407, 418, 421, 436, 437, 439, 492, (494) = 487, 541, 543, 550, 551, 623, 698).

By contrast, very little tap slag came from Houses 2, 3 and 4 but tap slag and furnace bottom was found in Late Saxon levels in House 7 (B(367) = 327, C123; possible secondary deposits are B(359) = 340 and C123).

House 8 was very productive of iron-smelting residues, but here the proportion of tap slag was smaller and the proportion of cinder or furnace bottom was greater than in House 1. The largest amount of material came from the Late Saxon pit F70 (10.13kg) and contemporary features such as pits F79 (0.4kg), F207 (2.2kg), F202 (1.03kg) and F259 (1.48kg). A considerable amount of this class of material was found on the probably post-Conquest road surface F19 (8.73kg) and was also used for road metalling in the 15th century (F122). This would appear to be secondary re-use of refuse from an earlier period.

Late Saxon contexts in House 9 (G147, 148 and 259) and House 10 (K23, 160, 187, 188) again produced tap slag and furnace bottom.

Forging slag and hammer scale

Forging slag and hammer scale were less common on the site. There was some from the area of furnace A460 (House 1) and perhaps associated with it, especially in A421, and a sprinkle in Houses 2 and 3. Late Saxon levels in House 8 produced virtually none, although some appeared in later layers in this area (e.g. F32, 122, 19). The process of working up the raw bloom involved forging, and so the presence of iron-working residue does not necessarily imply the existence of smithing for the production of artefacts.

The largest concentration was found in the area of Grubenhaus 4 (House 7) in Saxo-Norman (B(359) = 340), post-Conquest (C121) and later levels ((B326) = C20, C(109) = 20).

Bronze melting slag

Bronze melting slag occurred primarily in medieval layers in House 4 (B(73) = 7a, (192) = 7b, (253) = 96, 198, (356) = 355, (428) = 187) and 7 ((B326) = C20, C(73) = 20 and unstrat) with single specimens from House 5 (unstrat) and House 10 (G(33) = 21).

Structures

Figs. 10 and 43; Pl. 3

The furnace in House 1 (A460) is somewhat difficult to interpret from the fragmentary remains. It is clearly an above-ground structure, the hearth being represented by the area of intense burning, where the clay has been turned by heat to a blue-grey colour. The internal diameter of the furnace was about 250mm. Only the bases of the walls survive at hearth level, represented by the areas of burnt white clay, 150-250mm wide, that surround the hearth.

There is no indication from what remains as to whether this furnace was of the slag-tapping B.1 or non-slag-tapping A.2 type (Cleere 1972), although the large ironstone block lying across the hearth may represent the collapsed top of a slag arch, as found at the Holbeanwood (Sussex) Roman furnace (Cleere 1970). This would tend to support the view that this was a slag-tapping furnace of the shaft type (B.1.i in Cleere's classification), and is therefore comparable with one of the very few Late Saxon iron-smelting furnaces known, that from Ramsbury (Wilts) (pers. comm., Mr J Haslam). The associated smelting refuse is consistent with the operation of this type of furnace: in addition to the tap slag, there is some cinder (i.e. slag that collected at the hearth level and solidified slowly, entraining with it charcoal and ore), some of it retaining the shallow concave profile of the hearth ('furnace bottom'). The small size of the tap slag is an unusual feature: it may conceivably result from the use of water for rapid cooling of the tapped slag, to permit swift removal, which would cause violent shattering.

Pit F70 (House 8) is more difficult to interpret. The red burnt clay immediately above the slag level represents considerable heating, and it is overlaid by a deep ash layer, whilst there are other layers of burning higher up the filling and much charcoal. This would certainly seem to imply that the pit was used to hold a fire for a considerable period. However, the absence of slag in these layers suggests that the pit was not used for any metallurgical purpose. The 10.13kg of slag from this pit all came from the layer immediately underlying the heavily burnt clay layer. It may be, of course, that this was set on the lowest level of filling to provide a base for a hearth, though it is not easy to understand why this was done. If the pit was originally dug for a non-metallurgical purpose, there is no evidence that it was subsequently used in connection with metallurgical processes. There may conceivably be another explanation. The non-slag-tapping furnace has a largely eastern distribution in Europe—from the Burgenland through Bohemia into Poland and thence slowly eastwards through Pomerania into Schleswig-Holstein (Pleiner 1964: map facing p. 86: 'Ofen mit Schlackenklotz'). The most notable feature of this general type of furnace is the deep pit in which the slag collected to form a slag lump (Schlackenklotz), the iron bloom forming above this at ground level. This type of furnace was used only once, since the shaft had to be broken down to remove the bloom; the slag was generally left in the pit, although occasionally it was removed. This type of furnace was used very widely in the Holy Cross Mountains of southern Poland, where many thousands of such Schlackenklötze have been found still *in situ* (Bielenin 1974). The nearest examples of this type of furnace to Britain came from Drengsted in southern Denmark (Voss 1962). However, Schlackenklötze are known from Britain: there is one in the Castle Museum, Norwich, and two have been found in a Middle Saxon context at Mucking (pers. comm., Mrs M U Jones). The Polish furnaces go through to at least the 5th century AD, but Bielenin (1974: 263) hints that iron-making continued in the Holy Cross Mountains during the Early Middle Ages, presumably using furnaces of this type. The Drengsted furnaces are dated to AD 200-500 (Voss 1973: 57).

The slag pits of Polish and Danish furnaces are no more than 0.50m in diameter, but Voss (1973: 58) quotes a base diameter of a Schlackenklotz from Snorup, West Jutland, of 0.60m, and points out that the slag pit tends to become enlarged during smelting; removal of the slag would result in further enlargement. it is conceivable that furnace sizes had increased by the 9th-10th century by some 50%, and that pit F70 may represent remains of a furnace of this type, possibly operated by a Danish iron-maker during the occupation of Northampton, before it was recaptured by Edward in 917. This interpretation is strengthened by the small offset to the pit near the surface: this is at precisely the location where a tuyère would be expected, for blowing the charge in the now vanished superstructure. The small proportion of tap slag (which would not be produced by this type of furnace) and the large amount of cinder (which would be expected in parts of both superstructure and slag pit) lend further support to this hypothesis. This, of course, leaves open the interpretation of the subsequent filling, once the Schlackenklotz had been removed. The absence of slag must mean that the use was not associated with metallurgy.

Summary

There is slight evidence of Middle Saxon iron-working on the site, with slag in Houses 2 and 8. However, the first structure used for iron-making is Late Saxon, dating perhaps to the first decades of the 10th century (F70): a Danish origin for this should not be completely ruled out.

The western area of the site may well have formed a single metal-working complex in the early 10th century. Pits of possibly similar date at the east end of the site are grouped around the Grubenhäuser although little slag was found in the Grubenhäuser themselves. How the Grubenhäuser related to the western complex is unclear and thus the significance of the slag in Houses 7, 9 and 10 in respect of the western complex is also uncertain (see above p. 140). A possible non-slag-tapping furnace (F70), perhaps indicative of a Danish presence, lay to the south of one of slag-tapping type (A460). Certainly the iron-working debris in the western portion of the site appears to be all archaeologically contemporary but it is not possible to give this activity a precise date within the early 10th century (see above p. 141).

The spread of slag into post-Conquest and medieval layers was doubtless the result of continual disturbance. There is a generous distribution of slag from the western iron-making complex over the whole excavated area, but this was partly accidental and partly, no doubt, deliberate, since bloomery slag is an excellent metalling and would have been dug out for this purpose.

The only other metallurgical activity on the site was associated with House 4 in the 15th century, where a small amount of bronze melting slag was found.

THE HONES

by D T Moore and G E Oakley

Classification of hones by rock type

Fig. 123

Although many natural stones can be used for honing metal tools, some are very much superior to others in their honing properties and accordingly were more widely traded. A good natural sharpening stone consists of a hard mineral, commonly quartz or garnet, set in a softer matrix. The hard mineral grains are almost always angular in shape, whilst the softer matrix in which they are set is frequently micaceous or calcite-bearing. The action of honing involves the hard mineral tearing metal from the blade being honed.

Modern (20th century) sharpening stones are almost all artificial but natural stone is used in archaeological contexts.

The whetstones from St Peter's Street have been examined petrographically and are divided into three types and one miscellaneous group following the classification by Ellis (1969) and Moore (1978). The full petrological descriptions are to be found in the site archive.

Ellis type IA(1): the Norwegian Ragstone

This stone is a fine-grained well lineated schist with a good cleavage. The exact quarry where the hones were obtained is well known and lies near Eidsborg, Telemark, Norway (Ellis 1969; Falck-Muus 1922). Petrologically the rock is a quartz-muscovite-biotite-calcite-chlorite-ore schist. Where accessory minerals are present they are usually zircon and tourmaline.

Initially the honestones are probably all shaped by cleaving them from a quarried block, as in H4, but thereafter the rough mullions (the rods so produced) are either carefully fashioned into shapes, as seen in H3, or shaped accidentally by wear during honing, as in H13. Frequently the mullions of schist wear thin and break with constant use.

Catalogue

H1 Complete hone worn on all sides with 2 point-sharpening grooves on one edge. Not sectioned.
L: 130mm. K187. House 10, Phase 4/?5. SF3042.

