5

THE NON-CERAMIC FINDS FROM THE NORTHGATE

S Rendell R Ryan

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INTRODUCTION

J Walker

The small number, low volume, and disparate types of features and remains from the various phases of the site precluded, in general, a detailed layer by layer or context by context analysis of the finds. It was, therefore, decided at an early stage to constrain, in general, comparisons between patterns of objects recovered to phases. Although the division of the site into Areas A, B, and C proved to be useful for the description and discussion of the features, it was felt that a distinction between fort and vicus was more useful when considering finds distribution. The following reports, therefore, describe the deposition of objects in terms of fort and vicus phases; the 'fort' consists of Areas A and B whilst the term 'vicus' is synonomous with Area C.

The prevalence or otherwise given to individual reports in this, and the following chapter, reflects not the size of the original contributions but rather the editor's view of their relevance to present and future work on early Manchester. The numbers without a preceding 'F' in all the catalogues and descriptions are the 'accession numbers' of the objects that are now held by Manchester Museum. These numbers should be preceded by the year of accession, but this has been included only in cases where the year of accession was other than 1981.

(a) THE COINS

V Tanner

Coinage was introduced into the North-West by the Romans and is the first evidence for commercial trade in the region. All of the coins from the site are low denomination bronze issues that were presumably both paid to the troops and circulated within the vicus. The existence of these issues is evidence of normal money-based trade taking place in Manchester.

The coins are catalogued by phase. Some of them were so corroded as to preclude precise identification.

Table 5.1

ROMAN COINS FROM THE NORTHGATE EXCAVATIONS

The Fort

Phase 2a

F253, 3158 Bronze coin
(F253 - fill of F252, a Phase 1 feature)
Obverse: Laureate head facing right
IMP - AUG GERM COS -
Reverse: Standing figure facing left
Type: As
Date: Probably Domitian, AD 81-96

F1090, 2236 Bronze coin, extensively corroded.
(F1090 - fill of F1077, Phase 2a)
Obverse: Head facing right
Reverse: Standing figure facing left
Type: As or dupondius
Date: Possibly Domitian AD 81-96

Phase 2b

F706, 3132 Bronze coin, extensively corroded
(F706 - fill of F710, Phase 2b)
Type: As or dupondius
Date: Unknown

Phase 3b

F270, 3166 Bronze coin, extensively corroded
(F270 - fill of F1176, Phase 3b)
Obverse: Laureate head facing right
Type: Sestertius
Date: Probably Domitian, AD 81-96

Phase 4c

F63, 1979, 2064 Bronze coin
(F63 - fill of F1302, Phase 4c)
Obverse: Diademed bust facing right
Reverse: Winged Victory, holding laurel wreath in right hand (SALUS REI) PUBLICAE
Type: As
Date: Constans AD 337-50

F63, 1979, 2065 Bronze coin
Obverse: Radiate bust facing right
Reverse: Standing figure holding long torch in left hand, possibly Diana Lucifera
Type: Antoninianus
Date: Gallienus AD 253-68

Phase 5

F536, 3113 Bronze coin, extensively corroded
(F536 - overlain by F59, Phase 6)
Obverse: Head facing right
Reverse: Standing figure
Type: As or dupondius
Date: Possibly Antoninus Pius AD 138-61

The Vicus

Phase 2a

F877, 3186 Bronze coin extensively corroded
(F877 - fill of F868, Phase 2a)
Obverse: Radiate head facing right
Reverse: Standing figure. SC in exergue
Type: As or dupondius
Date: Possibly Nero AD 54-68

Phase 2b

F969, 3187 Bronze coin, extensively corroded
(F969 - fill of F868, Phase 2a)
Observe: Head facing right
Reverse: Standing figure
Type: As or dupondius
Date: Possibly Domitian AD 81-96

F969, 2239 Bronze coin
Obverse: Radiate head facing right
IMP CAES DOMIT AVG GERM COS (V) II CENS PREP P
Reverse: Standing figure facing left
FORTVNAE AUGUSTI SC
Type: Dupondius
Date: Domitian AD 81-96

F467, 3185 Bronze coin, extensively corroded
Obverse: Radiate head facing right
Type: As or dupondius
Date: Unknown

Phase 2c

F923, 3188 Bronze coin, extensively corroded
(F923 - fill of F830, Phase 2a)
Obverse: Head facing right
Reverse: Standing figure holding shield (S)C in exergue
Type: As or dupondius
Date: Unknown

F923, 3184 Bronze coin
Obverse: Radiate head facing right
Reverse: Standing figure, holding spear
Type: As or dupondius
Date: Unknown

Phase 3a

F734, 3151 Bronze coin
(F734 - fill of F732, Phase 3a)
Obverse: Radiate head facing right
IMPN AUG GERM
Reverse: Seated figure facing left

SMALL FINDS (EXCLUDING NAILS): % OF TOTAL NUMBERS FROM EACH PHASE

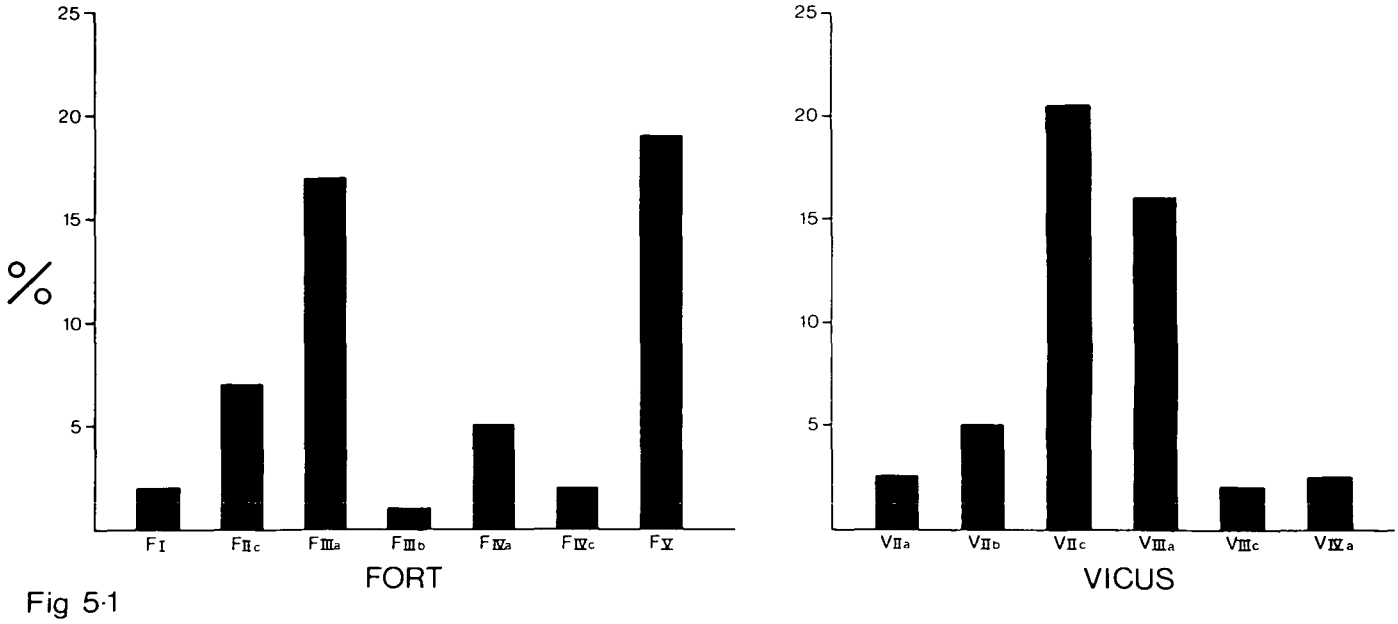


Fig 5·1

(b) METAL OBJECTS (fig 5.1)

R Ryan and S Rendell

Many of the objects discovered during the course of the excavations were introduced by the Romans into the area. In total 332 metal objects or 'small finds' were recovered from the excavation, 176 of which were identified as iron nails and are discussed separately. Of the remaining 156, 92 were iron, 50 were bronze and 14 lead. Of the iron, 44% was so corroded as to be unidentifiable; of those finds that remained 24 were identified as boot studs. Around 60% of the bronze was unidentifiable, as was approximately 50% of the lead.

The objects were listed according to material and the phase in which they appeared, in order to facilitate an understanding of the chronological development of the site and to highlight any differences between the phases.

The totals of small finds from all the phases show an interesting relationship to both the nail and coarseware pottery totals (fig 5.2). If we assume that small finds and coarseware are two classes derived from the same population, then it should be possible to test whether the hypothesis is correct by using chi-square tests. The result of these tests indicates that the depositional pattern affecting coarseware and small finds is probably different. The highest percentages of small finds occur in Fort 2 and 3a, Vicus 2c and 3a. These phases are associated with the demolition and abandonment of the Phase 2 fort, and the subsequent expansion of the civilian settlement that came with the building of the larger timber fort. These phases account for the highest percentage of the coarseware (49%), the small finds (45%) and the nails (62%). The large number of small finds recovered from the post-Roman phase (Fort 5) are all of Roman origin, and although they are residual the identifiable artefacts give some insight into the development of the site during the later stages of the Roman occupation.

Very few finds were retrieved from the first phase of Roman military activity on the site (fig 5.3). A rim fragment of an iron vessel was found above natural under the first phase rampart.

During the Fort 2 phase, the fort defences were improved. From contexts associated with this phase, a bronze fitting, a bronze plumbob, and a bronze eyelet were recovered, the latter two from occupation layers. This phase of the site's occupation ended with the demolition of the fort; the remaining small finds deriving from the demolition deposit F241.

Vicus 1, 2a, 2b and 2c are associated with the early military phases of the fort. During Vicus 2a and 2b metal-working furnaces were constructed outside the northernmost perimeter of the military defences, alongside the main exit road. No industrial function can be assigned to the identifiable metal finds from these phases. Vicus 2c is made up of the debris from the systematic destruction of all structures and defensive work prior to the site's abandonment or redevelopment. This phase gives us the largest percentages of all finds recovered from the site, accounting for 34% of the nails, 33.3% of the coarseware and 20.5% of the small finds. Of the total number of small finds in this phase, 36% came from backfilled hearths, while the remaining finds were located either in rubbish pits or in association with material used for the backfilling of ditches. Fragments of iron blades and a split-spike loop were found in the backfill of hearth F655 which also contained a bronze finger ring. A number of other blades and tools were recovered from areas associated with industrial activities on the site. Bronze and lead fragments also appeared in the fill of the hearths. It is likely that the lack of personalised items from this phase is due to its military and industrial character.

