

THE ROMANO-BRITISH 'SMALL TOWN' AT
WANBOROUGH, WILTSHIRE

EXCAVATIONS 1966-1976

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EXCAVATIONS 1966–1976

BY

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Editor's note

The editor (APF) was involved with the last stages of the reporting at the University of Leicester, and was subsequently invited to bring the draft report to publication. The remaining works necessary were supported by English Heritage and undertaken by Wessex Archaeology in two stages, in 1993-4, and in 1995, with the final report being submitted to English Heritage in February 1996. Individual reports that had been completed by 1986 have not been revised, and, with the exception of the brooches, the decision has been taken to hold in archive the detailed finds catalogues, originally intended for microfiche publication and often accompanied by numerous illustrations.

At the outset it had been hoped that it would be possible to include accounts of some of the other excavations, fieldwalking and rescue recording around Wanborough in the 1960s and 1970s (see TABLE 1). In anticipation of this some of the small finds from this work were incorporated in the specialist reports presented here. Unfortunately, it was eventually not possible to examine all the excavation records but it has not been considered practical to alter the specialist reports and their accompanying illustrations (prepared in 1984) in the final stages of the preparation of this report. Although a large assemblage of animal bone was recovered in the excavations, after several years a report on it has not been received and in order to avoid any further delay it has, regrettably, been necessary to publish this volume without it.

I am grateful to Julian Cross, Rob Goller and Liz James of Wessex Archaeology for preparing the illustrations for press, to the contributors for their patience, and to Val Kinsler for her editorial work.

SUMMARY

Wanborough, near modern Swindon, is the site of a Romano-British small town on Ermin Street, between Cirencester and Silchester. The site is usually identified with the *Durocornovium* of the Antonine Itinerary. This report presents the results of a series of excavations undertaken in advance of development between 1966 and 1976 along the frontage of Ermin Street.

Although there is fragmentary evidence for prehistoric activity, the settlement was a Roman foundation. Ermin Street itself was the earliest Roman feature excavated, but ditches and a large, rectangular, wooden building were contemporary with it. The character of this earliest phase (Period 1) is not yet clear. There are some pieces of military equipment, and the entirely Roman character of the pottery assemblage as a whole hints at a military presence in the Neronian–Vespasianic period.

After a gap of 20 or more years, intensive building works took place through the second and third centuries (Period 2) and a series of rectangular timber buildings were found, as well as one building with stone foundations. It may be that at this date the focus of activity for this ‘small town’ lay elsewhere within the settlement, perhaps to the east around the *mansio* that is known from air photographs.

In contrast, the late third and fourth century settlement at Wanborough (Period 3) seems to have covered a considerable area, although again most of the settlement appears to be to the east of Ermin Street. Part of the western limits of the settlement are suggested by the discovery of cremation and inhumation burials that were salvage recorded.

During Period 3 substantial buildings with stone foundations were built fronting onto Ermin Street, with others, less densely packed, at some distance from the main road. Ermin Street itself was widened and resurfaced and it would seem that a formal system of side roads, described as *insulae*, was set out in the excavated areas or at least extended into them at this time. In this period stone began to be widely used for the foundations of buildings which presumably had timber superstructures. In addition some timber-framed buildings had sleeper-beams placed, not in trenches, but on the ground. A rare type of timber-framed building in which the joists of the buildings rested on stones that raised them from the ground was also identified for the first time in 1970.

These timber-framed buildings were concentrated on lower ground towards a stream and the techniques of raising the floors of these buildings above the ground may represent an attempt to cope with what may have been wet ground conditions. The recognition of these buildings suggests the existence of a densely packed, built-up, area in the late Roman period at Wanborough at which time the settlement probably extended over *c.* 25 ha. The evidence of air photographs also suggests that at least some more substantial and sophisticated buildings lay closer to the *mansio*.

A wide range of finds were made, including a major pottery assemblage in which the products of nearby potteries are prominent. The other finds seem to relate principally to the activities around Ermin Street. The rarity of agricultural tools amongst these finds is noteworthy. Instead most tools are for domestic and craft activities, and smithing appears to have been a relatively important activity. The importance of Ermin Street to the life of the community may be reflected in the evidence for transport in the form of horseshoes, hipposandals, bridle-bits, and lynch pins. A relatively high number of *styli* were also identified, hinting at the importance of literacy to the settlement. Steelyards of copper alloy and iron also

suggest the role of the settlement as a market but most finds are of personal belongings such as brooches, bracelets of copper alloy, jet and shale, coins, cosmetic sets, glass bottles and jugs, hair-pins, pots, rings and tweezers, whose ownership is difficult to identify. It is possible that the use of timber buildings that were raised off the ground contributed to the large number of small finds that were recovered. A number of querns were also found which, when taken in conjunction with the large number of personal belongings, suggest that the bulk of later Roman buildings identified were houses or buildings which were both residential and 'commercial'.

The excavations at Wanborough provide an insight into the everyday life and the crafts of the inhabitants of what seems in many ways to have been an ordinary roadside settlement, or 'small town', in southern England that flourished in the later third and fourth centuries as *civitas* capitals and towns declined.

RÉSUMÉ

Wanborough, qui se trouve près de l'actuelle ville de Swindon, est le site d'une petite ville romano-britannique le long d'Ermin Street, entre Cirencester et Silchester. Ce site est généralement reconnu comme étant le *Durocornovium* de l'Itinéraire d'Antonin. Ce rapport présente les résultats d'une série de fouilles de sauvegarde entreprises avant des travaux entre 1966 et 1976 en bordure d'Ermin Street.

Bien qu'il existe des témoignages fragmentaires d'une activité préhistorique, l'occupation a été fondée par les romains. Ermin Street elle-même constitue le plus ancien vestige romain mis à jour, mais des fossés et un grand bâtiment rectangulaire en bois lui sont contemporains. La nature particulière de cette phase, la plus ancienne (Période 1), n'a pas encore pu être élucidée. On a trouvé des morceaux d'équipement militaire et le caractère purement romain de l'ensemble de l'assemblage de poterie, laisse entrevoir une présence militaire sous le règne de Néron et de Vespasien.

Après un intervalle de 20 ans ou plus, on effectua d'importants travaux de construction dont la durée s'étala sur l'ensemble du 2ème et du 3ème siècles (Période 2) et on a retrouvé une série de bâtiments rectangulaires en bois, ainsi qu'un bâtiment avec des fondations en pierre. Il se peut qu'à cette date le centre d'activité de cette 'petite ville' se soit trouvé ailleurs qu'à l'intérieur de l'occupation, peut-être à l'est, autour de la *mansio* dont nous connaissons l'existence grâce aux photographies aériennes.

Par contraste, l'occupation de la fin du 3ème et du 4ème siècles à Wanborough (Période 3) semble avoir couvert une superficie considérable, bien qu'à nouveau la plus grande partie de l'occupation paraisse se situer à l'est d'Ermin Street. L'identification d'une partie des limites occidentales de l'occupation repose sur la découverte de sépultures à incinération et à inhumation, qui ont été répertoriées au cours des fouilles de sauvetage.

Au cours de la Période 3 furent construits des bâtiments substantiels, avec des fondations en pierre, donnant sur Ermin Street tandis que d'autres, moins tassés, se trouvent à quelque distance de la route principale. Ermin Street elle-même fut élargie et couverte d'un nouveau revêtement et il semblerait qu'à ce moment-là, un réseau bien défini de rues secondaires, décrites comme des *insulae*, se serait trouvé dans les aires fouillées, ou au moins s'y serait prolongé. C'est à cette période que commença à se propager l'utilisation de la pierre pour les fondations de bâtiments, avec probablement des superstructures en bois. De plus, dans certains bâtiments à ossature de bois, les poutres horizontales se trouvaient placées non dans des tranchées, mais sur le sol. On a également identifié pour la première fois en 1970, un type rare de bâtiment en bois, dans lequel les lambourdes reposaient sur des pierres qui les maintenaient surélevées par rapport au niveau du sol.

Ces bâtiments à structure de bois se trouvaient concentrés sur les terres basses à proximité d'un cours d'eau et les techniques utilisées pour en rehausser les planchers au-dessus du sol représentent peut-être une tentative pour résoudre les problèmes de sols saturés d'eau.

La reconnaissance de ces bâtiments laisse supposer l'existence d'une zone aux habitations très serrées, datant de la fin de la période romaine à Wanborough, époque à laquelle l'occupation s'étendait probablement sur plus d'environ 25 hectares. Les témoignages des photographies aériennes donnent également à penser qu'au moins quelques autres bâtiments plus substantiels et plus sophistiqués se seraient trouvés plus près de la *mansio*.

On a découvert une grande variété de trouvailles, y compris un important assemblage de poterie — dominé par les produits des poteries locales. Les autres trouvailles semblent surtout avoir un lien avec les activités qui se déroulaient autour d'Ermin Street. Parmi ces trouvailles, il est remarquable qu'on compte très peu d'outils agricoles. En place, la plupart des outils sont destinés à des fins domestiques ou artisanales, et la forge semble avoir joué un rôle relativement important. L'importance d'Ermin Street dans la vie de la communauté se reflète peut-être dans les témoignages liés au transport sous la forme de fers à cheval, hipposandales, mors de brides et essés.

On a également identifié un nombre relativement élevé de *styli*, ce qui indique l'importance de l'instruction dans la communauté. Des balances en alliage de cuivre et en fer donnent aussi à penser que l'occupation jouait un rôle en tant que marché, mais la plupart des trouvailles consistent en objets personnels tels que broches, bracelets en alliage de cuivre, jais, schiste, pièces, nécessaires de beauté, flacons en verre, cruches, épingles à cheveux, pots, bagues, pinces à épiler, dont les propriétaires sont difficiles à identifier. Il se peut que l'utilisation des bâtiments en bois à sol surélevé ait contribué au nombre important de petites trouvailles ayant subsisté. On a aussi trouvé un certain nombre de moulins à bras, ce qui, pris en conjonction avec le grand nombre d'objets personnels indiquerait que le gros des bâtiments de l'époque romaine tardive identifiés seraient des maisons ou des bâtiments à la fois résidentiels et 'commerciaux'.

Les fouilles à Wanborough nous permettent d'entrevoir la vie et les activités quotidiennes des habitants de ce qui semble avoir été, de bien des manières, une occupation de bordure de route ou une 'petite ville' du sud de l'Angleterre, tout à fait ordinaire, mais florissante à la fin du troisième et au quatrième siècles alors que les capitales *civitas* et les villes déclinaient.

Annie Pritchard

ZUSAMMENFASSUNG

Die Fundstelle von Wanborough liegt in der Nähe des heutigen Swindon, und gehört zu einer kleineren römisch-britischen Stadt an der Ermin Street zwischen Cirencester und Silchester. Sie wird in der Regel als *Durocornovium* des Antonius Weges identifiziert. Dieser Bericht legt die Ergebnisse mehrerer Ausgrabungen vor, die zwischen 1966 und 1976 im Vorfeld von Baumaßnahmen entlang der Straßenfront der Ermin Street durchgeführt worden sind.

Trotz fragmentarischer Belege prähistorischer Aktivitäten, ist es sicher, daß es sich bei dieser Siedlung um eine römische Gründung handelt. Obwohl Ermin Street die frühesten römischen Befunde geliefert hat, gibt es mittlerweile auch gleichzeitige Gräben und ein langes, rechteckiges Holzgebäude. Der Charakter dieser frühesten Phase (Periode 1) ist aber noch nicht ganz geklärt. Doch deuten sowohl einige Fragmente von Militärgerät als auch der vollkommen römische Charakter des ganzen Keramikinventars auf eine militärische Präsenz zur Zeit Neros und Vespasians hin.

Nach einer Lücke von ungefähr zwanzig Jahren, lassen sich intensive Gebäudebauten das zweite und dritte Jahrhundert hindurch nachweisen (Periode 2). Zu dieser Periode lassen sich auch eine Reihe von rechteckigen Balkengebäuden zuordnen, bei denen ein Gebäude bereits mit einem Steinfundament ausgestattet war. Es kann sein, daß in dieser Phase der Schwerpunkt der Aktivitäten in einem anderen Teil der Siedlung lag, vielleicht sogar östlich bei der *mansio*, die von Luftbildern bekannt ist.

Demgegenüber scheint sich die Siedlung des späten dritten und vierten Jahrhunderts (Periode 3) über ein beträchtliches Gebiet erstreckt zu haben, wobei der größte Teil der Siedlung aber wieder östlich der Ermin Street zu liegen scheint. Teile der westlichen Grenze der Siedlung sind wahrscheinlich mit der Entdeckung von Brand- und Körpergräbern gefunden, die bei einer Rettungsgrabung dokumentiert wurden.

Während der Periode 3 wurden größere Gebäude mit Steinfundamenten zur Ermin Street hin gebaut. Dazu gehören auch Gebäude, die weniger dicht zusammen und in einiger Entfernung zur Hauptstraße standen. Ermin Street wurde ausgeweitet und es wurde die Straßendecke erneuert. Nach den ausgegrabenen Arealen zu schließen, scheint es sich in dieser Zeit um ein festgelegtes System aus Seitenstraßen, oder zumindest um eine festgelegte Orientierung, zu handeln, das man als *insulae* bezeichnet. In dieser Periode wurde dann begonnen Stein in großem Umfang für die Fundamente der Gebäude, die wahrscheinlich Balkenaufbauten hatten, zu benutzen. Zusätzlich hatten einige solcher Fachwerkgebäude Schwellen, die direkt auf dem Boden auflagen. Im Jahre 1970 wurde zum ersten mal ein seltener Typ eines Fachwerkgebäudes gefunden, bei dem die Balken auf den auf dem Boden aufgestellten Steinen auflagen.

Diese Fachwerkhäuser waren in der Niederung in der Nähe zum Fluß konzentriert. Diese Technik, die Fußböden dieser Gebäude über den Erdboden zu heben, stellt wahrscheinlich einen Versuch dar, die Häuser den feuchteren Umweltverhältnissen anzupassen. Der Nachweis dieser Gebäude legt für Wanborough ein dicht besiedeltes und stark bebautes Gebiet während der spätrömischen Periode nahe. Man kann sogar davon ausgehen, daß in dieser Zeit die Siedlung größer als 25 ha war. Die Luftbilder deuten jedenfalls an, daß zumindest einige größere und technisch ausgereifte Gebäude näher bei der *mansio* lagen.

Es wurde reiches Fundmaterial geborgen, wozu auch ein größeres Keramikinventar zählt, das durch ein Überwiegen der lokalen Produkte aus einer nahen Töpferei gekennzeichnet ist. Die anderen Funde scheinen prinzipiell in Zusammenhang mit den Aktivitäten in der Umgebung der Ermin Street zu stehen. Beachtenswert ist die Seltenheit von landwirtschaftlichen Geräten. Die meisten Geräte dienen eher dem Hausgebrauch oder handwerklichen Tätigkeiten. Dabei scheint das Schmieden eine relativ wichtige Tätigkeit gewesen zu sein. Das Transportwesen, das sich in Form von Hufeisen, Pferdeschuhen, Zaumzeug und Achsennägeln im archäologischen Fundgut niederschlägt, weist auf die Bedeutung von Ermin Street im Gesellschaftsleben hin. Hier spricht auch die relativ hohe Anzahl von *styli* für die Bedeutung der Lese- und Schreibfähigkeit in der Siedlung. Gewichtswaagen aus Kupferlegierung und Eisen legen eine Rolle der Siedlung als Marktplatz nahe. Doch rühren die meisten Funde eher aus persönlichen Besitztümern, wie z.B. Broschen, Armreifen aus Kupferlegierung, Gagat und Schiefer, Münzen, Kosmetiksets, Glasflaschen und Krüge, Haarspangen, Töpfe, Ringe und Pinzetten, bei denen aber der Besitzer nur schwierig zu ermitteln ist. Es kann sein, daß die Nutzung der Fachwerkhäuser, die ja über dem Boden aufgebaut waren, zur großen Anzahl von erhaltenen Kleinfunden beigetragen hat. Mehrere Handmühlen sind ebenfalls gefunden worden, wodurch man vor dem Hintergrund der großen Anzahl an persönlichem Besitztum, das gefunden worden ist, davon ausgehen kann, daß die Masse dieser spätrömischen Gebäude zugleich als Wohn- und Gewerbehäuser fungierten.

Zusammenfassend geben die Ausgrabungen in Wanborough einen Einblick in das alltägliche und handwerkliche Leben der Bewohner einer, wie es scheint, gewöhnlichen Straßenrandsiedlung oder 'kleineren Stadt' im südlichen England, die im späten dritten und vierten Jahrhundert ihre Blüte hatte, in einer Zeit, in der die *civitas* und Städte ihren Niedergang erlebten.

Peter Biehl

PART ONE

THE EXCAVATIONS

1. INTRODUCTION

The Roman 'Small Town' at Wanborough is usually identified with the *Durocornovium* of the Antonine Itinerary (485.5 (Iter XIII); Rivet 1970, 58, 73; Rivet and Smith 1979, 350). The settlement lies some 20km southeast of Cirencester, on Ermin Street, at a point where a branch road diverges to Mildenhall, and just before the main road ascends the northern scarp of the Berkshire Downs (SU 195 852) (FIG. 1). This site has been known as an area of Romano-British occupation since the seventeenth century (Aubrey and Jackson 1862, 194; Colt Hoare 1821, 94–5).

GEOLOGY AND TOPOGRAPHY

The site lies largely on Kimmeridge clay which, combined with the high water table, has resulted in it generally not being susceptible to air photography or geophysical surveying. Iron ore, as nodules and as a pan, occurs naturally in the clay. The site is low lying and in the recent past was liable to flood and it was this which led to the construction of a flood water lagoon, prompting the 1976 excavations reported here. Prior to its destruction in 1977 by the building of the lagoon, the site was dominated by a visible linear depression, which ran approximately northwest–southeast, through the centre of the field, terminating on its southern edge at the Dorcan Stream. This feature marked the line of Ermin Street, which, although surviving in places, had suffered loss of its metalling by stone-robbing over most of its course. However, in 1970, in one section where the metalling was intact, a long-cross penny of Henry III was found embedded in the top surface, suggesting that the road was still in use in the Middle Ages. Unsuccessful attempts were made to investigate earthworks south of the Dorcan Stream in 1970 and similar earthworks exist to the south of the junction of the two Roman roads. One of these appears to represent a wide, shallow ditch, but the others are too amorphous to allow ready interpretation although detailed analytical survey might be rewarding.

REASONS FOR THE EXCAVATIONS

The excavations reported here were undertaken in response to two threats from infrastructure projects. The Common Head Road Improvement Scheme, prior to its construction in the early 1970s, had for some years threatened a large part of the Roman site. Subsequently, the digging of the large flood water lagoon caused further damage within the area of the Roman settlement.

Three main series of excavations were conducted in advance of the road construction work: those of Ernest Greenfield between 1966 and 1968 and those of John Wachter in 1969–70. The third excavation was undertaken by Scott Anderson in 1976, in advance of the flood water lagoon scheme. The 1966 and 1968 seasons were intended to evaluate the area and density of settlement adjacent to the road, largely using test pits. The 1969–70 and 1976 seasons utilised open area excavation techniques to investigate buildings on both sides of Ermin Street on the north side of its crossing of the Dorcan Stream, in what was known as Nine Acre Field, where occupation dating from the first to the fourth century was demonstrated.

By their nature as evaluations, the 1966 and 1968 seasons largely concentrated on the later phases of the settlement adjacent to the main road. The 1969–70 excavations too were concentrated in that area and, although more extensive, were also concerned primarily with the later phases.

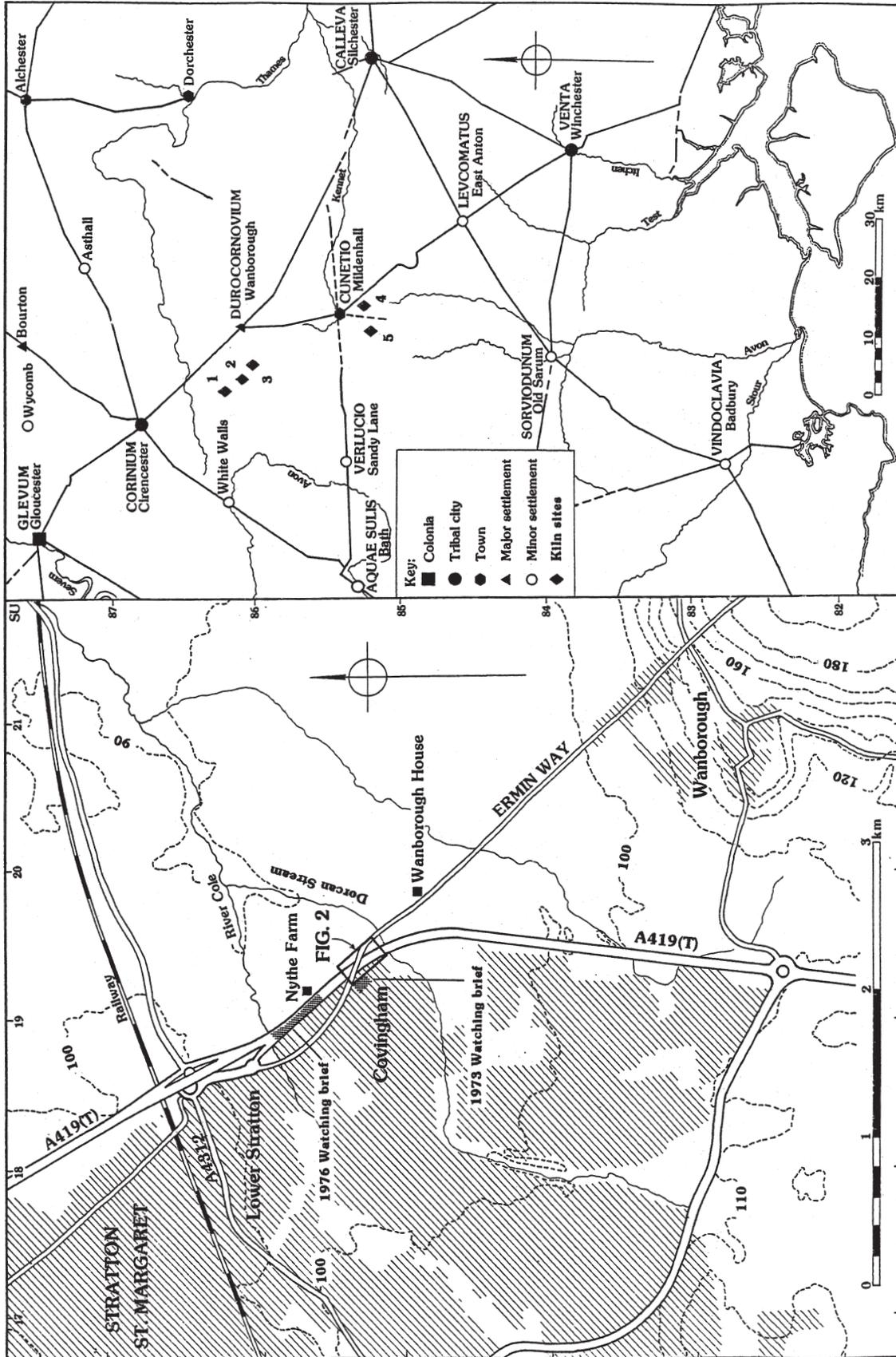


FIG. 1. Wanborough: (left), location map; (right), Wanborough in relation to Roman towns and roads, and pottery kilns in the vicinity: 1 Purton, 2 Toothill Farm, 3 Whitehill Farm, 4 Savernake, 5 Broomsgrove.

In contrast, the 1976 investigations were undertaken to determine the date and character of the earliest occupation and to produce a chronological sequence for the settlement in the area of the Nine Acre Field. This work has provided a detailed knowledge of structural activity on the site in the third and fourth centuries, and some information relating to occupation in the first and second centuries. Earlier work was summarised by Passmore (1921) and a considerable amount of small-scale work was undertaken subsequently, some of it broadly contemporary with the present excavations (TABLE 1).

TABLE 1: SUMMARY OF PRINCIPAL ARCHAEOLOGICAL FIELDWORK AT WANBOROUGH

Year	Worker(s)	Details	Site code
1. 1819	Sir R. Colt-Hoare	Topography and plan of site (Colt-Hoare 1821)	
2. 1920s	A.D. Passmore	Field Survey (Passmore 1921). Many unpublished finds in Devezes and Ashmolean Museums	
3. 1956	D. Mayrick	Observation on line of telephone pits. Unpublished	
4. 1965	S.J. Woodward	Excavation of a Romano-British enclosure. Unpublished	
5. 1965-7	S.A. Coombs	Excavation of a large area. Unpublished	Coombs/Field 497
6. 1966	E. Greenfield	Excavations. <i>JRS</i> 57, 1967, 196; <i>WAM</i> 62, 1967, 125-6; this volume	66
7. 1966	Swindon Archaeological Society	Rescue excavations in Nine Acre Field and further salvage work. Unpublished	
8. 1967	Swindon Archaeological Society	Excavation of a side road and ditch. Unpublished	1967
9. 1967	Swindon Museum	Excavation in Nine Acre Field. Unpublished	1967
10. 1967	E. Greenfield	Excavations in Nine Acre Field. <i>JRS</i> 58, 1968, 201; <i>WAM</i> 63, 1968, 109-10; this volume.	67
11. 1968	Swindon Archaeological Society	Rescue excavations on the site of a Roman ford. Unpublished	1968
12. 1968	Swindon Archaeological Society	Excavation of a Romano-British ditch. <i>WAM</i> 64, 1969, 123; this volume	1968
13. 1968	E. Greenfield	Excavations in Nine Acre Field. <i>JRS</i> 64, 1969, 230; this volume	68
14. 1969	J.S. Wachter	Excavations in Nine Acre Field. <i>Britannia</i> 1, 1970, 300; <i>WAM</i> 65, 1970, 204; this volume	69
15. 1970	J.S. Wachter	Excavations in Nine Acre Field. <i>Britannia</i> 1, 1970, 300. <i>WAM</i> 66, 1971, 188-9; Cooke and Wachter 1970; this volume	70
16. 1970	Swindon Archaeological Society	Excavation of a pit. Greene 1974	
17. 1970	Swindon Archaeological Society	Rescue excavations along the line of by-pass. Unpublished	RC
18. 1970	Swindon Archaeological Society	Excavations on the site of a Roman ford. Unpublished	1970
19. 1971-3	Swindon Archaeological Society	Rescue excavations on a Romano-British cemetery and salvage work along the line of a drainage pipe. <i>WAM</i> 67, 1972, 174-5; <i>ibid.</i> , 68, 1973, 64-70; <i>ibid.</i> , 68, 1973, 135	1971-3 'grave goods'
20. 1975	C. Gingell	Test excavations	
21. 1976	A.S. Anderson	Anderson and Wachter 1980; this volume	1976
22. 1976	R. Canham	Rescue excavations along the line of Ermin Street. Unpublished	
23. 1976	Swindon Archaeological Society	Aerial and field survey of the <i>Mansio</i> . Phillips and Walters 1977	1976
24. 1976-7	Swindon Archaeological Society	Salvage work during the construction of a floodwater lagoon in Nine Acre Field. Unpublished	Nythe Farm
25. 1984	Littlecote Roman Research Trust	Aerial survey of buildings and street system. <i>Britannia</i> 16, 1985, 308, fig. 30.	1984
26. 1950>	A large number of finds in Swindon Museum	Unpublished	1950>

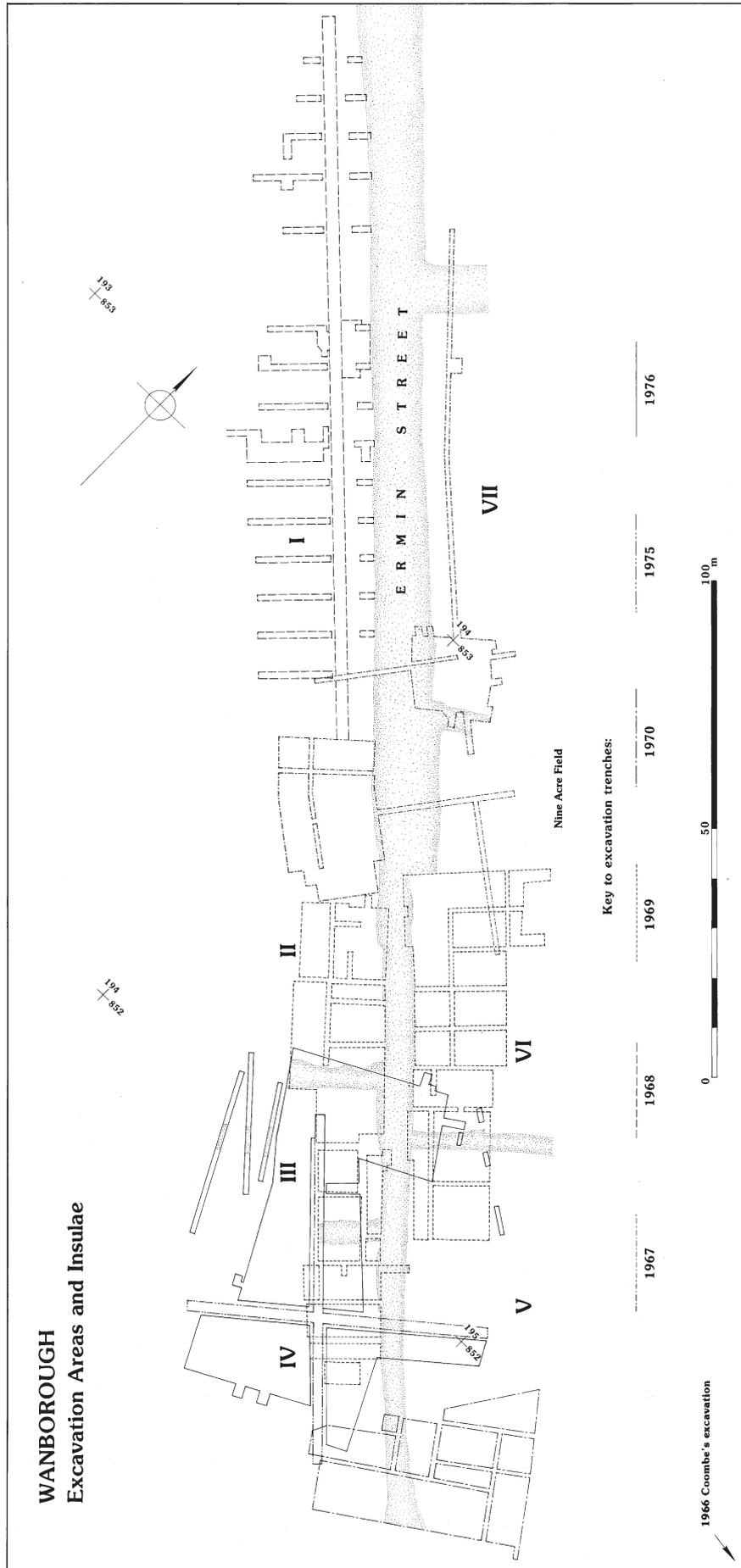


FIG. 2. Wanborough: excavation areas and Insulae. See also FIGS 125-6 for the location of individual excavation areas.

During construction work between 1965 and 1973 at the south end of the Romano-British settlement, a Romano-British cemetery was discovered, 30–260m west of Ermin Street, to the north of the Dorcan Stream in Insula IV. The cemetery contained seven urned cremation burials, six being in vessels dated to the second quarter of the second century A.D. There were also 23 inhumations, most of which, comprising two overlapping groups, were concentrated some 50m west of Ermin Street. One of these groups, possibly the earlier, was aligned north–south and included a grave containing an *antoninianus* of Salonina dated *c.* A.D. 260–268. The second group was aligned east–west, and one grave contained a silver *siliqua* of Magnus Maximus (A.D. 380–383).

The list of excavations, salvage work and surveys conducted on the site (TABLE 1) has been compiled largely by M. Stone, with additions from the present authors. Many of the small finds from the minor excavations, notably the 1970s salvage work by Swindon Archaeological Society reported by Walters *et al.* (1973), have, for reasons given above, been included in the specialist reports. Perhaps the main point to be drawn from the salvage work is that the settlement extends well beyond the excavated areas to the north and south of Ermin Street and that some substantial buildings exist *c.* 1km to the west of the town along Ermin Street.

RECORDING AND NOTATION SYSTEMS

The recording system used at Wanborough for the identification of individual contexts was only started in 1969. The 1969 and 1970 excavation areas were divided into a number of sites (A to E in 1969 and F to H and J in 1970), which were further subdivided into a series of trenches, differentiated by Roman numerals. For example, a stratified layer number 4 found in Trench VI on Site C in 1969 is referred to as ‘69C, VI, 4’. The grids are shown on FIG. 125.

The 1976 area of excavation was covered with a reference grid of 10m squares, identified by Roman numerals I to L, with its base line running parallel to the northern edge of the concrete culvert through which the Dorcan Stream flowed at that time. Within this area three sites, A to C, were excavated (FIG. 126; PL. I). Consequently, Layer 28 in Area X on site B is referred to as ‘76B, X, 28’ in the text below. Some 10m squares were left unexcavated and therefore do not appear in the finds record. The excavations from which finds with other codes derive are set out in TABLE 1.



PLATE I. General view of the 1976 excavation with the Ermin Street west ditch to the right.

Ermin Street and the four side streets which join it divide the site into a number of blocks, or *Insulae*, numbered I–VII (FIG. 2). In order to locate features within the site, the text refers primarily to these *Insulae*, rather than to the excavation areas and the subdivisions used in the different seasons' work. Ermin Street runs approximately northwest–southeast. However, as all the main features are aligned to it, it is taken, for ease of description, to run north–south. This should be borne in mind when referring to the figures.

2. THE EXCAVATIONS 1967–1976

By A.S. Anderson

EXCAVATIONS IN 1967

In 1967 two excavations were undertaken. In April and May work concentrated in *Insula VII* to the east of Ermin Street, where an area *c.* 15m square was excavated to reveal a rectangular building with stone foundations located at the junction of Ermin Street and a side street. In addition, a 1.2m wide trench (Trench 9), running parallel to Ermin Street, was dug for 72.6m northwards from this area locating a side street near its north end. Two further trenches were dug, Trench 4 cutting through the main excavation area and traversing Ermin Street into *Insula I*, and Trench 6, parallel to it, located 25.6m to the south, extending across the road into *Insula II*. Trench 6 revealed a road ditch on the east side of Ermin Street and indications of further building activity on its west side. Towards its west end a carved limestone statuette of Mercury was found (No. 5, p. 153, PL. VIII).

From August to October, work sought to clarify the discoveries made at the western end of Trench 6 in the previous months. An area *c.* 32 by 20m was investigated in *Insula II*. It had been badly disturbed by stone robbing and agriculture but enough evidence remained to indicate the presence of three buildings adjacent to the west side of Ermin Street. In addition, a trench 30.5m long (Trench C) was dug in *Insula VI* running southwards from near the east end of Trench 6. Half-way along this trench a wall composed of limestone slabs was discovered. This was later identified as the northernmost exterior wall of Building 6, excavated in 1969.

EXCAVATIONS IN 1968

In 1968 a series of trenches were excavated in *Insula I* adjacent to the west side of Ermin Street. A main trench, 145m long and 2.45m wide, was dug parallel to the road, running north from the 1967 excavation area. On either side and at right-angles to it, other trenches, 1.2m wide, were cut at regular intervals. These were widened at some points in order to investigate particular features further.

The result of this sample excavation strategy is that only one stone built structure, of incomplete plan, can be identified with any certainty. Excavation plans and photographs record an array of cobbled surfaces, post-holes, areas of stone robbing, and numerous, seemingly unrelated, sarsen boulders. Undoubtedly, more buildings existed in the area, with both stone structures and raised timber buildings being suggested by the remains. However, in an area of the site where so much disturbance of the Roman levels had taken place, it was not possible to determine building plans from the limited areas excavated.

EXCAVATIONS IN 1969

In 1969 a six-week excavation was undertaken during July and August in order to investigate as much as possible of that part of Nine Acre Field not excavated in the previous two years, concentrating on the areas flanking Ermin Street in *Insulae II–VI*. The topsoil was stripped with the intention of revealing at least the plans of the later buildings. While the aim was not fully achieved, approximately 2400sq.m were uncovered to the level of the latest buildings, while random samples were taken of the earlier levels.

The density of later buildings on both sides of Ermin Street appeared much higher in these Insulae than in those excavated in 1967 and 1968 to the north, and only a few areas were devoid of structures during the late third and fourth centuries A.D. Unfortunately, the whole area had been heavily ploughed and many walls were represented only by heaps and spreads of rubble, making interpretation difficult (PL. II). At best, the remains were highly fragmented and in only a few places were contemporary floor levels found.

EXCAVATIONS IN 1970

It was originally planned that the 1970 excavations should be to the south of the Dorcan Stream but a series of unfortunate circumstances resulted in the excavation area being switched at the last minute. The area eventually excavated lay at the south end of the site in Insulae IV and V, immediately adjacent to that excavated in 1969 and close to the Dorcan Stream. It encompassed approximately 900sq.m. As in 1969, work concentrated on the later buildings to either side of Ermin Street but here too post-Roman activity had disturbed earlier levels, hampering the identification of overall building plans. In the southern part of Insula V much of the area to the east of Ermin Street had been covered, until a few years before, with two barns and a stock yard. Under the wet conditions normally prevailing on the site, with its clay subsoil, their heavy cobbled floors had been pressed down and, in places, become inextricably embedded in the Roman layers.

EXCAVATIONS IN 1975

In 1975 two 2m wide trenches, 70m and 60m long, crossing each other at an approximate right-angle, were machine excavated by C.J. Gingell on behalf of the Wiltshire Archaeological and Natural History Society and the Department of the Environment (*Archaeol. Exc.* 1975). The first trench ran parallel to and immediately outside the Ermin Street west ditch in Insulae III and IV, the other crossing Ermin Street from Insula IV into Insula V, and cutting through part of the 1970 excavation area. The areas around these trenches were more fully excavated in 1976.

EXCAVATIONS IN 1976

The choice of site for the 1976 excavation was largely determined by the threat of the proposed construction of a flood water lagoon, and its area was limited both by the course of the Dorcan Stream and the local road network constructed since the 1970 excavation. The chosen area overlapped with that excavated in 1969 but also covered a large area to the west, further away from Ermin Street. Approximately 1300sq.m within Insulae III–V were excavated. This included cutting a number of long trenches in the northwest of the area.

The aim of the 1976 season, which lasted for almost four months, was to determine the nature of the earlier occupation of the site, prior to that represented by the late Roman buildings discovered in previous seasons. In the course of this investigation the remains of several late buildings were revealed (in addition to those recorded in 1969). Beneath these were discovered a series of earlier structures and this sequence has facilitated the formulation of a chronology for the site, comprising a series of main periods and structural phases (below).

A wide shallow ditch was discovered in Insula III, terminating just to the west of Ermin Street and running at a right-angle to it. Its eastern terminal was subsequently filled with hard packed gravel and stones (FIG. 8), forming a long cobbled ramp running down to the base of the ditch. The ramp was later used as a foundation for Building 17 which was built against the south face of a wall running parallel to the north side of the ditch.

3. CHRONOLOGY

By A.S. Anderson

The results of the excavations are presented chronologically in the following periods and phases.

Period 1: First century A.D.

Period 1 Phase A (c. A.D. 50–60)

The date for this phase is suggested by Claudio–Neronian samian from the basal layers of the Ermin Street West Ditch (76A, 150, and 32; 76B, 32, and 29), although the absence of *terra rubra* and the scarcity of girth beakers indicates a wholly Neronian date is more likely. The primary silts also contained one coin of Claudius and one of Agrippa.

Period 1 Phase B (c. A.D. 60–65)

The ditches from this phase post-date the construction of Ermin Street, and the single structure (Building 23), which had a short life span, appears to have been contemporary with them.

Period 1 Phase C (c. A.D. 65–75/80)

The single feature from this phase, Ditch 110, post-dates Building 23. Period 1 ends with the filling of the Ermin Street west ditch with large quantities of Neronian and early Flavian pottery, including several whole and near complete vessels and a variety of imported wares. The upper levels of this fill (76B, 20B–D) were contaminated by later intrusive material, but the lower layers (especially 76B, 27) are convincingly dated by coins and pottery to *c.* A.D. 65–75/80, the coin series for this deposit ending with an issue of Vespasian. Following the end of Period 1C, all the ancillary ditches went out of use.

Period 2: Late first to third centuries A.D.

The chronological sequence in Period 2 was best observed on Site A (in Insula IV) in 1976, and contemporary layers from other areas have been calibrated to that site's stratigraphic matrix.

Period 2 Phase A (c. A.D. 80–150)

A horizon, which formed a homogeneous deposit across the site (Layers 76A, 33, 41, 49, 56, and equivalent layers), sealed all Period 1 contexts and buildings from this phase are contemporary with it. Although several Claudian coins were discovered in association with this phase, most of the ceramic material dates to the late Flavian–Trajanic period. However, a few sherds of Hadrianic–early Antonine BB1 were also found and a terminal date for this phase of *c.* A.D. 150 seems appropriate.

Period 2 Phase B (c. A.D. 150–230)

The structures associated with this phase cut the Phase A deposits. However, it proved difficult to establish a terminal date for this phase because in some places it was not possible to differentiate between the main occupation layer (76A, 20) and the subsequent Period 3 levels which lay above it. It was dated largely by the preponderance of late Antonine pottery from its structures and occupation levels and by two coins of Antoninus Pius.

Period 3: Third and fourth centuries A.D.

Period 3 Phase A (c. A.D. 230–325)

The start of Period 3 is marked by layers of cobbling (Layers 76A, 20, and 6) which formed a horizon over most of the site sealing the Period 2 deposits and on which many of the Period 3 structures were built. Pottery found stratified beneath the cobbling in Insula V can be dated to *c.* A.D. 175–200, resulting in the start of the period being dated to *c.* A.D. 230. The series of

buildings with stone foundations constructed during this phase may have continued in use throughout Period 3.

Period 3 Phase B (A.D. 325–400+)

Stratigraphically, all the raised timber buildings on the site appear to be a fourth century phenomenon, superseding the stone buildings of Period 3A. This method of construction does, however, introduce a number of uncertainties about the precise dating of the buildings, as the finds found below the 'floor' should be contemporary with the use and not the construction of the building, having dropped through the floorboards. It is also possible that in certain circumstances later objects could be trapped beneath support stones, so giving an erroneous date of construction (Anderson and Wachter 1980, 121).

Even with these strictures in mind, the dating of the finds may not allow close chronological resolution. For example, the construction of Building 13, the most complete example, appears to be dated by a sherd of Oxfordshire red colour-coated beaker dating to *c.* A.D. 270–400. Its occupation is dated by Oxfordshire red colour-coated pottery with stamped 'rosette' decorations, datable to after *c.* A.D. 325, and a series of eight coins beginning with an issue of A.D. 268–270 and ending with one of A.D. 388–402. However, dating for its demolition is only provided by a sherd of Oxfordshire red colour-coated ware which cannot be dated more closely than late third or fourth century.

4. RESULTS

By A.S. Anderson and Andrew B. Powell

PRE-ROMAN

Excavations on Sites 1976A and B, in Insula IV, showed that the earliest level with archaeological material was a homogeneous thick yellow clay (76A, 50, and 76B, 50), which had some finds on its upper surface but was otherwise devoid of evidence of human occupation. On Site A, investigations below this 'natural' revealed a series of fine and coarse gravels, presumably periglacial in origin, resting on a deposit of light blue-grey clay over 5m thick. The gravel layers contained several sarsen boulders, including one measuring 1.45m long, which would have been a potential source of the many sarsen stones used in the site's later building phases.

A small quantity of Bronze Age pottery, part of a palstave and some flint which may also be Bronze Age, suggest activity, perhaps settlement, in the vicinity but most of this material was residual in Roman contexts.

ROMAN

Period 1, Phase A (*c.* A.D. 50–60)

Ermin Street and its ditches (FIGS 3 and 4)

The earliest features excavated at Wanborough were Ermin Street and its accompanying ditches. These consisted of a metalled road surface set between ditches approximately 23m apart. The ditches do not appear to have been continuous but lengths of both can be observed as dark lines in the pioneering photogrammetric survey conducted by Marius Cooke in 1969 (Cooke and Wachter 1970). In 1976 two lengths of the west ditch, with a combined length of 30.2m, were excavated in Insulae III and IV. It was, on average, 2.3m wide and 0.6m deep, although its width varied considerably, and its profile was in most places a shallow 'V' shape with a wide, almost flat, base. It ran under the Period 3 side street which separated Insulae III and IV and continued north for *c.* 10m to a point below the Period 3B ditch. Here it was noticeably shallower and ended in a bow-shaped terminal. It was not possible during 1976 to determine where the ditch restarted north of this terminal but it can be seen on the photogrammetric survey in Insula II (PL. II; Cooke and Wachter 1970) and further north in the area excavated in 1967.

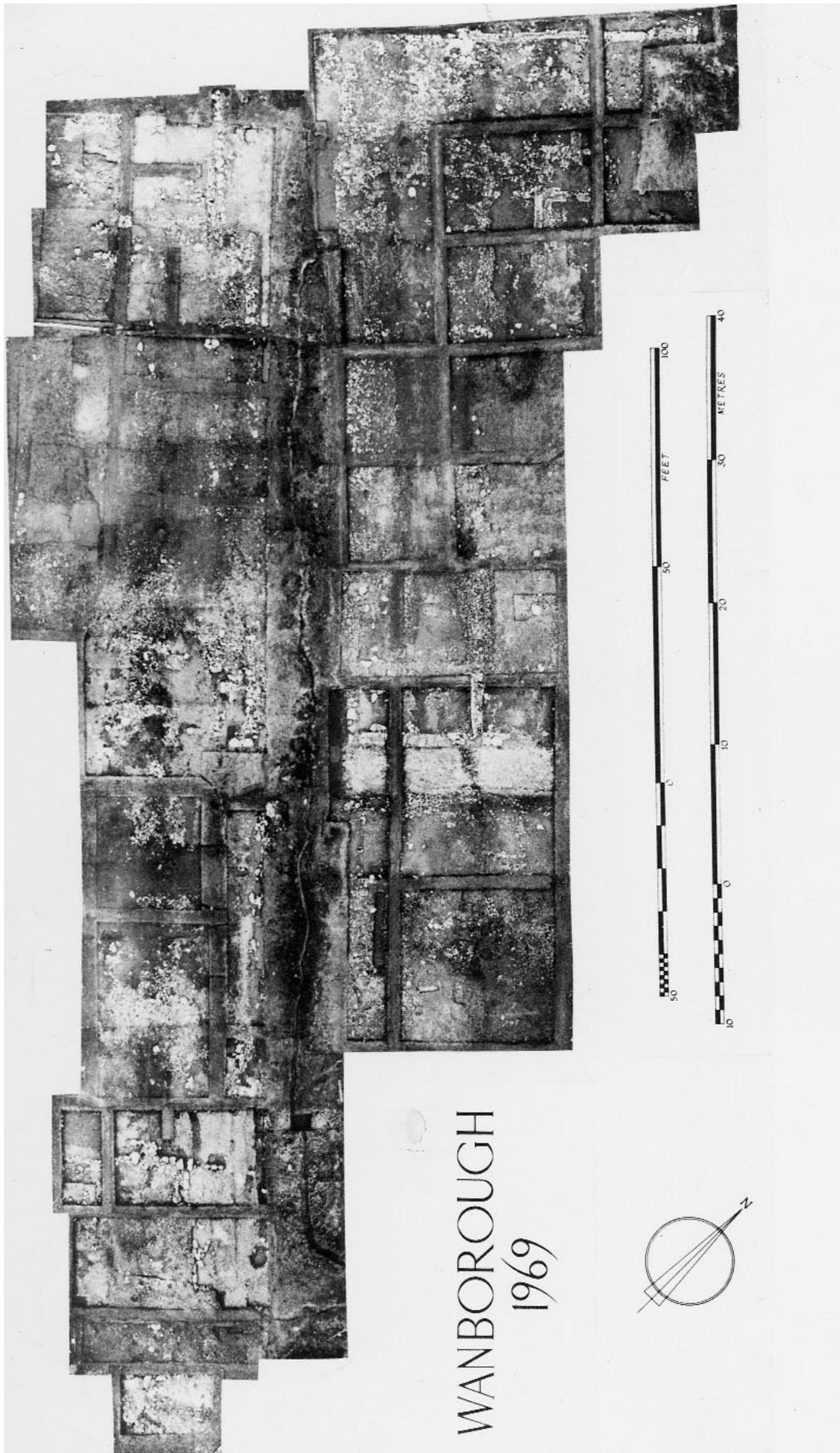


PLATE II. Wanborough 1969-70 photogrammetric survey. Photographed and assembled by F.M.B. Cooke.

Dating for the construction of the ditch was provided by finds from its primary silt layers (76A, 150 and 32, and 76B, 32 and 29). These contained one coin of Claudius and one of Agrippa, as well as Claudio-Neronian samian and coarse pottery.

Little is known about the eastern road ditch. In the north of Insula V its outline was observed in 1976 as a slight depression and as a line of damp soil some 24m east of the west ditch. It was clearly visible in 1969 in Insula VI in the area of Building 7 and the side street adjacent to it, where the weight of the flooring and street metalling had caused a sinkage into the top of the ditch. In 1967 the ditch was also located in Trench 6 in Insula VII.

Period 1, Phase B (c. A.D. 60–65)

Ermin Street west ditch and ditches 58 and 125, Insula IV (FIGS 3 and 4)

Early recuts of the Ermin Street west ditch were investigated at several points (FIG. 3, A–B) but these always proved to be localised rather than relating to any overall plan and they may have had little connection with drainage requirements. In some places a cleaning channel was noted in the base of the ditch. Although the upper sides of the ditch were stable, towards its base it cut down below the natural yellow clay into the earlier gravel layers and would have been liable to erosion in the base. At a number of points within the ditch in Site 1976A, two parallel lines of stake-holes were found towards its base (PL. III; FIG. 3), possibly representing revetment of its sides and the insertion of a timber-lined drain.

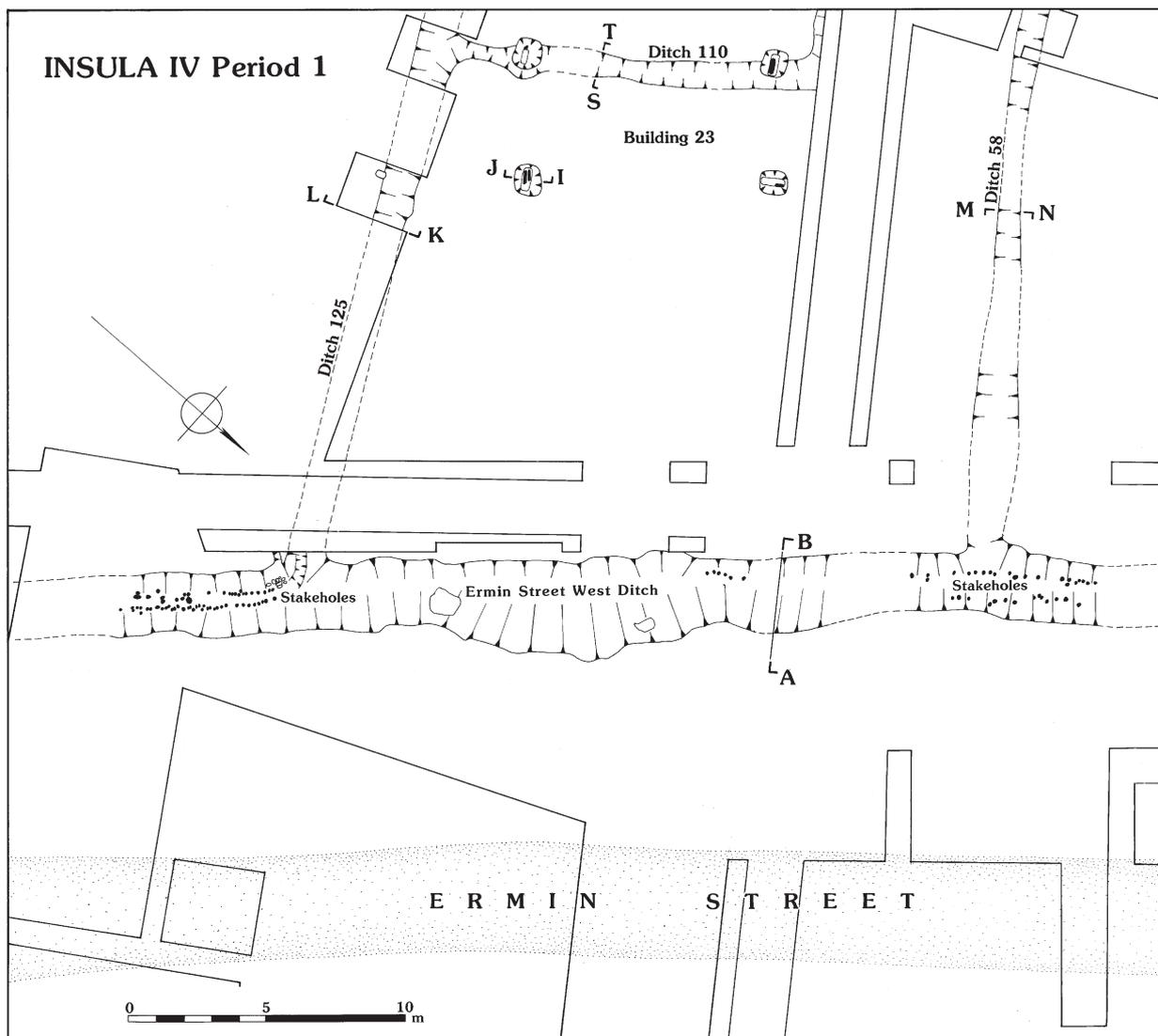


FIG. 3. Insula IV, Wanborough Period 1.



PLATE III. Period 1 stake-holes in Ermin Street west ditch, Insula IV. Scales in metres.

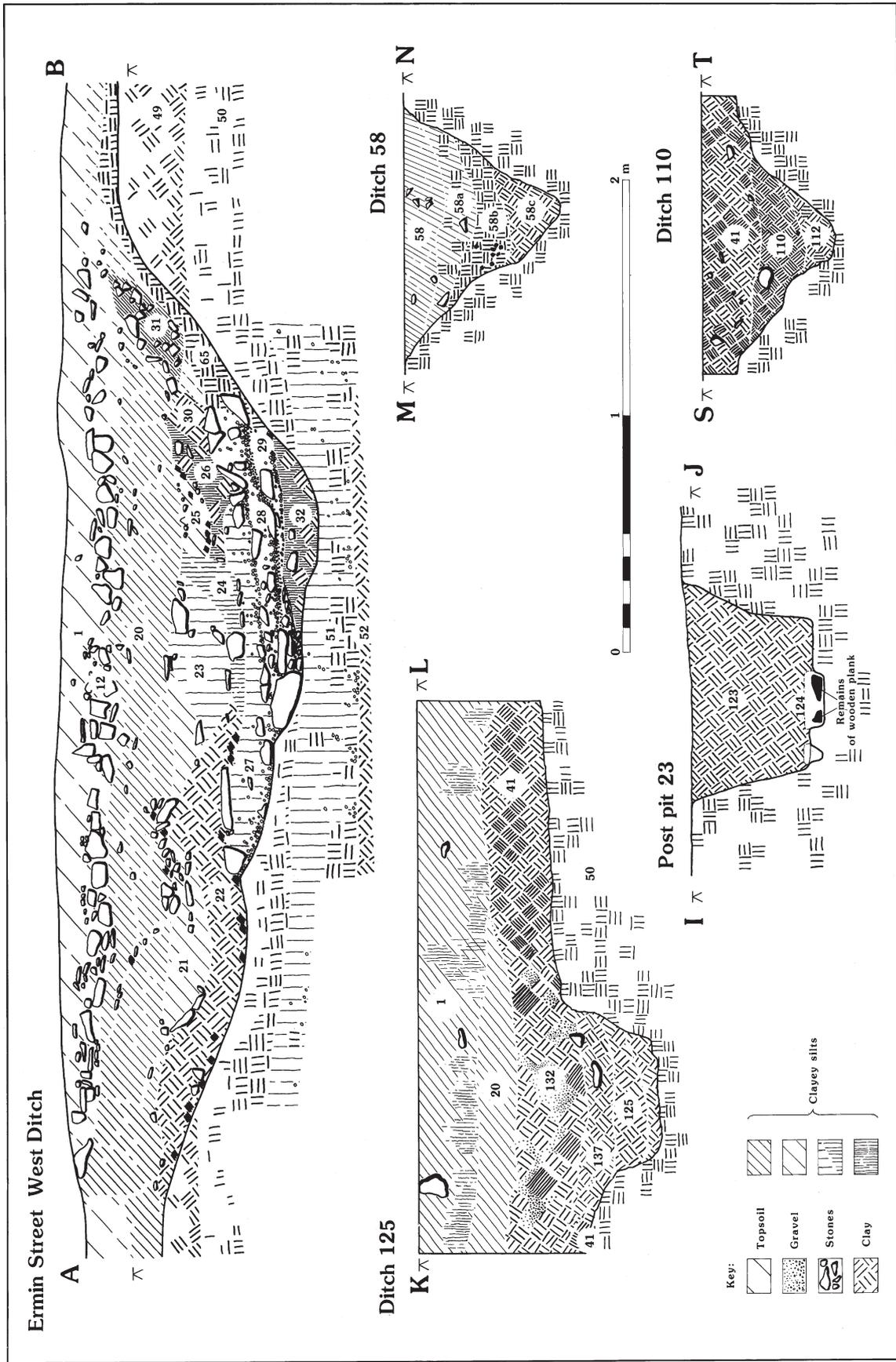


FIG. 4. Sections of Period 1 ditches and post-pit of Building 23.

At one point this line of stake-holes curved slightly, pointing towards the mouth of a drainage ditch (Ditch 125) which joined the road ditch from the west at a right-angle. This ditch, and another (Ditch 58) which ran parallel to it and joined the road ditch 23m north, were smaller than the road ditches. Ditch 125 was 'U' shaped, 1.2m wide and 0.5m deep, while Ditch 58 was 'V' shaped, 1.0–1.3m wide and 0.6m deep (FIG. 4, L–K and M–N). Despite their different profiles, the two ditches appear to have been contemporaneous. Both extended westward beyond the limit of excavation. The layers in the Ermin Street west ditch that are contemporary with the primary silting of the side ditches are 76A, 28 and 76B, 28. During this phase these three ditches drained three sides of an area of land in which evidence for a large rectangular structure, Building 23, was discovered (FIG. 3).

Building 23, Insula IV (FIG. 3)

Building 23 appears to have been contemporary with, or possibly a little earlier than, Ditch 125 (FIG. 4). It measured 9.6m long and 4.6m wide and was represented by four large post-pits, although it is possible that its complete plan was not recovered. Each post-pit was sub-rectangular in plan, narrowing towards the base, the two at the northern end of the building measuring *c.* 1.05m long and 0.9m wide at the top, and 0.5m deep. Set in the base of each pit was a short wooden plank, still partly preserved, measuring on average 0.9m long, 0.25m wide and 30–40mm thick (FIG. 4, section I–J). These planks probably acted as base plates to support the four large corner posts. There was no clear occupation level associated with the structure and it was systematically demolished after what appears to have been a relatively short life.

Period 1, Phase C (c. A.D. 65–75/80)

Ditch 110, Insula IV (FIGS 3 and 4)

After the demolition of Building 23, a further ditch (Ditch 110) running parallel to Ermin Street was dug, cutting the post-pits on the west side of the building, and with its southern end issuing into Ditch 125. At its northern end Ditch 110 appears to turn to the west, but here it reached the edge of the excavated area and so a change of direction could not be demonstrated for certain. It had a 'V' shaped profile, with a slot in the base, and measured 0.6m wide and 0.5m deep (FIG. 4, S–T).

'Evacuation deposit'

This phase ended with the dumping of large quantities of pottery and other occupation debris into all four ditches, particularly the Ermin Street west ditch where this deposit included several complete pots and must have almost filled the ditch. Industrial waste, notably iron and glass slag, was also deposited in the ditch (FIG. 4, A–B). The upper levels of this fill (76B, 20B–D) were contaminated by later intrusive material, but the lower layers (especially 76B, 27) are convincingly dated by coins and pottery to *c.* A.D. 65–75/80, the coin series for this deposit ending with an issue of Vespasian. Following the end of Period 1C, all of the ancillary ditches went out of use.

Period 2, Phase A (c. A.D. 80–150)

Building 24, Insula IV (FIG. 5)

An area of irregular-shaped limestone rubble in Area IX, in the southeast corner of Site 1976A, led to the discovery of a circular structure, Building 24. The floor level was very fragmentary but consisted, in places, of lumps of re-used mortar, clay, and small pieces of chalk embedded in the irregular-shaped rubble. The rubble itself was set in a matrix of grey-green clayey soil (76A, 33 and 41) which formed the horizon layer deposited after the end of Period 1C. The western side of the building was marked by a curving line of discontinuous building slots (0.15–0.2m wide and 0.15–0.2m deep) between areas of stone rubble, presumably to hold timber uprights. Because the fill of the slots was similar to the underlying grey-green clayey deposit it was only possible to trace the slots where they had cut the yellow clay natural (76A, 50).

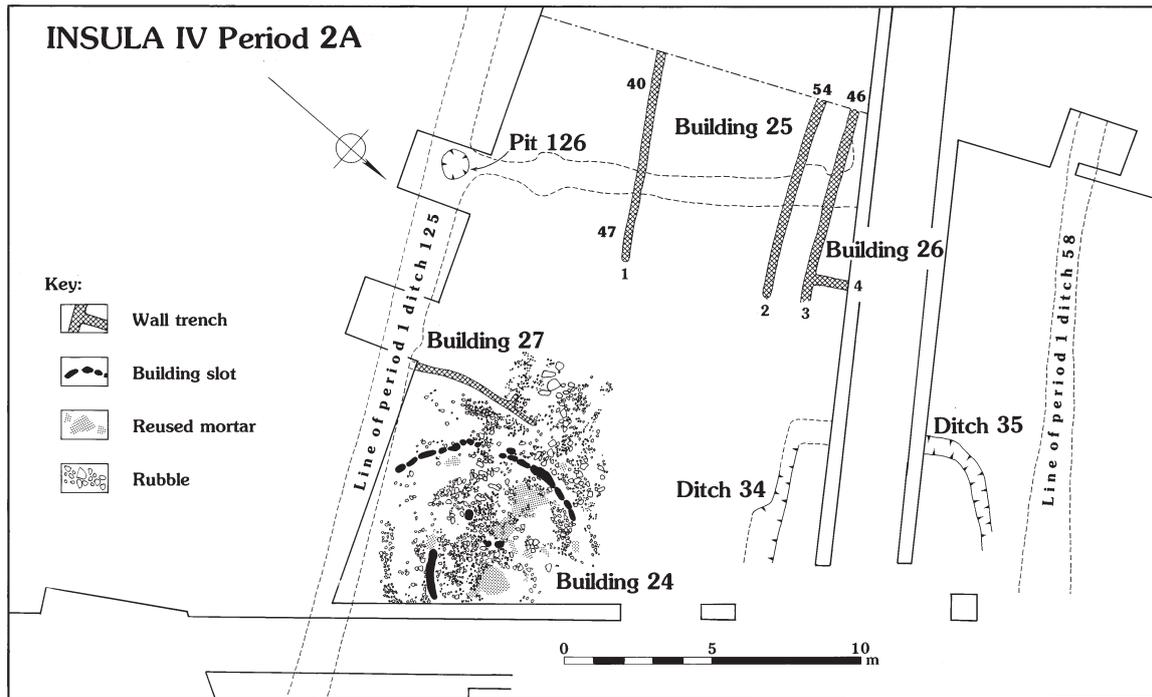


FIG. 5. Insula IV, Wanborough Period 2A.

Consequently, only a part of the building plan was recovered by excavation, although it was clear that it extended beyond the eastern boundary of the excavation and was some 8m in diameter. Another, roughly circular, gap in the centre of the rubble floor suggests the possibility of a central roof support post, although no post-hole was discovered. Small post-holes indicated the positions of a number of internal posts, none of which appear to have had any primary structural significance.

Buildings 25 and 26, Insula IV (FIG. 5)

These two buildings, sited to the west of Building 24, were represented by three roughly parallel foundation trenches running east–west. The vertical sided trenches may have contained either sleeper beams or timber uprights but the discovery within one of them of packing stones for an upright post suggests the latter. The fill of the wall trenches was similar to the overall horizon layer (76A, 33, and 41) and it was difficult to define their edges except where they cut the natural yellow clay (76A 50). From the top of the natural they were *c.* 0.2–0.3m wide and survived to a depth of 0.15–0.2m.

Trenches 1 and 2 appear to represent the walls of a single structure, Building 25. Trench 3 had an additional wall, Trench 4, joining it at a right-angle from the north and so may represent another distinct structure, Building 26, although it was not possible to locate its northern wall. The east–west dimensions of both buildings are unknown, although the eastern terminals of Trenches 1 and 2 were clearly recognisable. Building 25 appears to have been a long rectangular timber structure, *c.* 5.2m wide, separated from its neighbour by a 1m gap. Neither building retained any trace of floor levels.

Building 27, Insula IV (FIG. 5)

This possible building is represented by a single irregular foundation trench only, running north–south for a distance of 4.7m. There was a short projection of the trench running 0.4m to the west from near its north end. The trench, which had vertical sides and was 0.2m wide and 0.2m deep, may be the wall of a rectangular building of the sort represented by Buildings 25 and 26.

Other Period 2A features, Insula IV (FIG. 5)

Other features dated to this phase were a shallow flat-bottomed ditch (Ditch 34/35), 0.4–0.5m wide and 0.2–0.25m deep, dating to *c.* A.D. 80–100, and a small pit (76A, 126). This pit was probably some form of soakaway and was cut at the point of junction of the now infilled Period 1 Ditches 110 and 125 (above), presumably where the ground was already damp and easy to excavate. The pit was roughly circular and measured 0.8m in diameter and was 1.1m deep. It contained Trajanic–Hadrianic pottery and occupation debris.

Period 2, Phase B (c. A.D. 150–230)*Building 4, Insula I* (FIG. 6)

Building 4, excavated in 1968, consisted of two rectangular adjoining rooms whose wall lines survived only at foundation level or were represented by robber trenches. Unfortunately, the wall junction between the two rooms had been robbed so no evidence as to the precise sequence of construction was available. Only two walls of each room survived and so no overall dimensions for this building can be ascertained. The foundations were constructed of limestone rubble set in shallow trenches and measured approximately 0.45m wide for the westernmost room and 0.8–0.9m wide for the room nearer Ermin Street. In the eastern room were two rectangular foundations, 1.2m across, constructed of pitched limestone rubble, presumably to provide bases for roof support columns. Their centre points were 3.5m apart on an east–west line, 3.7m from the north wall of the room. Dating evidence included late coins and pottery and it is probable that the construction of this building is no earlier than Period 2B. Its form and construction, however, suggests that a slightly later date, in Period 3A, is possible.

Building 5, Insula II (FIG. 6)

The northern end of Building 5 was discovered in 1967 at the southern edge of that year's excavation in Insula II. The structure was only preserved to the level of its foundation, this comprising two lines of sarsen boulders lying to either side of a limestone rubble core. The end wall and two side walls of a rectangular building, *c.* 7m wide were revealed, each wall being *c.* 0.7m wide. Inside the building were floor levels of grey-green silty clay from which were recovered second–third century A.D. pottery.

The southern two-thirds of Building 5 were uncovered in 1969 at the north of the area excavated. Although little of its superstructure remained, some of the wall did survive, constructed of flat pieces of limestone laid on a sarsen and limestone rubble foundation, *c.* 0.6m wide. Inside the building, a contemporary floor level was found, consisting of a thick layer of decayed sandstone, bonded in places with a heavy grey-green clay (69B, II, 4 and 12). Pottery stratified in the floor suggests a *terminus post quem* for the construction of Building 5 of *c.* A.D. 150.

Built on top of the main floor level, two internal features were discovered at the northern edge of the excavation. The first was a sub-rectangular stone-built oven with a chamber 0.74m wide and a flue *c.* 0.3m wide opening towards the east (PL. IV). The base of the oven was constructed of cobbles, similar to those of the floor on which it stood and these and some of the stone walling showed evidence of burning. To the east was a small rectangular hearth with a floor of flat stones and tiles, bounded by higher stone cheeks. It was not possible to recover the entire plan of this feature as it extended beyond the edge of 1969 excavation.

'Building' 28, Insula IV

The interpretation of a number of features found in Insula IV as a building is not without difficulties but any other alternative interpretation is problematic and it is likely that the features belong to a single structure. They included three parallel, shallow linear depressions (76A, 36, 39, and 42), each 0.7–0.9m wide by *c.* 0.15m deep. The westernmost of them, feature 42, had a short projection running east at a right-angle to its southern end. All three depressions were filled with a grey-green clayey soil containing some occupation debris, including late second century A.D. pottery.

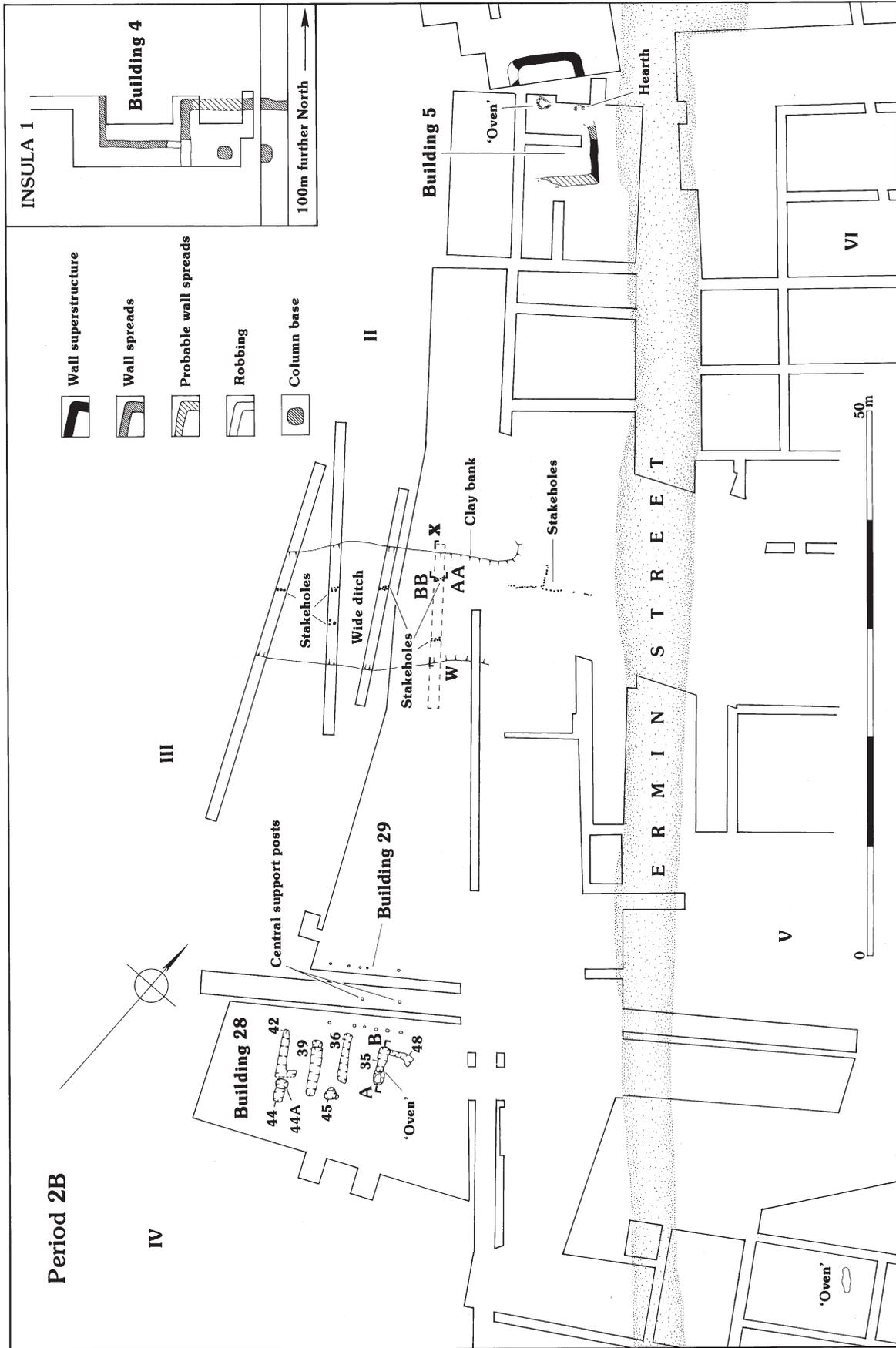


FIG. 6. Insulae I-V, Wanborough Period 2B.

Immediately to the south of this group, and possibly associated with it, were three further features (76A, 44, 44A, and 45) (FIG. 6). Feature 44 lay to the south of linear depression 42 and was a rectangular pit, 1.2m long, 0.8m wide, and 0.36m deep with almost vertical sides. Its fill consisted of a green-black silty soil containing late second–third century A.D. pottery, some large stones, tile fragments and several roughly shaped pottery discs or ‘counters’. Adjacent and to the north was Feature 44A, a sub-rectangular pit 1.12m long, 0.78m wide and 0.38m deep which was separated from Feature 44 by a thin ridge (Layer 41). Feature 44A was filled with dark brown-black soil containing quantities of animal bone, the sole of a hobnailed boot and second century A.D. pottery. Finally, Feature 45 was an irregularly shaped pit, 1m long, 0.75m wide, and 0.36m deep, filled with dark grey-green charcoal-flecked clayey soil containing second century A.D. pottery and a large tile (A, 546).

Building 29, Insula IV (FIG. 6)

The evidence for this building consisted of two parallel lines of post-holes, aligned approximately east–west and at right-angles to Ermin Street. Their plan suggests a rectangular building at least 7m long and 5m wide. The post-holes were revealed following the removal of the overall horizon which sealed Period 2 levels (Layer 76A, 20). All the post-holes contained packing stones. No contemporary floor level was observed but most of the area between the two lines of post-holes had already been removed in 1975 in the cruciform arrangement of trenches excavated that year. Two post-holes on the same alignment were found in 1975, and while they were physically at a lower level, they may have been part of Building 29. They may have held central roof-support posts requiring deeper post-holes. Unfortunately, no stratigraphic relationship between the outer and inner sets of post-holes remained to clarify this point.

‘Oven’, Insula IV (FIG. 7)

This structure, found in 1976, lay immediately to the south of Building 28 on the same alignment and consisted of two joining depressions, the more southerly being both smaller and shallower. It had a total length of 3.4m and was 0.9m wide at its widest point. Its shape, and the presence of charcoal flecks in its fill, suggested that it was some kind of kiln or furnace, with the chamber to the south and the ‘stoke pit’ to the north. However, as with another similar structure found in 1970 in Insula V (below), little evidence of high temperatures was observed so the precise function of the feature remains unclear.

Its southern part consisted of a bowl-shaped depression 1.15m long, 0.9m wide and with a maximum depth of 0.25m. The shallow sloping side at the south end retained a lining of small pieces of limestone, as well as two larger sarsen stones, set in a pale yellow clay. When it was excavated, its fill (76A, 37A) was found to contain numerous pieces of limestone, possibly collapsed or demolished parts of this lining. There was no trace of any floor within the depression, its fill overlying natural yellow clay. There was little sign of burning, a very small quantity of charcoal being the only trace.

The northern depression, separated from the southern one by a narrow ledge of clay natural, was both larger and deeper, being 2.5m long and with a maximum depth of 0.56m. Unlike the smaller depression it had steep sides, possibly forming a ‘stoke pit’ for the chamber. Its fill (76A, 35) consisted of a green-black clayey soil containing numerous oyster shells, some fragments of lead and an infant burial with an accompanying pot (A, 516) and an iron pin (No. 326, p.134).

To the west of the ‘stoke pit’ an irregular ‘L’ shaped depression (76A, 48), some 0.1–0.15m deep, contained a series of small stake-holes. These may represent the remains of a light fence or screen related to the main feature.