H2 (not ill.) Small pierced hone tapering towards hole. Both ends broken. Most wear on wide faces, one 'glazed'.
L: 38mm; W: 17mm; Th: 8mm. F245. House 8, Phase 4/5. SF2264.

H3 Well-fashioned slim pierced hone, worn on all sides.
L: 108mm. B(378) = 363. House 4, Phase 4/5. SF1761.

H4 Cleaved but non-fashioned mullion worn only on 2 narrow edges.
L: 303mm. A436. House 1, Phase 5. SF1242.

H5 (not ill.) Banded fragment, broken both ends, worn on 3 sides, rectangular section.
L: 33.5mm; W: 25mm; Th: 16mm. A(486) = 484. House 1, Phase 5. SF1517.

H6 (not ill.) Thin rectangular cleavage fragment worn on wide faces, one 'glazed'. Not sectioned.
L: 77mm; W: 26.5mm; Th: 9mm. G145. House 9, Phase 5. SF2658.

H7 (not ill.) Perhaps originally square section fragment worn completely round. Not sectioned.
L: 90mm; W: 26mm; Th: 22mm. B(276) = 266. House 4, Phase 6A. SF1648.

H8 Large mullion slightly worn on all sides but more on narrow sides, showing traces of what may be original bedding in the rock. Not sectioned.
L: 194mm. A(70) = 49. House 2, Phase 6Bi. SF3280.

H9 (not ill.) Thin rectangular hone fragment most worn on one narrow edge.
L: 95mm; W: 36mm; Th: 11.5mm. B(167) = 7a. House 4, Phase 6Di. SF513.

H10 (not ill.) Small rectangular section fragment worn thin at broken end by use of both wide faces.
L: 46mm; W: 19.5mm; Th: 10.5mm. B170. House 4, Phase 6Di. SF3237.

H11 (not ill.) Thin rectangular section cleavage fragment with uncompleted hole, worn diagonally on both wide faces.
L: 67mm; W: 29.5mm; Th: 6.5mm. G(27) = 11. House 9, Phase 6i. SF1982.

H12 (not ill.) Thin rectangular section fragment worn on wide faces. Not sectioned.
L: 37.5mm; W: 18.5mm; Th: 7mm. A558. House 2, garden. SF1597.

H13 Originally square section hone worn on all 4 sides. Not sectioned.
L: 71mm. A100. House 3, garden. SF121.

H14 (not ill.) Rectangular section fragment worn on 3 sides.
L: 59mm; W: 18mm; Th: 9.5mm. B144. House 5/6, Phase 4-6? SF278.

H15 Originally square section fragment worn diagonally and on one face. Not sectioned.
L: 78mm. B(155) = 144. House 5/6, Phase 4-6? SF751.

H16 (not ill.) Neat banded square section fragment worn on 2 faces across the banding.
L: 66mm; W: 16.5mm; Th: 13mm. G165. House 9, garden. SF2702.

H17 (not ill.) Square section fragment worn on 3 sides.
L: 71mm; W: 17mm; Th: 15mm. C69. House 7, unstrat. SF280.

H18 Square section complete hone worn on 2 opposite sides by transverse honing. The face with greater wear bears 2 deeply incised V-section point-sharpening grooves in its concave surface. The end shows diagonal banding. Not sectioned.
L: 89mm. K1. House 10, unstrat. SF2480.

H19 Square section hone fragment slightly worn on all sides and bearing one deep V-section point-sharpening groove in one face and a slighter one in the adjacent face. Not sectioned.
L: 79mm. Unstrat. SF12.

H20 (not ill.) Irregular rectangular section hone worn on 2 narrow edges.
L: 120mm; W: 37mm; Th: 16mm. Unstrat. SF878.

H21 (not ill.) Corner fragment with wear on one face. Not sectioned.
L: 66mm. House 4/5, unstrat. SF3359.

H22 (not ill.) Rectangular section hone worn around one edge. Not sectioned.
L: 91mm; W: 32mm; Th: 24mm. L, unstrat. SF2403.

Ellis type IB(1): the purple phyllite or quartz-mica metasiltstone hones

This stone is of exceptionally fine grain, the quartz being of the order of 20μ in diameter, contrasting with the coarser Norwegian Ragstone. The small grain size would give only a small 'bite' to a blade and this type of hone could therefore have been a finishing hone, or used for small blades. The presence of ore probably contributes to the bite of the hone.

The likelihood is that this hone type is of Norwegian or German provenance and, on evidence so far available from both England and Schleswig-Holstein, it seems to be associated with Viking and later levels. The quarry for the 'purple phyllite' hones is unfortunately unlocated.

They are frequently well-fashioned, small, delicate, and pierced, but what appear to be rough cleavage flakes are by no means unknown. H26 and 27 are good examples of the well-fashioned hones in this group.

Catalogue

H23 (not ill.) Cleavage fragment with wear on one side.
L: 96mm; W: 16mm; Th: 6.5mm. A(222) = 193. House 2, garden. SF872.

H24 (not ill.) 2 fragments of very thin rectangular section hone worn on both wide faces.
L: 42mm; W: 26mm; Th: 3.5mm. E(33) = 21. Phase pre-6. SF2103.

H25 (not ill.) Thin rectangular section fragment worn on narrow edge, irregular groove on wide face.
L: 71mm; W: 13mm; Th: 6mm. B20. House 5/6, destrat. SF56.

H26 Well-fashioned small square section pierced honestone with slight wear on all 4 faces and a wide shallow groove in one face.
L: 60mm. C82. House 7, destrat. SF263.

H27 Well-fashioned rectangular section pierced hone worn on 2 narrow edges.
L: 87mm. F. House 8, unstrat. SF2087.

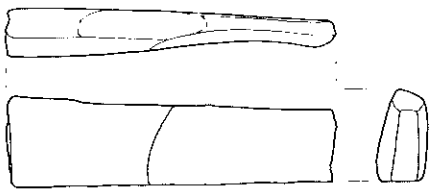
H28 Well-fashioned thin rectangular section pierced hone worn on wide faces.
L: 52mm. F. House 8, unstrat. SF2089.

Ellis type IIB(6)-(7)/III: the Coal Measures Sandstone

This is a grey micaceous sandstone/greywacke much used as a honestone in the south and south-west of England. Petrographically it contains angular quartz grains of variable size, flakes of muscovite,

Fig 123

Hones



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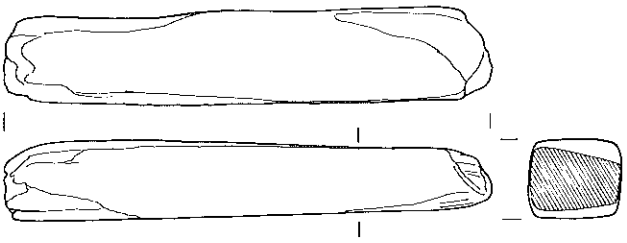

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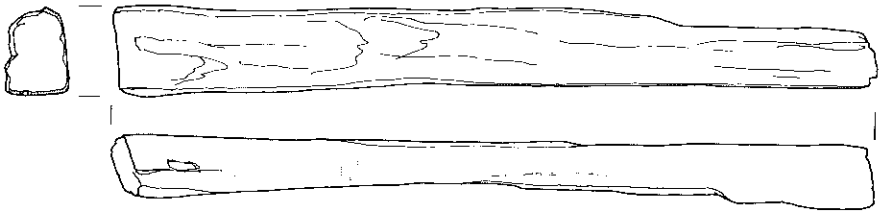

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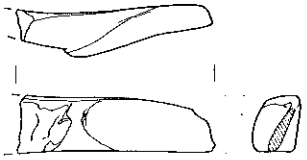

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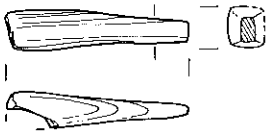

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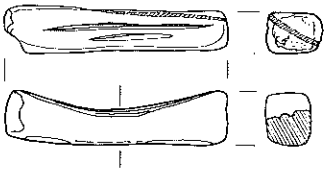

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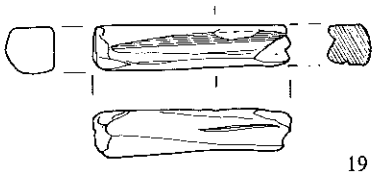

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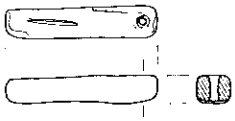

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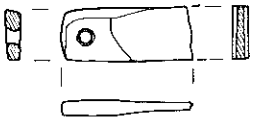

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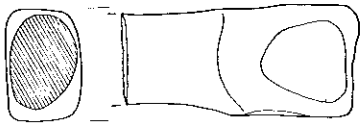

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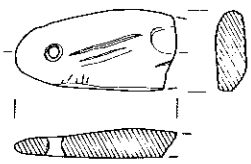

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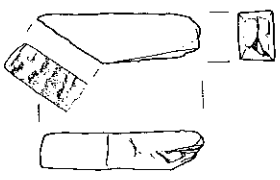


39

Scale 1:3

some alkali feldspar and plagioclase grains together with biotite, hydrobiotite, and a black opaque material (probably coal), set in a finer-grained matrix. The matrix consists of secondary minerals such as sericite and a ferruginous unresolvable material.