Fort 3a and 3b fort cover the military phases of the larger timber fort. The small finds assemblage for these two phases is characterised by a variety of bronze objects, nearly all of which occur in Fort 3a.

Soon after the building of the new timber fort, a settlement of a more civilian and domestic nature (Vicus 3a and 3c) was established along the main exit road outside the fortifications. The main feature in Vicus 3a is building F727, and all the finds in this phase occur in association with this feature. The second largest percentage of nails come from this phase, and two large iron fittings which may also be related to this structure. A number of brooch fragments were found in this phase : a 3rd century disc brooch (see below) was recovered from outside this building and two brooch fragments came from a construction trench. The bronze key and the bronze bar were found in a drainage gully immediately outside F727. 17.7% of the coarseware occured in this phase. However, few datable finds were recovered from the floor levels in the building.

The finds from Vicus 3a make up only 2% of the total number of small finds. A fragment of an iron finger ring and a bronze and lead stud were found in the fill of a stake hole outside the building F727 which can possibly be associated with a post-727 property boundary.

During phases Fort 3a and 3b and Vicus 3a and 3c, small finds of a more decorative type occur with greater frequency than in previous phases. In some cases it is difficult to determine whether these are military accoutrements or civilian ornaments. In fact these finds provide no secure evidence for inferring any distinction between military and civilian occupation.

In Phase 4a the timber fort was replaced by a stone fort. The defensive ditch system was reorganised and most of the finds from this phase come from the recut ditches; these include the bronze dress fastener and the bronze spoon bowl. All other finds were recovered from the intervallum road and the main exit road. The main exit road also produced all the small finds from Vicus 4.

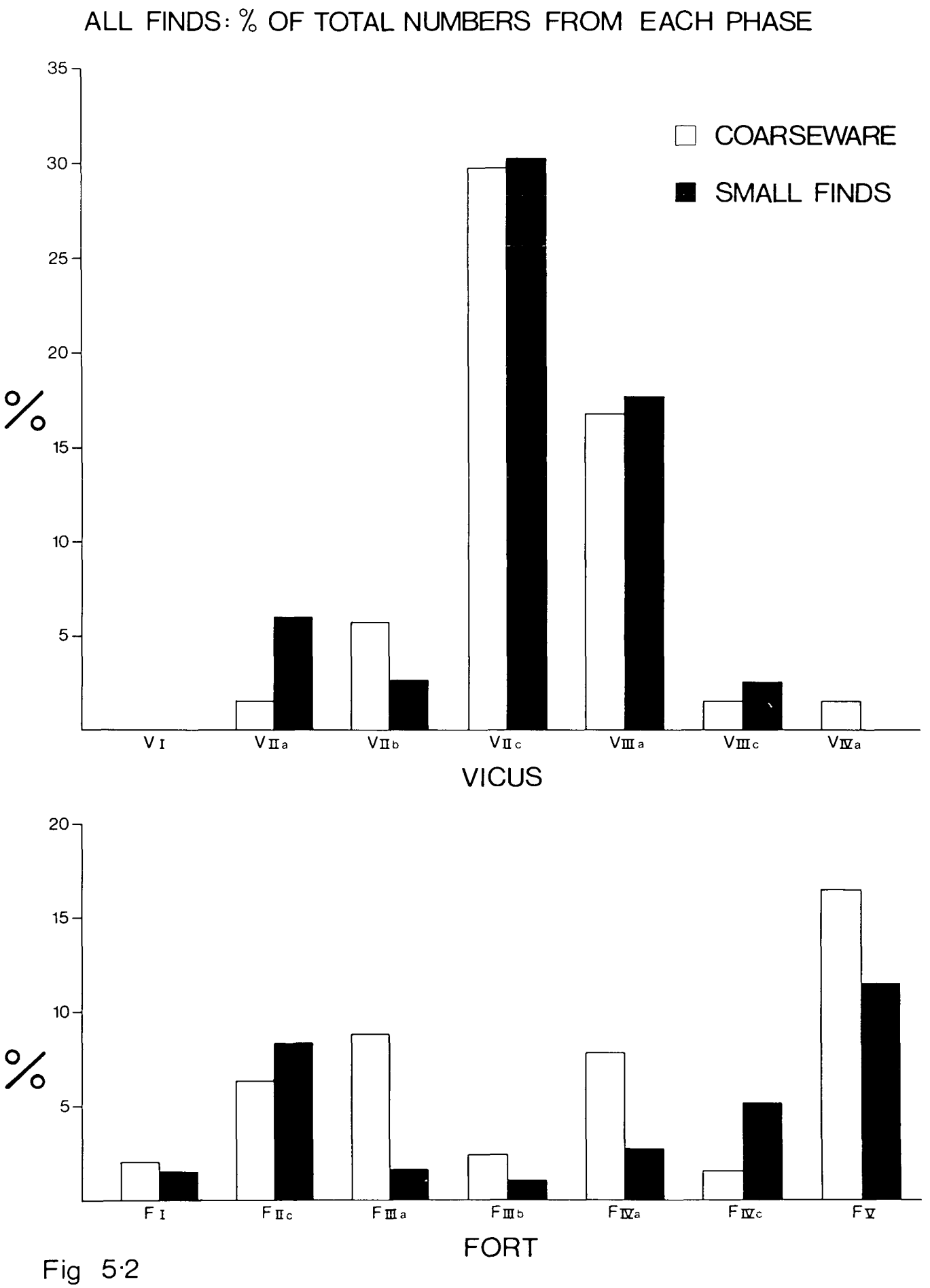

ALL FINDS: % OF TOTAL NUMBERS FROM EACH PHASE
COARSEWARE
SMALL FINDS
%
35
30
25
20
15
10
5
V I
V II a
V II b
V II c
V III a
V III c
V IV a
VICUS
%
20
15
10
5
F I
F II c
F III a
F III b
F IV a
F IV c
F V
FORT

Fig 5·2

SMALL FINDS : % OF MATERIAL BY PHASE

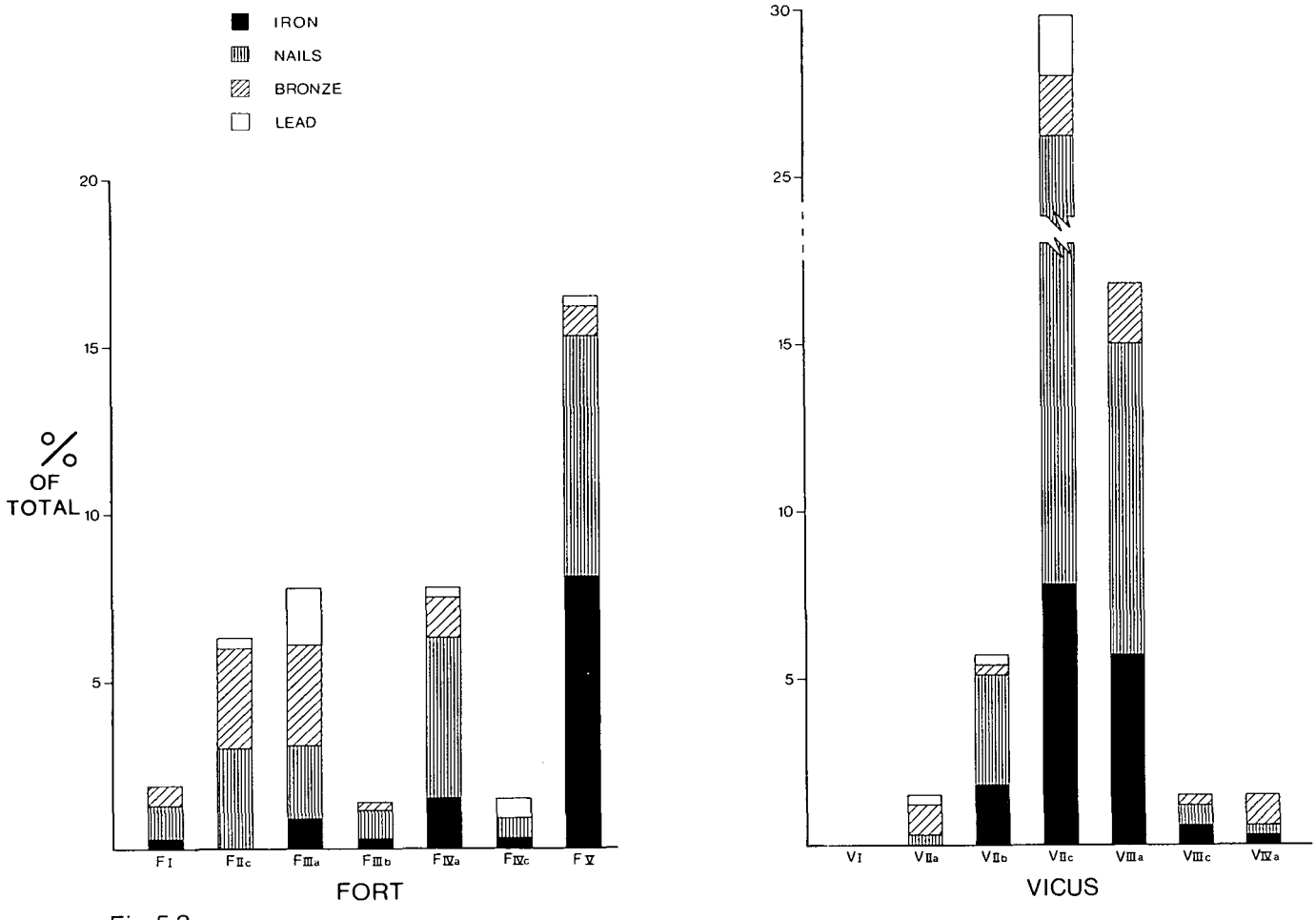


Fig 5·3

Roman military occupation of the site ended in Fort 4c. The remainding finds, clasified as Fort 5 are of Roman origin and therefore residual. These include a large number of nails (19.8%), and a Roman bronze lock. The finds from this phase are dispersed unevenly over the site. Reuse of some of the finds in post-Roman times may account for this.