The ‘oven’ was observed after the removal of Layer 76A, 20 (the horizon which overlies the Period 2 levels), as an area of dark brown sandy soil lying within an earlier shallow feature cut into Layer 76A, 33 (which seals Period 1). The pottery from the ‘L’ shaped depression was of first century A.D. date, while that from the ‘stoke pit’ was broadly second century A.D. However, at the southern end of the feature, the fill of the smaller chamber was found to extend beyond it and the fill contained two coins of the reign of Antoninus Pius (A, 529 and 633), suggesting a date in the second half of the second century A.D.

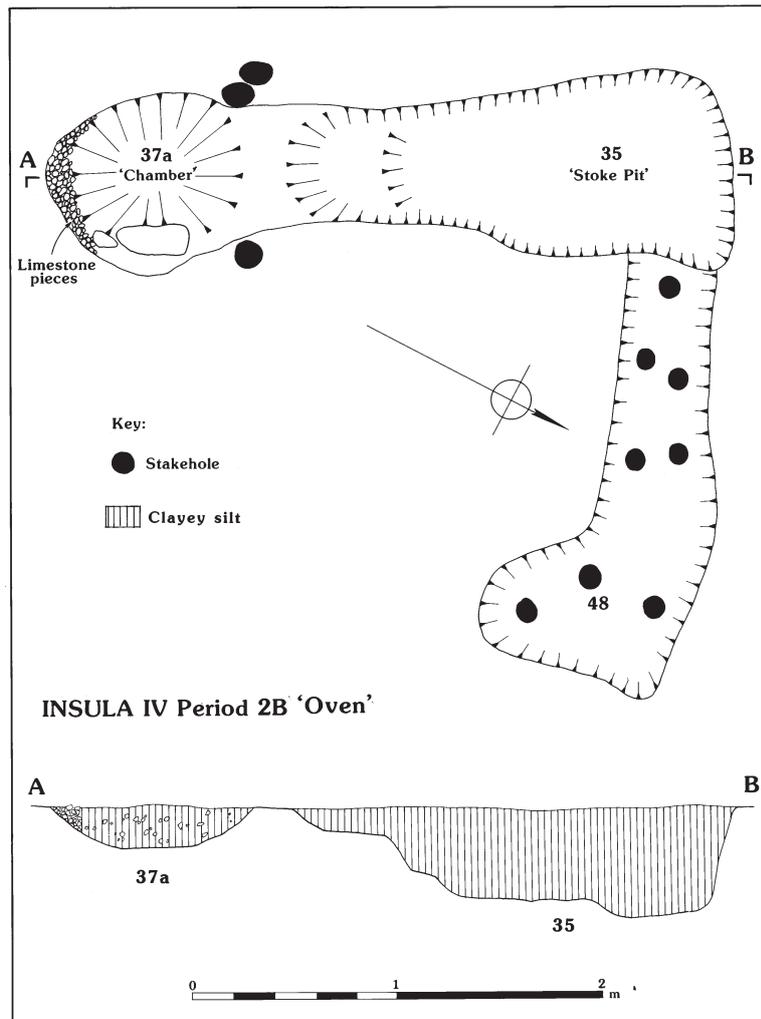


FIG. 7. Insula IV, Period 2B 'oven' fully excavated.

'Oven', *Insula V* (PL. V; FIG. 6)

This feature, which was excavated in 1970, was situated in a shallow oval hollow some 3m in diameter, and comprised two joined pits aligned north–south. Its total length was 2.6m, and it was *c.* 0.7m wide. The walls of the north and south pits appear to have been lined with a hard, off-white to buff-grey material which proved, on analysis, to be sand and earth cemented by a carbonate, possibly to provide a refractory lining. However, there was little evidence that the sides of the pits had been subjected to high temperatures.

The northern pit, which was smaller and deeper than the southern one, contained earth mixed with charcoal and some slag. However, although a few pieces of vitrified material were found in the fill, there was no evidence that they were burnt *in situ*. The southern pit contained less charcoal and slag. Lying immediately to the west and separated from the northern pit by a stone slab, was a further depression, possibly a secondary chamber or refuse pit. The pit contained a number of flat pieces of stone and tile that appeared to form a base but nothing to indicate its function.

Pottery from this feature suggests a date of *c.* A.D. 125–60. The feature was similar to that found in 1976 in Insula IV (above). Both appear to have been broadly contemporary and, as the latter yielded coins dated to the second half of the second century A.D., they may have been related to building activity during Period 2B. In the absence of evidence for high temperatures, their interpretation as ovens must remain in some doubt and the cemented lining of this feature may point to their use as liming pits. Alternatively, the presence of small pieces of lead in the



PLATE IV. Stone oven, Period 2B Building 5, Insula II. Scale in feet.

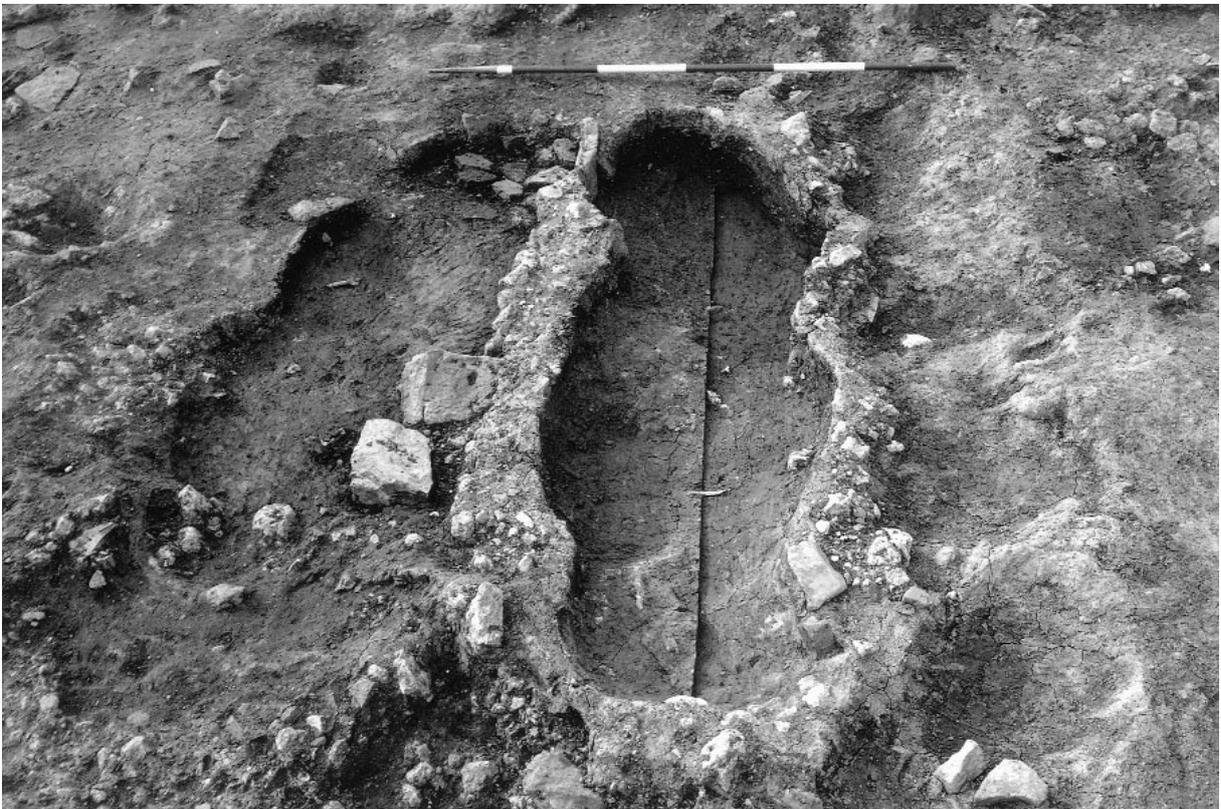


PLATE V. Period 2B 'oven', Insula V. Scale in feet.

fill of the Insula IV feature may indicate that it was used for lead-working. Whatever the interpretation, it may be significant that these features are dated to the phase when building in stone started on the site, with its need for lime for mortar and lead for jointing.

Wide ditch, bank and stake-holes, Insula III (FIG. 6)

There was no evidence for building activity in Insula III during Period 2A. However, the 1976 excavations revealed a wide, flat-bottomed ditch, 1.5m deep, running for over 30m at a right-angle to, and terminating a short distance to the west of, Ermin Street. The feature was 10.5m wide, with the excavated material cast up on the north side forming a low bank. The base of the ditch sloped upwards to the level of the contemporary ground surface adjacent to the road but the exact shape of its terminal is not known, as it was overlain by a cobbled surface laid at the start of Period 3 (below), which was not fully removed in this area.

The original purpose of this feature is unclear. It may have been part of a defensive circuit starting to the west of Ermin Street, although there is evidence of occupation on both sides of the ditch, and investigations failed to reveal any similar feature on the east side of Ermin Street. It appears to have been too large to have been built simply as a drainage ditch. It is possible that it represents a road, worn down to form a hollow-way. Excavation provided no precise date for the ditch but, as it pre-dates the Period 3A cobbled surface, it may date to the late second century A.D.

Sometime before the end of Period 2B, a number of sharpened wooden stakes were placed in the base and sides of the ditch (FIG. 8). It appears that an almost continuous line of stakes ran west along the ditch from the area covered by Period 3A Building 10 (FIG. 9), stakes being found in each of the four sections cut across the ditch. The line corresponds to the northern edge of the Period 3A cobble ramp which runs down into the ditch, and FIGURE 8 shows four of these stakes adjacent to the ramp. Further stakes were observed, apparently randomly located, projecting upwards through the cobbles.

Apart from those in the area of Period 3A, Building 10 (below), where only post voids remained, these stakes were well preserved by the waterlogged conditions at the bottom of the ditch. Inspection revealed that they were fashioned from oak. One stake (from 76C, XXXVIII), triangular in section and pointed at both ends, had been sawn or adzed into shape rather than split. Another from the same context, of heartwood oak and measuring 0.8m long with a maximum width of 0.1m, was also triangular in section and shaped to a point at both ends. It appears to have been sharpened at its base, driven into the clay natural and then had its upper end sharpened *in situ*.

The purpose of these stakes is unclear. Although the northern edge of the later cobbled ramp conforms to the main line of stakes, it seems unlikely that they were put in place merely for purposes of marking out or revetting its edge. If this was their function they need not have been sharpened at their upper end. Furthermore, those placed at random in the centre of the ramp would have served no useful purpose. Rather, the character of the stakes suggests some defensive function, not dissimilar to a *chevaux de frise*.

It is possible that the line of larger stake-holes, or post-holes, at the eastern end of the ditch lying beneath Building 10, represent an earlier structure of a similar size, with an internal partition wall running north at a right-angle. These stake-holes are *c.* 0.15m wide and 0.5–1m deep and the fact that they were visible at the level of the Period 3A cobble surface suggests that they were still *in situ* *c.* A.D. 230 and were sawn off at ground level prior to the construction of Building 10.

Period 3, Phase A (c. A.D. 230–325)

Ermin Street, the side streets and the cobbled surface (FIG. 9)

At the start of Period 3A, the area adjacent to Ermin Street, over much of its length on the site, was cobbled over, including the Ermin Street west ditch. This cobbling consisted of a thick layer of compacted chalk or limestone aggregate. Pottery found stratified beneath the cobbling in Insula V can be dated to *c.* A.D. 175–200. Whatever the original purpose of this apron, it formed

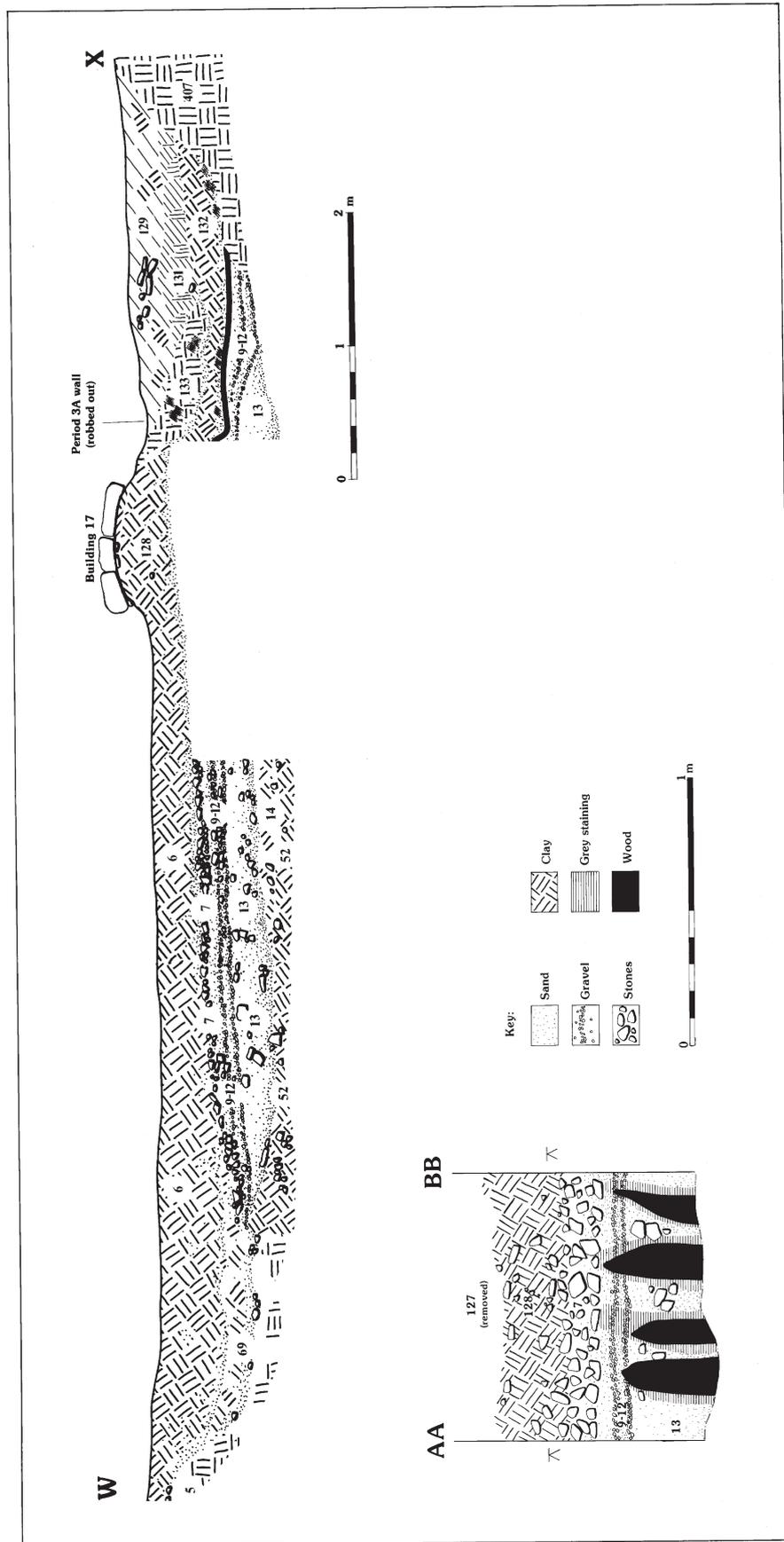


FIG. 8. Section of Period 2B stake-holes and section across wide ditch (the wall on the northern face of the ditch is not shown) (see FIG. 6).

a firm foundation for further construction activity. Its surface remained relatively unworn compared with that of Ermin Street itself. The five side streets, three to the east and two to the west of Ermin Street, which divide the site into *Insulae*, date to this period and represent only the core of a more extensive road system within the town.

In *Insulae* IV and V the cobbled apron was wider than elsewhere reflecting the increasing width of Ermin Street as it approached the Dorcan Stream at the southern end of the site. Here, the slight uphill gradient of the road suggests that it crossed the stream by a bridge rather than a ford. Remains of what may be a ramp leading to a bridge were identified at this point in Period 3B (see below).

Ditch and cobbled ramp, Insula III (FIG. 9)

In this phase a ramp was built running down into the east end of the Period 2B ditch (FIGS 6 and 8). The ramp was up to 6m wide, narrowing to 4m, and thinning to 0.25m in the most westerly trench some 30m to the west. It was constructed by first levelling the base of the east end of the ditch with a layer of thick grey-green clay (76C, 14). On top of this was a mixture of coarse sand and stones (76C, 13) some 0.3–0.4m thick, over which was laid a deposit, 0.4m thick, of alternating orange and grey sandy layers (76C, 9–12). Finally, the ramp was capped by the layer, 0.14m thick, of small irregular cobbles (76C, 7), a westward extension of the cobbled surface laid adjacent to Ermin Street (above). Pottery found within the body of the ramp indicates construction around A.D. 230. This date is supported by the total absence of Oxfordshire red colour-coated vessels, a class found in most layers dated to after *c.* A.D. 250.

A cobbled pathway (76C, 119), which may be dated to this phase, ran along the southern edge of the ditch, between it and a narrower Period 3B ditch.

Building 10 and the stone wall, Insula III (FIG. 9)

Late in Period 3A, probably *c.* A.D. 300, there were further developments in the same area of *Insula* III. Building 10, a rectangular structure 6.6m wide, but of unknown length, was built between the Period 2B ditch and the side street running parallel to it to the north. Its southeast corner was marked by two large stones and a substantial line of rubble indicated the course of its eastern wall adjacent to Ermin Street. On the north side of the building the exterior wall had largely been removed by later activity but two extant stretches of foundation course indicated its line. No evidence remained for a wall on the west side of the building.

At this time, the northern edge of the cobbled ramp was cut back slightly to allow the insertion of a foundation for a stone wall running parallel to the ramp, between it and the north side of the wide ditch. This wall had been largely robbed out and in only a few places was there any evidence of its rubble foundation.

The line of the wall was traced for 5.75m and, although a slight colour difference in the soil suggested the presence of a robber trench continuing for several metres further west, trenching failed to locate it beyond the limits of the main excavation area. Where it did survive it showed that the wall was 1.2m wide. To the east, later disturbance had removed all traces of both stonework or the robber trench. Here, however, the cobbled surface extended north of the ramp and formed a firm foundation for building construction. It seems likely that if the wall did continue eastwards to form the south wall of Building 10, then it would have been built directly onto this surface, removing the necessity for a foundation trench. Indeed, a short section of Building 10's wall at the southeast corner was built on the cobbles. If this was the same wall then it followed the course of the line of earlier post-holes (p. 21 above).

No artefacts were found to date Building 10 but stratigraphically it post-dates the digging of the large ditch in Period 2B and its subsequent filling with the cobbled ramp early in Phase 3A, *c.* A.D. 230. Its construction is typical of Period 3A buildings and it is comparable to Building 7 in *Insula* VI which is sited in the same position on the opposite side of Ermin Street (below).

Building 2, Insula II (FIG. 9)

This building was rectangular in plan, 16.45m east–west by 11.3m north–south, and consisted of one large internal area with a small room in the southwest corner, 8.5m east–west by 2.4m north–south. Wall alignments survived as foundation trenches filled with limestone rubble and

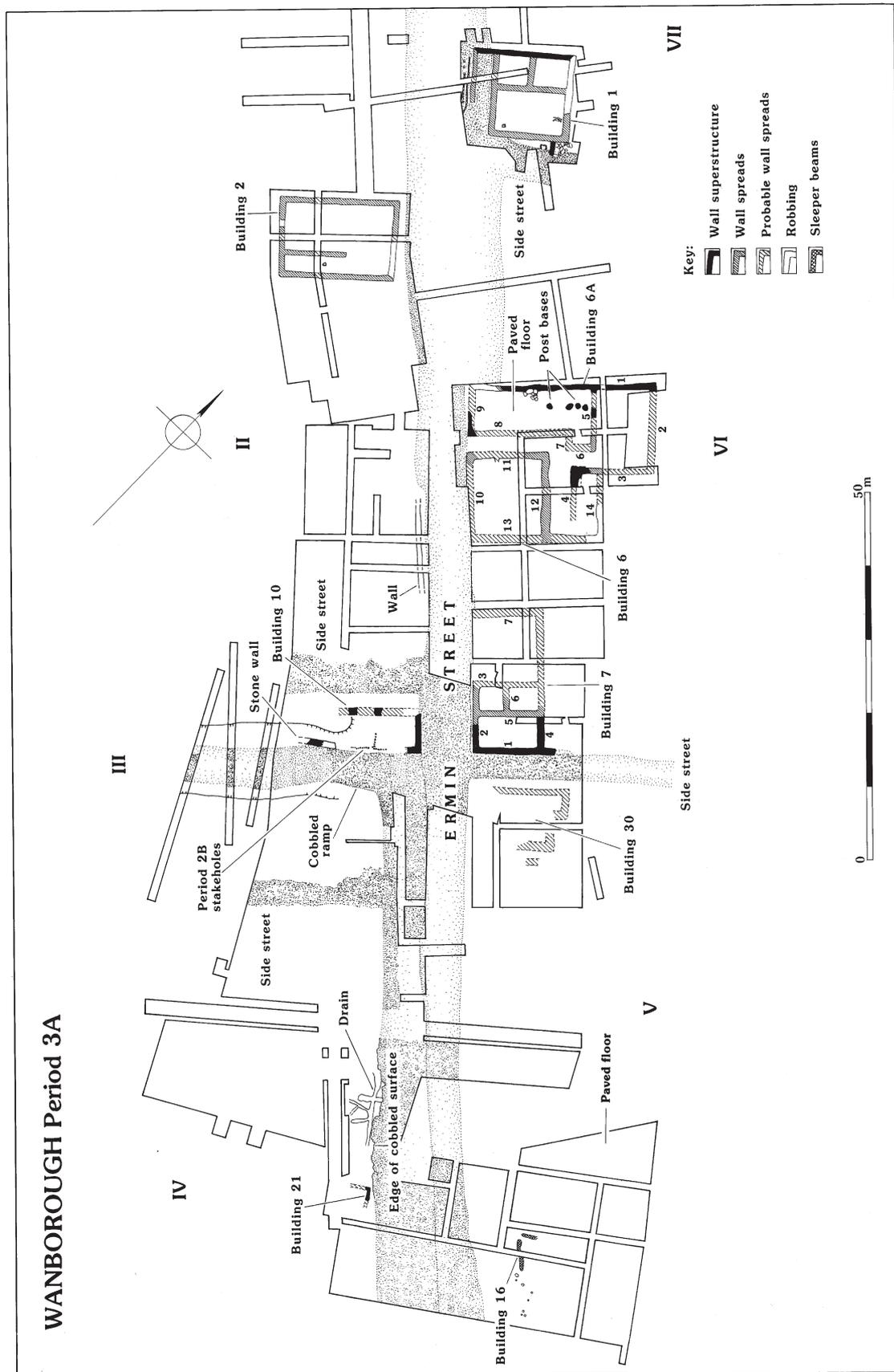


FIG. 9. Wanborough Period 3A.

sarsen boulders. The southern half of the east wall's foundation had been robbed out and survived only as a silt-filled ditch containing randomly placed flat slabs of limestone, presumably remnants of the wall. The foundations were approximately 0.75m wide. No floor levels could be discerned in the main area of the building but the small room had been floored with pink mortar. The remains of a rectangular stone and tile hearth measuring 0.8m across were found against the north wall at the eastern end of the small room.

There was little firm dating evidence for this building other than a few sherds of mid to late third century A.D. pottery found beneath the mortar floor. Consequently it is assigned to Period 3A on the grounds of structural comparison with other, better dated, buildings on the site.

Wall, Insula II (FIG. 9)

Immediately flanking Ermin Street to the east of the Period 3B Building 9 was a single very fragmentary stone wall. Although it produced no dating evidence, it was stratigraphically earlier than Building 9 and may date to this phase.

Building 21, Insula IV (FIG. 9)

Building 21 was located at the southernmost part of Area B. All that remained were two sections of walling, joined at a corner. The longer wall, of which 4.2m was revealed, faced Ermin Street and consisted of a single line of limestone and sarsen foundation stones covered for most of its length by a dense layer of partly burnt clay, 0.45m wide and 0.06m thick, presumably from either a cob or wattle-and-daub wall. The foundation lay in a shallow construction trench. Only 1.85m of the foundation of the north wall remained. This was of a different construction, being composed of a double line of sarsens 0.6m wide.

The foundations of Building 21 cut the upper fill (76A, IV, 20) of the Period 1 Ermin Street west ditch, the layer which represents the interface between Periods 2 and 3 (FIG. 4). Building 21 was stratified beneath the later Period 3B timber-framed Building 13. Building 21 can be dated to *c.* A.D. 230–270 as its north wall was cut and partly removed by a drain (76B, Ditch P) which was dug later in Period 3A and which contained third century A.D. pottery and a coin of A.D. 270–273.

Drainage, Insula IV (FIG. 9)

The later part of Period 3A saw the construction of several interconnecting drains along the line of the Ermin Street west ditch, most of them situated just to the north of Building 21 (above). The narrower drains showed evidence of having been lined with flat limestone slabs. They all cut the cobbled surface laid earlier in Period 3A.

Building 16, Insula V (FIG. 9)

This building, which was represented by two shallow linear slots (70G, 20). The longer of the two features, which ran parallel to Ermin Street, was 4.7m long and had a maximum width of 0.4m. The shorter, running east at a right-angle from the north end, was 2.1m long and 0.3m wide. There was no evidence to show whether the slots had contained timber uprights or horizontal timber beams. Several unassociated post-holes (which are not shown on plan) cutting through the cobble surface immediately to the south may also belong to this phase.

Building 30, Insula V (FIG. 9)

At the north end of Insula V, several linear spreads of stones indicated the position of a building. It is earlier than the Period 3B Building 8 and its form suggests a Period 3A date. Between it and the side street to the north ran a ditch, dated by its pottery to Period 3B, although it may have originated in Period 3A.

Buildings 6 and 6A, Insula VI (FIG. 9)

This large building lay at the northern end of the 1969 area of excavation in Insula VI and most of its plan was recovered. The plan indicates either one large structure or two smaller adjacent structures, both sharing a common rear boundary wall and both fronting onto Ermin Street.

Building 6 and the 'L' shaped Building 6A, immediately to the north, lie to either side of a central east–west corridor that runs from Ermin Street through to a rear room or back yard. The overall dimensions of the structure formed by Walls 1–3, 9, 10, 13, and 14 are 21.9m north–south by 26.3m east–west, the building(s) covering an area of *c.* 500sq.m.

With the exception of one interior division, all the identifiable walls were built of stone with foundations of large sarsen boulders and smaller limestone rubble. In no case did more than two courses of walling remain, so little can be deduced about the detailed construction of the building's superstructure.

Wall 1, on the north side, was the best preserved, being of one build over its entire 26.3m length. It was constructed of flattish, irregular limestone blocks, roughly shaped on their exterior faces, resting on a rubble foundation. Of its adjoining walls, Wall 2 shared a common foundation level, while Wall 5 was butted to it. Its stratigraphical relationship to the other exterior walls was impossible to determine due to subsequent disturbance of the area, possibly by stone robbing. For most of their lengths, Walls 13 and 14 were represented by poorly defined spreads of stone or simply by robber trenches.

The only structural alterations to the building were the replacement of Wall 15 and the realignment of the western end of Wall 3 by Wall 4, but these changes cannot readily be assigned to any chronological phase within the building's use.

Within Building 6A, a line of four circular stone settings may be interpreted as bases for posts, indicating either central supports for a roof or an internal dividing wall. Although clay or cobble floors were normal in these buildings, a small area of stone-flagged flooring was found adjacent to Wall 1. On the west, the east side of the building, in the area bounded by Walls 1–3 and 5, an infant burial was found against the southern face of Wall 1. There was no evidence as to whether the passage between Buildings 6 and 6A which connected this area to Ermin Street, and which divided the two buildings, was open or roofed.

There were numerous sherds of fourth century A.D. pottery and several coins dating to after A.D. 388 to date the destruction levels which sealed the buildings, but little to date its construction or its floors. However, in the southeast corner, in the rooms bounded by Walls 3, 4, 13, and 14, pottery from the latest floor level (69A, XIV, 4) sealed by rubble, dated the occupation to the late third and fourth centuries A.D. Further evidence came from the footings of Wall 12 (69A, XV, 2), where fourth century A.D. pottery was discovered. Structurally, Building 6 has much in common with the Period 3A buildings, but the small amount of dating evidence suggests that it continued in use well into Period 3B in the fourth century A.D.

Building 7, Insula VI (FIG. 9)

Situated in the southwest corner of Insula VI, Building 7 was a large rectangular structure with at least four rooms. The steep camber and heavy metalling of the side street to the south side of the building had proved to be an obstruction to later agricultural activity and had offered some protection to the building's south wall, Wall 1. Consequently, the southern half of the building was better preserved than those parts further away from the street front.

In places, the bottom course of the walls survived and were constructed of flattish limestone blocks with a rubble core. Wall 1 at the south, measuring 11.5m long and 0.9m wide, and the southern ends of Walls 2 and 4 were the best preserved. As in Building 6, the wall foundations were constructed of either large sarsen boulders or smaller, slightly pitched, limestone rubble. Elsewhere, the walls had been reduced to their foundation level, or had been even further damaged and appeared only as ill-defined stone spreads.

On the south side of the building, Wall 1 extended beyond its junction with Wall 4 for some distance along the edge of the side street. But where no wall course survived it was difficult to distinguish between the rubble foundation and the street metalling. Its line beyond this point could not be firmly established.

Inside Building 7, two separate floor levels were recognised. The earlier, consisting of small cobbles, produced no dating evidence, but the later floor level, a silty grey-green clay layer some 0.1–0.15m thick, contained pottery dating back to *c.* A.D. 250. Wall 1 produced a sherd of a BB1 bowl dated to the mid-second century A.D.

Building 7 overlay the infilled east ditch of the Period 1 Ermin Street and the floor levels along the eastern side of the building had sunk into its fill (69C, VI, 4). Where Wall 1, at its junction with Wall 4, crossed the ditch it was built up on a small rubble causeway. The ditch fill contained a coin of A.D. 270–290 and a sherd of New Forest pottery, on which evidence it may be possible to date the construction of Building 7 to the late third or early fourth century A.D., late in Period 3A.

Building 1, Insula VII (FIGS 9 and 10)

Most of the plan of this structure was recovered. It consisted of a four-roomed building to which a fifth room had been added later at its southeast corner. The original building, formed by exterior Walls 1, 2, 3, and 4, measured 12.3m north–south by 13.8m east–west, with the later Wall 8 extending 2.2m south. All the identifiable walls of the building, most of which were reduced to foundation level, were of stone construction with foundations of small limestone rubble 0.1–0.5m in depth. Only in Walls 1 and 8 did courses of wall stones survive. Wall 1, on the north side, was the best preserved with a uniform construction of relatively flat, irregular limestone blocks, sometimes roughly shaped on their exterior faces, and lying to either side of a core of smaller stones, the whole resting on a rubble foundation some 0.65m wide.

Wall 4 shared a common foundation level with Wall 1. Walls 2, 3, and 5 also shared a common foundation level. As the northern two-thirds of Wall 2 had been robbed out, it was impossible to define its relationship to either Wall 1 or Wall 6, which lay east–west and divided the interior of the building. At its western end, Wall 6 was contemporary with Wall 5 and, at its mid-point, with Wall 7. The northern ends of both Wall 5 and Wall 7 butted against Wall 1.

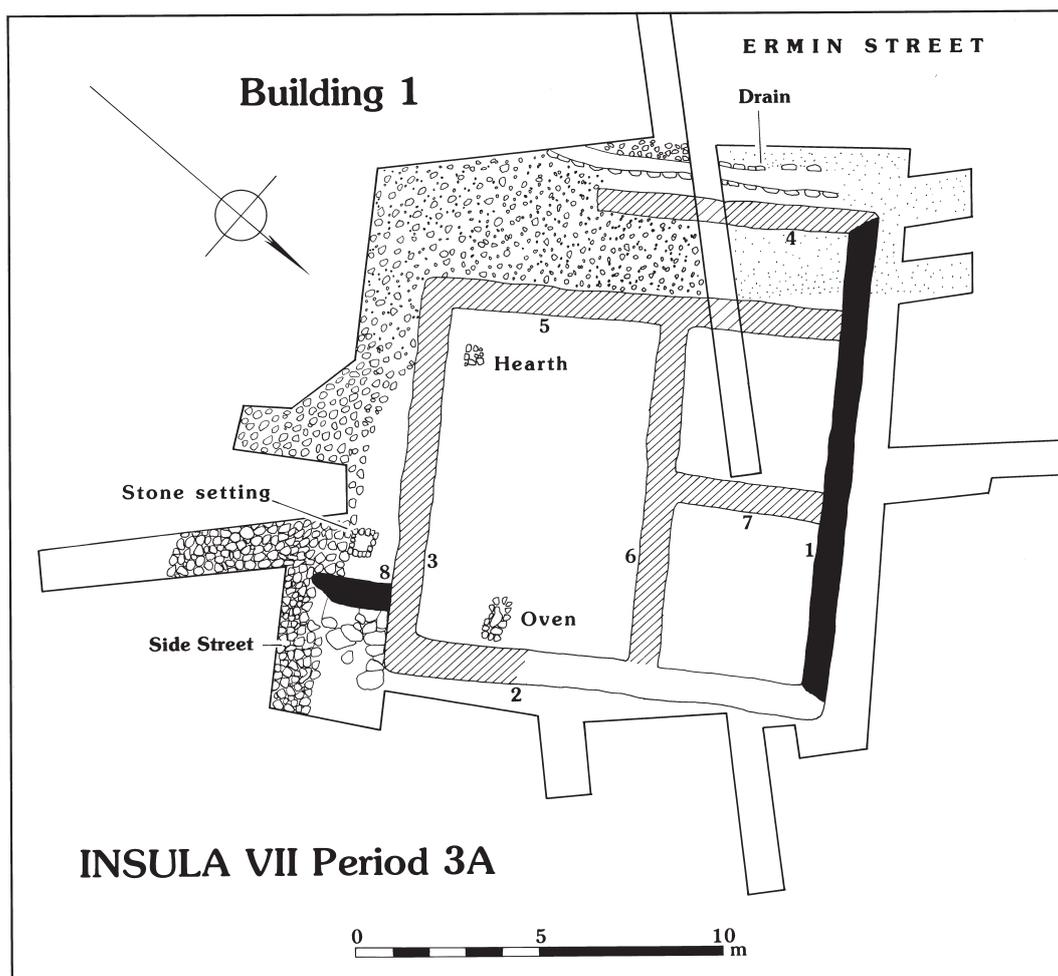


FIG. 10. Insula VII, Period 3A.

At the southeast corner of the building, Wall 8 was butted against the south side of Wall 3 and was of an entirely different construction to the rest of the building. It was narrower and was built of courses of flat limestone blocks that began below the level of the Wall 3 foundations. The outline of another wall, running eastward from the south end of Wall 8, and at a right-angle to it, was just perceptible in the mass of rubble uncovered in this area, but no return wall was found.

The southern room was the largest in the building. It contained a circular oven base *c.* 0.8m in diameter built up against Wall 2 at the east end of the room, with a flue 0.4m long and 0.3m wide. The floor of the oven was constructed of flat limestone slabs and the walls of small irregular limestone blocks. In the southwest corner of the room there was a rectangular tile hearth measuring *c.* 0.3 by 0.45m.

The room at the northeast corner of the building was floored with small limestone rubble overlaid with mortar, while that at the south was floored with large limestone slabs up to 0.5m across. These slabs, although irregular in shape, were well jointed to each other and were best preserved at the western end, adjacent to Walls 3 and 8, where they had been laid over cobbles. These cobbles were related to the surface of the side street that ran under the southern half of the room. Where the floor had extended over the side street, the floor covering had not survived, but in the northern half of the room a certain amount of subsidence had taken place where the cobbling was less compact and the floor slabs had dipped in towards the centre of the room, below the level of the surrounding wall remains, so preserving them *in situ*.

On the west side of the building, the narrow room, bounded by Walls 1, 4, and 5, was open ended at the south and may originally have had a wooden door on this side, the room perhaps functioning as an external store. To the west of Wall 4, the cobbles on the east side of Ermin Street had been removed to form a channel into which a drain, lined with upright limestone slabs, had been inserted. On the south side, in the angle formed by Walls 3 and 8, a small rectangular setting formed by single lines of pitched stones, had been built against the north edge of the side street. It measured 0.9m east–west by 0.45m north–south and may have been the surround for a road-side shrine or alternatively may have had some more mundane purpose.

The foundations at the southwest corner of the building overlay the cobbled surface at the junction of Ermin Street, and the side street and large room made use of this cobbling for its flooring; however, the rest of the building was constructed well above street level. This, coupled with the discovery of a number of third–fourth century A.D. coins, suggests a late date for its construction and occupation. Pottery sealed below the floor of the large room, and from beneath the flagstones at the southeast corner of the building, is dated mid to late second century A.D. Although Building 1 could have been constructed in Period 2B, comparison with other structures on the site makes a slightly later date more likely. This is perhaps supported by pottery from in and around the drain on the west side of the building which gives a *terminus post quem* of the mid third to mid fourth century A.D.

Period 3, Phase B (c. A.D. 325–400+) (FIG. 11)

All the raised timber buildings, many of which were built using sarsen stones to support the ends of floor joists, appear to be a fourth century phenomenon, superseding the stone buildings of Period 3A. Some of the sarsen stones were wedged with smaller stones (PL. VI) and these provide information of value in the recognition of building lines. The wedges not only represent the positions of actual support stones but, being located at a lower level are less likely to have been disturbed by subsequent occupation or later ploughing. Several circles of wedges were found, either associated with larger primary supports or set in rectangular alignments where the sarsens had been removed.

Building 3, Insula II (FIG. 11)

The remains of Building 3 were very fragmentary, being represented by a small number of aligned stones, mostly round-topped sarsens standing proud of the surrounding Period 3A cobbles. It appears to have been a rectangular raised timber building at least 12.2m long, facing



PLATE VI. Stone joist support for timber-framed building. The larger sarsen stone is surrounded by smaller stones which acted as wedges. Scale in half-metre divisions.

Ermin Street. Three wall lines were recognised, one representing a main north–south exterior wall, the others forming two roughly parallel east–west interior partitions. The front wall was associated with a possible entrance or porch *c.* 4m wide and 2m deep and a stone step that jutted out into Ermin Street. The building had a rectangular chalk sub-floor *c.* 14 by 7.5m. Alterations were subsequently made to the building, including the insertion of two large post-holes in the interior of the porch/entrance.

This building was situated between Buildings 2 (built in Period 3A) and 5 (built in Period 2B) in *Insula II*, but as it dates from the last phase of building on the site it may have replaced one or both of them. However, due to the existence in this area of a number of different cobbled surfaces, both extensive in character and with localised repairs, interpretation of their relationship was difficult to prove. Indeed, the build up of soil between a number of these surfaces and their proximity to the modern ground level, suggests that some may be post-Roman in date. Consequently, although several stone groupings identified by Greenfield in 1967 (including Greenfield's 'Building 4') indicated the possibility of further structures in the area, only Building 3 can be postulated with any certainty.

Building 9, Insula II (FIG. 11)

The existence of Building 9 was deduced from the distribution of sarsens in the area south of Building 5 (above). These suggest the presence of two wall lines 5m apart and 16.75m long parallel to Ermin Street. A further wall line, whose total length was not determined, at their northern ends, appears to have extended westwards perhaps forming a second long wall of an 'L' shaped building. Occupation debris from this building contained coins and pottery dated to the second half of the fourth century A.D.

Building 22, Insula II (FIG. 11)

Lying to the east of, and almost parallel to the east wall of Building 5 (above), a line of stones, 9.75m long, represents the wall of a raised timber building, the main structure of which probably lay to the west. As the support for a horizontal floor-joist, this line is unusual in the

high number of stones along its course. However, extra stones, effectively forming a conventional foundation, may have been required to support a front wall facing Ermin Street if it incorporated an ornate and heavy timber facade. The interpretation of the architecture of late timber buildings excavated in the *palaestra* of the baths at Wroxeter shows that Classical building traditions had not been abandoned by this time and there is the possibility that care was taken in the construction and exterior decoration of at least some of the late buildings at Wanborough. Alternatively, this wall line may represent the sole preserved example at Wanborough of the foundations of raised timber buildings in their original character, demonstrating the density of stones when not damaged by later ploughing.

Sarsen lines, Insula III

Immediately flanking the west side of Ermin Street in Insula III were two lines of sarsen stones, one on either side of the Period 3A cobble ramp and running from the top of the ramp to the side streets which bounded the Insula. The southern line was *c.* 14m long, the northern *c.* 7.5m long. These may represent the front walls of raised timber buildings, although there is no other evidence to support this interpretation.

Building 11, Insula IV (FIG. 11)

This structure was one of six attributable to this phase in Insula IV. Its overall orientation was difficult to ascertain as it was represented by only a single wall line running east–west comprised of individual or small groups of sarsen boulders, possibly forming a series of joist supports for a raised timber building. Groups of stones found adjacent to this line were of a different structural character and may be part of a drainage system or the remains of an earlier building.

Building 12, Insula IV (FIG. 11)

Alignments of large limestone blocks and sarsen boulders resting on a thick cobble surface suggest the joist supports for three wall lines of a raised timber building, some 7.2m wide. However, there is a notable lack of symmetry between the alignments of the north and south wall lines and, if they represent the outside walls of the structure, it was an oddly shaped building. This may have been the intention of the builders but it seems more likely to have resulted from movement of the stones by ploughing, or other recent human activity. If the latter is the case then it appears that the southern wall has suffered more than the northern wall as the alignment of the latter is close to the orientation of the nearby, and broadly contemporary, Buildings 11 and 13. A narrow drain ran along the outside wall on the north side of the building.

Building 13, Insula IV (PL. VII; FIGS 11, 12 and 124)

Although it was not possible to recover the entire plan of this structure, Building 13 represented the most complete example of a raised timber building discovered at Wanborough. Lines of stones supporting the floor-joists suggest that this was a narrow rectangular building, at least 14.2m long and averaging *c.* 4.25m wide (although it appears to have been slightly wider at the western end), with a short side fronting Ermin Street. Inside the building, two lines of support stones ran at right-angles to the axis. These might have supported internal partitions.

Aligned east–west, Building 13 had a similar orientation to Buildings 11, 12, 14, and 19, resulting in a series of five rectangular buildings in Insula IV with street frontages divided by narrow alleys.

Beneath the eastern half of the building, the Period 3A cobbled surface provided a firm foundation for the sarsen support stones. In the western half, the sarsens rested on a heavy clayey soil. However, the tops of the sarsens were all within 0.1m height of each other, with stones on one side of the building being accurately matched in height by those opposite them. Around some of their bases were groups of smaller wedged stones, and in some cases (stone groups A and B) these are all that survive to show the positions of joist supports which have since been removed. This accounts for the difference in height between these stone groups and the main support sarsens.



PLATE VII. Photogrammetric survey of Building 13, by Marius Cooke.

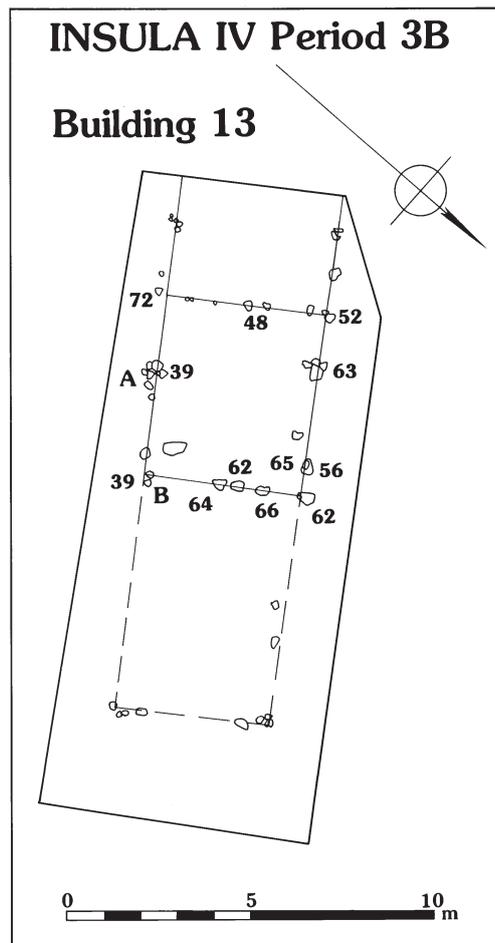


FIG. 12. Insula IV, Period 3B.

In and around the building, the cobbled surface had received a certain amount of repair with later cobbling being laid in various places. A shallow slot had been cut through one of these cobbled patches to hold the sarsens of the eastern internal alignment, and its fill (70H, V, 9) yielded a sherd of Oxfordshire red colour-coated beaker dated to *c.* A.D. 270–400. Additional dating evidence comes from the uppermost stratified deposit below the floor of the building (70H, V, 2), which produced large quantities of pottery including several sherds of Oxfordshire red colour-coated pottery with stamped ‘rosette’ decorations, datable to after *c.* A.D. 325. In addition, it produced a series of eight coins beginning with an issue of A.D. 268–270 and ending with one of A.D. 388–402. This layer consisted of several large areas of compact dark earth just above the level of the cobble surfaces in the eastern half of the building. These may represent occupation debris from the building deposited either through gaps in the boards of the raised floor or subsequently when that floor level was demolished.

Dating evidence for the demolition of the building was provided by a sherd of Oxfordshire red colour-coated ware of the late third or fourth century A.D., from a large patch of burnt daub and ash (70H, V, 4) located just to the west of the eastern internal partition slot. This range of dating evidence appears to support the stratigraphical evidence that raised timber buildings comprise, as a group, the latest construction method used at Wanborough, although this does not preclude the continuance of earlier building methods into Period 3B.

Building 14, Insula IV (FIG. 11)

Located to the south of Building 13, Building 14 also fronted onto the west side of Ermin Street and, like its neighbour, appears to have been a long narrow building. A difference in its construction, however, is indicated by the cutting of two narrow wall slots through the Period

3A cobbled surface where this would have been too high for the building to have been level. The slots ended at the edge of the cobbling, making the plan of the building difficult to determine. Numerous large sarsens, similar to those used as joist supports elsewhere, were found in the vicinity of the two slots and may have been an integral part of the structure. To the west, the timber joists appear, on the basis of the alignments of sarsens found in the building area, to have been raised above the ground. The result was a composite structure, *c.* 5m wide.

Building 19, Insula IV (FIG. 11)

Located over the Period 3A drainage system (above) and to the south of Building 12, this structure consisted of two wall trenches and several areas of flooring. The flooring consisted of large and small pieces of broken tile, sometimes two layers thick, bonded with clay and laid directly on top of the Period 3A cobble surface. Pieces of tile from this level were widely spread in the area of the building, but only where they overlay the Period 1 Ermin Street west ditch were they definitely *in situ* and here only in patches.

The two wall trenches were different in size. The smaller trench, 2.4m long, 0.3m wide, and 0.13m deep, produced no firm dating evidence, but the larger, 6m long, 0.6m wide and 0.15m deep, contained fourth century A.D. pottery and a coin of Valens (A.D. 364–378).

Building 20, Insula IV (FIG. 11)

To the southwest of Building 12, were two lines of sarsen stones, at right-angles to each other, which appear to have been joist supports for the wall lines of a rectangular raised timber building. Levels taken on the tops of these stones varied no more than 0.06m, while most were even closer. The sarsens were stratigraphically later than the Period 3A cobble surface in this area and the discovery of a number of third and fourth century A.D. coins beneath what is interpreted as the building's raised floor level suggest a late date for its construction.

Building 15, Insula V (FIG. 11)

A single line of large stones resting on the Period 3A cobble surface may represent a wall line, 7.3m long, of a raised timber building. Numerous late Roman coins found in the vicinity support its attribution to Period 3B and its orientation parallel to the late ditch on the east side of Ermin Street (below) may provide support for this conclusion.

Building 8 and ditch, Insula V (FIG. 11)

In the northwest corner of Insula V and fronting onto Ermin Street, a line of three post-holes spaced at 2.2m intervals, each surrounded by large packing stones, provided the only discernible remains of Building 8. It lay to the west of the Period 3A Building 30 (p.25 above). Between these buildings and the side street that formed the northern boundary of Insula V, ran a shallow ditch or gully 1.2m wide, pottery from which pointed to its use during Period 3B, although it may have originated in Period 3A.

Building 7A, Insula VI (FIG. 11)

A series of regularly spaced sarsen boulders indicated the presence of a rectangular raised timber structure, Building 7A, on the east side of the Period 3A Building 7 (pp.26–7 above). It lay adjacent to Building 7's Wall 4 and, where it fronted onto the side street, used part of the remains of that building's south wall, Wall 1, for its support. It measured 13.3m north–south and 4.3m east–west. Stratigraphically Building 7A post-dates Building 7 and can be assigned to Period 3B.

Building 17, Insula III (FIGS 8 and 11)

The cobble ramp running down into the wide ditch in Insula III was used in Period 3B as the foundation for a substantial stone-built structure, Building 17, of which only the junction of two walls survived. These were constructed of large sarsen stones, the longer east–west wall measuring 5.5m long and 1.5m wide and the other, running south from its west end, was 2m long and 1m wide.

This structure was built against the south face of the largely robbed out Period 3A wall which ran parallel to the north side of the ditch and which may have been the westward extension of the south wall of Building 10 (above).

'Oven' — Building 18, Insula III (FIG. 11)

This rectangular structure is interpreted as a 'T' shaped corn-drying oven or kiln. It was built on the clay of the Period 2B bank and adjacent to the side street on the north side of Insula III. It consisted of a central flue, with its *prae-furnium* at the east end, and a cross-flue at the head of the 'T'. There was also a loosely paved stoking area at its east end. It was constructed of coursed stonework facing an earth and rubble core, with earth and rubble platforms on either side of the main flue. The main flue, a flat-bottomed trench cut into the clay bank, was 2.3m long, and 0.5m wide at the top, narrowing only slightly at the base which was *c.* 0.15m below the top of the single surviving course of building stones. The cross-flue, of similar construction, was 1.8m long and 0.2m wide.

The structure had suffered badly from stone robbing and/or plough damage. Originally, however, it must have been a substantial free-standing stone-based structure. Its method of construction, using irregular limestone facing blocks, is similar to that of other Period 3 stone buildings at Wanborough. The soil and rubble platforms flanking the main flue are unusual but they result from the functional requirements of the kiln. The walls of the flue channels were built in the same way as the exterior of the building and are similar in design to those of a mid-third century A.D. 'T' shaped oven excavated at Wakerley, Northants (Jackson and Ambrose 1978, 164, fig. 17).

The fills of the flues (76C, XXXVIII, 72), a mixture of dark brown soil and ash, and small fragments of mortar and soil sealed beneath the structure, contained pottery dating to A.D. 325–350, suggesting the construction and use of this building during, or slightly after, the middle of the fourth century A.D.

Late Ditch, Insula III (FIG. 11)

The 1976 excavations in Insula III revealed the presence of a shallow, round-bottomed ditch running east–west across Insula III, to the south of the Period 2B ditch, terminating close to the western edge of Ermin Street. It was 1.2m wide and 0.3m deep at its eastern end, widening to the west with a width of 3.6m at the edge of excavation. The ditch may have been cut as a drain for the cobbled pathway (above) which ran along the western edge of the Period 2B ditch. It contained late third–fourth century A.D. BB1 pottery, but stratigraphically it can be securely assigned to Period 3B and post-dates the pathway. Alternatively, the ditch may have been cut to drain the area of Ermin Street as there were no roadside ditches in use during this period.

Late drain, Insula IV (FIG. 11)

Immediately to the southwest of Building 20 was a drain running approximately east–west. It was 0.3–0.35m wide and 0.15–0.18m deep and was traced for *c.* 12m to a squared terminal to its west end. Its black clayey soil fill (76A, VIII, 40 and 47) contained numerous pieces of animal bone, large stones, and some pottery, including several sherds of Oxfordshire red colour-coated ware and BB1 flanged bowls. Although a coin of A.D. 270–273 was also found in the fill, on stratigraphic and ceramic evidence the drain can be assigned to Period 3B.

Ermin Street and late road ditch, Insula V (FIG. 11)

In the southwest corner of Insula V, the cobbled surface on the eastern edge of Ermin Street was cut by a late ditch, of which *c.* 23.5m was excavated revealing a shallow 'V' shaped profile, *c.* 1.6m wide and with a maximum depth of 0.8m. The ditch diverged from the line of the road as it approached the Dorcan Stream. Here, the single layer of worn compact metalling which comprised the road surface gave way to looser unworn limestone rubble and this may indicate the start of a possible causeway, wider than the road, leading up to a bridge rather than a ford over the stream. This would account for the divergence of the ditch from the line of the road as it skirted the base of the causeway.

Ermin Street produced little dating evidence at this point, but the ditch (70J, I, 9 and 70H, I, 6) contained late fourth century A.D. coinage and pottery, indicating that the Roman road had remained in use until the last quarter of that century. The presence of a long-cross penny of Henry III embedded in the top surface of the road may suggest its continuing use into the Middle Ages.

PART TWO

THE FINDS

5. THE PREHISTORIC FINDS

FLINT AND BRONZE By Robin Holgate

The following report was submitted in 1986.

Flint (FIG. 13, 1-4)

A total of 67 flints was recovered by excavation; two further objects were recovered during the 1970 watching brief on road construction. The material is tabulated in the archive.

The flint from Coombs' excavations (1965-7) is heavily corticated and of chalk origin; the remainder is uncorticated and varies from red to grey-brown in colour. It possibly derives from a local gravel source.

The retouched pieces include an end-scraper (76A, VIII, 123, 659; FIG. 13, 1), part of a bifacially-retouched piece (66-68 T, 242; FIG. 13, 2), a fragment from the butt end of a Neolithic polished axe of grey flint (FIG. 13, 3), and a late neolithic flaked and polished chisel, also of grey flint, partially broken at both ends (FIG. 13, 4).

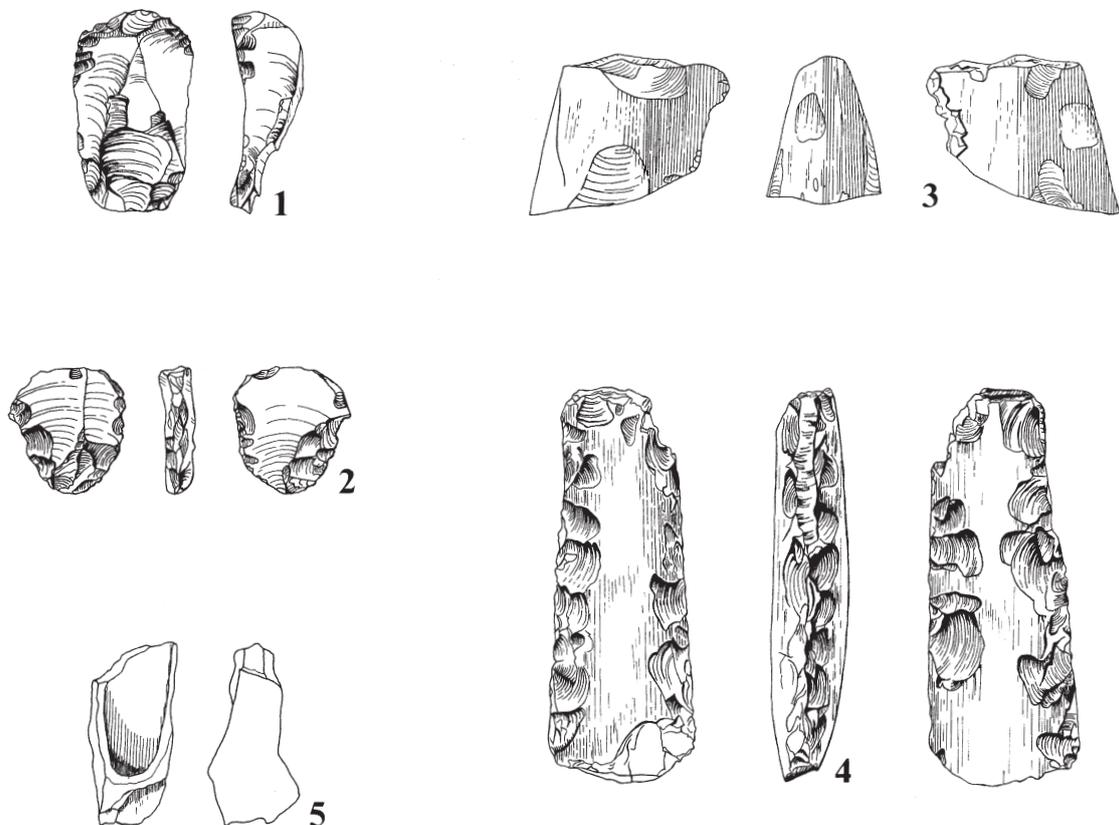


FIG. 13. The prehistoric flint (1-4) and bronze (5). Scale 1:2.

Found in Roman contexts, much of the flintwork is residual, resulting from activity in the vicinity throughout the third and second millennia B.C. However, the flints from pits A and B in Coombs' excavations are probably of Late Bronze Age date (late second to early first millennia B.C.) and associated with the use of these pits.

Bronze (FIG. 13, 5)

A palstave fragment was unstratified, being recovered during the 1970 watching brief. It is badly corroded and probably dates to the later second millennium B.C.

PREHISTORIC POTTERY By L. Mephram

This report, on the forty-five sherds of pottery which were identified as pre-Roman, was submitted in 1995. Most of these sherds are abraded and the general absence of diagnostic sherds means that accurate dating of this group is not always clear-cut. A tentative date range of Middle/Late Bronze Age to Late Iron Age/early Roman is suggested. Approximately two-thirds of the total number of sherds were recovered during excavation in 1967 and may derive from prehistoric features. The remaining sherds are from various contexts and are likely to be residual in these contexts.

The earliest material appears to be represented by three sherds, including one base sherd, in a coarse flint-gritted fabric. The coarseness of the fabric and the thickness of the sherds suggest parallels within the Deverel-Rimbury or post-Deverel-Rimbury tradition of the Middle to Late Bronze Age (Barrett 1980). A further 30 sherds in a range of fabrics, with flint inclusions varying in density from sparse to common, may also be of post-Deverel-Rimbury type, of Late Bronze Age/Early Iron Age date. The latter sherds were all recovered from Coombs' excavation in 1967 and may have come from pits A and B. Flintwork from these features would support a date in the Late Bronze Age (Holgate, above).

Rim sherds from two vessels with coarse inclusions of shelly limestone (FIG. 14, 1–2) are likely to be of Middle Iron Age date; very similar vessel forms in calcareous fabrics have been found, for example, at Groundwell Farm, Blunsdon St Andrew, where they are dated to the fifth century BC (Gingell 1981, fabric groups A and B, figs 13–14).

The remaining six sherds can be assigned to the period immediately prior to or succeeding the Conquest, i.e. first century A.D. These include three sherds, all from one vessel, a bead-rim jar in a very coarse flint-gritted fabric in the same tradition as, for example, Silchester ware (see Charles 1979), and three grog-tempered sherds, including one sherd from a bead-rim jar.

Illustrated sherds (FIG. 14)

1. Handmade jar with expanded rim in coarse limestone-tempered fabric. 76A, XX, 58B.
2. Handmade jar with everted rim in coarse, limestone-tempered fabric. 70F, I, 4.

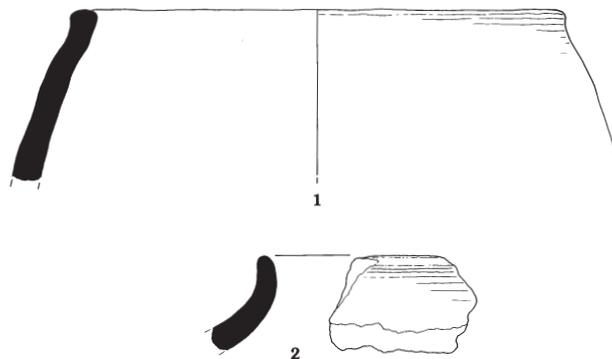


FIG. 14. The prehistoric pottery, Nos. 1–2. Scale 1:4.

6. COINS

By R. Reece

The coins were originally listed as two groups and they appeared as Wan 1 and Wan 2 in the provisional lists published in Reece 1991; this report was submitted in 1992. Unfortunately, it is now unclear what these two groups represented and they are now better treated as a single list (FIG. 15).

The results of amalgamating all the coins into one group is to eliminate the few points shown by the smaller groups of divergence from a norm. The number of coins, 1667, is normal for a rural site or small town and their distribution through the usual 21 periods shows a remarkable tendency towards the mean or average. If the coins are expressed as coins per thousand coins found in each of the periods and these results are then compared with the other 140 sites in Britain (TABLE 2), then Wanborough moves very little from a position of 70th out of 140. A rank below 70th shows a low coin count, a higher rank shows an above average number of coins for that period. Only in the period 193–222 does Wanborough fall below the average band to 44th out of 140. At the end of the fourth century the rank of 105th for 364–378 and 124th out of 140 for 388–402 show individuality. The site, which throughout the Roman period has been absolutely unremarkable for its coin loss, finishes strongly with a better representation of late coins than most other sites.

One method which can be used to avoid the problems caused by using percentages or per thousands is to see the coins of each period set against those of the period before (though see now Reece 1995). Thus ten coins of Hadrian (117–138) set against five coins of Trajan (89–117) give a ratio of 10:5 which equals two. A list of these ratios (TABLE 2) continues the picture of average results. The period 193–222 is low compared with periods before and after, but that had already been noted. If these ratios are put into a sequence of 140 sites just like the period coins per thousand then 193–222 is low and 364–378 and 378–402 (taken as one period) are high.

TABLE 2: ROMAN COINS FROM WANBOROUGH, COMPARED WITH OTHER SITES

	A	B	C.	D	E	F	G	H	I	J
		Wan 1	Wan 2		Wan	Ratio	Ratio Order		per 1000	Rank Order
1	to 41	1	2		3				1.80	66
2	41–54	2	7		9	3.00	65		5.40	82
3	54–68	2	7		9	1.00	72		5.40	94
4	69–96	16	19		35	3.89	38		21.00	81
5	96–117	11	11		22	0.63	69		13.20	83
6	117–138	7	7		14	0.64	36		8.40	67
7	138–161	9	7		16	1.14	71		9.60	69
8	161–180	7	7		14	0.88	79		8.40	77
9	180–192	2	3		5	0.36	73		3.00	82
10	193–222	3	6		9	1.80	28		5.40	44
11	222–238	3	2		5	0.56	75		3.00	60
12	238–260	3	1		4	0.80	45		2.40	58
13	260–275	90	135		225	56.25			134.97	74
14	275–296	47	120		167	0.74			100.18	60
15	296–317	6	20		26	0.16			15.60	88
16	317–330	24	31		55	2.12	60		32.99	66
17	330–348	199	222		421	7.65	90		252.55	83
18	348–364	69	58		127	0.30	65		76.18	78
19	364–378	136	112		248	1.95	102		148.77	105
20	378–388	5	2		7				4.20	91
21	388–402	121	125		246	1.02	119		147.57	124
	Total	763	904		1667				1000.00	

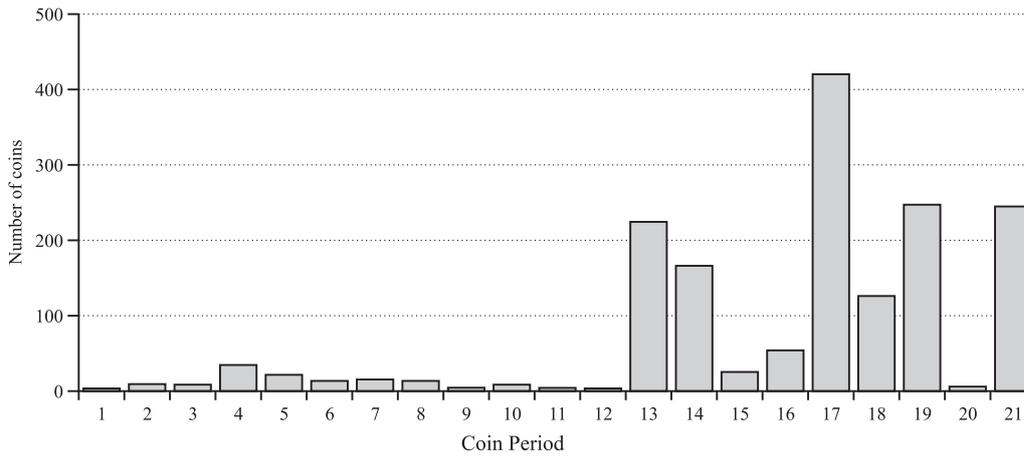


FIG. 15. The Roman coins: graph showing number of coins per period.

In sum, if the coin loss of a classic rural settlement or small town is to be studied, Wanborough seems to be the place to do it. The only disadvantage is that it is so unremarkable that there is hardly, in numerical terms, anything to study.

7. THE BROOCHES (FIGS 16–27)

By Sarnia Butcher

This report was submitted in 1986. Note: the metal has been analysed by Justine Bayley and (JB) in the catalogue indicates that she has also contributed the technical description. Alloy names are defined on p.69.

One-piece brooches: 'Nauheim derivative'

1–37. Although this general type of brooch can be found in contexts of the first century B.C. it becomes most frequent in the middle years of the first century A.D., as demonstrated by its occurrence at *Camulodunum* (Hawkes and Hull 1947, 312), Hod Hill (Brailsford 1962, 7, C18–C26) and Fishbourne (Cunliffe 1971, 100). Sub-types have been distinguished in the catalogue. Some of the traits of the Wanborough group, particularly the row of punched decoration down a broad flat bow on 5–13, have numerous parallels in the central southern counties but they do occur elsewhere and the type is widespread in southern Britain.

1. Brass/gunmetal. Bow broad at top, central ridge, tapering to foot. Foot missing, but clearly the catchplate was open. 77 (D48).
2. Brass? L. 49mm. Bow angular in profile, the spring broken. Grooved decoration down bow. Narrow foot with small knob. Catchplate plain. Y 4, BZ 4.
3. Bronze. L. 54mm. Lower bow straight in profile; upper bow with grooved decoration. Spring broken. Catchplate plain. 76, XXXVIII, 88.
4. Brass. L. 47mm. Lower bow straight in profile. Upper bow broader, grooved decoration. Catchplate plain. 163, 71, BZ 19.

Upper bows broad and decorated

5. Bronze. L. 52mm. One row of rectangular punched decoration down each side. Catchplate plain. RC U/S, D82.
6. Gunmetal. L. 50mm. Similar, but decoration of rectangular punches down each side. 70, 66, D45.
7. Gunmetal. L. 49mm. Similar, decoration of rectangular punches down each side. U/S.
8. Bronze. L. 50mm. Similar, decoration of rectangular punchmarks. 244, 108, BZ 25.
9. Bronze. Incomplete. Similar, rectangular punchmarks down centre. RC U/S.
10. (Leaded) bronze. Incomplete, rows of rectangular punchmarks down bow. 76, 217.
11. Bronze. Incomplete, rows of rectangular punchmarks down bow. 70, RC, D81.
12. Bronze. L. 36mm. Rectangular punchmarks each side of bow. 70, RC, D62.
13. Brass. Incomplete, but slightly larger than 12, punchmarks down centre. 70, RC, D62.
14. Brass. Part of bow only (parallel sided). Line of chevron punchmarks down centre. COV 64, D84.

Bows narrower and tapering

15. 'Copper' L. 53mm. Faint engraving forming chevrons on upper bow and cross grooves at centre bow. Plain triangular catchplate. 70, RC D9.
16. Bronze. Spring and foot missing. Flat tapering bow with line of punchmarks down centre. 69, 123, D12.
17. 'Copper'. Spring missing. Tapering bow with central line of stepped punchmarks. Narrow foot, plain catchplate. Y 5, BZ, 5, D39.
18. Bronze/gunmetal. L. 54mm. Spring broken. Flat bow with marginal notches. Narrow foot, plain catchplate. 76, 153, D20.
19. Bronze. L. 45mm. Spring broken. Tapering bow with faint diagonal grooves. Narrow foot, plain triangular catchplate. 76, XIV, 20, 383.
20. Bronze/gunmetal. Spring missing. Tapering bow and plain triangular catchplate. 76, XXXIX, 315.
21. (Leaded) bronze. D 34mm. Small complete brooch with narrow tapering bow; line of diagonal grooves down one side. Narrow foot, plain triangular catchplate. 76, 312, D85.

Rounded bows

22. (Leaded) gunmetal. L. 45mm. Spring broken. Rounded arched bow, narrow foot. Cross grooves on lower bow. Plain triangular catchplate. U/S, D2.

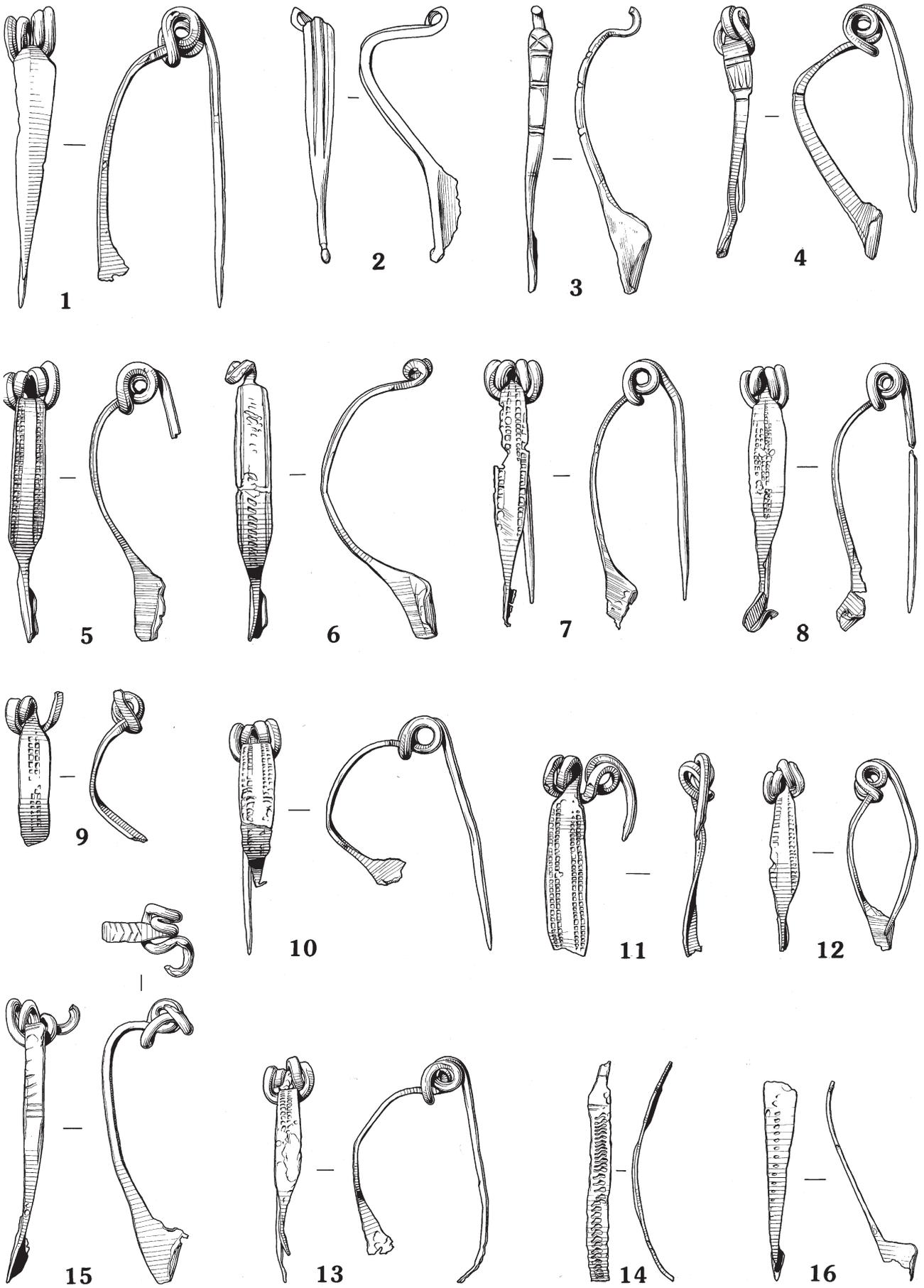


FIG. 16. Brooches, 'Nauheim derivatives' (1-16). Scale 1:1

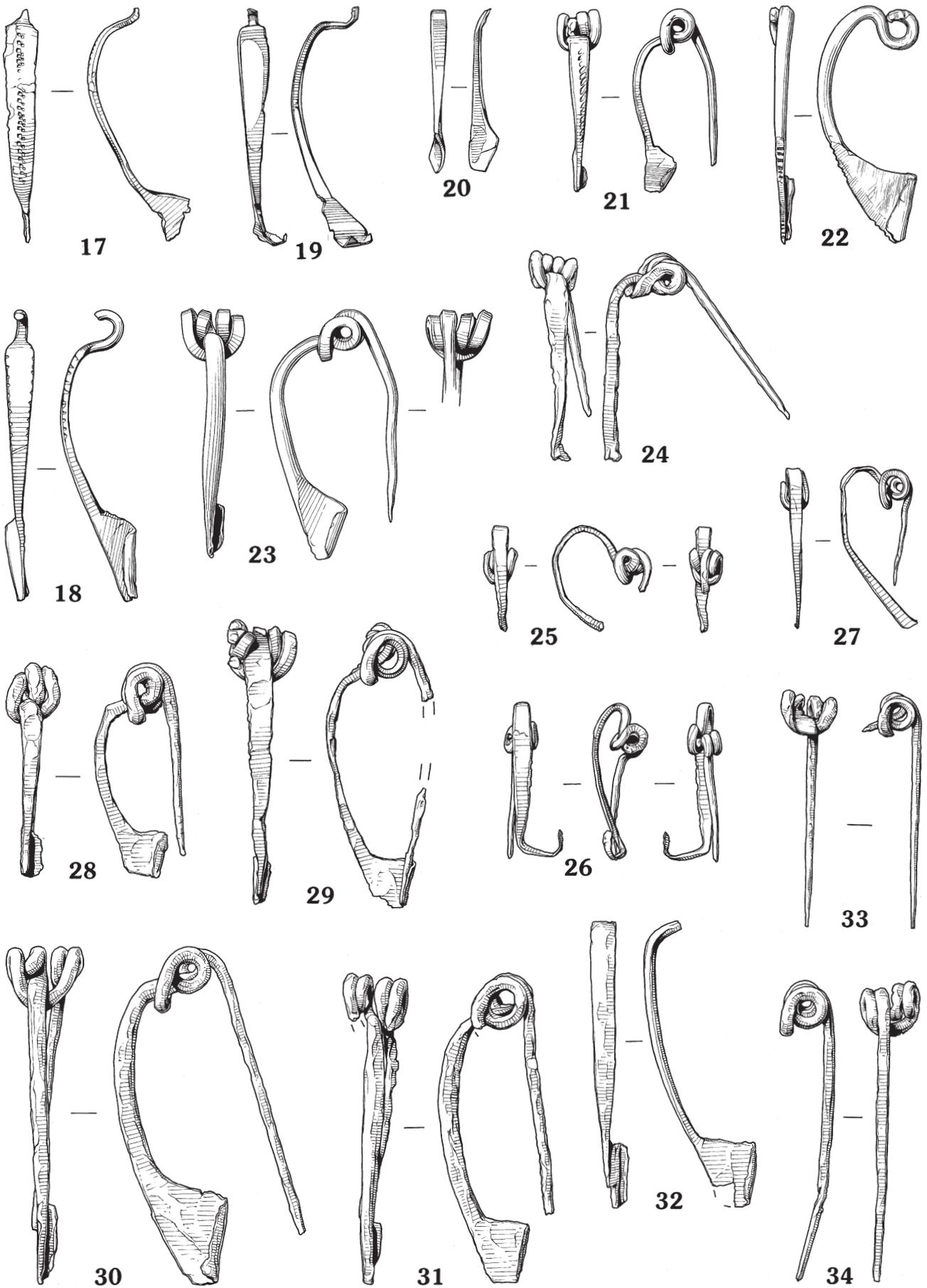


FIG. 17. Brooches, 'Nauheim derivatives' (17-34). Scale 1:1.