Elsewhere the rock is widely used as a quernstone (Ellis and Moore forthcoming). It is almost certainly Pennant Grit of Carboniferous age from the Bristol Coalfield.

Catalogue

H29 (not ill.) Pennant Grit. Medium-grained rectangular section fragment worn on 4 sides.
L: 41mm; W: 40mm; Th: 21mm. A25. House 1, Phase 6Bi. SF456.

H30 (not ill.) Pennant Grit. Fine-grained rectangular section fragment worn on 3 sides with point-sharpening groove along one wide face.
L: 63mm; W: 52mm; Th: 22.5mm. G13. House 9, destrat. SF1906.

H31 Ellis Type IIB(6)/III. Finer-grained and texturally different from Pennant Grit. Provenance uncertain but most like a Coal Measures Sandstone. Could be from the Coventry or Leicester Coalfields. Rectangular section fragment worn all round at break.
L: 94mm. B3. House 4, destrat. SF1061.

H32 (not ill.) Ellis Type IIB(6)/IIIC. Probably not Pennant Grit. Rectangular section fragment worn on all 4 sides and with shallow V-section groove on one face.
L: 52mm; W: 36mm; Th: 21.5mm. A214. House 1, Phase 6A? SF1108.

The miscellaneous hones

These are what Ellis would call makeshift hones. They are either of local stone (as H38) or most likely come from the boulder clay of the neighbourhood.

Catalogue

H33 (not ill.) Ellis Type IA but not from Eidsborg. A fine-grained black quartz-calcite-hornblende-ore schist with perhaps some epidote and pods of calcite arranged more or less linearly. Provenance unknown but possibly transported by ice action from Scotland or Scandinavia. Rectangular section, hone worn on both wide faces.
L: 79mm; W: 38mm; Th: 13.5mm. G134. House 10, Phase 6Aiii/B. SF2897.

H34 Very fine-grained purple/blue stone containing abundant angular quartz grains, more or less even in size, of order of 70μ diameter, and chlorite. There are smaller amounts of ore, muscovite, and silica. Provenance unknown but possibly transported by glacial drift from the southern uplands of Scotland or the English Lake District. Complete rectangular section pierced whetstone worn on both wide faces, one of which bears a shallow groove.
L: 153mm. K177. Grubenhaus 2A. House 10, Phase 4. SF2905.

H35 Probably Ellis Type ID. Dark very fine-grained pebble pierced for suspension and worn by honing on one edge. One wide face bears 4 point-sharpening grooves. Not sectioned.
L: 65mm. F. House 8, unstrat. SF1862.

H36 (not ill.) Ellis Type IIIA. Grey micaceous sandstone with some greywacke affinities, possibly a Coal Measures sandstone. Contains rounded quartz of variable grain size, abundant chlorite, some occasional muscovite flakes and opaque black fragments (?coal). Thin rectangular section stone with little wear.
L: 80mm; W: 25.5mm; Th: 7.5mm. G(55)=50. House 9, Phase 5-6. SF2011.

H37 (not ill.) Ellis Type IIIB (Ellis suggests that some of this group are from the Pennines). Grey fine-grained sandstone with angular quartz grains in limonite cement, muscovite and biotite. Thin rectangular section well-fashioned hone fragment with large (7.5mm diameter) perforation, worn on both wide faces and one edge.
L: 34.5mm; W: 20.5mm; Th: 6.5mm. A, unstrat. SF1400.

H38 (not ill.) Ellis Type IVB(1). Pale fine-grained gritty oolitic limestone with small ostracod tests. The quartz grit gives the 'bite'. Almost certainly from the Northampton neighbourhood. Irregular rectangular section hone worn on all 4 faces but chiefly on one side.
L: 120mm; W: 32mm; Th: 25mm. G82. House 10, Phase 7. SF2275.

H39 Mortar-encrusted dark grey limestone object with angled face possibly worn by honing. Not sectioned. Residual in wall.
L: 64mm. G(14)=11. House 9, Phase 6. SF2772.

Material

Being required for the specific purpose of sharpening iron blades, whetstones are made of a material chosen for its satisfactory performance. Hence the popularity of the imported Norwegian schist-hones, apparently introduced into this country at the time of Scandinavian settlement (Ellis 1969: 149-150; 180-182), over those made of local rocks on medieval sites. 22 of the 38 hones found on St Peter's Street are of Norwegian Ragstone from Eidsborg, and 6 are of Type IB(1), possibly from the same general area. 42 of the 54 fragments found at Lyveden, Northants, were of Norwegian type (Steane 1967: 32; Bryant and Steane 1969: 36; 1971: Fig. 20; Steane and Bryant 1975: Fig. 53).

Shape

Shape and size are sometimes decided by what is easily obtained from the quarry (e.g. the mullion H4 and the Pennant sandstone hones H29, 30) but may be determined by requirements such as portability. The small perforated examples (H2, 3, 26-28, 37) were clearly shaped for convenient suspension from a belt on the person. Larger pierced hones such as H34 may have hung in the workshop. Even stones as large as H4 were sometimes perforated (cf. Platt and Coleman-Smith 1975: no. 2229).

Hones of Type IA(1) or Norwegian Ragstone were not usually pierced (only 2 in 22 complete and fragmentary pieces). This is confirmed at Lyveden (5 in 42 fragments). However, half those of Type IB(1) show suspension holes, perhaps displaying a preference for this fine-grained rock for honing of small personal knives and razors. The low ratio of 8 perforations (one uncompleted) in 38 hone fragments at St Peter's Street is echoed by the 16 complete hones, only 3 of which have holes.

Cross sectional shape varies with rock type, e.g. the Eidsborg mullions which are split or cleaved but not shaped (H4). The Norwegian Types IA(1) and IB(1) both show the range from square through rectangular to thin rectangular and embrace wide length variation of complete hones from 60 to 303mm.

Fragments of the larger hones could clearly have been useful after breakage, in view of the type of wear observed, provided they were long enough to be held.

Wear

The type of wear observed on whetstones depends on the properties of the material and the use made of it. Two distinct use patterns emerge: honing transversely with a blade held flat across the stone, and sharpening a point (of pin, needle, awl, or knife) in a groove running along the length of the stone.

9 stones show point-sharpening grooves. The deeper ones are V-sectioned (H18, 19) while others are shallow (H26, 34). Some are in groups of 2 (H18) or 3 (H35) on the same face while H19 has grooves on 2 adjacent faces. Only 2 of the 54 Lyveden hone fragments had grooves (Steane and Bryant 1975: Fig. 53, nos. 3, 6). Other examples come from York (Waterman 1959: Fig. 23, nos. 5 and 12) and Ipswich (West 1963: Fig. 57).

Wear from transverse honing of blades may be disposed according to the homogeneity or otherwise of the whetstone material. All round use is made of some stones (H7, 22, 31) or else all 4 faces are used to a similar extent (H13, 26). Wear only on the wide faces (H28, 34) or chiefly on them (H1) or else on the narrow edges only (H4, 27) may be due to non-uniformity of honing properties or the user's preference. Diagonal wear (H15) suggests that the shaping of the hone might be unsuited to its properties.

The 22 Type IA(1) hones show all 6 modes of wear.

Dating

Two large complete whetstones (H1, 34), one of Ellis' Type IA(1) from Eidsborg, are stratified in Late Saxon deposits of the 10th or possibly 11th centuries. Two other Eidsborg hones (H2, 3) come from contexts of Late Saxon or early medieval date. H4, 6, and 24 come from medieval pits, H5 from a building slot, while 5 other Eidsborg hones (H12-16) come from probably medieval garden deposits. 15th century layers yielded 8 whetstones including 2 of the 4 sandstone hones (H29, 32) and 4 Eidsborg hones, notably H8, a large complete stone with very little wear found in the clay floor of House 2 where it is unlikely to be residual. This find must indicate continuation of the trade in Eidsborg whetstones until the early

15th century at least. From other sources we know that trade in Eidsborg schist went on until after the Second World War (pers. comm., Mr Christensen). Regrettably, the 6 Type IB(1) purple phyllite hones are poorly stratified: only 2 in medieval contexts, 2 in superficial deposits, and 2 unstratified. It is perhaps significant that only 2 of the sandstone and miscellaneous whetstones are stratified in contexts pre-dating the 15th century, apparently indicating a virtual monopoly of the market for the Norwegian hones in Late Saxon and medieval Northampton.

THE PURBECK MARBLE MORTAR

by G C Dunning

The mortar (Fig. 124) is made of grey Purbeck marble, with reddish tones on the rim and just below. The fragment comprises one-half of the rim, complete profile of the bowl, and part of the base. The rim is flat and polished. The side of the bowl is dressed in two techniques; round the rim and above the base are narrow zones of oblique tooling, bordering a deep zone of pecking which runs in lines sloping down from left to right. The base is square. Two adjacent rim lugs are present; that at the front has a shallow runnel, curved in section but deeper on one side than the other. The side lug is triangular in plan and squared off on the outer side. Below both lugs is a flat rib, curved in profile and waisted laterally, and chamfered at the sides. The ribs continue down to the base, and are tooled obliquely as shown on the drawing. The inner surface of the bowl is smooth and polished; the lower part of the side is slightly undercut, caused by the rotation (wirble) of the pestle in grinding. Dimensions: rim Diam: 222mm (8.7in); base 208mm (8.2in) square; and H: 115mm (4.5in).