(c) BROOCH REPORT

D F Mackreth

F514, 3101 (Vicus Area C, Phase 3a)

A gilded bronze brooch (fig 5.5) was found in F514, a cobble spread running east of the main exit road. The spring of this brooch was once mounted on an angle pierced lug behind the oval plate. In the centre is a raised cell containing a paste conical gem of green, marbled with yellow and red. Around this are two recessed zones separated by a ridge and the whole is bordered by a wide ridge with a groove around it. In the inner zone is a stamped ornament, made up of a circle-within-a-circle. In the bordering groove is a series of punched dots. The back of the brooch was tinned or silvered and the front gilded.

There is every indication that enamelled single lug brooches and the succeeding gilded ones, such as 3101, are British in origin: the gilded brooches are common in Britain and rare on the Continent. That there is a progression from one type to the other is shown by the development of the central boss, often with an inlaid paste intaglio, when the rest of the brooch is enamelled (Atkinson 1916, 35, pl IX 34; Boon 1974, fig 19.3). The use of imitation intagliones carries on when the brooch becomes decorated with stamps and decked with gold (Biddle, unpublished).

Otherwise, the central ornament is usually a conical paste gem as here. Dating evidence is thin. One from Zugmantel and two from Saalburg should have been lost before cAD 260 (Bohme 1972, 9-10, 43, 110, nos 1132-4, Taf 29). One from Augst was found with 3rd century pottery (Riha 1979, 88 Taf 13, 309) but when it comes to examples from Britain, despite the numbers known, the writer knows of only one from a stratified deposit: Fishbourne, late 3rd-early 4th century robber trench (Cunliffe 1971, 106, figs 40-3). How far into the 4th century the brooch type may have lasted can only be guessed at. Gilded brooches become increasingly common, but are, when probably of the 4th century, always bow brooches. It seems likely that these oval or round gilded brooches should be regarded as being essentially 3rd century in date.

(d) SMALL FINDS (figs 5.4, 5.5, 5.6, and 5.7)

V Tanner S Rendall R Ryan

BRONZE OBJECTS

Bronze is readily castable into intricate designs and as such is suitable for the manufacture of decorative artefacts and domestic equipment. The following is a catalogue of all the Roman bronze items from the Northgate excavations.

Table 5.2

ROMAN BRONZE OBJECTS FROM THE NORTHGATE EXCAVATIONS

An asterisk, here and in the following, indicates that the object is illustrated.

ACCESSION NUMBER	CONTEXT NUMBER	DESCRIPTION
Phase 2 Fort		
3161	234	Brooch fragment; plate of brooch edge hole still apparent
3106	241	Curved head of pair of tweezers; 11mm remains
3127	241	Bar; 27mm x 4mm
3127	241	Bar; 16mm x 9mm
3163*	241	Plate with wedge shaped heel; plate is perforated by pin with irregular head; plate 16mm, heel 14mm, total length 22mm
3104	253	11 fragments of scrap metal including two strips folded one inside the other; 26mm x 21mm
3165*	274	Weight or plumbob; hollow, with loop for suspension at top; total height 25mm, weight 16.16g (Heighway and Parker 1982, 59, no 2)
3133	736	Eyelet; length 5mm
3179*	996	Fitting with small holes at the end of each curved arm, surmounted by central loop; height 33m, span 25mm, possibly part of a balance
Phase 3a Fort		
3176	984	Fragment of pin head
3177	984	One unidentifiable fragment
3180	984	Fragments of partially folded strip; 29mm x 15mm
1694*	1197	Belt fitting with moulded decoration; length 69mm, width at widest point 25mm. Possible parallel from Aldborough (Macgregor 1976, 30).
1703*	1197	Split pin fragment; 30mm remains
Phase 3b Fort		
3159	205	One unidentifiable fragment
Phase 4a Fort		
3164*	235	Button-and-loop fastener; perforated triangular terminal with decorative motif; length 33m, width of triangular terminal 10mm (Macgregor 1976, 132, no 10; Wild 1970, 139 fig 1, class 1)
3138*	784	Spoon bowl in two fragments; the appearance of lead solder between the two halves suggests that it had been repaired; length 26mm
Phase 5 Fort		
3156*	518	Bar broken at both ends; slightly curved, decorated with two sets of incised parallel lines; also a circular perforation at one end; possibly fragment of ribbon-strip bracelet; 16mm x 4mm x 2mm
3139	802	Stud; flat, round head; remains of small square sectioned pin is attached through the head plate; head diameter 6mm
3183*	953	Lock-plate; length 65mm (Cunliffe 1971a, 118, fig 50, no 137)

Phase 2a Vicus

1776	913	Tubular fragment; length 6mm

Phase 2b Vicus

3126	272	Bar; very corroded; length 9mm

Phase 2c Vicus

3124	467	Pin fragment; one end slightly curved, other end flattened to very thin disc shape; length 17mm, diameter of shaft 1mm, diameter of disc 1.5mm
3120	633	Bar, possibly fragment of pin from penannular brooch; 7mm x 4mm
3152*	655	Finger ring; external diameter 22mm, internal diameter 15mm
3174	860	Unidentifiable fragment
3189	923	Unidentifiable fragment

Phase 3a Vicus

3101*	514	Disc brooch; see section (c) above
3153	856	One unidentifiable fragment
3193*	1098	Brooch fragment; head spring and upper part of bow; grooved decoration and raised boss on the bow; 37mm remain. Dolphin brooch (Collingwood and Richmond 19 , 295).
3194*	1098	Brooch fragments; two fragments of a fibula consisting of the foot of the bow (27mm) and part of the catch plate. Trumpet brooch (Collingwood and Richmond 19 , 296-7).

Phase 3c Vicus

3150*	819	Key; perforated head with pin; 33m x 18mm
3148	835	Bronze and lead stud; length 17mm, diameter 12mm

Phase 4 Vicus

3121	466	Finger ring; undecorated; diameter 20mm
3114*	468	Spring; hinge of fibula; length 17mm

IRON OBJECTS

Iron has particularly good wear-resistant properties, and because of its strength is suitable for building purposes. A large number of nails and various other finds which may have been used for such purposes have been recovered from the site. Implements requiring an effective cutting-edge, for example the knives, have similarly been manufactured from iron. The results of the analysis of slag from Phase 2 and 4 contexts indicate that iron was probably being produced in blooming hearths in the vicinity of the site.

Table 5.3

ROMAN IRON OBJECTS FROM THE NORTHGATE EXCAVATIONS

Phase 1 Fort

3362*	569	Fragment of vessel; rim and part of body; diameter of rim 29mm, diameter of complete object 16mm

Phase 3a Fort

3683	919	Three fragments

Phase 3b Fort

3303	169	One fragment

Phase 4a Fort

3316	242	Boot stud
	784	Four fragments

Phase 5 Fort

3139	802	
3450	805	Boot studs, presumably for the heavy Roman boot, the caligula.
3635	806	

Phase 2c Vicus

3686	467	One fragment
3652	655	Heavily corroded knife blade; 79mm x 29mm at widest point
3534*	655	Split-spike loop; loop very corroded; 73mm remains
	754	Twenty boot studs
3510	767	Shaft; shallow hook at one end; 85mm remains
3452*	795	Shaft; possibly knife handle; encased in bone; length 37mm
3654	863	Small blade; length 96mm
3679	886	Knife blade fragment; 24mm x 20mm

Phase 3a Vicus

3335*	514	Bracket
3442*	514	Collared shaft; length 110mm, diameter 10mm
3385	643	Knife blade; 94mm x 24mm
3366	643	Ten fragments
3472	694	Tanged tool; possible knife blade; length 82mm

Phase 3c Vicus

3366	566	Two fragments
3149*	835	Fragment of finger ring with bezel; diameter 21mm

Phase 4 Vicus

3347	468	Tip of knife blade; 34mm remains

LEAD OBJECTS

Most of the lead finds are pieces of scrap metal found in association with the pits and hearths. Lead is a soft, malleable metal and since it melts at a relatively low temperature, can be readily cast in moulds. In its normal cold state it can be worked by hammering, and a number of pieces from the site show indications of having been scored. Since the metal does not corrode, it was particularly useful in the manufacture of piping and sheeting during the Roman period and, being a heavy metal, was useful in the manufacture of objects requiring weight, as in the case of the plumbob.

Table 5.4

ROMAN LEAD OBJECTS FROM THE NORTHGATE EXCAVATIONS

Phase 2 Fort

3128	241	Curved shaft; decorative terminal; 25mm
3102	241	Three corroded fragments
3134	736	Fragment of sheet; form is roughly rectangular, deliberately cut; 28mm x 17mm x 3mm

Phase 4a Fort

3141*	809	One piece of sheeting, both sides appear to have been scored; it is perforated by one hole; 40mm x 23mm x 3mm

Phase 5 Fort		
3157	806	Fragment of round sectioned bar; 14mm remains
Phase 2a Vicus		
3195	913	Fragment
3190	1031	Fragment
Phase 2b Vicus		
3191	969	Fragment
Phase 2c Vicus		
3107	451	Bar or plug; length 31mm, diameter 8mm at broken end tapering slightly to the rounded end; the surface of the bar is covered with wood remains suggesting that it was a lead plug pushed into a wooden surround
3147*	768	Bar; triangular cross section; there is a small folded hook-like protrusion at one end on the slightly concave underside
3175	886	Fragment
Phase 4 Vicus		
3110	466	Two fragments

(e) THE NAILS (fig 5.3)

The 176 iron nails retrieved from the excavation have been divided into three general catagories of size.

Small Nails and Tacks 20mm - 30mm

This category made up 41% of the assemblage. Those nails that were complete, or almost complete were seen to have flat round heads and thin tapering shafts, and were square in section. The average total length was 25mm.

Intermediate 45mm - 65mm

42% of the assemblage was classified as of medium length. These were divided into two groups: (a) nails with small conical heads and square sectioned shafts (71%), and (b) nails with thin circular heads, square in section, tapering gradually to a point. The complete nails suggest an average length of 55mm.

Large Nails 70mm - 115mm

Large nails made up approximately 16% of the total assemblage. The shafts were generally square in section. In all cases the heads had been so hammered that no certain shape could be identified.

Such a general classification was necessitated by the very corroded and incomplete condition of most of the nails recovered. The nails were examined in conjunction with the general phasing of the development of the fort and town. The total number of nails in each phase was recorded, and subdivided into the categories outlined above.