23. Gunmetal. L. 45mm. Complete; spring of four turns, rounded bow, plain triangular catchplate. 76, XVI, 210, D5.

Small plain flat bows

24. Brass. Surviving L. 39mm. Spring of four turns. Plain tapering bow; catchplate broken. 70, 33, D1.
 25. Brass. Spring of three turns; narrow flat bow bent into hoop; foot missing. 61, BZ, 10, 22.
 26. Brass. Spring three turns; narrow flat bow; distorted as found; foot broken. 69D, IV, 204.
 27. Brass. Spring three turns; narrow flat bow; distorted as found; foot broken. Z 11, BZ 5, 2.

Iron one-piece brooches

28. Iron. L. 40mm. Spring three turns. Tapering plain bow; narrow foot, plain square catchplate. 76A, VIII, 416.
 29. Iron. L. 52mm. Spring of four turns. Plain flat tapering bow, plain triangular catchplate (end broken). 76A, XV, 311.
 30. Iron. L. 65mm. Spring corroded, probably four turns; plain bow, plain triangular catchplate. 70, 71.
 31. Iron. L. 58mm. Spring of four turns; plain bow, plain rectangular catchplate. 76A, VIII, 378.
 32. Iron. Spring broken. Plain flat bow, plain rectangular catchplate. 76A, XV, 349.
 33. Iron. Spring of four turns and pin. 76A, XXI, 572.
 34. Iron. Spring of four turns and pin. 76A, XV, 415.

Fragments probably from one-piece brooches

35. Bronze. Surviving L. 55mm. Narrow flat bow with row of stamped circles on lower part. Plain irregular catchplate. At the 'head' a sharply angled return: perhaps this is an unfinished brooch intended to have the usual coiled one-piece spring. 341, BZ 60, 168.
 36. Bronze/gunmetal. Spring of four turns and pin. 70, RC, D96.
 37. Bronze. Part of spring and pin. 76, 322, D44.

Hinged strip-bow brooches

38. Iron, incomplete. The upper half of a brooch probably similar to 39 with plain strip-bow, broadened to the head, where the pin is hinged on a bar apparently held by the top of bow folded downwards. 70H, V, 9.
 39. Iron. L. 60mm. A strip-bow brooch with tapering bow and plain triangular catchplate. The pin is missing but was hinged; the bar probably held by the top of the bow folded down. 76A, XIV, 354.

Nos 38 and 39 are members of a type common in the South. Iron examples occur at Hod Hill (Brailsford 1962, 11, D5–D11), Maiden Castle (Wheeler 1943, 262, 35), Cold Kitchen Hill (*Devizes Mus. Cat.* 1934, pl. XXXII, 7), Rotherley (Pitt-Rivers 1888, pl. CI, 1–5, 7), Woodcuts (Pitt-Rivers 1887, pl. XIV, 1, 3–4, 6) and a group from Alveston has been published more recently (Mackreth 1976, 73, fig. 15, 2). They clearly date to the first century A.D.

Maiden Castle type

40. Iron. Incomplete. Part of a flat tapering strip-bow with plain rectangular catchplate. The upper part is missing. 75.
 41. Brass. Fragment of a flat strip-bow with part of flat expanded head. Longitudinal ribs down bow. 70, 124.
 42. Bronze. L. 57mm. Flat tapering bow with marginal grooves. It expands at the head and the top is folded downwards to hold a rod on which the pin was hinged. The plain catchplate is short and square. 76B, X, 420.

This is another type common in the central southern counties. It is named after the examples found at Maiden Castle (Wheeler 1943, 261, fig. 84). It also occurs at Hod Hill (Brailsford 1962, C33–38), Camerton (Wedlake 1958, nos 41–2), Rotherley (Pitt-Rivers 1888, pl. C, 10; XCIX, 2), Iwerne (Hawkes 1947, fig. 9, 3), and Waddon Hill (Webster 1964, 144, no. 3, fig. 6, 3). This also is a type which belongs to the first century A.D., probably to the earlier part.

Langton Down type

43. Brass. Surviving L. 59mm. A broad slightly arched strip-bow with longitudinal grooves and flanged edges. The head is broken but was probably a wide tube holding a spring. Part of a central catchplate remains. 70, 26.

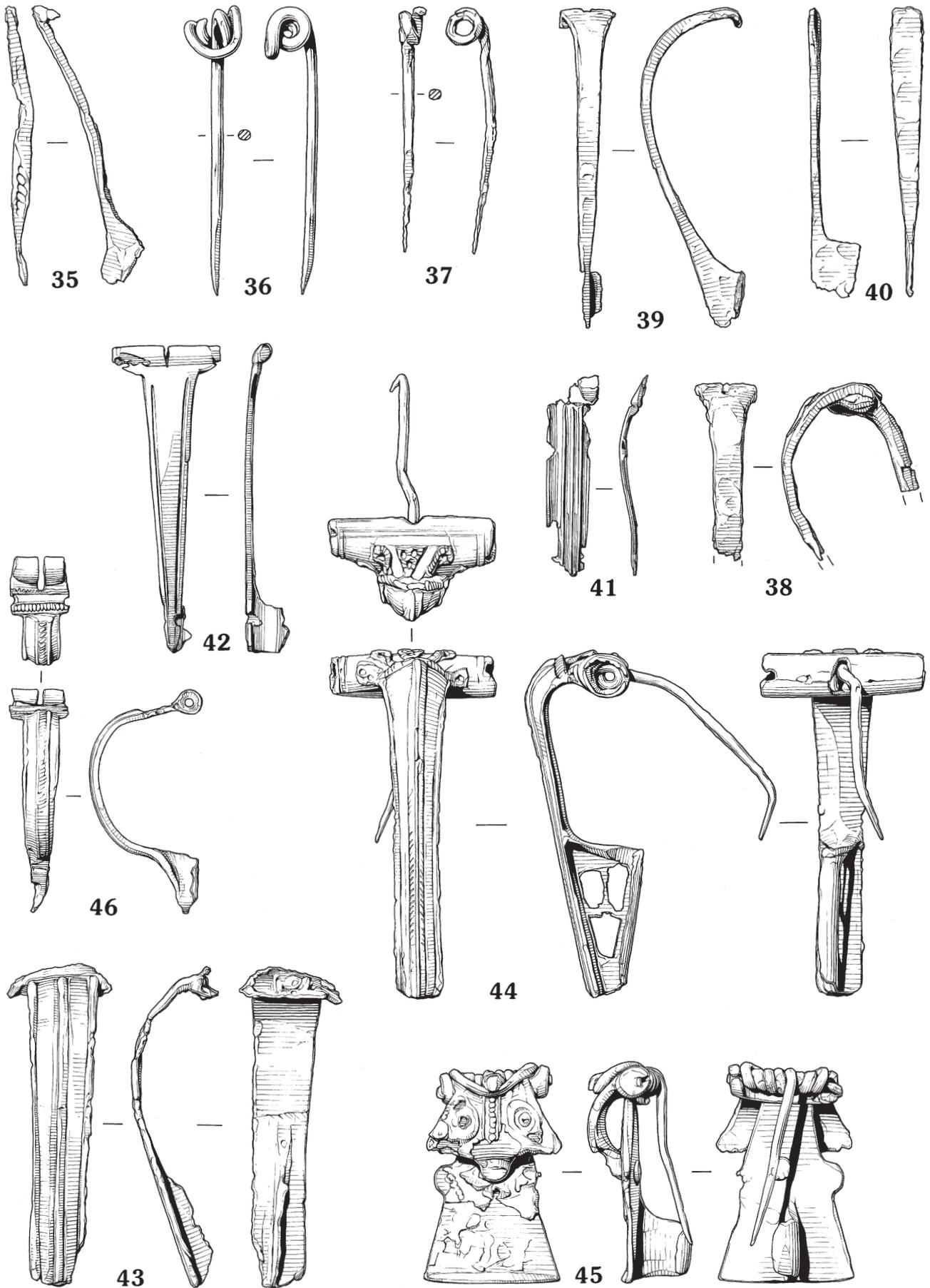


FIG. 18. Brooches; 'Nauheim derivatives' (35-7), hinged strip-bow brooches (38-44), fan-tailed sprung brooch (45), Aucissa (46). Scale 1:1.

The Langton Down type occurs mainly in south and eastern Britain but is also widely distributed on the Continent (Wheeler and Wheeler 1932, 71–4; Ettliger 1973, 79; Riha 1979, 98). It can be dated to the first half of the first century A.D.

Nertomarus brooch

44. Brass. L. 63mm. Broad bow with flanged edges and raised, knurled, central rib. In profile it is straight with a sharp angle at the head where it joins a wide tube holding the spring. There is cast decoration on the head: a three-holed triangle flanked by corded loops. The head-tube shows a seam at the back and contains the spring; the pin issues from an opening in its centre. The catchplate is a substantial casting with three large openings.

The head decoration identifies this with a type which is distributed remarkably widely. Riha (1979, 97) gives references for its occurrence from Britain to Pannonia and illustrates (*ibid.*, Taf. 18) several from Augst which are very similar to the Wanborough brooch. The type is named from a maker's mark which occurs quite frequently, although others bear different names, always Celtic. In Britain examples occur mainly in the south and east (e.g. Fishbourne, Cunliffe 1971, 100, no. 28, and King Harry Lane cemetery, St Albans: Stead and Rigby 1989). Where datable it belongs to the first half of the first century A.D. 76A, VIII, 653.

Fan-tailed sprung brooch

45. Leaded bronze with applied repoussé brass sheet. L. 40mm. This brooch was apparently found at Wanborough. It is in the collections of Swindon Museum. U/S, TM, 18/80.

The main component is a flat wedge-shaped plate joined to a crossbar with projecting disc ends which hold the axial bar of a spring of seven turns. There is a second plate, projecting from the crossbar and curved over the upper part of the main plate, to which its lower edge is attached by a rivet. The rectangular catchplate projects from the centre of the widest part of the wedge-shaped or fan-tailed plate. Both plates bear traces of applied thin metal sheet with repoussé decoration. That on the upper curved 'bow' is more complete, and shows lenticular scrolls on either side of a central line of beaded ornament.

This belongs to a series of brooches of which the 'Aesica' is the best known. They have been discussed by Mackreth (1982), where the main references are given. The Wanborough brooch is closest to those found at Winterbourne Bassett (*Devizes Mus. Cat.* 1934, 207, pl. LXIV, 7) and Hook Norton, Oxon (Leeds 1910–11). Two aspects of the construction are relevant for its dating and origin: (a) the two-part bow plate is seen on some rosette brooches, well dated to the first half of the first century A.D.; (b) the method of attaching the spring is that used in the 'Polden Hill' type which is current later in the century. On these grounds the most probable date for this specimen is somewhere in the third quarter of the first century A.D. and it was probably made in southwestern or central southern Britain.

Aucissa brooches

46. Brass. Surviving L. 41mm. Uninscribed Aucissa brooch of standard type: highly arched bow bearing longitudinal central rib and side flanges; the head formed of a rectangular plate with transverse mouldings and turned back to hold the bar of a hinged pin (missing). The foot is very narrow and ends in a peg, probably intended to hold a separate ornamental moulding. There is a very small triangular catchplate behind the foot. Z8, BZ, 2.
47. Brass. L. 42mm. Generally similar to 46 although the central ribbed mouldings of the bow are not raised and a small foot knob survives. 70, 36.
48. Brass. Very small example, badly bent and lacking the head. The bow is almost flat in section, with side flanges more pronounced than the central mouldings. 76C, 571.
49. Brass. Three fragments of a small Aucissa brooch: the head with transverse mouldings and tube for the bar of a hinge; part of the bow with raised central rib; part of a very narrow foot with small knob. 69, 73.

The Aucissa is common on pre-Flavian sites, mainly in southern Britain (e.g. Hod Hill, Brailsford 1962, 8, C44–C52) but also occurs frequently on the Continent and is thought to have been made in Gaul (Ettliger 1973, 93–4). It may be that small rudimentary specimens such as 47–8 were a local imitation.

Strip-bow brooch with rolled back head-tube

50. Brass. L. 57mm. Broad flat bow with longitudinal ribs; the head plate is at a diagonal angle; it is plain and is rolled back to form a tube holding the axial bar of a hinged pin. The foot of the bow is damaged but appears to have been rectangular. The catchplate was long, central, and has one perforation. There is lead-rich inlay in the central groove (JB). 75.

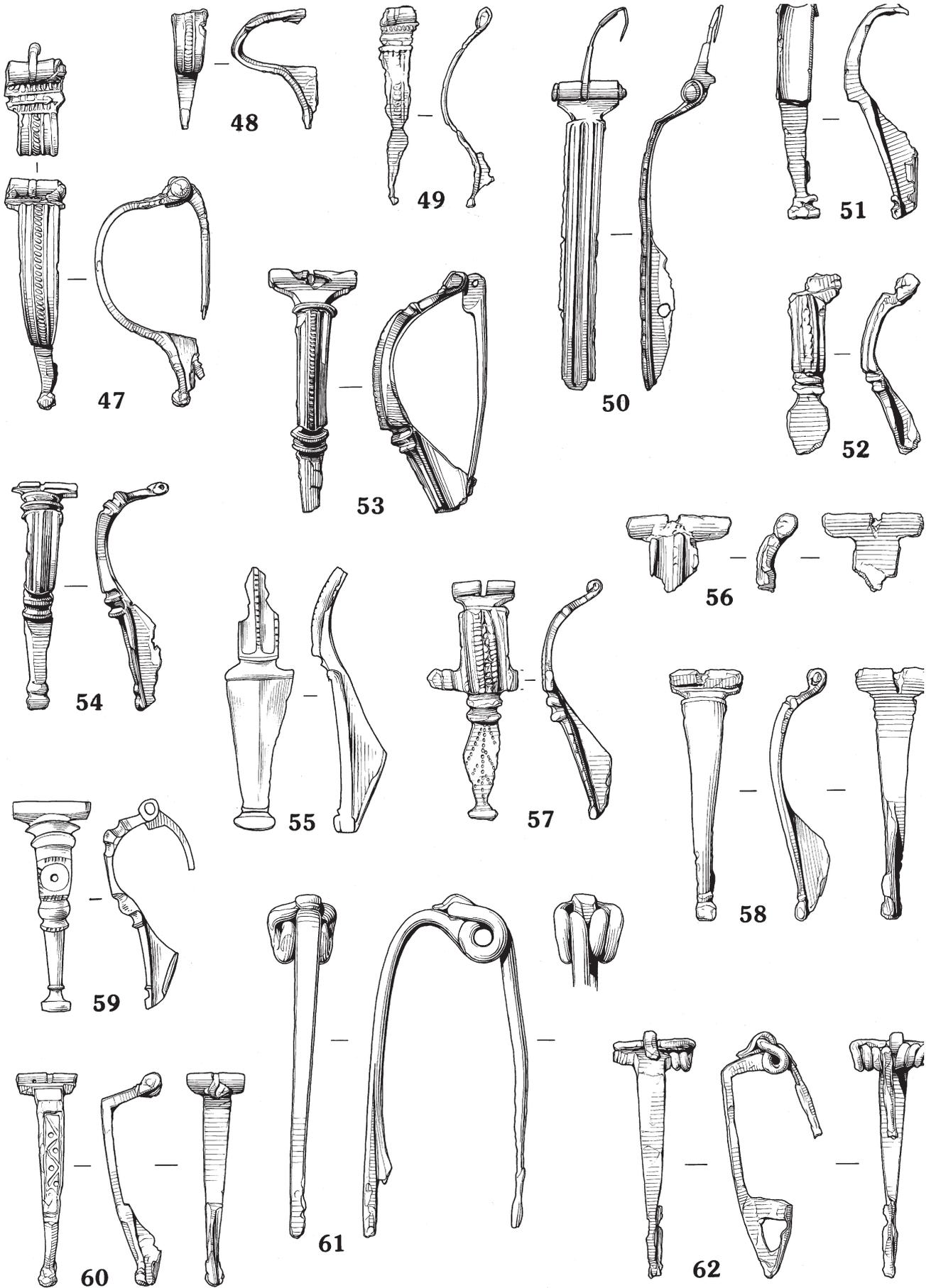


FIG. 19. Brooches; Aucissa (47-9), strip-bow brooch (50), Hod Hill (51-60), variant one-piece brooch (61), Colchester (62). Scale 1:1.

This type is similar to that known as 'Maiden Castle' (40–42) but the rolled back head-tube reflects the influence of the Aucissa type. A related brooch was found at *Verulamium* (Frere 1972, 116, no. 20) in a deposit of *c.* A.D. 105–130, but all the characteristics of this type belong to pre-Flavian brooches.

Hod Hill brooches

51. Bronze, tinned. Surviving L. 42mm. The head is missing but the shape is sufficiently characteristic to ascribe it to the 'Hod Hill' group. The arched upper bow bearing a dished rectangular panel joins a tapering lower bow which ends in two cross-mouldings. The long triangular catchplate is located centrally behind the lower bow. The upper surface is tinned. 70, 79.

Most brooches of this general shape have a central rib down the upper bow (e.g. *Verulamium*, Frere 1972, 116, no. 13, fig. 30) but one from Lowbury (Atkinson 1916, 37, 42) appears to be similar though smaller.

52. Brass/gunmetal. Surviving L. 34mm. A small crude casting: the upper bow has raised longitudinal mouldings, there are cross-mouldings at the waist and a flat lower bow expanding to side angles. The head is rolled back to hold the axial bar of the spring; the catchplate is broken but was placed centrally. D 74.

Brooches of this general type are usually larger and decorated with fine engraving on the broad flat lower bow. They occur frequently; four are published from Britain but continental examples include Sisak (Patek 1942, pl. XII, 13) and Berthouville (Dollfuss 1975, pl. 42, 387).

53. Brass. Surviving L. 46mm. The arched upper bow has a knurled raised central rib; there are cross-mouldings at the waist and a plain lower bow, which is broken off short of the foot. The flat expanding headplate is rolled back to hold the axial bar (missing) of a hinged pin. The plain triangular catchplate is central; the lower part missing. 76B, X, 414.
54. Leaded bronze. L. 42mm. Generally similar to 53, though smaller and the foot is complete. 76B, B, BZ 313.

Nos 53 and 54 belong to a common sub-type of which published examples came from Rotherley (Pitt-Rivers 1888, pl. C.7), Exeter (Fox 1952, fig. 8, 2), Wroxeter (Bushe-Fox 1916, pl. XV, 3) and the Saalburg (Böhme 1972, 12, no. 35).

55. Brass, 'tinned'. The head and part of the upper bow are missing. The upper bow has a narrow rectangular panel with pronounced central rib; the lower bow is topped by a broad cross-moulding and forms a flat triangular panel. The catchplate is central. The head may be represented by 56.Y 6, BZ 6.
56. Brass. This may be the head of 55. It has the same raised central rib and flanged sides. The flat head plate is folded back to form a tube for the axial bar of a hinged pin (missing). Y 7, BZ 7.

Similar brooches to the type represented by 55–6 are widespread. One was found in the fort ditch at Chesterfield (Ellis 1989) and other examples are published from Rotherley (Pitt-Rivers 1888, pl. C.1), Kingsdown (St George Gray 1930, 82, E15) and Augst (Riha 1979, 142, 1107, Taf. 39).

57. Brass tinned. L. 44mm. This brooch is distinguished from the preceding 'Hod Hill' examples by the large moulded lugs projecting from the lower corners of the broad upper bow. This also has longitudinal mouldings; the central ribs are knurled. The lower bow is of similar lozenge outline to 52, and bears a pattern of branched lines of punchmarks on its tinned surface. The head is a plain plate rolled back to form a tube for the axial bar of a missing hinged pin. The long triangular catchplate is central. 70, RC U/S.
58. Bronze, tinned. L. 47mm. Plain bow tapering to a small foot moulding. At the top the plain head plate is turned back to hold the axial bar of a (missing) hinge. There is a plain triangular catchplate. RC U/S.

A similar brooch was found at Sheepen (Colchester) in a context of *c.* A.D. 44–49 (Bayley and Butcher 1985, 116, fig. 75, 37, M3:C) and another at Richborough (Cunliffe 1968, 86, no. 60, pl. XXX) in a much later context.

59. Brass, tinned. L. 39mm. An elegant small brooch with elaborate mouldings on the bow, including a rectangular panel with a circular sinking possibly intended for some decorative attachment. A narrow tube at the head holds the axial bar of a hinged pin and there is a triangular catchplate. X 3, BZ 3.

A larger but similar brooch found at Augst (Riha 1979, 154, no. 1345, Taf. 45) belonged to a group thought likely to have been decorated by glass-paste studs on similar rectangular panels. The type is widely distributed.

60. Brass, tinned, with niello. L. 39mm. Another well cast small brooch. The bow has a sharp rectangular profile and bears niello decoration on its straightish narrow main panel. The lower bow is plain and has a small foot knob. There is a very small triangular catchplate. There is a brooch of the same type with very similar decoration from Hüfingen (Rieckhoff 1975, Taf. 6, 82). 76B, X, 445.

The group of brooches known in Britain as the 'Hod Hill' type occurs very widely on the Continent. In her discussion, Rieckhoff (1975, 51–7) concluded that all the varied patterns fall in the period *c.* A.D. 43–69 and that their main centre of manufacture was Gaul. The dating evidence from southern British sites agrees with this (e.g. *Camulodunum* and Hod Hill, and *cf.* Simpson 1980, 323). Possibly some were made in Britain but most of the Wanborough examples find good parallels in Gaul and the Rhineland. Although they occur frequently on military sites they are also common in native settlements and in towns.

Variant one-piece brooch

61. Brass. Surviving L. 65mm. One-piece brooch with spring of five turns but with rearward facing hook to hold the chord near the top of the bow. The bow is stout and rectangular in section; the foot is broken off but enough remains to show that the catchplate was open. Y 1, BZ 1.

The hook for the chord is a common feature of the 'Colchester A' one-piece brooches but these have a crossbar covering the spring. This must be regarded as a hybrid, probably contemporary with the Colchester type (see 62).

One-piece iron Colchester brooch

62. (Iron) L. 45mm. A plain tapering bow with rectangular profile. A spring of six turns formed from the top of the bow is protected by a small crossbar and the chord is held by a rearward facing hook. The catchplate has a triangular opening. 76B, XXIV, 315.

The Colchester type was named in the *Camulodunum* report (Hawkes and Hull 1947, 309ff) where its date-range was defined as *c.* A.D. 10–65, although this has been queried (*cf.* Sealey 1985). Iron examples are not common. It is remarkable that no more brooches of the general type were found at Wanborough. Although it is most common in the south and east it is found on western sites, including Bagendon, Lydney, Kings Down, Maiden Castle, Uley, Lechlade and Hod Hill.

Unclassified

63. Bronze. A badly corroded brooch, the details of which are difficult to distinguish. A spring of several turns may have been held by the chord passing through a rearward hook. It is unclear whether it was also held on a lug behind the head as in the following type. The bow is divided between a broad and possibly ribbed upper section and a narrow foot. The plain triangular catchplate is broken. 3517, BZ 64, 622.

Two-piece Colchester brooches

Two sub-types have been distinguished in this large group: i) 64–66, common in southeastern England, and ii) 68–79, 81–6 which may be western products. The type as a whole is rare outside Britain and is the first to be made of a high-lead alloy, which may be a sign of British manufacture. It is common in mid-first-century contexts and is very scarce in earlier groups such as the King Harry Lane cemetery at St Albans (Stead and Rigby 1989) and Hod Hill (Brailsford 1962, 7, only one example, C10).

64. Leaded bronze. L. including crest 43mm. The bow has a raised central rib, on which is superimposed a crest holding the chord of the spring (now missing). This was also held by a lug behind the centre of the head. There is a plain crossbar, slightly curved, and a pierced catchplate placed centrally behind the foot. 76A, VIII, 32.
65. Leaded ?bronze. Surviving L. including crest 40mm. Similar to 64 except that the spring survives (*c.* nine turns) and the catchplate is solid (though this may be corrosion). There is also a faint zigzag decoration down the central rib. The foot is broken off. 76A, XXI, 599.
66. Leaded bronze. L. including crest 43mm. Very similar to Nos 64–5: possibly from same mould. The central rib bears zigzag decoration and the footplate is pierced. The spring is of ten turns. Cov. Farm 75.
67. Leaded bronze. L. including crest 42mm. Generally similar to Nos 64–6 but this has a narrower and plain raised rib down the length of the bow, a moulded foot knob and a solid catchplate. There is a spring of ten turns held on a central lug behind the head, a plain crossbar and a crest in which the chord is held. T 120, 47, BZ 20.

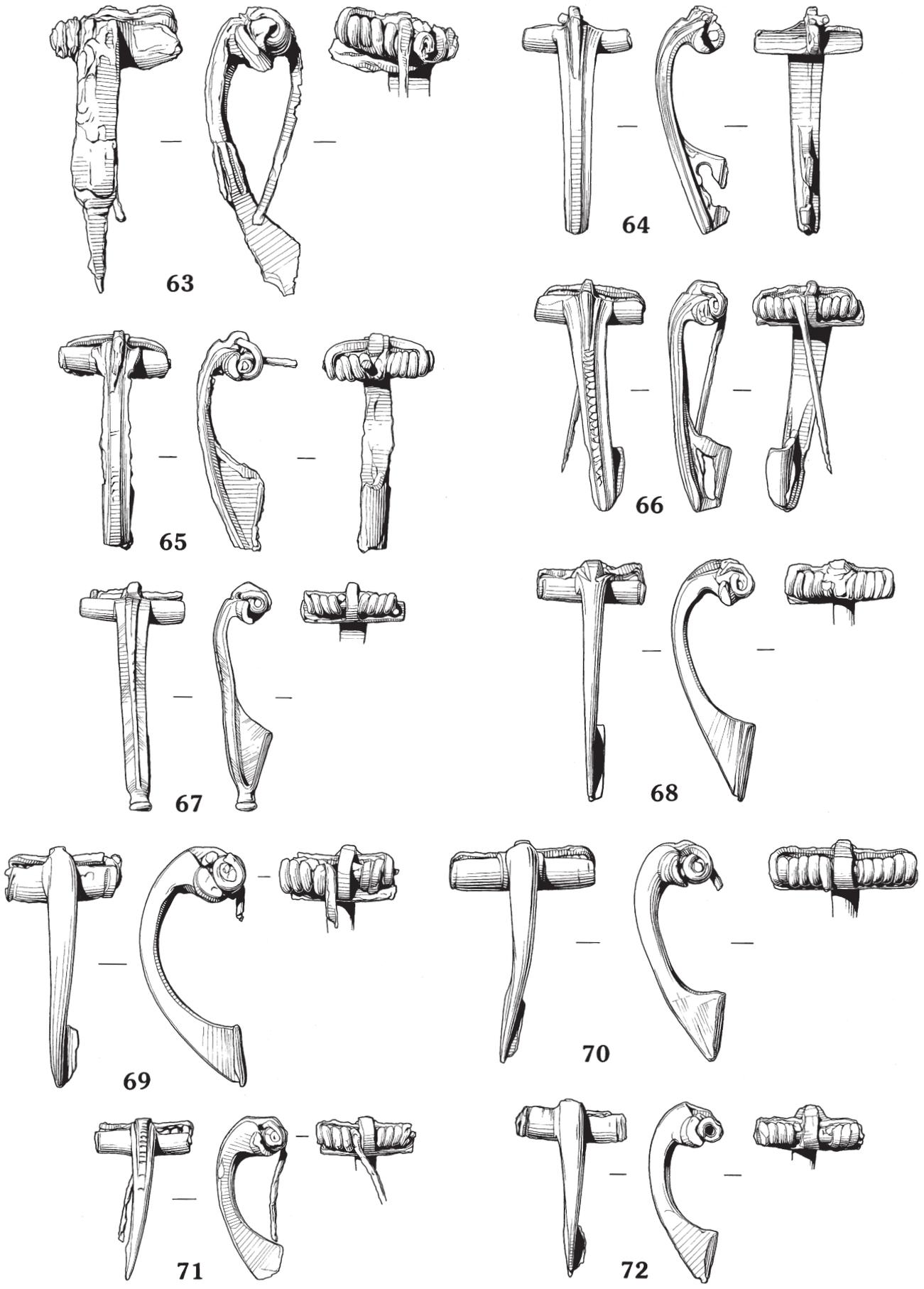


FIG. 20. Brooches; unclassified (63), Colchester (64-72). Scale 1:1.

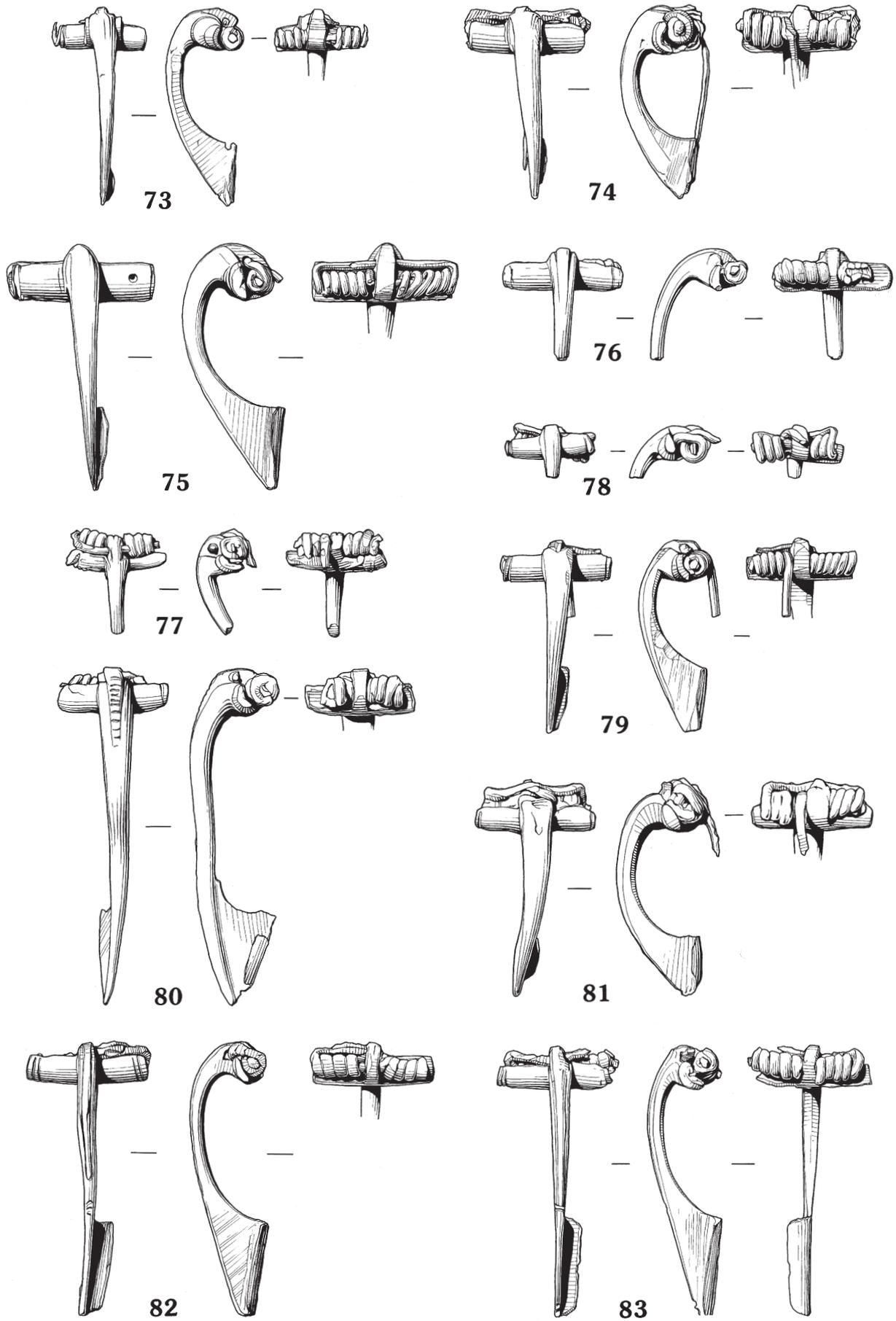


FIG. 21. Brooches; Colchester (73-83). Scale 1:1.

Brooch Nos 64–7 share a common shape, although the foot knob and other details of 67 separate it from the others. Numbers 64–6 have many parallels, chiefly in the southeastern counties. They are most numerous in Essex and Hertfordshire with several examples at both *Camulodunum* and *Verulamium*. Other published examples include Canterbury (Frere *et al.* 1982, 143, no. 2), Wakerley (Jackson and Ambrose 1978, 218, no. 4), and *Camulodunum* (Hawkes and Hull 1947, 311, pl. XCI, 36–7). Number 67, with its foot knob, has parallels at Canterbury (Frere *et al.* 1982, 143, fig. 79, 1) and Richborough (Bushe-Fox 1949, 113, pl. XXVII, 27). The *Camulodunum* dating (Hawkes and Hull 1947, 311, Type IV) to the middle years of the first century still seems plausible.

68. Leaded bronze. L. 45mm. Bow narrow, rounded, tapering, and arched in a single curve, at the end of which is a triangular catchplate. The crossbar is plain except for cross grooves near the ends, and behind this a spring of nine turns is held on a central lug. There is a small crest on the upper bow which holds the chord. 50 R.A11.
69. Leaded bronze. L. 46mm. Similar to the last but the bow and crossbar are thicker and heavier. 70, RC U/S.
70. Leaded bronze. L. 42mm. Similar in shape of bow to Nos 68–9 but shorter and the crossbar wider. The crest holding the chord of the ten-turn spring is shaped to imitate the rearward facing hook of the original Colchester type. T 340, BZ 59, 167.
71. Leaded bronze. L. 31mm. Very small brooch with humped bow and ribbed crest on the upper part. Spring of nine turns held by a substantial lug. Plain triangular catchplate. 70, RC U/S.
72. (Leaded) bronze. L. 36mm. Small humped brooch with plain rounded bow and triangular catchplate. The crossbar is grooved at the ends and carries a spring of nine turns on a lug at the centre of its back. The chord is held by a crest imitating a rearward hook. SSM 76, D I.
73. Leaded bronze. L. 36mm. Small humped brooch with disc appendages on either side of the head. Spring (incomplete but at least seven turns) held on central lug behind small crossbar with grooved ends; the chord held in crest. 70, RC U/S.
74. (Leaded) bronze. L. 36mm. Small humped bow; plain cross bar; spring of eight turns held by central lug and crest. Plain triangular catchplate. 69E, VII, 4, 255.
75. (Leaded) bronze. L. 46mm. Similar to 68–70, with spring of twelve turns behind a broad crossbar, grooved at the ends. 70, RC U/S.
76. Leaded bronze. Surviving L. 23mm. The upper half of a small brooch with narrow curved bow and extended plain crest. The spring is broken but had at least eight turns and is held by a central lug and crest behind a wide plain crossbar. 60H, III, 68.
77. Leaded bronze. Surviving L. 19mm. The upper part of a very small brooch. narrow plain rounded bow; spring of at least seven turns held by central lug and crest. Coombe St.
78. Leaded bronze. The upper part of a very small brooch, similar to 77 but the spring was only of six turns. 3236, BZ, 67.
79. Leaded bronze. L. 35mm. Small brooch with rounded arched bow and plain triangular catchplate continuous with it. The spring of ten turns is held on a central lug and crest. The crossbar has grooved ends. 70F, III, 68.
80. Bronze. L. 61mm. Although of similar construction this brooch shows several differences from 68–79. The rounded bow is longer and less arched, and the crossbar is much narrower in proportion. The catchplate is ‘harp-shaped’ and slightly marked off from the bow. The spring is broken; only five turns survive, it is held on a central lug with the chord held by a crest which is extended down the bow and is cross-ribbed. 76A, IX, 524.
81. Leaded bronze. L. 38mm. Small brooch with rounded arched bow similar to 68–70. The spring is obscured by corrosion but appears to have about six turns. It was held on a central lug and the chord probably passed through a crest, but this is damaged. 76C, XXXIII, 162.
82. Leaded bronze. L. 50mm. Long narrow arched bow with central rib down upper part and slight cross-grooves below. The triangular catchplate forms part of the bow’s curve. The wide crossbar has two grooves at each end and covers a spring of at least nine turns held on a central lug; the chord passes through the crest. 2044, BZ 46, 370.
83. Leaded bronze. L. 50mm. Very similar to 82 in every respect — could be a mould pair. T 160, BZ 27, 71.
84. Leaded bronze. L. 37mm. Narrow rounded arched bow, the plain triangular catchplate continuous with it. The spring of ten turns is held on a central lug and the chord passes through a crest. U/S.
85. Leaded bronze. Long narrow rounded arched bow, the plain triangular catchplate continuous with it. The spring of nine turns is held on a central lug behind a broad crossbar, the chord passing through the crest. 76 SFI.

86. Leaded bronze. L. 46mm. Very similar to 82–3 although slightly smaller. Spring of ten turns. Y 2, BZ 2.

Brooch Nos 68–87 (except 80) all have an arched rounded bow with a triangular catchplate forming a continuous part of it. They share with 64–7 the method of spring attachment and the general characteristics described by Hull for Camulodunum Type IV: ‘Colchester B’ (Hawkes and Hull, *Camulodunum*, 1947, 310–11). The plain arched bow is less common and may turn out to be a western variant. Dated examples are usually from mid-first-century A.D. contexts, though they are also found in later layers.

87. Leaded bronze, tinned. L. 44mm. Bow of similar profile to 68–86 but with pronounced flanges each side of the head. The spring of about eight turns has become detached so that the construction is clearly visible: a lug projects behind the head with two holes drilled(?) in it for the spring and its chord. The upper hole is open at one side, no doubt the reason for the loss of the spring. This lug is continuous with a slightly raised crest on the upper bow. There is a notch at the foot: an incipient toe-knob. X 4, BZ 4.
88. (Leaded) bronze. The lower half of a bow with the profile of Nos 68–86. There are faint grooves both lengthways and across. T 163.
89. Leaded bronze. Lower half of plain rounded bow, with the profile of Nos 68–86. 66 ‘Coombes’.
90. Leaded bronze. Similar to 89 but with the beginning of grooves in upper bow. 76, U/S.
91. Leaded bronze. The lower half of a similar brooch to Nos 68–86, with groove on upper part. The foot is broken and missing. RC, BP.

Unclassified Colchester-derivative brooches

92. Leaded bronze. L. 60mm. Rounded arched bow slightly humped at head. There are discs flanking the head and the wide crossbar has bands of cross mouldings. Most of the spring has disappeared but it was passed through a lug behind the centre of the head and the chord was held in a hole in the crest. The large triangular catchplate is very slightly marked off from the bow, but the whole shape is obviously related to that of 68–86. 76C, XXXII, 70.
93. Bronze/gunmetal. L. 70mm. Similar profile, crossbar and catchplate to 92 but this brooch lacks the central lug for a spring, and the crest for the chord is nearer to a hook in shape. The wide ribbed crossbar has holes near each end, in one of which there is an iron rivet; this would have held either the spring or a long axial bar for a hinge. Possibly this is a repair after the original spring was lost. X 2, BZ 2.
94. Bronze. L. 51mm. Similar profile to 92–3, but shorter crossbar. No spring remains and the only attachment for it is a rearward facing hook to hold the chord. The line of this is continued as a rib down the centre of the bow. The catchplate is triangular, slightly marked off from the bow and may have had a small hole through it (though this may be damaged). SSM, 76, V.

Numbers 92–4 belong to a rather variable class often described as ‘Dolphin’ brooches. They show relatively inefficient methods of attaching the spring which were superseded by the safer ‘Polden Hill’ type (*cf.* 97–100). None is well-dated but, as with 64–86 above, they are likely to belong to the middle years of the first century A.D.

95. Brass. L. 57mm. This brooch has a similar shape to 92–4, but the bow is very thin and tapers to a very narrow catchplate, now broken but evidently once having a triangular opening. The ribbed crossbar is also thin; no spring survives and the only attachments for it are a central rearward hook for the chord and slight indications that the ends of the bar curved back, presumably to hold an axial bar. U/S.
96. Brass. L. 59mm. The bow is distorted. It is thicker than No. 95 and has a channel down the centre of the front, and of the back as far as the triangular catchplate. The crossbar is very thin and bent; the ends (now damaged) were turned back, probably as in 95. The chord would have been held under a separate strip of metal which is hooked over the centre of the head and apparently soldered to the foot of the bow. It has a swelling near the head over a kink where the chord presumably passed under. Lower down it is slightly ribbed. This curious construction is seen in other brooches from the south and west of Britain: e.g. Hod Hill (Brailsford 1962, fig. 10, C 100), Ham Hill and Lancing (Wedlake 1958, fig. 51, 11B). The presence of examples at Hod Hill suggests that it originates in the first half of the first century A.D.

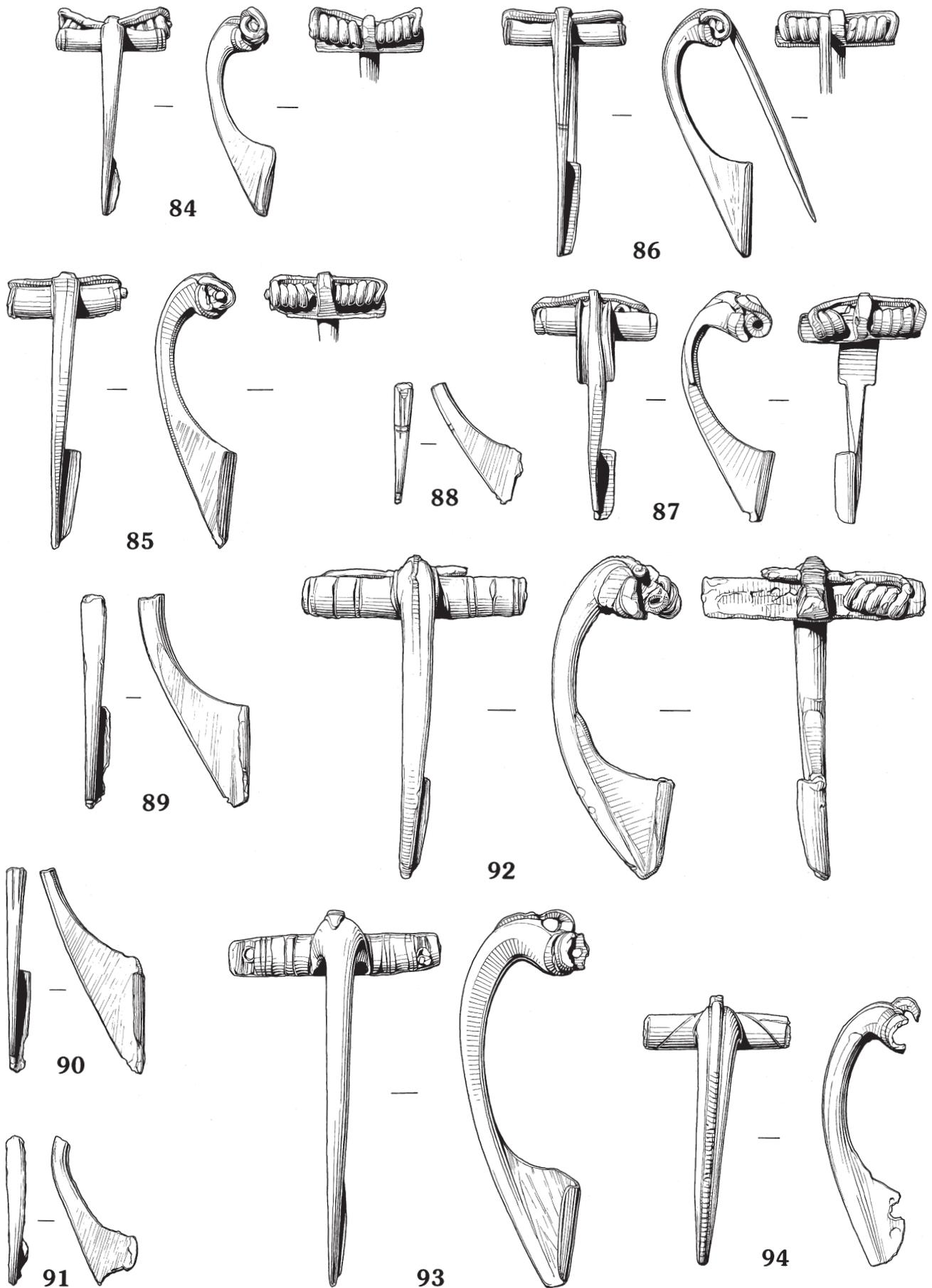


FIG. 22. Brooches; Colchester (84–91), Colchester derivatives (92–4). Scale 1:1.

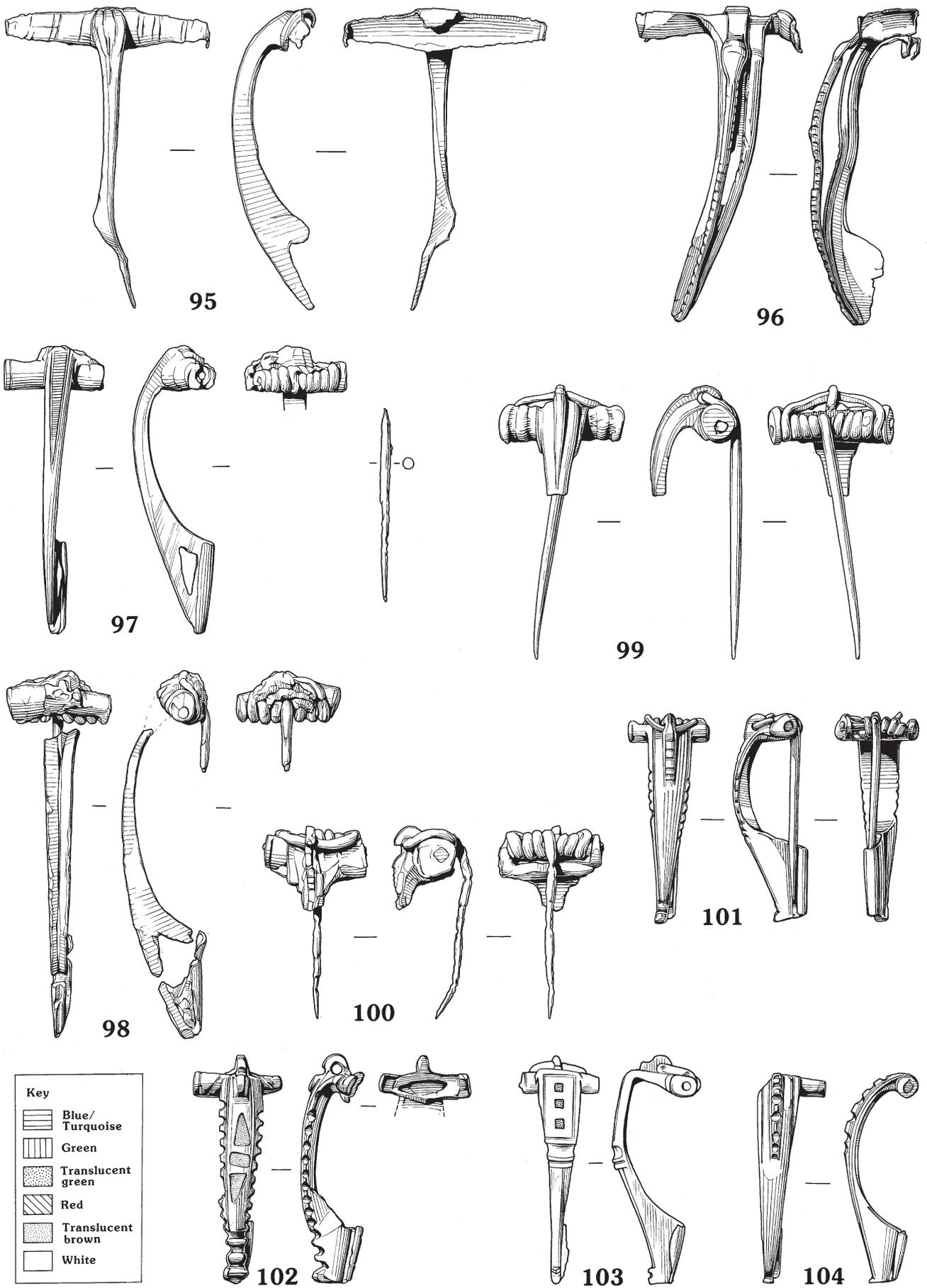


FIG. 23. Brooches; Colchester derivatives (95-6), Polden Hill (97-103), hinged T-shaped brooch (104). Scale 1:1.

Polden Hill and related brooches

This name is given to brooches of the generally arched profile of the previous types (Nos 68–96) which have a distinctive construction at the head, obviously designed to hold the spring more securely. In these the chord passes through a crest on the head, but the spring is also held by an axial bar passed through discs closing the ends of the crossbar. The type is common and dated from the latter part of the first century A.D. into the second century. Although close parallels cannot be quoted for the Wanborough examples they are generally similar to others found in the western part of Britain.

97. Leaded bronze. L. 53mm. Narrow arched bow with a V-shaped panel of fine engraving on the upper part. The catchplate is continuous with the bow and has a triangular opening. The spring of about ten turns is held on a bar between the end discs of the crossbar, and the chord passes through the crest (obscured by corrosion). 76A, IX, 620.
98. Leaded bronze. Three fragment. Two fragments make up a long curved bow with a channel down the centre, and a triangular open catchplate continuous with it. The head does not join but probably belongs. It contains a spring of six turns held between the disc ends of the crossbar. Its chord was probably held in a crest but this is obscured by corrosion. 76, XXXVII, 56.
99. Leaded bronze. The upper part only of a bow with flanges beside the head and with a central rib joining the crest. The substantial crossbar has knurled ribs and disc ends holding the axial bar of a spring of nine turns. The chord passes through a hole in the crest. This brooch may be similar to a complete example found at *Verulamium* in a context of c. A.D. 85–108 (Frere 1972, 114, fig. 29.9). 70, U/S.
100. (Leaded) bronze. Badly corroded fragment: the head only, showing a spring of seven turns held on a bar between the disc ends of the crossbar; the chord passes through a crest which continues as a notched rib. There may be flanges each side of the head. It was probably similar to 99. 76B, XVI, 163.

Numbers 101–3. Three brooches with the Polden spring construction but with bows related to the southwestern hinged series (*cf.* 104–8).

101. Leaded bronze. L. 38mm. Flattish tapering bow; the crest holding the chord is continued as a notched rib down the upper bow and the margins are flanged and notched. The spring was probably of six turns; four remain on the axial bar. The catchplate springs from one side of the bow and is large in proportion to the brooch. Similar brooches have been found at Charterhouse on Mendip (Bristol Mus.) and Woodeaton (Kirk 1949, 11, no. 16, pl. II, B7). Numerous other similar brooches have triangular cells on the bow (*cf.* Neal 1974, fig. 54, 15). The general distribution is in southern and western Britain. There is no firm dating but typologically the type should date to the later first century A.D. 70, RC SAS.
102. Leaded gunmetal; tinned. L. 44mm. The bow has a panel of enamelled decoration (two long triangular cells divided by a rectangle, the fillings of all now appearing translucent golden brown, probably their original colour (JB)) and has deeply notched marginal flanges. The crest which holds the chord is prominent. The head is incomplete but it appears that the ends of the crossbar were disc-shaped to hold the bar of a spring (now missing). The foot is deeply ribbed and covers a slightly harp-shaped one-sided catchplate. The toothed side flanges and the general shape of this brooch relate it to 101, but the mouldings are much bolder and the form of the enamel cells is unique. It could be seen as an intermediate stage between the type represented by 101 and that seen at *Verulamium* (Frere 1972, fig. 30, 12, from deposits of A.D. 105–15) and Richborough (Bushe-Fox 1949, 38).
103. Leaded gunmetal, tinned. L. 43mm. The bow has a sharp right-angled profile at the head, the flat part bearing a crest which holds the chord of the spring. The main upper bow has a rectangular panel, outlined by notched grooves, with three small rectangular cells for enamel, possibly translucent green; the lower part is narrow, with a small foot knob. The catchplate springs from one side of the bow. A number of brooches of this shape and construction are known, though with differing patterns of enamel decoration. Examples can be quoted from Chew Park (Rahtz and Greenfield 1977, 292, no. 8), Wroxeter (Atkinson 1942, 205, H40) and Caerleon (Wheeler 1928, 162, no. 9). The latter was in a context dated not later than A.D. 125.

Hinged T-shaped brooches

104. Leaded bronze. L. 38mm. The flattish bow tapers to a very small foot moulding. The upper part has a notched central rib and flanged edges, recalling 101 (a sprung brooch). Half the head is missing but it consisted of a narrow tube holding the (?iron) axial bar for a hinged pin.

The catchplate springs from one side of the bow and also resembles that of 101, although smaller. A similar brooch comes from Lowbury, Berks (Atkinson 1916, 37 and pl. IX, 43), two from Nornour (Hull 1967, 36, nos 61–2) and a fragment from Catsgore (Leech 1982, 109, no 25). 2. 043, BZ 45, 369.

105. Leaded bronze. L. 44mm plus head-tab. As 104 resembled the sprung brooch 101, so this resembles 103. It has a right-angled profile and a panel on the upper bow bearing decoration: two triangular cells with greenish enamel. the plain tapering lower bow ends in a very small moulding at the foot. The crossbar is narrow and contains the axial bar for a hinged pin. A small plain tab takes the place of the crest on 103. The catchplate springs from one side of the bow and is large in proportion to the rest of the brooch. 34. BZ 5, 17.

The type is very well represented at Nornour, where there are sixteen examples (Hull 1967, 34, 17–32, of which 18 and 23 are closest to the Wanborough brooch). Others are known from Charterhouse (Bristol Mus.) and from Caerleon, where one with rectangular enamel cells was found with pottery of A.D. 130–160 (Wheeler 1928, 162, no. 13).

106. Leaded bronze. L. 51mm. The bow has a right-angled profile at the head and another angle at the waist; between these it bears a panel of enamelled decoration: alternating squares of turquoise and another colour juxtaposed without metal divisions. There are the remains of a tab on the flat head, and two pairs of diagonal lobed mouldings on the lower bow, joined by two central grooves. The foot bears another pair of lobed mouldings. The narrow crossbar contains the bar for the hinged pin. The large catchplate springs from one side. 69E, I, 27.

Nornour provides close parallels for this brooch (Hull 1967, 32–4, nos 12–15, figs 11–12); others were found at Woodeaton (Anon., 1935, 200) and Charterhouse (Bristol Mus.).

107. Leaded bronze/gunmetal. The upper part only of a hinged T-shaped brooch. The broad upper bow bears a panel of enamelled decoration: three central lozenges (now empty) with flanking triangles, some of which contain greenish yellow enamel. A short plain upper panel at right angles to the main bow ends in a projecting loop (now broken) where it joins the narrow head tube which contains the axial bar for the hinged pin. The bow is hollow behind the enamelled panel. 76B, IV, 16.

Similar brooches have been found at Nornour (Hull 1967, 32, no. 26, fig. 12; *cf.* also nos 30 and 247 for the enamel pattern); Charterhouse-on-Mendip (Bristol Mus.) and Lowbury Hill (Atkinson 1916, 37, no. 45, pl X) although there the ‘trellis-pattern’ is described as openwork.

108. Leaded bronze. the lower part of a bow brooch bearing a circular stud, which once held enamel, on the foot. A central rib, grooved and cross-slashed, runs up the bow. Behind it there is a deep ‘harp-shaped’ catchplate. T 264, BZ 45, 127.

This almost certainly formed part of a hinged, T-shaped brooch similar to those found at Nornour (Hull 1967, 37, nos 84–7, fig. 16), Catsgore (Leech 1982, 105, no. 9) and Ham Hill (Taunton Mus A1158; VCH *Somerset* I, fig. 63, 5).

Numbers 104–7 (and probably 108) belong to a group of inter-related types which occur almost exclusively in southwestern Britain. The largest published collection is from Nornour (Hull 1967) but the distribution centres on the Severnside region (Avon, Gloucestershire and Gwent) spreading into Somerset, Wiltshire, Oxfordshire, Berkshire, Dorset, Devon and Cornwall as well as Scilly. They presumably represent a local development from the Colchester type by way of the sprung ‘Polden’-construction brooches, *cf.* 101–3. In both sprung and hinged versions there is a new emphasis on enamel decoration, as elsewhere in Britain (e.g. the trumpet and head-stud brooches, the latter most typically bearing the lattice pattern as No. 107).

Although Hull (1967) suggested that these brooches were made at Nornour, further excavation produced no evidence for this (Butcher 1977, 43–4; 1978 54, 65) and the distribution would favour a production centre at or near Charterhouse-on-Mendip.

Few examples are from dated contexts, and these, to judge from other brooch finds, are likely to be rather later than the period of manufacture. Using typologically related finds it can, however, be suggested that the series begins with the ‘Polden’ sprung brooches in the second half of the first century A.D., and continued into the second century.

Headstud group

109. Bronze. An unusual incomplete brooch related to the headstud type by its shape, decoration and catchplate, but lacking both the headstud itself and the usual tab or loop on the head. The bow is heavy and rectangular in section and widens to form wings with stepped knurled mouldings. At the sides there are traces of engraved decoration. The crossbar is hollowed behind and although the ends are broken they probably held an axial bar for the spring (also missing). The chord survives where it passes through a small crest on the head. The harp-shaped catchplate is broken and the lower part of the bow is missing. The surviving part of the bow contains enamel in a central trough; this was laid in rectangles of at least two colours (blue and probably red) without metal division. No parallel known. 76B, XVI, 446.

The absence of the common forms of headstud brooch is remarkable in such a large group, and enjoins caution in dating the present untypical specimen. A broad dating bracket for the headstud group is from the late first century A.D. through the first half of the second.

Plain trumpet-headed brooches

110. Leaded bronze. L. 40mm. A small elegant casting: a highly arched bow with elaborate lobed moulding at the waist (flat at the back) and a small trumpet-shaped head with side flanges. The long lower bow ends in a small foot moulding. The pin was sprung (three turns survive) on a bar passing through a substantial lug behind the head. The chord lies below the lug. The catchplate is large in proportion to the brooch and approaches the harp shape. W 1, BZ 1.
111. Leaded bronze. L. 47mm. All the mouldings are similar to those of 110 but the brooch is distorted in shape. The spring and pin are missing. 70G, II, 18.
112. Leaded bronze. L. 41mm. A very poor casting of the same general design as 110–11 but having a ‘pseudo-acanthus’ moulding at the waist. The spring is missing. 5472, BZ 112, 784.

Numbers 110–12 belong to a simplified version of the trumpet brooch which was distinguished as the ‘Chester’ type by Hull (1967, 42) because of its frequency there. It is also common at Wroxeter, and examples are known from Uley, Glos (Woodward and Leach 1993), Cirencester, Caerleon (Wheeler 1928, 164, fig. 13, 15), Whittington Court, Glos (O’Neil 1952, 77–8, fig. 12, 1) as well as other sites, mostly in the western part of Britain. Boon and Savory define the dated examples as ‘mainly in the Flavian to Trajanic period’ (1975, 54).

Enamelled hinged trumpet-shaped brooches

113. Leaded bronze. L. 54mm excluding head loop. Broad trumpet-shaped head with enamelled decoration and blurred, petalled moulding at the waist. The pin is hinged in an enclosed cylinder behind the head. There was a loop cast in one with the head, now broken. The lower bow is plain and sharply angled; it ends in a small plain foot moulding. The catchplate is large and harp-shaped. At the back of the waist there is a plain bar moulding. 76A, VIII, 414.

The enamelled decoration covers the whole upper bow, the design being formed by reserved metal outlining curvilinear shapes repeated on both sides. The colour is now entirely greenish; the inner part of the design was probably turquoise originally (JB).

114. Leaded bronze. Surviving L. 43mm. the upper part only of a brooch generally similar to 113. The petalled waist moulding is sharper but flat at the back, and the broad head is hollow behind, with a tube holding the hinged pin at its lower edge. The cast head loop is broken but was smaller than that of 113. The design of the enamelled head consists of a spiral, outlined by reserved metal and repeated each side, of darker green on a field of turquoise (JB). 76A, XV, 190.

Numerous brooches of the same general type have been found in Britain and they also reached the German *Limes* (Collingwood 1930, fig. 7). Published examples include those from Hockwold and Rudston (Butcher 1977, 60, nos 24–5) and Newstead (Curle 1911, pl. LXXXV, 11–12). These are all sprung and the examples with hinge and fixed head loop may be a later development. The closest parallel to 113 comes from Charterhouse-on-Mendip (Bristol Mus. F1865). Although the origin of trumpet brooches has been established in the first century A.D. (Boon and Savory 1975) there is little dating evidence for the later developments of the type. The Wanborough finds may well belong to the second century A.D.

Plate-on-Bow brooches

115. Bronze/gunmetal. L. 33mm; plus loop 40mm overall. A small but highly decorated trumpet-headed brooch. The most prominent feature is a large disc, with four projecting lugs, on the centre

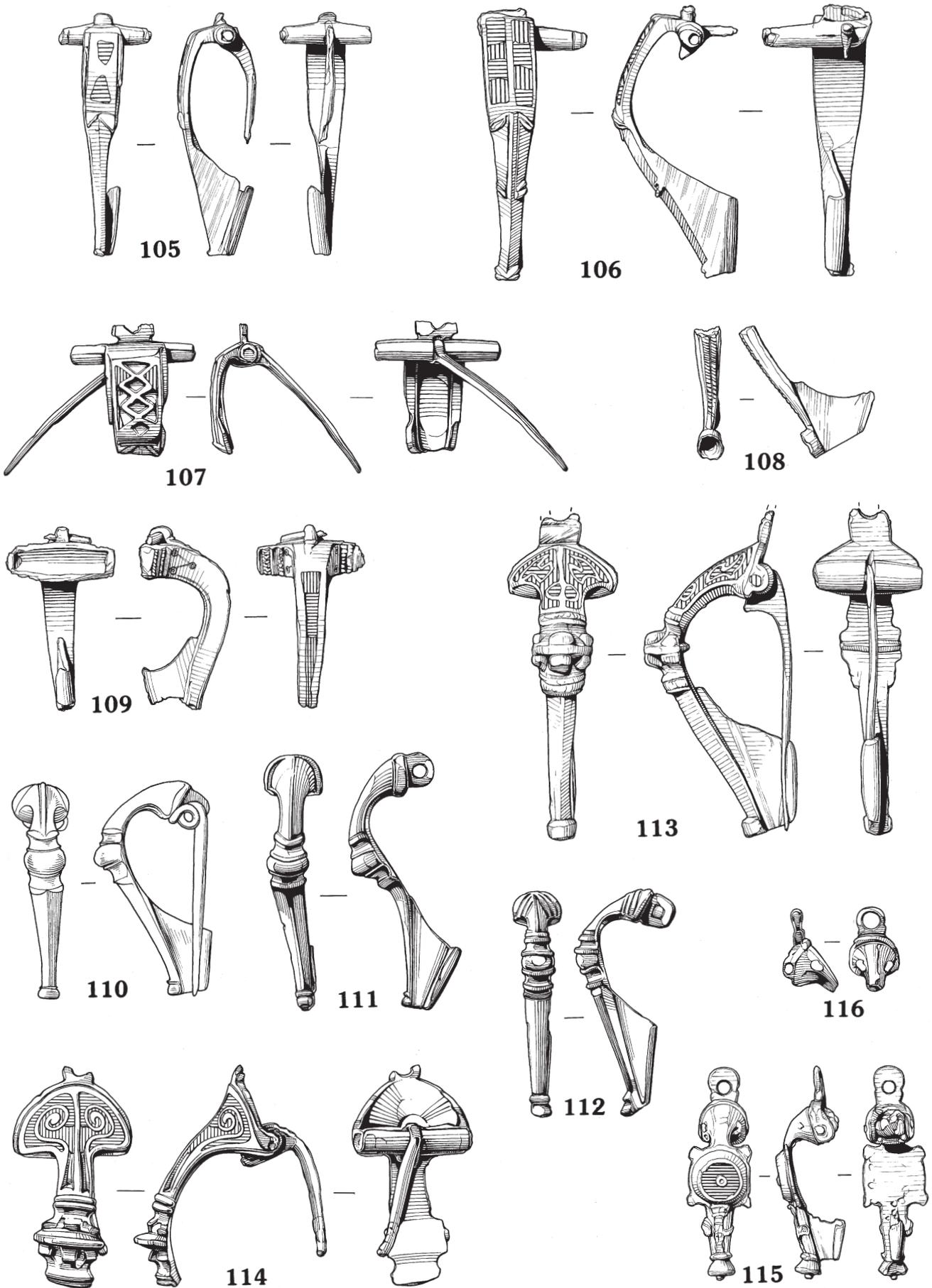


FIG. 24. Brooches; hinged T-shaped brooches (105-8), headstud (109), plain trumpet-headed brooches (110-12), enamelled hinged trumpet-shaped brooches (113-14), plate-on-bow brooches (115-16). Scale 1:1.

of the bow. It bears a field of blue enamel. The rest of the bow is decorated with strips and rosettes of silver foil attached by lead-tin solder. The spring was held in a box behind the trumpet-shaped head on a bar which passed through projecting side pieces, and there was a fixed perforated tab on the head. The catchplate was central, short and four-sided, and there was a conical foot knob. 70, RC U/S.

116. 'Copper'/brass. Fragment showing a head very similar to 115 with fixed loop, box and side lugs for a spring (missing), and with a central strip and side spots of silver foil. 77, U/S.

The type of brooch represented by 115–16 was classified and discussed by Richardson (1960) who listed over thirty examples from widely scattered sites in Britain and suggested an Antonine *floruit*. The enamelled disc is a constant feature and several have silver decoration. In publishing an example from Scole, Norfolk, Mackreth (1977, 133) suggested that they may belong to the earlier part of the second century A.D. Although a number have been found in the south and west it is not possible to distinguish a local sub-type and the variable features (e.g. silver decoration, ring foot or knobbed foot) are scattered throughout the British distribution. An example from Nornour can be added to Richardson's list (Hull 1967, 44, no. 111), as may one from Wookey Hole, in Wells Museum.

117. Brass. L. 35mm, without loop. This has a similar trumpet-shape and box for a small spring to those of 115–16. The 'bow' bears a large triangular plate shaped like the wings of a fly or moth. It is enamelled in two large blue semi-circular fields, with a small greenish field on the 'thorax'. There are traces of silver foil decoration (JB). The head of the insect (or foot of the brooch) is represented by a small three-lobed knob. Behind this is a small triangular catchplate. W 2, BZ 2.

This brooch was first published in Butcher (1977, 56, no. 13, fig. 7), where others were listed from London, Lincoln, Caistor, Brough, and Kennet, Wilts. To these can be added brooches from Farley Heath in the British Museum, Kidlington, Oxon (Hunter and Kirk 1954, 58, fig. 26, 7) and Uley, Glos (Woodward and Leach 1993). Another came from a burial dated *c.* A.D. 190 at Weston Turville (Waugh 1961, 109, fig. 3, 13). From this and from the type's relation to other brooches with a decorative plate and a trumpet head it can be suggested that it belongs to the second century A.D. The type appears to be a British product, very few having been found abroad.

118. Brass/gunmetal 'tinned'. L. 43mm. A large triangular plate forms the upper part of the bow, with an almost right-angled turn to the head, where the crossbar is formed of the edge of the plate rolled forward. The foot consists of a 'zoomorphic' moulding: the rounded head of a serpent(?) with crossed grooves and two round 'eyes'. There is a small triangular central catchplate behind this. The main decoration of the plate consists of rows of small triangles, alternately cells for enamel and solid metal. It also has borders of ribbed and knurled mouldings.

This type is common on the Continent, having been found in all the northwestern provinces (Böhme 1972, 17, n. 88) and Pannonia (Selye 1939, 73, pl. XI, 2–6). Most dated examples have come from early second-century contexts but there are indications of a first-century origin, as its relation to the Hod Hill type would suggest.

119. Brass. L. 37mm plus head tab: 45mm overall. This is almost a plate brooch, having no crossbar. The small spring was held on a central lug behind the head, with an inferior chord. The upper part of the bow consists of an arched rectangular plate with toothed edges. This bears a central square panel which may once have held enamel, and several cross mouldings. The foot is long and very narrow, with a triangular catchplate behind it; this has one small perforation. 243, BZ 24, 107.

A very similar brooch from Charterhouse is in Bristol Museum (ACP 1905). Otherwise the parallels are brooches having somewhat more arched central plates bearing more enamel (*cf.* Gadebridge, Neal 1974, 127, no. 23), Farley Heath (British Mus.), Asthall (Ashmolean Mus. 1970, 795) and Caerwent (G.C. Dunning, Pound Lane). These in turn are related to a widespread continental type, with much more decoration (e.g. Besançon collections, Lerat 1956, 272–75 pl. XIII). The development of these begins in the first century A.D. and may continue into the second.

P-shaped and crossbow brooches

120. (Leaded) bronze, 'tinned'. Surviving L. 40mm plus knob: 47mm overall. The upper half only of a P-shaped brooch with crossbar formed by a half-cylinder with closed ends which originally held the axial rod of the (missing) spring. A moulded knob projects from the head. The arched upper bow is plain with a D-section. A raised cross moulding survives above the break. 3355, BZ 68, 567.

Complete examples are known from Richborough (Bushe-Fox 1949, 119, no. 54), Woodeaton (Kirk 1949, 12, no. 23), and Coldham, Cambs (Potter 1981, 95, no. 8). Related brooches on the German *Limes* are dated to the late second or early third centuries A.D. (Böhme 1972, 23–4).

121. Leaded bronze. Fragment of the head of a crossbow brooch: one side arm with large faceted knob and the head knob, also faceted but slightly smaller. The arm is solid, with no sign of the axial bar of the hinge, but there is a crude slot behind the head, crossed by a (secondary?) rivet, which may represent a repair. 69D, IV, 158.

Too little of this brooch remains to justify close comparison with other finds, but the size and shape of the knobs, with the faceted crossbar, are sufficient to show that it belongs to an intermediate stage in the development of the crossbow brooch, and probably dates to about A.D. 300 (*cf.* Riha 1979, 172). These brooches have a wide distribution in the western Roman empire.

Plate brooches

122. Bronze. W. 28mm. A D-shaped plate with disc attachments and (by analogy with complete specimens) with loops at each end of the straight side which held a bar from which miniature toilet implements depended. A spring of five turns is attached by an axial bar to a lug behind the centre of the straight edge and a short four-sided catchplate is hidden by the upper disc. X 1, BZ 1.

The decorative scheme is carried out in cells for enamel outlined by reserved metal. The central motif is a raised disc with a six-rayed floret and a central knob. This is surrounded by bands of scales forming a ring round the central disc except for a straight row along the lower edge. Two semi-circular cells fill the space created by this change in layout. The large disc attached to the upper curve bears a quatrefoil in enamel and the smaller side lugs have concentric rings, probably once enamelled. The floret and ring of scales contain turquoise enamel and the outer cells contain red.

This brooch was first published in Butcher (1977, 51, no. 5, 56). The parallels quoted, mainly from the south of England, include examples from Gloucester and Charterhouse. The suggested date is around A.D. 100.

Bird brooches

123. Bronze, 'tinned'. L. 34mm. Flat brooch with the outline of a bird seen in profile, apparently perching, with the wings folded. Apart from the head and legs the whole plate is enamelled: curvilinear cells on the back, a long bar of turquoise on the wing, and darker green on the square-ended tail, where three lobes indicate the feathers. 76C, XXXVI, 274.

The spring of three turns is held on a bar between two lugs behind the tail and the short catchplate, now broken, is behind the breast.

The closest parallels for this brooch are those bird-brooches from Augst (Riha 1979, 201, no. 1738) and Pannonia (Sellye 1939, 78, pl. XII, 13) which are described as peacocks although the resemblance is not close. They have similar enamelled cells. The general date for enamelled zoomorphic brooches is usually given as the second century A.D.

124. Leaded bronze/gunmetal. L. including head 33mm. Although flattened and distorted this brooch is almost complete. The main plate shows the outline of a swan(?) seen from above. A long central cell for enamel represents the body, and two flanges with curvilinear engraving represent the folded wings. The neck is a rectangular bar rising from the plate with a simply shaped beaked head as finial. The tail is short and undecorated. Two lugs for a hinged pin are behind the tail, and the short catchplate is behind the breast. This brooch was first published in Butcher (1977, 56, no. 14) where the only known parallel — from Zugmantel — was cited and examples given of other brooches showing a bird in 'plan' view with raised neck and head. An origin in first century brooches like that from *Camulodunum* (Hawkes and Hull 1947, 326, no. 180) was suggested. Most later writers (e.g. Riha 1979, 201) agree that the enamelled types are likely to be of second-century A.D. date.

Lozenge-shaped and rectangular plate brooches

125. Brass. L. 35mm. Lozenge-shaped brooch with the whole plate raised from the margin. The top is flat and filled with enamel except for a metal stud riveted in the centre. Although the raised plate is lozenge-shaped, the back has a round hollow, leaving larger flat ends to the longer axis, on one of which is the remains of a short catchplate, and on the other a double lug for a hinged pin (missing). The enamelled field appears black but was originally red; it has eight inlaid spots of alternating colours; opaque pale yellow and (probably) translucent green.

Lozenge-shaped brooches with this type of enamel decoration show considerable variation: some have lugs at the corners, some are completely flat plates, some lack the central stud. All these features are found combined in different ways. No exactly comparable examples for this brooch can be quoted, but generally similar brooches occur at Charterhouse (Bristol Mus. F. 1963; flat, small lugs), Nornour (Hull 1967, 138 and 140) and on the Continent (e.g. Exner 1939, 99, III, 10) where they are thought to date to the later second century A.D.

126. Leaded bronze. Overall L. 32mm. A plate of rounded lozenge shape with large oval lugs at each corner. It is slightly humped and the centre bears a raised oval moulding with irregular impressions which give it the appearance of a human head. There is a circular hollow behind the main plate, as in 125, but here the catchplate and (missing) pin attachment were behind the outer lugs, lying at right-angles to the supposed head. One side of the brooch is missing. The surviving lugs are filled with enamel which now appears greenish.

Similar brooches from Swindon Hill (seen by courtesy of Miss M. Washbourn) and Nornour (Hull 1967, 54, no. 201) have conventional central mouldings. Human heads do occur on brooches, e.g. a Nornour bow brooch (Hull 1967, fig. 24, 245) and a disc brooch from Augst (Riha 1979, Taf. 60, 1594). The general design of this unusual brooch should date it to the second century A.D.

127. Leaded bronze. L. 37mm overall. A very crude rectangular plate, plain except for a raised and cross-hatched central zone. There are irregular shaped plain lugs at each end of the long axis; the larger, which has a small perforation, covers a split lug which held a hinged pin (missing) and there is a short catchplate behind the other. X 22, BZ 7.

No parallel has been found for this brooch which seems to be the work of a very unskilled hand. However the main features are those of many plate brooches of the second century A.D: a rectangular plate with end lugs; the form of pin holder and catchplate.

Disc brooches

128. Leaded bronze, 'tinned'. D. 32mm. Two-thirds of a thin, flat, circular plate with a very slightly raised rim. There are traces of lead-tin solder on the disc (JB) which probably served to attach a decorative plate. At the back a split lug holds the hinge of a pin; the rest is missing.

A number of disc brooches with repoussé applied plates are known from Britain; they include Celtic designs (Leeds 1933, 139) human heads (Nornour; Hull 1967, 52, fig. 21, no. 184) and Hadrianic coin types (Goodchild, 1941, 1–5).

129. Brass/gunmetal. L. 31mm. A plate formed of two similar discs, D. 15mm, with concentric raised mouldings and with open centres. Although groups of four or five discs are known (e.g. Lydney, Wheeler and Wheeler 1932, 81, fig. 16, no. 45), the presence of the stub of a catchplate and a hinge (held by a split lug) shows that the brooch was never larger. It is very thin with no trace of enamel decoration and therefore seems more likely to belong to the pre-Flavian group of plate brooches. 'Night School', U/S.

130. Brass/gunmetal. Tinned. D. 27mm. A flat circular plate with a central conical metal lug. The main plate bears concentric enamelled decoration: a ring of triangular cells each with metal spot at the apex. Between these reserved metal outlines the whole field is filled with enamel, which now appears turquoise in colour. 70, RC, U/S.