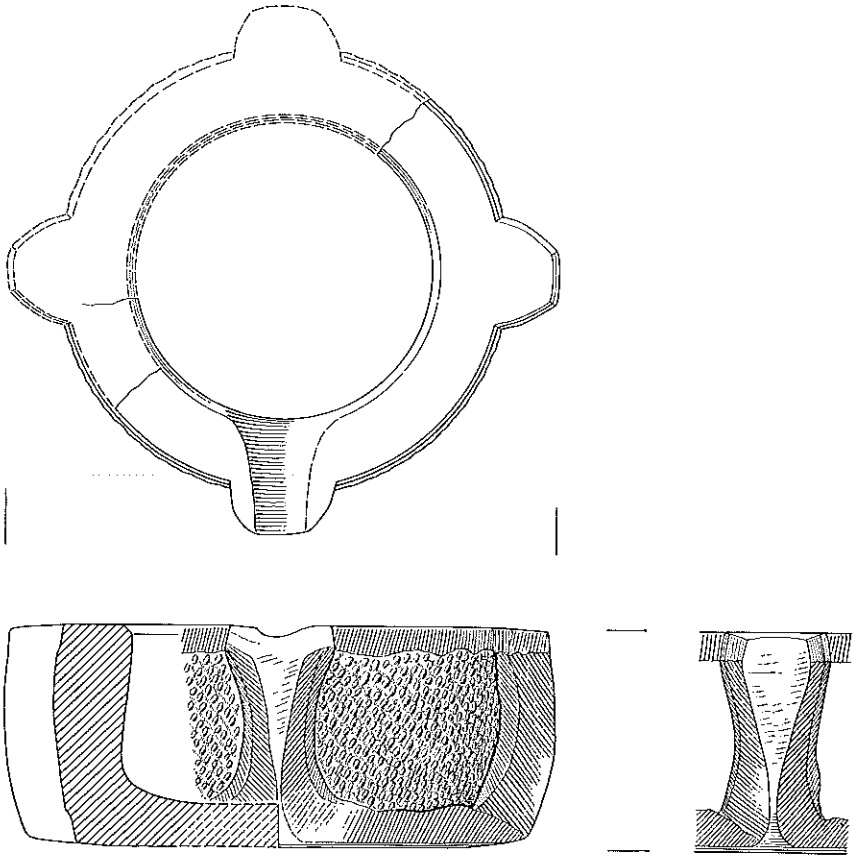
All the features of this mortar are normal, with one exception. Usually the bases of mortars in Purbeck marble are circular; those with square bases form a minority, and only two parallels can be quoted. The first was found in the river Itchen at Southampton (in God's House Tower Museum, Southampton: no. A.41. 64). It is complete; rim diam: 163mm (6.4in), and H: 83mm (3.25in). There are four rim lugs, none with a runnel, and all have a rib down the side nearly to the base, shaped like those on the mortar from Northampton. The other mortar is a chance find at Burgh Castle, Suffolk (at the Inspectorate of Ancient Monuments, Department of the Environment). This example also has four lugs without runnels, each with a waisted rib down to the base. The mortar is above average in size; rim diam: 275mm (10.8in), base 203mm (8in) square, and H: 140mm (5.5in).

Thus the three mortars are closely comparable in all respects, but graded in size, that from Northampton being intermediate between the other two. On these grounds it may be inferred that the three mortars were carved by the same mason, who fashioned them in a manner differing slightly from the majority of the mortars produced at the quarries in the Isle of Purbeck. In most of its features it conforms with examples from this source found elsewhere. Mortars with similarly-shaped ribs may be quoted from Northolt Manor, Middlesex, dated before 1300 rather than later; Saffron Walden, Essex; and Boston, Lincs. (Dunning 1961: Fig. 74, nos. 1 and 6 and Fig. 75, nos. 2 and 3). Likewise at Southampton mortars of this type are dated to 1200-50 and 1300-50 respectively (Platt and Coleman-Smith 1975: 307, Fig. 268, no. 2200 and Fig. 269, no. 2212). Some of these mortars are in Purbeck marble, and the others in broken-shell limestone (burr-stone) from the Upper Purbeck Beds near Swanage. Thus the known range in date is from *c.* 1250 down to *c.* 1350, although the Northampton mortar was found in a post-hole dating to the second half of the 15th century.

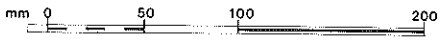
C100 House 7, Phase 6i. SF1088.

Fig 124

The Purbeck Marble mortar



Scale 1:4



THE QUERN AND MILLSTONE FRAGMENTS

by G E Oakley (stone identified by F W Anderson)

All three pieces are coarse quartzose grit (Carstone?).

Q1 (not ill.) Rotary quern fragment. Part of upper stone with central hole and funnel above. Grinding surface pecked to depth 3mm at 10-20mm intervals. Outer surface convex.
Diam unknown; Th: 70mm; funnel top diam: *c.* 60mm; centre hole diam: *c.* 25mm. G(135) = 123. House 9, Phase 5. SF2581.

Q2 (not ill.) Rotary quern fragment. Edge of lower stone? Convex grinding surface well worn. Other side curves steeply towards centre from vertical edge 40mm deep.
Diam: *c.* 340mm; Th: 80mm. G165. House 9, garden. SF2703.

Q3 (not ill.) Millstone fragment possibly re-used as hearth in centre of clay floor. Probably a runner stone as eroded face with traces of dressed grooves has recessed T-shaped slot near centre hole, perhaps part of H-shaped fixing point for iron driving bar. Stem of T or H lies tangential to and 55mm from centre hole (slot W: 15-30mm; D: 30mm; L: 110mm across top and down stem of T). Edge of stone has tapering notch not penetrating grinding surface (W: 27-45mm; D: 60mm; ends 340mm from centre hole), perhaps a locating or lifting point. Stone thickness decreases rapidly towards edge and other face appears roughly pecked but may be broken.
Outside diam: *c.* 535mm; centre hole: 94mm; Th: 130mm.
C17. House 7, Phase 6i. SF3191.

THE SPINDLE WHORLS

by G E Oakley and A D Hall

Summary

35 spindle whorls (Figs. 125-6) were found: 16 are made from potsherds, 11 of limestone, four of bone, two of stone, one of unbaked clay and one of lead. Another two potsherds may be unfinished whorls. 18 whorls are fairly intact allowing their physical properties to be measured while for 17 fragments the original weight and moment of inertia have been estimated. It is suggested that the combination of these two properties, rather than weight alone, defines the efficiency of the whorl in spinning. While a range of apparently preferred properties is indicated by this group individual whorls lie outside this range and may be needed for spinning different types of yarn.

22 whorls come from contexts pre-dating 1400 and three pre-date 1500, but the rest were not stratified. Exclusive use of ceramic types T1-2 and T2 indicates a probable date before 1450 for potsherd whorls. Stratified Late Saxon whorls are rare on the site (SW13 and possibly SW19) though the conical and biconical limestone whorls may be of Late Saxon type. Whorls of different materials are fairly evenly distributed between the houses.

Two bone implements, WB52-3 (p. 313), may be cut down from broken spindles. Spindles are often of wood (cf. Clarke and Carter 1977: Fig. 171, no. 17) which has not survived on this site, but see W14.

Physical properties

A spindle whorl is used in hand spinning of animal hair or vegetable fibre into yarn, mounted on the spindle to act as a flywheel and conserve the spinning momentum generated by the spinster's hand.

Physical properties needed are:

1 suitable weight (M) to extend the fibre being spun.
2 moment of inertia (I) sufficient to regulate spinning.
3 convenient size for the hand to impart motion.
4 central hole shaped to fit the spindle tightly (usually 8-10mm diam).

M probably needs to vary according to fibre type. I is dependent on weight distribution relative to the spinning axis, i.e. on shape and density, and for maximum I weight should be concentrated near the periphery. However, for strength and to provide a snug fit on the spindle some thickness is needed at the centre.

M is simple to measure for complete whorls but I, though easily calculated for geometrically exact shapes of constant density, is best determined by experiment. A straightforward method, devised by A D Hall, involves the timing of small oscillations of the whorl about its spinning axis on a light torsional suspension. In theory, for small oscillations:

$I \times$ (angular acceleration) = —(torsional constant) × (angle of rotation)
or angular acceleration = —(torsional constant/I) × (angle of rotation)

From this the motion is simple harmonic and hence:

$(2\pi/T)^2$ = torsional constant/I where T = time for one complete oscillation. Then I = constant × T^2

The constant for the suspension is evaluated by calibration using a thin disc for which I can be calculated. Then values of I for intact whorls are derived by measuring T or, more accurately, by timing ten complete oscillations of each whorl. T is not given here as it would differ if another suspension were used but the I values obtained would not be affected and are listed in Tables 28-9.