The largest total of small nails occurred in Fort 5, Vicus 2c and Vicus 3a: these three phases also gave the largest totals of medium nails. Large nails, however, were concentrated in Fort 4a and Vicus 2b. A breakdown into percentages of the number and size of nails in the fort and vicus shows a predominance of medium and large nails in the fort area, and of small and medium in the town. A concentration of small nails was retrieved from the post-military phase of the site.

From the pattern of figures that emerges it is possible to detect trends in the site's development. At the time of the Phase 1 fort, and the subsequent Phase 2 enlarged fort, all activity on the site was probably of a military nature. This includes the area outside the fort where there is evidence of buildings and metal-working hearths which can be associated with the garrison. From this period (Fort 1 and Vicus 1) only 1% of the nails were recovered.

Large percentages of nails came from Fort 2, and from those phases of the town's development associated with military activity (Vicus 2a, 2b and 2c).

Military reoccupation of the site began with the construction of an expanded timber fort (Fort 3a and 3b). There is a marked paucity of nails from these phases. However, the latter was superseded by a stone fort cAD 200 (Fort 4a, 4b and 4c) and the 7% of nails, including the greatest proportion of large nails which appear in Fort 4a may be associated with the dismantling of the timber defences prior to the buildings development of the stone fort.

During the phases of the military development of the site in both the fort and its environs, medium and large nails predominate, while only medium nails make up the bulk of those recovered from buildings in the civilian phases of the town.

During the period of development of the post cAD 120 timber fort, and subsequent stone fort, the town assumed a more social and domestic role (Vicus 3a and 3c). The demolition of vicus building F727 to make way for the final road phase (Vicus 4) presents the second highest percentage (20%) of nails which can be related to building activities in this period of civilian expansion.

The relatively large group of nails (14%), mostly small and medium, recovered from the post-Roman phases are likely to have come from the latter phases of the Roman civilian settlement.

(f) THE ROMAN GLASS

Jennifer Price

Widespread use of glass objects occurred for the first time in Britain during the Roman period.

The glass assemblage from Manchester appears to date from the 1st and 2nd centuries AD. A significant proportion of the finds were derived from Phase 2 and 3 contexts in the area of the vicus, which also produced a greater range of objects and vessels. All the beads were recovered from these deposits; a result not entirely unexpected if we consider the non-utilitarian nature of such finds, which were more likely to be found outside the fort. Glass fragments did occur throughout Phase 2 to 5 contexts in the area of the fort, but not in such a large quantity as that from the vicus.

30% of the fragments come from bottles, the square and cylindrical handled containers found very commonly on 1st and 2nd century sites (Isings 1957, forms 50 and 51), and it is possible that many of the pieces belong to the 1st century AD, as there are more pieces of cylindrical bottles (thirteen) which usually occur in 1st century contexts, than square bottles (seven) which are found in both 1st and 2nd century contexts. Also a piece of collar rim may come from a square bodied jar (Isings 1957, form 62).

The only other vessel form to be recognised is the long-necked jug with angular handle, two examples of which were present. This vessel form is frequently found in Roman Britain, as elsewhere in the northern provinces, in later 1st and early 2nd century contexts (ibid, forms 52B and 55). Since the vessels have been identified only by their handles, it is not possible to establish the shape of their bodies.

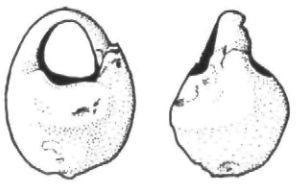
In addition to the vessel glass fragments, eight beads were found, of which seven were faience Melon beads with much of the surfaces remaining in good condition, and one was an opaque blue glass angular bead of Iron Age or Roman type (Guido 1978, group 6, iv). There was also one plano-convex opaque blue gaming piece or counter, from Phase 2 of the vicus.

Table 5.5

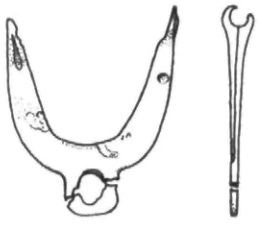
ROMAN GLASS FROM THE NORTHGATE EXCAVATIONS

ACCESSION NUMBER	CONTEXT NUMBER	DESCRIPTION
Fort Phase 2		
3997	244	Bluish green fragment, side and shoulder, square bottle
3996	253	Dark blue curved fragment, (?) part of lower body/base, jug or jar
Fort Phase 3		
3955	615	Bluish green fragment, cylindrical bottle
Fort Phase 4		
3999	91	Bluish green fragment, square bottle
4000	91	Bluish green fragment, cylindrical bottle
3998	242	Bluish green, small fragment
Fort Phase 5		
3957	583	Bluish green fragment, cylindrical bottle
3926	876	Bluish green fragment, shoulder and neck bottle
Vicus phase 2		
3967	288	Bluish green fragment, very worn
3801	467	Gaming piece. Intact plano-convex disc, mid blue opaque. H 6mm, D 13.5mm
3921	655	Bluish green fragment, square bottle
3929	655	Bluish green fragment, cylindrical bottle
3949	707	Bluish green fragment, optic blown spiral trails, (?) jug
3932	838	Bluish green fragment, square bottle
3805	863	Complete small faience Melon bead, H 7-10mm
3806	863	Very small fragment, faience Melon bead
3927	863	Bluish green fragment, handle with ridge, jug
3928	863	Five joining colourless fragments, (?) cup
3924	886	Bluish green fragment, square bottle
3925	890	Bluish green fragment, cylindrical bottle
3808	969	Complete small faience Melon bead, H 6.5mm
3809	1055	Small fragment, large faience Melon bead, H 18.5mm
Vicus Phase 3		
3977-3980	468	Four small bluish green chips, square bottle
3802	477	Complete small faience Melon bead, H 8mm
3961	564	Bluish green fragment, tubular pushed in base ring
3960	566	Bluish green shoulder fragment, cylindrical bottle
3952-3953	643	Two bluish green fragments, bottle rims
3930	694	Bluish green fragment, bottle
3804	781	Complete small faience Melon bead, H 7mm
3931-3934	819	Four bluish green fragments, cylindrical bottle very worn on ridge
Vicus Phase 4		
3954	633	Bluish green small fragment, cylindrical bottle
(Unstratified)		
3803	U/S	Compete (broken and mended) annular bead, mid blue opaque, H 11mm, maximum D 14mm
807	U/S	Half small faience Melon bead, H 9mm

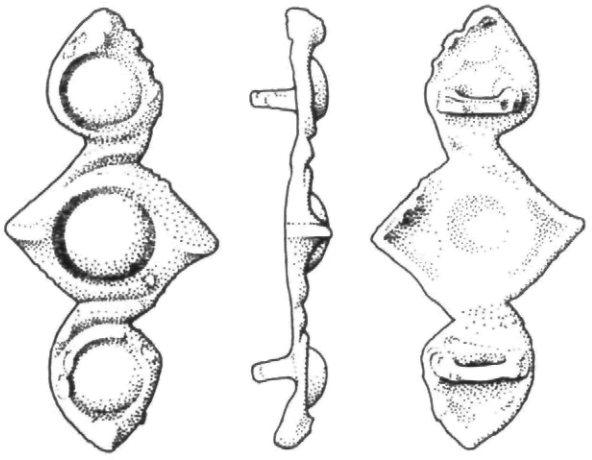
3163



3165



3179



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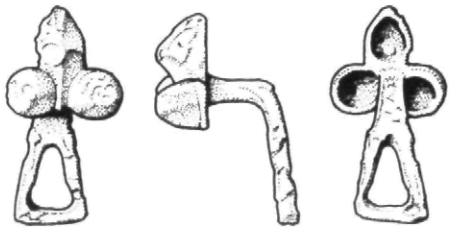

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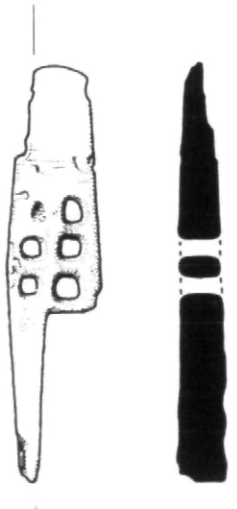

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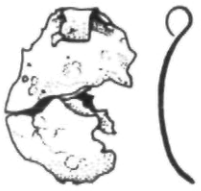

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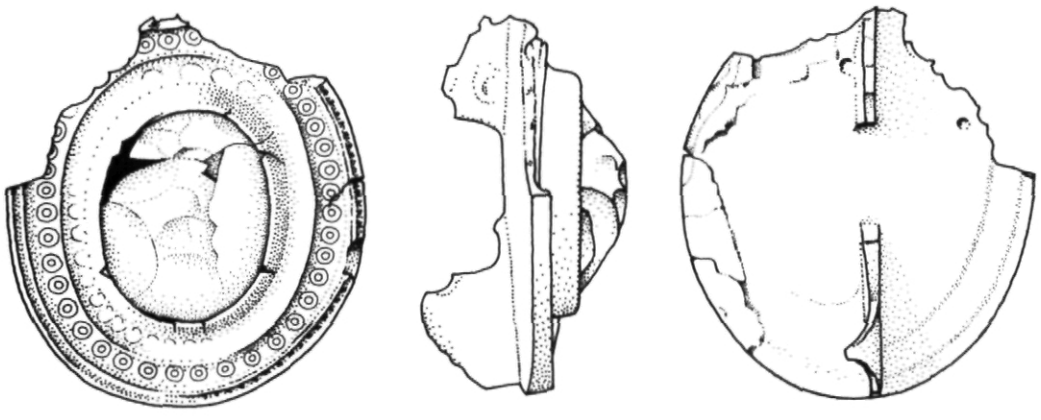
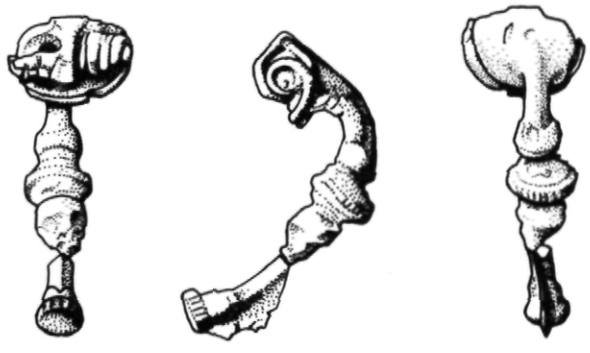
FIG 5.4 BRONZE SMALL FINDS 1:1



3101 (X2)