The back is flat, with no trace of a rivet for the central attachment. The pin (missing) was sprung on a bar between two lugs and there is a short catchplate. The nearest parallel is from Portchester (Cunliffe 1975, 199, no. 3) but this lacks the central lug. The decoration is presumably a variant of a common type in which a circle of reserved zigzag lines separates the inner and outer fields, with spots of metal between the points. Examples are published from Richborough (Bushe-Fox 1949, pl. XXIX 45), Cold Kitchen Hill (*Devizes Mus. Cat.* 1934, pl. 34A, 2), Nornour (Hull 1967, 52, fig. 21, 191–2) and Newstead (Curle 1911, pl. 89, no. 10). The latter presumably comes from the later occupation, c. A.D. 140–211. None of these has the central raised stud.

131. Bronze. D. c. 20mm. part of a small flat disc brooch. The plate is enamelled between metal divisions forming a six-lobed pattern with central spot. The outer field is enamelled deep olive green, which appears black and traces of red survive in the inner field (JB). The pin (missing) was sprung between two lugs, and there is a stump of a very small short catchplate. RAU U/S.

Many of the examples of this type have been found in Britain. They are not restricted to any region but several came from the southwest: e.g. Cold Kitchen Hill (*Devizes Mus. Cat.* 1934, 120, fig. 34, no. 1),

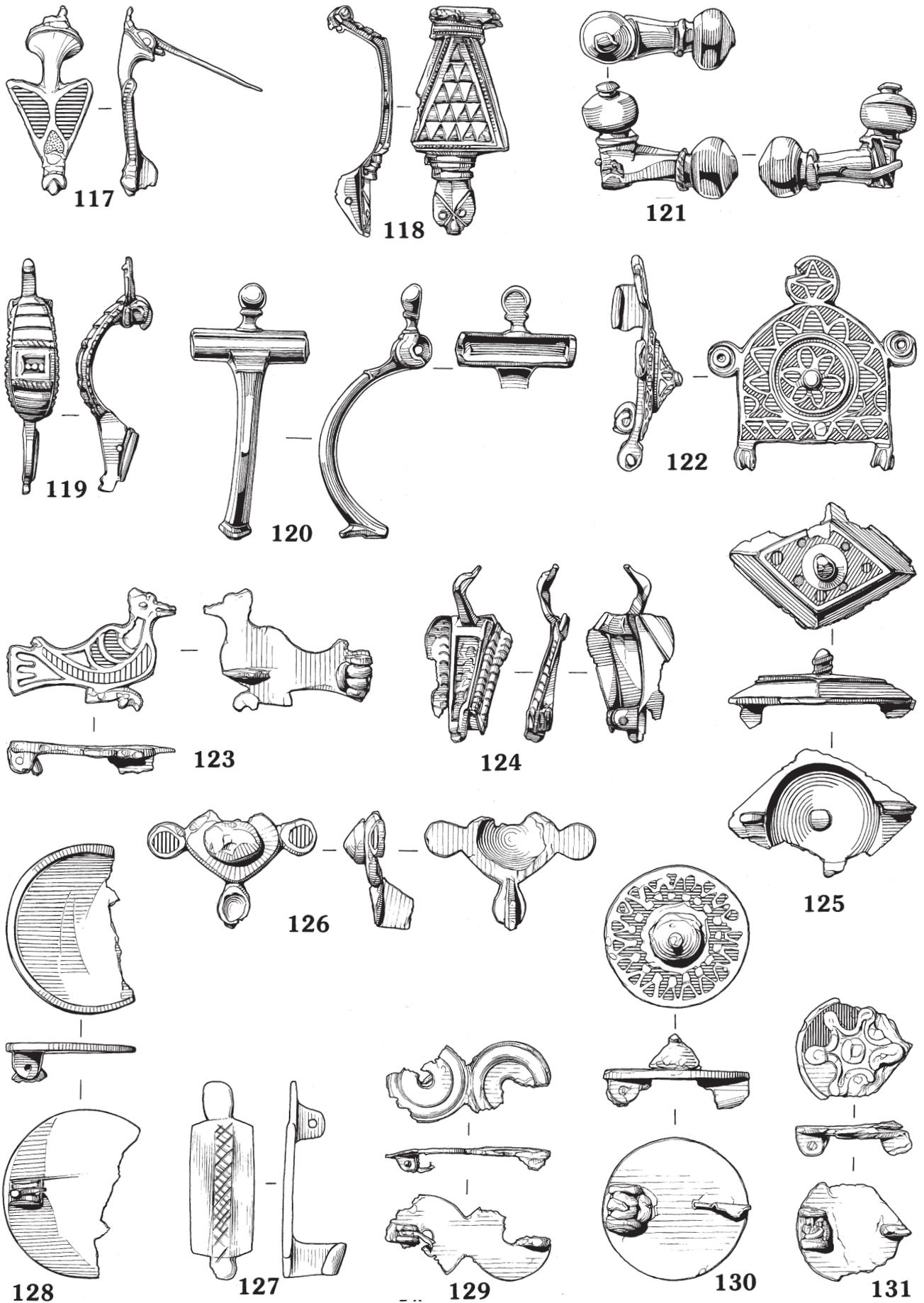


FIG. 25. Brooches; plate-on-bow brooches (117-19), P-shaped and crossbow brooches (120-1), plate brooches (122-31). Scale 1:1.

Charterhouse (Bristol Mus. F. 1976), Ilchester (Leach 1982, 247, no. 25), Camerton (Wedlake 1958, 230, fig. 43, no. 50), Woodyates (Pitt-Rivers 1888, pl. CLXXV, 7), Stockton (Mackreth 1973, 26, no. 27). None are from dated contexts but one from Canterbury was residual in a roadway deposit of A.D. 270–290 (Frere *et al.* 1982, 121, no. 10).

132. Brass, ‘tinned’. D. 20mm. Similar to 131 but this brooch bears a triskele decoration outlined by metal. It is enamelled in red on an outer field which was probably green. The pin (missing) was sprung between two lugs and there is the stump of a short catchplate. 184, BZ 20, 79.

A number of similar brooches have been found, mostly in the southern half of Britain, although outliers occur at Old Penrith, Cumbria (Butcher 1991) and Wancennes, Belgium (Namur Mus.). Two were found at Nornour (Hull 1967, nos 193 and 257); one at Lowbury Hill, Berks (Atkinson 1916, 35, pl. IX, no 29), one at Silchester (Reading Mus.), one at Nettleton (Wedlake 1982, 130, no. 68) and another at Brettenham, Norfolk (Clarke 1938, 136).

133. Leaded bronze, ‘tinned’. D. 27mm. Flat disc brooch with concentric enamelled decoration divided by metal rings. The central circular cell is empty; the inner ring contains blocks of red alternating with another colour; the outer ring contains apparently uniform white enamel. At the back there is a complete catchplate and a perforated lug which must have held a spring. 70, 126.

Parallels are difficult to identify since the general design (concentric rings of enamel) is common but the nature of the enamel decoration varies significantly: some have millefiore insets. If the enamel is not well preserved a brooch may simply show the concentric ring. The following appear to be similar: Nornour (Hull 1967, 54, no. 195; this has no central stud as implied in the text); Cold Kitchen Hill *Devizes Mus. Cat.* 1934, 120, pl. 34A; this has juxtaposed blocks of enamel in the outer ring); *Verulamium* (St Albans Mus. 34.256); Cirencester (Bristol Mus. F.1925). The design often appears with a central raised stud, especially on the Continent. Without stratified parallels it can only be suggested to date to the second century A.D. since most enamelled brooches fall within that period.

134. Gunmetal, ‘tinned’. L. 27mm. A flat oval plate with concentric enamel decoration outlined by a metal ring. The central cell is now empty; the outer shows traces of blocks of red enamel forming a diagonal cross. The pin (missing) was sprung (three turns) between two lugs. The catchplate survives; it has a curved inner margin (*cf.* 133). 70, RC U/S.
135. Leaded bronze, ‘tinned’. L. 26mm. Another oval brooch, generally very similar to 134 except that the outer ring contains a plain field of enamel (apparently turquoise in colour) and the pin was sprung on a single lug. RC U/S.

134–5: The best known parallel for these flat oval brooches with concentric rings of enamel is that which has an intaglio in the centre (*cf.* Hunter and Kirk 1954, 59, no. 13, where the type is discussed). It is usually assumed that those with alternating blocks of enamel and an empty centre, as 134, once held such an intaglio (e.g. Hull 1967, 54). Those where the intaglio is preserved include Silchester (Boon 1957; 1959, 85) and Wiggonholt (Evans 1974, 30, 11). Similar brooches with empty centres occur at Richborough (AM Lab. No. 7351080), Thistleton (Butcher forthcoming), Nettleton (Wedlake 1982, 130, 64c), and Wilderspool (Thompson 1965, fig. 20, 10). These brooches have been regarded as late — possibly fourth century A.D. — on the strength of the ‘barbarous’ intaglios (Boon 1959).

136. Leaded bronze. D. 33mm. Disc brooch in the shape of a wheel with four spokes and a hub which bears a cupped stud. The rim has raised edges and a bevelled central moulding. There is no sign of any decoration and the back is flat. The pin is hinged between two lugs and there is a small rectangular catchplate. 69, 35.

Similar brooches have been found at Wroxeter (Bushe-Fox 1913, 29, pl. X, 10) and at *Camulodunum* (Hawkes and Hull 1947, 326, pl. XCVIII, 176) where it should not be later than *c.* A.D. 65. A related type was found in mid-first century A.D. contexts at Augst (Riha 1979, 183, nos 1555–7).

Two disc brooches with conical glass-paste setting

137. Bronze, ‘gilded’. D. 22mm. Circular brooch with two raised ridges. The outer flat band is gilded and is decorated with lightly engraved diagonal lines; the inner rim contains a dark glass-paste setting of which the centre is missing. The dark olive colour is only a surface layer (JB). At the back a split lug probably held a hinged pin; a short four-sided catchplate survives. 70, RC U/S.
138. Bronze ‘gilded’. D. 24mm. Generally similar to 137 but slightly larger, and the outer ring has fine engraved decoration of linked S shapes. The pin (broken) was sprung (four turns) on a single lug. The

conical glass-paste setting is of dark olive green glass and this brooch was gilded on the front and tinned behind (JB).

These belong to a well-known class of brooch; individual examples only differing in details of the engraved decoration; there is an oval group which is similar in all respects. Ever since Bushe-Fox (1913, 23, fig. 9, 1) published one from Wroxeter they have been considered as late, probably fourth century A.D., and many do occur in late contexts. However, there is one from Zugmantel, abandoned *c.* A.D. 260 (Böhme 1972, 43) and another from a late third–early fourth-century A.D. deposit at Fishbourne (Cunliffe 1971, 106, 43). Although they have been found on the Continent they are more numerous in Britain (Böhme 1972; Riha 1979, 88) where they are most common in the south and east of the country. There is also a cluster on the eastern half of the Tyne-Solway frontier. Several came from religious sites (e.g. Uley, Woodward and Leach 1993) where they seem to have been used as votive objects, but the greater number is from settlements.

Penannular brooches

With terminals turned back

139. Brass. Max. D. 22mm. Very narrow yellow-metal ring with a faint groove front and back. The terminals are turned back and cross-grooved. The pin is flattened at one end and hooked over the ring. Z 9, BZ 3, 2.
140. 'Copper'. Max. D. 31mm. Much stouter than 139. A plain ring of circular cross-section, the terminals turned back and cross-ribbed. The pin is flattened at one end and wrapped round the ring. 76C, XXXVIII, 87.
141. Leaded bronze. Max. D. 36mm. A very crudely finished brooch; the narrow irregular ring is turned back at the terminals which are roughly twisted or ?moulded. The pin was slightly flattened where it was wrapped round the bow. 67.
142. Bronze/gunmetal. D. 22mm. Small ring of circular section, ribbed near terminals which are turned back. They bear proto-zoomorphic decoration, the ends having diagonal corner grooves forming incipient 'ears' (e.g. Kilbride Jones 1980, 31). The pin was flattened and decorated (two cross grooves and two longitudinal) where it was wrapped round the ring. 2075, BZ 50, 382.

Penannulars with the terminals turned back and grooved occur on first century A.D. and later sites in the southwest and other areas of Britain: e.g. Hod Hill (Brailsford 1962, fig. 11, E 11–18), Nettleton (Wedlake 1982, 133, fig. 55, no. 84).

143. 'Copper'. D. 24mm. Small ring of circular section with knobbed terminals. These have diagonal grooves on the inner edge only: possibly worn off elsewhere. One side of the ring has a groove which may be a seam, suggesting that it was formed of a tube of metal rather than from round wire. Z 10, BZ 4.

Brooches with grooved knob terminals are more common in northern Britain e.g. Rudston (Stead 1980, 95, no. 24), Catterick (CEU excavation 1981, 8111013), Old Penrith (CEU, Butcher 1991). Those from Winterton were dated to the third or fourth century A.D. (Stead 1976, 201) but one from Camelon must be earlier (Maxfield in prep.) and two from Jewry Wall were found in first-century deposits (Kenyon 1948, 252).

144. Brass. Max. D. 38mm. A very high quality brooch compared with the other penannulars from Wanborough. The ring has an outer rib with zigzag moulding flanked by fine engraving; it has sharp flanges at the sides and the inner edge is sharply faceted. The terminals are half round with pointed tips and a broader collar on the inner edge. The pin survives complete. It is wider and flanged where it is hooked round the ring. Z 7, BZ 1.

This brooch is very similar to one from Caerleon, discussed with others of the type by Galliou (1981) who concluded that these are of East Gaulish manufacture, probably of late first or early second century A.D. date.

145. Bronze. D. 21mm. An 'annular' brooch since the ring is complete. The pin is iron but the ring is bronze. It is of stout round section and apparently undecorated. The pin is concealed by corrosion products; it appears to have been wrapped round the ring. 69, 163.
146. Bronze. Two fragments of a crudely worked brooch of flattish section. One has a terminal: the triangular end is simply turned back over the ring. At the break it can be seen that the ring is hollow. 76B, XVI, 247.

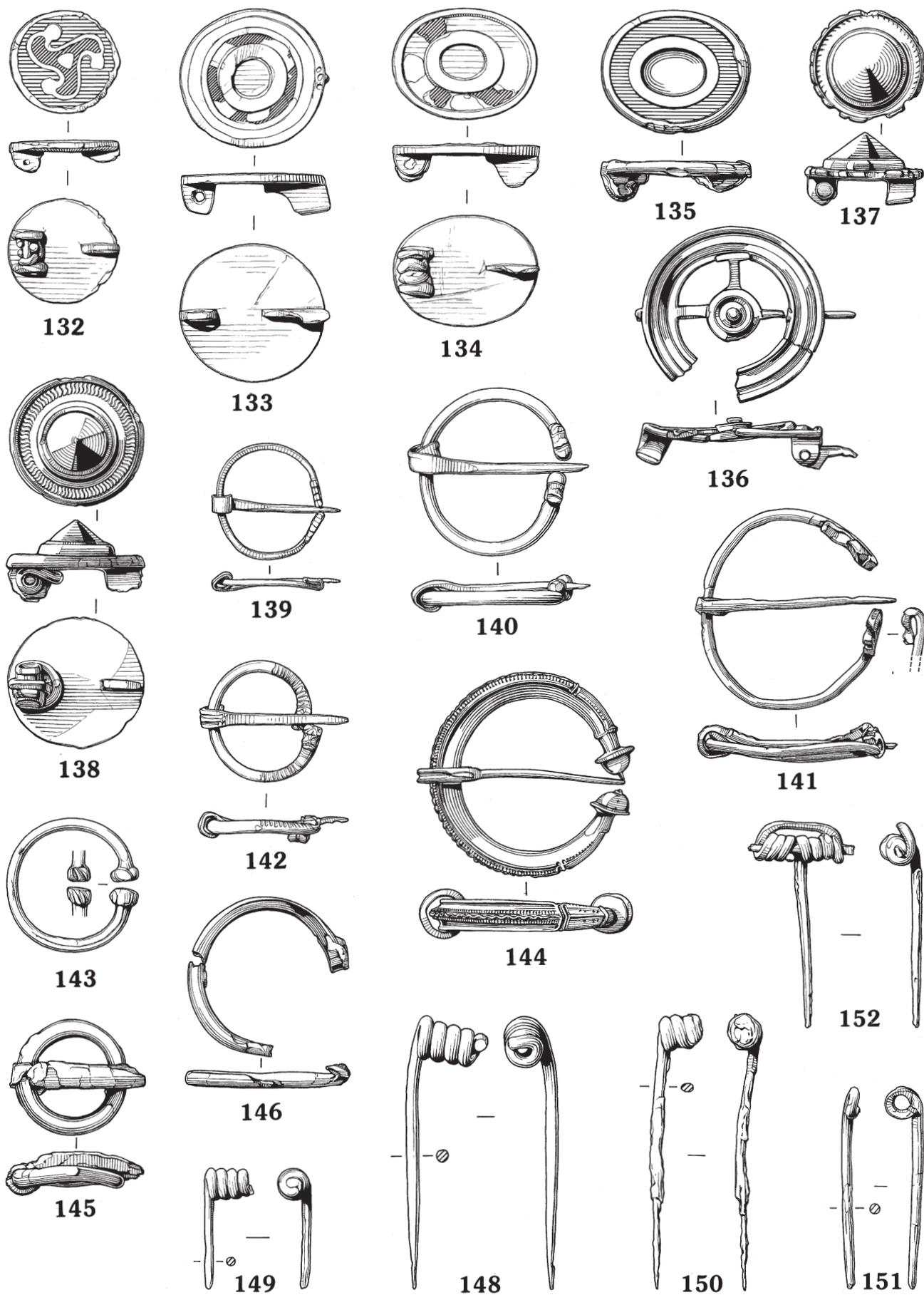


FIG. 26. Brooches; plate brooches (132-8), penannular brooches (139-46), fragments (148-52). Scale 1:1.

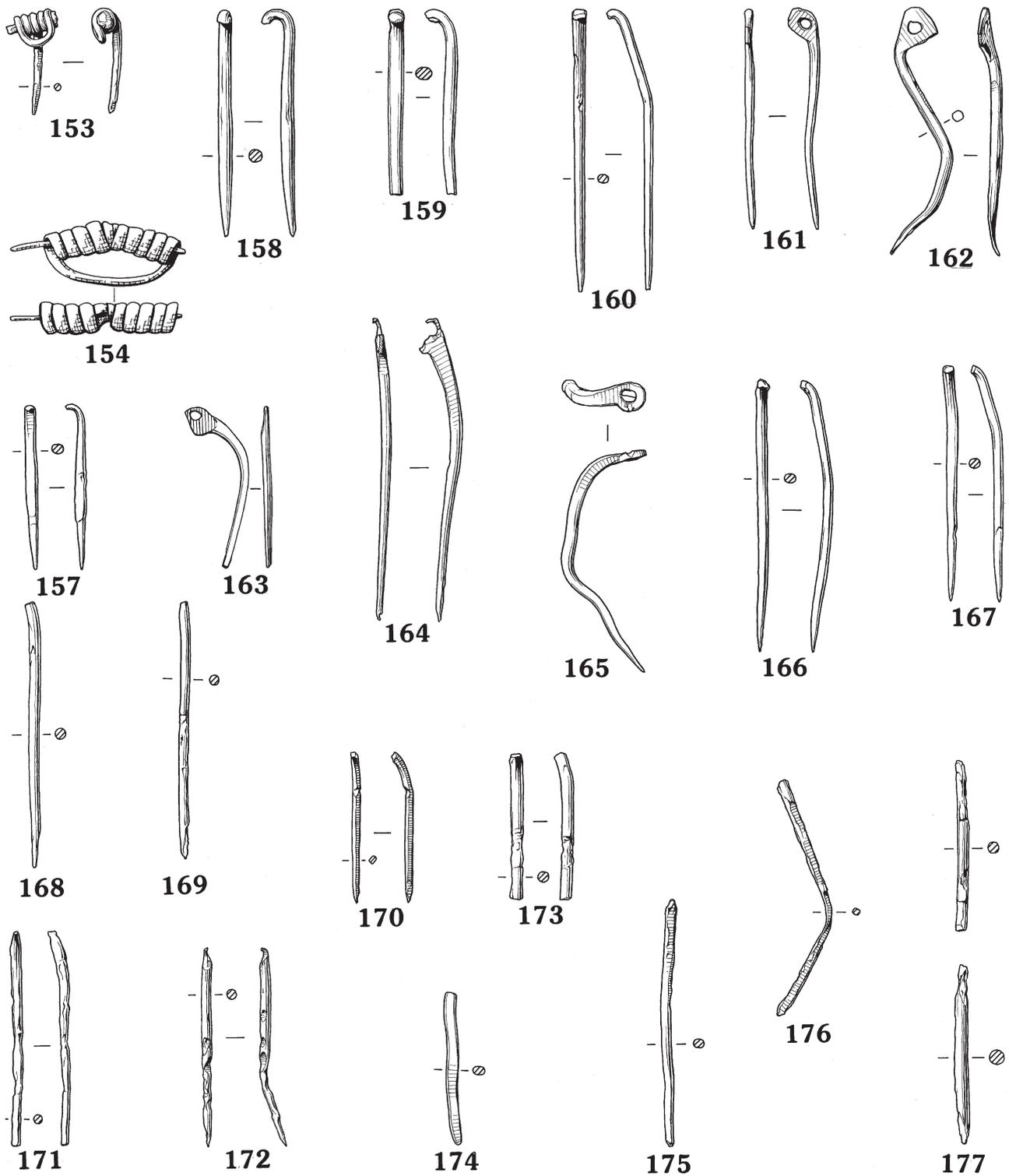


FIG. 27. Brooches; fragments (153-4, 157-77). Scale 1:1.

Fragments

147. Bronze. Three fragments, probably the squashed head-tube of a first century hinged brooch. 76A, IX, 179. Not illus.

Brooch pins — sprung

148. L. 50mm. half of a stout bi-lateral spring of which five turns survive, together with the complete pin. 76A, VII, 499.

149. Half of a bilateral spring (four turns) with only the upper part of the pin. 69, 67.

150. L. 51mm. Part of a bi-lateral spring, with complete pin. 76C, XXXIX, 444.
151. L. 38mm. One turn of a short spring with complete pin. 394, BZ 42, 171.
152. L. 39mm. Complete spring of seven turns on axial bar and with superior chord and central pin. T, BZ 11, 23.
153. Very small spring of five turns on axial bar and with inferior chord. 77, U/S.
154. Spring with five coils of the spring either side of the head. Pin through the centre of the spring. 76A, VII, 328, U/S.
155. Broken pin with three turns of the spring to each side and the loop across the rear. There is a thin coil shield at the head. Period 3. 76B, XVI, 13, 155. Not illustrated.
156. Round section pin with one and a half coils of the spring. 76A, XVI, 20, 477. Not illustrated.

Pins probably from sprung brooches

157. L. 28mm. Small pin with curved, broken end, probably part of spring. 76A, VIII, 126.
158. L. 39mm. Stout pin with curved broken end. 69B, I, 225.
159. Part of a stout pin with curved broken end. 76A, XXI, 593.
160. Surviving L. 48mm. Long bent pin with curved end. 69E, VIII, 155.

Brooch pins — hinged

161. L. 38mm. Pin with flattened head perforated for axial bar. 5307, BZ 108, 760.
162. L. 43mm. Bent pin with flattened triangular head, perforated for axial bar. Z 12, BZ 6, 2.
163. L. 27mm. Small curved pin with triangular flattened head, perforated for axial bar. 69B, I 6, 104.
164. L. 53mm. Long bent pin widening towards head which is flattened and perforated (broken). RC, BP.
165. L. 38mm. Twisted and bent pin with flattened head, perforated for axial bar. 69D, I, 4, 23.

Pins probably from brooches

166. Surviving L. 46mm. Pin with slightly curved broken head. 'Selby'.
167. L. 41mm. Pin with slightly curved broken head. 76B, X, 407.
168. L. 45mm. Straight pin slightly curved at broken end. 70, 42.
169. L. 43mm. Long straight pin, both ends broken but one is very slightly curved. 394, BZ 42, 171.
170. L. 26mm. Short curved pin. 69C, XIII, 265.
171. L. 37mm. Broken at both ends, slightly curved at one. 70, 142.
172. L. 35mm. Bent pin, possibly curved at broken end. 70, 172.
173. Pin broken at both ends; one is slightly curved. 4123, BZ 100, 677.
174. Short bent length of pin, slightly curved. 69, 44.
175. L. 42mm. Slightly curved and tapering, both ends broken. 206, BZ 21, 90.
176. L. 40mm. Bent slightly tapering pin, both ends broken. 394, BZ 42, 171.
177. Two pieces of pins, not necessarily the same one. 369, BZ 35, 163.

Discussion

Many of the Wanborough brooches were found in late contexts or were unstratified; presumably most of them were in secondary contexts. In view of the size of the group, however, they can perhaps be regarded as a typical assemblage for the settlement.

The preponderance of brooch types dated to the first and second centuries A.D. is typical of Romano-British assemblages. Obviously brooches were durable and some were kept for long periods, but few new types can be securely dated to the third and fourth centuries A.D.

The Wanborough group contains many showing the development from one-piece sprung brooches and early hinged types. Traits from different prototypes were combined and decoration increased, particularly the use of enamel. After the generally distributed first-century A.D. types the Wanborough group contains many examples local to southwestern Britain, where the development in the later first and early second centuries A.D. was extremely varied, although the products were fairly crudely made and presumably sold cheaply at the lower end of the market. The Wanborough brooches have many parallels in the large group from Nornour, Isles of Scilly, which was thought to be a production centre (Hull 1967) but further excavation and study has failed to confirm this (Butcher 1977; 1978) and the distribution of these types suggests a centre somewhere in the Severn region, possibly Charterhouse-on-Mendip.

Variety within the region is very great and there may have been more than one workshop; if so they used similar models.

Not all the Wanborough brooches were local products: some well-known types of general distribution in Britain are present and there are a few imports from the Continent. The presence of these is presumably explained by the normal passage of travellers and traders within the province.

Analysis of the metal by Justine Bayley (below) shows a high proportion of leaded alloys, which may strengthen the case for a southwestern origin for many of the two-piece Colchester brooches and their successors. It also demonstrates the extent to which alloy is related to type.

METALLURGICAL EXAMINATION AND ANALYSIS OF THE BROOCHES By Justine Bayley

About 150 brooches were examined and analysed qualitatively by X-ray fluorescence (XRF); the report was submitted in 1983. Apart from the iron brooches most of the rest contained detectable amounts of zinc, tin, and lead in addition to copper. The relative amounts of the various elements present determine the name given to the metal alloy used to make any particular brooch. The terms used and their relationships are shown in the ternary diagram (FIG. 28); e.g. brass is a copper and zinc alloy while gunmetals contain both zinc and tin in addition to copper.

In some cases the analytical results (TABLE 3) are not clear cut and some degree of uncertainty as to the original composition of the object remains. This is particularly so when the metal is deeply corroded, as many of these brooches are. Where there is uncertainty, more than one name appears in the 'alloy composition' column. The name that comes first is more likely to be correct but is by no means definite.

Brasses contain up to about 25% zinc and bronzes up to 15% tin. Gunmetals contain at least several per cent of both tin and zinc. The lead levels are harder to estimate but some of the most heavily leaded objects probably contain over 20% lead. '(Leaded)' objects probably contain less lead than those described as 'leaded' but both groups will have more than a few per cent of the metal. Lead has a great effect on the working properties of alloys, a few per cent making the metal more malleable but larger amounts make it unsuitable for wrought work, though high lead contents improve castability. One-piece brooches, which were at least partly wrought, were made of low lead alloys which also made resilient springs. All heavily leaded brooches have separate springs made of low lead alloys. The brooches described as 'copper' are mainly bronzes but they appear to contain much lower levels of tin than the other bronzes.

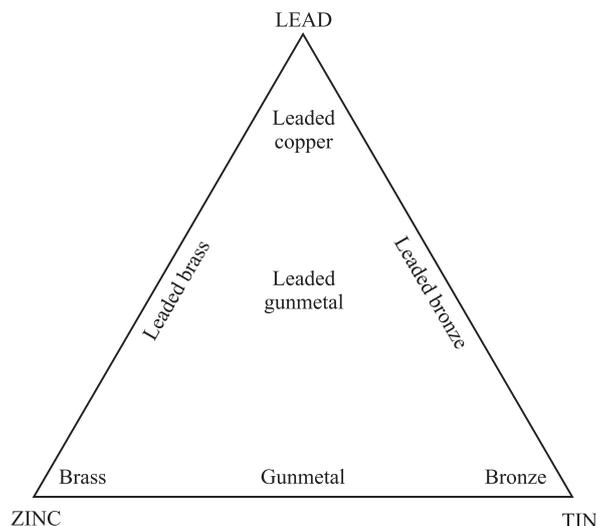


FIG. 28. Ternary diagram showing the relationship between composition and alloy name.

TABLE 3: BROOCHES: RESULTS OF X-RAY FLUORESCENCE ANALYSES

No.	Alloy composition	Decoration	Cu%	Zn%	Sn%	Pb%	Ag%
1	brass/gunmetal						
2	brass?						
3	bronze						
4	brass						
5	bronze						
6	gunmetal						
7	gunmetal						
8	bronze						
9	bronze						
10	(leaded) bronze						
11	bronze						
12	bronze						
13	brass						
14	brass						
15	'copper'						
16	bronze						
17	'copper'						
18	bronze/gunmetal						
19	bronze						
20	bronze/gunmetal						
21	(leaded) bronze						
22	(leaded) gunmetal						
23	gunmetal						
24	brass						
25	brass						
26	brass						
27	brass						
35	bronze						
36	bronze/gunmetal						
37	bronze						
41	brass						
42	bronze						
43	brass						
44	brass		79.0	14.7	1.7	0.0	0.0
45	leaded bronze	applied repoussé brass sheet					
46	brass						
47	brass						
48	brass						
49	brass						
50	brass	lead-rich inlay					
51	bronze	tinning					
52	brass/gunmetal						
53	brass						
54	leaded bronze		80.8	0.1	9.5	13.3	0.1
55	brass	tinning					
56	brass						
57	brass	tinning					
58	bronze	tinning					
59	brass	tinning					
60	brass	tinning and niello					

No.	Alloy composition	Decoration	Cu%	Zn%	Sn%	Pb%	Ag%
61	brass						
63	bronze						
64	leaded bronze		72.7	1.0	8.4	19.4	0.1
65	(leaded) bronze?						
66	leaded bronze						
67	leaded bronze						
68	leaded bronze		73.3	0.5	12.3	10.6	0.0
69	leaded bronze		80.5	0.4	9.6	11.8	0.1
70	leaded bronze						
71	leaded bronze		84.5	0.0	7.7	13.3	0.0
72	(leaded) bronze		82.3	0.0	11.0	6.5	0.0
73	leaded bronze		65.9	0.0	12.5	19.3	0.1
74	(leaded) bronze						
75	(leaded) bronze		90.1	1.1	11.3	7.8	0.1
76	leaded bronze		68.9	0.0	8.9	18.6	0.1
77	leaded bronze						
78	leaded bronze		72.3	0.2	11.1	13.4	0.1
79	leaded bronze		78.3	0.2	9.0	15.7	0.1
80	bronze		89.8	2.5	9.3	0.0	0.1
81	leaded bronze		76.4	0.4	7.7	18.8	0.1
82	leaded bronze		80.8	0.4	7.3	14.8	0.1
83	leaded bronze		76.8	0.5	13.1	16.0	0.1
84	leaded bronze		75.9	0.1	9.8	15.8	0.1
85	leaded bronze		79.7	0.7	15.3	14.7	0.1
86	leaded bronze		75.6	0.2	8.1	19.9	0.0
87	leaded bronze	tinning	67.4	0.2	10.2	22.2	0.1
88	(leaded) bronze						
89	leaded bronze		76.5	0.0	9.9	11.6	0.0
90	leaded bronze						
91	leaded bronze						
92	leaded bronze		83.3	0.0	10.4	10.4	0.0
93	bronze/gunmetal		95.6	2.6	4.5	0.7	0.1
94	bronze		93.8	0.4	10.7	0.0	0.1
95	brass		75.6	19.8	0.0	0.0	0.0
96	brass		78.5	8.9	0.3	0.0	0.0
97	leaded bronze		75.7	0.0	7.6	17.9	0.1
98	leaded bronze		81.1	0.0	5.2	12.4	0.1
99	leaded bronze		66.2	0.0	9.4	22.7	0.0
100	(leaded) bronze						
101	leaded bronze		74.4	0.1	7.4	18.8	0.1
102	leaded bronze	tinning and enamel	72.3	1.2	9.8	10.2	0.0
103	leaded bronze	tinning and enamel	73.9	0.0	7.5	18.3	0.0
104	leaded bronze						
105	leaded bronze	enamel					
106	leaded bronze	enamel	63.4	0.1	8.9	25.1	0.1
107	leaded bronze/gunmetal	enamel					
108	leaded bronze	enamel					
109	bronze	enamel	81.0	0.6	9.5	1.4	0.1
110	leaded bronze		70.8	1.2	6.1	28.6	0.1
111	leaded bronze		89.6	0.5	8.1	8.2	0.1
112	leaded bronze		76.8	0.5	8.2	19.8	0.1
113	leaded bronze	enamel	69.4	0.1	9.2	21.4	0.0

No.	Alloy composition	Decoration	Cu%	Zn%	Sn%	Pb%	Ag%
114	leaded bronze	enamel	75.2	0.2	10.5	16.1	0.1
115	bronze/gunmetal	enamel and applied silver foil	87.1	2.4	6.1	2.6	0.0
116	'copper'/brass	applied silver foil	82.0	7.6	2.7	0.0	0.0
117	brass	enamel and applied silver foil					
118	brass/gunmetal	tinning and enamel	75.3	12.5	3.7	3.5	0.1
119	brass	enamel now lost					
120	(leaded) bronze	tinning	82.6	0.3	7.4	7.8	0.0
121	leaded bronze		82.4	2.2	7.3	9.7	0.2
122	bronze	enamel					
123	bronze	tinning and enamel					
124	leaded bronze/gunmetal	enamel					
125	brass	enamel					
126	leaded bronze	enamel					
127	leaded bronze						
128	leaded bronze	tinning					
129	brass/gunmetal						
130	brass/gunmetal	tinning and enamel					
131	bronze	enamel					
132	brass	tinning and enamel					
133	leaded bronze	tinning and enamel					
134	gunmetal	tinning and enamel					
135	leaded bronze	tinning and enamel					
136	leaded bronze		78.9	0.0	5.5	15.8	0.0
137	bronze	gilding and glass 'stone'					
138	bronze	gilding, tinning and glass 'stone'					
139	brass						
140	'copper'						
141	leaded bronze						
142	bronze/gunmetal						
143	'copper'						
144	brass						
145	bronze						
146	bronze						
147	bronze						

The fragments (Nos 148–77) were not analysed except for No. 173 which was shown to be tinned.

Discussion of results

A large programme of analyses of Roman brooches carried out in the Ancient Monuments Laboratory has shown that individual types tend always to be made of the same alloy or limited range of alloys. Composition does not seem to be a function of geographical find spot, though distinct chronological variations can be seen. The brooches from Wanborough appear to conform to the expected patterns — comparisons for some individual types are given in TABLE 4.

Many of the brooches have been decorated in some way or other. This decoration is summarised in TABLE 3 and the individual examples are described in TABLE 5.

The penannular brooches are unusual in that several of them are made not from a solid wire or rod, but from a tube of metal formed by rolling up a piece of sheet metal. The objects made in this way are 138 and its pin, possibly the pin of 139, 141 and probably its pin and 145. Number 142 is solid despite the lines along its surface.

TABLE 4: BROOCHES: COMPARISON OF ANALYTICAL RESULTS WITH OTHER SITES

Brooch type	Wanborough	Richborough	Other sites
Nauheim derivative (Nos 2–39)	Over half are bronze and a quarter brass	About equal numbers of brass and bronze with a few gunmetals	Baldock: a quarter brass, the rest mainly bronze though a few gunmetals too
Langton Down (No. 43)	Brass		Baldock: all brass St Albans: all brass
Nertomarus (No. 44)	Brass	Brass	Baldock: brass
Aucissa (Nos 46–9)	All brass	Mostly brass	
Hod Hill variants (Nos 51–60)	Mainly brass; two bronze	80% brass	Baldock: mainly brass
One-piece Colchester (Nos 61–3)	One brass; one bronze	Just over half brass; rest mainly bronze	Baldock: mainly brass St Albans: all brass
Two-piece Colchester (Nos 64–87)	Almost all leaded; mostly bronzes but some gunmetals	As for Wanborough	Baldock: leaded bronzes and gunmetals
Polden Hill (Nos 97–100)	Mainly leaded bronzes	Mainly leaded bronzes	
Polden Hill ‘T-shaped’ (Nos 101–8)	Mainly leaded bronzes		Catsgore: Almost all leaded bronzes Carvossa: All leaded bronzes Nornour: Almost all leaded bronzes
Trumpet types (Nos 110–17)	Very varied	Very varied	
Penannular (Nos 139–46)	Mainly low lead	Low lead alloys	

Sources — Baldock: Stead and Rigby 1986; Carvossa: Carlyon 1987; Catsgore: Leech 1982; Nornour: Butcher 1978, Bayley and Butcher in prep.; Richborough: Bayley and Butcher in prep.; St Albans: Stead and Rigby 1989

TABLE 5: DETAILS OF BROOCHES WITH APPLIED DECORATION

No.

- 45 Thin brass sheet with repoussé decoration attached to front of brooch with lead-tin solder.
- 50 Traces of tinning underlie a whitish material which is mainly within the central groove. This material is lead-rich; its original appearance and function are problematical.
- 51 White metal is tinning
- 55 White metal is tinning
- 57–60 White metal is tinning
- 87 White metal is tinning
- 102 Tinning is (unusually) all over both front and back. All three enamel fields appear translucent golden brown, probably their original colour.
- 103 Tinning on front only. The enamel may have been translucent green but is now much decayed.
- 105 The enamel may originally have been translucent turquoise but now is much decayed and appears off white.
- 106 Two fields running along the bow containing alternating blocks of turquoise and (probably) green enamel.
- 107 There is a trace of turquoise enamel in the base of one of the lozenge-shaped fields; the rest are now empty. The triangular fields now appear green and may originally have been green though red is also possible.
- 108 There is a trace of almost colourless glass in the cup.
- 109 Band of enamel down bow is in three sections. The middle block is blue while the ends are now decayed and appear pale green but were probably originally red.
- 113 The inner part of the enamel design was probably turquoise. The outer parts now appear green, which may also have been their original colour.
- 114 The enamel colours are again turquoise and green, though in this case the turquoise surrounds the green.

No.

- 115 The disc on the bow is full of blue enamel. Repoussé silver foils have been applied with lead-tin solder.
116 Applied silver foils (as on 115).
117 The enamel on the wings is blue while that on the body now appears green (which may also have been its original colour). There are traces of applied silver foils (as on 115).
118 There are alternating triangles of metal and enamel on the bow of the brooch. The metal was tinned. Insufficient enamel remains for any colour to be suggested.
119 No enamel survives in the field on the bow which may, however, originally have contained some.
120 Tinned all over.
122 The enamel was of two colours, turquoise and red (which now appears green) with the red outside the turquoise in all parts of the design. NB — some enamel survives in the horizontal band, although this is not shown in FIG. 25.
123 A border around the enamel fields and also the metal between them is tinned. Two of the fields on the wing are turquoise while the field between them and those on the neck and tail are of indeterminate colour as the enamel is rather decayed. The breast was pale green.
124 A trace of white enamel survives in the field on the body which has an unusually uneven base.
125 The field colour was originally red (now green and black) with two colours of spots. Those at the corners were probably translucent green (they now appear golden brown) and the alternate ones opaque yellow.
126 The two opposed fields contain the same colour enamel which now appears green and was probably originally either green or red. Only traces of enamel survive in the field over the catch plate.
128 Traces of lead-tin solder survive on the front. This would originally have attached a repoussé copper alloy sheet.
130 The reserved metal between the enamel fields is tinned. The enamel is opaque turquoise in colour.
131 The outer enamel field is a deep olive green which appears black. Traces of red enamel survive in the inner field.
132 The triskele is in red enamel while the field was probably turquoise, though green or white are also possibilities. The metal of the design is tinned.
133 Two concentric rings of enamel round a central field which is now empty. The inner ring was red and the outer one white. Traces of tinning survive on the reserved metal.
134 There are traces of tinning on the reserved metal. The ring contained alternate blocks of red and another colour (now all lost). The enamel in the central field is also lost.
135 There are traces of tinning on the reserved metal. The outer enamel field was turquoise. The contents of the inner one are much decayed but were probably enamel though an adhesive or solder cannot be completely ruled out.
137 The metal is leaf gilded on the front. The glass 'stone' was originally conical but has lost its tip which shows clearly that the dark olive green ('black') glass is only a surface layer and the bulk is colourless.
138 The metal is leaf gilded on the front and tinned on the back. The 'stone' (like that on 136) is dark olive green glass that appears black.

8. COPPER ALLOY AND SILVER OBJECTS (FIGS 29–48)

By David Hooley

The numerous excavations, watching briefs, and fieldwalking episodes at Wanborough have produced an unusually large quantity of objects of copper alloy, totalling over 600 items. Of these, 488 were from identifiable objects.

The diverse quality of contextual information accompanying the items reflects the different methods of retrieval. The excavations in 1969–70 and 1976 were the only ones to provide adequate stratigraphic information to date most of their small finds, amounting to approximately one-third of the total copper alloy material recovered.

Despite this, it is felt that the material justifies the full and comprehensive report presented here and submitted in 1984. It is a large and varied assemblage containing many items of obvious intrinsic interest and numerous others with exact parallels on other sites, the economic and social significance of which will remain obscure until the publication of metalwork is carried out with the same principles of detailed description, comprehensive reporting and rigorous selection of material accepted for comparative purposes that have long been considered an integral part of pottery reports.

Taking the stratigraphically dated pieces first, almost 80% come from Period 3 contexts, of which 85% originated in Phase 3B layers. This pattern is reflected to a lesser extent in the range of item types represented but, prior to Period 3, the actual number of relevant pieces is so small that this can have no statistical significance. This pattern could result from several factors:

- i) Destruction or removal of material from the site prior to, or during, Phase 3B. One would predict some stratigraphic evidence and/or the presence of early item types in unusually late contexts (as occurs in some cases, e.g. Nos 6, 83, 113) but the evidence for this is too sparse and restricted for this to be considered a major factor here.
- (ii) A reduction in the rate of recycling of copper alloy objects about the start of Phase 3B. This could result from a wide variety of causes; for example, an increased availability of raw material or greater accessibility to smiths and smithing techniques. Examining the Phase 3B material in this light reveals that it is almost all composed of common domestic items, either of small overall dimensions or broken into small fragments, and widely distributed over the excavated occupied areas either side of Ermin Street. These areas have produced evidence of timber buildings, with flooring supported on joists resting on levelled sarsen boulders in Phase 3B (above). The implication is that the abundance of small finds represent items lost through the floor boarding, biasing the recovery of finds to the areas occupied by raised timber buildings. There is a danger of circular argument, however, as work to identify these buildings was prompted partly by the number and distribution of small finds, but as other, independent, evidence for the buildings exists it is felt that this possibility can be discounted. In addition to the points discussed earlier in this report regarding the implications of raised timber buildings, two further points may be made. If such buildings represent a good building technique in damp low-lying areas, other parts of a settlement, indeed probably its focus, may employ different building methods on better drained land, with a reduced rate of loss of small finds, so where raised timber buildings are detected, the concentration of small finds may not necessarily reflect the focus of settlement. Secondly, the influence of biasing factors such as found at Wanborough should be taken into account when examining regional concentrations of items such as, for example, bracelets — large numbers of finds may reflect only an anomalous situation of loss and recovery.
- iii) The area from which the datable finds were retrieved may have been peripheral to the focus of settlement in the earlier periods and was only intensively occupied during the later Phase 3. This possibility is supported by a consideration of the location of the excavated areas in low-lying damp ground where Ermin Street approaches the Dorcan Stream, the better drained land lying further to the south and east. More positive support derives from crop mark features tested by probing to suggest a possible *mansio* c. 160m east of the

excavated parts of Ermin Street, together with other uncertain features, aligned on the known fragments of a grid system while the proximity of burials west of Ermin Street may suggest that, even in the late Roman period, the excavated areas were near the margin of the most intensively settled area (pp.348–9). While emphasising that the nature and focus of settlement can alter markedly in the course of four centuries, it would appear likely that the chronological distribution of the copper alloy finds was affected by the poor conditions for settlement of the areas excavated.

When the entire corpus of copper alloy finds is examined, using comparable material to suggest dates, a similar chronological distribution emerges which is heavily weighted towards the later Phase 3, though with a smaller peak of finds attributable to Phase 1 to early Phase 2. This latter peak differs from that of the fourth century in that, besides containing many items that would be expected from any site showing occupation debris from this period, there is also a high representation of pieces with close form parallels on mid- to later first-century A.D. military sites, notably the harness fittings, bells (FIG. 29, 7) and a military apron stud (FIG. 34, 77). Nineteen of the 49 items attributed to this period can be closely paralleled on military sites, comprising ten of the thirty different categories of finds (as defined for the report subdivisions). Obviously, the potential pitfalls in using data obtained by this approach are enormous and the most that can be said is that it hints strongly at a military presence in the vicinity in the mid to later first century A.D., but the number of pieces which are involved is so small and largely unstratified, and the basis for their attribution is so indirect, that they cannot by themselves lend conclusive support to any hypothesis regarding the nature or duration of a military presence.

Equally tantalising is the unstratified find of a later fourth century buckle tongue (FIG. 33, 51) which may derive from the belt of a member of the *laeti* or *foederati*.

Awls

Five awls were recovered, four from Phase 3B levels (all from a quite localised area around the Phase 3A Building 10) and one unstratified. Long and short varieties were found.

1. Awl with relatively thick round-section shank, tapering to a pointed working end, with a slightly stepped blunt rounded terminal at the opposite end. U/S 70 RC. 771754.
2. Small awl with an expanded round-section shank, tapering to a short square-section shank, and a steep lightly faceted point. Phase 3B. 69D, 1, 2, 9.

Beading and binding

Of the six pieces in this category, only one strip fragment can be identified reliably as an edge-binding fragment (Archive No. 6); the remainder have beading.

3. Two adjoining beading fragments, almost semi-circular in section, curved in an arc of *c.* 170mm external diameter. Traces of wood adhere to the inner surface. Phase 3B. 76A, IX, 1, 253.
4. Strip with asymmetrical-angle section form; the underside groove is very shallow. The piece tapers to a broken point and has an uneven lateral curve. Traces of incised line cross-hatching on the broadest side, file marks on the narrower side. U/S
5. Curved beading strip, with a quarter-circle section, from which a small step projects on the outer edge of the curve. U/S

Bells

The bells display considerable variety in size and form, with one group of four pieces almost identical in form, detail and size. In view of this group's close parallels in both date and form with material from Hofheim, a military connection is suggested for these pieces, as is possible for the quadrangular bell (No. 6) which possesses the same hexagonal loop form which can be paralleled at Hofheim, though finds of such bells are fairly common, occurring in both military and civilian contexts, usually of the first century A.D. (see Clarke 1970–71).

6. Small quadrangular bell with slight shoulder on upper dome, and with expanded hollowed rim corners. Worn hexagonal suspension loop with a small perforation in the upper dome to each side of the loop. Clapper missing. As Clarke (1970–71) suggests, most functional interpretations of these bells are purely speculative and, in view of their diverse contexts, no single function is likely

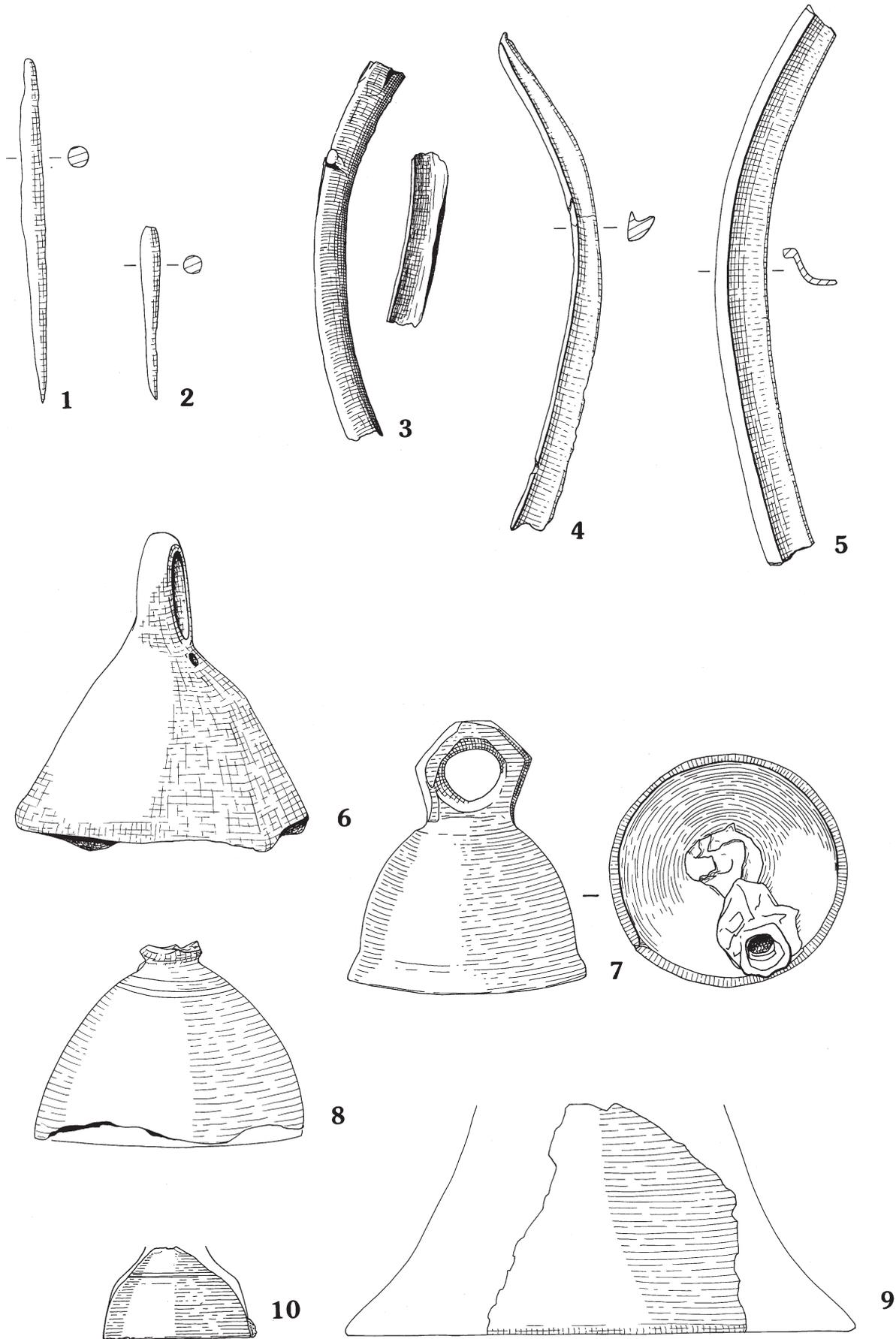


FIG. 29. Copper alloy objects: awls (1-2); beading and binding (3-5); bells (6-10). Scale 1:1.

to be valid for all examples. However, their frequent presence on military sites, their widely dispersed occurrence in frontier regions beyond the Empire and the presence of a suspension loop form which replicates those of later first-century military bells does suggest some military influence in their production. Phase 3A–B. 76C, XXXIX, 100, 476. Camerton (Wedlake 1958, fig. 59, 29); Fishbourne (Cunliffe 1971, fig. 46, 107 (pre-A.D. 75)); Hofheim (Ritterling 1912, Taf. xiv, 6, 13, 14, 25 — for loop form (first century A.D.)); Leicester (Kenyon 1948, fig. 87, 7 (late first century A.D.)); London (Ward 1911, fig. 62, K); Richborough (Bushe-Fox 1926, pl. xiii, 15; 1932, pl. X, 18; 1949, pl. lvi, 271); Templeborough (May 1922, pl. vii, 75).

7. Complete small bell with rounded dome, slightly flared rim with thickened external rim band. The dome top has been filed almost flat around the hexagonal form suspension loop. The bell retains its (corroded) straight tubular iron clapper. The form and size of this piece are paralleled by examples of similar date from Hofheim. Besides this piece, one other complete example and rim fragments from two similar bells were found (Nos 14–16). Phase 1C. 76B, XVI, 27, 7. Hofheim (Ritterling 1912, Taf. xiv, 14 (1st century A.D.)); London (Wheeler 1930, pl. XLVIII, 5).
8. Bell with similar dome to No. 7 but with a simple rim and a broken suspension loop. Three concentric fine grooves encircle the upper dome. Clapper missing but probably represented by iron corrosion products inside the dome at one side. U/S. London (Ward 1911, fig. 62, J); Winchester (Biddle 1967, fig. 9, 23 (c. A.D. 85–95)).
9. Rim and body fragment of a very large bell with flared rim, D. c. 80mm. Fine pitting on the perimeter 6mm band of the internal rim edge indicates probable different surface treatment of this area. U/S.
10. Almost half the dome of a very small bell, with steep sides rising from the simple rim to the rounded shoulder, above which is the conical upper dome bearing a double incised line circle, with a single concentric circle above it. A short spur projects into the dome cavity from the apex. Phase 2A. 76B, IV, 20a, 195.

Bosses

A variety of small bosses were recovered, the majority of which (Nos 11–16) contained lead filling or traces of it. Where the original surface of this fill survives it bears a squared central recess which lends support to Webster's (1981) suggestion that one purpose of these objects was to mask the heads of iron nails. This interpretation presents difficulties where the lead-filled surface is recessed (e.g. No. 12) and also the problem of how such a capping was achieved without losing the lead when applied to surfaces not facing downwards.

11. Shallow sheet metal dome with traces of an everted rim. The underside is filled by friable lead corrosion products. Phase 1B. 76B, X, 28, 439. Barnsley Park (Webster 1981, fig. 12, 11 (A.D. 275–315)); Leicester (Kenyon 1948, fig. 88, 16 (third–fourth century A.D.)).
12. Deep sheet metal dome with the rim curled inwards. Filled with lead to 1.5mm below the rim, the lead surface bears a central recess 4mm square × 1mm deep. WAN-Z, U/S, 25.
13. Large circular shallow-domed boss with a flattened perimeter, extensively fractured and incomplete. Beneath the dome is a remnant oxidised lead filling with central area of iron corrosion products. 68, C.6, 2, 262.
14. Small domed boss with flared, almost flattened rim, the underside of the dome bearing traces of lead filling, with a small patch of iron oxides. 68, C.4, 3, 284. Cirencester (Wacher and McWhirr 1982, fig. 28, 47 (late first century A.D.)); Leicester (Kenyon 1948, fig. 88, 14 (mid- to late fourth century A.D.)); Shakenoak (Brodribb *et al.* 1968, fig. 31, 47).
15. Small boss with a small central shallow dome encircled by a groove, then a flattened perimeter. Traces of brown flaking material inside dome (lead?). 67, G15 (SE Ext.), 2, 4614. Leicester (Kenyon 1948, fig. 88, 15 (early to mid-second century A.D.)); Shakenoak (Brodribb *et al.* 1968, fig. 31, 47); Skeleton Green (Partridge 1981, fig. 113, C ('Antonine')).
16. Boss with a small shallow central dome surrounded by a broad corrugated rim. The dome has lead oxide remnants underneath, around a central rectangular recess. Phase 2A+. 70H, V, 11, 161.

Boxes and box fittings

17. Seal box base with vertical sides, two facing slots and a tiny double hinge loop. Base perforated by a central hole and three others, spaced evenly round the edge to accommodate the ties joined by the seal. 70, RC U/S. Fishbourne (Cunliffe 1971, fig. 49, 129 (c. A.D. 100–280); fig. 49, 131 (c. A.D. 43–75)); Newstead (Curle 1911, pl. lxxxii, 6 (late first to mid-second century A.D.)); *Verulamium* (Frere 1972, fig. 34, 65 (A.D. 140–150)).

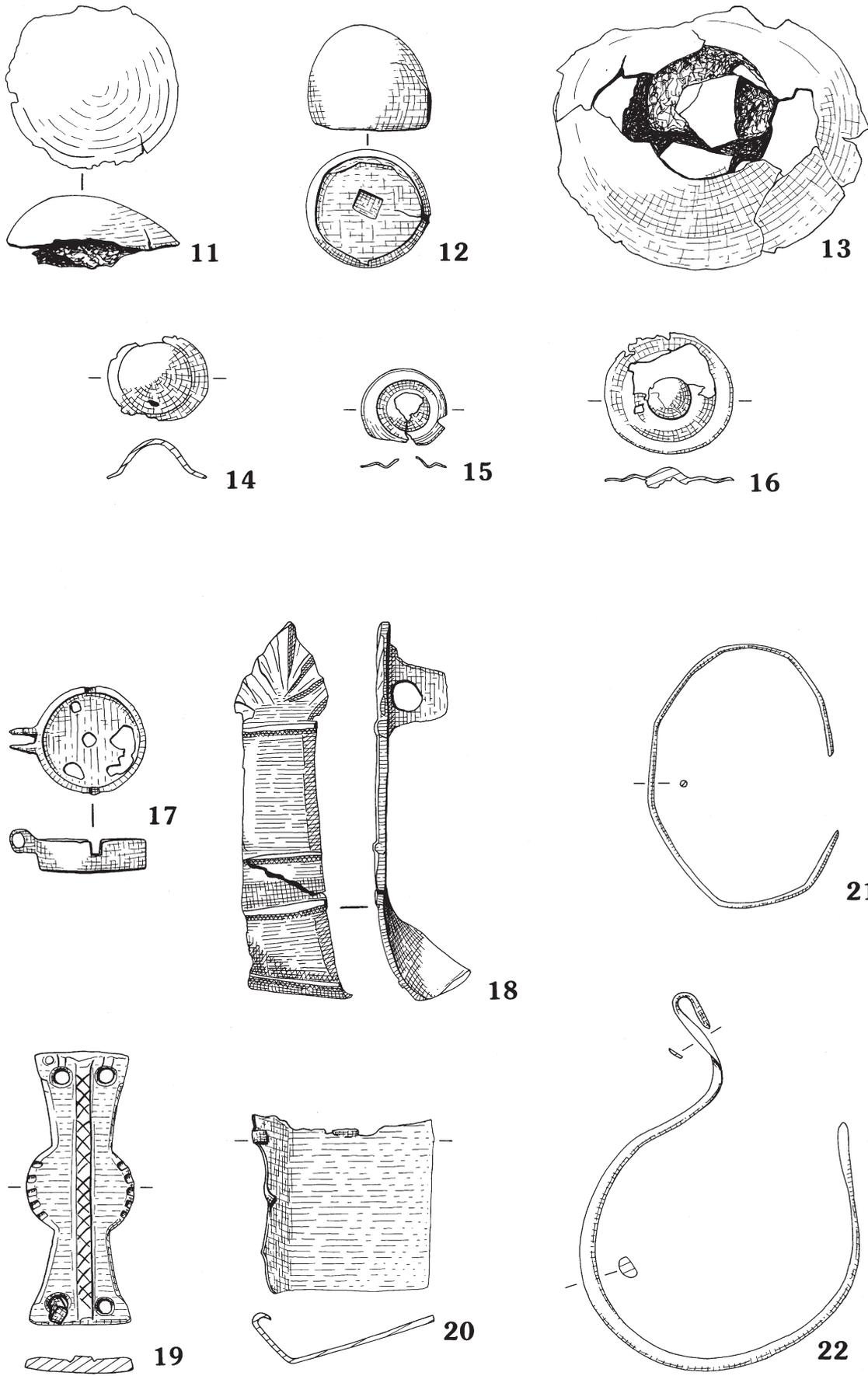


FIG. 30. Copper alloy objects: bosses (11-16); box fittings (17-20); bracelets (21-22). Scale 1:1.

18. Decorated lock hasp with transverse ridge mouldings and a stylised palmette terminal, behind which is a perforated bracket to receive the locking pin. The top of the hasp is fractured at the angle where it meets the upper edge of the box lid. One of an identical pair from the site (Archive No. 34). Phase 3A. 76A, IX, 15, 466. Radnage (Skilbeck 1928, 335 (later first century A.D.)); Richborough (Cunliffe 1968), pl. xlv, 193 (pre-A.D. 85)).
19. Decorated box plaque with a central roundel and flared ends with countersunk rivet holes in each corner. One rivet survives in place. The flat-topped central mid-rib is cross-hatched and all edges are bevelled except the corners. The roundel has five squared edge notches on each side.
The function of these items is unclear, having been variously termed box fittings, belt fittings, harness fittings, or 'dress attachments'. Their inclusion in this section is not intended as a firm indication of their function. British parallels are all unstratified, of which at least three are from the topsoil, while the Vermand piece was dated *c.* A.D. 400, all hinting at a relatively late date for these items. 67, G.16, 2, 3074. Camerton (Wedlake 1958, fig. 58, 12); Maryport (Bailey 1915, pl. xi, d); Richborough (Bushe-Fox 1928, pl. xxi, fig. 2, 52; 1949, pl. liii, 209); Vermand (Brown 1915, pl. cxlviii (*c.* A.D. 400)).
20. Angled edge-reinforcing plate, rectangular with the right-angle running near to one edge which has been cut into simple tracery scrolls. The piece has been cut and torn, small rivet holes are present in the two original corners. 76C, U/S, 72.

Bracelets

Many bracelet fragments (72 identifiable pieces) were found, displaying great variety in form and decorative motifs. In view of interchangeability of motifs (Portchester: Cunliffe 1975, 209), some of the comparative material relates to individual motifs and not necessarily to the whole bracelet form. This is unavoidable where fragments are concerned and the parallels provide information only on the presence of motifs in the decorative repertoire and not necessarily about features of a particular combination. The dates of the material, where available, are almost entirely in Phase 3B, the only two exceptions being Phase 3A, so they could overlap the other pieces in date. This supports Cunliffe's (1975, 209) conclusion that bracelets became fashionable from the late third century A.D., the emphasis at Wanborough being decidedly in the later fourth century A.D., as at Gadebridge Park, Lydney, Nettleton, Portchester, Richborough, and Shakenoak.

Bracelets lacking surface decoration

21. Square-section wire bracelet formed into an eight-faceted, open-sided ellipse. Phase 3B. 76A, IX, 2, 406.
22. Complete bracelet, of thick plano-convex strip around the midpoint, tapering to thin narrow strip at both ends, with rounded terminals. RC, U/S. Scole (Rogerson 1977, fig. 56, 16 (late third and fourth century A.D.)); Shakenoak (Brodribb *et al.* 1971, fig. 48, 74 (later third century A.D.)).
23. Fragment of a thick, slightly oval-section large ring bracelet, very slightly tapered towards one end. 76C, U/S, 475. Shakenoak (Brodribb *et al.* 1971, fig. 48, 76 (late second–early third century A.D.)).

Bracelets with stamped dot and circle decoration

24. Strip fragment bearing a central decorative panel 28mm long, bounded at both ends by converging incised lines outside which are tapered edge bevels, ending in a transverse ridge. The panel contains ten stamped dot and circle motifs, irregularly laid out, with some overlapped. To each side of this decorative zone is a single transverse groove followed by an oblique groove on a ridge formed by deep tapered edge bevels at each side. Phase 3B. 76A, IX, 2, 142. For motifs, but arranged differently: Gadebridge Park (Neal 1974, fig. 65, 244 (later fourth century A.D.)); Leicester (Kenyon 1948, fig. 83, 4); Lydney (Wheeler and Wheeler 1932, fig. 17, D and F (later fourth century A.D.)); Portchester (Cunliffe 1975, fig. 112, 35 and 37 (*c.* A.D. 345 plus)); *Verulamium* (Frere 1972, fig. 32, 32).
25. Strip fragment with three decorative panels: two rows of dot and circle motifs, followed by a plain panel, then, after a low transverse ridge-moulding, on the tapered (terminal?) section is a shallow central groove met from both sides by closely spaced large triangular edge notches. Phase 3B. 69C, X, 1, 260. For motifs and arrangement: Portchester (Cunliffe 1975, fig. 112, 37 (*c.* A.D. 345 plus)). For edge notched panel: Gadebridge Park (Neal 1974, fig. 60, 137 (fourth century A.D.)); Lydney (Wheeler and Wheeler 1932, fig. 17, D and H (later fourth century A.D.)); Richborough (Bushe-Fox 1928, pl. xxi, 51 and 63); Shakenoak (Brodribb *et al.* 1968, fig. 30, 20 (late fourth century A.D.); 1978, fig. 40, 225 (*c.* A.D. 350)). For dot and circle motif, see No. 24.

26. Terminal fragment; the body is a relatively thick, narrow plano-convex section strip divided into short panels by thin ridge mouldings. Each panel bears a tiny dot and circle motif. The lozenge shaped terminal is decorated with chip carved notches. 67, G, 28, 2, 5296. For comparable motifs, Gadebridge Park (Neal 1974, fig. 60, 155 (mid fourth century A.D. plus)); Portchester (Cunliffe 1975, fig. 112, 36 (fourth century A.D.)); Shakenoak (Brodrribb *et al.* 1968, fig. 30, 20 (late fourth century A.D.)). For dot and circle motif see No. 24.

Bracelets with transverse groove decoration

27. Fragment of narrow strip bracelet with a convex outer surface bearing broad stamped grooves, one every 1.5mm. Phase 3B. 69C, I, s, 5, 269. Gadebridge Park (Neal 1974, fig. 60, 153 (fourth century A.D.)); Portchester (Cunliffe 1975, fig. 111, 28 (fourth century A.D.)); Shakenoak (Brodrribb *et al.* 1973, fig. 54, 189 (late fourth century A.D.)).
28. Two fragments, one being a terminal of identical form and decorative style to No. 27. The last 5mm is flattened to a rounded end. The terminal bears a tiny copper rivet retaining the opposite end of the bracelet underneath. Another example (Archive No. 59) of similar form and decoration had a hook and eye junction. 67, G.2, 1, 76.
29. Fragment of flattened oval-section strip bracelet with transverse terminal edge. The strip is plain apart from six narrow transverse grooves on the last 5mm. WAN-Z, U/S, 17. Shakenoak (Brodrribb *et al.* 1968, fig. 30, 23 (late fourth century A.D.); 1971, fig. 48, 75 (later third century A.D.)).

Bracelets with oblique groove decoration

30. Strip bracelet fragment broken at both ends with groups of four or five incised lines set obliquely in alternately opposite decorations. Other fragments in this category are as No. 27 but with the grooves set obliquely. 68, C.14, 1–2, 80.

Bracelets with decorative motif between plain margins

31. Strip fragment, with a shallow incised line running 1mm from each side and a central row of short transverse stamped grooves, not quite touching the parallel lines. Phase 3B. 70H, V, 1, 38. Winchester (Cunliffe 1964, fig. 24, 7 (c. A.D. 270–360)).
32. Fragment of flat rectangular-section strip, tapering to a hook terminal which is broken. Decorated by a single row of small stamped dots, about 1mm apart, running to 16mm before the terminal. WAN-Z, U/S, 16. Lydney (Wheeler and Wheeler 1932, fig. 17, J (later fourth century A.D.)).

Miscellaneous surface-decorated strip bracelets

33. Terminal fragment of narrow strip, slightly tapered. Decorated with stamped 'S' motifs and perforated 4mm from the end. 68, C.4, 2, 127. Gadebridge Park (Neal 1974, fig. 60, 135 and 140 (latter c. A.D. 350 plus); fig. 65, 257 (c. A.D. 250)); Shakenoak (Brodrribb *et al.* 1972, fig. 53, 339; 1978, fig. 40, 236 (c. A.D. 350)).
34. Terminal fragment of broad, flattened plano-convex section strip, slightly wider at the transverse terminal edge, decorated by an incised cross behind the terminal edge, followed by a transverse incised line. Starting 50mm from the terminal decorated with a series of closely spaced transverse lines. 76B, XXIV, U/S, 283.

Bracelets with narrow edge wear facet

35. Rectangular-section strip fragment, decorated on the outer edge by alternate sections of c. 5mm long recesses bearing four small raised lumps along their base, and c. 3mm long sub-rectangular thin spurs, flat topped. Three other similar pieces were found, differing in being slightly larger with transverse grooved recess bases and thicker spurs. 69C, X, 1, 136. Leicester (Kenyon 1948, fig. 83, 3); Lydney (Wheeler and Wheeler 1932, fig. 17, 58 (later fourth century A.D.)); Nettleton (Wedlake 1982, fig. 91, 1921 (fourth century A.D.)); Portchester (Cunliffe 1975, fig. 112, 42 (fourth century A.D.)); Richborough (Bushe-Fox 1928, pl. xxii, 61–62); Shakenoak (Brodrribb *et al.* 1971, fig. 49, 104 (later third century A.D.)); *Verulamium* (Wheeler and Wheeler 1936), fig. 2, 4 (late fourth century A.D.)).
36. Rectangular-section strip fragment, the outer edge decorated by deep 'V' notches cut in alternately from each face, producing a raised zigzag effect on the edge. Phase 3B. 76C, XLIII, 111, 356. Caerleon (Fox 1940, fig. 8, 34 (fourth century A.D.)); Chester (Thompson 1975, fig. 27, 36); Nettleton (Wedlake 1982, fig. 91, 22 and 26 (fourth century A.D.)); Portchester (Cunliffe 1975, fig. 112, 41 (fourth century A.D.)); Shakenoak (Brodrribb *et al.* 1971, fig. 48, 73 and 77 (later third century A.D.)).

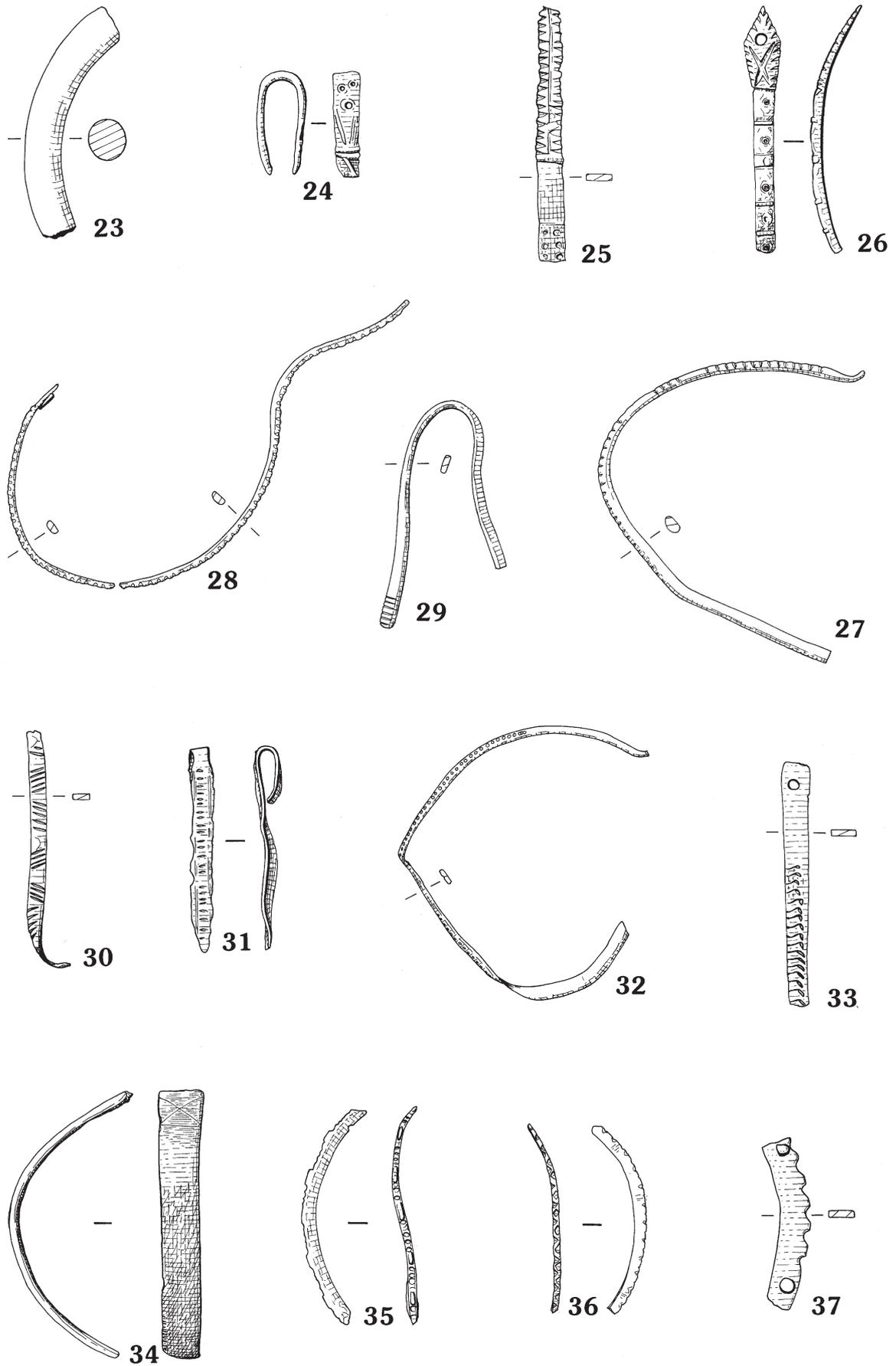


FIG. 31. Copper alloy objects: bracelets (23–37). Scale 1:1.

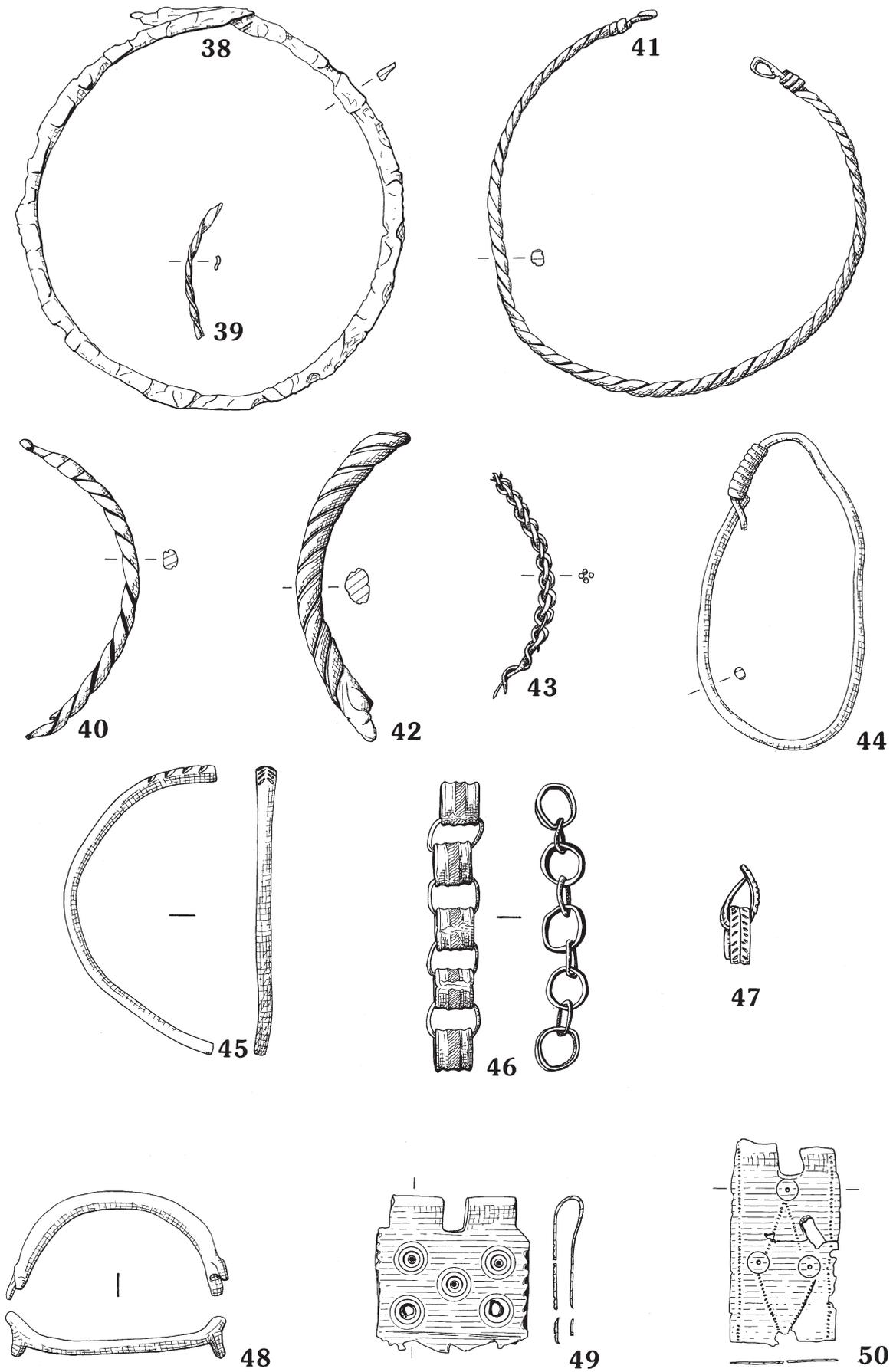


FIG. 32. Copper alloy objects: bracelets (38-47); buckles (48-50). Scale 1:1.