Spindle whorls

Fig 125

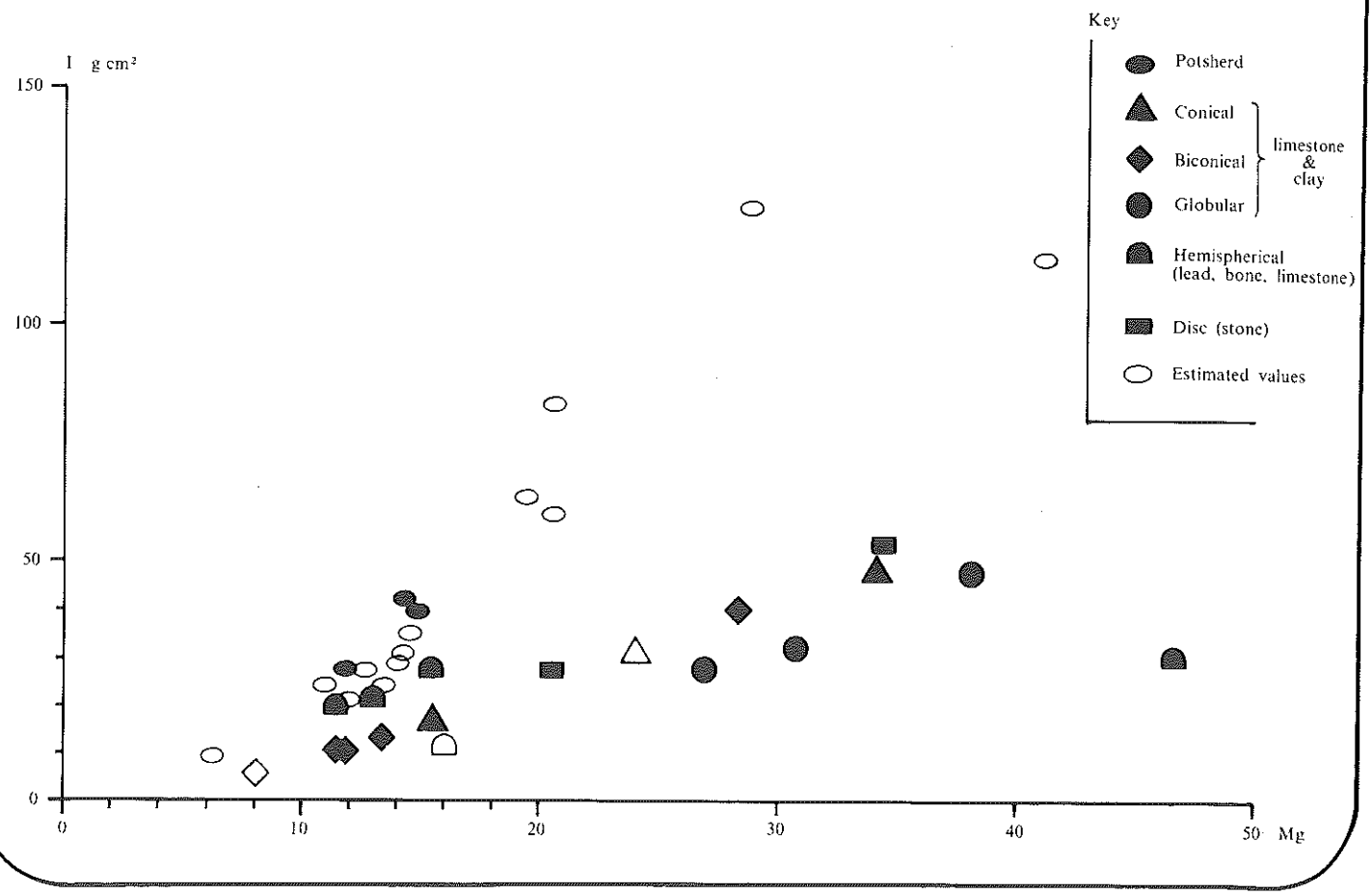
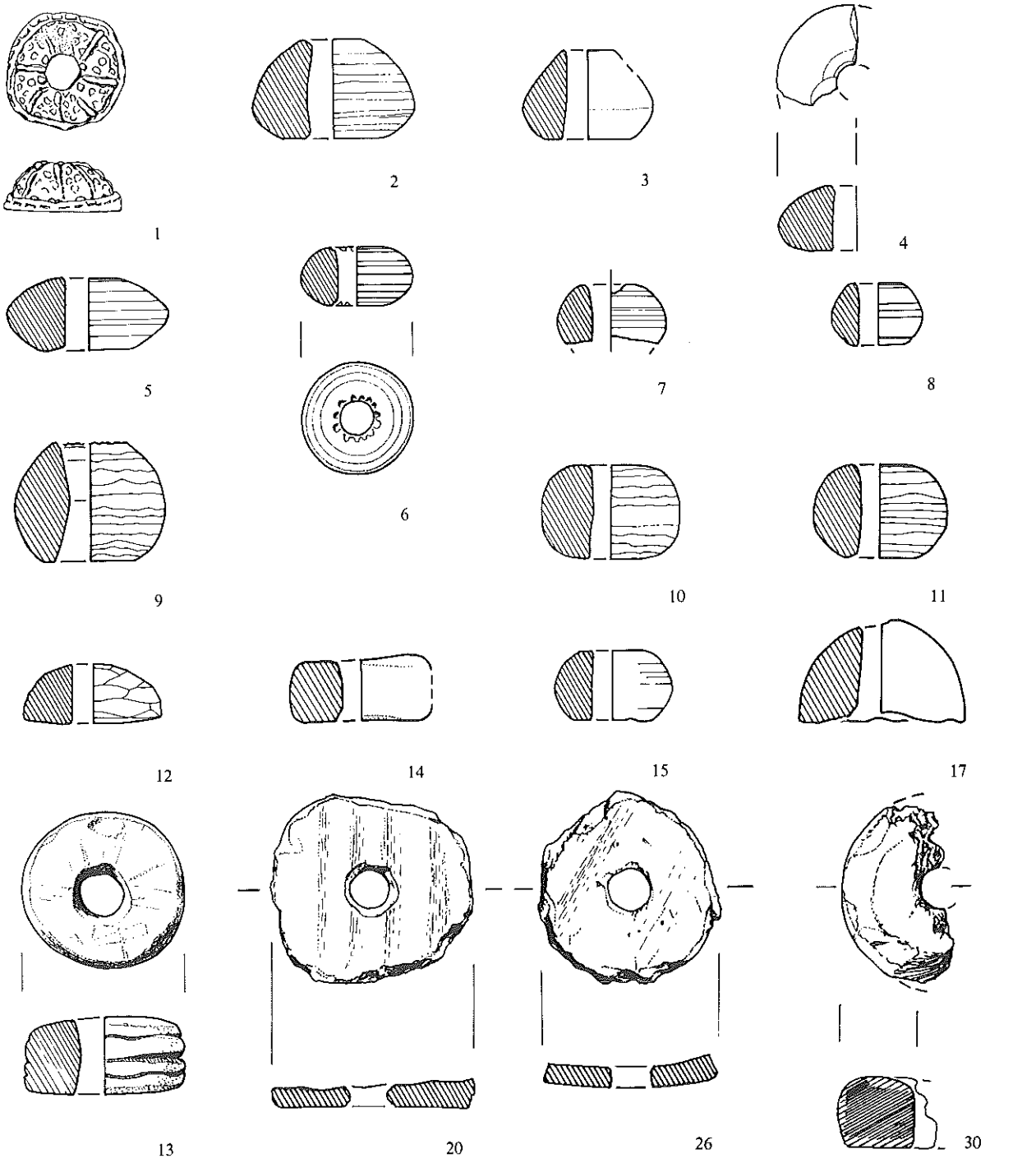


Fig 126

Spindle whorls



Catalogue

(for dimensions, properties and contexts see Tables 28-9).

SW1 Lead whorl: hemispherical. Surface decorated with 7 ridges and impressions of D-shaped punch in panels between. Edge of flat base turned up, partly covering some punch marks, and 'tacked' with impressions of small straight-edged tool. Centre hole is polygonal, approximating to an oval.

A lead whorl from the Augustinian Friary in Leicester (Leicestershire Museums site 389. 1973, layer II.32, SF134), found in the waterlogged drain of late 15th C to Dissolution date, was mounted on an oak spindle. 3 other decorated lead whorls from Leicestershire (in Jewry Wall Museum) are isolated finds. Other examples come from Mucking, Essex (Webster and Cherry 1973: 142), Barton Blount, Derbyshire (Beresford 1975: 98), and Dinas Powys (Alcock 1963: 44, 122).

SW2 -12 Limestone whorls: conical, biconical, globular and hemispherical. Homogeneous white limestone, weathering to buff, with sparse sand and no macro-fossils. Several cut or shaped on a lathe: biconical whorls SW5-8 have smooth profiles decorated with turned grooves; globular whorls SW9-11 and SW2, conical, have encircling facets which suggest knife trimming while rotating the whorl. SW12, hemispherical, has less regular facets possibly cut with the work held in the hand. SW6, biconical, has small notches around both ends of the perforation. These seem too regular to be due to wear and could be decorative (cf. MacGregor 1972-4: 92). SW2, the largest conical whorl, is coated with a black glossy substance over flanks and base.

Conical and biconical whorls are found on Scandinavian sites of the Viking period (e.g. at Trelleborg, Norlund 1948: Pl.LI, nos. 7-13; and Petersen 1951: 523, Figs. 164-5) and at Jarlshof, Shetland,

hemispherical and conical whorls from the Norse occupation are made of steatite (Hamilton 1956: Fig. 66).