3152

3193



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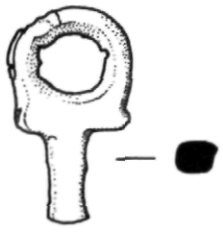
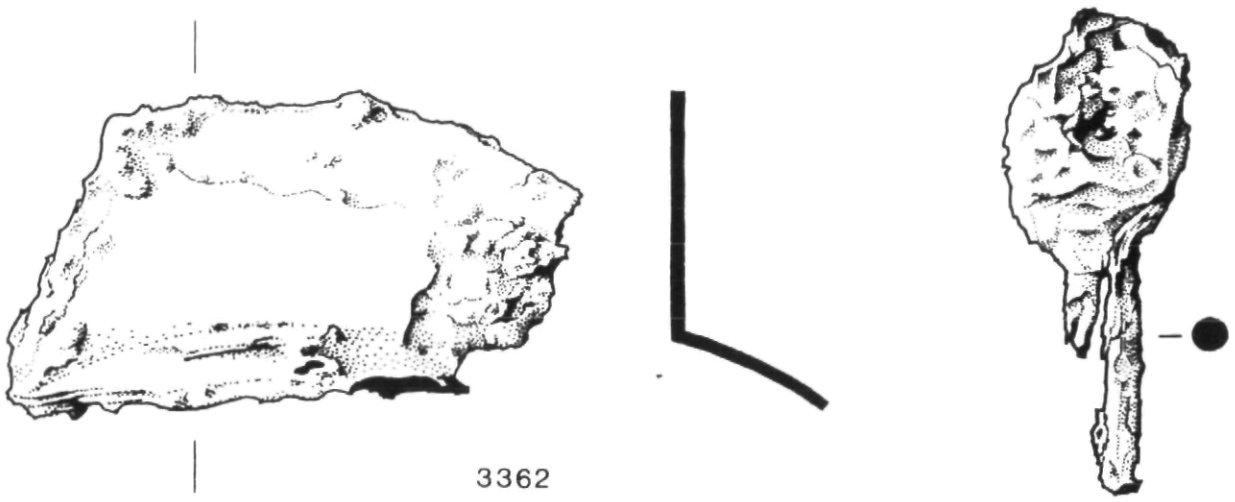


3150

3114 (X2)

FIG 5.5 BRONZE SMALL FINDS 1:1



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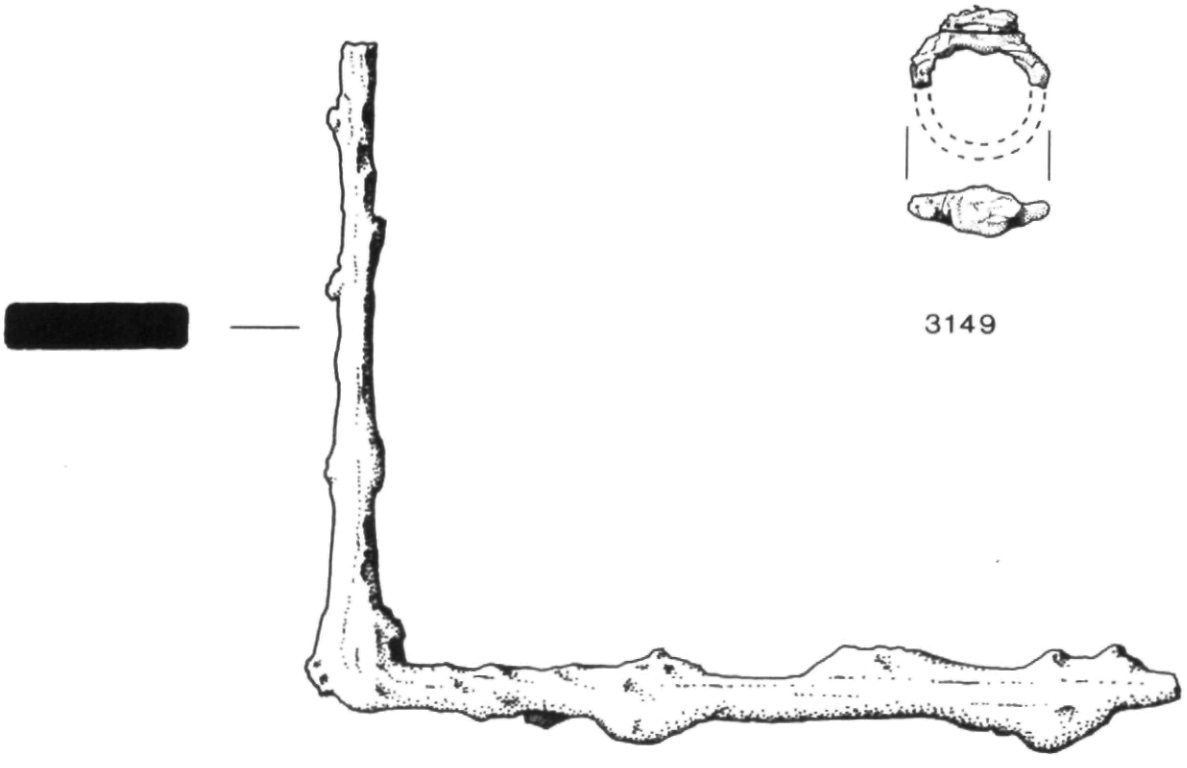
3452



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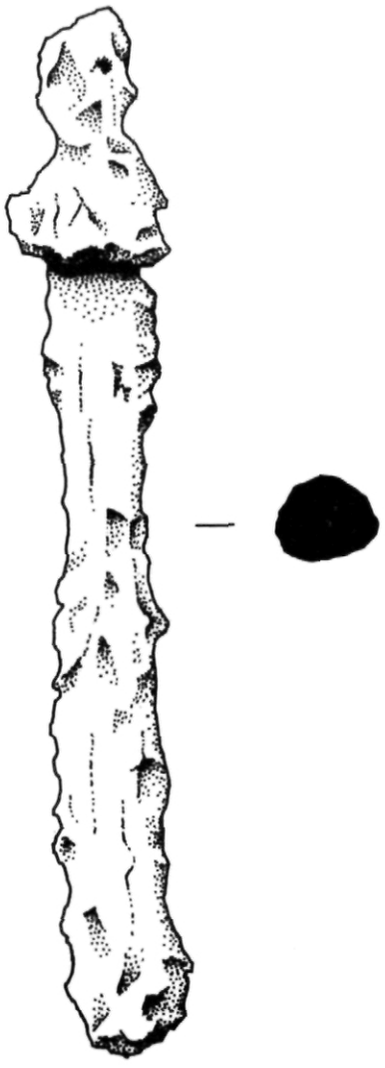
3335 (x2)

FIG 5.6 IRON SMALL FINDS 1:1



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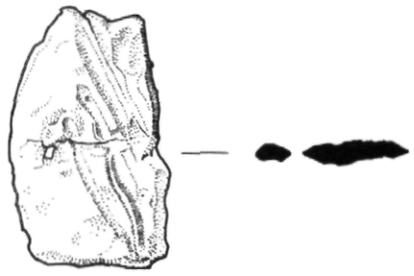

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3147

Fig 5.7 IRON AND LEAD SMALL FINDS 1:1

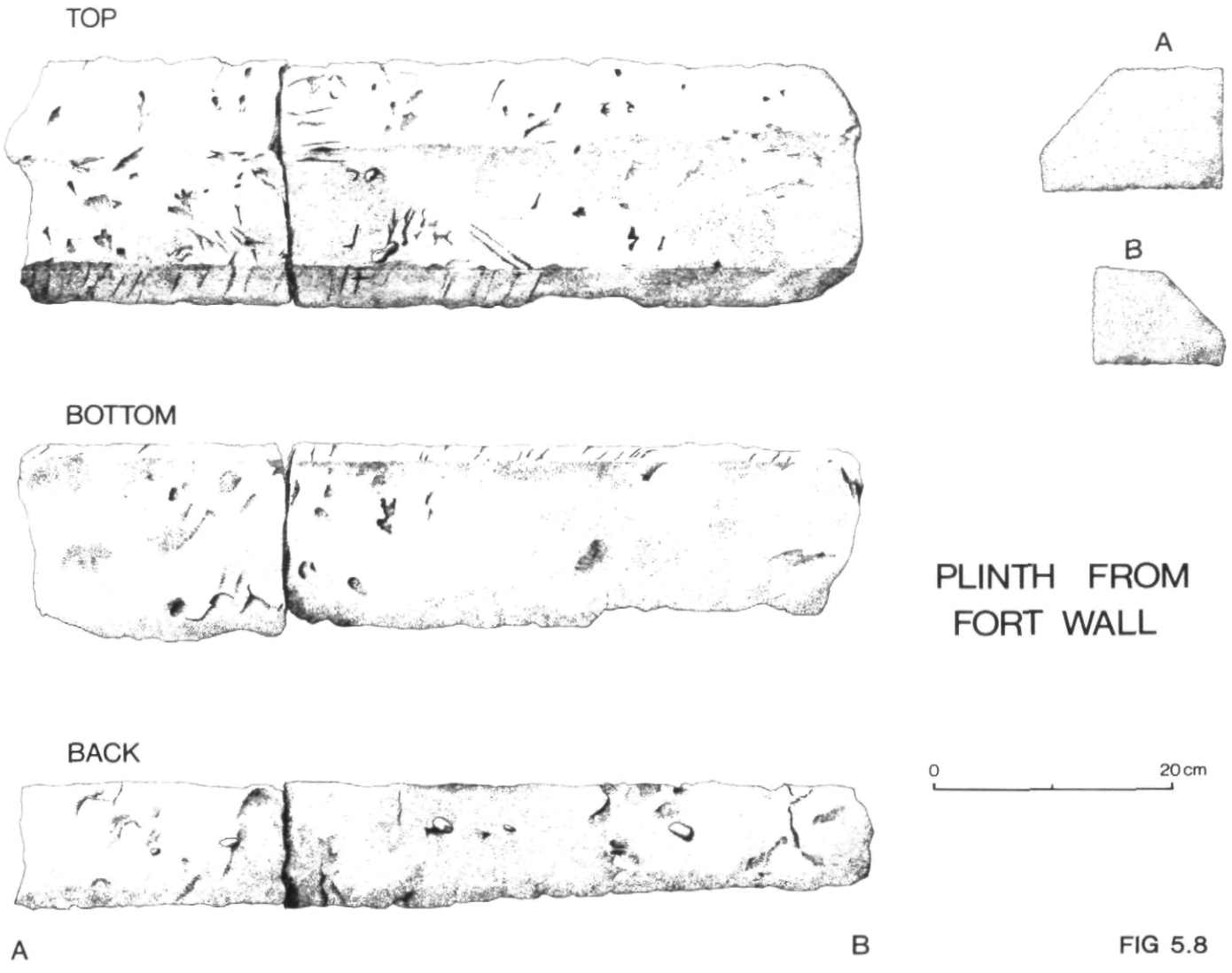


FIG 5.8

(g) THE STONE OBJECTS

V Tanner

Building Stone (fig 5.8)

The fort, Area A Phase 4
Plinth from the fort wall

Traces of a chamfered plinth of red sandstone were recovered lying on top of the foundations of the fort wall. Figure 5.8 illustrates two parts of a section from the wall footing, measuring 0.72m in length. In depth it measures 0.1m and 0.09m at points A and B respectively.