37. Thin broad strip fragment with a small copper rivet at each end, the outer edge having a series of asymmetrical 'V' cuts, spaced to produce flat-topped teeth running from 7mm from one end to the opposite end break. 70, RC, U/S, 771758a. Cirencester (Rennie 1971, fig. 7, 19).
38. Almost complete bracelet of generally rectangular section, but with the whole strip stamped into decorative form by having 3–5mm wide sections pinched and turned to 45° to the curve of the bracelet, alternating from one side to the other, sometimes with a short plain section between angles. 67, G.21, 4602.

Twisted wire/strip bracelets

Single strand

39. Fragment of thin narrow strip, twisted throughout its length, giving one complete turn every 9mm. 67, G.20, 2, 3151. Wilsford Down (Cunnington and Goddard 1934, 48, 369 and pl. xxvii, 16).

Two strand

40. Terminal comprising two oval-section strips twisted together and compressed on the inner and outer faces of the bracelet curve, giving an overall oval section. At the terminal, one strand projects straight, tapers and is curled to form a hooked tip, while the other strand is wrapped tightly around its base. 68, C.51, 2, 300. Gadebridge Park (Neal 1974, fig. 60, 164 (mid fourth century A.D. plus), fig. 65, 237–8 (mid fourth century A.D. plus)); Leicester (Kenyon 1948, fig. 83, 7 (c. A.D. 150–160, U/S)); Nettleton (Wedlake 1982, fig. 90, 3 (fourth century A.D.)); Portchester (Cunliffe 1975, 203, 26 (fourth century A.D.)); Shakenoak (Brodribb *et al.* 1968, fig. 30, 26 (late fourth century A.D.); 1973, fig. 54, 195 (late third–fourth century A.D.), 197 (late fourth century A.D.), 198 (c. A.D. 200 to mid fourth century A.D.)).

Three strand

41. Complete bracelet of twisted fine-gauge wire of sub-rectangular section, tightly twisted, giving an almost smooth external surface. The hook and eye terminals are formed from a single strand, the other two coiled around its base. In contrast to Portchester, where two-strand bracelets dominate the twisted wire forms, at Wanborough, three-strand bracelets, all of fine-gauge wire, were more common (eight pieces, against two two-strand fragments). WAN-Z, 166.46, 15. *Cf.* Fishbourne (Cunliffe 1971, fig. 41, 48 (c. A.D. 100–280), 49 (c. A.D. 280–320 plus)); Nettleton (Wedlake 1982, fig. 63, 8 (late fourth century A.D.)); Shakenoak (Brodribb *et al.* 1971, fig. 49, 100 (later third century A.D.)).

Four strand

42. Fragment of four strands of twisted oval-section wire. Phase 3B. 76C, XLVI, 72, 483.

Plaited wire bracelets

43. Fine gauge wire bracelet fragment formed as a neatly executed four-strand plait, with the loops left open, not pulled tight. Another example (Archive No. 102) was found, of three-strand plait. WAN-Z, U/S, 18.

Expanding wire bracelets

44. Thick round-section wire bracelet, with the surviving terminal end drawn out and broken but retaining an eight-turn coil from the opposite terminal. Field 496, U/S, 771741. Maumbury Rings (Bradley 1975, fig. 20, 10); Richborough (Bush-Fox 1932, pl. xiv, 45 (A.D. 330 plus)).

Miscellaneous wire bracelets

45. Terminal of thick round-section wire. The last 13mm of the outer face has four pairs of asymmetrical oval notches. 67, G.12, 7, 3076.

Chain bracelets

46. Fragment of an elaborate chain bracelet, alternating between fine wire links bent into rectangular form with brazed junctions and small cylindrical links with brazed seams. The cylinders have slightly raised rims with low raised tiny dots on the edge and the main surface has a central band of angled milling. Phase 3B. 76B, XVIII, 1, 308.
47. Two links of flat narrow strip, each an open fold with the ends meeting at an angle. Decorated with a shallow central groove with oblique hatching to each side. One link has a transverse groove just before one end. Phase 3B. 69B, X, 1, 236.

Buckles and belt fittings

Buckle parts

48. Small buckle loop with small, flattened circular lugs (which are broken) at each end for the pivot pin to pass through. WAN-X, U/S, 6. Hofheim (Ritterling 1912, Taf. xi, 15–19, 22–24, particularly 23 for size and proportions (mid-first century A.D.)).
49. Buckle plate, doubled over. The decorated side has serrated sides and a scroll form cut-out rear edge. The surface has five motifs comprising a stamped dot surrounded by three shallow circles. The rear pair of these held rivets. Phase 3B. 69C, V, 2, 193. Richborough (Bushe-Fox 1928, pl. xxv, 78).
50. Fragmentary thin, rectangular Hawkes and Dunning (1961) Type I late Roman buckle plate. Decorated by a fine dotted line running 1.5mm from the edges, and a lozenge of similar dots, with a dot and circle motif at each corner. There is an oblique rectangular punched hole. Phase 3B. 69E, I, 2, 47. Hawkes (1974, 386, fig. 3); one from Greta Bridge, Yorkshire.
51. Buckle tongue from a Hawkes and Dunning (1961) Type II A buckle. Decorated with transverse grooving on the stem base upper surface, followed by fine oblique edge notches where the side-arms branch. The arms end in neatly executed dog or dragon heads. The stem tip has two pairs of transverse grooves behind a terminal caricature with sloping ‘slit’ eyes and a flattened projecting upper lip. WAN-X, U/S, 5. Hawkes and Dunning (1961, fig. 17k (Mitcham, early Anglo-Saxon grave) and j (Lakenheath, U/S)) for arm terminal forms; Shakenoak (Brodribb *et al.* (1973, fig. 55, 213 (late fourth century A.D.)) for general shape.

In their discussion of these buckles, Hawkes and Dunning (1961; Hawkes 1968) concluded that these were produced in Britain, inspired by Germanic and North Gaulish buckle types, and worn, at least initially, by Germanic elements among the Theodosian troops from *c.* A.D. 388, and by a town-based military force in the south and west of Britain.

This interpretation has been subject to extensive review in the Lankhills report (Clarke 1979, 286–91) in the light of the well-dated range of belt fittings from that cemetery. Regarding their date, Clarke suggests that ‘typical Type II A’ buckles appear *c.* A.D. 370 (*ibid.*, 287). On the question of their wearers, it is pointed out that there is no unambiguous evidence for a common ethnic origin for the users of Types I and II buckles; indeed the two Type II A buckles from Lankhills, early in the stylistic development, appear in graves with unremarkable Romano-British burial practices of *c.* A.D. 350–370. Coupled with the exclusively British distribution of Type II A buckles, it is not tenable to argue that these were only worn by Germanic elements.

Clarke does argue, however, that in view of their parody of two-strap belts, which almost certainly are military types, and their occasional association with similar belt fittings as these latter forms, and also because they appear confined to the civil zone in Britain, then the Type II A buckles may have belonged to single-strap belts on the uniform of a military force raised by the *vicarius* from, and serving within, the civil zone from *c.* A.D. 350 onwards.

Strap ends

52. Strap end with a heart-shaped terminal with a knob at the end. The retaining plate is lozenge shaped. Phase 3B. 76B, XXIV, 1, 285.
53. Elaborate strap end with stamped decoration, attached to backplate by two rivets. Traces of tinning are visible near the rivets.

Several features mark this piece out as being related to the Tortworth type strap ends (see below, No. 54) in particular, the semi-circular neck mouldings; the elongated bulbous body below the neck; the long narrow butt; and the groove in the terminal edge of the body. However, there are also certain highly unusual characteristics in this respect. The body is truncated for a Tortworth type (and does not appear to be a reworked broken piece) and the terminal notch is unusually broad and shallow, failing to produce a forked terminal, and can be seen as a skeuomorph of the nail cleaner tip commonly found on such strap ends, e.g. No. 54 below, and Tortworth (Hawkes and Dunning 1961, fig. 8). The entire main plate is extremely thin for these strap ends and the replacement of the more usual split butt, or occasional hinged butt, by a thin backplate riveted to the body and butt seems to be unique.

The surface motifs are not unusual. Ring and dot designs often occur on Tortworth type strap ends, e.g. from Tortworth itself (*ibid.*, fig. 8); Richborough (Bushe-Fox 1949, pl. xxxvi, 125) and on the possible prototype example from Lankhills (Clarke 1979, fig. 36, 94) — they are a common fourth–fifth-century A.D. motif. Similar edge notching also occurs around the edge of the butt on the strap end from Chichester (Down 1978, fig. 10.37, 94) which is almost identical to No. 54 below.

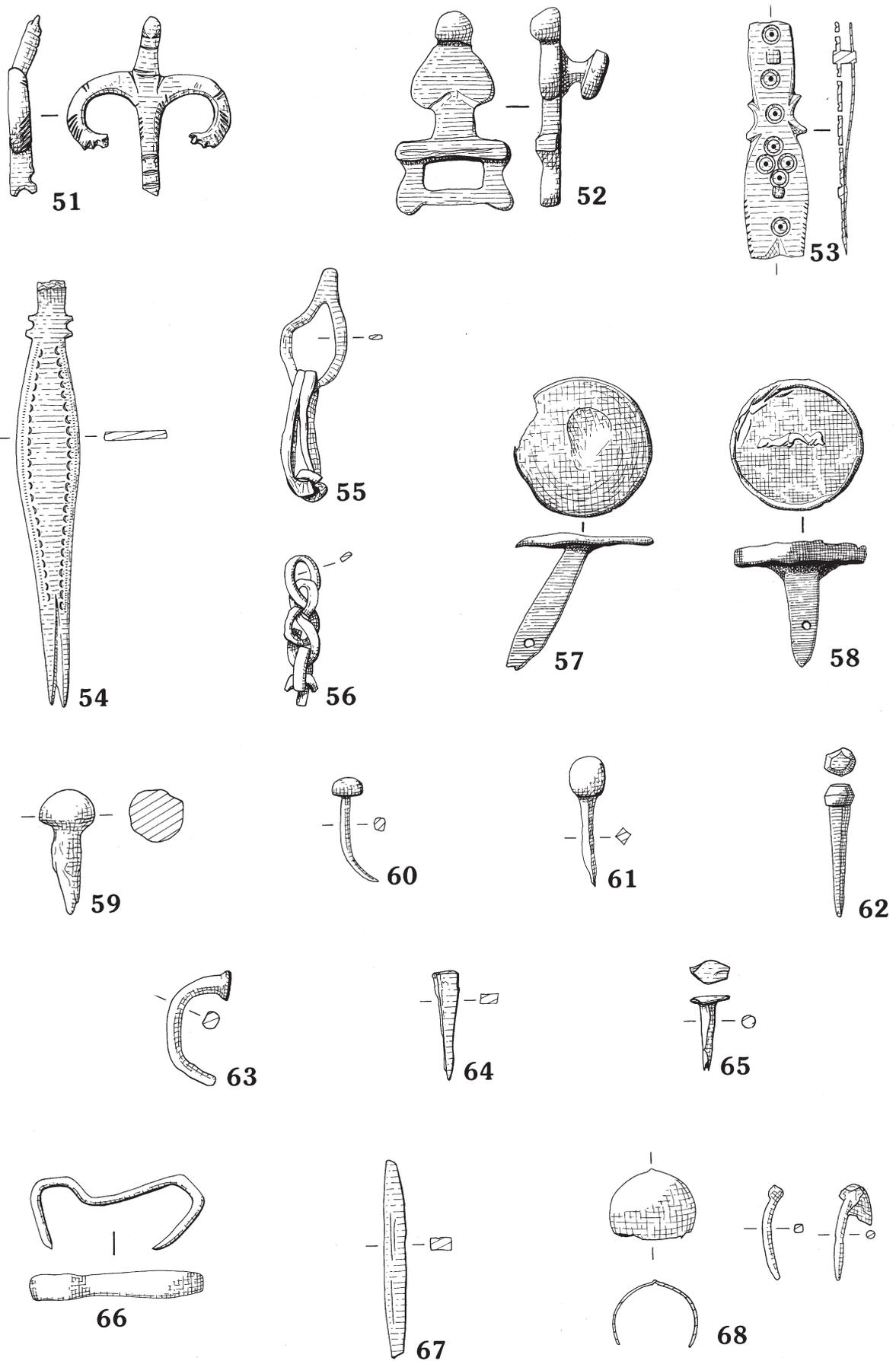


FIG. 33. Copper alloy objects: buckle tongue (51); strap ends (52-54); links and fasteners (55-68). Scale 1:1.

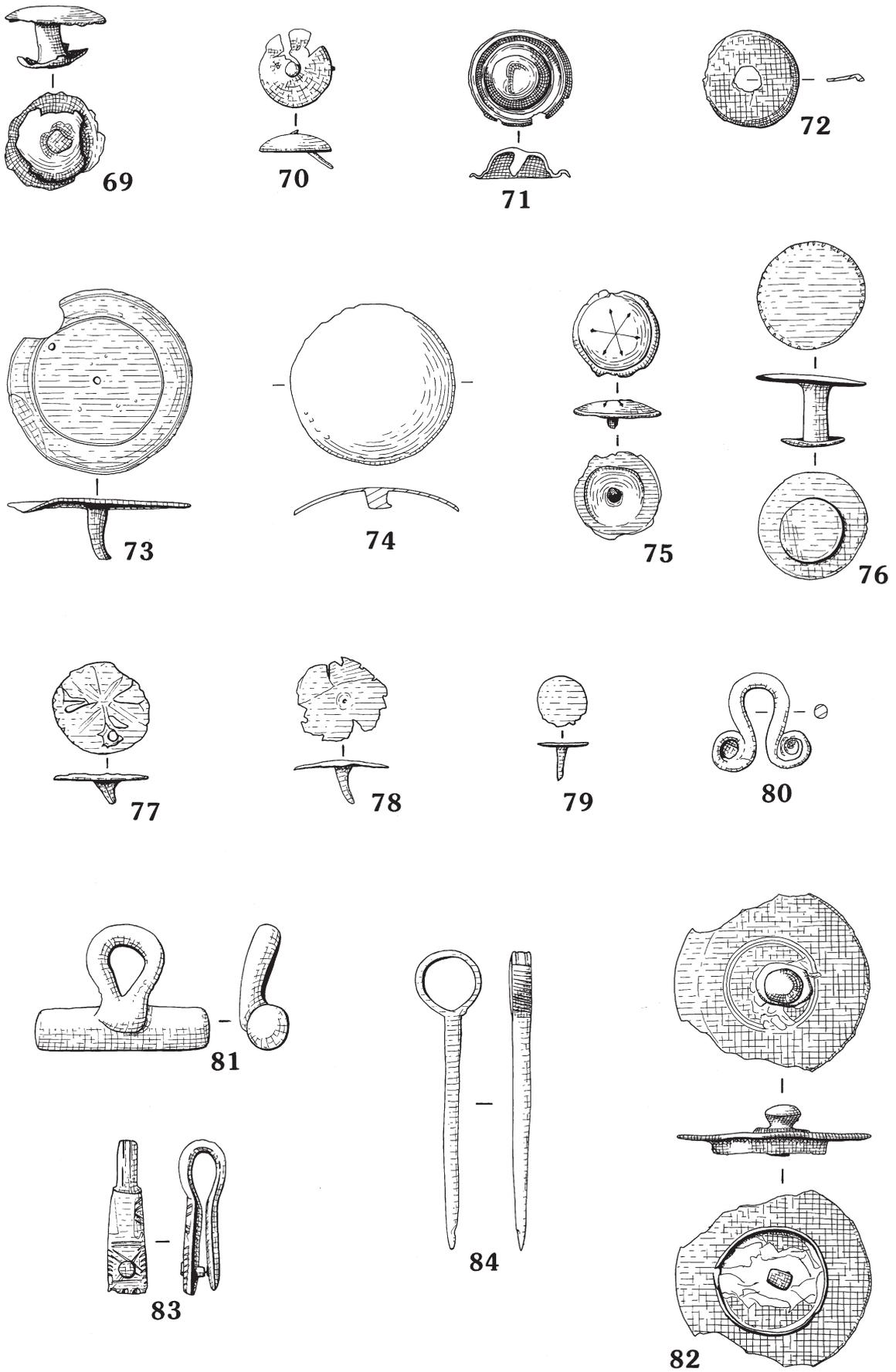


FIG. 34. Copper alloy objects: fasteners (69-84). Scale 1:1.

The context dating of this piece is too imprecise to place it in the sequence of development of these strap ends, but a number of its stylistic features suggest that this is a derived or imitative form, rather than a prototypical form of the Tortworth type. The presence of the narrow, elongated body, and the stylised terminal notch indicate that these were already established aspects of the design of such strap ends when this was produced and they contrast markedly with the broader, more triangular bodies of those strap ends that do appear as precursors to the Tortworth series, e.g. Lankhills (Clarke 1979, fig. 36, 94, and the examples quoted on p. 282). The narrow body links the piece with the use of the narrow belts discussed in the Lankhills report (*ibid.*, 267) and on the dating evidence of that fashion and for the Tortworth type strap ends as given in that report (*ibid.*, 267, 275, 282, 287), this piece should likewise date to *c.* A.D. 370 on, into the fifth century. Phase 3B. 70H, V, 2, 49. Richborough (Bushe-Fox 1928, pl. xix, 35; 1949, pl. xxxvi, 125; Tortworth (Hawkes and Dunning 1961, fig. 8 (late fourth to mid fifth century A.D.)); Traprain Law (Curle 1915, fig. 26, 1).

54. Broken strap end with a nail cleaner-like terminal. Tortworth-type strap end, with nail cleaner terminal fork. The main body has a neat dot-impressed line 1mm from the edges, inside which is a line of small arcs.

Tortworth type strap ends were initially discussed by Hawkes in connection with her Type I buckles (Hawkes and Dunning 1961, 24 and fig. 8) and they have also been defined and discussed in the Lankhills cemetery report (Clarke 1979, 281–2). In the latter discussion, their relationship with Type I buckles and narrow belts and their exclusively British distribution is confirmed and used to indicate their insular production and late fourth–fifth century date.

Unfortunately, being unstratified, this piece cannot add to the dating evidence for this type, but it provides an interesting combination of stylistic features. The neck bears the open semi-circular mouldings of the possibly developmental form from Lankhills (*ibid.*, fig. 36, 94), also found on several fully developed versions, e.g. Richborough (Bushe-Fox 1949, pl. xxxvi, 125) and Traprain Law (Curle 1915, fig. 26, 1) while the body below the neck is virtually identical in form and decoration to the piece from Chichester (Down 1978, fig. 10.37, 94). The neck of the Chichester piece, however, bears stylised horses' head mouldings, a feature common to a number of such strap ends with very varied decorative patterns on the body, e.g. Richborough (Bushe-Fox 1928, pl. xix, 35), Maiden Castle (Wheeler 1943, fig. 96, 15) and Tortworth (Hawkes and Dunning 1961, fig. 8); indeed the forms of these mouldings themselves are extremely varied. From this, it would appear that a range of motif types and combinations was available and acceptable within the broad category of Tortworth type strap ends when their general shape had become established, perhaps by the end of the A.D. 360s, if the Lankhills pieces are accepted as prototypes. 70, RC, U/S. Chichester (Down 1978, fig. 10.37, 94). For form, Lydney (Wheeler and Wheeler 1932, fig. 19, 82); Richborough (Bushe-Fox 1928, pl. xix, 34–5; 1949, pl. xxxvi, 125); Tortworth (Hawkes and Dunning 1961, fig. 8 (late fourth to mid fifth century A.D.)); Traprain Law (Curle 1915, fig. 26, 1); Chichester (Down 1978, fig. 10.37, 94); Maiden Castle (Wheeler 1943, fig. 96, 15).

Chain links

55. Two links with a small ring on one end. Phase 3B. 69D, IV, 1, 143. Little Wincle (Henig 1974, pl. xxxi, (in gold) (third century A.D.)); *Verulamium* (Frere 1972, fig. 36, 80 ('late' in sequence)).
56. Two and a half links of 'S' twist double loop links. Another link of this form (Archive No. 122) came from a Phase 3B context. 76, S.S.M., U/S. Lowbury (Atkinson 1916, pl. xiii, 19); Richborough (Bushe-Fox 1949, pl. xxxv, 91).

Fasteners

Lock-pins

57. Lock-pin with circular head. Phase 1B–C. 76B, XVI, 28, 256. Caerleon (Fox 1940, 127; similar lock-pin, from a *c.* A.D. 75–100 context, referred to in description of fig. 5, 4).
58. Lock-pin with a thick circular head and vertical edges giving a raised rim on the upper surface. The shank is perforated near the tip and the mounting stub penetrates the head, visible as a thin line on the upper surface. Phase 3A–B. 76C, XXXIII, 100, 200.

Nails, tacks and rivets

59. Nail with hemispherical head and round-section (broken) shank. The head is faceted by hammer marks. Phase 2A. 76B, XVI, 20a, 213. Gadebridge Park (Neal 1974, fig. 57, 64); Skeleton Green (Partridge 1981, fig. 57, 42).

60. Slender nail, with hemispherical head with light hammer marks all round. Relatively long shank. Phase 3A. 76A, XV, 16, 438.
61. Nail/tack with a large spherical head with square-section shank. The size of the head hints at decorative function. Phase 3B. 76A, XV, 1, 354. Fishbourne (Cunliffe 1971, fig. 52, 159 (A.D. 75/80–100)); Shakenoak (Brodrigg *et al.* 1971, fig. 49, 98 (later third century A.D.)).
62. Small tack with a flattened biconical head, faceted by hammer marks, with square-section shank. Phase 3B. 76A, VIII, 1, 12.
63. Bent nail with a round flat-topped head and oval-section shank. Phase 3B. 69D, III, 2, 88.
64. Small 'headless' tack. Phase 3B. 69A, IX, 1, 91. Gadebridge Park (Neal 1974, fig. 57, 63).
65. Small tack made from rolled sheet metal with an angular oval extension bent over to form a head. This piece would not have been capable of penetrating any resistant material without distortion. 67, G.31, 2, 5310.

Staples

66. Staple formed of narrow strip with pointed ends. Phase 3B. 76A, VIII, 1, 261. Silchester (Cotton 1947, fig. 9, 9); Skeleton Green (Partridge 1981, fig. 57, 47).
67. Short strip, tapered and thinned to blunt points with a shallow groove along one face, near one edge. Probably a straight staple, as still used for jointing blocks of wood. Phase 2A. 76A, VIII, 41, 641.

Studs

Although included as a group under the heading of 'fasteners', various interpretations could be made of some of these items, particularly as decorative belt or harness fittings.

68. Small deeply domed stud with a small dimple on top where the shank attaches, with a layer of lead oxides at the shank/head junction for reinforcement. The shank has a cubic knob at the tip. Phase 2A plus. 70G, I, 5, 31.
69. Shallow-domed stud, with square-section shank, which penetrates and retains a slightly domed, thin bone disc. Phase 3A. 76A, IX, 11, 432.
70. Small shallow-domed stud with a square-section shank. Phase 3A. 76A, XV, 20, 418. *Cf.* Gadebridge Park (Neal 1974, fig. 57, 9); Leicester (Kenyon 1948, fig. 88, 5 and 6).
71. Decorative stud with hemispherical dome surrounded by a corrugated rim. Broken square-section shank. Phase 3A. 76A, VIII, 20, 447.
72. Flat ring with a flanged edge. Another similar item was recovered (No. 74) and they may be shims from composite studs as found on some casket burials — see Skeleton Green (Partridge 1981, fig. 111, d) — there is no evidence of their having formed stud heads themselves. Phase 3A. 76A, XV, 6, 625.
73. Large-headed stud decorated by a central dot impression and two shallow circles. Square-section shank. 70, RC U/S, 771761. For similar studs, but with the inner groove nearer to the centre: Bar Hill (Robertson *et al.* 1975, fig. 29, 9a and b (Antonine)); Caerleon (Fox 1940, fig. 5, 4); *Verulamium* (Frere 1972, fig. 38, 100 (c. A.D. 130–140)).
74. Large domed stud of relatively thick sheet metal, plain upper surface and a 2.5mm wide roughened perimeter band on the underside. A 2mm long, round-section shank stub, hammered across the end. 70, RC U/S, 771739.
75. Shallow-domed stud, with a flattened perimeter and a down-turned rim. Remains of a tapered square-section shank stub underneath. Traces of a fine six-armed star on the upper surface. Webster (1958) considers this type as a legionary belt or apron decoration of the mid first century A.D. 76A, VII, U/S, 501. *Camulodunum* (Hawkes and Hull 1947, pl. cii, 31 (pre-Flavian)); Hofheim (Ritterling 1912, Taf. xii, 29–45 (pre-Flavian)); Walbrook (Webster 1958, fig. 6, 151, a, b, c.).
76. Double-headed stud with flat, circular heads. The larger head has tiny triangular edge notches around its upper edge. Presumably an all-metal version of No. 69. 67, G.27, 2, 3365. Ravenglass (Potter 1979, fig. 27, 38 (c. A.D. 360–400)).
77. Small stud, with square shank. The upper surface has traces of a pattern of tiny raised triangular marks around the edge and an incised large central cross with flared double-branched arms. Probably inlaid with niello. A pre-Flavian military apron fitting. Webster (1958, 85, no. 151 and fig. 6, 151 and refs therein, although, *pace* Webster, these fittings are not certainly legionary). 66. U/S, 680956.
78. Small stud with a square-section shank. 70, RC U/S, 771763b. Leicester (Kenyon 1948, fig. 88, 4 (A.D. 150–160 plus)); Skeleton Green (Partridge 1981, fig. 57, 45 (c. A.D. 43–65) and fig. 113, b (Antonine)).

79. Very small stud with a short rectangular-section shank, resembling a drawing pin. 68, C. 45 (SW Ext.), 1–2 interface; 305. Leicester (Kenyon 1948, fig. 88, 8 (c. A.D. 125–370)).

Miscellaneous fasteners

80. Loop fastener of Wild's (1970) Class I of button and loop fasteners. Wild cited contexts between the Iron Age and the early post-invasion period, with only one example with a triangular loop, from a 'purely Roman' context. Phase 3B. 69C, VI, 9, 272. The closest parallel for this piece is from Glastonbury (Bulleid and Gray 1911, pl. xlii, E159).
81. Pivoted loop fastener/toggle of Wild's (1970) Class IX with a round-section bar and rounded loop brazed tangentially to one side by the loop ends. Datable parallels are later second century. 68, C.6, 1–2 interface, 13.
82. Decorative stud, with a large head with a small central knob on an oval platform which penetrates the head as a short square-section stud. The platform is surrounded by three circles with a further three at the rim. The underside has a low wall and iron corrosion products in the central area encircling the stub. Phase 3B. 76C, XXXVII, 111, 363. Wroxeter (Bushe-Fox 1916, pl. xxi, fig. 1, 3).
83. Possible cord fastener, with a narrow spring top with two grooves round the curve and two arms, one plain, the other decorated by a diagonally-set double-line cross, bordered by oblique edge notches. The transverse terminal edge has three rounded edge notches. The panel has a short round-section pin projecting to a hole in the opposite arm but with no evidence for having been fixed there. Phase 3B. 70H, I, 6, 104.
84. Possible cord fastener, with a circular loop. Loop decorated on top by two broad grooves and two panels of incised lines adjoining the shank. 68, 9/10 (NE Ext.), F.57, 326.

Ferrules

85. Possible ferrule with four rounded ridge mouldings. Phase 3B (from Ditch P fill). 76B, X, 17, 189. *Camulodunum* (Hawkes and Hull 1947, pl. c, 5 (larger) (mid-first century A.D.)).
86. Round-section pointed ferrule, with a step in the taper curve. There are two small holes on opposed sides to peg the haft into position. Date uncertain. WAN, U/S, 780107.

Finger rings

In addition to the following examples, Henig reports upon a further ring with its intaglio still *in situ* separately below (p.174, Intaglio J), and there is also an inscribed example (p.307, No. 6).

Rings with intaglio settings, or enamelled bezel

87. Thin ring bezel fragment, with oval intaglio setting and bearing traces of blue-grey glass, Phase 3B. 76A, IX, 1, 273.
88. Plano-convex section ring with a large oval intaglio setting 1mm deep. U/S, Lowbury (Atkinson 1916, pl. xi, 12).
89. Complete ring of very thin plano-convex section strip. The bezel is circular with a raised rim and central dot, the mounting is filled by light green (as appears now) enamel. Short transverse ridge mouldings with oblique milling to each side. 68, C.20, 1–2 interface, 11. Lowbury (Atkinson 1916, pl. xi, 17); Richborough (Bushe-Fox 1949, pl. xxxv, 103).
90. Finely formed ring. The bezel has an elliptical field with a smaller ellipse with two transverse partitions, the resultant spaces are filled by yellow-green enamel. 76A, U/S, 673.

Rings with other bezel forms (excluding key bezels for which see below)

91. Complete ring, with an incised feather-like motif. There are traces of silvering behind the bezel. 68, G.28, 2, 3362. For motif only: Nornour (Dudley 1967, fig. 8, 15 and brooches Nos 51, 68, 70–78 inclusive (second century A.D.)).
92. Complete small ring, with sub-rectangular bezel open to rear, with pointed terminals. WAN-Z, U/S, 13.

Rings without bezels

93. Complete ring decorated with incised lines. Phase 3B. 69D, VII, 1, 287. Gadebridge Park (Neal 1974, fig. 60, 138 (fourth century A.D. plus)); Lydney (Wheeler and Wheeler 1932, fig. 16, 49).
94. Plain ring. Phase 3B. 70G, II, 5, 34. Gadebridge Park (Neal 1974, fig. 60, 127).

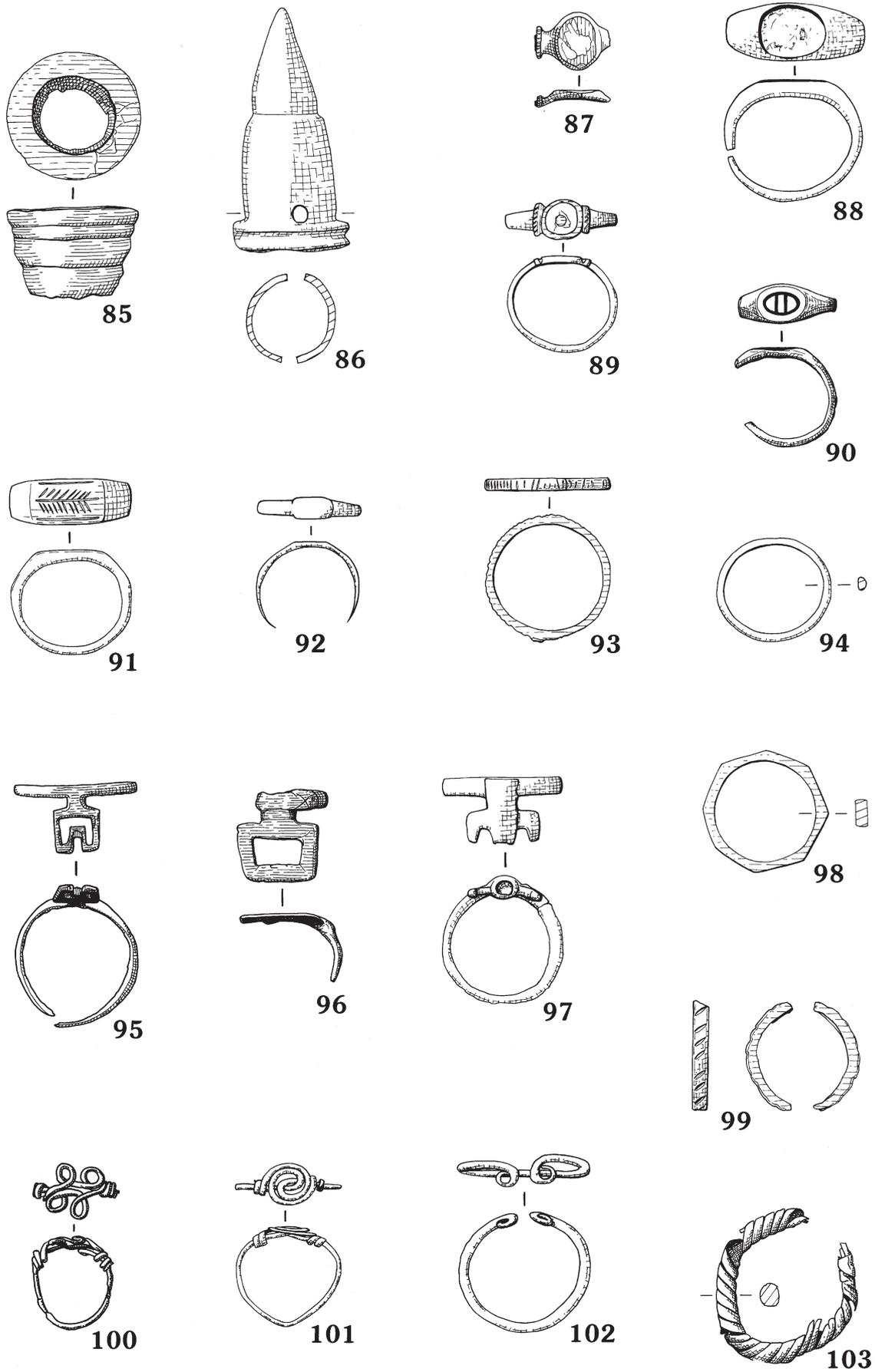


FIG. 35. Copper alloy objects: ferrules (85-86); finger rings (87-103). Scale 1:1.

Rings with key bezels

95. Complete ring. Phase 2A. 76B, IV, 20a, 22. Cirencester (Rennie 1971, fig. 6, 16); Hofheim (Ritterling 1912, Taf. xvi, 25 (pre-Flavian)).
96. Bezel fragment. Phase 3B. 76A, VIII, 2, 337. Cf. Hofheim (Ritterling 1912, Taf. xvi, 26 (pre-Flavian)); Leicester (Kenyon 1948, fig. 86, 12).
97. Nearly complete ring. 67, G.12 (SE Ext.); 4042.

Octagonal finger rings

98. Complete ring. Another slightly larger example was found (Archive No. 191). 67, G.13 (NE Ext.), 2, 2074. Cirencester (Rennie 1971, fig. 6, 18 (late second–third century A.D. plus)); Henley Wood, Yatton (Collis 1970), fig. 7, c.; Ospringe (Whiting *et al.* 1931, pl. viii); Owslebury (Collis 1970, fig. 7, a (fourth century A.D.? plus) and b.

Rings with narrow edge wear and decorated facets

99. Incomplete ring. 67, G.20, 2, 4066.

Miscellaneous wire finger rings

100. Single-strand wire ring, each end twisted into two open loops before being coiled round the opposite end, giving a four-loop bezel with a coil to each side. This method is found on material from several sites (see parallels below for some) and also occurs in bracelets, the number of loops used varying considerably. Phase 3A. 76A, IX, 20, 213. Chichester (Down 1981, fig. 8.31, 28 (ring — 8 loops)); Deepdale Cave, Buxton (Ward 1911, fig. 76, C (bracelet — 22 loops)); London (Liversidge 1968, fig. 56, e (ring — 6 loops)); Lowbury (Atkinson 1916, pl. xi, 2 (ring — 4 loops)); Ospringe (Whiting *et al.* 1931, pl. lvii, 2 (ring — 6 loops)).
101. Single strand wire ring with an interlocking spiral bezel, wrapped in a double turn round the ends of ring curves. This is a recurrent type, the comparanda are virtually identical to this piece. 68, C.26, 2, 126. Lowbury (Atkinson 1916, pl. xi, 3); Richborough (Cunliffe 1968, pl. xli, 156 (A.D. 330 plus)); Spong Hill (Hills 1977, fig. 123, cremation 1465 (pagan Saxon, pre-c. A.D. 650)).
102. Single strand ring. 67, T — trench, U/S. Skeleton Green (Partridge 1981, fig. 54, 4 (c. A.D. 140–200 plus)).
103. Coiled wire ring. Similar rings from Shakenoak were termed ear-rings by analogy with a similar but smaller ring from Leicester. When the larger size is considered it seems likely that this piece and the Shakenoak one are finger rings. Phase 3B. 76C, XXXVIII, 70, 216. Leicester (Kenyon 1948, fig. 83, 18; Shakenoak (Brodribb *et al.* 1968, fig. 30, 27 and 28 (fourth century A.D.)).

Handles*Loop type, attached both ends*

104. Handle made from round-section rod. The terminals are slightly expanded with five grooves unevenly spaced along each end. The parallels are of mid first century date, those from Richborough being interpreted by Partridge (1981, table XLVI, xvii) as being from a Claudian casket burial. 70, WAN, U/S. Hofheim (Ritterling 1912, Taf. xvi, 41 (mid-first century A.D.)); Richborough (Bushe-Fox 1928, pl. xv, fig. 1, 1 and 2 (mid-first century A.D.)).
105. Distorted handle, with flattened central strap. Both ends have an indistinct rectangular imprint. 76C, XLVII, 177, 467, U/S. Hofheim (Ritterling 1912, Taf. xv, 86 (first century A.D.)).

Bracket type, attached one end

106. The following report has been submitted by Dr G. Lloyd-Morgan. ‘The fragment is in the form of the head of a water bird seen in left profile with eye and bill clearly marked and the rest of the head engraved to indicate the feathers. The head emerges from a simple scroll. The lower edge is a smooth curve, the reverse side is undecorated.

The fragment is from a much larger item, and can be compared with handles of vessels in silver and bronze. Heads of water birds were used as supports, holding a good proportion of the outer edge of a jug, dish, cup or patera, tapering back with decorative scrolls and vegetation into an elegant handle. Later the realistic detail gives way to a more stylised outline which can be seen particularly in the bronze copies of the elaborate silver pieces.

The curvature of the Wanborough piece and the lack of decoration on the underside suggests that it came from a patera. The form of some silver patera handles with waterbirds’ heads as part

of the support can be seen in Strong (1966, 145–8, fig. 30), and in more detail in two silver examples from the Boscoreale Treasure, buried in the Villa during the eruption of Vesuvius in A.D. 79 (de Villefosse 1899, 103–4, no. 45–6, pl. xxiii, 3). In this pair of paterae, the birds' heads are not engraved to show the feathers as here but the scrolls from which they emerge have rosettes in the centre, whereas the Wanborough piece has a simple knob.

A few bronze examples from the northwestern provinces can be noted. These include two pieces in the Musée des Antiquités Nationales dated to the first century A.D. (Tassinari 1975, 32–3, no. 20, pl. vi, D. 171mm; 35.6, no. 29, pl. viii, D. 123mm). Radnóti lists another piece from Somogyssimonyi (Somogy vm.), Hungary with a suggested date of the first half of the first century A.D. (1938, 15–19, pl. xviii, 2). Curiously, there are no parallels amongst the extensive collections from Nijmegen (den Boesterd 1956).

Without the rest of the handle to compare with these and other examples from Italy and provinces, any date for the Wanborough piece can only be tentative. On the basis of the bronze examples quoted above, a first century date seems certain and it seems likely that it was brought into Britain during the early years of the Conquest but the precise date and place of manufacture are uncertain.' Phase 3B. 76A, IX, 9, 295.

107. Small sub-rectangular handle from a patera. Phase 3B. 70J, III, 2, 14.

Knob handles

108. Small round-section knob handle, one end narrow with a square-section shank stub in the centre. From its weight, the piece is probably lead filled. This is one of three such items from the site and they are common from other sites, displaying great variety in context and date, being termed variously ferrules or handles. Where complete, the shank continues to a length of 10–20mm, perforated near the tip which would act as a suitable lock peg for a handle, perhaps for furniture or box drawers. Phase 3B. 69C, VIII, 1, 88. Fishbourne (Cunliffe 1971, fig. 46, 118); Gloucester (Hurst 1975, fig. 27, 66–7); Nettleton (Wedlake 1982, fig. 88, 38 (second–third century A.D.)); Newstead (Curle 1911, pl. lxxviii, 10 (later first century, Antonine)); Ravenglass (Potter 1979, fig. 27, 29–33 (third–fourth century A.D.)); Shakenoak (Brodribb *et al.* 1968, fig. 31, 53 (third century A.D.); 1971, fig. 50, 124 (c. A.D. 160–250)); *Verulamium* (Frere 1972, fig. 38, 105 (A.D. 310–315)).
109. Small round-section knob handle. The thick flat rim contains a recessed lead fill with a central square recess. 67, G.27, 2, 3364.

Handle binding

110. Coil of thin strip enclosing a short length of highly oxidised material, possibly wood, which bears traces of a small central perforation. Possibly a coiled handle binding for a small object, as in a larger example from Winchester. Phase 3A. 76C, XXXVIII, 18/19, 190. Winchester (Biddle 1967, fig. 9, 27B (c. A.D. 85–95)).
111. Binding fragment from a handle. 68, 9 (NE Ext.), 3, 318. Gadebridge Park (Neal 1974, fig. 56, 51a).

Miscellaneous handles

112. One of two similar rings. This closely resembles the fluted rings used as drop handles included in casket burials — see Skeleton Green (Partridge 1981, 316–21). Phase 3A. 76B, X, 7, 395. Puckeridge, in Skeleton Green (Partridge 1981, fig. 118, f and g, fig. 119, b–j, fig. 120, k–m (Vespasianic and mid-Antonine)); Richborough (Bushe-Fox 1928, pl. xv, fig. 1, 4–7 (mid-first century A.D.)).

Harness fittings

It is likely that many of the plain circular rings from the site are harness fittings but because of the difficulties in interpreting such rings, they have been placed in the 'Miscellaneous rings' section. Only material with reasonably well-attested harness use is included here.

Despite the varied context dates the forms present are nearly all well-documented first-century types, often with military associations, but by itself the group is too small to suggest more than a military presence at Wanborough.

Pendants and plaques

113. Fragmentary heart/swan-shaped pendant with palmette motif. The transverse bar has a ridge along each edge and a row of short transverse ridges in between. Phase 3A. 76B, X, 16, 250.

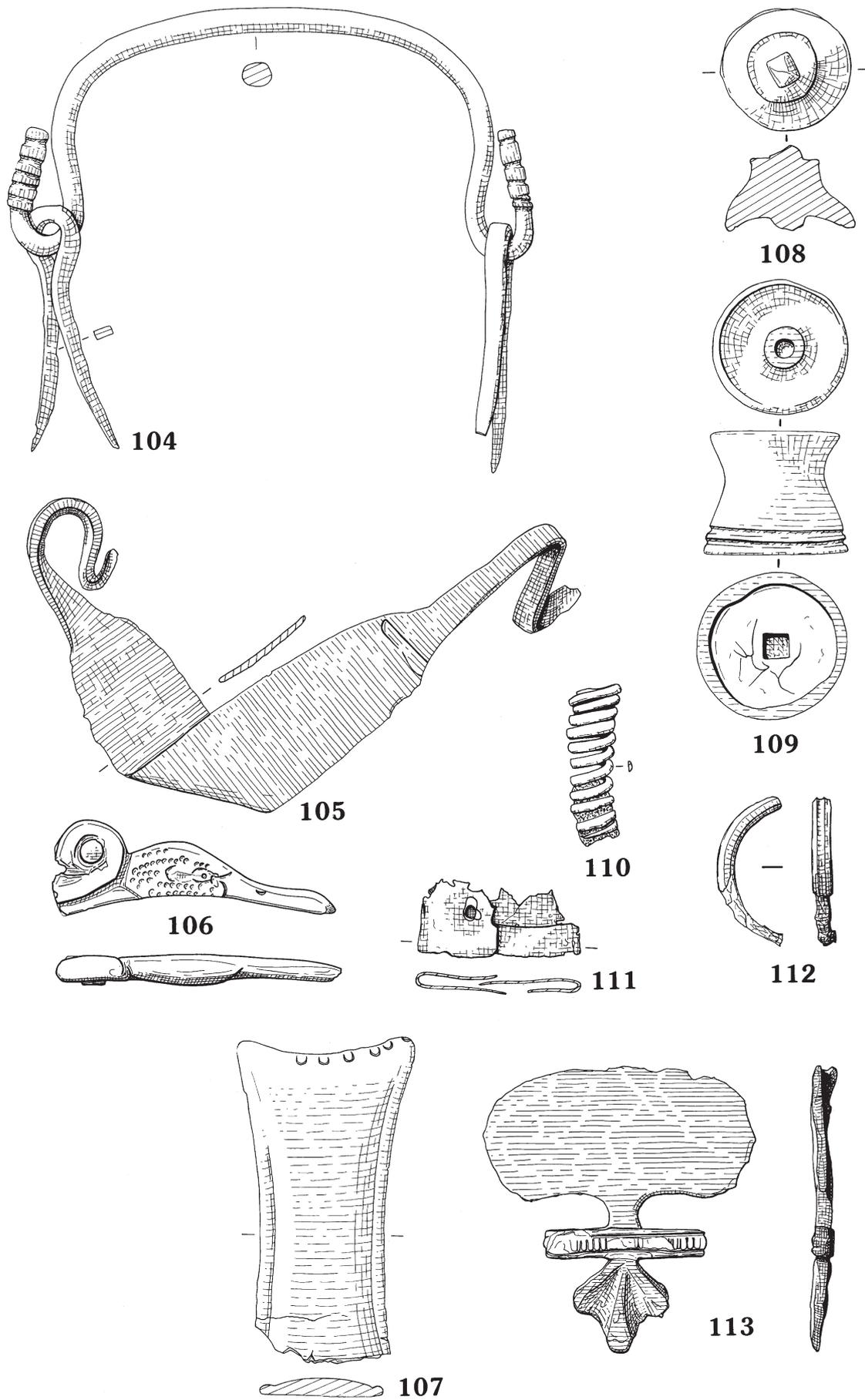


FIG. 36. Copper alloy objects: handles (104–112); harness fitting (113). Scale 1:1.

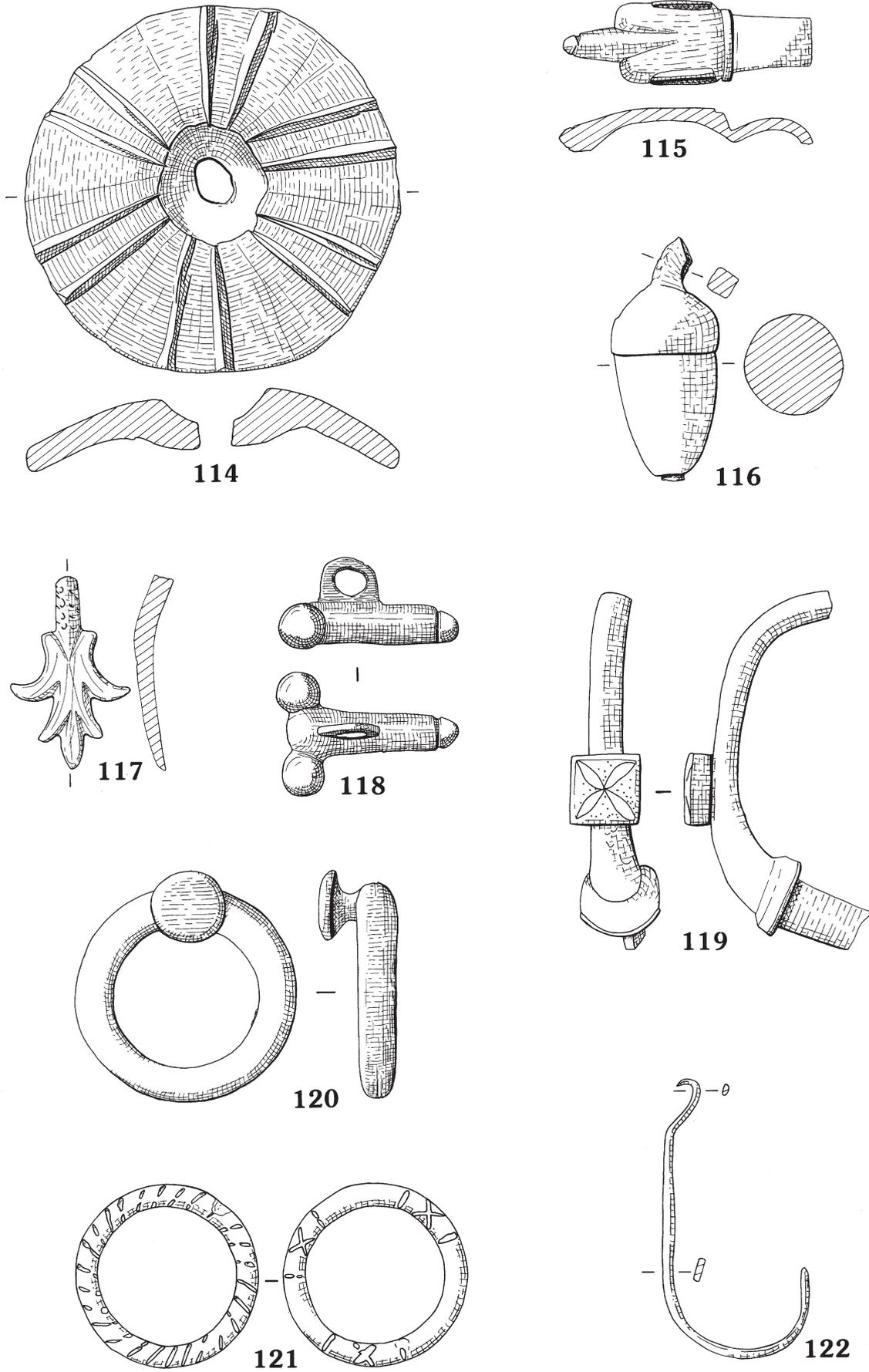


FIG. 37. Copper alloy objects: harness fittings (114–121); hook (122). Scale 1:1.

- Camulodunum* (Hawkes and Hull 1947, pl. ciii, 13); Cirencester (Wacher and McWhirr 1982, fig. 35, 97); Hofheim (Ritterling 1912, Taf. xiv, 2 (pre-Flavian)); Wroxeter (Bushe-Fox 1914, fig. 7, 22 (c. A.D. 80–120). Baden — *Aquae Helveticae* (Unz 1971), Oberstimm (Böhme 1978, 211–13, Abb. 73, 78, Fundliste 5, 222–6).
114. Almost circular plaque bearing six radial ribs of double rounded ridges with a broad groove between. The under surface is rough-cast. Traces of gilding present. 76C, XXXII, 69a, 367. Blackburn Mill (Piggott 1953, fig. 13, B51 (later first century A.D.)); Newstead (Curle 1911, pl. lxxiv; 1, 2, 3, 10 (for basic form only) (later first century A.D. — Antonine)).
115. Winged phallus-shaped hollow pendant mount. 78, Nythe Farm, Area C, U/S. For general discussion: Turnbull (1978), Webster (1958, 74, 32). For form: all in Webster (1958) — Colchester Museum, fig. 4, 69; London, fig. 6, 141; Wroxeter, fig. 8, 256 (all mid-first century A.D. military forms).
116. Acorn pendant with a square-section iron mounting peg emerging from the top and a copper alloy stub projecting below the seed's apex. Its weight suggests a lead filling. Acorns are a common motif on military horse equipment (Webster 1958, fig. 3, 29 and 30; 1982, fig. 38, 123–5). In view of the curved mounting peg this may be from the top of a harness pendant. 68, C.10 (NE Ext.), 3, 330. Richborough (Bushe-Fox 1926, pl. xiv, 21); Shakenoak (Brodrigg *et al.* 1968, fig. 30, 37 (late second to early third century A.D.)); *Verulamium* (Frere 1972, fig. 38, 113 (A.D. 310–315)).
117. A tinned decorative mount formed as a stylised palmette or bird's foot, with a broken short stem or leg and flattened palmette or claw section. The leg is covered by small stamped arcs. Probably a harness pendant as No. 119. 67, G.29, 2, 3468. For similar stamped arcs on a harness pendant bird motif: Cirencester (Wacher and McWhirr 1982, fig. 36, 100 (mid-first century A.D.)).
118. Small phallic pendant with suspension loop. Turnbull (1978) interprets these amulets as harness pendants. Phase 3B. 76C, XXXIII, 98a, 188. *Camulodunum* (Hawkes and Hull 1947, pl. c, 20); Colchester Museum (Webster 1958, fig. 33, 47 (A.D. 130–150)); Wall (Webster 1958, fig. 8, 223 (mid-first century A.D. military)).

Harness rings

119. Platform terret ring fragment. A small square plaque is brazed and bears a design of four copper alloy petals reserved against white enamel. MacGregor (1976, 45–7, 67–9, map 9). U/S. *Camulodunum* (Hawkes and Hull 1947, pl. xcix, 4–5, for the plaque motif (pre-Flavian)).
120. Harness ring comprising a large thick, round-section ring with a small slightly convex-topped stud fixed to one side by a concave-sided neck. Traces of a narrow line of oblique milling, with a groove to each side, run around the ring's outer perimeter, becoming very indistinct over short portions on each side of the stud, possibly due to outer edge wear. The half of the ring opposite the stud is markedly thinned and narrowed, though the milled line remains intact, suggesting wear on the inner edge and sides over this section. While usually classified as harness rings, it is possible that they were junction rings for straps reinforcing bags and satchels, the stud providing the fastener to secure the top flap when closed (N. Fuentes, pers. comm.) although it is doubtful whether this function would have produced the wear pattern on this example. Another possibility, particularly in view of the parallels from military sites is that it is a baldrick hook. 76C, XXXVIII, U/S, 86. Broxtowe (Webster 1958, fig. 3, 14 (mid first century A.D. military)); Hod Hill (Brailsford 1962, pl. xi, I, 97 (mid-first century A.D. military)).
121. Probable harness ring with grooved designs filled by white enamel. U/S.

In addition, mention should be made of part of an enamelled terret found in 1969. The fragment equated to approximately two-thirds of the loop and was decorated with alternating scrolls of red and blue enamel, and was virtually identical to that from Fayûm, Egypt (British Museum 1925, 87, fig. 81). As the enamel was in very poor condition it was sent, before it had been recorded on site, to the Ancient Monuments Laboratory for conservation. It has not been possible, despite extensive searches, to locate the terret at the Laboratory.

Hooks

122. Hook in a form typical of steelyard hooks. 76, RC U/S. London (Wheeler 1930, pl. xlix, 4–5).

Keys

123. Tumbler lock key, with ring terminal. Phase 2A, 76B, IV, 20B, 343. London (Wheeler 1930, pl. xxx, b, 5 (c. A.D. 100?)); Newstead (Curle 1911, pl. lxxviii, 13 (later first century — Antonine)); Richborough (Cunliffe 1968, pl. xlvi, 200 (first–second century A.D.)).

124. Rotary lock key with ring terminal. WAN, U/S. Caerwent (Ward 1911 fig. 67, E); London (Wheeler 1930, pl. xxxi, 1–5); South Shields (Miket 1983, 3.347).
125. Elaborate perforated key top. Phase 3B, 76B, VI, 1, 13. Newstead (Curle 1911, pl. lxxiii, 5 (later first century — Antonine)); Richborough (Bushe-Fox 1949, pl. xxxiv, 86 (pre-A.D. 90)); Wroxeter (Bushe-Fox 1913, pl. x, fig 1, 1).
126. Possible latch-key. Phase 3B, 70F, V, 2, 34.

Mirrors

The following report has been kindly submitted by Dr G. Lloyd-Morgan. The mirrors can be divided into two categories: first, the simple undecorated rectangular mirrors, and second, the more elaborate hand mirrors.

Rectangular mirrors

Both fragments of these mirrors (127–8) retain part of the straight bevelled outer edge; No. 128 is a corner fragment. On both pieces traces of the original ‘silvered’ coating can be identified on the reflecting side. The underside has the unfinished, rather pocked surface characteristic of both the rectangular and simple disc mirrors. The mirror was made of a high percentage tin bronze and to prevent breakages by careless handling and avoid over fingering of the reflecting surface, it was placed in a wooden frame or box. A major part of the wooden backing of a nearly complete rectangular mirror was found at Towcester and other examples have been found both in Britain and elsewhere (Lloyd-Morgan 1981, Group A). The rectangular mirror is one of the most widespread and numerous types of Roman mirror. After the first century very few examples are found.

127. U/S, 96.
128. 68, C.61, 2, 325.

Hand mirrors

129. Mirror disc. Hand mirrors were cast in two sections, the handle and the disc, which were then soldered together. Although there are a few eccentric pieces, most discs are circular and can be differentiated by form and method of decoration. The fragment from Wanborough is virtually flat on both sides and would have had a diameter of perhaps 150mm. The reverse is decorated with a lightly drawn series of circles and on the reflecting side there is a narrow series of spin marks overlaid with a spaced series of dot-and-circle patterns. It can be classed as Type Hc (Lloyd-Morgan 1981, 47–8, pl. 10a, b). It is not a particularly common form, though recently a number of examples have been found during excavations at Canterbury, Hayling Island, Hants, Lincoln and Staines, Middlesex. There is also an example in the Colchester and Essex Museum (no. J507). 67, U/S.
130. Mirror handle. Although some of the silver mirrors from Pompeii and Herculaneum have elaborately decorated handles, those in the provinces have either a baluster or loop-shaped grip below the support for the mirror disc. The Wanborough handle still has a small fragment of the mirror disc soldered on to the leaf-shaped support. In the earliest example the arms are cast and engraved to give the appearance of long-billed birds’ heads. In this case, the heads are stylised: the grip is a single loop ending in an extended knob. This knob is the surviving part of the runner used during casting, but it has been tidied up sufficiently to make a not unattractive appendix to the piece. The handle can be compared with pieces in the Museo Etrusco Guarnacci, Volterra (Lloyd-Morgan 1975, 107–16, 112–13, and fig. 10 for full discussion of type). It seems likely that, as with many other finds from the northwestern provinces, this handle with its mirror disc was a product of the north Italian workshops of the first century A.D. 68, C.7, 1–2 interface, 1.

The four mirrors from Wanborough can all be dated to the first century A.D. and perhaps more closely to the earlier and middle years. The handle has strong links with examples from the north Italian workshops and the same origin would also seem likely for the rectangular mirrors. The import of these exotic luxuries in the wake of the Conquest and settlement has examples elsewhere in the province (Dean and Hammerson 1980, 20, n.7, fig. 4).

Mounts and brackets

131. Cast hollow rectangular base, tapered to the top. There is a roughly sawn rectangular slot in the centre and the base is smoothed flat. Phase 3B. 69D, IV, 1, 134.

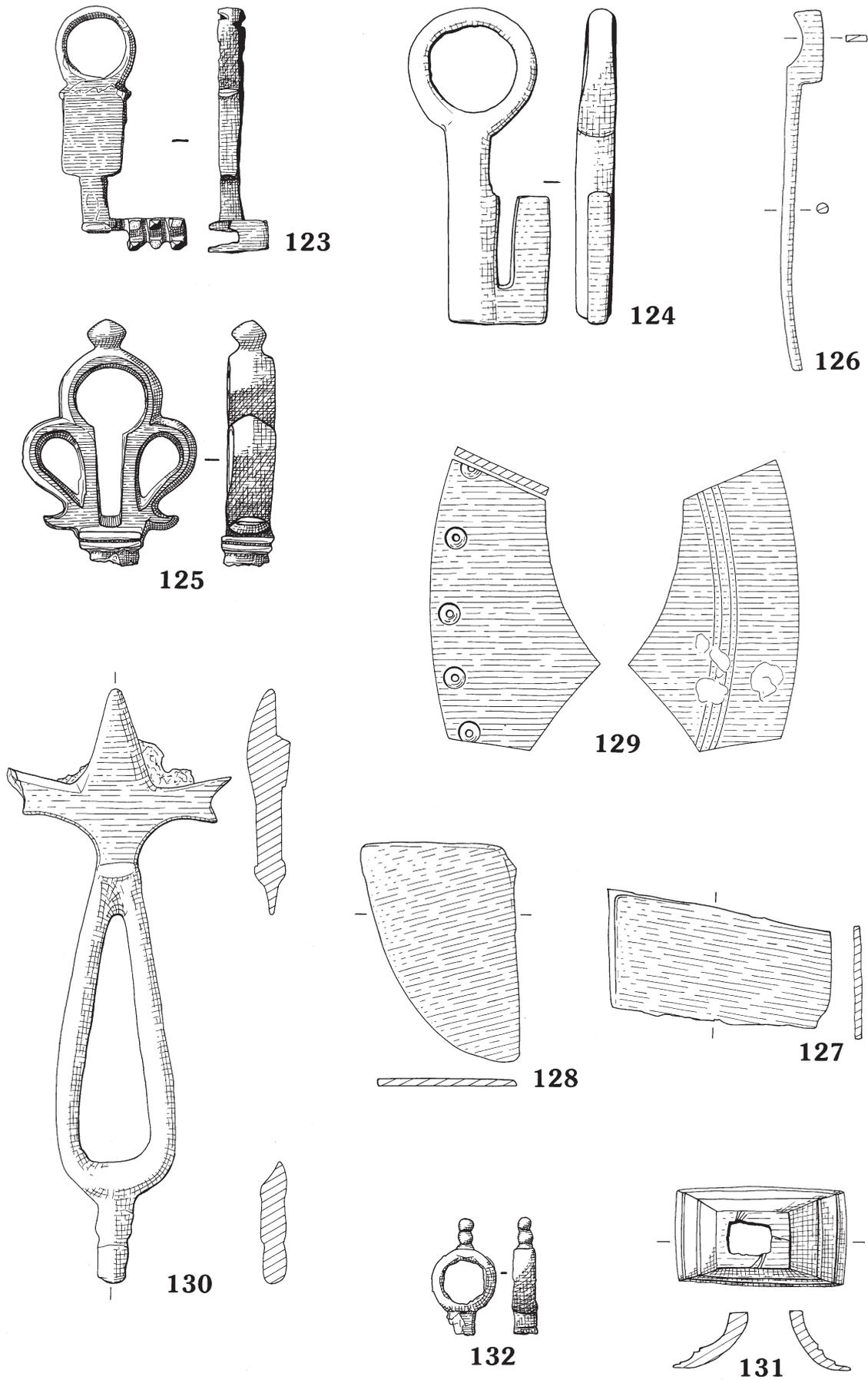


FIG. 38. Copper alloy objects: keys (123–126); mirrors (127–130); mounts (131–132). Scale 1:1.

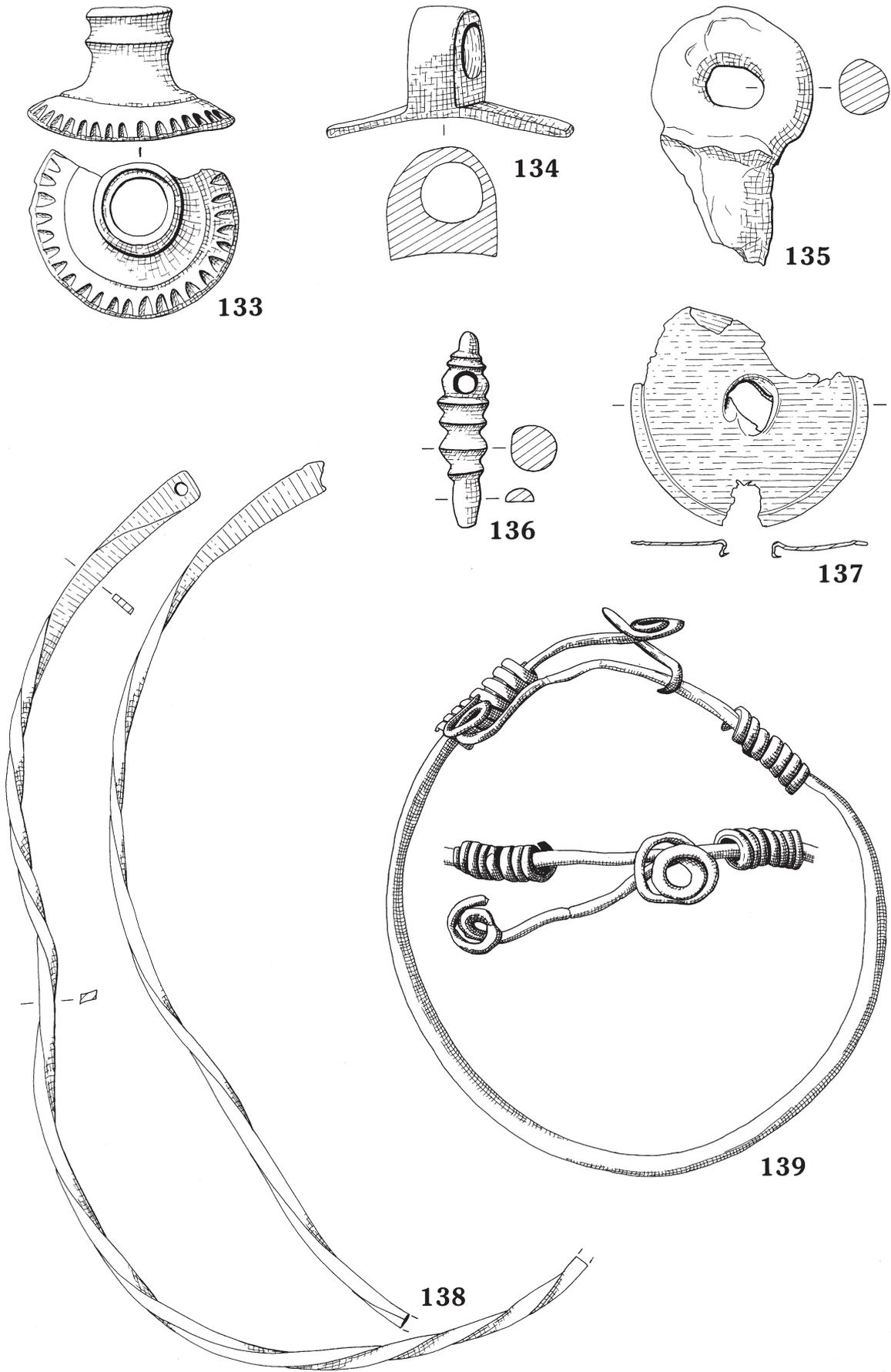


FIG. 39. Copper alloy objects: mounts and brackets (133–137); necklace (138); armlet (139). Scale 1:1.

132. Small ring mount on a broken square-section neck. The ring has two mouldings on a projection. The neck contains a round-section pin. Phase 3B. 76C, XXXIII, 2, 112.
133. Decorative mount and possibly a vessel base. The tubular end has a recessed inner edge and the perimeter band has triangular notches, five of which retain a light blue enamel inlay. Phase 3B. 69C, XIII, 1, 258.
134. Ring-topped bracket with flat sides; all flat surfaces bearing file marks. Not certainly Roman. Covingham, U/S.
135. Large ring mount mounted on a thick, torn metal fragment. Not certainly Roman. B. Walters, U/S.
136. Short peg with four mouldings forming the body, in which is a perforated section with a short rounded projection. 68, C.22, 1–2 interface, 68.
137. Disc with a central perforation. This piece may have been a shallow dome before being crushed. 70, RC U/S, 771750.

Necklaces and armlets

138. Almost complete twisted rod necklace broken in two. The complete end has a small perforation near the edge. Phase 3A plus, A.D. 260 plus (coin date). 69E, VII, 2, 272.
139. Complete armlet of oval wire. Each end is coiled into a double-turn flat spiral, then wrapped in a seven-turn coil around the opposite end behind its spiral, producing a decorative junction allowing limited expansion (hence an armlet rather than a necklace). Phase 3B. 76A, XXI, 59, 600. Maumbury Rings (Bradley 1975, fig. 20, 10); Richborough (Bushe-Fox 1932, pl. xiv, 45 (c. A.D. 330 plus)).

Needles

Twenty-one needle fragments were found, falling into two groups: (i) those where the eye, which is usually rectangular, is worked into the flattened head of the shank, and (ii) those where a more elongate, oblong eye is worked into opposed grooves on the head. Few of the pieces are dated, but comparative material suggests production of the former type from the first–fourth centuries A.D. The grooved head type appears in the third century, predominating in the fourth. It is possible that this is a functional difference — pieces with an extremely flared, flattened head would require a long slit or large loop through which to pass.

The observations of types and dating noted here accord well with those made by Crummy in the Colchester report (1983, 65) for the needle types found there, where her Type 2 needles correlate with the forms with rectangular eyes, and her Type 3 needles with those whose eyes are set in grooves.

Eye set on flattened shank terminal

140. Long, round-section needle, progressively flattened and flared from 18mm below the head to the edge. The rectangular eye slot is set into the flat facets. Three other similar needles were found. Phase 2B. 76A, IX, 19, 630. Billingsgate (Jones 1980, fig. 50, 448 (first century A.D.) and 452 (pre-A.D. 140)); Caerleon (Nash-Williams 1932, fig. 38, 4); Hofheim (Ritterling 1912, Taf. xvi, 19 (pre-Flavian)); Leicester (Kenyon 1948, fig. 89, 19 (pre-A.D. 130)); London (Wheeler 1930, pl. xlii, 3); Newstead (Curle 1911, pl. lxxiii, 8 (later first century A.D. — Antonine)).
141. Long round-section needle with a flattened and markedly flared head form, ending in a concave terminal edge. The eye is very narrow. Phase 3B/69E, I, 2, 51. Gadebridge Park (Neal 1974, fig. 64, 228); Richborough (Bushe-Fox 1932, pl. xii, fig. 1, 29 (first century A.D.)).
142. Possible needle, or needle blank lacking an eye, similar to No. 141. 76A, U/S, 453.
143. Very small, round-sectioned needle flattened at the head with a small rectangular eye cut into the facets. 68, C.55, 4, 319.
144. Long round-sectioned, tapering needle with circular eye, drilled from both sides. Phase 3A. 76A, XIV, 20, 364.

Eye set in grooves at shank terminal

145. Slender round-sectioned needle with a deepening groove on opposing faces starting 28mm from the head and running off the end. Narrow elongated oblong eye. 68, C.46/47, 234. Gadebridge Park (Neal 1974, fig. 64, 230 (mid-fourth–fifth century A.D.)); Nettleton (Wedlake 1982, fig. 94, 1).
146. Long square-section needle, rounded at the head end, with bowed grooves on opposing faces starting 25mm from the end and becoming markedly narrowed by the end, containing an oblong eye. WAN, Ford, U/S.

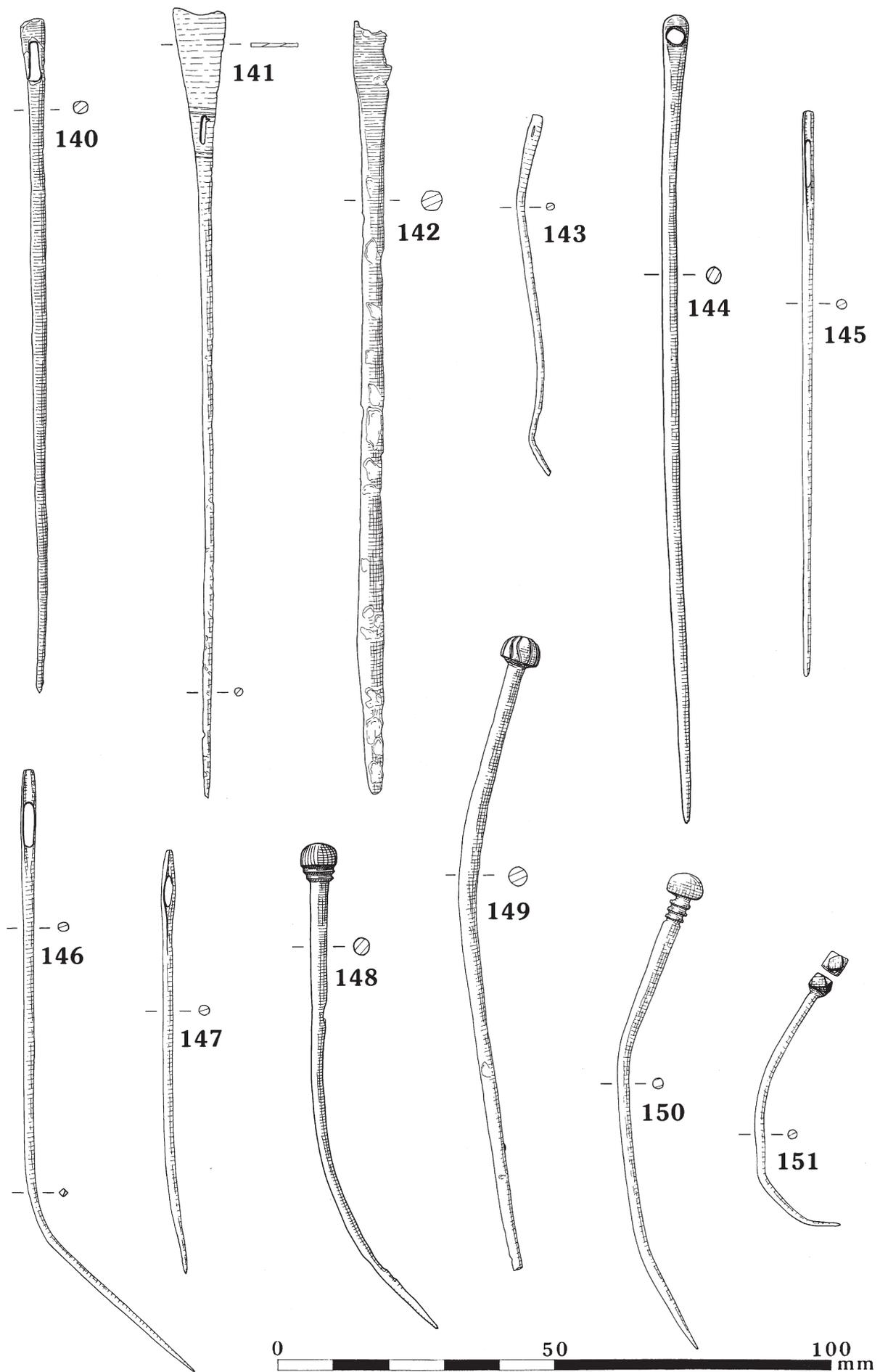


FIG. 40. Copper alloy objects: needles (140-147); pins (148-151). Scale 1:1.

147. Small needle with round-section shank with an oval eye with pointed ends set in a bowed groove, tapering over 5mm from each end of the eye and bulging sides at the eye. K. Ray, U/S. Leicester (Kenyon 1948, fig. 89, 18 (c. A.D. 200–250 plus)); Shakenoak (Brodribb *et al.* 1968, fig. 30, 31 (fourth century A.D.); 1978, fig. 41, 241 (c. A.D. 350)).

Pins

Domed head form

148. Pin with hemispherical head decorated by radial incised lines. Two other similar pin fragments were found. Phase 3B. 76B, X, 2, 160. Nettleton (Wedlake 1982, fig. 93, 15 (fourth century A.D.)); Cirencester (Rennie 1971, fig. 6, 7).
149. Pin with hemispherical head decorated by shallow grooves, starting radially and turning obliquely to the edge on the dome sides. Phase 3B. 76C, XXXIII, 2, 173. Nettleton (Wedlake 1982, fig. 93, 16 (first–second century A.D.)).
150. Pin with plain hemispherical head. Four groove mouldings cut into the shank. Another example (Archive No. 278) was found, with a single shank ridge, and another with two ridges (Archive No. 277). WAN, U/S. Gadebridge Park (Neal 1974, fig. 64, 221 (pre-A.D. 325) and 222 (late-Antonine?)); London (Wheeler 1930, pl. xli, 6); *Vérulamium* (Frere 1972, fig. 34, 60 (A.D. 130–140)).