21 limestone whorls of biconical and globular shapes found at King's Lynn (Clarke and Carter 1977: 315-7) come mostly from early medieval contexts. Some appear to be lathe-turned.

SW13 -4 Stone discs. SW13, of reddish siltstone partly blackened by fire, has one deep and 2 shallow peripheral grooves. These are irregular and do not seem functional. Also faint traces of radial linear decoration on flat faces (cf. MacGregor 1972-4: 92, Fig. 18, no. 249). SW14 is of local Northants sandstone.

SW15 Reddish, possibly unbaked, clay: biconical.

SW16 -9 Bone whorls (not ill, except SW17). All made from hemispherical head of femur, probably ox (identified by Miss M Harman). SW19 is the base fragment of a whorl made from an unfused joint. In SW16-7 perforation widens towards flat base. SW18 has hole square at top. This type is common from prehistoric times.

SW20 -37 Potsherd whorls (not ill. except SW20, 26, 30). Most are body sherds from cooking pots of ceramic types T1-2 and T2 (p. 156), with slight irregularity of thickness due to wheel-thrown ridges, shaped into discs with central hole. SW30 is thicker than average, being the string-cut base of a small vessel (? lamp). SW36 has borings for centre hole on both sides but edges either broken or yet unshaped. SW37 is arguably not a whorl but a counter as it has no hole but a rounded edge of small diam. Only 3 of 16 certain whorls are intact.

Some fragmentary whorls have diam. extending beyond the range of intact examples. *I* and M may be estimated for these, taking density from a complete whorl of similar fabric. For a disc diam. D with hole diam. d and constant thickness t:

$M = (D^2 - d^2) \times t \times \pi \times \text{density}/4$

and $I = M \times (D^2 + d^2)/8$

The latter formula also allows experimental values of *I* to be checked for the intact potsherd whorls. Estimated values of M and *I* for whorl

Table 28 Lead, stone, clay and bone spindle whorls

	SW no	Tooling etc.	Dimensions (mm) D	d	t	% complete	M gm	*I* gm.cm²	Layer	House	Phase	SF no.
Lead. hemispherical	1	punch	27.5	7.5-9	12	100	46.7	29.3	A372	2	5B	1222
Limestone: conical	2	facets	39.5	9	24.5	100	34.2	47.3	A(244) = 144	2	6A-B	662
	3		31.5	8.5	21.5	90	15.4	15.7	C(73) = 20	7	5	1006
	4		38	10	16	30	*24*	*30*	G92	9	5	2583
Limestone: biconical	5	lathe	39	9.5	17.5	100	28.4	39.1	C121	7	5	1009
	6	lathe & notches	27	8.5	14	100	11.8	9.8	A103	3	6Div	370
	7	lathe	26	8.5	13+	75	11.3	9.8	A222	3	garden	812
	8	lathe	21.5	8.5	15.5	85	*8*	*5*	B unstrat	4		21
Limestone: globular	9	facets	36	9	29	99	38.2	47.3	B(407) = 217	4	5	1717
	10	facets	34	8	23	100	30.8	31.6	A599	3	5	1515
	11	facets	32	8.5	23	95	26.9	27.1	A355	3	6A/B	1246
Limestone: hemispherical	12	handcut facets	32	9	14	75	*13*	*11*	A404	3	garden	1258
Stone: disc	13	edge grooves	38	10.5	19	98	34.4	53.2	F207	8	4B	2231
	14		34	8.5	15	90	20.5	27.1	F unstrat	8		2069
Unbaked clay: biconical	15		29	9.5	17	95	13.3	12.5	G92	9	5	2592
Bone: hemispherical	16		40	7	22	100	15.4	27.1	F(128) = 19	8	5	2104
	17		40	9	24	100	12.9	21.0	B18	4	unstrat	321
	18		37	8.5	18	100	11.4	19.1	F unstrat	8		3140
	19		*c.* 40			25	5.6		K114	10	4?/5	2786

(Estimated values in *italics*)

Table 29 Potsherd spindle whorls

	SW no.	Dimensions (mm) D	d	t	% complete	M gm	*I* gm.cm²	Layer	House	Phase	SF no.
Ceramic type T1-2	20	46	9	5	98	14.2	41.7	G unstrat	10		2739
	21	46	8	5	90?	14.8	39.1	G44	9	5-6	2579
	22	47	10	7	25	*21*	*59*	A404	3	garden	3101
	23	39	9.5	*c.* 7	80	*14*	*28*	A436	1	5	1254
	24	40	10	6	25	*13*	*27*	C121	7	5	983A
	25	36	9	7	50	*12*	*20*	C121	7	5	983B
Ceramic type T2	26	43	10	5	100	11.8	27.1	A196	3	garden	524
	27	58	8.5	6.5	20	*29*	*124*	B(416) = 13	4	6B	3139
	28	56	9	5	55	*21*	*83*	A557	1	5	1468
	29	50	10	6	50	*19*	*63*	A418	1	5	3102
	30	46	9	15	50	*41*	*113*	C121	7	5	990
	31	43	8	6	50	*14*	*34*	A436	1	5	1294
	32	41	8	5	30	*11*	*24*	G(47) = 11	9	6i	3160
	33	40	10	7	50	*14*	*30*	B unstrat			1587
	34	37	7	7.5	50	*13*	*24*	A446	3	garden	1307
	35	32	10	5	40	*6*	*9*	B(165) = 117	4	6A	1122
Unfinished/uncertain whorls, ceramic type T1-2	36	45		7	?			G(56) = 44	9	5-6	2283
	37	29		6	50			A unstrat			877

(Estimated values in *italics*)

fragments are shown in italics in Table 29 but they are only approximate. The complete whorls are not exactly circular or even in thickness so that fragments may not represent the size of the whorl.

Conclusions

Though there is a wide range of spindle whorl weights Fig. 125 shows a clear preference for M of 10-16gm and a more scattered group around 20-34gm. Limestone whorls fall into these two sizes in equal numbers irrespective of shape (cf. King's Lynn whorls (Clarke and Carter 1977: 315-7) with weights chiefly in the higher range). SW1 and 30, weighing over 40gm, seem exceptional but MacGregor (1972-4: 89) has suggested the need for heavier whorls in plying two or more yarns.

Fig. 125 also shows the preference for I values of 20-30gm.cm^2. Estimated values for some potsherd whorls suggest that I in excess of 100gm.cm^2 was occasionally needed, perhaps for rather stiffer fibres. The properties M and I are not independent but different materials and shapes allow widely varied combinations.

There is no concentration of whorls in any one area of the street but hand spinning clearly took place in all households in early medieval times.

THE WORKED FLINTS

by H Bamford

Introduction

A total of 176 flints were found on the site. Of these, 53% were residual in Late Saxon, medieval and post-medieval layers, and 31% were from Early or Middle Saxon layers, or layers immediately overlying the natural subsoil. Of the remainder, 25 flints (14%) were from the fill of the Phase 1 ditch and two more were from layer F296 overlying the ditch. (A712: SF1575, 1594 A-H, 1596 A-D, 1607, 1608, 3360. F316: SF2684 A-J.)

The distribution of flints across the site is possibly significant, in that there is unlikely to have been a great deal of horizontal movement of the residual material even in heavily disturbed areas. It is therefore interesting that the majority of flints, including all those stratified in earlier layers, were found in the western half of the site, and are concentrated particularly around and above as well as in the ditch.

The raw material

The flint represented in the flakes, cores and implements varies considerably. Much of it is dark grey or brownish in colour and of fairly good quality for working, but lighter coloured, coarser material with flaws and inclusions occurs also. Examination of the cores and cortical flakes suggests that the raw material consisted chiefly of nodules and fragments with a thick cortex stained orange or brown, exhibiting varying degrees of weathering and abrasion. A few examples retain portions of natural fracture surfaces with a heavy ochreous patina. Pebbles with a thin, abraded cortex were also used. Similar flint is found utilised on other prehistoric sites in the Northampton area (e.g. Ecton; Moore *et al.* 1975: 19-20) and the source appears to be local river gravel deposits, in which the types can be matched exactly.

24% of the struck flakes exhibit varying degrees of grey, white or mottled patination on their surfaces, but this does not seem to be of any particular significance.

Cores

WF1-5

Nine cores were found, and these have been classified according to the system used by Clark in the Hurst Fen report (1960: 216).

Class	Description	No.	
A1	Single platform, flaked all round	2	SF1569 (WF1), 3211.
A2	Single platform, flaked part way round	3	SF1264, 2388A (WF2), 3004.
B2	2 platforms at oblique angle	1	SF1779 (WF3).
D	Keeled	1	SF2744B (WF4).

SF1569 and 1799 have faceted platforms. All have been utilised as scrapers, and SF1569 and 3211 appear to have been modified for this purpose.

	Battered lump from which flakes have been struck, possibly utilised as hammer-stone.	1	SF3378B.
	Unclassifiable (burnt fragment)	1	SF2040.

Core rejuvenation flakes and core fragments

At least five flakes seem to be the product of deliberate renovation of a core.

	Description	No.	
a)	Narrow, plunging flakes or blades struck down face of core from existing platform to remove irregularities.	2	SF2925, 3487 (WF5).
b)	Flakes of triangular section struck obliquely to platform to remove platform edge.	3	SF1572B, 2219A, 2381.