Although made from a soft rock it was still possible to see the marks created by the mason whilst fashioning the plinth, and consequently, to suggest the stages of manufacture the block went through.

After removal from the quarry, the stone was rough-worked most probably by means of a pick, to create a flat block with square ends. Although a small pick will leave marks largely indistinguishable from those created by using a punch, it is most likely that a pick was used in this case, since the block is reasonably large and did not require any fine dressing. Also the evidence of repeated use of a tool over the whole surface, in the form of irregularly spaced pockmarks, would suggest the use of a pick rather than any other instrument (Hill 1981, 9).

Having used a pick for removal of the waste rock, a chisel was probably used for the final dressing of the stone to produce a true surface. Remains of a series of straight grooves running across the front of the plinth were undoubtedly made by a chisel. Final rubbing down to produce a smooth surface may have been carried out by the use of a piece of sandstone, while the back of the stone was allowed to remain in a rough state.

Querns (fig 5.9)

All quern fragments were made from coarse quartz felspar sandstone, of a type found locally throughtout Lancashire and Cheshire. Previous excavations (Jones and Grealey 1974, 129), however, have produced querns presumed to be from sources in Germany.

Large numbers of querns, which were for grinding cereals, have been found throughout the vicus

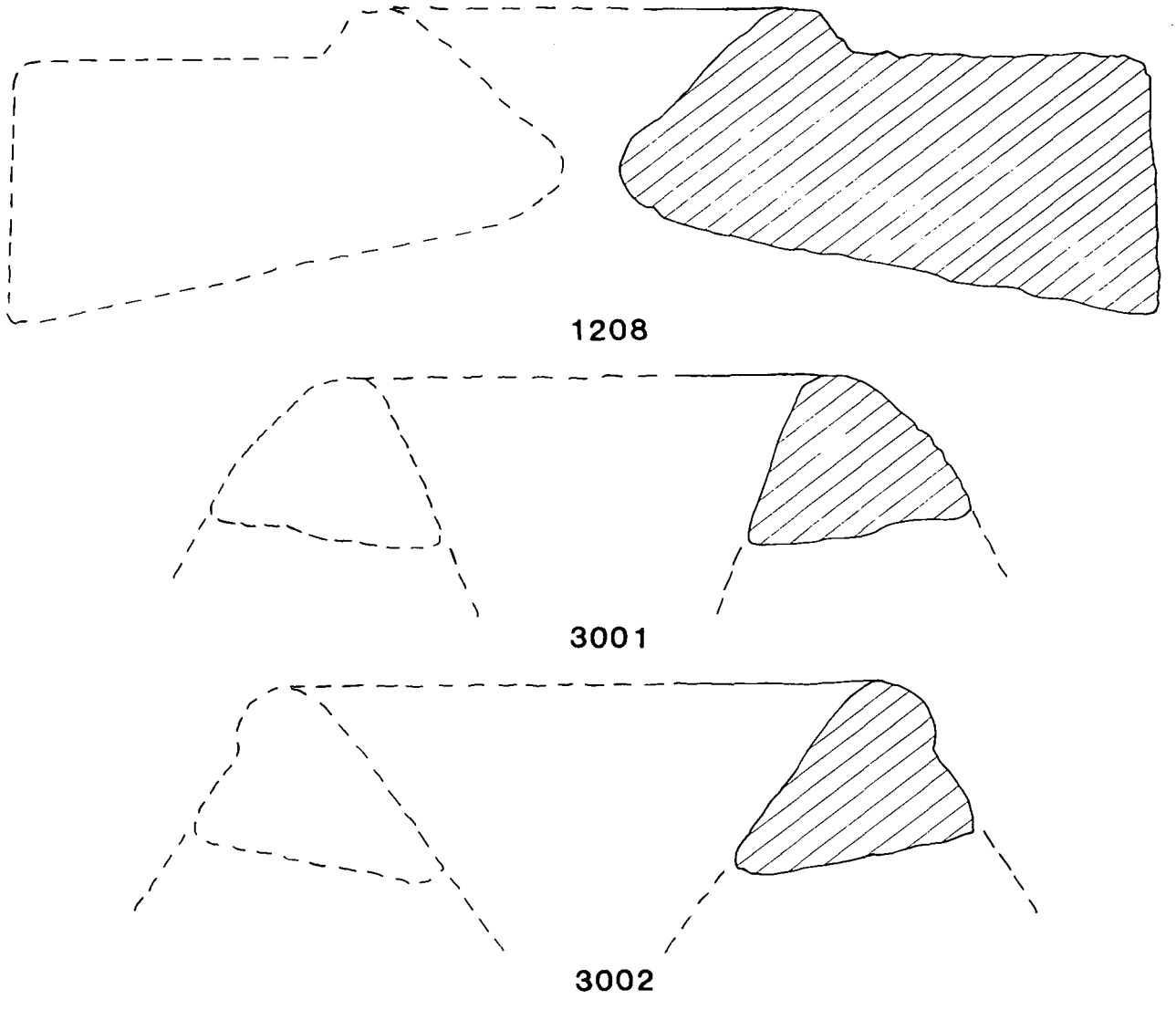


FIG 5.9 QUERN STONES

(Jones and Grealey 1974, fig 47) and within the fort (Bruton 1909, 27). These discoveries together with Atkinson's finding of ovens (1952, 91) and the cereal found in fort Phase 2c are testimony to the large scale consumption of grain which was likely to have been produced locally (Manning 1975).

3001, 692 fragment from the upper stone of a beehive quern. Large hopper. Diameter (at least) 0.24m. A similar quern was found at Newstead Fort, Roxburghshire (Curwen 1937 no 30). Fort Phase 5.

3002, Unstratified fragment from the upper stone of a beehive quern. Large hopper. Diameter (at least) 0.26m. A similar quern was found at Manchester (Jones and Grealey 1974, no 68 fig 47).

1208, Unstratified fragment, about one quarter, from an upper stone of a flat rotary quern. Well-worn grinding surface survives. Short feed-pipe with raised lip around central hole to form hopper. Diameter (at least) 0.33m.

(h) THE FAUNAL REMAINS

LARGE SPECIES

R Hillman

Introduction

The animal bone from the site was associated, in particular, with two phases of occupation. Of the 237 major bones 124 came from layers in Phase 2 and 74 from Phase 5.

A significant quantity of bone was identifiable, for instance, only as fragments of a cow-sized animal or small mammal. It is accepted that information is lost by being unable to identify these undiagnostic fragments, but it is believed that the perils of the 'educated' guess are too great to justify its indiscriminate application.

Methods

Apart from the bones of mice from the amphora which were retrieved by sieving, all diagnostic bone was recovered by hand during excavation. Routine soil sampling was tried but processing was suspended after the first 31 samples had yielded no identifiable fragments. For a fuller account of the soil sampling process used see Morris (1983).

Bones were identified using the small comparative collection at GMAU and, where necessary, by reference to the collection of the Museum of Manchester. A facsimile of the recording sheet, designed for ease of transcription to the computer record, is included in the archive of material held by the museum.

Dental pathology was recorded after the method of Grant (1975) and measurements were taken as detailed in von den Driesch (1976).

For the purposes of analysis, the identifiable bones were counted by context.

Other characteristics of age, pathology, butchery and preservation are considered in table 5.6.

Table 5.6

MEASUREMENTS OF BONE PIECES FROM THE NORTHGATE EXCAVATIONS

PHASE	CONTEXT	SPECIES	BONE	MEASUREMENTS (MM)	
2	253	Cow	mandible	7)	123.3
				8)	70.0
				9)	54.1
				15b)	45.1
				15c)	29.2
5	803	Cow	mandible	7)	121.2
				8)	87.2
				9)	40.1
				10)	36.5, 14.7
				15a)	69.0
				15b)	54.5
2	244	Cow	scapula	SLC	45.7
2	253	Cow	scapula	SLC	50.3
5	899	Cow	scapula	SLC	45.5
				BG	40.7
2	153	Cow	cervical vertebra	BFcr	27.7
				HFcr	33.7
4c	84	Cow	pelvis	LA	63.8
2	268	Cow	astragalus	GLM	58.2
				Bd	40.2
2	253	Cow	metacarpus	Bd	59.6
4a	630	Cow	metacarpus	Bp	45.2
				Sd	24.0
				DD	(17)
5	92	Cow	metatarsus	Bp	46.1
2	253	Cow	metatarsus	Bd	46.8
2	332	Cow	metatarsus	Bp	(35)
3	667	Cow	metatarsus	Bd	(46.5)
4c	84	Cow	phalanx I	Bd	26.2
4c	85	Cow	phalanx II	Glpe	50.8
				SD	23.7
				Bd	24.5
5	97	Cow	phalanx II	BP	24.7
				SD	20.2
2	245	Cow	phalanx II	GL	(33.2)
				SD	18.6
				Bd	19.5
2	245	Cow	phalanx	GI	36.0
				Bd	(17.0)

2	245	Cow	phalanx	MBS	20.0
2	253	Cow	phalanx	MBS	17.4
2	253	OVC	scapula	SLC	18.4
2	253	OVC	radius	Bp	27.0
				BFp	(25.6)
2	253	OVC	radius	Bp	23.6
				BFp	22.0
2	253	OVC	ulna	LO	37.4
				DPA	22.8
				SDO	19.0
				BPC	15.0
5	2	OVC	tibia	Bd	20.7
2	245	OVC	centrotarsal	GB	20.0
2	245	OVC	calcaneum	GL	42.2
				GB	17.8
5	921	OVC	metacarpus	Bp	17.8
2	253	OVC	metacarpus	Bp	18.4
4c	84	OVC	phalanx	Bp	11.6
				SD	9.7
				Bd	10.5
5	92	Pig	humerus	Bd	(38)
				BT	33.4
2	253	Pig	humerus	SD	13.6
2	253	Pig	ulna	DPA	36.0
				BPC	19.4
3	225	Horse	p₁n3	L	26.0
				B	24.6
4c	103	Horse	m3	L	25.8
				B	21.9
5	921	Horse	radius	Bd	(69)
				BFd	(59)
2	718	Horse	tibia	Bd	(69)
4a	470	Horse	phalanx I	GL	63.8
2	268	Dog	humerus	GL	133.8
				GLC	129.6
				SD	10.2
				Bd	26.0

OVC = Ovicaprid

Estimating the Number of Animals Present

Fragment Count

The number of fragments suggest that cattle were the most numerous of all animals, since over 60% of the bone found was from the carcasses of cattle, as against sheep which accounted for 18% of the fragments. Pig and horse, in that order, were both poorly represented and there were some dog and deer bones.