Cuboid faceted head form

151. Small pin with faceted cubic head. Another example (Archive No. 280) has a similar head which is broken showing the head to be drilled and added to the shank. Phase 3B. 69A, VII, 2, 53. Nettleton (Wedlake 1982, fig. 93, 11 and 12 (fourth century A.D.)); Portchester (Cunliffe 1975, fig. 113, 50 (fourth century A.D.) and 51 (mid to later fourth century A.D.)); Richborough (Bushe-Fox 1949, pl. liii, 199–201). For bone pins of similar head form, Crummy (1979, Type 4 (c. 250 to late fourth/early fifth century A.D.)).

Decorated shank top — no expanded head form

152. Rounded, lightly faceted pin with a spiralling line around 13mm of the head end. Phase 3B. 86B, XVI, 1, 63. Nettleton (Wedlake 1982, fig. 93, 6 (third century A.D.); Shakenoak (Brodribb *et al.* 1968, fig. 30, 35 (early third century A.D.); 1971, fig. 49, 84 (c. A.D. 120–160)); Winchester (Cunliffe 1964, fig. 24, 19 (A.D. 140–200)).
153. Broken round-sectioned shank. The head comprises a three-turn incised line spiral leading to a short bulbous section, topped by a small double ridge-moulding, terminating in a small, rounded knob. 68, C.60 (SE Ext.), 3, 349. Barnsley Park (Webster 1981, fig. 12, 9 (A.D. 275–315)); Camerton (Wedlake 1958, fig. 60, 44 (c. A.D. 250–380)); Nettleton (Wedlake 1982, fig. 93, 5 (third century A.D.)).

Other head forms

154. Elaborate head with two mouldings with milled bands. Phase 2A. 76B, X, 20a.
155. Pin with a cross-hatched cylindrical head. Phase 3B. 76A, IX, 10, 380. Nettleton (Wedlake 1982, fig. 93, 18 (fourth century A.D.)); Shakenoak (Brodribb *et al.* 1973, fig. 55, 203 (earlier second century A.D.)).
156. Pin with biconical head, the upper cone with incised decoration. Phase 3B. 76B, XVI, 1, 60. Chichester (Down 1978, fig. 10.37, 102); London (Wheeler 1930, pl. xli, 5); Skeleton Green (Partridge 1981, fig. 55, 18).
157. Pin with disc head, each face has a roughly central dot surrounded by an incised circle. Phase 3B. 69E, I, 2, 49. For disc head form: Nettleton (Wedlake 1982, fig. 93, 8 (fourth century A.D.)).
158. Pin with elaborate waisted head. 76, S.S.M., U/S. Hofheim (Ritterling 1912, Taf. xvi, 5 (pre-Flavian)); Leicester (Kenyon 1948, fig. 89, 3 (A.D. 125/30–200)).
159. Extremely long pin with twisted, broken shank and conical head. 70, RC U/S.

Miscellaneous plaques and decorative fittings

160. Small fragment shaped as a narrow pointed leaf tip with widely spaced ‘V’ notches set obliquely to the edge and a double incised line along the midline. Behind the point is a small longitudinally curved bracket. Phase 1B–C. 76B, X, 27, 427.

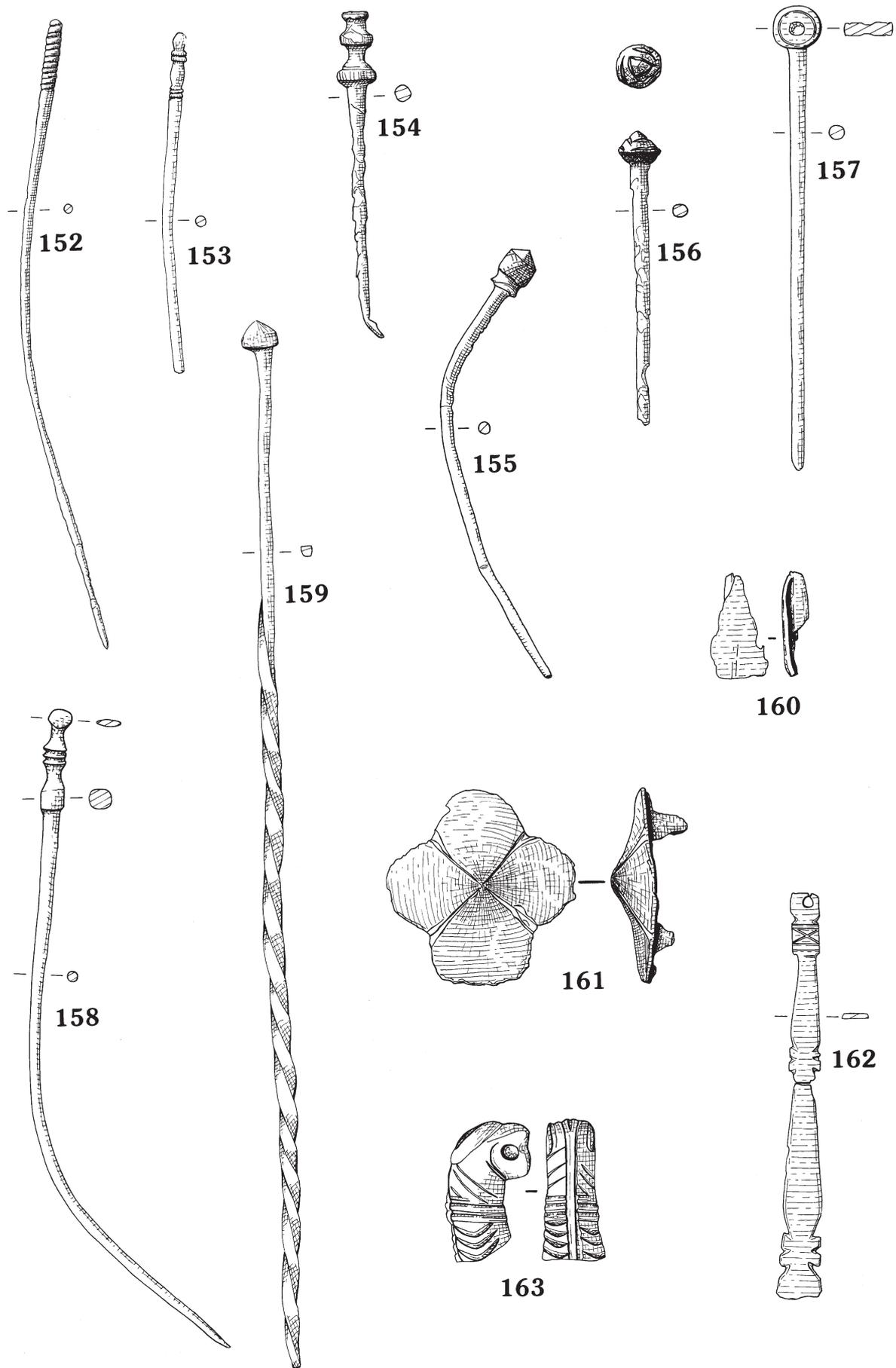


FIG. 41. Copper alloy objects: pins (152-159); decorative fittings (160-163). Scale 1:1.

161. Small sub-rectangular domed plaque. The hollowed under surface has two stumps. Possibly a belt fitting. Phase 3B. 76C, XLVII, 173, 472.
162. Tapered strip, broken at broad end. The narrow end has a squared perforated terminal. Phase 3B. 70H, VI, 1, 149.
163. Tiger's head terminal, broken at the base of the neck. To each side of the mouth is a recess, a pivot point for a further attachment. Phase 3B. 69E, I, 2, 32.
164. Bracket-like fragment, similar to some lock hasps, for example from Richborough (Cunliffe 1968, pl. xlv, 194), but this lacks an appropriate fixing point. 69A, XX, 1, 175.
165. Small strip fragment, tapered to the break at a sharp curve to the rear. This piece is of appropriate size and shape to be a curled upper loop from a harness pendant. 70, RC, U/S, 771746. For function: Webster (1958), fig. 6, 143–4 (mid-first century A.D.).
166. Short rectangular strip, one face plain, the other decorated. 68, C.23, 1–2 interface, 60.

Miscellaneous rings

Twenty-two ring fragments were found which are too small for bracelets and most are too circular for finger rings. A variety of possible functions could be suggested; the larger rings with a single wear mark could be interpreted as suspension rings (e.g. Nos 168–70), while those with narrow, opposed wear marks may be individual chain links. One group comprises five circular rings of identical form and internal diameters of between 16 and 18mm (No. 173, Archive Nos 317 and 319–21). If wear is evident, it occurs over a broad area and deepens gradually. In view of this and the provision of a flattened inner face (which would reduce the tearing tendency of the ring) this group may have linked pieces of soft material, such as the leather straps of horse tack. Rings 171 and 174 may fall into this category.

167. Half a large ring. 76C, XLVII, U/S, 489.
168. Nearly half of a large cast ring, worn near one break. 68, C.46, 1–2 interface, 278.
169. Thick ring fragment, which thins slightly at one point, probably due to wear. Phase 3B. 69B, II, 1, 13. Shakenoak (Brodribb *et al.* 1973, fig. 55, 210 (late fourth century A.D.)).
170. Complete ring which thins and is slightly pulled out of line at one point due to wear. 76B, VI, U/S, 14.
171. Complete ring with no traces of wear. 68, T.9, 1, 104.
172. Half a ring. Phase 3B. 69C, XIII, 1, 169.
173. Complete ring with a slightly narrowed section probably due to wear. One of five rings of almost identical form and similar size. Phase 3A. 76B, X, 17, 193. Gadebridge Park (Neal 1974, fig. 60, 123).
174. Complete ring, similar to No. 173. Thinned and narrowed section at one side due to wear. Phase 1B–C. 76B, XVI, 27, 234.
175. Complete ring. Probably a chain link. 67, G.4, 3, 214.
176. Very small ring. There is no trace of any thinning due to wear. 67, Field 497 (NE), U/S, 771764.

Spoons

177. Spoon with a circular, shallow-dished bowl. The shank end was beaten out to a tapered flange each side, reinforcing the junction. Three other spoons with similar simple shank/bowl junctions were found (Archive Nos 354–6). WAN, U/S. Fishbourne (Cunliffe 1971, fig. 47, 120 (c. A.D. 100–120)); Hod Hill (Brailsford 1962, pl. xi, 1, 52 (later first century A.D.)); Nettleton (Wedlake 1982, fig. 83, 1 (first to second century A.D.), P.201, 2 (fourth century A.D.)); Newstead (Curle 1911, pl. lxxiii, 6 (later first century A.D. — Antonine)); Skeleton Green (Partridge 1981, fig. 55, 23 (c. A.D. 15–25)).
178. Fragmentary spoon with traces of tinning on the shank. Phase 3B. 69A, III, 2, 4. Portchester (Cunliffe 1975, fig. 113, 59 (late third–fourth century A.D.)).
179. Short, twisted spoon-like shank. Phase 3B. 69A, X, 1, 126. Catterick (1956–57), fig. 5, 10); Lydney (Wheeler and Wheeler 1932, fig. 19, 93); Nettleton (Wedlake 1982, fig. 83, 3 (late fourth century A.D.) and fig. 84, 12 (third century A.D.)).
180. Shank/bowl junction fragment. The bowl has a tinned inner surface. 68C, 3, 1–2 interface, 22.

Thimble

181. Sheet metal thimble. The overall size is unusually large. U/S.

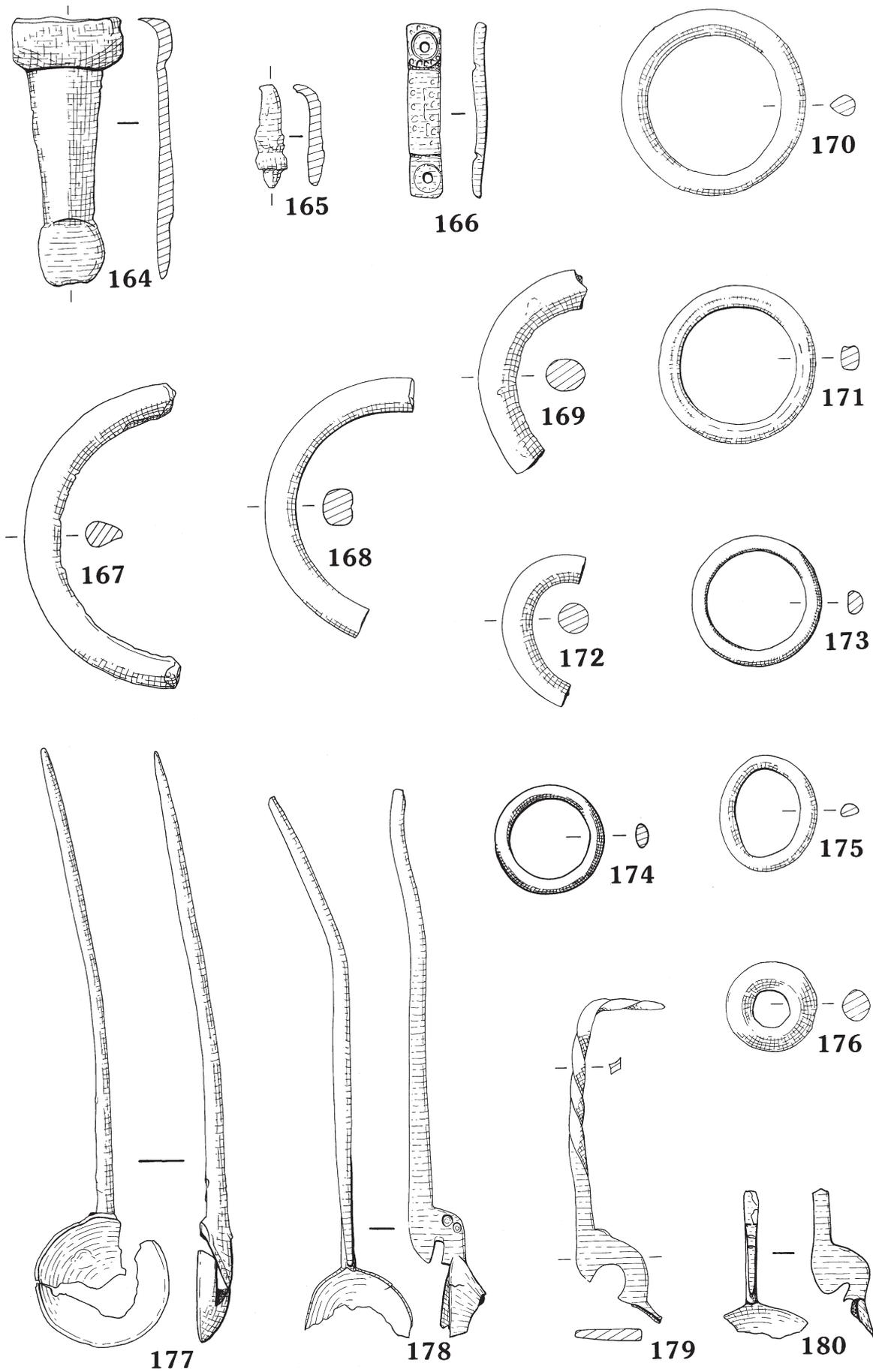


FIG. 42. Copper alloy objects: decorative fittings (164–166); rings (167–176); spoons (177–180). Scale 1:1.

Toilet and cosmetic equipment

This category includes a large proportion of the copper alloy finds, reflecting both the predilection for personal grooming already noted in Roman domestic life (Liversidge 1968, 36) and the pattern of deposition in some of the excavated areas. Despite the abundance of small perforated nail cleaners, there is a total absence of short perforated ear scoops, suggesting that ‘manicure sets’ probably lacked the ear scoop, unlike most sets from other sites. It is questionable whether some of the perforated nail cleaners came from such sets, since some (e.g. Nos 191, 199 and 205) are unsuitable for pivoted compression into a compact form adjoining other items, unless the pivot loop was fitted with spacers.

Ligulae

Twenty ligulae were recovered from the site. The same general forms remained in use throughout the Roman occupation. Features such as faceted shanks, elliptical or ogival scoops, and flat or dished scoops were present in both early and late contexts. A comprehensive corpus would be required to show whether detailed decorative features have chronological significance. Such a long currency for the form is hardly surprising in view of their function, which was to extract materials from phials and facilitate their application (British Museum 1958, 10; Liversidge 1968, 136).

182. Small scoop, with incised line before the scoop junction. Phase 2A plus, A.D. 69–117 plus (coin date). 70G, I, 5, 35. Shakenoak (Brodribb *et al.* 1971, fig. 49, 81–2 (c. A.D. 80–160)); *Verulamium* (Frere 1972, fig. 35, 70 (A.D. 270–280)).
183. Complete ligula. Phase 2B. 76A, VIII, 35, 500. Billingsgate (Jones 1980, fig. 51, 456–8 (pre-A.D. 125)).
184. Extremely long ligula. Phase 3B. 69E, I, 2, 5. For size: Fishbourne (Cunliffe 1971, fig. 42, 58 (c. A.D. 280–320s)). For shank form: Billingsgate (Jones 1980, fig. 51, 456 and 458 (pre-A.D. 125)).
185. Elaborate ear scoop interpreted as such because of its small size. Phase 3B. 76B, X, 9, 447. For an almost identical decorative shank, but on a nail cleaner: Nettleton (Wedlake 1982, fig. 94, 4 (third–fourth century A.D.)).
186. Complete ligula. 67, G.14, 2, 4045. Scole (Rogerson 1977, fig. 58, 34–5 (mid-Antonine to late third century A.D.)); Shakenoak (Brodribb *et al.* 1971, fig. 49, 80 (c. A.D. 80–160)).
187. Scoop terminal from ligula. WAN-Z, U/S, 26. Shakenoak (Brodribb *et al.* 1971, fig. 49, 81–2 (c. A.D. 80–160)); *Verulamium* (Frere 1972, fig. 35, 70 (A.D. 270–80)); Wakerley (Jackson and Ambrose 1978, fig. 58, 17).
188. Complete ligula. 67, T.6, 3, 38.
189. Complete ligula. 68C, 9, 3, 367.
190. Complete ligula. WAN, U/S.

Nail cleaners

In contrast to the ligulae, the nail cleaners display considerable variation in decoration and in the depth and width of the forked tip. A representative sample is illustrated.

191. Flat strip form with a perforated head. Body decorated by three diagonally-set compressed crosses on one face. Phase 1B. 76A, XXI, 27, 587. For flat strip form: Fishbourne (Cunliffe 1971, fig. 42, 67–8 and 70–1 (c. A.D. 43–75) and 69 (c. A.D. 75/80–100)). For decorative motifs: *Camulodunum* (Hawkes and Hull 1947, pl. c, 36 (pre-Flavian)); Gadebridge Park (Neal 1974, fig. 62, 184 (A.D. 75 — Antonine)); Portchester (Cunliffe 1975, fig. 113, 56 (later fourth century A.D.)).
192. Narrow strip body. Phase 1B. 76B, X, 27, 415. Newstead (Curle 1911, pl. xcii, 16 (later first century A.D. — Antonine)).
193. Short rounded rod with a bone ring at top. Another almost identical example was recovered (Archive No. 391). Phase 1B–C. 76B, XVI, 28, 229. All of almost identical form: Cirencester (Wacher and McWhirr 1982, fig. 26, 22 (mid first century A.D.); fig. 30, 71 (late first–early second century A.D.)); Nettleton (Wedlake 1982, fig. 94, 7, 8, 11 (third–fourth century A.D.)).
194. Flat strip form with bulbous body. Phase 2B. 76A, IX, 18, 638.
195. Rounded rod form, head decorated with two mouldings with fine hatching. Phase 3A. 76A, VIII, 20, 443.
196. Nail cleaner with a flat main body and moulded head. Phase 3A. 76A, IX, 11, 407. Wroxeter (Bushe-Fox 1914, fig. 5, 13).
197. Rounded rod body with a bulbous upper half, the head decorated with two wide, cross-hatched bands. Phase 3B, 69B, IV, 3, 135. Nettleton (Wedlake 1982, fig. 94, 4 (third–fourth century A.D.)).

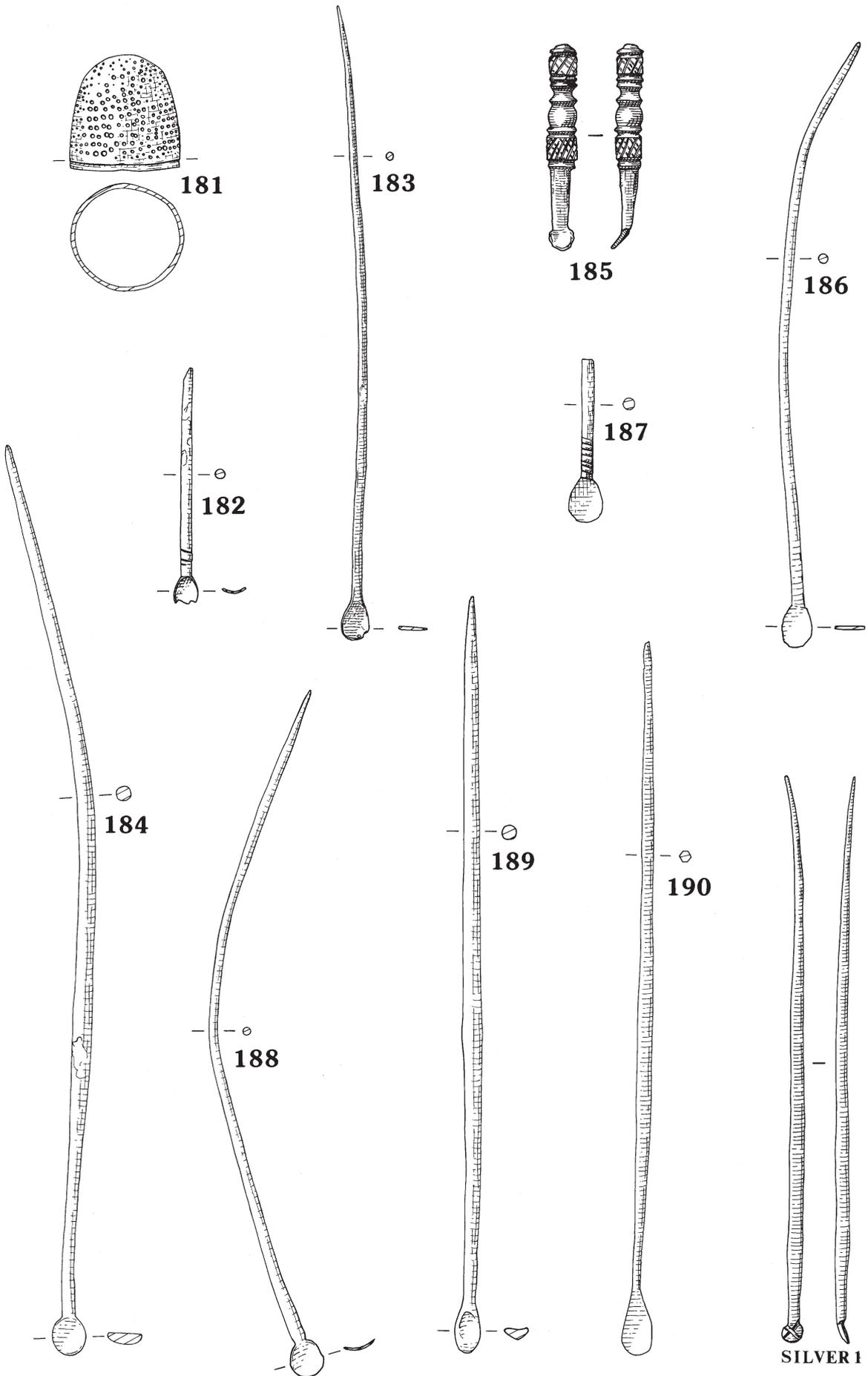


FIG. 43. Copper alloy objects: thimble (181); ligulae (182–190); silver ligula (1). Scale 1:1.

198. Rod body with a perforated ring through which passes a loop of thick wire. Another almost identical piece was found in the main excavation area (Archive No. 397). 77, Nythe Farm, Area C, U/S. Nettleton (Wedlake 1982, fig. 94, 5–6 (third–fourth century A.D.)).
199. Nail cleaner of very similar form to No. 198. RC U/S.
200. Rounded rod. The upper half has seven short bands bearing oblique incised lines separated by narrow encircling grooves. The terminal is flattened to form a perforated suspension point. 67, G.22, 5474.
201. Flattened strip form. The upper two-thirds of the shank is divided into five plain bands by groups of four transverse grooves. The head is flattened to a rounded, perforated large terminal loop. Possibly unfinished. WAN, U/S, 680955.
202. Oval-section rod body with a hammered flat, sub-triangular perforated head. The lower half is rather roughly flattened. The upper body has a series of short, angled grooves across both main faces, with a midline gap through the sequence. WAN-W, U/S, 4.
203. Rounded rod body with an elaborate head. 68C, 42, U/S, 162.
204. Short nail cleaner with elaborately incised head. The shank is a tapered octagonal section. 67, G.4, 2, 139.
205. Nail cleaner with an elaborate head form with a central bulbous section with ridge mouldings to each side and a large rounded terminal suspension loop. The fork tip is broken away. RC U/S.
206. Strip form with a small notched fork and relatively wide tapered groove, to each side of which are closely spaced transverse lines. The shank is divided into four plain sections by pairs of transverse incised lines terminating in a large flat ring with edge notching on the upper face only. 67, G.31, 2, 5308. Wycomb (Rawes 1980, fig. 12, 1).
207. Sub-rectangular section with a series of oblique grooves. The head is rounded and has a large perforation. 67, G.14, 2, 3077.
208. Narrow sub-rectangular shank, elaborately decorated. 67, T.5 (West), 1, 56.
209. Narrow nail cleaner. The upper half is entirely covered by fine encircling grooves. There are two bands of three broader grooves on the upper and lower portions and a central band of two such grooves. The lower half has a narrow notch from which the tapered groove extends, beyond which are two fine crosses bounded by transverse lines, with a space in between. The opposite face bears six such crosses in a sequence from the top of the lower half. 67, G.18, 1, 3079. For fine cross motif on a narrow nail cleaner: Wycomb (Rawes 1980, fig. 12, 1).
210. Very thin round-section nail cleaner, the upper two thirds covered by fine encircling grooves. 67, G.20, 3, 4634.
211. Strip form nail cleaner. A fine incised line runs up each edge to the shoulder on both faces. Above the shoulders, the head is flattened at right angles to the main body and has a rounded perforated top. 67, F.36, 4610. Gadebridge Park (Neal 1974, fig. 62, 185–8 (Nos 186 and 7 *c.* A.D. 75 — Antonine)); Great Casterton (Todd 1968, fig. 20, 3); Irchester (Hall and Nickerson 1967, fig. 16, 8); Richborough (Cunliffe 1968, pl. xliii, 178); Skeleton Green (Partridge 1981, fig. 54, 13 (*c.* A.D. 90)); Templeborough (May 1922, pl. xvi, 15).
212. Flat strip form decorated by transverse grooves on both faces. 68, C.10 (NE Ext.), F.56, 351. Gadebridge Park (Neal 1974, fig. 62, 184 (*c.* A.D. 75 — Antonine)).
213. Plain flat strip form. 67, G.4, 2, 140. Shakenoak (Brodribb *et al.* 1968, fig. 29, 17 (fourth century A.D.)).
214. Flat strip nail cleaner. 67, G.24, 2, 4059.
215. Flat strip nail cleaner with a poorly formed bulbous centre. U/S. A similar, but totally flat, example was found (Archive No. 418), but with a much shorter fork groove.

Probes and spatulae

Several fragments were found with ‘droplet’ form terminals at the end of broken shanks (e.g. No. 217). While these may have served as probes alone, it appears likely that they represent spatulae/probes with the spoon broken off, the focal point of the decoration being towards the break which would appear unusual if that were seen as the normally held terminal.

216. Long, round-section wire shank with droplet terminals, one of which has a small central transverse perforation. The wire is broken and is in two pieces. 67, G.12/13, 2, 1916.
217. Large ‘droplet’ form probe terminal tapered to a thin neck at the end of a hexagonal-section shank. The opposite end has two rounded ridge mouldings aside a central narrow ridge. This probably had a spatula spoon terminal. 68, C.14, 3, 311. *Verulamium* (Frere 1972, fig. 35, 71 (*c.* A.D. 75–105)).
218. Almost complete spatula. Near the spoon is a decorative band of five encircling grooves followed by two ridge mouldings. Phase 2A. 76A, II, 126, 660. Billingsgate (Jones 1980, fig. 51, 468 (pre-A.D. 140)); Nettleton (Wedlake 1982, fig. 84, 11 (fourth century A.D.)).

219. Complete spatula/probe with a droplet terminal. The body is decorated with incised spirals and has two sets of ridge mouldings. Period 1–2A. 69E, IV, 4, 176.
220. Spatula with a tapered, twisted square-section shank. 70, RC ‘Grave Goods’, U/S. For an identical form, but broken across the narrow neck and termed a ‘probe’: London (Wheeler 1930, pl. xxxvii, 8).
221. Thick, round-section shank covered by closely spaced longitudinal grooves. 70, RC ‘Grave Goods’, U/S.
222. Small spatula terminal. 67, G.19, 2, 3152.

Traction hook

223. Traction hook. The surface is covered with lozenge-shaped facets and the grooves within the mouldings contain a silver wire between them. A shallow perimeter groove on the top of the head contained a fragment of silver inlay. Traction hooks are discussed by Allason-Jones (1979). RC, U/S. South Shields (Miket 1983, 110, fig. 69, 37); Künzl (1982, 19).

Tweezers

Although frequently found on Roman sites, usually only a token are illustrated. The tweezers from the site display variety in the employment of various decorative motifs and in their basic form and dimensions. Nevertheless, one plain form predominates (e.g. Nos 225, 230) representing nine of the 29 tweezers found in different sizes throughout the range present, though, unfortunately, only one came from a datable context — Phase 3B (Archive No. 429).

224. Narrow strip tweezers with thin wire loop through the spring top. Phase 2A. 76B, XVI, 20B, 222. Gadebridge Park (Neal 1974, fig. 62, 182).
225. Complete small tweezers. U/S. Cirencester (Wacher and McWhirr 1982, fig. 26, 25 (later first century A.D.)).
226. One arm and the spring top from tweezers of constant-width broad strip, with a tiny spring loop enclosing a small iron pin which projects slightly to each side. The arm’s outer surface has a marginal incised line on both sides and three small dot and circle motifs along the midline. The presence of the pin in the spring loop is hard to explain; it does not appear to be a broken wire loop as in No. 224, but it is a reminder that the suspension handles of scales — e.g. Portchester (Cunliffe 1975, fig. 114, 62) and Richborough (Bushe-Fox 1928, pl. xxi, fig. 2, 56) — often bear such a pin and will resemble tweezers when broken. This interpretation has not been accepted for this piece as the ‘grip’ curve would obstruct any balance arm. 68, C.6, 3, 279. Nettleton (Wedlake 1982, fig. 94, 2 (third century A.D.)). For motif on tweezers of different form: Shakenoak (Brodrigg *et al.* 1972, fig. 30, 134 (c. A.D. 450 to late seventh century A.D.)).
227. Narrow strip tweezers. Upper arm outer faces bear a sequence of four pairs of oblique grooves which do not seem to be graffiti. 76, S.S.M., U/S.
228. Distorted tweezers of broad strip. 70H, V, 1, 54.
229. Tweezers of very thick strip. U/S.
230. Complete large tweezers of the same form as No. 225 illustrating the size range displayed by this predominant form. 67Q, U/S.
231. Narrow strip tweezers with a large spring loop and binding collar. 68, G.4, B3/4, 3, 202. For tweezers with strip binding collar traces: Nettleton (Wedlake 1982, fig. 94, 3 (third century A.D.)).
232. Narrow strip tweezers. WAN-X, U/S, 23.
233. Long tweezers formed on a broad strip of constant width throughout, with a relatively small spring loop. On the central midline on both arms is a 25mm long row of closely spaced oval dot impressions. This is a fairly common decorative feature on tweezers. WAN-W, U/S, 28. Camerton (Wedlake 1958, fig. 59, 5 (late third–fourth century A.D.)); Gadebridge Park (Neal 1974, fig. 62, 189 (fourth century A.D.)); Nettleton (Wedlake 1982, fig. 94, 2 (third century A.D.)).
234. One arm only. 70, RC U/S, 771753a. Gadebridge Park (Neal 1974, fig. 62, 181 (c. A.D. 75 — Antonine) and 182); Skeleton Green (Partridge 1981, fig. 54, 11). This decorative form frequently occurs on other tweezer forms, e.g. Caerleon (Nash-Williams 1932, fig. 34, 44 (c. A.D. 200–300)); Irchester (Hall and Nickerson 1967, fig. 16, 7); Nettleton (Wedlake 1982, fig. 94, 2 (third century A.D.)).
235. Narrow strip tweezers. The outer surface is entirely covered by incised line panels — transverse lines over the spring and upper arm, followed by a short cross-hatched panel, then four alternating plain and transverse line panels, and finally more transverse lines at the grip end. 67, G.19, 2, 4072.

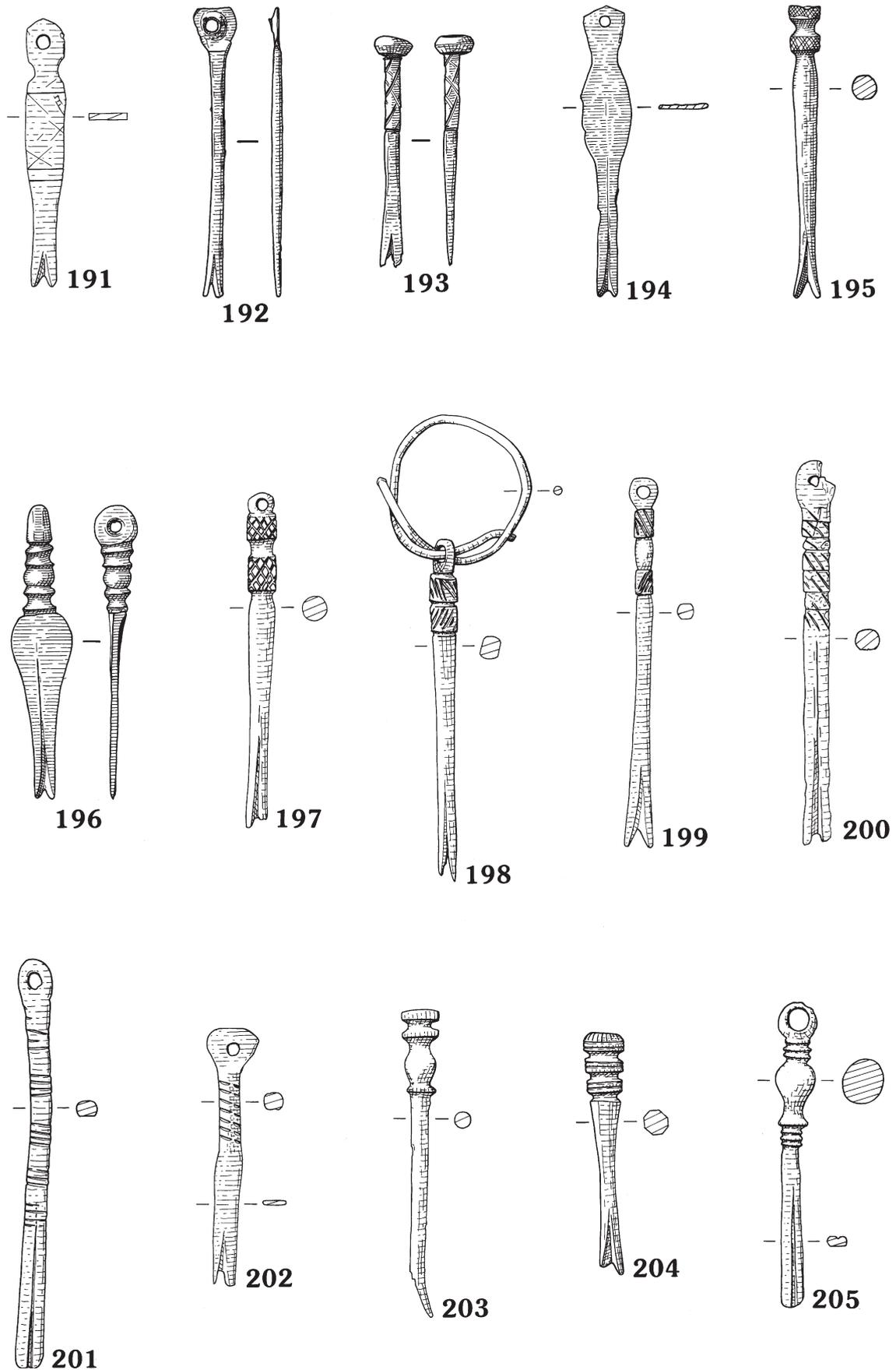


FIG. 44. Copper alloy objects: nail cleaners (191–205). Scale 1:1.

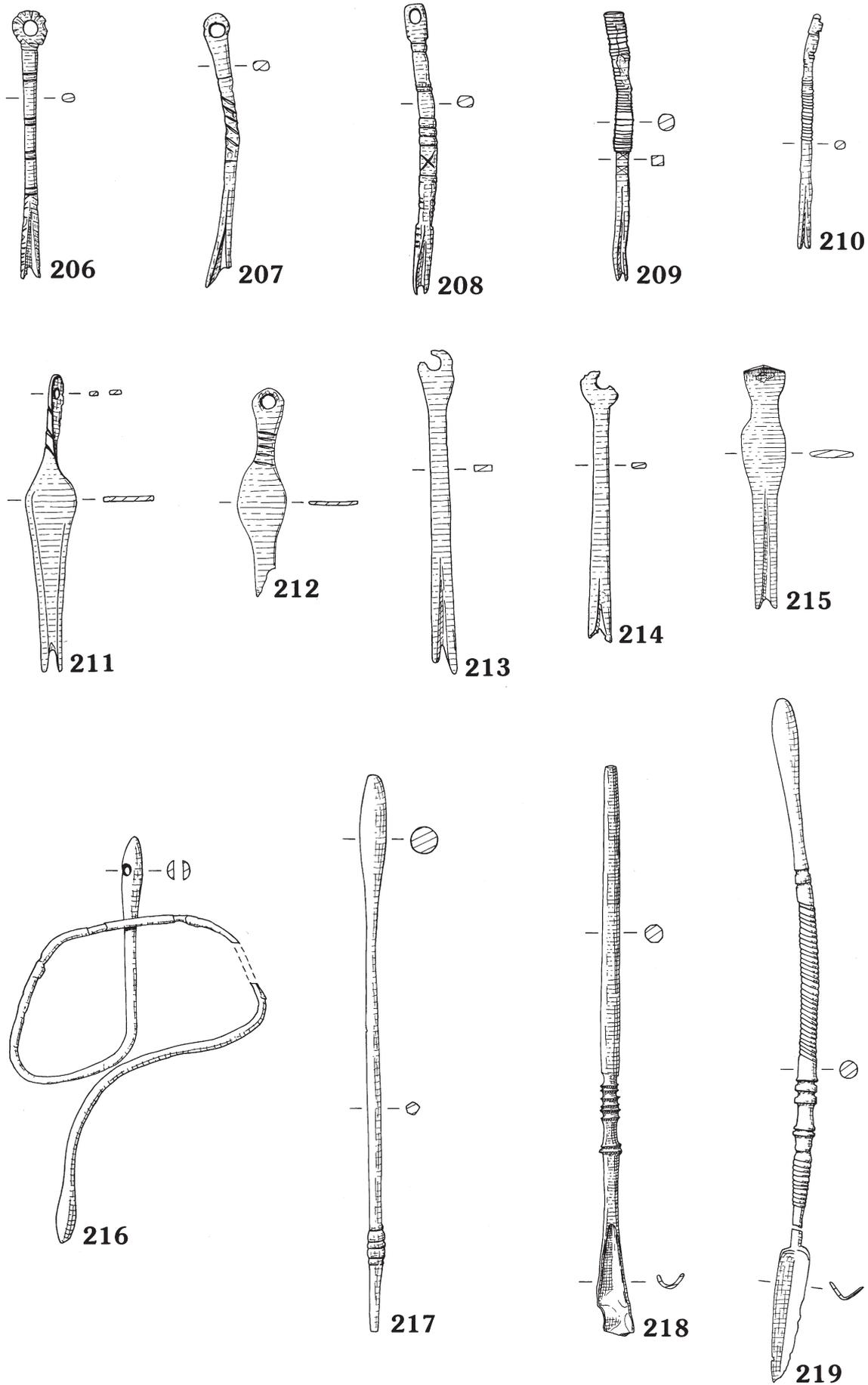


FIG. 45. Copper alloy objects: nail cleaners (206–215); probes (216–219). Scale 1:1.

Miscellaneous toiletry and cosmetic equipment

236. Lancet/cosmetic knife, with a short handle with a short, narrow slot cut into the end. WAN-Z, U/S, 27. Gadebridge Park (Neal 1974, fig. 63, 1, 195 (mid to later second century A.D?)).

237. Copper alloy chatelaine. The following report has been kindly submitted by R.P.J. Jackson:

‘There are two elements. The larger is of crescentic form with a V-shaped cross-section. One end terminates in a circular loop, the other in a solid domed knob. The smaller element, of rather more marked crescentic form, has a solid, roughly circular cross-section. At one end there is a circular loop, while the other end terminates in a blunt point. The solid rod of the smaller element fits snugly within the groove of the larger element. Both are of cast bronze with no surface decoration and the loops are surprisingly roughly finished.

This set belongs to an enigmatic class of object first discussed by Smith (1918). His division into end-looped and centre-looped varieties still stands, though with some qualification and elaboration. More common is the end-looped type, many of which are plain, though others are embellished with a simple moulded terminal knob, as on the present example. It is debatable whether or not this was intended as a phallic symbol. The closest parallel is an example of the larger element from Wylde Camp, also in Wiltshire (Smith 1918, 59, fig. 9). Further decoration might be added in the form of engraved inlaid enamel designs, also to be found on the centre-looped type. The latter is generally more ornate and many have zoomorphic terminals, especially bovinds. The finest and largest is an example from Hockwold, Norfolk (British Mus., accession no. PRB 1977, 4-3, 1). Between these two main types and the various techniques of decoration there are many stylistic cross-links, and there does not seem to be a clear chronological progression from one to the other. For the class as a whole, where dates are available they cluster in the first and second centuries A.D. with outliers in the first century BC and the fourth century A.D. Geographically the picture is clear: the type is purely insular with no certain examples outside Britain. The provenance of the majority falls within south and east England with few beyond the Severn-Trent line. Further, there is a very marked concentration of the zoomorphic centre-looped variety in East Anglia.

Smith’s identification of these objects as pendants has never been seriously challenged. However, he was hampered, as have been most later writers, by an assumption that a single element only was involved. Six recent finds, including that from Wanborough, irrefutably demonstrate that these instruments have two components, though the simpler rod-like part has been less commonly found or recognised. Recurrent features are: 1 — crescentic form, 2 — suspension loop, 3 — central longitudinal groove in the larger element. For reasons enumerated elsewhere (Jackson 1985), identification as pendants whether decorative, apotropaic or ‘barnacle’ is now considerably less plausible. They were hung, probably at the waist, joined by a cord or leather lace. They appear to have had a specific function: wear facets on both solid and grooved elements indicate that they were used in the preparation, and perhaps application, of small quantities of a substance by crushing or grinding. Though proof is as yet lacking, the likelihood is that the commodity was cosmetic or medicinal (Jackson 1985, 176, no. 2, fig 5.2.)’ WAN-W, U/S, 3.

238. Narrow strip with one end drawn out to rounded wire form, curled over to form a small loop, then coiled six times around the strip top. This shank form is found on various cosmetic artefacts from other sites. 67, G.10, 4, 209. Caerleon (Nash-Williams 1932, fig. 32, 45 (ear scoop) (c. A.D. 200-300)); Cirencester (Wacher and McWhirr 1982, fig. 26, 26 (probable ear scoop and nail cleaner) (later first century A.D.)).

Miscellaneous tubes

239. Tube with a finely ribbed external surface from the break to near the terminal edge, where a narrow angular ridge precedes a large rounded ridge moulding. Several sites have produced very similar items from early contexts, though their function remains obscure. Phase 2A. 76A, XV, 33, 419. Hofheim (Ritterling 1912, Taf. xvi, 28, 29 and 32 (pre-Flavian)); *Verulamium* (Frere 1972, fig. 37, 94 (A.D. 155-160)); Wroxeter (Bushe-Fox 1916, pl. xxi, fig. 2, 7 and 8).

240. Well-formed narrow tube, with a seam along one side, and three decorative bands of fine encircling grooves — four grooves at each end and three in the centre. Phase 3, A.D. 270-290 plus (coin date). 69E, VIII, 2, 253.

241. Large, hollow round-section moulding, with a bulbous section, narrowing to a waist and then expanded to a smaller bulbous portion. Both ends are fractures, cut across. The central cavity is filled by a consolidated, light coloured scale, containing some grits and, in view of the weight, probably some lead. This fill is perforated by an off-centre, sub-rectangular hole. U/S.

Vessel fragments

242. Small oval plate with a sub-rectangular tongue projecting from one side and a small perforated bracket from the other. The opposite face bears a low irregular lump behind the tongue. These plates have been variously interpreted as jug lids or harness pendants but the former view is accepted here. The Richborough publication gives a good illustration of their probable method of use in such a role. In this case, the low lump corresponds to the perforation in other examples where a small lever was attached to lift the lid. Phase 2A plus, A.D. 117–121 plus (coin date). 76C, XXXVII, 122, 369. *Camulodunum* (Hawkes and Hull 1947, pl. ciiiI, 16 (termed ‘harness pendant’) (pre-Flavian)); Hofheim (Ritterling 1912, Taf. xiv, 48 (pre-Flavian); Richborough (Bushe-Fox 1932, pl. xiv, 49 (first century A.D.)).
243. Two adjoining fragments of vessel with a deep, curving body with faint horizontal scoring on the outer surface. The rim is relatively narrow, thickened and rolled in form, with a flattened upper surface. The walls are too thin to be interpreted as bell fragments. Phase 2B. 76B, X, 20, 311.
244. Plate rim fragment, the surface extending from a flattened (but not polished) interior, rising slightly to the edge, where it is flattened again. This is apparently not part of a mirror. The rim is lightly scalloped, with transverse grooves on the concavities. A deep incised line runs 5mm inside the rim on the upper surface. The associated pottery indicates a possible post-Roman date. 70F, IV, 3, 28.
245. One of two similar pieces (Archive No. 471) formed as an elongated triangle with the points trimmed off. This is probably a hanging bracket from a suspended vessel of a coarser form than those referred to by Kendrick (1932) in his discussion of hanging bowls, whose brackets have the same basic features. U/S. Richborough (Bushe-Fox 1949, pl. xl, 156); *Verulamium* (Frere 1972, fig. 32, 36 (termed an ‘ear-ring’) (A.D. 105–115)).

Weighing apparatus

246. One ounce weight, formed as a truncated sphere, both faces bearing a small central shallow dot impression. The upper face also bears the symbols used to denote ‘one ounce’ on weights from the end of the fourth century A.D. (Kisch 1965, 152 and table 5). The current weight is 27.1825g against the standard *uncia* or 27.288g (*ibid.*, tables 11 and 13), so the piece has lost very little through wear and corrosion. The dot impressions are possibly a security device to prevent the illicit removal of surface metal and the piece as a whole is of copper alloy-coated lead. Phase 3B. 69C, XIII, 1, 192. Richborough (Bushe-Fox 1928, pl. xix, 32 (6 ounce weight of same form and marking scheme)).
247. Steelyard arm suspension terminal, the scale beam having fractured at the end of the expanded terminal. 70, RC U/S, 771745. Leicester (Kenyon 1948, fig. 87, 4); London (GMC 1908, pl. xxxiii, 5), (Wheeler 1930, fig. 23); Richborough (Bushe-Fox 1949, pl. xxxviii, 133).

Miscellaneous and unidentified items

248. Oval-section rod, tapered, curved and more rounded towards the blunt point. The opposite end is flattened at a step to a long rounded terminal with a large perforation. Phase 3B, 79G, II, 5, 55.
249. Short flat strip, narrow with rounded ends, one of which continues as a short, hammered, square-section prong. Phase 3B. 76B, XXIV, 1, 327.
250. Sheet-metal object with a flat, elliptical body, extended at one end by a tiny sub-rectangular tongue. The opposite end projects as a narrowed strip, with both sides doubled over to the midline, then curled over to form an open loop. From topsoil. 70H, III, 1, topsoil, 21.
251. Large rectangular-section terminal, tapered and truncated by a flat face, entirely encased in sheet metal apart from the open broad end. The casing contents were probably wood on the basis of a honeycombed humic fill in the tapered two-thirds, replaced by matrix grits in the open-ended third. 67, G.12 (SE Ext.), 2, 3134.
252. Long rectangular-section strip, narrowed in the centre, with one end markedly flared and broken across a 3mm diameter perforation. This end also has a series of closely spaced edge notches, narrow and oblique, on both sides. 67, G.3, 3, 341.
253. Roughly oval fragment of thick cast metal. It is gently curved about its long axis, the concave surface bearing rough casting flaws, the convex surface smoothed with an angled segment thinned at a step near one edge. Similar fragments from *Verulamium* were interpreted as statue fragments. Two more similar, smaller fragments were found (Archive Nos 505–6). Phase 3B. 69E, X, 2, 195. *Verulamium* (Frere 1972, fig. 49, 160 and fig. 50, 161).
254. Narrow rectangular-section bar with hammered surfaces and an oblique, tapered ridge near one side’s midpoint, after which the piece is thinned and is curved to one edge in section and has three

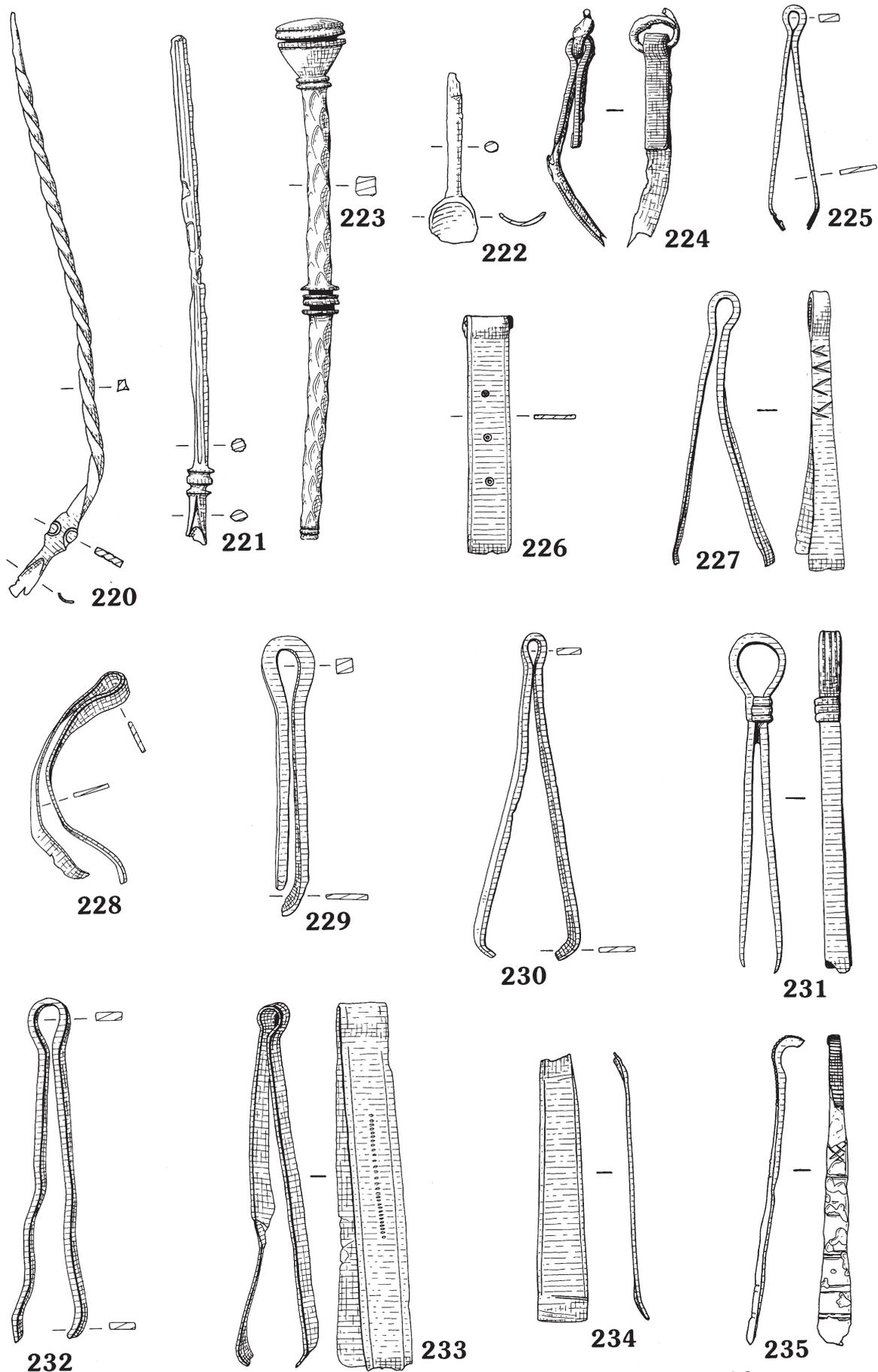


FIG. 46. Copper alloy objects: probes (220–222); traction hook (223); tweezers (224–235). Scale 1:1.

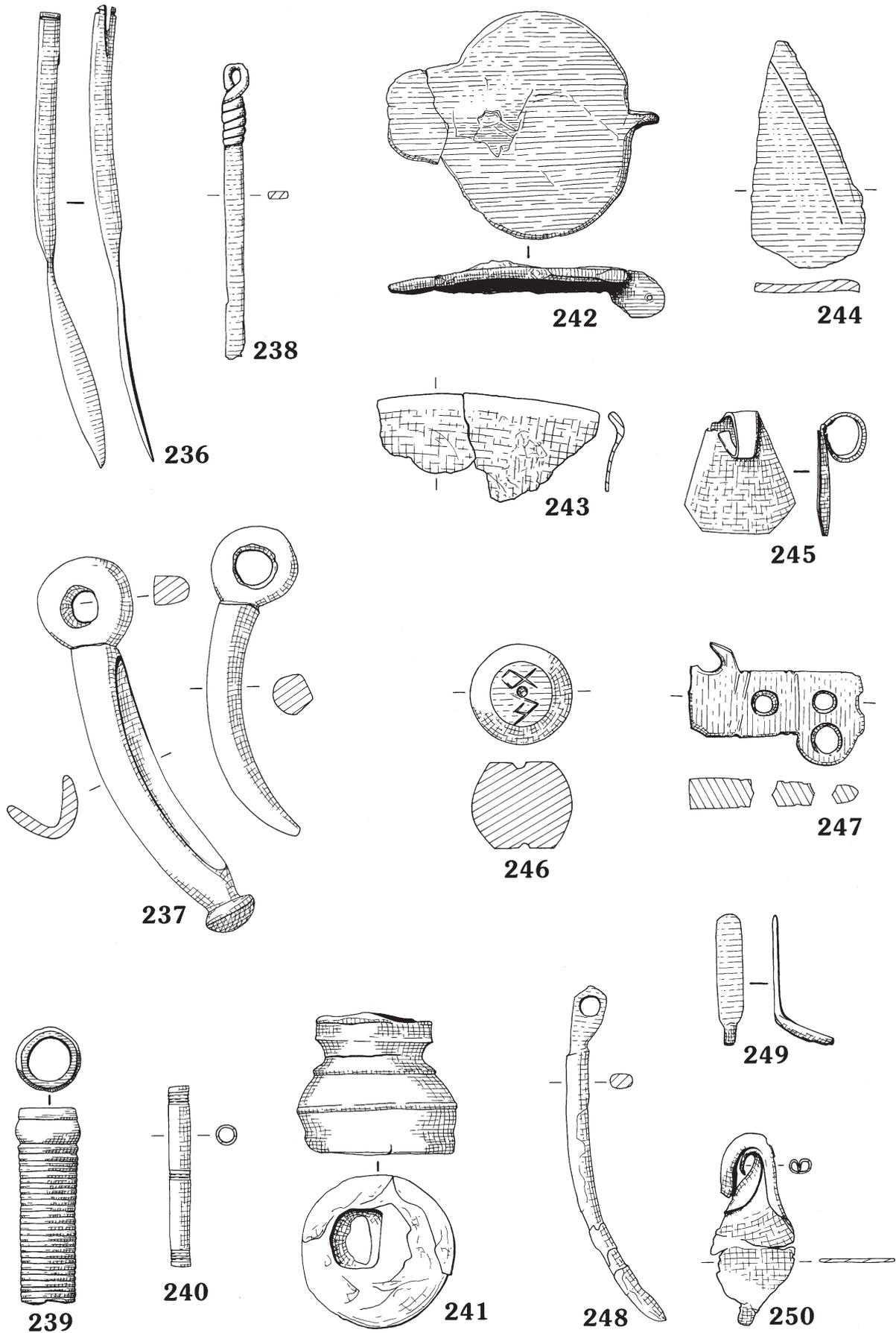


FIG. 47. Copper alloy objects: toiletry equipment (236–238); tubes (239–241); vessel fragments (242–245); weighing apparatus (246–247); miscellaneous items (248–250). Scale 1:1.

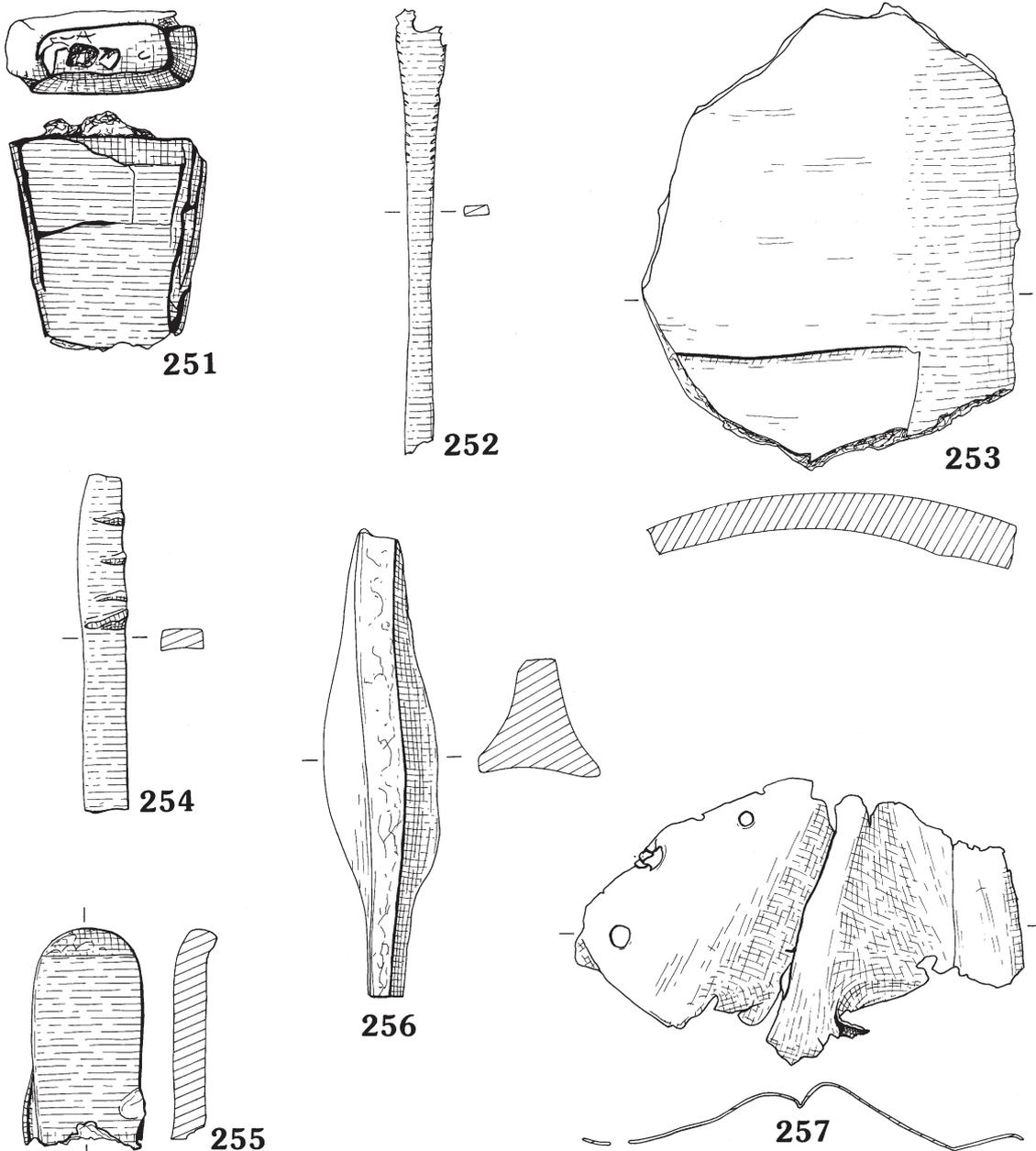


FIG. 48. Copper alloy objects: miscellaneous items (251–257). Scale 1:1.

equidistant transverse ridges rising from the midline to one edge. Phase 2A plus, A.D. 117–138 plus (coin date). 70J, III, 3, 20.

255. Terminal fragment of a rectangular-section bar. The opposite edge is torn and the faces compressed by extreme force, causing thinning and bulging of the edges. The curved end tip has been pressed in the opposite direction across a straight edge. This has clearly been used as a crowbar tip. Phase 3B. 70F, III, 2, 4.
256. Large bar, both ends rectangular sectioned with transverse faces. One long edge is a straight torn surface, the opposite edge bulges considerably in the centre and the sides widened correspondingly. On the bulge, the corrosion products give way to lead corrosion products; the presence of some lead fill is also reflected in the great weight of the piece. 77, U/S.
257. Large thin sheet fragment, extensively creased and with most edges cracked away, but one original section forms part of a 95mm diameter circle, with remnant rivet holes behind it, every 10–15mm. 70, RC, U/S, 771752.

Object of silver (FIG. 43)

1. Complete ligula, the underside of the scoop bearing a shallow cross. 76C, XXVI, 65, 342.

9. LEAD OBJECTS (FIG. 49)

By A.S. Anderson

Introduction

A wide range of objects of lead have been recovered from Wanborough and they are presented by class below, with the exception of a lead curse which has already been published by Rea (1972). This report was submitted in 1986.

Weights (not illustrated)

There are nine objects from Wanborough classified as weights. Five of these are steelyard weights, the remainder ordinary balance weights. Steelyard weights often retain remains of their embedded suspension loops.

All the weights have been weighed and the results compared with both Roman and Celtic standards, since both systems were in use during the Roman occupation of Britain. The different standards are summarised in Conway (1906, 99–110) and Kisch (1965, 220). The Roman pound of *libra* (1 *libra* = 12 *unciae*) is equivalent to approximately 327.45g. The Celtic pound weighs less, approximately 309.1g. The Celtic pound seems to have been divisible by descending multiples of a half and also into fractions of 12 (Frere 1972, 160).

Most of the Wanborough weights have some degree of corrosion. Undamaged weights will show a slight increase in weight with the formation of (lead carbonate) corrosion products. Because of the two weight standards, damage, corrosion, and the possibility of original inaccuracy, it is difficult to be certain of the correct Roman or Celtic values of the weights from Wanborough.

Very few of the weights were found in datable contexts and consequently are not illustrated. The same problem also applies to most of the lead finds.

1. Steelyard weight. Well preserved, slight coating of corrosion product. Rusted remains of iron suspension loop present. Weight = 821.6g which probably represented 2½ Roman *libra* (818.63g). 178, BC U/S, a. A steelyard of 2½ *libra* was found at Portchester (Cunliffe 1975, 232).
2. Steelyard weight. Pitted lead, some corrosion. Rusted remains of iron suspension loop present. Weight = 366.9g for which there is no obvious equivalent unless fractions are considered (1¼ Celtic pounds = 386.3g). 167, EG, 4092, L13, 12, 2. For a steelyard of comparable shape from Southwark see Sheldon 1974, 93.
3. Perforated cylinder weight. Well preserved, very regular shape. Weight = 23.7g, to which the closest equivalents are: Roman, 1 *unciae* = 27.29g; Celtic, 1/12 pound = 25.8g. Lower Wan 170, RC, U/S.
4. Perforated ?weight/object. Perforation runs parallel to flattened base. Smoothed groove down one side. Weight = 15g, to which the closest equivalents are: Roman, ½ *unciae* = 13.64g; Celtic, 1/16 pound = 19.62g. RA, U/S.

Discs (not illustrated)

Eight discs have been found at Wanborough and corrosion and wear have caused irregularities in most. The diameters are between 20 and 26mm. The only exception is one (No. 5) which is perforated. The discs may be weights, although few are obviously close to Roman or Celtic standards. Other possibilities include uses as tokens or counters. Although several sites have produced comparable lead discs, their function remains uncertain — e.g. *Verulamium* (Frere 1972, 146) and Camerton (Wedlake 1958, 95).

5. Perforated disc. Circular, slightly warped. Some corrosion but fairly well preserved. The smooth central perforation suggests use as a spindle whorl, although possibly a weight. Weight = 29.4g. The closest equivalents are: Roman, 1 *unciae* = 27.29g; Celtic, 1/12 pound = 25.8g. U/S. (cf. Jones 1974, 119 for a similar piece from Manchester. Bone, shale, and pottery spindle whorls have also been found at Wanborough.)
6. Disc. Smooth convex obverse, flat (corroded) reverse. Weight = 16.9g. The closest equivalents are: Roman, ½ *unciae* = 13.64g; Celtic, pound = 19.62g. Date: c. A.D. 300–400. 69D, IV, 1, 180.
7. Disc. Flat obverse and reverse (corroded). Weight = 14.2g. Equivalents same as above. Phase 3B. 76A, VIII, 20, 421.

Rivets, bolts, bars and rods (not illustrated)

Wanborough has produced four rivets used in the repair of pottery. Three of these are pieces shaped to replace missing pot fragments, the fourth is a type of clamp. The Romans often repaired pottery in this way. Home (1948, 217) suggests that samian pottery was preserved with special care, particularly after the imports from Gaul ceased in the early third century. Wanborough has also produced six pieces of lead-riveted samian.

The malleable strength and low melting point of the lead also make it suitable as a bonding substance in construction. It was sometimes run into the joints of masonry to secure iron cramps and used to make dowel pins and rods (Gowland 1901, 421; Wedlake 1958, 95). Three bolt-shaped objects and a lead stud were probably used as a type of rivet or dowel.

The function of the five rods and bars cannot be precisely determined, but again they probably had some constructional or possibly decorative use.

Sheet and strip (not illustrated)

This is the largest category of lead finds at Wanborough. Twenty-seven items are classified as sheet and twelve as lead strips. There is an immense variety of shape, size, and preservation; almost all pieces have been cut or torn, leaving only fragments. The most distinctive sheet fragments are four with nail holes. A few pieces have obvious indentations, probably caused at the time of use, the soft metal taking the impressions of adjacent objects.

Most of the lead strip is likely to be sheet trimmings rather than anything functional. There are few common features; those that exist could be explained equally by damage, accident or intent.

A variety of lead sheet fragments are illustrated from *Vérolanium* (Frere 1972, 146–8); Manchester (Jones 1974, 119) and Fishbourne (Cunliffe 1971, pl., lvii, a). Roman sheet lead (thick and thin) was cast, with the exception of thin strips which were hammered (Tylecote 1962, 94–5). The high percentage of sheet fragments amongst the Wanborough lead finds is consistent with those from other sites. The most extensive use of the metal was in plumbing and construction. Large quantities of lead sheet provided the lining for baths (Cunliffe 1969, 126) and the material for pipes, coffins, and cisterns, etc. The Wanborough pieces must have similar sources, though perhaps not always so grand.

Key handle (FIG. 49, 8)

8. Key handle. Lead ring with stem of rectangular cross-section. Inner core of stem now rusted iron, outer layer lead, with remnants of bronze coating. Date: *c.* A.D. 364–378. 69E, I, 2, 31 (*cf.* for similar type with traces of lead: *Vérolanium*, Frere 1972, 131. For examples of lead keys, Newstead (Curle 1911, pl. lxxviii)).

Lead waste (not illustrated)

Fourteen pieces of lead waste have been uncovered at Wanborough. The majority of these were probably discarded during casting and are generally thick fragments, sometimes with a globular melted appearance (*cf.* *Vespasian Farm*, Ashworth 1970, appendix).

Chemical spot test

Samples of three lead fragments (40–1, 89) were analysed chemically for the presence, not quantity, of silver and tin. As expected, the tests for tin were negative and very slight traces of silver were found. Roman lead was generally fairly pure as any appreciable quantity of silver was usually recovered. However, it is not possible to judge whether or not the Wanborough lead had been desilverised. Lead ores, even from the same area, often vary in silver content as lead with less than 0.101% (3oz/5dwt) of silver was seldom treated. All that can be said is that the Mendip mines (the presumed source of supply for Wanborough), have produced lead worth desilvering (Tylecote 1962, 91).

10. PEWTER OBJECTS

By A.S. Anderson

Three pewter bowls (a small hoard), one plate fragment, and four spoons were found during field walking (FIG. 49), and the report which follows was submitted in 1986. The circumstances of the find means they cannot be dated precisely but comparable pieces suggest that the bowls may be late Roman, although the spoons (not illustrated) seem unlikely to be of this date.

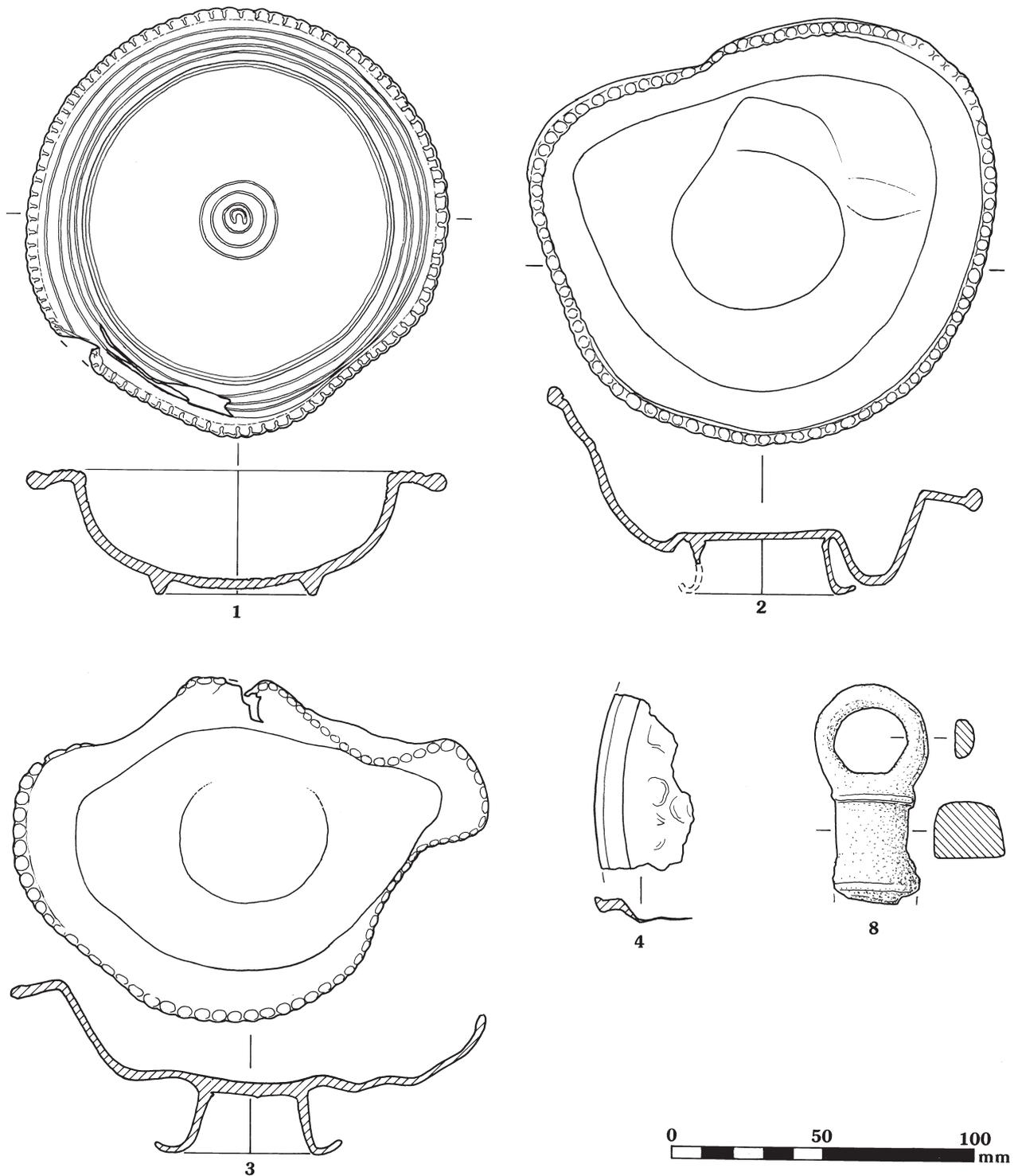


FIG. 49. Lead key handle (8); pewter bowls and fragments (1-4). Scale 1:2.

Datable Romano-British finds of pewter are almost all from mid third–fourth century contexts. The mid third century was almost certainly the starting point of extensive pewter production in Britain. The revival of Roman interest in the Cornish tin mines, *c.* A.D. 250, and the already productive Mendip lead mines provided the necessary ingredients. The industry satisfied a demand as a substitute for luxury silver tableware (Barker and Hatcher 1974, 9).

Although a few earlier pieces have been found in the Walbrook, London (Merrifield 1969, 193), it is logical to include the Wanborough pewter with the majority and to suggest a mid third–fourth century date for them.

A large percentage of pewter finds in Britain are concentrated in Avon, Somerset, Wiltshire, Berkshire, and East Anglia. Until recently, sites with evidence of pewter manufacture were scarce; the only pewter moulds found were in Somerset, at Camerton, and Lansdown near Bath (Wedlake 1958, 82–7). However, moulds have subsequently been found at Nettleton Shrub (Wiltshire) (Wedlake 1982, 68–73), and Branigan (1977a, 34) mentions further evidence from Langridge and Brislington (Somerset) and Westbury (Wiltshire). Wanborough is within this area; by Roman road it lies approximately 60km from Bath, 77km from Camerton and 74km from Nettleton Shrub. It is highly probable that the Wanborough pewter was locally made, although there is not enough evidence to link the pieces with specific workshops. Bowls of the Wanborough type were certainly produced in the area, as is shown by a similar shaped pewter bowl mould from Nettleton (Wedlake 1982, 71, no. 6).

The discovery of possible moulds in East Anglia (Hockwold and Brampton), Yorkshire (Langton), and Cornwall (St Just) shows that the southwest, while apparently the most productive, was not the only centre of pewter manufacture. Brown suggests that manufacture was as widespread as distribution (Brown 1970, 107–9) but vessels show very little regional variation in type or decoration, which strengthens the argument for a largely centralised industry (Peal 1967, 23). The Wanborough finds fit into this pattern with many parallels drawn from outside the southwest and with no local characteristics apparent.

Bowls and plate fragment

1. Small bowl — D. 141mm. Beaded rim, slightly bent and damaged, one hole in wall. Bowl cast in one piece, patched lathe mounting scar on exterior of base (for Roman techniques of casting and finishing pewter see Brown 1976, 33–6). Decorated internally with ten lathe-turned shallow concentric rings: four in centre, four on rim, and two around top of wall. Milling (castellation) on bead of rim, probably filed after casting. Peal (1967, 28) suggests that this feature was introduced for better gripping. Similar but slightly larger vessels are known from Appleford, Berkshire (Brown 1973, 189, no. 10) and Bath (Cunliffe 1969, 68, no. 4). U/S.
2. Bowl — D. 148mm. Buckled bead rim bowl, the foot is damaged so dimensions are not precise. Cast in two pieces, foot soldered on. The milling on the bead rim differs from No. 1, the grooves are wider and more widely spaced leaving a raised bead, probably cast rather than filed. There are similar vessels from Appleford (Brown 1973, 189, no. 5) and Icklingham, Suffolk (Liversidge 1959, pl. 3A) (where described as a cup). U/S.
3. Bowl — D. 150mm. Badly buckled, rim and foot damaged. Very similar in style and decoration to No. 2. U/S.
4. Rim fragment of a plate — D. 200mm. Small bead on rim, very shallow groove on interior base on wall. Rim type 4d of Peal's typology (Peal 1967, 28). A similar vessel comes from Appleshaw, Hampshire (Read 1898, 7–12). U/S.