Both flakes of group a) have been utilised for cutting. Of group b) SF1572B has possibly been trimmed for use as a point, and the other two flakes have been utilised as scrapers.

In addition to these, a core fragment (SF1594C) may be a core rejuvenation flake of group b), modified by the removal of flakes from the bulbar end, and a utilised flake (SF2962A) is perhaps also a core rejuvenation flake of the same group. A scraper (SF1594A) appears to be manufactured from another type, struck across the base of the core to provide a new platform.

Flakes and blades

WF6-25

130 flakes and blades without deliberate secondary working were found, including both waste and utilised material. The majority are flakes of varying proportions, but 21 are of parallel sided form with a breadth:length ratio of not more than 2.2:5 and may thus be described as blades. A further seven specimens appear to be segments or parts of broken blades.

Table 30 Breadth:length analysis

	Breadth:length ratio	No.	%
a Utilised flakes and blades (complete specimens)	0.5:5 - 1:5	1	1
	1:5 - 2:5	11	13
	2:5 - 3:5	21	26
	3:5 - 4:5	23	28
	4:5 - 5:5	13	16
	5:5 - 6:5	3	4
	6:5 - 7:5	5	6
	7:5 - 8:5	4	5
	8:5 - 9:5	1	1
b All complete flakes and blades	0.5:5 - 1:5	1	1
	1:5 - 2:5	11	11
	2:5 - 3:5	25	24
	3:5 - 4:5	32	31
	4:5 - 5:5	16	15
	5:5 - 6:5	5	5
	6:5 - 7:5	8	8
	7:5 - 8:5	5	5
	8:5 - 9:5	1	1

Analysis of the breadth:length ratio of complete specimens, expressed in the table above, indicates the wide range of forms present. The sample on which this is based is small, and the results cannot therefore be regarded as wholly reliable statistically; but when they are compared with those from similar analyses of samples from other sites the pattern does look significant. It suggests a multi-period assemblage rather than one from a single-period context as at Windmill Hill and West Kennet (Smith 1965: 89ff.) or Durrington Walls (Wainwright and Longworth 1971: 158ff.), the range of flake forms being more broadly and evenly distributed than in any of these.

The material may be categorised as follows:

Waste flakes and fragments	29	22%
Utilised flakes	73	56%
Blades	21	16%
Blade segments	7	5%

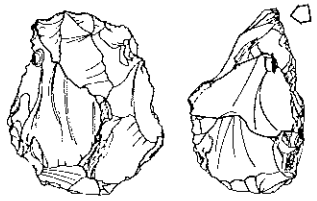
All flakes and blades were examined at magnification ×20 for signs of wear or regular edge damage such as results from use. Analysis and interpretation of the evidence was guided by the observations published by a research group at Harvard University who have conducted controlled experiments on edge wear in flint implements (Tringham *et al.* 1974).

Waste flakes

Flakes with edge damage which cannot with reasonable certainty be attributed to purposeful use have been classified as waste, together with those which bear no edge damage. Two calcined fragments are also included in this category. Most of the waste flakes are small in size, all but two of the complete examples being 30mm or less in length, and broad, the majority having a breadth:length ratio of around 4:5.

Fig 127

Worked flint 1



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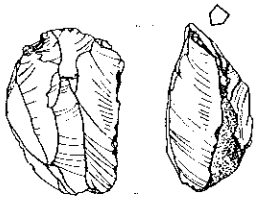

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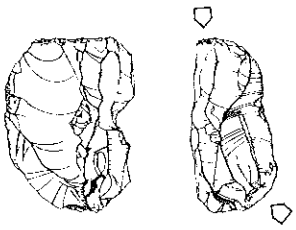

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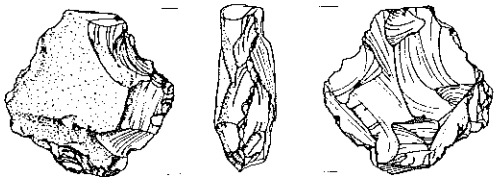

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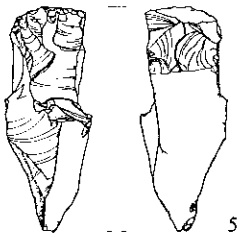

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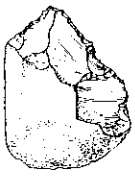

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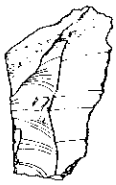

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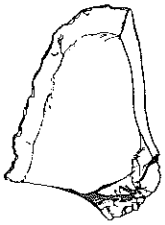

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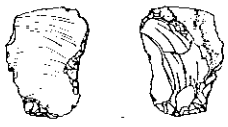

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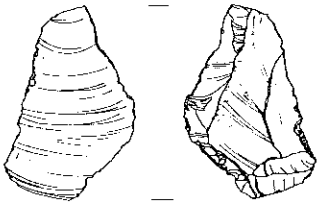

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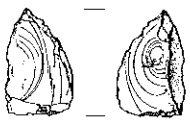

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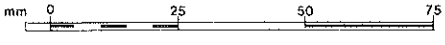
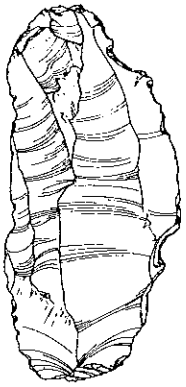
Scale 2:3



Worked flint 2

Fig 128



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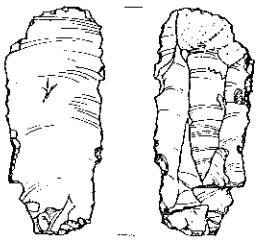

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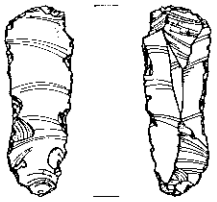

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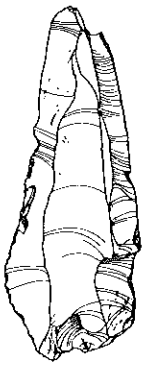

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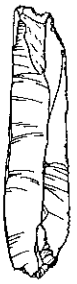

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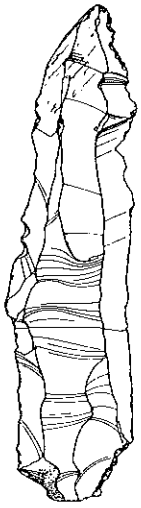

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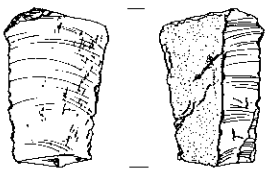

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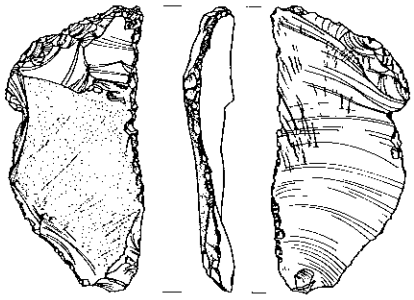

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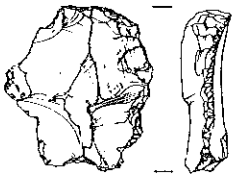

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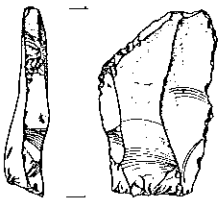

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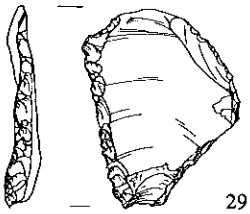

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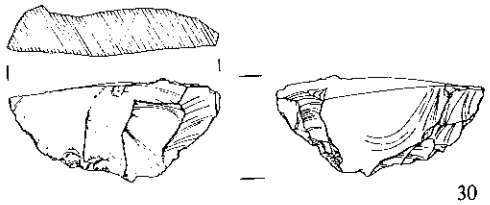
Scale 2:3

Fig 129

Worked flint 3



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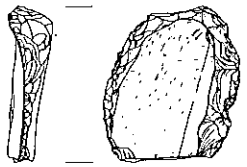

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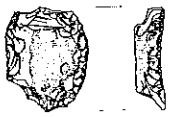

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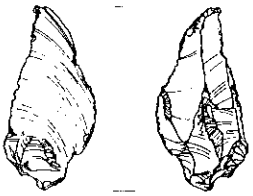

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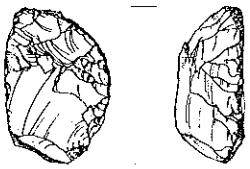

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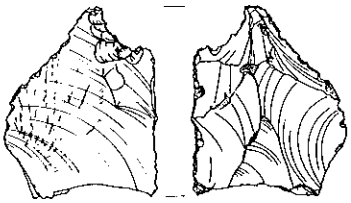

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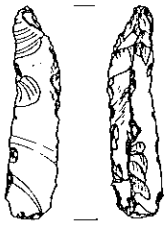

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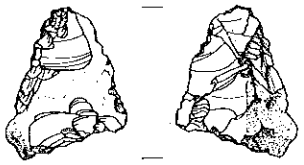

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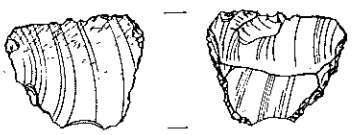

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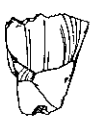

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Scale 2:3

Utilised flakes

Although it is not always easy to distinguish between accidental damage and the regular wear which is the result of deliberate use, a high proportion of flakes, including some extremely small examples, bear clear marks of utilisation in the form of regular micro-flaking and abrasion on the edges. These have been classified tentatively according to the type of use indicated by the character of the wear. Many have evidently served more than one function.