In Phase 2, the proportion of cattle bones was 70% with small amounts of sheep, pig and horse. In Phase 5 the proportion of cattle bones had dropped to 57% with sheep and pig rising to 22% and 15% respectively.

The calculation of the minimum numbers of individuals represented by the fragments attempts to side step the problems posed by fragmentation. The long bones of cow and horse, for instance, are more likely to break than those of sheep and pig and so be over represented in fragment counts.

For the purpose of comparison, the minimum numbers are calculated assuming that each context is completely isolated and that the bones of any individual could not possibly rest in more than one context.

This method will certainly give a value higher than that obtained by using the phase, rather than the context as the basic unit, but as a method for comparing the relative importance of the species concerned it is felt to be adequate.

The MNI results confirm the basic trend revealed by the fragment count study. Cattle predominate, followed by sheep and pig, except in Phase 2 where horse outranks pig.

The Human Diet

An extension of the MNI method uses the estimated meat weights of the carcasses. This comparison is important as it considers part, at least, of the food values of the animals and whilst it takes no account of other resources obtained from animals,

Table 5.7

MINIMUM NUMBER OF INDIVIDUALS

	1.	2.	3.	4.	5.	Total
Cow		29 (73%)	3	5	17 (50%)	54 (57%)
Ovc		5 (13%)	3	2	7 (20%)	17 (18%)
Pig	1	1 (2%)	2	2	6 (18%)	12 (13%)
Horse		3 (7%)	2	1	3 (9%)	9 (9%)
Deer		2 (5%)			1 (3%)	3 (3%)

for example milk, wool or traction, it does perhaps give a truer picture of the real value of the animals. MNI is converted to dressed meat weight by obtaining an estimate of the meat weight of a particular animal and multiplying it by the number of individuals in each phase. The dressed meat weights can be seen in table 5.8.

The results from Phase 3 indicate that the importance of cattle, pig and horse (presuming horses to have been used for meat) had increased while the importance of sheep had declined overall.

The apparently diminished importance of pig in Phase 2 illustrates the dangers of applying statistical treatments to very small samples. There were eight fragments of pig bone in the whole of Phase 2 and eleven fragments in Phase 5, yet the minimum numbers were one and six respectively. The reason is that none of the eight bone in Phase 2 were duplicates and were all found in the same context, and the eleven bones in Phase 5 were from six different contexts. It is not possible to distinguish between statistical misinferring and significant trend in this case.

An Estimate of Bone Loss

It is convenient to assume that the bone recovered from a site is largely representative of the bone originally deposited there.

However, during the initial sorting and identification it was apparent that the quality of the bone was poor and prone to disintegration.

In an attempt to see what proportion of bones survived to be recorded, the number of bones expected for each species was calculated by multiplying the minimum number of individuals by the number of bones per individual at death.

Evidence of nine cows and one pig was recovered from Phase 2; one cow from Phase 4; and three cows from Phase 5. That only 14 animals were used throughout the several hundred years of occupation seems at least unlikely, but even in this most favourable treatment, less than 10% of the cattle bone is being recovered.

Although the overall preservation was extremely poor, it would only affect the analysis if some bones survived less well than others. Pig was probably under-represented as it seemed to preserve particularly badly. Other individual bones are likely to be especially vulnerable, such as the unfused ends of long bones. Late fusing bones (such as the proximal humerus) are therefore less likely to be recovered than early fusing bones.

In response to this uncertain preservation and the small sample of bone, caution must be exercised in accepting this analysis.

Review of the Evidence

Cattle

Cattle bones dominate the assemblage throughout, whether reckoned by fragment number, MNI, or meat weight. Over 60% of the fragments from Roman levels were cattle. Their importance as a food resource is underlined in Phase 2 were 88% of the potential meat weight is provided by cattle, and this does not take into account the provision of milk or other products of the carcass.

Overall, the cattle assemblage is dominated by skull fragments. There are many loose teeth but no horn cores have been recovered.

Seven mandibles survived, six displaying moderate wear, one a full adult dentition and one with a

Table 5.8

DRESSED MEAT WEIGHT BY SPECIES FOR ALL PHASES

Estimated meat weight (kg)	Species	Total (kg)	%
275	Cow	14 850	77
38	Ovc	646	3
88	Pig	1 056	6
300	Horse	2 700	14

deciduous molar present and the third molar just erupting.

Sheep

Bones were present in all phases ranging from 14% of all fragments in Phase 2 to 22% in Phase 5 when minimum numbers are calculated for the two phases, but when translated into estimated meat weights we find that its importance diminishes considerably. This does not, of course, take the provision of wool into consideration.

The one striking aspect of the distribution of sheep bones is that no skull fragments or mandibles have been identified from any phase. Poor preservation is unlikely to be responsible for this as mandibles are among the better surviving bones of any animal's body.

Judging by the distribution of unfused epiphyses, these animals seem to have been culled at a younger age than the cattle.

Pig

Although pig is consistenly ranked third in consideration of fragment numbers and MNI, it must have contributed much to the diet with an increased representation in the later phases. In fact, the animal is certain to be generally under-represented due to differential preservation.

Horse

Thirteen fragments were identified. All epiphyses were fused. Three bones (two humeri and one metapodial) showed evidence of butchery.

SMALL SPECIES

Introduction

Within the guardroom, F1075, behind the west tower of the Phase 1 fort was discovered a globular amphora. This vessel, 1737, had been set into the ground up to the bottom of the neck which, together with the handles had been deliberately removed. Though probably originally installed as a water butt, upon disuse it formed, by virtue of its shape and depth, a perfect small mammal trap. From within this amphora came a number of mammal and other bones upon which Dr D Yalden has kindly provided the following report.

The Yellow Necked Mouse, Apodemus Flavicollis in Roman Manchester

D M Yolden

The Material

The mammalian material from the amphora consisted of twelve jaws and one partial skull of Mus (mouse), six jaws and parts of one skull of Apodemus, and some post cranial elements which include bones of (on size) both genera.

The Mus remains include six right and six left dentories, with nothing to preclude the conclusion that they are indeed six pairs of jaws. There is a complete lower dentition in eight (four pairs) of jaws. The other four (two pairs) have only m2 in each jaw. Lower tooth rows (m1-3) range from 2.82mm to 3.26mm (mean, x is 3.09; standard deviation, SD is 0.19; number in sample, n is 8).Two of the left dentaries were broken, the other ten ranged in length (tip of incisor to rear of condyle) from 12.07mm to 14.58mm (x=13.57, SD=0.83). The partial skull is a complete "face", but lacks the parietal, occipital and sphenoid regions; both maxillary tooth rows are present, as is the right upper incisor. The incisor is notched in profile, and the first molars, both upper and lower, have asymmetrical anterior lobes characteristic of Mus. The taxonomy of Mus has recently become much more complex, with the recognition of major chromosomal differences, and minor morphological ones as well (Berry 1981). Without considering these complications properly, it would be dofficult to assign the present specimens more precisely, but they can be assigned to Mus Musculus in the old sense, and probably to Mus Domesticus in the new system.

The remains of Apodemus include three right and three left dentaries, which, on the basis of their dimensions, seem to represent two pairs, and isolated jaws from two other individuals. The teeth are missing from two jaws, the lower tooth rows range from 3.68mm to 4.05mm (x=3.83, SD=0.16) in the other four. One of the jaws is broken, the others range from 17.97mm to 20.07mm long (x=18.65, SD=0.83). The skull remains comprise separate right and left halves of the facial region, clearly from the same skull. The upper incisors have anterior-posterior diameters of 1.66mm and 1.76mm; the lengths from the front of the incisor to the back of the third molar are 14.46mm and 14.47mm. The molars are not excessively worn (stage 3 of Delaney and Davis 1961); the tooth row (m1-3) measures 4.35mm. The skull is larger than the largest in the sample of 76 used by Fielding (1966); it is also larger than any in a sample of 20 skulls collected more recently at Woodchester Park, Gloucestershire (Yalden 1971; Montgomery 1976). Of the jaws, one is also larger than any in the Woodchester Park sample, (20.077mm) but the others fall within the range of the Woodchester Park specimens of Apodemus Sylvaticus (though they could probably be matched from island forms such as A S Hirtensis from St Kilda). This seems no reason to doubt that they represent Apodemus Flavicollis.

Discussion

Remains of Mus have been found in Britain at the Iron Age site of Gussage All Saints, Dorset (Corbet 1971) and in the pre-Roman layer at Ossums Eyrie Cave in the Peak District (Yolden 1977). The presence of this species in Roman Manchester is therefore not surprising. There are rather few well dated archaeological specimens of Mus in north-western Europe, however, and the Manchester specimens represent a valuable addition.

At present, Apodemus Flavicollis has a restricted distribution in Britain. It occurs widely in south west England, north into Suffolk, and in the

Severn Valley northwards as far as Shropshire (Arnold 1978). Further north there is one old, secure record from Northumberland (Corbet 1971), a very doubtful one from Cheshire (Whiteby and Yolden 1976), and a scatter of records in Derbyshire, South Yorkshire, Leicestershire and Lincolnshire. It is uncertain that any of these refer to established populations. This restricted distribution has attracted some attention, and is not fully explained. Montgomery (1978), however,has argued that it may be related to the distribution of old deciduous woodland. Certainly in Europe Apodemus Flavicollis is regarded as a "high forest" species, whereas A Sylvaticus is more typical of scrub and secondary woodland. If this is true, then in the past, Apodemus Flavicollis should have been the common, widely distributed species. From pollen analysis of Chat Moss, only 13km west of Manchester (Birks 1963) and of Red Moss, 24km north-west (Hibbert et al 1971), it seems that woodland did indeed persist in this area much longer than in some other parts of Britain.