11. IRON OBJECTS (FIGS 50–7)

By Ann Isaac

Introduction

The Wanborough ironwork covers the range of crafts required in a small town, but the emphasis is very much on the household in the number of structural fittings, domestic, and personal objects. The period of greatest deposition is A.D. 230–400, but a few objects appear from A.D. 80 onwards.

Ten military objects (not counting ferrules) were found, but only two of the spearheads were stratified, both in Phase 3B contexts. Armour, helmets, and shields are absent and it is possible that the military objects may not have been confined to use by the army. Some military presence is not unlikely but the evidence from the ironwork for military activity falls short of suggesting an early fort, as was proposed in the interim report (Anderson and Wachter 1980, 117).

The objects were X-rayed and many were conserved. The metallurgical analyses show greater appreciation and use of hardening techniques than has been found on similar sites. Of the 25 tools and weapons analysed by R.F. Tylecote, 19 had been carburized to form a pearlite structure, while eight had been further hardened by quenching to form a martensite structure. All but one of the latter had also been tempered to reduce the brittleness caused by quenching. Two objects show further cold-working. The variety of detail of method in forming the objects is considerable, but most have been generally formed by piling or sandwiching of layers of iron (ferrite) and steel (pearlite or martensite). Outer carburized layers have also been formed by welding in most cases, rather than by carburization of the whole tool; this reflects contemporary metalworking techniques (*cf.* Nos 3, 4, 9–10, 12, 14, 16, 21–2, 24, 34, 37, 41). Uncarburized tools seem to have a comparatively low phosphorus content which may explain why alternative hardening techniques were necessary.

More than half of the 640 iron finds were unstratified. A representative variety of objects are illustrated, using stratified examples where possible. Most nails, rings, and some of the more fragmentary and indistinguishable tools and strips have not been listed individually, although reference is made to them in the report. Only illustrated objects are catalogued here and the numbering used below and in the report on the metallurgical analyses refers to the archive catalogue which is numbered consecutively from 1–640. This report was submitted in 1986.

Tools

Metalworking tools

Eight definite and three possible metalworking tools were found; six are catalogued below and three have been illustrated. They are all small tools and suitable for finer work. Manning (1969) discusses different tool types and their uses.

1. Chisel. L. 178mm. Although not paralleled exactly, it is of a sort to be hand held and struck and used on cold metal. Phase 3B. 69, B, V, 2, 94. (FIG. 50)
2. Small hot chisel. L. 80mm. Head. missing. Held by withy or wire for striking. *Cf.* Caistor-by-Norwich and Brecon Gaer, both illustrated in Manning 1969, A67–8. Phase 3. 69, E, IV, 2, 242.
3. Small hot chisel. L. 71.5mm. Analysis shows that the chisel has been formed by sandwiching iron between two layers of steel. It has been both quenched and tempered. I 87, 248, 118, U/S. (FIG. 50)
9. Punch. L. 75mm. See Curle 1911, pl. lxxiii, 7 for similar but larger example. Analysis shows no hardening. Phase 3. 69, E, VII, 1, 129.
10. Flat file. L. 71.5mm. File grooves in evidence on all four sides. Much finer than other examples (*cf.* Curle 1911, pl. lix, 5 and Wheeler 1930, pl. xxxiii, 4). Analysis shows that this file was made by folding over a piece of medium carbon steel then surface carburizing it after cutting the grooves. It has been both quenched and tempered. 76C, XIV/XX/XXVI, 195, U/S.
11. Hammer head. L. 80mm. *Cf.* Brailsford 1962, 14, fig. 13, G41 for head of similar size but different form. For rather larger heads but of similar point-pane form see finds from Eckford (Piggott 1952–53, 27, fig. 6, E14) and Silchester (Manning 1969, A53). I143, 5627, 708, U/S. (FIG. 50)

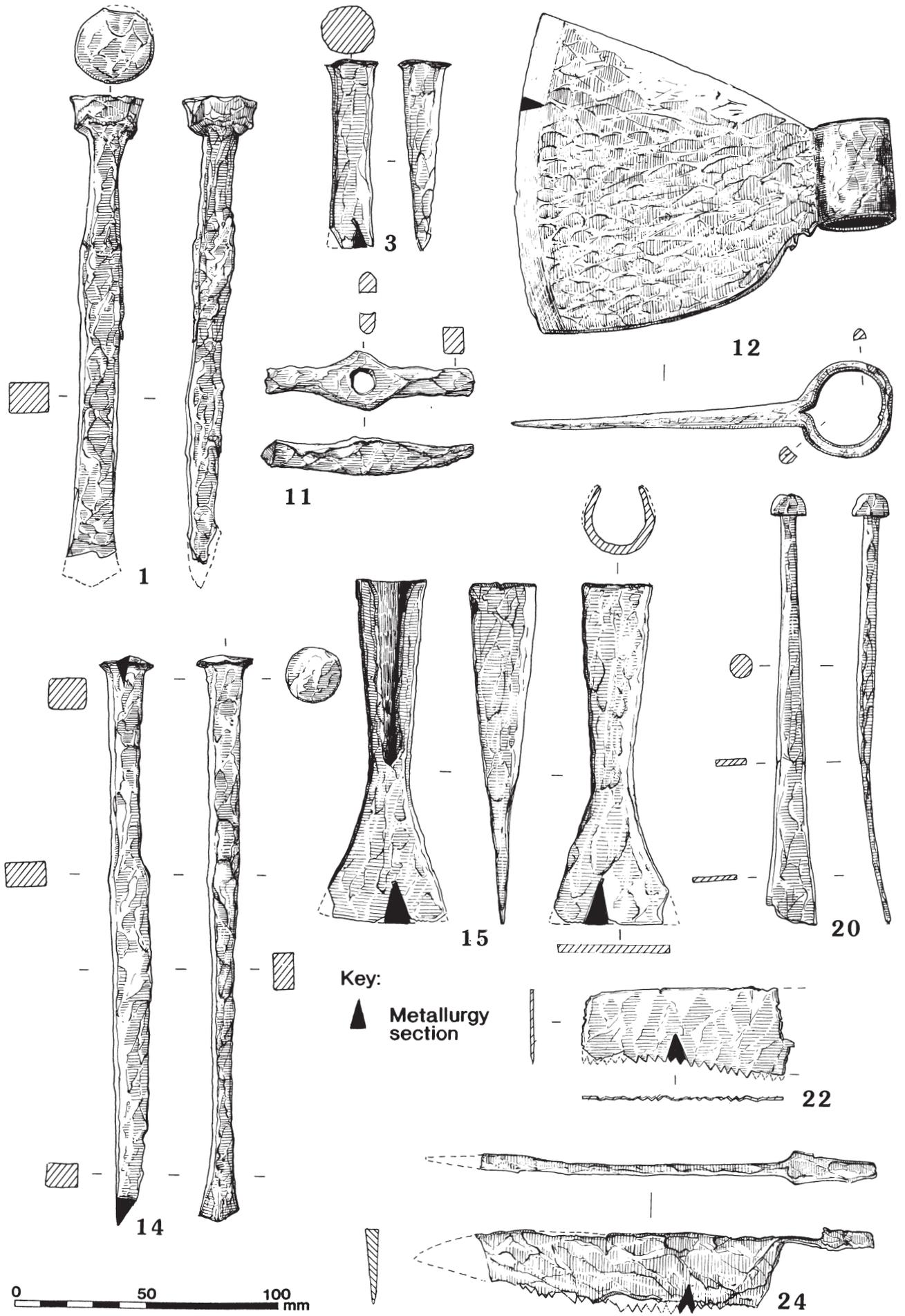


FIG. 50. Iron objects: metalworking (1-11) and woodworking tools (12-24). Scale 1:2.

Woodworking tools

Fourteen definite and two possible woodworking tools were found suitable for heavy to fine use.

12. Axe head. L. 142mm. Loop socket with no butt which is unusual, but *cf.* Lysons (1817, pl. V). Analysis shows that it consists of a pearlite steel insert welded to the two outer layers of ferrite. I 1.2, U/S. (FIG. 50)
14. Mortise chisel. L. 212mm. The bevelled blade is typical of this type of chisel. Bayden Villa (Cunnington and Goddard (1934), pl. CXII, 21); Silchester and Dorchester, Oxon (Manning 1969, B89–90). Analysis shows that the edge is pure ferrite, but there is slight carburization on a line away from the edge. The hardness of the head has been increased by cold work. I 71, 198, 90, U/S. (FIG. 50)
15. Broad paring/firmer chisel. L. 130mm. The socket is unusual for a paring chisel, but the width of the blade suggests this. There are broad paring chisels from Caistor-by-Norwich and Silchester (Manning 1969, B59, B62). For firmer chisel *cf.* Curle 1911, pl. lix, 7–8; Brailsford (1962), fig. 12, G20; GMC, pl. xix, 11–12. Analysis shows that the tool is built up of layers of varying carbon content. Most layers have been quench hardened and some also tempered after carburization. Even the lowest carbon layer is of a hardness which suggests high phosphorus content. The whole tool has been quenched and tempered. I75, 801, 192, U/S. (FIG. 50)
18. Medium paring chisel. L. 62mm. *Cf.* Hawkes and Hull (1947), pl. cv, 6. 76B, XVI, 83, U/S.
19. Small paring chisel. L. 50mm. Small version of 18. Phase 3. 69, D, VIII, 1, 316.
20. Smoothing chisel. L. 163mm. For use by hand rather than by being struck. *Cf.* Neal (1974), 161, 347. Iii, 53, 1, U/S. (FIG. 50)
21. Saw blade. L. 78.5mm. Two teeth per 32mm, which is exceptionally large *cf.* Neal (1974), 160, fig. 70, 361. Probably a frame saw. The teeth slope slightly one way but are unset. Analysis shows that it has been carburized, quenched and lightly tempered. Phase 3A. 76A, XIV, 20, 386.
22. Saw blade. L. 81.5mm. Seven teeth per 25mm. Since it tapers, it was probably a handsaw. *Cf.* Frere (1972), 167, fig. 61, 12. The teeth slope towards the handle but are slightly set. Analysis shows that it consists of one side unquenched steel and one side ferrite welded together. Phase 3B. 76B, XXIV, 1, 291. (FIG. 50)
23. Saw blade. L. 153mm. Approximately eleven teeth per 25mm. Angle and setting of teeth impossible to ascertain. For this spacing of teeth see GM (13658) and there is a similar blade shape *cf.* Silchester (Manning 1969, B132–34). Phase 3B. 69, A, XXV, 1, 234.
24. Saw blade. L. 149mm. Knife-shaped blade. Compare Wheeler (1930), pl. xxxvi, 5. Fragmentary evidence of teeth, approximately eight per 25mm. Analysis shows no carburization but considerable phosphorus content. SAS 67, U/S. (FIG. 50)
25. Twist bit. L. 155mm. Published examples are known only from Silchester (Manning 1969, B109–10) although another has been found at Catterick. Phase 3. 69, D, III, 1, 333.
26. Gouge/spoon bit. L. 113mm. Both gouges and spoon bits can have a long narrow hollow. *Cf.* Curle (1911), pl. lix, 12 and Cunliffe (1971), 138, fig. 63, 76. EG, 68, I70, 387, 171, U/S.
27. Tool. L. 190mm. Seven tools with similar characteristics but of unknown use were found. Manning (1969, pl. 47) illustrates similar tools next to a fine bradawl, but does not comment on them. Phase 3. 69, D, VII, 1, 297.
28. Tool. L. 141mm. As 27. EG, 68, I, 38, 210, 92, U/S.

Agricultural tools

Only six definite, and one possible, agricultural tools were found; even so they reflect a variety of tasks.

34. Balanced sickle. L. 220mm. *Cf.* Gardner and Savory (1964), 159, fig. 24, 5. Analysis shows complex welding of layers of unhardened low carbon steel and ferrite. The hardness of the former suggests some phosphorus content. The edge has undergone cold work. Phase 3B. 69, B, VIII, 1, 132.
35. Pruning hook. L. 57mm. *Cf.* Caerwent (Manning 1969, E136+ and 37+). Phase 3B. 69, A, XVIII, 1, 122. (FIG. 51)
37. Reaping hook. L. 110mm. For reaping hooks, *cf.* Curle (1911), pl. lxi, 2 and 5; Risingham (Manning 1976, 52, fig. 19, 85); Wilsford Down (Cunnington and Goddard 1934, pl. lxxvii, 9). Analysis shows that it consists of a fairly homogeneous medium carbon steel made by piling. I64, 355, 161, U/S. (FIG. 51)
38. Plough share tip. L. 75mm. *Cf.* Pitt-Rivers (1887), pl. xxv, 9. Phase 3. 69, E, IV, 1, 98.

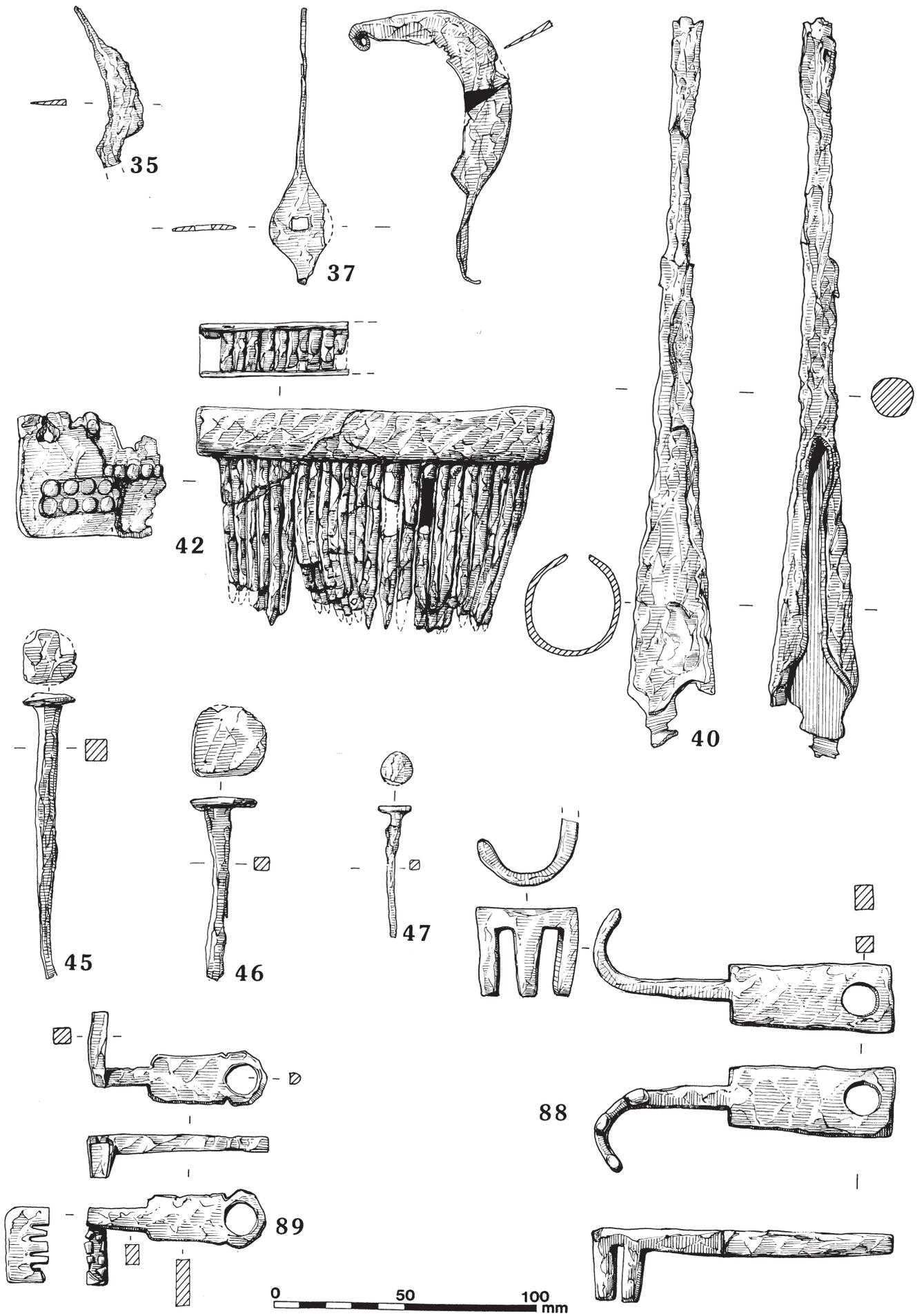


FIG. 51. Iron objects: agricultural (35–40) and weaving (42) tools; nails (45–7); slide keys (88–9). Scale 1:2.

39. Spade iron. L. 165mm. There are similar irons from Chedworth, Glos. and Caerwent (Corder 1943, 227, fig. 2, 3–4; Pitt-Rivers 1887, pl. xxv, 1); Combe End, Glos. (Lysons 1813–17, pl. v); Richborough (Bushe-Fox 1949, pl. lix, 320); *Verulamium* (Frere 1972, 169, fig. 62, 20). Phase 3B. 69, B, IV, 1, 202.
40. Socketed bar share. L. 290mm. Cf. Pitt-Rivers (1887), pl. xxviii, 9; Glastonbury (Bulleid and Gray 1917, 396, fig. 143, 23). U/S. (FIG. 51)

Weaving tools

Only two weaving tools were found, both unstratified.

41. Shears. L. 207mm. Half a pair of 'U' shaped spring shears. Cf. Blackburn Mill (Piggott 1952, 46, fig. 12, B24); Cunliffe (1975), 239, fig. 127, 203; Hawkes and Hull (1947), pl. cv, 7; Silchester (Manning 1969, F10). Analysis shows a piled structure with a mixture of carburized and quenched steel near the edge. I, 119, 35?6, 621, U/S.
42. Flax heckle W. 80 and 54mm. L. of teeth 70mm. Two fragments. Individual iron teeth fitted into block of wood encased in iron plating. U/S. (FIG. 51)

Structural fittings

Nails

The typology used for the more common nail types is based on that of Cleere for Inchtuthil (Angus *et al.* 1962):

- I Large structural nails, usually conical or pyramidal head
- II Triangular head, often large and for structural use
- III Flat, round head, the most common multi-purpose Roman nail

A further distinctive type at Wanborough was a small 'T' shaped nail with the arms curving downwards, designated type IV. Notable exceptions to these types were two large domed nails (one with a rectangular head), one very large, flat-headed tack, one plated nail and two small tacks. Apart from type IV, another consistent peculiarity was the flatness of the heads of type I; however, all type I and type IV found were unstratified.

Type III far outnumbered the other types (64 out of 87). The remainder were distributed fairly evenly throughout the other types, with a few miscellaneous specimens. It would seem from the relatively small number of published nails, that this distribution is typical, although more type II might have been expected than the two found.

For published general collections of nails cf. Frere 1972, 186, fig. 69; Cleere 1958, 57–8, fig. 103; Pitts and St Joseph 1985; Pitt-Rivers 1887, pl. xxx; Neal 1974, 174, fig. 74; Richmond 1968, fig. 59; Brodrigg *et al.* 1972, 104–5, figs 49–50; Frere and St Joseph 1974, 85–6, fig. 45–6. Manning (1969, 264–5) discusses a range from different sites.

43. Nail. L. 200mm. Type I. 68, I, 174, 5465, 781, V.
44. Nail. L. 135mm. Type II. Phase 3. 69, D, IV, 1, 224.
45. Nail. L. 110mm. Type III. Phase 3B. 76A, IX, 1. (FIG. 51)
46. Nail. L. 71mm. Type III. Phase 3B. 76A, VIII, 1. (FIG. 51)
47. Nail. L. 52mm. Type III. Phase 3B. 76A, XIV, 1. (FIG. 51)
48. Nail. L. 49mm. Type IV. I 91, 254, 122, V.

The following nails were unclassifiable.

49. Nail. D. 39.5mm. Phase 3B. 76A, IX, 1, 283.
50. Nail. Head 73×55mm. Phase 3B. 76A, IX, 1, 231.
51. Nail. L. 16mm. Phase 3. 69, E, IV, 1, 114.

Joiners dogs

Used for clamping together two pieces of wood. These were found at Wanborough in a wide range of different sizes. A range of dogs is discussed by Manning 1969, 267; Cunliffe 1971, 137, fig. 62, 65–8.

Lengths are taken across the back.

55. Joiners dog. L. 140mm. Phase 3B. 69, V, IV, 2, 116.
59. Joiners dog. L. 93mm. Phase 3. 69, E, IV, 2, 107.
62. Joiners dog. L. 80mm. Unusual form. Phase 3. 69, D, 1, 6, 75.
68. Joiners dog. L. 60mm. 76C, XX, 470, U/S.
73. Joiners dog. L. 45mm. 222, 106, U/S.

T-staples

These are thought to have been used to hold tiles but, as one enormous example found at Wanborough shows (No. 76), different sizes may have had various uses. For assorted T-staples see Curle (1911), pl. lxxvii, 1–4; Neal 1974, 174, fig. 74, 513–17. Only two were found at Wanborough.

76. T-staple. L. 270mm. Of a size suitable for building/structural use. Phase 3B. 76C, XXXVIII, 70, 226.
77. T-staple. L. 135mm. Phase 3B. 69A, VI, 1, 192.

Household fittings*Doors***Latchlifters**

One definite example was found at Wanborough, although three fragmentary curving rods are from latchlifters.

78. Latchlifter. L. 210mm. *Cf.* Pitt-Rivers 1887, pl. xxv, 5; 1888, pl. cv, 5; 1892, pl. clxxxiv, 17; Frere 1972, 185, fig. 58, 73; Cleere 1958, fig. 6, a, d; Bushe-Fox 1949, pl. lxii, 345–46. Phase 3 70, F, II, 2, 15.

Keys

Keys from Roman Britain can be divided into three types:

- A Lift keys for tumbler locks where tumblers were dropped into the bolt from above to hold it in place. These keys can be ‘T’ or ‘L’ shaped and are designed to engage in holes in the tumblers and lift them clear of the bolt, which is then operated separately.
B Slide keys for tumbler locks. These are designed to push the tumblers clear from beneath the bolt and, remaining in the bolt, to slide it open. These are subdivided into type I (few teeth spaced widely in single row on ‘V’ or ‘L’ shaped bit) and the more common type II (small close-set teeth in a pattern on a straight bit).
C Lever-lock keys, which turn a lock like a modern key and are similar in appearance.

Manning (1969, 482*ff*) gives more detailed account of the workings of locks and keys.

At Wanborough there were six group A keys (four were ‘L’ shaped and two ‘T’ shaped), five definite group B keys (one type I and four type II) but only one typical group C example. There was also one key in the form of a finger ring and one uncut blank. This distribution appears to be fairly typical of Romano-British sites.

82. ‘T’ shaped lift key. L. 146mm. *Cf.* Curle 1911, pl. lxxviii, 3–4; Wheeler 1930, pl. xxx, 1–2; Frere 1972, 185, fig. 68, 74; Brodribb *et al.* 1968, 103, fig. 34, 3–6; Manning 1966, 33, 47; Pitt-Rivers 1887, pl. xxiv, 3. Phase 2B. 76A, VIII, 42, 506. (FIG. 52)
84. ‘L’ shaped lift key. L. 134mm. Two teeth. *Cf.* Curle 1911, pl. lxxviii, 1–2; Wheeler 1930, pl. xxx, 3–5; Neal 1974, 164, fig. 71, 388; Piggott 1952, Blackburn Mill, 43, fig. 11, B9; Brodribb *et al.* 1972, 97, fig. 44, 208; 1973, fig. 56, 356, 358; Allason-Jones and Miket 1984, 5.19, 5.21; Hawkes and Hull 1947, 132, fig. 58, 28–9. Phase 3B. 69, B, IV, 1, 263. (FIG. 52)
86. ‘L’ shaped lift key. L. 93mm. Three teeth. *Cf.* Cunliffe 1971, 132, fig. 58, 28, 29; 1975, 243, fig. 129, 219; Brodribb *et al.* 1968, 103, fig. 34, 7; Manning 1964, 56, fig. 3, 10. Phase 3B. 76C, XXXIII, 2, 115. (FIG. 52)
88. Slide key. L. 117mm. Type I. Three teeth. *Cf.* Neal 1974, 164, fig. 71, 386; Wedlake 1982, 232, fig. 101, 86; Wheeler and Wheeler 1936, pl. lxxv, b, 26. These examples all have four teeth. 76A, XIV, 392. U/S. (FIG. 51)
89. Slide key. L. 66.5mm. Type II. Eight teeth. *Cf.* Neal 1974, 164, fig. 71, 383; Hawkes and Hull 1947, pl. cv, 18; Cunliffe 1971, 132, fig. 58, 30, 31; Wheeler 1930, pl. xxx, b, 1, 2, 3; Wheeler and Wheeler 1936, pl. lxxv, B27; Curle 1911, pl. lxxviii, 11, 13. Phase 3B. 76A, IX, 1, 233. (FIG. 51)
92. Slide key? L. 114mm. This would seem to be the only principle upon which it could work as a key. *Cf.* Brailsford 1962, pl. xii, K8. Phase 3B. 76A, VIII, 1, 10. (FIG. 52)
93. Lever-lock key. L. 79.5mm. *Cf.* Bushe-Fox 1949, pl. lix, 322; Pitt-Rivers 1887, pl. xxiv, 7, 9; Caistor-by-Norwich; Caerwent; Silchester (Manning 1969, N49, N51 and N53). 76A, 455. U/S. (FIG. 52)
94. Lever-lock key finger ring. D. 19mm. *Cf.* Allason-Jones and Miket (1984), 3.348–3.352 and Crummy (1983), 84, fig. 84, for examples in bronze. Iron examples have been found at Catterick. They would have been used for small boxes and caskets rather than doors. Phase 3A. 76B, X, 17, 175. (FIG. 52)

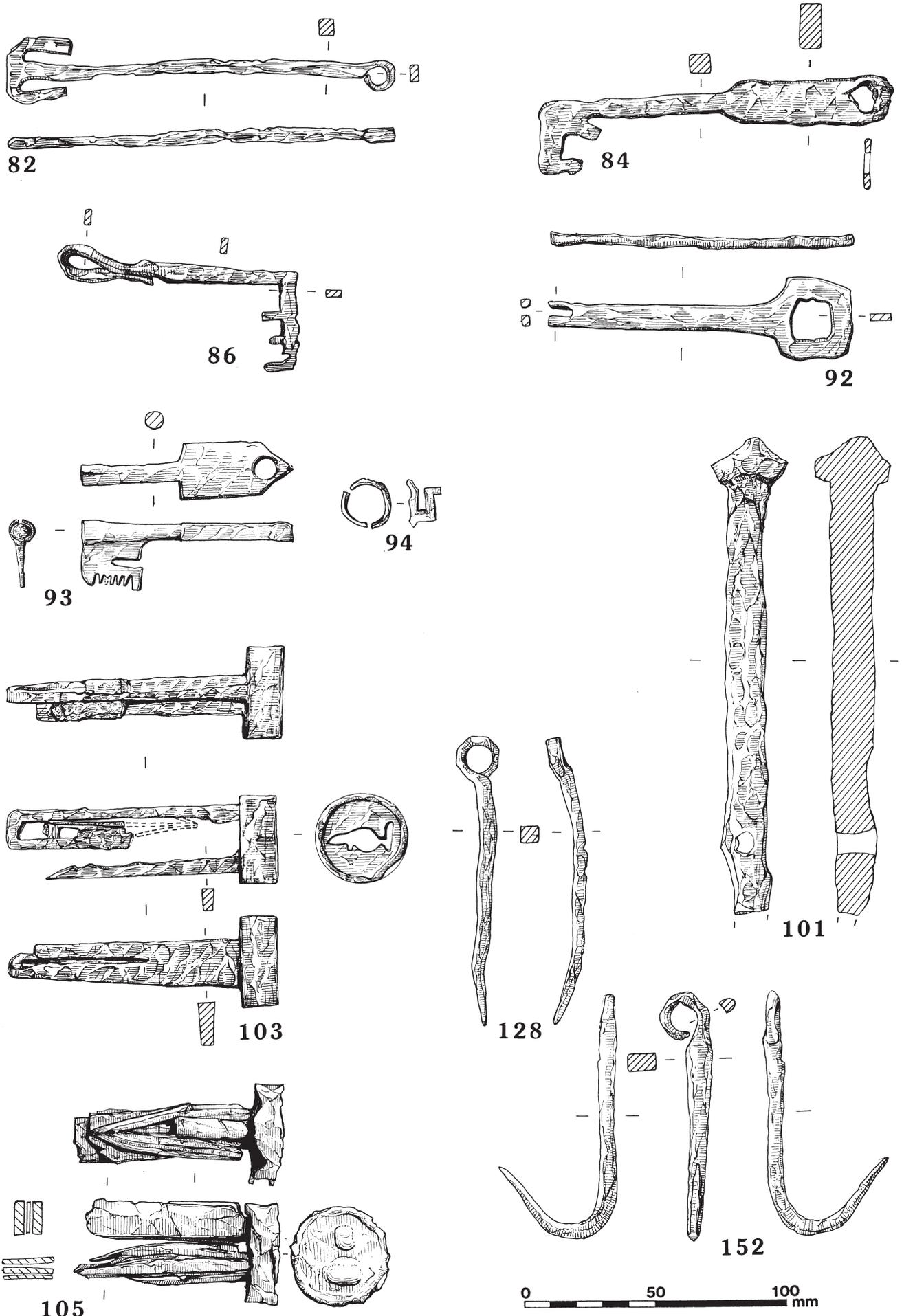


FIG. 52. Iron objects: keys (82, 84, 86, 92-4); bolt (101); padlocks (103, 105); ring-headed pin (128); hook (152). Scale 1:2.

Bolts

101. Bolt. L. 182mm. Phase 3A. 76A, VIII, 20, 397. (FIG. 52)
 102. Bolt. L. 83.5mm. For examples in bronze *Cf.* Curle 1911, pl. lxxviii, 7, 8; Cunliffe 1968, pl. xlvi, 205; Cunliffe 1971, 121, fig. 50, 136–9; Crummy 1983, 124, fig. 136. EG 607a, U/S.

Padlocks

103. Barrel padlock. L. 105mm. The remains of the mechanism leave no room for a barbed bolt and so it must be a lever lock padlock. The carefully formed key-hole and the fact that most barb-spring padlocks were rectangular support this. *Cf.* Silchester Manning 1969, N63; Cunliffe 1971, 141, fig. 64, 82. Phase 3B. 69, A, XIX, 1, 144. (FIG. 52)
 104. Barb-spring padlock bolt. L. 101.5mm. *Cf.* Pitt-Rivers 1887, pl. xxiv, 10; Wheeler and Wheeler 1936, pl. lxxv, a, 16; Wheeler 1943, 284, fig. 95, 2; Brodrigg *et al.* 1971, 121, fig. 51, 93; 1973, 119, fig. 56, 354; 1978, 103, fig. 42, 515, 516. SSM, 776. U/S.
 105. Barb-spring padlock. L. 78mm. RC/SAS 70, U/S. Lagoon area. (FIG. 52)
 106. Lock fragment. L. 71mm. Apparently the pivot and circular ward for a lever lock. EG I111, 299, 143. U/S.

Handles

Only one handle was of sufficient size for a door.

107. Handle. L. 120mm. One arm and plate missing. 76A, 597, U/S.

Other fittings

Split-spiked loops

For driving into wood to form a loop. The feet have sometimes been hammered out on the other side of the wood. The split allowed them to be passed through a plate or larger ring first. For assorted split-spiked loops *cf.* Piggott 1952 (Blackburn Mill), 46, 12, B24; (Carlington Loch), 30, 10, C61–63; Pitt-Rivers 1887, pl. xxviii, 1, 17; XXVI, 6; Curle 1911, pl. lxxvii, 10–13; Frere 1972, 185, fig. 68, 90–4; Brodrigg *et al.* 1968, 105, fig. 35, 41–5, 51, 59–61.

Ring-headed pins

For driving into wood to form a loop. Most have been made by turning over the top of the stem to form a loop and welding it to the shaft. This allowed the loop to be passed through another attachment before welding, as was found in one example from Wanborough but this would probably have been too awkward to be a regular practice. Ring-headed pins were found with various loop sizes and various shaft lengths, but one did not seem proportionate to the other. For assorted ring-headed pins *cf.* Curle 1911, pl. lxx, 2, lxxvii, 14; Pitt-Rivers 1887, pls xxix, 15–16, xxvii, 3. These examples show that the loop was often pierced rather than turned over as in most of the Wanborough finds.

128. Ring-headed pin. L. 109mm. Phase 3B. 76A, XV, 1, 57. (FIG. 52)
 136. Ring-headed pin. L. 67.5mm. Cylindrical ring. 68, I102, 3472, 600, U/S.
 144. Ring-headed pin. L. 35mm. Phase 3B. 76A, VIII, 1, 177.

Hooks

146. Wall hook. L. 73mm. 'L' shaped. The pointed arm would be driven into wood. *Cf.* Piggott 1952 (Brampton) 31, no. 41; Neal 1974, 174, fig. 74, 521.
 150. Wall hook. L. 70mm. 'U' shaped. *Cf.* Frere 1972, 185, fig. 68, 86–9; Neal 1974, 176, fig. 751, 522–3; Crummy 1983, 120, fig. 129. 72, I4, 1, U/S.
 151. Hook. L. 144mm. Rivet-hole for attachment. *Cf.* Piggott 1952 (Carlingwark Loch), 37, fig. 10, C57; Brailsford 1962, 3. 76B, XVI, 12, 93, U/S.
 152. Hook. L. 93mm. Loop for suspension. *Cf.* Piggott 1952 (Carlingwark Loch), 39, fig. 10, C55, C58; Cunliffe 1975, 245, fig. 130, 231; Pitt-Rivers 1887, pl. xxix, 13, 18. Phase 3B. 76C, XXXVIII, 1, 384. (FIG. 52)
 157. Hook. L. 59.5mm. Loop for suspension. *Op. cit.* Phase 3B. 76C, XLIII, 111, 360.
 161. Hook. L. 47mm. Wedge-shaped knob at top, rather blunt but possibly for driving into wood. Phase 3B. 69C, VII, 1, 94.
 162. Hook. L. 122mm. Hook extends into handle as if perhaps used for lifting something hot such as a cauldron. Phase 3. 69D, V, 1, 150.

Rings

The iron rings have been treated as archive material and are therefore not listed in detail here. The sizes of the 37 rings range between 13 and 112mm. However, a diameter of 30–40mm is by far the most common size. The rings were either square or round sectioned but, somewhat surprisingly, there was a preference for the former.

Domestic and household equipment

Knives

The knives are classified according to Manning (1969). Analysis shows that, although the knives are generally rather more than wrought iron, only one gives a really satisfactory hardness. The most frequent type of knife at Wanborough is type 16, followed by types 15 and 26, which conforms to the general pattern of finds from Romano-British sites.

Types 1–5: Blades long in relation to width, edge and back usually parallel. Tip pointed with edge longer than back. The handles are either a plate of the same thickness as the blade (often ending in a loop), to which grips were riveted or they were made in one piece with the blade (usually ending in a loop).

164. Knife. L. 149.5mm. Type 1. *Cf.* London, Guildhall Mus. nos 20906, 110, 20889, 3543, 1101. Phase 3A. 76A, XV, 20, 297.
165. Knife. L. 198mm. Type 3. *Cf.* London, Guildhall Mus. 21816. I90, 253, 121, U/S.
166. Knife. L. 189mm. Type 4. *Cf.* London, Guildhall Mus. 1113, K20 and an example from *Margidunum* illustrated by Manning (1969, no. 21). Analysis shows coarse ferrite with low phosphorus content. Phase 3B. 76A, IX, 2, 153. (FIG. 53)

Types 7–11: Downward turn of blade. These types are subdivided on the basis of this bend and on the form of handle, which for types 7 and 8 is the same width as the blade, often ending in a loop, and which for types 9–11 is narrower than the blade.

167. Knife. L. 175mm. Type 8. Decorative bone handle. *Cf.* London, British Mus., 56. 7–1.1120, 56.7–1.1119, Guildhall Mus. 1099, 1107 (Manning 1969, K54–7; also Curle 1911, pl. lx, 6). Phase 3A. 76B, XVI, 63, 350. (FIG. 53)
168. Knife. L. 173mm. Type 10. There are examples from London (Manning 1969, K71–2, K74–5). Analysis shows a ferrite and ferrite and pearlite structure. Phase 3B. 76B, XVI, 13, 112. (FIG. 53)
169. Knife. L. 126mm. Type 11. Compare an example in the British Museum (Manning 1969, K77). Phase 2A. 76A, XV, 41, 645. (FIG. 53)

Types 12–14: Long in relation to width, the back and edge are parallel. Tang/socket/handle continues line of back.

170. Knife. L. 276mm. Type 14. *Cf.* Curle 1911, pl. lx, 14 and Manning (1969, K94 from Caistor-by-Norwich). Analysis shows a homogeneous steel of ferrite and pearlite with a reinforcing rib at the back of the knife. Phase 3B. 76C, XXVI, 65, 345. (FIG. 53)

Types 15–17: Tang set approximately mid-blade.

172. Knife. L. 146mm. Type 15. *Cf.* Pitt-Rivers 1888, pl. civ, 5, 6. There are parallels from *Margidunum*, Caerwent (four) and Silchester (Manning 1969, K101, K95, K97, K99, K103–4); Brodrigg *et al.* 1972, 88 fig. 37, 148, 152–4 and 89, fig. 38, 157. Phase 3, 69D, IV, 1, 225.
177. Knife. L. 155mm. Type 16 (Manning 1969, K106–46). Phase 3. 69E, IV, 2, 216.
179. Knife. L. 130mm. Type 16. Phase 3. 69E, I, 2, 21.
182. Knife. L. 98mm. Type 16. Analysis shows a ferrite/ferrite and pearlite structure with a quenched and tempered edge. Phase 3. 70H, VI, 1, 157. (FIG. 53)

No examples of types 18–21, a short wide blade with convexly curved edge and convexly curved or arched back, were found.

Types 22–5: The blade has an upward curve.

186. Knife. L. 148.5mm. Type 25. *Cf.* Brailsford 1962, pl. viii, G58. Analysis shows homogeneous ferrite and pearlite with maximum carbon content near the edge; also considerable phosphorus content. Phase 3A. 76A, VIII, 20, 442.

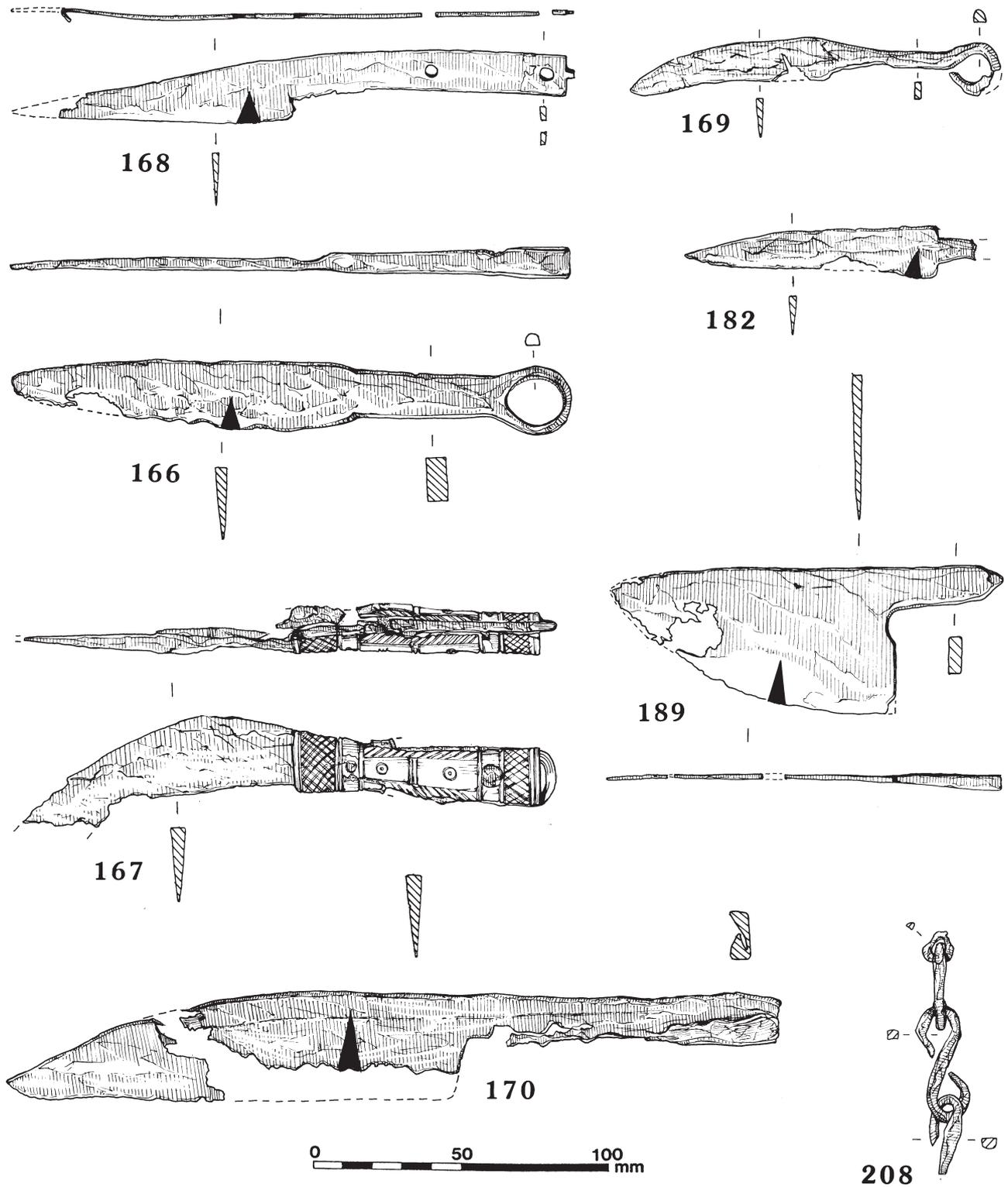


FIG. 53. Iron objects: knives (166–169, 170, 182, 189); chain (208). Scale 1:2.

Types 26–30: Small type knives.

189. Knife. L. 131.5mm. Type 26. Tanged. There are parallels from Caerwent, Silchester, and Caistor-by-Norwich (Manning 1969, K224–6; Brodribb *et al.* 1968, 103, fig. 34, 29; 1971, 121, fig. 51, 103; 1973, 121, fig. 57, 379, 380). Analysis shows a pile ferrite and pearlite structure. Phase 3B. 76C, XXXIII, 2, 111. (FIG. 53)

190. Knife. L. 100mm. Type 26. Socketed. There are similar examples from Silchester (Manning 1969, K219, K222). Analysis shows a well-piled structure with a low carbon content but a hardness which indicates some phosphorus. 13, 4, 2, U/S.
195. Knife. L. 178mm. Type 28. Socketed. There is a similar find from Westbury (Cunnington and Goddard 1934, pl. liv, 3; *cf.* also Curle 1911, pl. lx, 4; Hawkes and Hull 1947, pl. cv, 24). Phase 3B. 69A, XVII, 1, 191.

Forks

203. Fork. L. 275mm. There is a similar example from London (Manning 1969, J131). Phase 3. 70F, II, 2, 30.
204. Fork. Prongs. L. 52mm, there is no evidence for the method of attaching the shaft. Manning suggest that a similar 'M' shaped object is some sort of bracelet or dog (1969, 065). Phase 3B. 76A, XIV, 1, 82.

Vessels

207. Vessel. (a) L. 60mm, (b) L. 50mm. (a) is part of the wall and base while (b) is part of the wall. Phase 3. 70F, III, 3, 56.

Chains

208. Chain. L. 83.5mm. Two full and two half S-formed figure-of-eight links. 68, I97, 3450, 596, U/S. (FIG. 53)
215. Chain link. L. 58mm. Slightly twisted oval shape and the top is worn. Phase 3B. 76A, XV, 1, 135.

Steelyards

216. Steelyard. L. 223mm. Although found more commonly in bronze, there are examples in iron from Clipsham, Rutland, Dorn, Gloucester, and Caistor-by-Norwich (Manning 1969, nos 147–9). Phase 3B. 76A, VIII, 1, 83. (FIG. 54)
217. Steelyard weight. L. 21.5mm. Phase 3A. 76A, VII, 20, 424.

Candlesticks

218. Candlestick. L. 92mm. Socketed tripod type. Compare examples from Portchester (Cunliffe 1975, 247, fig. 131, 249–50) and *Vêrulanium* (Frere 1972, 177, fig. 65, 51; Wheeler and Wheeler 1932, 93, fig. 23, 192). I25, 106, 39, U/S. (FIG. 54)
220. Candlestick. L. 73mm. Socketed. 'L' shaped wall candlestick. There are comparable finds from Silchester (Manning 1969, nos J10–13). Phase 3B. 76C, XXXII, 2, 18.

Handles

Drop handles were attached to pieces of furniture by means of some kind of staples passing through the loop at each end of the handle.

Twisted rods such as 227 may be handles from fire-irons, ladles, knives, lamps, cauldron-hangers or forks (although not the latter in this instance because of the small dimensions).

221. Drop handle. L. 74.5mm. Paralleled by an example from Silchester (Manning 1969, M16). Phase 3B. 76A, IX, 1, 36. (FIG. 54)
222. Drop handle. L. 135mm. (*cf.* Crummy 1983, 81, fig 85, 2115, 2131; Manning 1969, M12). Phase 3B. 76A, IX, 1, 59.
227. Twisted handle. L. 134mm 76C, 185, U/S. (FIG. 54)

Hinges

Three loop hinge plates were found. Loop hinges were suitable for chests, furniture and cupboards rather than for large doors.

229. Loop hinge plate. L. 97mm. *Cf.* Frere 1972, 179, fig. 66, 61, 63–4; Curle 1911, pl. lxxxiii, 8 and 12. Phase 3B. 76A, XV, 1, 219. (FIG. 54)
230. Decorative loop hinge plate. L. 120mm 67, I2, 20, 1, U/S.

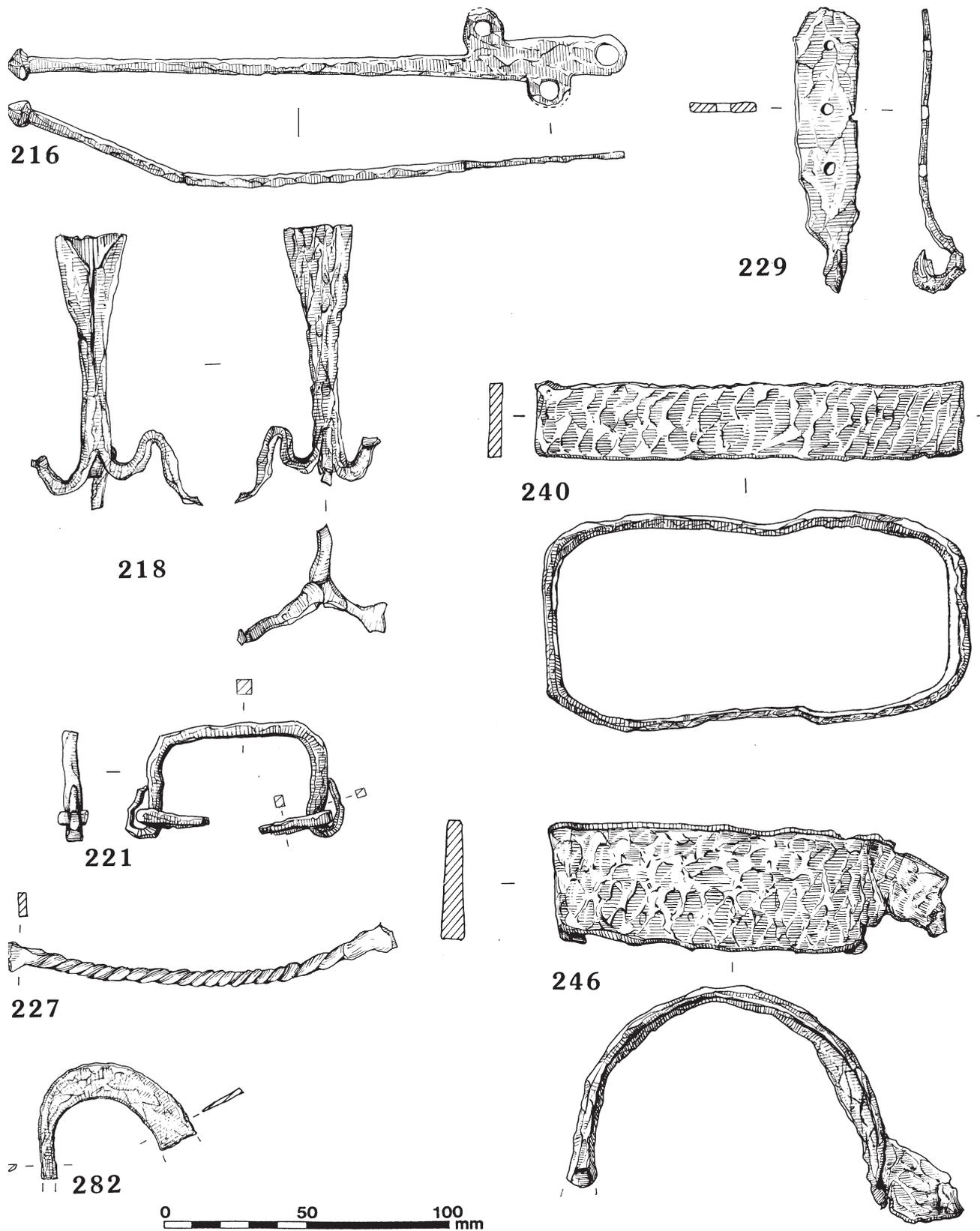


FIG. 54. Iron objects: steelyard (216); candlestick (218); handles (221, 227); hinge (229); bindings (240, 246, 282). Scale 1:2.

Bucket eyes

These are iron plates for attachment to the side of buckets, perforated at one end for attachment of a handle. Seven were found.

234. Bucket eye. L. 92mm. Much corroded. There is a loop in the perforation. *Cf.* Neal 1974, 196, fig. 79; Manning 1966, 26, nos 28–9. Phase 3. 70J, III, 2, 19.
238. Bucket eye. L. 73mm. Fragment of cruciform type. There is a similar find from Carlingwark Loch (Piggott 1952, 33, fig. 8, C11). Piggott suggests that this type may also have been used for cauldrons. 68, I85, 3382, 579, U/S.

Bindings

Only a small range of bindings is included in the digest. A few plain strips (some with rivet-holes and some bent), mostly unstratified, have been treated as archive material and are not described here.

240. Rectangular collar. L. 150mm. Phase 3. 70J, III, 2, 16. (FIG. 54)
245. Binding. L. 110mm. Probably too fine to have been a bucket eye. Phase 3B. 76C, XLVII, 168, 430.
246. Round collar. D. 105mm. 67, I158, 5444, 776, U/S. (FIG. 54)
247. Binding? L. 103mm. Phase 3B. 69A, II, 3, 69.
248. Binding. L. 91mm. Ends broken. The piece probably originally had perforated plates. Phase 3B. 76C, XXVI, 65, 324.
255. Binding. L. 57mm. Phase 3. 70J, VI/IV, 2a, 106.
262. Binding D 33mm. Phase 3. 69D, IV, 1, 115.
263. Binding D 30mm. Phase 3B. 69B, VIII, 1, 20.

Nos 267–78 are all decorative bindings of an ‘elongated diamond’ shape. Some have an edge turned over or small hooks at the corners, suggesting that they fitted to the edge of an object. They probably belonged to boxes, caskets, or other furniture as did the other delicate decorative bindings, Nos 279–87.

268. Decorative binding. L. 73mm. U/S. 66.
273. Decorative binding. L. 74mm. U/S. RC.
280. Decorative binding. L. 66mm. U/S 67 SAS.
281. Decorative binding. L. 65 and 54mm. Two fragments. Phase 3B. 76A, IX, 2, 409.
282. Decorative binding. L. 55mm. U/S. 68 Ford. (FIG. 54)
287. Decorative binding. L. 34mm. U/S. Roman Road, Customs Gap.

Rods

Rods of indistinguishable use, variously round, rectangular or square sectioned, have all been treated as archive material and are not described here.

Personalia*Styli*

These are divided into four groups (Manning 1976, 34).

1. A simple slender rod, tapering to a point at one end and flattened into an eraser at the other. (Pitt-Rivers 1888, pl. cv, 3; Cunliffe 1975, 245, fig. 130, 244–5; Bushe-Fox 1949, pl. lix, 304–7).
2. Has a distinct point separated from the stem by a marked shoulder (Pitt-Rivers 1887, pl. xxix, 4, 7; 1892, pl. clxxxiii, 13; Cunliffe 1975, 245, fig. 130, 246; Bushe-Fox 1949, pl. lix, 308–10, 315; Curle 1911, pl. lxxx, 1–3).
3. Both the point and eraser are distinctly formed and clearly separated from the stem. The shoulder above the point is often positively swollen and tapers back into the stem. The eraser forms vary (Pitt-Rivers 1887, pl. xxix, 6, 8; 1892, pl. clxxxiii, 12, 14; Cunliffe 1975, 245, fig. 120, 248; Bushe-Fox 1949, pl. lix, 311, 313–14, 316; Wedlake 1982, 235, fig. 103, 3; Curle 1911, pl. lxxx, 4–5, 7, 9–10).
4. Similar to type 3 for decoration on stem (Bushe-Fox 1949, pl. lix, 312; Wheeler 1943, 286, fig. 96, 1; Wachter 1969, 96, fig. 41, 20, 99; 43, 36).

Eight examples of type 1 were found, four of type 2, sixteen of type 3 and, unusually, eight of type 4.

292. Stylus. L. 100mm. Type 1. Phase 3. 69E, VIII, 1, 156.
297. Stylus. L. 103mm. Type 2. Phase 3. 69D, VIII, 1, 301.

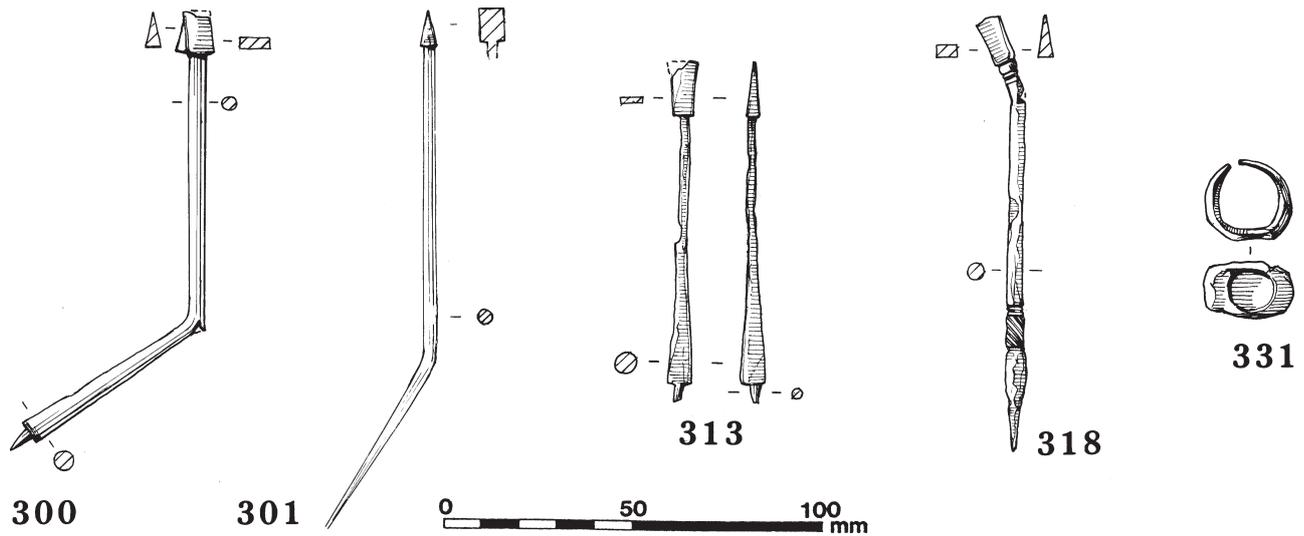


FIG. 55. Iron objects: *styli* (300–301, 313, 318); finger ring (331). Scale 1:2

300. Stylus. L. 143mm. Type 1. Phase 3A. 76A, XIV, 20, 367. (FIG. 55)
 301. Stylus. L. 142mm. Type 3. U/S. 328, 155. (FIG. 55)
 313. Stylus. L. 92.5mm. Type 3. Phase 3B. 76A, VIII, 1, 15. (FIG. 55)
 317. Stylus. L. 136mm. Type 4 with bronze decoration. 67, II, 19, 1, U/S.
 318. Stylus. L. 114mm. Type 4 with incised decoration. Phase 3B. 76A, VIII, 2, 420. (FIG. 55)
 323. Stylus. L. 39.5mm. Type 4. Eraser end of stylus with bronze decoration. Phase 3A. 76A, XIV, 20, 390.

Pins

326. Pin. L. 74mm. Head missing, sharp point. Associated with infant burial 1. Phase 2B. 76A, XIV, 35, 512 (see p.18).
 327. Pin. L. 41.5mm. Tip missing. 76A, VIII, 37, U/S.

Buckles

329. Buckle? L. 31mm. D-shaped. Cf. Curle 1912–13, 391, fig. 6, bottom right and centre; Piggott 1952, Carlingwark Loch, 36, fig. 9, C36. Phase 3B. 69A, XVI, 1, 147.
 330. Buckle? L. 28mm. Square. Compare finds from South Shields (Allason-Jones and Miket 1984, 293, 5.43); and Caerwent (Manning 1969, L40). Phase 3. 70J, V, 2, 29.

Finger rings

Two other iron finger rings with intaglios are reported upon separately by Henig (p.174) (Intaglios A and D).

331. Finger ring. D. 22mm, with setting for a gem or intaglio (cf. Allason-Jones and Miket 1984, 299, 5.99; Bushe-Fox 1913, pl. xviii, 28; Crummy 1983, 50, fig. 52, 1793; Wheeler 1930, 101, fig. 30, 16–18). Phase 3B. 76C, XXXVIII, 75, 278. (FIG. 55)

Cosmetic instruments

332. Cosmetic instrument. L. 100mm. For parallels in bronze see Allason-Jones and Miket 1984, 171, 3.464–465; Crummy 1983, 60, fig. 54, 1901, 1907; Neal 1974, 142, fig. 63, 200–2, 204 (decorated), 207. Phase 3. 69E, VII, 2, 240.

Hobnails and bootcleats

Thirty-five bootcleats were found and 163 hobnails. The majority of these have been treated as archive material and are not described here. Hobnails associated with shoe leathers are discussed in the report on leather. It is difficult sometimes to distinguish bootcleats from small cleats used to fasten wood or leather in different circumstances. Small cleats have been found in association with hobnails at the foot of a skeleton (Pitt-Rivers 1888, 190, fig. A). For more hobnails found round the feet of a skeleton, see Pitt-Rivers 1887, pl. xxxi, 8–10. For hobnails found in a rough sole shape see Wachter 1969, 98, fig. 43, 41. For other small cleats, not associated with skeletons, see Pitt-Rivers 1887, pl. xxviii, 16; 1892, pl. clxxiv, 26–31.

333. Bootcleat. L. 27mm. Phase 3B. 76A, IX, 1, 326.
 334. Bootcleat. L. 22mm. Phase 3. 69E, X, 1, 187.
 335. Hobnail. L. 22mm. Phase 3B. 76B, XVI, 13, 117.
 336. Group of hobnails. L. 48mm. Joined together at heads. Phase 2B. 76A, VIII, 449, 562.

Transport

Horseshoes

For a discussion of Roman horseshoes see Manning (1969, 281). For various horseshoes from Roman sites see Wheeler 1943, pl. xxx, b, 1–4; Cunliffe 1971, 135, fig. 60, 54; Allason-Jones and Milet 1984, 295, 5.69, 5.71; Pitt-Rivers 1887, pl. xxvii, 8; 1888, pl. CVI, 13; 1892, pl. clxxxiv, 4; Wheeler 1930, pl. lix, 3–4. Only the Maiden Castle finds are incontestably Roman and are very late Roman. There is one early example, apparently pre-Roman, from *Camulodunum* (Hawkes and Hull 1947, 342, fig. 64, 2–3).

339. Horseshoe. L. 115mm. One arm broken. Smooth edges. Phase 3B. 69C, X, 1, 110.
 344. Horseshoe. L. 88mm. Fragment. Lobate edge, calkin. Phase 3B. 69B, V, 2, 43.
 350. Ox-shoe. L. 103mm. Fragment. Cf. Pitt-Rivers 1887, pl. xxvii, 9; Maiden Castle (Atkinson 1952, 38, fig. 2). U/S, 66.

Hipposandals

Hipposandals, their use and a classification, are discussed by Manning (1969, 287ff). For an almost complete hipposandal see Crummy 1983, 105, fig. 61, 56–8; Pitt-Rivers 1887, pl. xxv, 11; Piggott 1952 (Blackburn Mill), 45, fig. 12, B21. Manning (1969) illustrates a good collection of unpublished examples from London and Silchester. At Wanborough, one complete and one nearly complete hipposandal, nine heels, nine toes, and one wing were found. There are heels from Blackburn Mill (Piggott 1952, 46, fig. 12, B20) and Silchester (Manning 1969, nos I42–3).

351. Hipposandal. L. 210mm. U/S. (FIG. 56)
 352. Hipposandal. L. 192mm. U/S. (FIG. 56)
 358. Hipposandal heel. L. 85mm. Phase 2B. 70A, VII, 42, 505.
 369. Hipposandal toe. L. 96mm. Phase 3B. 76C, XLVI, 160, 395.

Harness

Three bits and one cheek-piece were found. Only one bit was stratified.

375. Bit. L. 117mm. Half a loose ring-jointed snaffle. There are similar finds from Hod Hill (Brailsford 1962, pl. xiii, K29); Carlingwark Loch and Blackburn Mill (Piggott 1952, 30, fig. 8, C4; 11, B7); Silchester, Caistor-by-Norwich and Caerwent (Manning 1969, nos I47, I50, I51, and I46 respectively, and woodcuts Pitt-Rivers 1887, pl. XXV, 3). 76A, 596, U/S. (FIG. 56)
 377. Bit. L. 198mm. Twisted. Cf. Curle 1911, pl. lxxi, 1, 2, U/S.
 378. Cheek piece. L. 107mm. For a similar bronze cheek piece from Eckford see Piggott 1952, 22, fig. 4, E1. 70 Ray, U/S. (FIG. 56)

Lynch pin

Lynch pins were passed through the end of the axle to keep the wheel in place. For a detailed discussion of the different types based on Ward Perkins (1940–41), see Manning 1969, 334. Both examples from Wanborough are of the spatulate type, but only one has been illustrated.

379. Lynch pin. L. 186mm. Spatulate head. Cf. Frere 1972, 175, fig. 64, 33–5; Curle 1911, pl. lxx, 1; Piggott 1952, Blackburn Mill 41, fig. 11, B4. Phase 3B, 69A, XVI, 1, 168. (FIG. 56)

Ox goads

Ox goads consist of a tubular or spiral-formed cylinder with a short spike, which fitted onto the end of a pole, and were used to guide oxen. At Wanborough nine spiral and three tubular examples were found.

382. Ox goad. L. 51mm. Spiral type. Cf. Pitt-Rivers 1888, pl. cv, 12; 1892, pl. C1 xxxiii, 17; Wheeler and Wheeler 1932, 92, fig. 23, 189; Frere 1972, 154, fig. 62, 21; Brodribb *et al.* 1968, 105, fig. 35, 47–8. Phase 3B. 76C, XXXVIII, 71a, 365. (FIG. 57)
 391. Ox goad. L. 29mm Tubular type. Cf. Pitt-Rivers 1887, pl. xxix, 10; 1892, pl. clxxxiii, 19; Silchester (Manning 1969, nos I94–5). Phase 3, 69D, III, 1, 172.

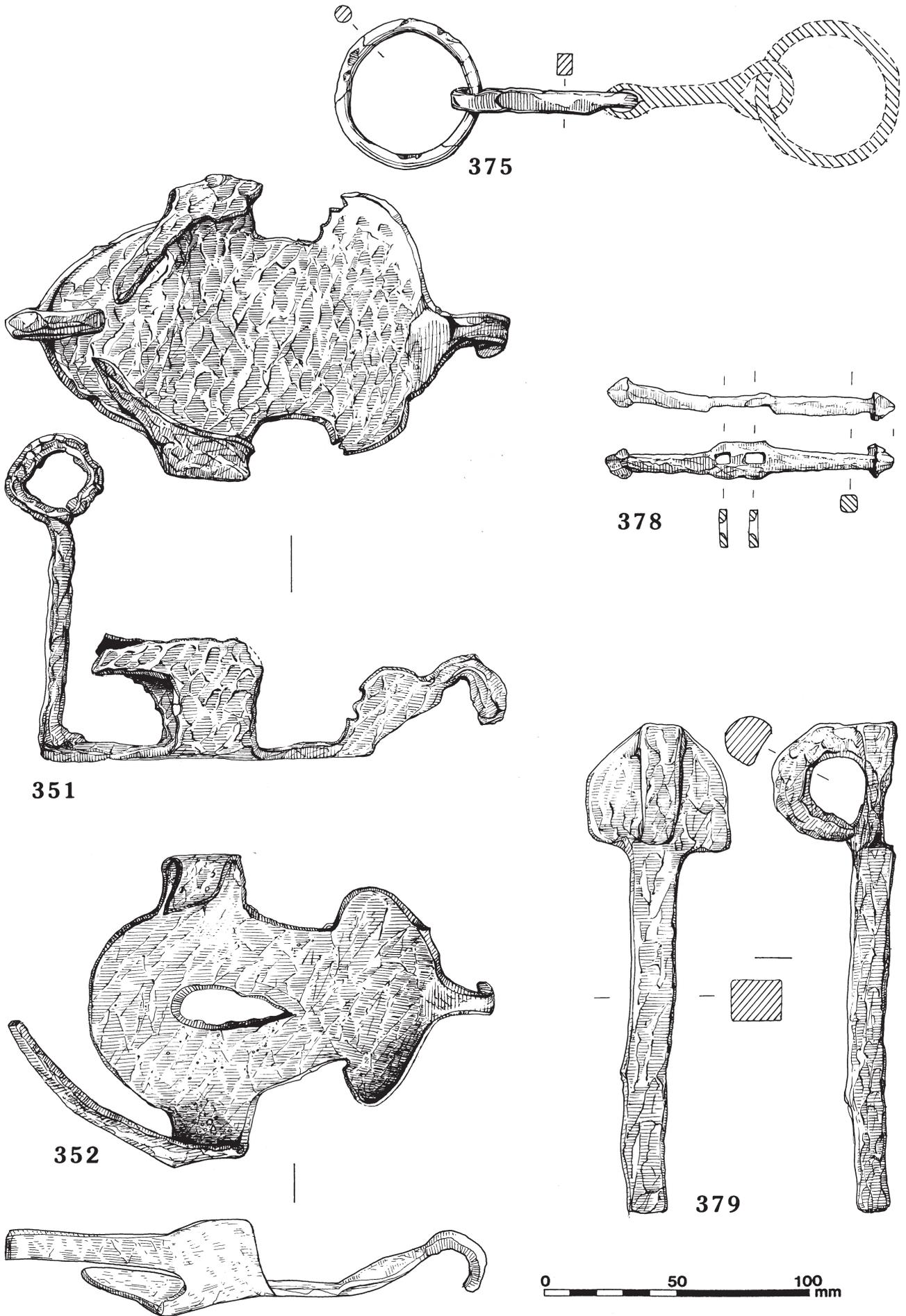


FIG. 56. Iron objects: hipposandals (351–352); harness (375, 378); lynch pin (379). Scale 1:2

Weaponry

Four types of weapons were found: one pilum head and five spearheads; one arrow head and one possible sword blade and a caltrop. Only two spearheads were stratified. One scabbard mount and a number of ferrules are also included here. Analysis showed careful hardening in two of the three objects tested.

394. *Pilum* head. L. 108mm. Cf. Brailsford 1962, pl. 11B, B108, B109; Frere and St Joseph 1974, 77, fig. 41, 10; Bushe-Fox 1949, pl. lviii, 282; Curle 1911, pl. xxxviii, 9. Analysis shows a ferrite and pearlite structure which has been heated to a high temperature and fast-cooled in air. I89, 250, 119, U/S. (FIG. 57)
396. Spearhead. L. 114mm. Manning (1976, 18–21) discusses spearhead types. Overall shape, Manning 1976, type 2, but ridged. Remains of wood inside socket. Cf. Bushe-Fox 1949, pl. lviii, 280, 283, 286–7; Curle 1911, pl. xxxvii, 10; Webster 1979, 72, fig. 32, 85A; Cunliffe 1968, pl. liii, 262. SSM, 76. U/S. (FIG. 57)

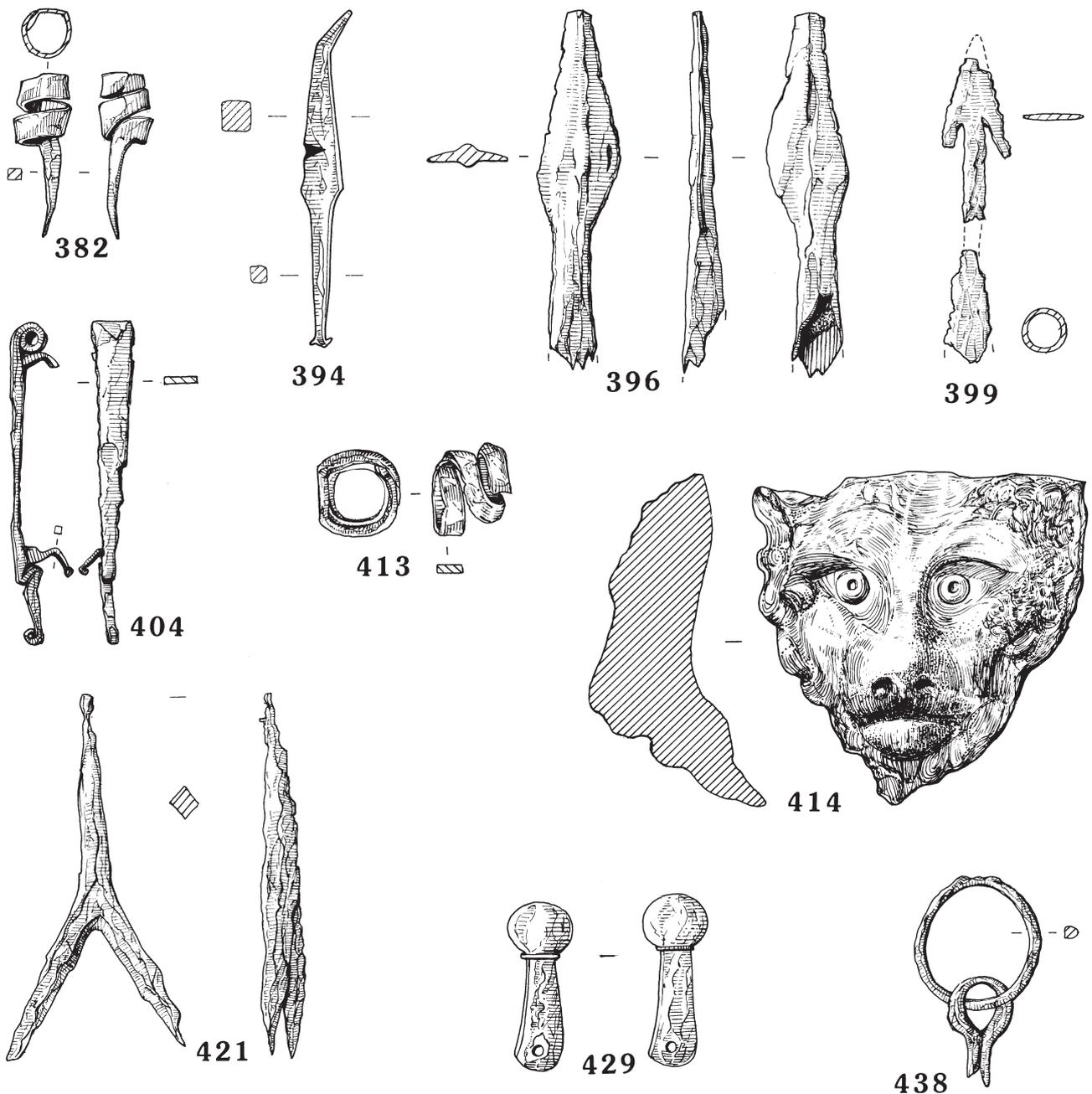


FIG. 57. Iron objects: ox goad (382); weaponry (394, 396, 399, 404); ferrule (413); miscellaneous (414, 421, 429, 438). Scale 1:2

398. Spearhead. L. 96mm. Flat leaf shape, socketed Manning type II. *Cf.* Frere and St Joseph 1974, 75, fig. 40, 4–6, 77, fig 41, 7; Cunliffe 1968, pl. liii, 263; Bushe-Fox 1926, pl. xvi, 36; Webster 1979, 72, fig. 32, 80; Brailsford 1962, pl. vi, B24–27; Curle 1911, pl. xxxvii, 1–3, 5–7, 13, 22. Analysis shows an all-ferrous structure. I1, 3, 2. V.
399. Barbed spear or arrowhead. L. 53mm. Very small; however, barbed arrowheads tend to be ridged. The shaft is broken, possibly at the beginning of a socket. Corroded. For small examples of barbed spearheads *cf.* Housesteads (Manning 1976, fig. 13, 21; Curle 1911, pl. xxxvii, 4; Brodrigg *et al.* 1968, 121, fig. 51, 107. For similar example cited as arrowheads *cf.* Cunliffe 1968, pl. liii, 264; Bushe-Fox 1949, pl. lix, 294; Cunliffe 1971, 135, fig. 60, 50. *Cf.* Davies 1977, *passim*. Phase 3B. 76A, XV, 15, 428. (FIG. 57)
400. Arrowhead. L. 54mm. For arrowheads in general, though no precise parallels, *cf.* Brailsford 1962, pl. vi, B85–6, B106–7; Bushe-Fox 1949, pl. lix, 300–3; Curle 1911, pl. xxviii, 1–7. Analysis shows a structure of steel which has been quenched and tempered. I5, 6, 2. U/S.
403. Caltrop. L. 38mm. *Cf.* Webster 1979, 72, fig. 32, 80; Bushe-Fox 1913, 17, fig. 8, 30; Curle 1911, pl. xxxviii, 14; Nash-Williams 1932, 72, fig. 22, 1–17. 68, I13, 72, 25. U/S.
404. Scabbard mount. L. 100mm. *Cf.* Webster (1958, 49) for military equipment. Scabbard mounts are usually in bronze, *cf.* Webster 1958, 87, fig. 6, 163, for a very similar example to the Wanborough object from London, cited by Webster as a scabbard mount. *Cf. ibid.* 71, 77, fig. 3, 34; 4, 74; Curle 1911, pl. lxxvii, 4; Nash-Williams 1932, 88, fig. 36, 2–10. 784, 237, 113. U/S. (FIG. 57)

Ferrules

Ferrules are conical sockets which were fitted on to the end of poles, spears, etc. for strengthening. All the examples from Wanborough have a square or rectangular-sectioned point extending from the round socket. Some are surprisingly sharp. Ferrules are a common find *cf.* Pitt-Rivers 1887, pl. xxix, 19; 1888, pl. cvi, 10; Curle 1911, pl. lviii, 6; Frere and St Joseph 1974, 77, fig. 41, 12; Wachter 1969, 98, fig. 43, 40; Cunliffe 1968, pl. lvi, 282. They were also made in a coiled form. Manning (1969) suggests that these were used specifically for spears to balance the weight at the head. *Cf.* Pitt-Rivers 1888, pl. civ, 18. There are similar finds from *Margidunum* and Brecon Gaer (Manning 1969, nos 043, 045).