Most of these flakes are between 30mm and 40mm in length and 58% of them have a breadth:length ratio of between 2.3:5 and 4:5.

Description	No.	
Borers/points	13	SF1659, 2091, 2154, 2219B, 2219C, 2285, 2288E, 2684B, 2724 (WF6), 2962B, 2972C, 3242A, 3362B.
Scrapers	22	SF1008 (WF7), 1462, 1599 (WF8), 1735, 1770A, 2091, 2261A, 2388E, 2388K, 2684D (WF9), 2684G, 2725, 2807B, 2922B, 2960B (WF10), 2962A, 3049, 3086, 3212B, 3362C, 3363A, 3382. Both SF1008 and 1770A may be worked end-scrapers on which the scraping edge has broken.
Notched scrapers	11	SF1403B, 1770A, 1770B, 1865, 2218B, 2261A, 2388B, 2388C, 2898C, 2998 (WF11), 3242B (WF12).
Knives—transverse action (shaving/planing)	26	SF172, 1532, 1575, 1599 (WF8), 1607, 1659, 1678B, 1735, 1770B, 1865, 2091, 2218B, 2285, 2388D (WF13), 2388E, 2551, 2724 (WF6), 2898B, 2922C, 2960C, 2972A (WF14), 2972C, 3212A (WF15), 3212B, 3242C, 3362A.
Knives—longitudinal action (cutting/sawing)		
a) Light use	9	SF1403B, 1523, 1770C, 1988, 2218B, 2219B, 2388F, 2749 (WF16), 2960B (WF10).
b) Heavy use	23	SF1008 (WF7), 1403A, 1462, 1594E, 1659, 1678B, 2388B, 2388H, 2440 (WF17), 2551, 2684A, 2684B, 2684E, 2807, 2870, 2922A, 2929, 2960C, 2962B, 2972B, 3241, 3242A, 3369.

Of the flakes used with longitudinal action, five have edges smoothly blunted by wear (SF1008, 1403A, 2388B, 2440, 2807) and three bear traces of gloss on or near the edge (SF1403A, 2551, 2870).

Blades and blade segments

In addition to 12 complete blades, nine are truncated by the snapping off, either deliberately or accidentally, of one tip, usually the bulbar end. There are also seven fragments or segments of blades resulting from the removal of one or both ends, and these may have formed part of composite tools. The size of the complete and near-complete blades varies greatly, ranging up to 100mm, but four of the complete blades and six truncated examples measure 40mm or less in length, and four of the segments appear to be from blades of microlithic proportions. All blades and blade segments show signs of edge wear consistent with use.

Description	No.	
Small blades		
Knives—longitudinal action		
a) Light use	2	SF2396B, 3063.
b) Heavy use	4	SF1747 (WF18), 2807A, 3003, 3031.
Small blade segments—		
Borer	1	SF2962C.
Knife—transverse action	2	SF2388G, 2714.
Larger blades—		
Knives—transverse action	4	SF1060A (WF19), 1791 (WF20), 1833B, 2272 (WF21).
Knives—longitudinal action		
a) light use	8	SF1608, 1678A (WF22), 1833B, 2081, 2684C (WF23), 3115, 3360, 3361.
b) heavy use	6	SF1596B, 1791 (WF20), 1898 (WF24), 2218A, 2220B, 2272 (WF21).
Larger blade segments		
Knife—transverse action	1	SF2041A.
Knives—longitudinal action		
a) light use	2	SF3053, 3210.
b) heavy use	1	SF1572 (WF25).

Two blades (SF2272, 2807) have edges smoothly blunted by wear, and three blades (SF1678A, 2081, 2272) and two blade segments (SF2388, 2396) have traces of gloss on or near the edge.

The specialised function of the blades of all sizes as cutting implements, contrasted with the much wider range of uses indicated among the less uniform flakes, is clearly apparent. To what extent in this small and residual assemblage this is a functional, and to what extent a cultural variation is, of course, impossible to say.

Flint working

There is little or no evidence for flint working on the site. The total quantity of waste material is small and includes few cortical flakes. All the classifiable cores and the core rejuvenation flakes have been utilised, so that in this context they should perhaps be regarded primarily as implements.

A remarkably high proportion of the flakes and blades without secondary working have been utilised (78%), including some very small specimens. This doubtless reflects to some extent the size of the raw material and the maximum use made of available resources in a region where flint does not occur naturally in great quantities.

Implement typology

WF26-45

Scrapers

Flake scrapers are the most numerous of the implement types represented in the assemblage, but typologically they form a very mixed group. The majority are on struck flakes ranging between 21mm and 41mm in length, and 16mm and 41mm in breadth. Four are on broken flakes, although two of these at least appear to have been broken after manufacture.

They may be classified as follows:

Description	No.	
End scraper— long	1	SF1133A.
short	5	SF1594A, 1594B, 1647 (WF26), 2607, 2811.
oblique	2	SF1572C (WF27), 1895.
Oblique end/side scraper	1	SF2034 (WF28); one edge of this is notched, with a 'spur'.
Side scraper	1	SF1615 (WF29); this is an unusual form. The scraping edge is straight and has been neatly flaked and shows some sign of wear. The distal edge is chipped and heavily abraded by use for cutting.
Disc scraper(?)	1	SF2361A (WF30) (broken).
Truncated oval scraper	1	SF1639 (WF31).
'Thumb' scraper	1	SF2537 (WF32).
End scrapers on broken flakes	2	SF1596A (WF33), 1833A (WF34).
End scraper on natural flake	1	SF2357.

Most of these scrapers are of types found generally in neolithic contexts, although the two oblique end scrapers are somewhat unusual. The 'thumb' scraper SF2537 and the end scrapers SF2607 and 1615 are retouched with invasive scale flaking, and the angle of their scraping edges is shallow, both characteristics which are usually held to be typical of specifically late neolithic or early Bronze Age industries.

Borers/piercers/awls

Seven worked flints were found which may be classed as borers or piercing implements, although most of them showed edge damage consistent with their having been used for cutting or scraping also. The secondary working is generally minimal and crude, sometimes with more delicate scale flaking near the point. All but one are on flakes, and they may be subdivided as follows:

Description	No.	
Tanged points	2	SF1060B (WF35), 2066 (WF36). The tang in both examples is a short stump formed by one or two percussion blows at the bulbar end.
Points on distal end of heavy flakes	2	SF2898A, 3030 (WF37).
Points on broad flakes	2	SF2571, 2865 (WF38). SF2571 is a natural flake, trimmed and used as a point and scraper.
Point on blade	1	SF2960A (WF39). This is a small, narrow blade of triangular section, delicately flaked along spine and round the point. The wear on the point indicates use as a true, rotating awl.

Miscellaneous

Description	No.	
Notched scraper/point	1	SF1596C (WF40)—a short flake with two notches worked on the distal end and a short 'spur'. Similar examples at Windmill Hill and elsewhere have been ascribed to a late neolithic context (Smith 1965: 103ff).
'Nosed' or 'spurred' scraper	1	SF2396A (WF41)—worked on the bulbar end of a truncated blade.
Triangular point	1	SF2220C (WF42)—triangular flake with secondary flaking round the edge, especially on the bulbar face. There is heavy wear on the rounded point, which is at the bulbar end.
Leaf arrowhead(?)	1	SF2041B—small flake of rounded, truncated leaf shape. Scale flaking on dorsal face; wear on edges.
Petit-tranchet derivative	1	SF2220A (WF43)—Class B according to the system originally proposed by Clark (1934).
Petit-tranchet	1	SF2885 (WF44).
Microlith—obliquely blunted point	1	SF1467A (WF45).
Palaeolithic scraper	1	SF2744B.

Conclusions

The range of implement types represented indicates that this is not a homogeneous assemblage, and the analysis of blades and flakes, for what it is worth, supports this conclusion.

The palaeolithic scraper is probably intrusive on the site. The microlithic point and the petit-tranchet arrowhead, together with the small blades and blade segments, seem to constitute a mesolithic element, and it is possible that some of the scrapers are mesolithic also. The bulk of the assemblage appears to be neolithic and domestic in character, and certain of the implements are of forms generally considered to belong within a late neolithic context, including the three scrapers mentioned previously, the 'spurred' implement (SF1596C) and also probably the petit-tranchet derivative.

The relatively small numbers of flints from the St Peter's Street site do not in themselves constitute firm evidence of a settlement or settlements within the area of the excavation, but they form part of a growing body of direct and indirect evidence of prehistoric occupation within and around Northampton, on either side of the Nene valley. Excavations on and around the site of Northampton Castle carried out by Alexander between 1961-63 and by the Northampton Development Corporation Archaeology Unit from 1975-1978 have produced larger assemblages of flint of similarly mixed character. On the outskirts of Northampton surface scatters of flints of all periods from mesolithic to Bronze Age occur in many fields, and neolithic sites have been excavated at Ecton (Moore *et al.* 1975) and at the causewayed enclosure on Briar Hill (Bamford 1976).