The woodland clearances of Neolithic and Romano-British times produced a rather slight temporary decline in tree pollen frequencies, and not until medieval times was extreme clearance of woodland evident. By way of confirmation of this, the Domesday survey of 1086 recorded in the Salford Hundred (which included Manchester) woodland of nine and a half leagues by five leagues and one furlong (probably 23km by 12km), implying again that forest cover survived late in this region (Darby and Maxwell 1962; Morgan 1978). On this evidence, suitable habitat for Apodemus Flavicollis in the Manchester area in Roman times should indeed have been present. The species is known for entering houses more often than does A Sylvaticus, and this habit seems to be most frequent north of the range.

Conclusion

Although the yellow necked mouse Apodemus Flavicollis averages larger than the wood mouse, Apodemus Sylvaticus, wherever they occur together, there is a considerable overlap in size. This makes the identification of isolated skeletal specimens very difficult, and most identifications, for example of material in owl pellets or cave deposits, are left as "Apodemus sp", or presume that the current widespread and numerous Apodemus Sylvaticus is the species represented. Sutcliffe and Kowalski (1976) list seven sites in Britain where Apodemus Flavicollis has been reported in cave deposits, but note that "many of the records must nevertheless be considered doubtful in view of the great difficulty in distinguishing remains of this species from those of Apodemus Sylvaticus". In a re-examination of the identification problem, Fielding (1966) drew attention to the fact that Apodemus Flavicollis has upper incisors which are much deeper (anterior-posterior diameter) than in Apodemus Sylvaticus (a point first noted by Cranbrook 1957), but even in her study she found some overlap.

In view of these problems, it is not surprisng that Apodemus Flavicollis has rarely been identified convincingly in archaeological contexts. It is therefore a pleasent surprise to find and report on the unequivocal occurrence of this species in Roman Manchester.

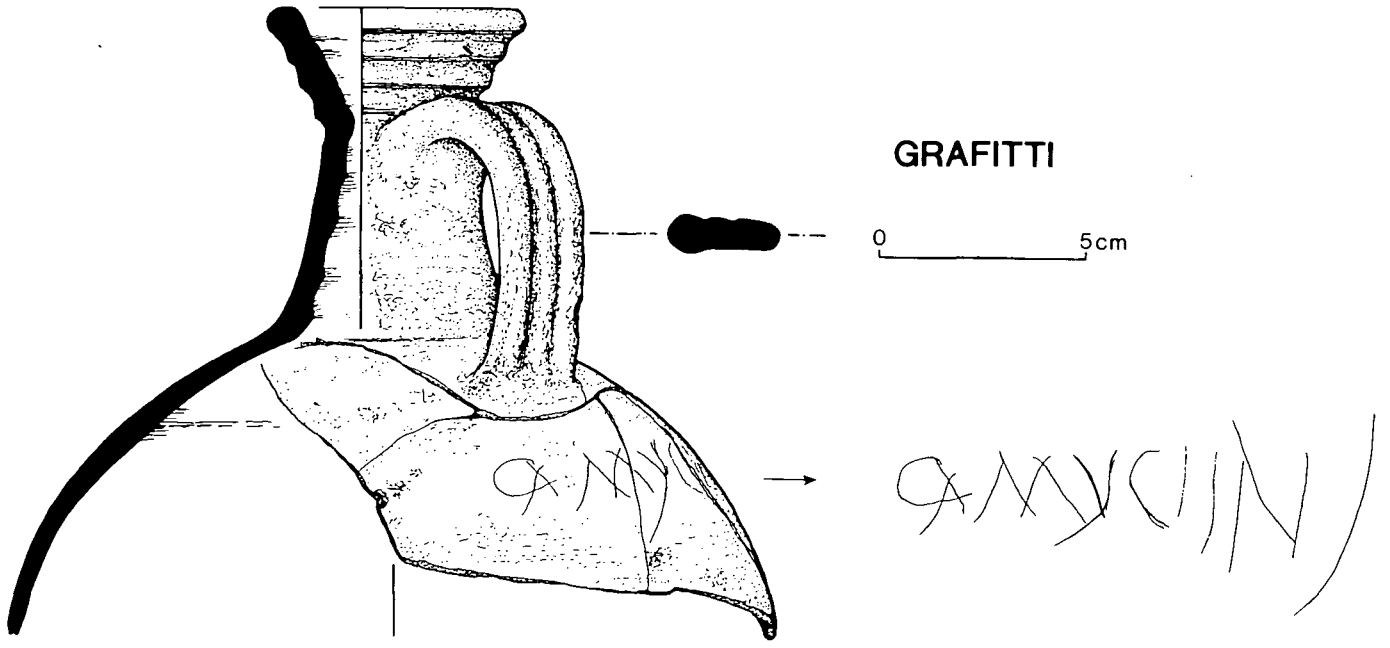


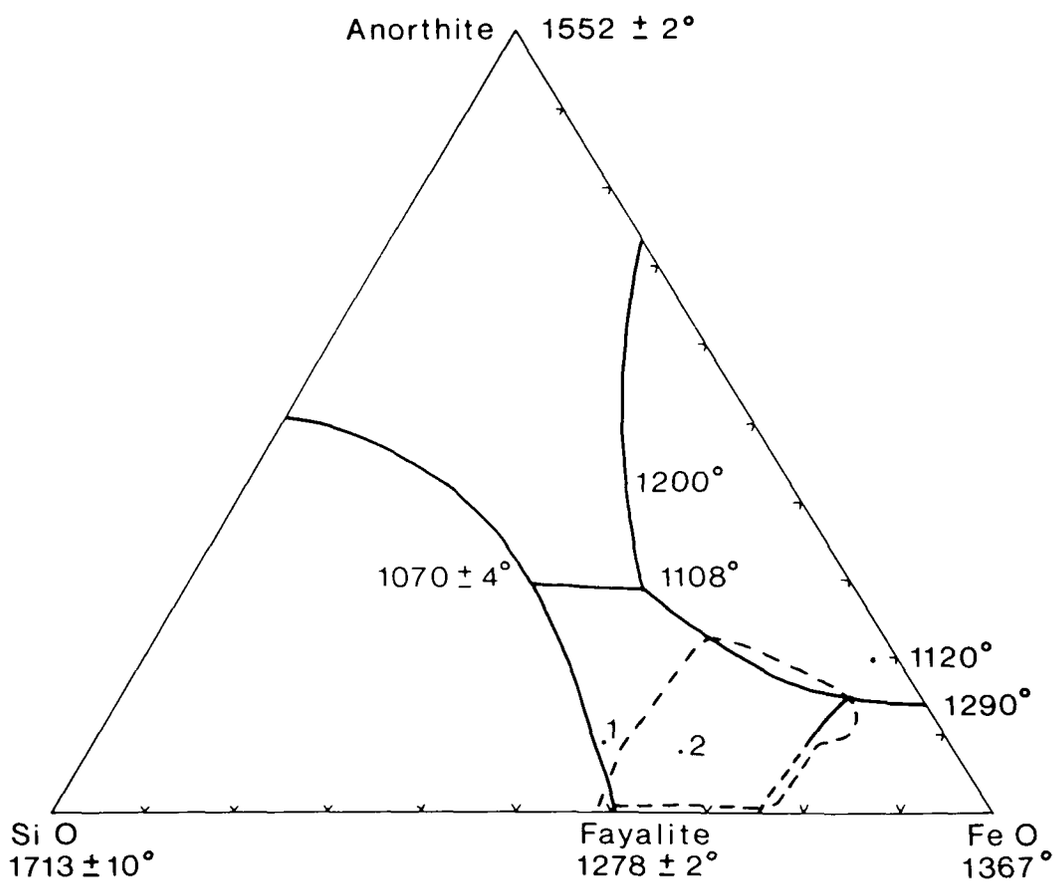
Fig 5.10

(i) GRAFFITI

A Bowman

Graffito on a flagon of the early 2nd century (fig 5.10). Cut on the outside below the handle, it reads "CAMUCENI, CAMULENI or GAMUCENI.." Dr A Bowman (Christ Church, Oxford) writes:

"The drawing suggests CAMUCENI or GAMUCENI. The best reading seems to be CAMULENI, though I am not entirely happy about the L (it would be better if there were some sign of a hook on the left at the top). CAMULINUS is a Celtic name which turns up in southern Gaul according to Holder. There is no problem about the substitution of E for I".



PHASE DIAGRAM INDICATING
COMPOSITION OF ROMAN BLOOMERY SLAGS

Fig 5.11

(j) FURNACE DEBRIS AND SLAGS (fig 5.11)

J H Cleland

Introduction

Extensive metal-working has been discovered throughout the northern vicus at Manchester (Jones and Grealey 1974) and has led to the hypothesis that the site may have been used, in some places, as a military supply depot.

Several samples of slag removed from the supposed hearths or industrial features mentioned in Chapter 4 were submitted to Dr J H Cleland (Cambridge University) for analysis. All specimens are typical of tap slags or cindery slags which are found inside a blooming hearth. It would seem reasonable to assume, therefore, that iron was produced in the vicinity and that the site may have just missed the blooming hearths.

The following slags have been analysed using the wet chemical methods outlined in Jones and Grealey (1974,154). Sample 1 falls well within the limits of the composition of Roman blooming slags, while Sample 2 lies just outside (fig 5.8).

Table 5.9

SAMPLE 1: CONTEXT NO 709 AREA A PHASE 2 FORT

	Wt.%
Wustite (FeO)	53.1
Silica	37.2
Alumina	7.3
Lime (CaO)	1.6
Titanium Dioxide	0.7
Manganese Dioxide	0.1
Magnesium Oxide	Trace
Phosphorus Pentoxide	Trace

Table 5.10

SAMPLE 2: CONTEXT NO 85 AREA B PHASE 4 FORT

	Wt.%
Wustite (FeO)	63.3
Silica	27.2
Alumina	4.2
Lime (CaO)	1.6
Manganese Dioxide	1.1
Titanium Dioxide	0.5
Magnesium Oxide	Trace
Phosphorus Pentoxide	Trace