405. Ferrule. L. 93.5mm. Conical. Phase 3B. 76A, VIII, 2, 93.
413. Ferrule. L. 26mm. Coil form, incomplete. Phase 3B. 76A, XV, 15, 430. (FIG. 57)

Miscellanea

414. Cast lion's head. L. 101mm. Phase 3. 70F, I, 1, 1. (FIG. 57)
415. Weight. L. 160mm. Phase 3B. 69C, IX, 1, 132.
416. Thunderbolt? L. 94mm. This object is similar to two tentatively described by Manning (1969) as thunderbolts from statuary. *Cf.* Bewcastle (Richmond *et al.* 1938, 208, fig. 13); Caerwent (Manning 1969, 034). Phase 3B. 69B, IV, 1, 245.
417. Stake. L. 270mm. Ball. D 85mm. Phase 3A. 76A, XV, 20, 301.
418. Object. L. 167mm. Use unknown. Definite rivet-hole in head. Phase 3. 70F, IV, 6, 41.
419. Object. L. 97mm. use unknown. U/S. 66.
420. Object. L. 270mm. Use unknown. Phase 3B. 69A, XXII, 1, 202.
421. Object. L. 112mm. Use unknown. Phase 3. 70G, II, 1, 9. (FIG. 57)
422. Object. L. 107mm. Similar to above, use unknown. Phase 3B. 69A, I, 4, 8.
423. Object. L. 97mm. Use unknown. Phase 3B. 76A, IX, 2, 167.
424. Object. L. 59mm. Use unknown. Phase 3. 69D, III, 4, 34.
425. Object. L. 63mm. Use unknown. Very flat one side and curved the other, but not a typical shape for a piece of binding. I144, 4629, 710. U/S.
426. Object. L. 52.5mm. Use unknown. I5, 19, 7, U/S.
427. Wire object. L. 30.5mm. For similar on bronze steelyard chain *cf.* Allason-Jones and Miket 1984, 3.470. Phase 3B. 76A, VIII, 2, 121.
428. Wire object. L. 110.5mm. Phase 3B. 76B, XVI, 13, 129.
429. Bronze and iron fragment. L. 57mm. Phase 3. 70H, V, 8, 163. (FIG. 57)
430. Object. L. 60.5mm. Use unknown. 67, U/S.
431. Object. L. 54mm. Use unknown. 67, U/S.
432. Disc. D 20.5mm. Rather small for the base of a door pivot. Possibly a counter. Phase 3B. 76C, XXXI, 111, 336.
433. Forked bar. L. 85mm. Phase 3B. 76A, VIII, 1, 61.

434. Object. L. 125mm. Use unknown. For parallel *cf.* Cunliffe 1971, 138, fig. 63, 76. 68, 257, U/S.
 435. Object. L. 38mm. Use unknown. Phase 3B. 76C, XXXIX, 175, 464.
 436. Weapon? L. 115mm. I153, 5302, 760, U/S.
 437. Bar. L. 120mm. Bent over at one end. Phase 3. 69E, VIII, 2, 281.
 438. Loop with stem. For similar through ring *cf.* Wedlake 1982, 222, fig. 96, 10. For similar cauldron hanger *cf.* an example from Caerwent (Manning 1969, 09). (FIG. 57)
 439. Object. L. 54mm. Phase 3B. 76B, XXIV, 1, 267.
 440. Object. L. 35mm. Rather fine for horse trapping? Phase 3B. 69B, IV, 1, 159.
 441. Object. L. 79mm. Use unknown. It has rather too hefty a shaft for a drill bit. 59, U/S.

Four objects were selected for metallurgical examination but are not reported on here.

4. Hot Chisel. AML No. 790239
 174. Knife. AML No. 707153
 188. Knife. (cleaver). AML No. 780856
 397. Spearhead. AML No. 790277

METALLURGICAL EXAMINATION OF THE IRONWORK By R.F. Tylecote†

A considerable amount of ironwork was found. Material for examination was selected on the basis of its likely technology, i.e. artefacts likely to show the higher levels of metallurgical technology were selected for sectioning (see TABLE 6), while those thought to be merely wrought iron were rejected. The numbering used below is taken from the catalogue of iron objects. Only the better preserved examples were selected for illustration, so although objects 4, 174, 188 and 397 were examined metallurgically, they are not illustrated. The report was submitted in 1986.

The metallurgical technique was the standard one of cutting a small V-shaped piece out with a fine hacksaw where the metal was soft, or removing it with a water-cooled abrasive cut-off disc when it was too hard. These sections were polished and etched in 2% Nital (nitric acid in ethyl alcohol).

The structures revealed are those of wrought iron or carbon steel. The metal may be clean or it may contain large amounts of slag of the fayalite-wüstite type. The carbon content of the wrought iron will be low but it may contain appreciable amounts of phosphorus which will not be visible but will be obvious by its hardening effect. Pure wrought iron will have a hardness as low as 80 HV1, but 1% P will raise the hardness to above 200 HV1.

The presence of carbon will first be revealed as grain boundary cementite (*c.* 0.05% C as iron carbide) and then as pearlite which is a lamellar distribution of iron carbide and ferrite. The distribution and appearance of this phase will change with temperature and time. This allows estimates to be made of the method of production of the artefact. As the carbon content increases, the hardness increases from 80 HV1 to 250 or 300 HV1 with 100% pearlite, i.e. with 0.8% carbon.

If the steel, as it is now, is quenched from a suitable temperature (800°C) into water or oil, the pearlite will not appear but another phase known as martensite will. This has a distinctive structure and is much harder but more brittle. It may be tempered, that is made less brittle, by controlled heating at low temperatures (i.e. 100°–500°C). This process is normally made evident by its effect on the etching process which causes the acid to darken the structure more rapidly than if it were untempered martensite.

As the tempering temperature and time increase, the martensite is converted to a resolvable dispersion of carbide particles — often spheroidal — in ferrite. This is known as ‘sorbite’. The same structure may be obtained by heating pearlite at 600–700°C for many hours.

Smithing is normally carried out at 1100–1200°C, when welds in wrought iron and mild steel are relatively easy to make. If the metal is cooled rapidly from this temperature range a characteristic structure known as *widmanstätten* is produced, where the ferrite separates from the austenite along crystallographic planes producing an acicular or feathery structure. The residual austenite changes to pearlite at 700°C, and then the nature of the pearlite indicates the time-temperature behaviour at around this temperature.

TABLE 6: IRONWORK EXAMINED

No.	Object	Ancient Monument Laboratory No.	Mount No.
3	Hot chisel	6842966 (771779A)	448
4	Hot chisel	790239	451
9	Punch or drift	692356	451
10	File	790887	449
12	Axe head	790281	448
14	Mortise chisel	684280	448
15	Broad paring chisel	800052	451
21	Saw blade	435242	449
22	Saw blade	780169	448
24	Saw blade	790274	450
34	Balance sickle	692337	449
37	Reaping hook	800060	451
41	Shears	684039	449
166	Knife; ring handled	790726	450
168	Knife	790725	449
170	Knife	780163	449
174	Knife blade	707253	448
182	Part tanged knife	790296	450
186	Knife	790723	450
188	Knife (cleaver)	780856	448
189	Knife	771180	451
190	Socketed knife	790296	450
394	Pilum head	771769	449
397	Spearhead	790277	450
400	Arrowhead	790279	449

When the smith heats iron for smithing, the iron is often oxidised and forms a detachable scale. The surface of the metal is enriched in certain elements such as arsenic, copper, nickel, and tin, and when welded to another piece forms a 'white line' due to the ferrite-retaining properties of some of the elements, particularly the arsenic. Such lines indicate where the original weld was and the level of arsenic in the original metal. Enrichment can reach a value as high as 1% As from an original value of <0.05%.

Hardness is measured by an indentation test in which a pyramidal diamond indenter is pressed into the surface of the metal under controlled conditions of time and load. HV stands for the Vickers hardness test; the numbers following these letters refer to the load applied in Kg. The hardness figures before HV are in Kg/mm² and are here generally comparable irrespective of load.

Results of examination

3. Hot chisel. This is fairly free of slag. The edge consists of a layer of steel welded to iron with another layer of steel sandwiching the iron. In contrast to 12, this has been quenched from a high temperature converting almost everything into martensite at the tip. Further back the central areas seem to be ferritic. The white lines showing high as welds seem to be full of single phase slag. Much of the martensite is dark showing evidence of (?self) tempering. The hardness of the martensite is 800 HV; that of the ferritic material away from the edge is only 182 HV. AML No. 771779A.

4. Hot chisel. Mostly fine-grained ferrite with slag. The hardness is 153 HV. AML No. 790239.

9. Punch or drift. Fine-grained ferrite with single phase slag. Also contains a central band of very coarse ferrite. The hardness is 140 HV. AML No. 692356.

10. File. Cut end-on showing fine one-phase slag stringers. This has been made by folding over to give two welds and three layers of high carbon steel. The welds are delineated by arsenic enrichment lines of ferrite. The carbon steel etches dark and probably consists of tempered martensite on the surfaces, with a hardness of 535 HV1. The core consists of ferrite and pearlite or ferrite and martensite and has a hardness of 275 HV. The hardness favours the ferrite and martensite possibility.

This small file is not recent, i.e. it pre-dates Huntsman and crucible steel (A.D. 1750). It has been made by folding over a piece of medium carbon steel and surface carburizing the finished blank after cutting-in the grooves. Then the whole has been heated to about 800°C which has austenitized the high carbon surface, but only the higher carbon areas in the core. Then it has been quenched in water and tempered. AML No. 790887.

12. Axe head. This is a blade with a steel insert between the two outer layers. Slag strings are visible near the surfaces, probably outlining the welds. The core is a 0.6% C steel welded into place with white high As lines delineating the weld which also has a fair amount of slag entrapment along it. The steel etches dark with residual areas of ferrite. The hardness is only 206–269 HV which indicates pearlite rather than bainite.

The outer layers are ferrite of variable grain size and a hardness of 156 HV. Besides the main median line of carbon steel there is also an unintentional layer near one surface. Perhaps this tool has been made by the folding over of a piece of carburized iron so that the two carburized surfaces meet, but the slag distribution tends to suggest that the iron-steel interfaces are, in both cases, welded. AML No. 790281.

14. Mortise chisel. Contains stringers of slag parallel with the edges. The head is also slaggy with two-phase slag stringers. The edge is pure ferrite with very coarse grain and shows little or no deformation. There is some slight carburization on a line away from the edge giving finer grain size. The hardness of the edge is 129 HV which indicates a fairly pure ferrite.

The head shows distortion of grains but no Neumann lamellae. The hardness has been increased to 224 HV by the cold work. AML No. 684280.

15. Broad paring chisel. A piled structure with carbon varying from a high (0.8%) to zero. The darkly etched material is martensitic and most of the other layers are also martensitic. Arsenic banding between layers is doubtful but some decarburization is likely. The hardness of the dark, high carbon, martensitic layer near the edge is 414 HV; clearly this is tempered martensite. The hardnesses of the ferrite layer with the lowest carbon is 210 HV which suggests a high phosphorus content. This tool has been quenched from about 800°–900°C and tempered. AML No. 800052.

21. Saw blade. A clean bit of steel with some carbide inclusions. Like the shears (41) below, this was resistant to etching but re-etching gave a dark structure of light, granular, carbides in a dark matrix of lightly tempered martensite. The hardness was 470 HV. AML No. 435242.

22. Saw blade. This shows stringers down the centre delineating a weld line between iron and steel. The steel is once again 0.6% C with a pearlitic structure. The other side is ferritic. The whole blade has been heated to a high enough temperature to give a marked *widmanstätten* structure. The low carbon side contains about 0.2% C and has a hardness of 143 HV, while that of the high carbon ferrite and pearlite is 245 HV. AML No. 780169.

24. Saw blade. This consists entirely of ferrite of medium grain size. The hardness at the edge is 210 HV which indicated a considerable phosphorus content. AML No. 790274.

34. Balanced sickle. This contains a lot of slag stringers, no doubt related to the weld lines. The structure could be that of a sandwich with one layer of steel exposed at the cutting edge and a ferrite core. The carbon content of the outer steel layers varies from 0.1 to 0.2% and the hardness of the latter is 256 HV which suggests some phosphorus. Near the edge the grains have been distorted by cold work. The slag stringers are complex in type. AML No. 690337.

37. Reaping hook. A fairly homogeneous medium carbon steel made by piling. The centre has a *widmanstätten* structure showing that it was originally cooled fairly quickly in air from about 1200°C. The ferrite and pearlite structure shows a fairly coarse pearlite indicating slow cooling from about 700°C. The hardness is 171 HV. AML No. 800060.

41. Shears. Very clean with a group of slag stringers near the back. Light etching shows only carbide in an unetched matrix, but the hardness of 269 HV suggests that the matrix is not ferrite. Deeper etching darkens the background and reveals a two-phase structure consisting of finely divided light and dark areas, probably martensite and pearlite (bainitic). Thus, this would appear to be a slack-quenched blade. AML No. 684039.

166. Knife. Very coarse ferrite and slag with a hardness of 133 HV which suggests a low phosphorus content. AML No. 790726.

168. Knife. Contains very fine slag stringers. The carbon content varies from 0–0.15% showing a ferrite, and ferrite and pearlite structure. Where the carbon is low the pearlite tends to break down into stringers of spheroidised carbides. The hardness is 175 HV and the mean carbon content is about 0.1% AML No. 790725.

170. Knife. Some slag delineates the weld lines. It is a more or less homogeneous carbon steel with about 0.6% C in the form of ferrite and pearlite. The hardness is 240 HV1 which agrees with the structure. The back of the knife carries a heavy reinforcing rib. AML No. 780163.

174. Knife. Very clean metal. This would seem to have been intended to be a homogeneous steel, but diffusion has not been complete and the carbon is very variable. The edge is a very nice example of tempered martensite with a hardness of 720 HV. The inside varies from ferrite to ferrite and pearlite and has a hardness of 148 HV. A well-made, well heat-treated implement. AML No. 707153, fig. 52, 36.

182. Knife. Homogeneous high carbon steel. The structure is pearlite and ferrite and the carbon content is about 0.6%. The pearlite is fine but resolvable at $\times 400$. The hardness is 240 HV which is what one would expect of this carbon content with low phosphorus. AML No. 790268.

186. Knife. Uniform and homogeneous ferrite and pearlite with about 0.1–0.15% C. The carbon content is at its maximum near the edge where the hardness is 251 HV. But such a high hardness is not typical of a simple ferrite and pearlite structure and implies considerable phosphorus. AML No. 790723.

188. Knife (cleaver). Fine slag stringers down the centre. This has been piled and consists of 3–4 major layers varying from pure ferrite to 0.43% C steel. The structure is that of ferrite and pearlite and the hardness is 158 HV. AML No. 780856.

189. Knife. Coarsely piled but mostly ferrite of medium grain size. The carbon content in this region does not exceed 0.15% and the hardness is 168 HV suggesting some phosphorus. But one surface has had welded to it a piece of high carbon steel which extends round the cutting edge. This consists of tempered martensite with a hardness of 369 HV. The weld line is now in the ferrite and pearlite area suggesting that the high carbon steel was slightly decarburized during heating for welding. The ferrite and pearlite structure at the centre is *widmanstätten* which probably arose during heating for welding. If so, the high carbon side has been reheated to a hardening temperature of 800°C which has left the *widmanstätten* centre more or less unaffected. This would have been easy with an oxyacetylene flame but it is difficult to do in a smith's hearth and one wonders whether it was intentional, or if this object is modern as it was unstratified. AML No. 771180.

190. Knife. This has a well-piled structure with multiple banding. The overall carbon content is in the range 0.1–0.15%. There is more slag near the cutting edge and the ferrite grains show some signs of distortion. The hardness is 185 HV1 which indicates some phosphorus. AML No. 790296.

394. Pilum head. The section has been cut through thick slag films. A very uniform *widmanstätten* structure of ferrite and pearlite with 0.2–0.3% C. The hardness is 168 HV. This has been heated to a high temperature (1200°C) and fast cooled in air. AML No. 771769.

397. Spearhead. All ferrite with a hardness of 105 HV. AML No. 790277.

400. Arrowhead. Has a lap in the middle of the section. As one half is clean and the other half has some slag this must be a weld. The carbon content is variable but high, and the structure is mainly coarse, tempered martensite with a hardness of 390 HV. There are occasional areas of ferrite. AML No. 790279.

Summary of results

The metallurgical characteristics of the artefacts examined are listed in TABLE 6. While not outstanding in quality as compared with modern cutting implements, they do show an improved technique over the average Romano-British site. For example a very large proportion (19 out of 25) show evidence of carburization in the form of pearlite, or some phase obtained by quenching a carbon steel. Out of these 19, as many as eight have been quench-hardened.

The wood-cutting tools such as the axe and the mortise chisel are well made, although the latter has been hit with a hammer rather than a mallet.

The axe is in excellent condition and has been made by inserting pieces of carbon steel in the edge — a technique in use up to the eighteenth century A.D. at least. But this has not been hardened so the hardness is only that of pearlite and ferrite, i.e. 169 HV, whereas it could have been as high as 500 HV or more if required. At least this (269 HV) is higher than a Bronze Age axe which usually averages only 150 HV, and today it is often thought that unhardened edges of carbon steel are quite adequate for axes, so one should not be critical about this implement.

The mortise chisel, on the other hand, is no more than wrought iron and much inferior to a Bronze Age socketed chisel from the Gilmonby hoard which had a hardness of 150 HV.

Hot chisels are normally designed for cutting metal. Two of the three chisels examined, with hardnesses in the range 140–153 HV, would not be very suitable for this, but the third, which has been heat-treated to give a hardness of 800 HV, would be first class. The thin-bladed broad paring chisel would be good for cutting wood with its hardness of 414 HV; its design is clearly not intended for metal.

The three saws must have been intended for wood as their teeth are large. They span the range 185–470 HV — only the latter having been hardened. A modern tenon saw would have a hardness of 400 HV.

Only one of the knives, however, gives a satisfactory hardness (720 HV), although the rest are rather more than wrought iron. A modern stainless steel knife would have a hardness of 500 HV, while that of a carbon steel kitchen knife would be 700 HV.

It is interesting that the small arrowhead has been hardened. As for the file, a file for iron with a hardness less than 500 HV would be virtually useless. This has been well-made and, as it was unstratified, could be medieval. It is small and was probably intended for lock-smithing.

The constructional techniques used are not the more usual medieval ones of welding-in inserts of steel to iron, except in the case of the axe. Even here the insert seems to have been folded over to give the medial 'white' weld line. Probably it has been carburized on one side and folded once, so that the two carburized surfaces meet, and welded with some decarburization at the join.

The best hot chisel (3) is clearly some form of sandwich construction, but without cutting more sections from it one is not able to categorise it. But the knife (174), is a very typical case of a type in which the steel is on the outside. In this case, however, absence of weld lines suggest that the steel has been put on by carburizing *in situ* and not by welding. On the other hand, the knife 189 is a clear example of welding with considerable decarburization on the steel side of the weld line. The contour of the steel suggests that it has been made by a sandwich technique with thin steel bent round the edge but that the one layer was accidentally ground away.

The file has been made by folding over a carbon steel and carburizing this further. The correct techniques must have been well established when this was made and no mistake has been made in the sequence of carburization and hardening.

When there is considerable evidence of the assembly of an iron core by piling, as seen by heavy slag stringers, and there is a steel layer on the outside, it is not easy to tell whether this steel layer has been welded on or diffused in by carburization. The result is much the same. During carburization the carbon will diffuse past the slag stringers, often forming a steel-iron interface parallel with them. During the welding of steel to iron the slag line will at first coincide with the steel-iron interface but soon the carbon will diffuse further into the iron core, forming an iron-steel interface away from the original weld line.

There is no doubt that, by the medieval period, the smith found welding more to his liking than carburization and, on the evidence of the axe from this site and material from other sites, it is likely that this applies to the Roman smith also.

TABLE 7: COMPARISON OF METALLURGICAL LEVELS ACHIEVED ON VARIOUS ROMANO-BRITISH SITES

Site	Total	Number of artefacts	
		Carburized	Hardened
Gestingthorpe	31	11	2
Thistleton RV	13	3	0
Ware	12	5	2
Catsgore	11	6	1
Colchester	12	2	0
Brancaster	8	5	0
Wanborough	25	19	8

Carburization is a slow process (0.2mm/hour at 900°C) and leaves a smooth carbon gradient. Welding will only leave a smooth gradient if the object is heated for a long time afterwards and this is usually quite unnecessary. The sudden carbon variations would be eliminated by heating at 900°C for three hours. Thus the variations in carbon content are produced by welding and there is little evidence of carburization of finished or semi-finished artefacts.

Comparison with other Romano-British sites is shown in TABLE 7. The difference is quite striking and the proportion of well made heat-treated material is tending to approach medieval proportions. Where ferrite is the main component of the tool, it does not seem to have high hardness as in the case of so many tools from Gestingthorpe (Draper 1985), where it is due to the high phosphorus content of the iron.

It would appear that the smiths who supplied Wanborough were using iron of comparatively low phosphorus content and knew this so that they had to make up for the lack of hardness with carbon. Having done this the tools were then amenable to quench hardening.

Conclusions

For a Romano-British site, this has an usually high proportion of heat-treated steel artefacts. Nineteen out of 24 have been carburized and, of these, eight have been quench hardened. On the other hand the indications are that the phosphorus content is relatively low (that of the local ores being 0.29–0.48% P) (Fells 1980). This fact may have encouraged the local smiths to do more carburizing than usual to increase the hardness; such tools would then be amenable to heat treatment.

EXAMINATION OF SLAGS AND FURNACE MATERIAL By R.F. Tylecote†

The slag is all Roman and comes from all of the three main occupation periods of the site. The material examined was selected from the slags and hearth material which had been previously examined and weighed (TABLES 8–9), and this report was submitted in 1986. Typical pieces had been put to one side for examination, from which three pieces were chosen for electron probe analysis.

Identification

The list of specimens examined and the results are given in TABLE 10. The majority of the material consisted of hearth bottoms from smithing and some of these were very nicely shaped, plano-convex, 900 × 300mm thick; material which could have been from smelting was rare. The hearth lining was clean and had no slag accretion which suggests that it was from clay-lined smithing hearths. There was one tuyère fragment with a bore of *c.* 250mm.

Results of Electron Probe Analysis (EMPA)

The results on the three pieces selected are given in TABLE 11. These give raster analyses on areas about 200 μm square and spot analyses on discrete phases. Normally slags contain

TABLE 8: WEIGHTS OF SLAG FROM 1966–70 EXCAVATIONS

Phase: Date	I	II	III	
	A.D. 50–80	A.D. 80–230	A.D. 230–400+	
A	—	—	Slag 3.0	
B	—	—	Slag 1.05	
C	—	—	Slag 2.62	FL 0.01
D	—	—	Slag 6.03	FL 0.02
E	—	—	Slag 8.68	
F	—	—	Slag 6.68	FL 0.07
G	—	Slag 0.02	Slag 1.00	FL 0.02
H	Slag 0.25	Slag 2.50	Slag 1.56	FL 0.04
J	Slag 0.11	Slag 0.10	Slag 0.47	
Total Kg	Slag 0.36	Slag 2.62	Slag 31.09	FL 0.14

(quantified by M. Stone)
(FL = furnace lining)

TABLE 9: TOTAL SLAG WEIGHT FROM 1966–70 EXCAVATIONS

		Periods I and II	Period III
		A.D. 50–230	A.D. 230–400
1966–68	Slag	—	4.01
	Furnace Lining	—	1.34
1969–70	Slag	3.60	34.63
	Furnace Lining	—	0.20
Total Kg	Slag	3.60	38.64
	Furnace Lining	—	1.54

fayalite-type crystalline phases (high iron olivines) and glasses which usually contain the alkalis alumina and lime as well as some of the silica. These are often referred to as anorthite. It would seem that most of the CaO in specimen 1 was contained in another crystalline phase — perhaps a lower-iron olivine. This phase showed the presence of copper and it suggests that the smithing hearth was occasionally used for copper-base metals. This smithing hearth bottom had been made from iron with a low phosphorus content. This piece of slag was quite badly corroded and consistent readings would not be expected. The FeO readings in three raster analyses were 64.4, 72.3, and 59.7%, reflecting either attack and/or deposition.

In contrast, specimen 2 was a very dense piece of tap slag with a consistent high FeO content, confirming the existence of wüstite. But the P₂O₅ content is different from specimen 1 and either the iron came from a different source (ore with 2.0% P₂O₅), or a different charcoal with more bark was used. We do not yet have much information on the relative contribution of smelting slag and other inputs in smithing but one would expect a dilution of the P₂O₅ by 50% unless some entered from the charcoal.

Conclusions

This material was mostly the product of smithing operations. The possible smelting slag came from low phosphorus ores. The metal smithed was probably also from low phosphorus ores and all work was carried out with charcoal as fuel. The size of the smithing hearth bottom suggest relatively small hearths or frequent removal of the slag accumulations in the bottom.

TABLE 10: SLAG SPECIMENS EXAMINED WITH RESULTS

(HB = Hearth Bottom)

1966

B 51/S SL 1 Rough ?furnace slag
 B 96/2 SL 4 A small HB
 B130/2 SL 5 A piece of slag

1967

338, Bag 156 SL 6 Probably part of an HB
 814, 5831 SL 14 HB
 808, 5779 SL 13 An amorphous piece of slag
 828, 5851 SL 15 (828) Heavy tap slag with white clay attached. See TABLE 11

1968

190, 390 SL 2 A slaggy hollow ball with a hole
 191, 391 SL 3 Large tuyère frag. D. c. 25mm
 192, 392 SL 4 Rather large flat pieces of furnace lining, well vitrified with no accretion
 193, 393 SL 5 Heavy vitrified furnace lining and slag
 194, 395 SL 6 Thin, dark grey piece of furnace lining
 1355, SL 10 Hard grey floor or furnace lining

1969

A I (3) HB
 A III (2) A HB, D. 220mm, 50mm deep. See TABLE 11 (in pieces — unusually large for a smithing hearth bottom)
 AIX (1) A small piece of slag
 B II (5) Slag
 B IV (1) One dribble of slag
 B VIII (1) Run slag
 B VIII (3) One piece of unidentifiable slag
 C VII (1) Two pieces of and one almost complete HB, well glazed on the top surface
 C VIII (1) Furnace lining
 C VII (1) An amorphous piece of slag
 C XIII (1) Fired black clay
 C I (6) Hard charcoal
 D IV (1) One HB
 D IV (13) An amorphous lump of slag; could be an HB, if so a very large one, plus another small piece of the same
 D VII (1) Two pieces of HB
 D VII (1) One very heavy piece of HB (high iron content)
 E I/III (2) An amorphous slag lump, could be tap slag
 E IV (2) (201) Probably a piece of a large HB
 E VIII (2) An amorphous slag lump, could be tap slag
 E X (2) Two small pieces of run slag
 E X/XX (20) Probably a piece of large HB

1970

F I (3) A large amorphous slag lump
 F I (4) Amorphous slag, mostly HBs
 F I (5) (6) A nice HB, D. 90mm, Th. 30mm See TABLE 11
 F I (4) More amorphous lumps of slag with some charcoal
 F I (4) A heavy dribble; could be tap slag
 G II An HB and an amorphous piece of slag
 G II (5) Vitrified furnace lining
 G VII (11) A nicely shaped HB
 H I (1) Flat plate of slag, could be from smelting
 H V (1) Two amorphous pieces of slag; one large
 H VI (1) HB
 H VI (11) HB
 J VII (3) HB

Year uncertain

WAN 3457 (597) SL 10 Two very fine HBs

TABLE 11: ELECTRON PROBE ANALYSIS OF SLAGS

	1 Corroded SFB(?) 1969 A III 2 A.D. 230-400+			2 Dense tap slag 1967 SL15		3 Dense SFB 1970 FI (5) (6)		
	*Rast	Glass	Xstal	Rast	Glass	Rast	Rast	Rast
FeO	64.4	12.3	48.2	76.2	41.4	57.1	53.0	51.3
SiO ₂	23.6	46.9	30.2	13.1	35.5	24.6	27.7	28.0
CaO	6.0	1.8	18.2	2.2	9.4	8.6	8.1	9.0
Al ₂ O ₃	2.0	18.3	nd	2.9	6.8	8.2	7.5	8.3
MnO	nd	nd	nd	nd	nd	nd	nd	nd
MgO	1.0	nd	0.4	nd	nd	0.6	0.5	0.4
K ₂ O	1.2	15.3	nd	1.2	4.8	1.7	1.6	1.8
Na ₂ O	nd	0.7	nd	nd	nd	nd	nd	nd
SO ₂	nd	nd	nd	nd	nd	0.2	0.2	0.2
P ₂ O ₅	nd	nd	0.5	nd	0.3	1.0	0.9	1.0
Cu	-	-	0.3	-	-	-	-	-
Total	98.2	95.3	97.8	95.6	98.2	102.0	99.5	100.0

nd = not detected; - = not sought; *Rast = Raster, 200 μm

12. JET AND SHALE OBJECTS (FIGS 58–60)

By Susan Horton

Seven jet and 26 shale finds are known from Wanborough but only two, both shale, were found in securely dated contexts. The remaining material is consistent in type and decoration with material from Roman sites in Britain and in the Rhineland.

The finds from the 1969 and 1970 excavations were analysed by the late Dr F.W. Anderson for the Department of the Environment, but the remaining material has been classified as either jet or shale solely on the basis of the state of the artefacts' preservation and weight. Thus different types of shale have been identified only in terms of their present colour. This report was submitted in 1986.

Commentary

There are two jet beads (Nos 1–2), with double perforations which might have been part of a bracelet (Kenyon 1948, 270), but they could have been used as part of a more rigid arrangement if secured in this way, rather than with a single string (Lawson 1976, 244). Parallels dating from the second to the fourth centuries have been found at Lydney (Wheeler and Wheeler 1932, fig. 18, 77), *Verulamium* (Frere 1972, 154, fig. 57, 226) and Brough-on-Humber (Wacher 1969, 102, fig. 46, 12). This form of bead can be more or less ornate, as can be seen from examples from the Jewry Wall, Silchester, and elsewhere. Jet pins with faceted cuboid heads (Nos 3–4) are a common Roman find, both with a tapering or a swollen stem, and appear in material from York (RCHM 1962, pl. 69), Wroxeter (Bushe-Fox 1914, pl. 10, fig. 2), Lydney (Wheeler and Wheeler 1932, fig. 18), Silchester (Lawson 1976, 258, fig. 7) and Krefeld-Gellep, Grave 1223, probably of the earlier fourth century (Pirling 1966, 144, Taf. 102, 17). Two examples from Colchester (Joslin Coll. Grave 98/13) were dated by May to the earlier second century (1930, 280, pl. lxxxvii, 98).

The possible jet finger ring fragment (6) is not dated but is consistent in the form of its decoration with the smooth bezel rings of Roman date which are decorated on the shoulder alone. There are examples from the villa at Gatcombe (Horwell 1977, 99) and London, where it was associated with late third-century pottery (Rosser 1961, 80, fig. 77).

The 18 fragments of shale armlet are paralleled at several other sites, particularly Silchester (Lawson 1976, 247–56). It should be noted that the larger examples (Cat. Nos 9, 12–13) may have been worn on the upper arm or on the ankle. The other 15 examples had internal diameters of between 45 and 70mm. The decoration of these pieces with dot and circle motifs, incised lines, and marginal grooves with a median ridge can be seen on material from other sites, such as the Jewry Wall (Kenyon 1948) and Silchester (Lawson 1976). The oval, circular, and 'D' shaped section seem to be typical of these artefacts, as is the retention of unsmoothed internal ridges.

Whorls of different sizes and with various linear decorative patterns are found elsewhere made of shale, for example at Silchester (Lawson 1976, 272, fig. 14), Gatcombe (Horwell 1977, 99) and Shakenoak (Brodrigg *et al.* 1968, 48; 1973, 44).

Catalogue

1. Circular jet bead with double perforation. The upper face is domed and decorated with a groove around the edge and a central point. D. 12.5mm. 69B, I, 1, 242.
2. Circular jet bead with double perforation. The upper face is domed and decorated with two very worn circumferential grooves and a central point. D. 16.5mm. 70?, U/S.
3. Jet pin fragment, broken across the straight shaft, 19mm under the faceted cuboid head. L. 28.5mm. 76C, XXXVIII, U/S, 240.
4. Two fragments of a jet pin with faceted cuboid head, broken on the shaft and incomplete at the pointed end of the centrally swollen shaft. Total length 60mm and length of shaft 51.5mm. 3354, J, 1, 566.
5. Fragment of the pointed end of the shaft of a jet pin, slightly tapered with partly faceted point. L. 18mm. Phase 3B. 69E, X, 2, 200.

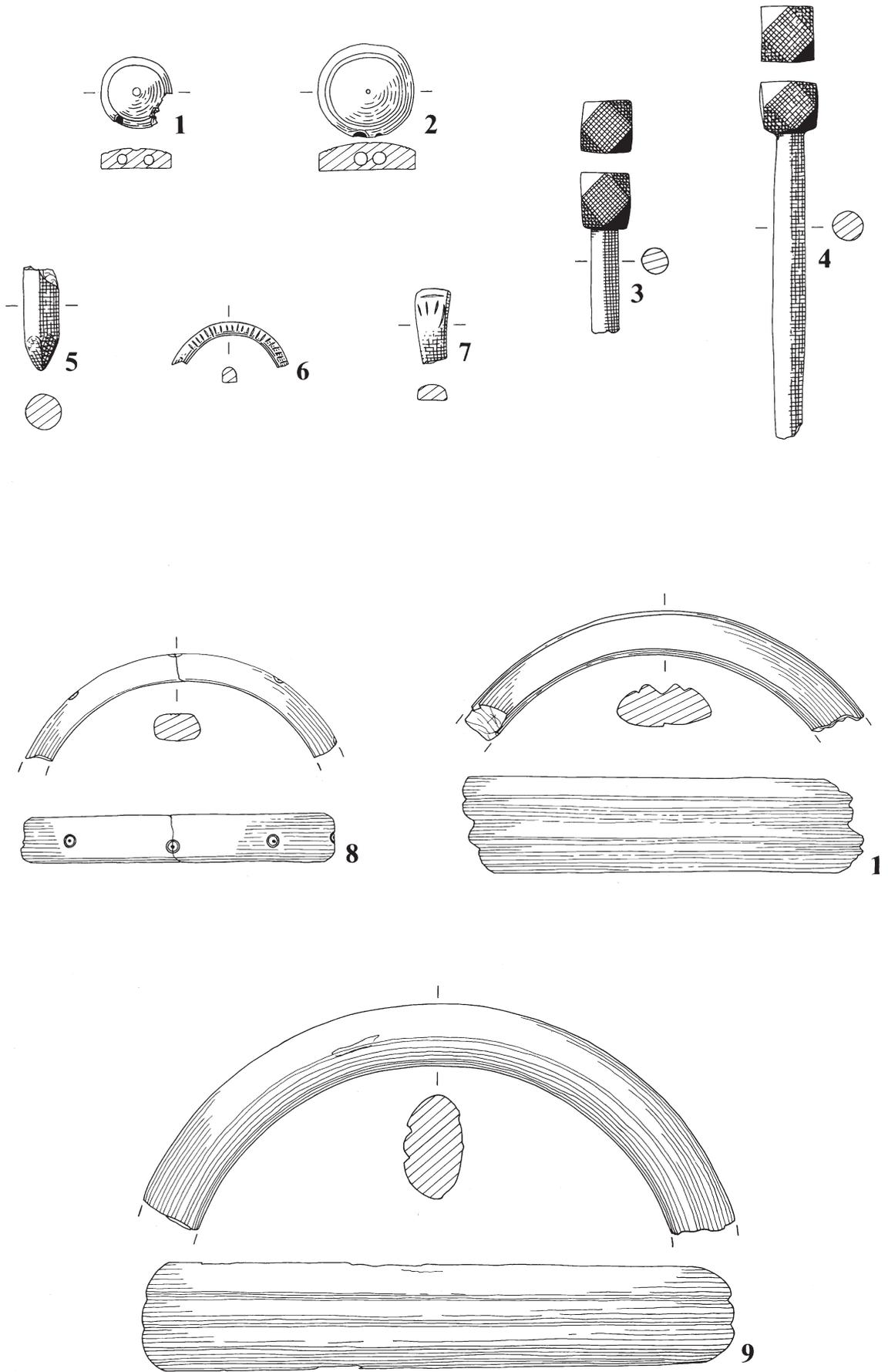


FIG. 58. Objects of jet (1-7) and shale (8-10). Scale 1:1.

6. Curved fragment of jet with a 'D' shaped section, possibly part of a finger ring, decorated with short striations following the curve of the ring on the two outer edges. D. c. 17mm. WANW 14, J, 1, 1.
7. Fragment of jet with 'D' shaped section, flattened and widened towards one end. The decoration consists of three striations along the piece meeting two drawn in the opposite direction on the flattened end. L. 13mm. Fieldwalking.
8. Two fragments of a shale bangle 8.5mm wide, of oval section with internal ridges and decorated with three and a half dot and circle motifs. D. c. 50mm. 3358, Sha 2, 570.
9. Fragment of a large shale ring 17mm wide, with internal ridges and decorated with double incised lines on the outer face. Essentially oval section. D. c. 88mm. Phase 1C. 76B, IV, 27, 351.
10. Fragment of a shale bracelet 16mm wide with internal ridges, oval to 'D' shaped section, decorated with central and two outer incised lines forming a corrugated surface on the outer face. D. c. 70mm. Phase 3B. 69E, VI, 2, 171.
11. Fragment of a narrow (11mm wide) shale bracelet split along the bedding planes and repaired. The inner face is slightly convex and the outer decorated with two protruding ridges with grooves between them. D. c. 58mm. 69B, IV, 1, 41.
12. Fragment of a shale bracelet 15mm wide of slightly flattened oval section, decorated with very worn incised lines, probably spiralling around the whole armlet. D. c. 88mm. Phase 3B. 70J, III, 9, 60, 261.
13. Fragment of a shale armlet, probably of 'D' shaped section, split along the bedding planes and degraded. D. c. 90mm. Date: A.D. 350–400 plus. 70J, VII, 3, 430.
14. Fragment of presumably 'D' shaped shale armlet, split along the bedding planes and degraded. D. c. 60mm. 69D, VII, 1, 303.
15. Three small fragments of a degraded shale bracelet, 10mm wide, with slight internal ridge. Diameter uncertain. WANT 100, Sha 1, 36.
16. Two fragments of a shale bracelet of a light-coloured shale. The section is circular with the inner face flattened to a central ridge. D. c. 70mm. 76C, XXXIV, U/S.
17. Two fragments of a narrow, 7mm wide shale bracelet with 'D' shaped section, slight ridging on the inner face and the whole piece decorated with an incised line spiralling round it, in the same way as Cat. No. 12. D. c. 60mm. WANX 28, Sha 1, 2.
18. Fragment of a light shale bracelet, 7mm wide, with rounded section flattened to a central ridge on the inner face. D. c. 46mm. Date: A.D. 350–400 plus. 70J, VII, 3, 116, 429.
19. Fragment of a light shale bracelet, 8.5mm wide, the rounded section flattened to a central ridge on the inner face. D. 48mm. 76A, VIII, 1, 329.
20. Two fragments of a 6.5mm wide shale bracelet of rounded section with two slight internal circumferential ridges. D. c. 60mm. Phase 3B. 76A, VIII, 2, 71.
21. Fragment of a 5mm wide shale bracelet of sub-rectangular section. D. c. 50mm. Date: A.D. 240–350. 69D, II, 5, 78.
22. Fragment of a 5mm wide shale bracelet of sub-rounded section with the inner face and one of the outer edges flattened. D. c. 48mm. 76C, XLVII (infill from the previous excavation), 413.
23. Fragment of a 5mm wide shale bracelet with basically round section with slight flattening of the internal face to a central ridge. D. c. 50mm. 3154, Sha 1, 462.
24. Fragment of a 6mm wide shale bracelet with 'D' shaped section with internal ridge. D. c. 60mm. 4065, Sha 3, 659.
25. Fragment of a 4.5mm wide dark shale bracelet of oval section, flattened slightly on both sides of the inner face to a central ridge. D. c. 60mm. 69C, IX, 1, 249.
26. Shale spindle whorl split along the bedding planes at one end with a central circular perforation and an incised line around the shoulder. H. 19mm, ext. D. 39mm. 76, Nythe Farm, U/S.
27. Slightly bottom-heavy spindle whorl with three incised lines just below the stomach, incised lines on the shoulder and around the base of the circular perforation. H. 21mm, ext. D. 28mm. SF, U/S.
28. Brown shale, double dish-shaped whorl, perforated in the centre with a circular hole, on one side of which is a rectangular cut made during the manufacturing process. Both sides have double circumferential incised line decoration. H. 9mm, ext. D. 38.5mm. 70 Ford, U/S.
29. Shale spindle whorl, desiccated and shattered on the surface. Regular circular perforation in the truncated double cone-shaped whorl. H. 215mm, ext. D. 38.5mm. 70 RC, U/S.
30. Shale whorl, bead or pendant with ridged protruberances around the perforation, one higher than the other. H. 14.5mm, ext. D. 27mm. Phase 3B. 76C, XXXII, 2, 44.
31. Large fragment of shale, as if from weight or whorl. Broken in an arc with the base missing. Smoothed, slightly ridged outer surface. H. 30.5mm, D. c. 100mm. SF, U/S.

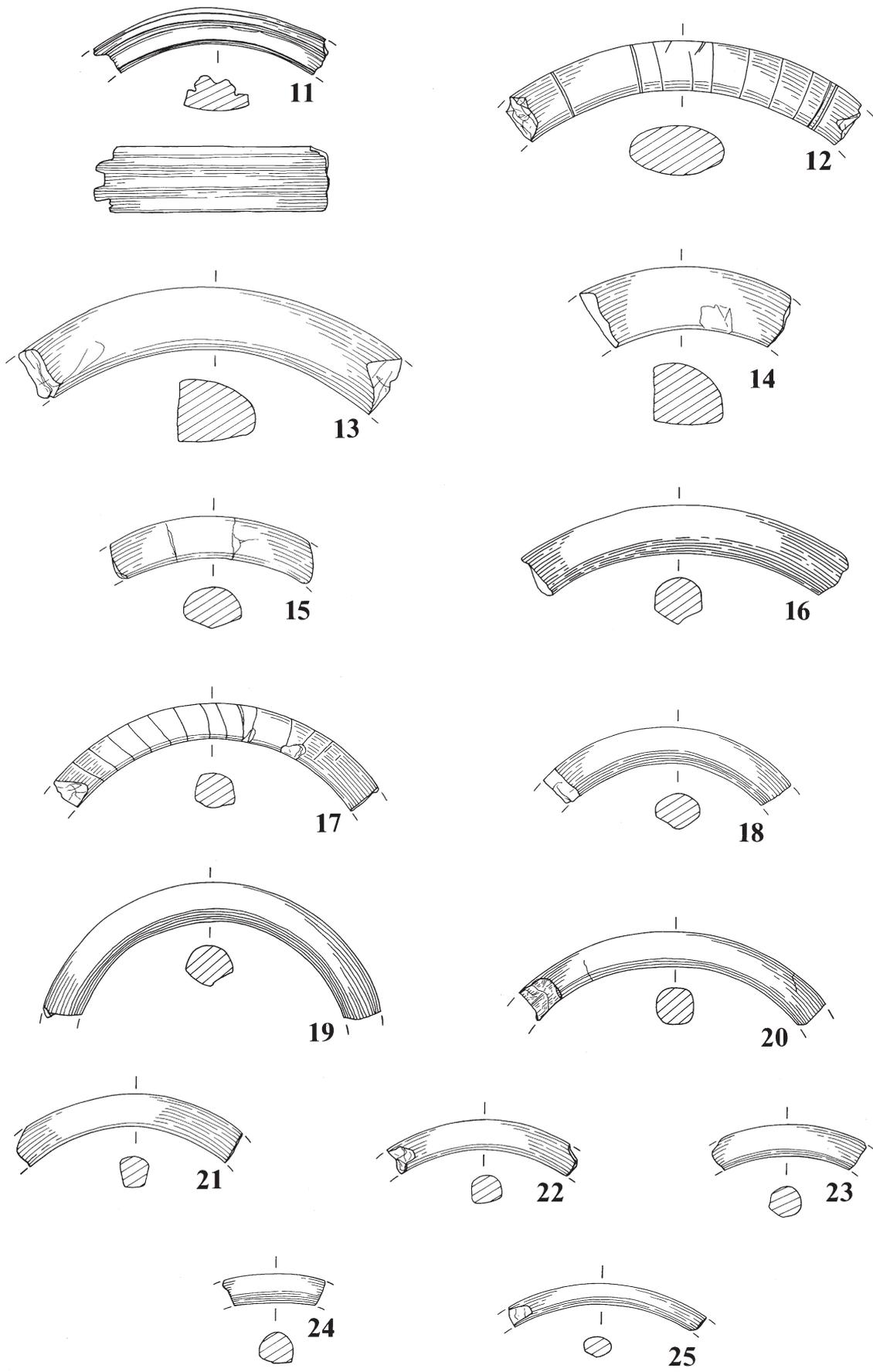


FIG. 59. Objects of shale: bracelets (11-25). Scale 1:1.

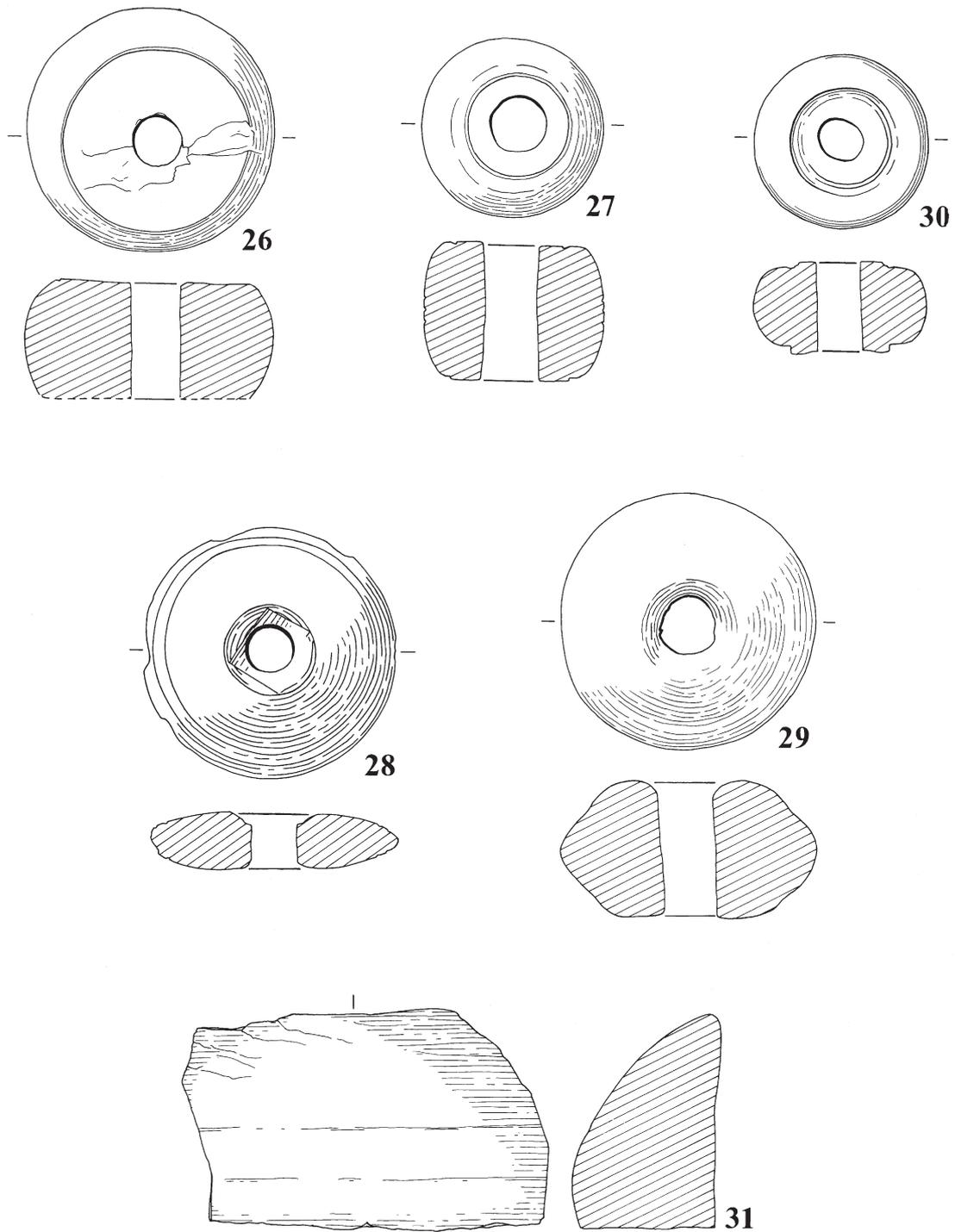


FIG. 60. Objects of shale: spindle whorls (26–30); fragment (31). Scale 1:1.

32. Fragment of unworked shale, roughly triangular and flat. Identified by Mr Anderson as Kimmeridge shale. Date: A.D. 350–400 plus. 70J, VII, 3, 431. Not illustrated.
33. Fragment of unworked shale. Phase 3B. 69B, IV, 125. Not illustrated.
34. Fragment of a gaming counter of dark shale, identified by Mr Anderson as of Kimmeridge clay. Date: pre-A.D. 360. 70J, VII, 7, 125, 393. Not illustrated.
35. Fragment of a gaming counter(?) of dark shale, identified by Mr Anderson as of Kimmeridge clay. Date: A.D. 380 plus. 70H, III, 4, 75, 394. Not illustrated.

13. CARVED AND SCULPTURED STONES, CLAY AND METAL FIGURINES

By T.F.C. Blagg†

The following report was submitted in 1986.

Carved stones (not illustrated)

1. Corners of a niched monument. (a) 155 × 170 × 235mm H., (b) 125 × 140 × 215mm H. Oolitic limestone. ST 43 and 44, E9. Each piece comes from the right-angled corner of a structure with curved niches on the sides. The fragments are broken at both top and bottom. The dressed surfaces are weathered and the edges rounded; measurements given above are to the nearest 5mm. The flat strips between the corners and the sides of the niches vary slightly in width: 105 and 115mm on (a), 100 and 110mm on (b). The curvature of the niche is best preserved on one side of (a); it does not conform to the true arc of a circle, but the width of the niche can be estimated roughly as about 0.5m. The niches are likely to have contained relief sculpture, most probably of a religious nature.
2. Corner of a rectangular panel. 165 × 200 × 110mm thick. Oolitic limestone. 69B, VII, 1, 129. A plain border 60mm wide at the top and 50mm at the side surrounds a recess 70mm deep with bevelled sides. Differential weathering along the bedding planes appears to be the cause of the reeded appearance of the bevelled sides. The back is irregular and the thickness of the stone at the bottom of the recess is only 25–40mm, which make it unlikely that the piece served to frame an architectural feature like a door or window head, and it is more likely that the panel contained relief sculpture.
3. Stone with hollow. 75 × 105mm × 45mm thick. Sandstone. 70J, II, 4, 35. A triangular fragment, broken on all sides and at the back. The surface is smooth and has part of a hemispherical hollow 55mm in diameter and 34mm deep.
4. Moulding. W. 107mm, Depth 62mm, H. 98mm (broken on all sides). Chalk. 76B, X, 2, 9. There are two shallow cavetto mouldings, with transverse striations which show that they were cut with a gouge or, more likely, a chisel with a curved edge to its blade. Assuming that its use was architectural, this must have been internal: the mouldings are unweathered.

Sculptured stones

5. Statuette of Mercury. H. 340mm, Base 95 × 105mm. Oolitic limestone. WAN 242. The head is missing. The figure stands on an oval plinth 45mm high, which has a slightly recessed rectangular panel on the front for an inscription, though no trace of lettering is visible. The figure is carved in the round, but the sculptor's manner of working back from the four sides of the original block as if carving in relief gives an unnaturally flat appearance to the front and back and the upper part of the sides. It is identifiable as Mercury by the money bag held in the right hand and the *caduceus*, with the double loops of its entwined snakes in front of his left shoulder. The left forearm is damaged, but the fingers of the hand are visible at the same level as the money bag. The god wears a long cloak, fastened at his right shoulder and hanging down to his feet in 'V' shaped folds. There is a tassel between the feet at both front and back. The lower border of the cloak is gathered up over the left forearm, beneath which is a rounded object which is damaged and no longer identifiable. Below the right shoulder the side of the body is not covered by the cloak. Folds carved at the shoulder, wrist, and waist suggest a short tunic with long sleeves; the right leg is carved as if bare. The edges of the cloak are turned back in pleated folds in front and behind (*pace* Cunliffe and Fulford 1982, 30, this feature is not a sash). Published by Cunliffe and Fulford 1982, 29–30, no. 108 and pl. 29, 108. (PL. VIII)
6. Tablet with figure in relief. H. 92mm, W. 68mm. Thickness 18mm. Siltstone. WANY 17 ST 1. The tablet is roughly rounded at the top, with a straight bottom edge, front and back smoothed flat, and chisel-marks visible on the sides. In the upper part the surface has been cut back to outline the head, arms, and body of a figure in crude silhouette. The right arm is raised, bent at the elbow. No features are apparent save for two small and very faint hollows which might represent the eyes. (Not illustrated)

Clay figurines (not illustrated)

7. Female figurine. H. 107mm, W. 50mm. Yellowish-white clay with white slip. 76B, XVI, U/S, 385. The front part of the moulded figure of a naked woman, broken above the waist and at the feet.



PLATE VIII. Stone statuette of Mercury (No. 5).

It has split away from the separately-moulded back part. There are marks on the reverse of the spatula with which the clay was laid into the mould, and the imprint of a finger. The statuette is of the type named by Jenkins as 'Pseudo-Venus' which, with other types of pipeclay figurine, was manufactured in Central Gaul, especially around the River Allier, mainly during the second century (Jenkins 1962, II, 836–52). For the detail of the drapery which hangs from the left hand, *cf.* Rouvier-Jeanlin 1972, nos 90–1.

8. Head of female figurine. H. 70mm, W. 55mm. White clay. 70 RC, Pit A. Context *c.* A.D. 120. The back part of the moulded head of a woman, broken at the neck. It has come away from the separately moulded face. The hair is drawn from a central whorl, dressed in a bun at the back, with a row of upswept tresses framing the face, a topknot in the centre. Detail appears to have been incised, and the surface has been burnished, after removal from the mould. A similar hairstyle is found on some of the seated *Dea Nutrix* figurines, but this one is somewhat larger (*cf.* Rouvier-Jeanlin 1972, nos 308 and 313; see also Johns 1974, 65, fig. 7).
9. Bird. H. 75mm, L. 85mm. Pinkish-buff clay. 70 Ford, U/S. The wings are spread, modelled as a flange on each side. The legs are not shown individually, but form a simple cylindrical shaft. The head has its left eye, but the beak and the right eye have been broken off. There is a vertical perforation 4mm in diameter bored through the leg cylinder and emerging between the shoulders. The feathers of the neck, wings and breast are represented by short incised lines, those of the underside and legs by the jabbed marks of a pointed instrument, all executed before firing. These marks are present on top of the head, showing that the bird did not have a comb or crest. Most of the tail, which appears to have pointed upwards, is broken off. Clay models of birds are rare in Roman Britain. There are several examples of the cockerel, the bird associated with Mercury, but the Wanborough bird is not one, for it lacks a comb. Pipeclay pigeons, mould-made in Gaul like the pipeclay figurines, have been found at Colchester, London, Saxthorpe (Norfolk) and Richborough (Green 1976, 204, 216, 225; 1978, 70). Terracotta eagles have been found at Cirencester and Chester (Green 1976, 173; 1978, 53). Pigeons, eagles, corvines and hawks are more commonly made in bronze. The purpose of most seems to have been votive.

Metal (not illustrated)

10. Hands. L. (a) 20mm, (b) 19mm. (Tin-lead alloy?). WAN II, L1, SF1. The two hands are cut out of a thin metal sheet: (a) is a left hand with all its digits; (b) has only three intact fingers. The shaping is crude; the two could possibly be a pair. Possibly they were the hands of a simple cut-out figure, but the fact that they and no other parts of the body were found makes it seem more likely that they were made separately. They may be presumed to have been votive. Such offerings of model parts of the body are not common in Roman Britain. Green's Corpus of religious material from civilian sites lists only four which have produced them: Lydney, Ormesby (Norfolk), Muntham Court (West Sussex) and Springhead (Green 1976, 169, 205, 220, 228).

14. QUERNS AND MILLSTONES (FIGS 61–2)

By D.G. Buckley

Introduction

Stone fragments from 59 contexts from excavations since 1966 were examined, and this report was submitted in 1986. The stones can be separated into two groups. The first group comprises 17 contexts with one or more fragments certainly or probably derived from rotary querns of imported lava (Nos 1–17). The second group comprises 42 contexts with fragments of ‘native’ sandstone, grit or conglomerate from 24 rotary quern upper stones (Nos 18–41), 15 rotary quern lower stones (Nos 42–56), and two lower and one upper millstone (Nos 57–59). The majority of these were from undated or unstratified contexts. Dated examples are largely from late Roman contexts but their generally fragmentary state indicates that many were discarded some time prior to their incorporation into these contexts. Therefore, the group is considered geologically and morphologically. A number of stones were identified by the late Dr F.W. Anderson; the remainder were identified by the author.

Typology

Except for the lava querns and one upper stone (No. 23), the Wanborough group belongs to Curwen’s flat-topped early Romano-British group (Curwen 1937, 144, figs 15–18), and a representative sample is illustrated (FIGS 61–2). The upper stones are flat-topped with gently sloping sides, small hoppers and with lateral slots set into the top surface for a handle. Grinding surfaces are low-angled, some almost flat. Where present, dressing takes the form of pecking on outer faces and radial grooves on the grinding surface, though neither is common. Most diameters fall between 375 and 400mm but there is a spread either side of this and one (No. 27) with a diameter of *c.* 620mm may be best seen as a mechanised mill (see p.160). Lower stone diameters, although on average slightly smaller, complement those of upper stones and grinding angles are also similar, while under surfaces tend to be roughly finished. They may be divided into two groups on the basis of whether the central hole for the spindle perforates the stone. This was seen as a developmental feature by Curwen (1937, 143–4, fig. 39), the complete perforation of the lower stone being evidence of the adoption of a device for adjusting the upper stone to grind fine or coarse meal. The exception (No. 23), with its smaller, asymmetrical shape, greater height and rounded sides rising to a small area of flat top surrounding a large hopper with a handle slot in the top, appears to be a hybrid form incorporating features of Curwen’s Sussex and Wessex type (1937, 140–2, fig. 5–14).

With one possible exception (No. 13), the Basalt Lava fragments from Wanborough are likely to derive from rotary querns, although only Nos 1, 10, and 15 retain distinguishing characteristics of standard Rhenish types of the Roman period. These include the slightly raised kerb on the top surface, dressing grooves on the side and top surface, and panels of grooves on the grinding surface (*cf.* Crawford *et al.* 1955, fig. 1, 4–6).

Dating

In the absence of secure dating evidence for many of the Wanborough querns, only a broad dating is possible on the basis of the geological and morphological evidence. Of the native sandstone, grit and conglomerate querns of West Country origin, one (No. 23) is of very early Roman or possibly even Late Iron Age date. The remainder of this group find comparanda in the group from Chew Valley Lake, Somerset, which includes a number dated to the late first and second centuries A.D. (Rahtz and Greenfield 1977, 202–3, fig. 96, 1–8). Evidence from south Wales suggests that querns of this design were introduced there in the early part of the first century A.D., but also that they were still popular at Usk throughout the third century (Welfare 1981, 224). The finding of a number of querns in third and fourth-century contexts coupled with the evidence of development in the form of the lower stones indicates an equally wide date range for the Wanborough group. There is no closer dating evidence for the

Greensand and Sarsen querns. Long-distance trading of Millstone Grit querns and millstones began early in the Roman period, as is evidenced by finds from mid-first century A.D. features at Odell, Bedfordshire (Dix in prep.). At Odell their occurrence became more frequent later and the evidence from Essex suggests a marked development of this trade during the later Roman period. The Mayen Lava quarries began with production of saddle querns during the Neolithic, changing to circular rotary querns during the late La Tène period, but the trade with Britain only really developed after the Roman Conquest. In London and Colchester an early start to this trade is confirmed by lava querns from pre-Boudiccan destruction levels (Philp 1977, 64, fig. 21, 6; Buckley and Major 1983, 75–6). The lack of examples securely dated to the later Roman period has led Peacock (1980, 50) to suggest that the trade was most common during the first two centuries A.D. Given its fragmentary state, the lava from third and fourth century contexts at Wanborough is almost certainly residual and does not support any argument for a continuation of the lava trade during the later Roman period.

Aspects of trade

All of the stone used for querns at Wanborough had been brought to the settlement. Although local cutting of querns cannot be excluded completely it is likely that most arrived ready dressed, because by the Roman period production appears to have been organised from centres, the majority of which were probably quarry-based to reduce the transportation of waste stone. Unfortunately, few of these quern quarries have been discovered, so the quernstone trade must largely be considered relative to distance from the nearest potential source. In this respect the Wanborough querns, along with those from other Roman sites in the locality (in Swindon Museum and mostly unpublished), accord with an emerging pattern for trade in querns during the Roman period. This pattern is dictated by geology based on a number of regions within which querns from particular rock series dominate, although the boundaries overlap and outliers may occur. Superimposed upon these regional divisions is a wider trade in querns of Basaltic Lava and Pennine Millstone Grit.

The Wanborough collection is dominated by sandstones, grits, and conglomerates in a range of colours from white to deep red (total 31), traded not less than 65km from probable sources in Somerset. These reflect a utilisation of rocks of the Carboniferous and Devonian series on the eastern side of the region, centred upon the Severn estuary and the Forest of Dean, taking in south Wales and the west Midlands, but with a scatter east of the Jurassic ridge (King 1982). Greensand querns (total three) reflect proximity to a region south of the River Thames extending from Dorset to Kent, where querns from the Lower and, to a lesser extent, Upper Greensands of the Cretaceous series predominate. Although these rocks also outcrop in the south and east Midlands, they appear to have been little utilised north of the Thames. The single Sarsen is a Tertiary residual of Downland origin which was utilised across southern England where available. The Millstone Grit querns (total three) and millstones (total three) could originate from the Carboniferous of south Wales or one of the small outcrops in the Bristol area, but a more likely source for some, or all of these, is the Pennine region. Querns and millstones from this source are recorded from Roman sites throughout the Midlands, East Anglia, and southern England. Lava querns found in Britain are generally believed to derive from the Mayen quarries of the Eifel Hills of Germany (Horter *et al.* 1950–51; Crawford *et al.* 1955), although the possibility of a trade in querns of Volvic lava from the Auvergne region of France has also been discussed (Röder 1953; Peacock 1980). The scale of this trade was considerable, as testified by the numbers from Roman sites throughout Britain. The greatest density of finds appears to be in East Anglia and the south-east, but finds are recorded from as far west as Wales and from the Antonine Wall in the north (McIlwain 1980). Little is known of the organisation of this lava quern trade, but a case has been made recently for regular importation via London, where workshops may have existed for the finishing of transported blanks (Brown and Chapman unpublished) and this was probably shared with other east coast ports such as Colchester (Buckley and Major 1983). McIlwain (1980, 132) has also suggested that the numbers from military sites indicates that they may have been brought to this country

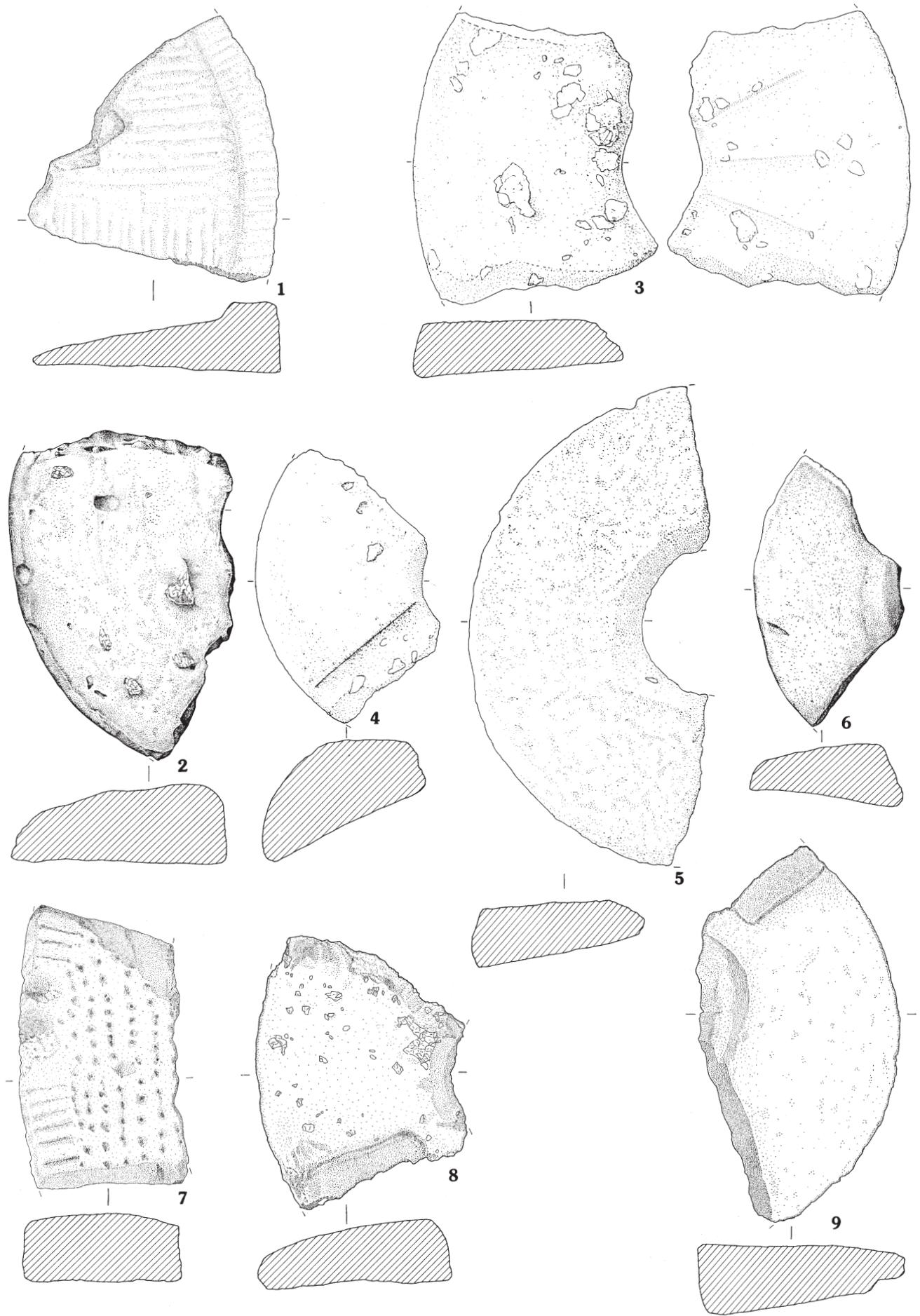


FIG. 61. Quernstones (1-9). Scale 1:4.

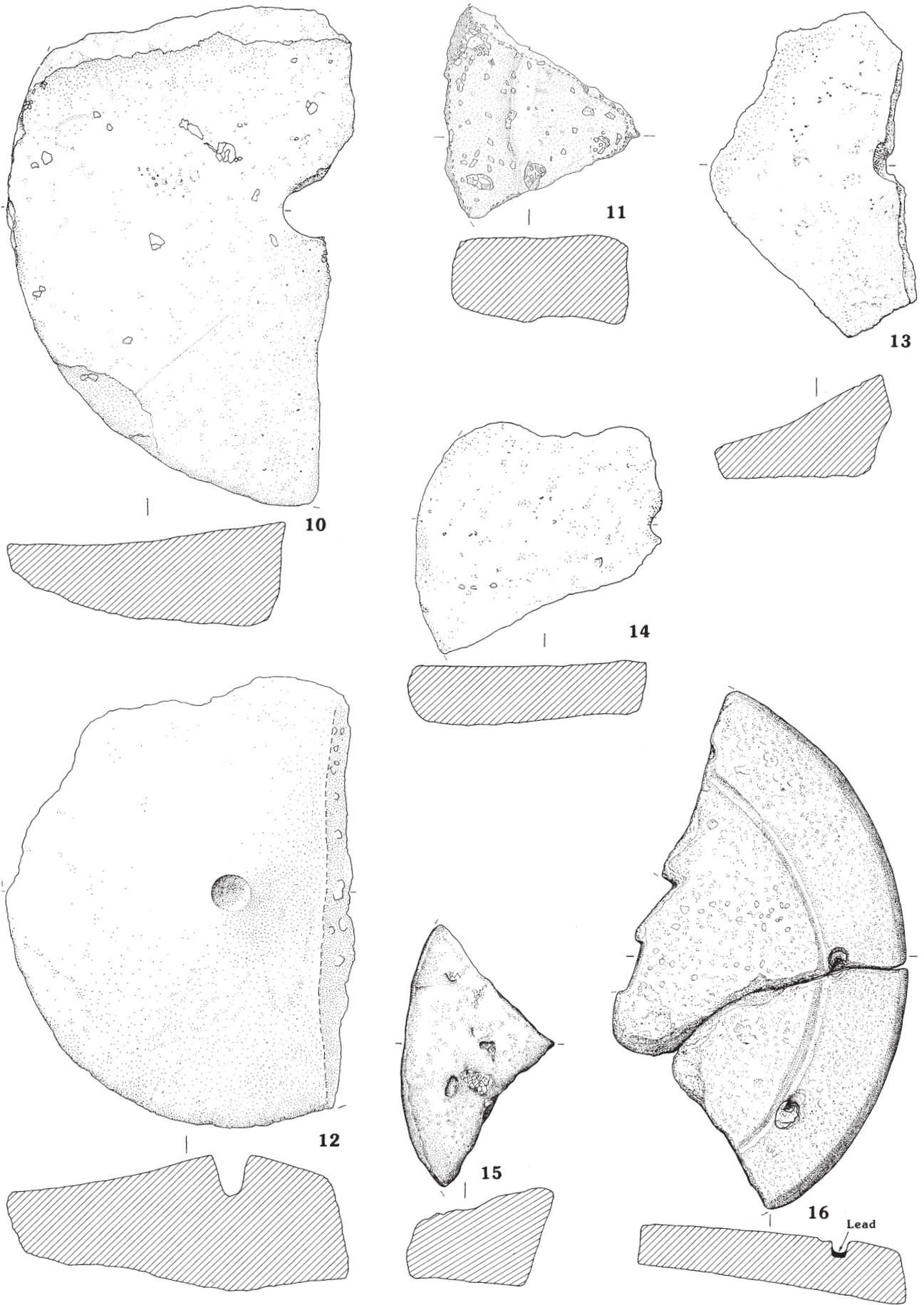


FIG. 62. Quernstones (10–15), scale 1:4; millstone (16), scale 1:8.

specifically for, or by, the army. However, in East Anglia, where the dominant native rock is the difficult to work Puddingstone, lava querns from all classes of Roman site occur in such quantity as to suggest an established civil trade. Accordingly, the small quantity of lava querns from Wanborough could reflect either a lack of contact with military supply or distance from the main civil centres of supply, coupled with a market dominance of native querns.

Millstones

The three, possibly four, millstones can be added to the growing number of Roman sites producing fragments from mechanised mills which were either water or animal powered. The evidence from south Wales has been summarised by Welfare (1981, 225), who suggests that larger centres of population possessed their own mills, while many villas also appear to have had mills to serve the needs of the estate. At Silchester, one establishment (XVIII A 3) was thought to have been devoted to flour milling on a commercial scale (Boon 1974, 289) and it is possible that the small courtyard building at Wanborough (Building 6A) which produced a complete, repaired millstone (No. 59) may also have served such a function. These stones are of Pennine Millstone Grit and reflect the extent of the trade in millstones from this source. The majority of millstones from dated contexts appear to be of later Roman date.

Despite the important role that milling played in everyday Roman life, relatively little attention has been paid by British excavators to querns and millstones since the pioneer studies of Curwen (1937; 1941). Only the publication of groups such as that from Wanborough will provide answers to questions about the growth and decline of trade in particular quern types and the relative importance of hand querns and mechanical mills.

Catalogue of illustrated quernstones and millstones

Querns

1. Upper stone. Lava. *c.* A.D. 120. No. 15; 69–70 D, I.
2. Upper stone. Coarse pebbly grit. No. 20; 66, 189.
3. Upper stone. Coarse pebbly grit. No. 22; 66, U/S.
4. Upper stone. Coarse pebbly grit. No. 23; 66, U/S.
5. Upper stone. Coarse pebbly grit. No. 25; 66, U/S.
6. Upper stone. Coarse pebbly grit. No. 26; 69–70 A, I, 3.
7. Upper stone. Reddish sandstone. No. 27; 69–70 B, IX, 1.
8. Upper stone. Very coarse pebbly grit. No. 29; 69–70.
9. Upper stone. Sandstone (?Greensand). No. 35; 76C, XLVII, 173, 507.
10. Lower stone. Coarse pebbly grit. No. 42; 66, U/S.
11. Lower stone. Coarse pebbly grit. No. 43; 66, F3.
12. Lower stone. Coarse pebbly grit. No. 44; 66, U/S.
13. Lower stone. Coarse pebbly grit. No. 45; 66, U/S.
14. Lower stone. Coarse pebbly grit. No. 46; 66, U/S.
15. Lower stone. Coarse pebbly grit. Late fourth century A.D. No. 47; 69–70D, IV, i, 244.

Millstone

16. Upper stone, repaired. Coarse Millstone Grit. No. 59; Building 6A, U/S.

15. THE WHETSTONES

By L. Mephram

A total of 39 whetstones was recorded from the excavations of 1967–1976. Stone types have been identified by the late Dr F.W. Anderson and by Justine Bayley (Ancient Monuments Laboratory) for all whetstones except those from the 1976 excavations (TABLE 12). This report was submitted in 1995. The majority of the whetstones are in fine-grained mudstones, siltstones, and sandstones; no information on possible sources is available. Justine Bayley notes that the fine sandstones, for example, do not form a uniform group; some contain mica and some are calcareous. There are two examples of shale and single examples of mica schist, basalt, chert. There is also a possible example of Niedermendig lava.

Illustrated whetstones (FIG. 63)

1. 76A, Topsoil, 4.
2. 76B, XVIII, 1, 270.
3. 76A, XII, U/S, 97.
4. 76A, XV, U/S, 308.
5. 76B, X, 5, 392.

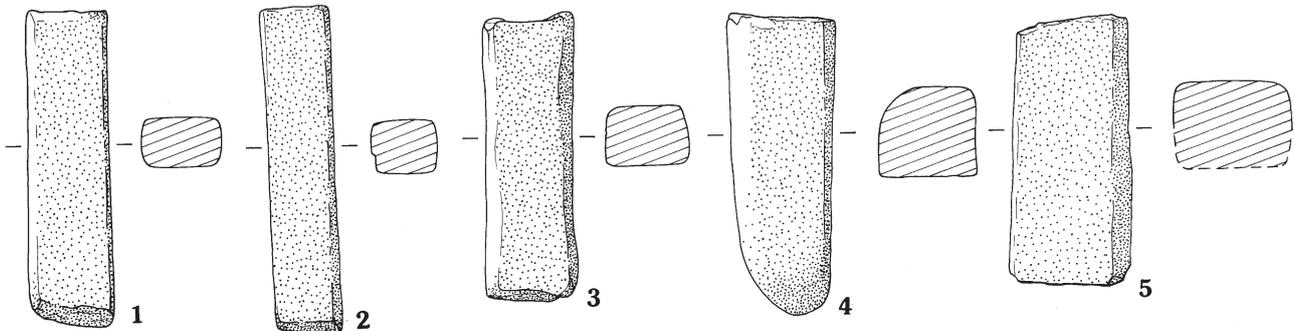


FIG. 63. Whetstones (1–5). Scale 1:2.

TABLE 12: WHETSTONES — SUMMARY OF STONE TYPES

Year	Context	Geological identification	Year	Context	Geological identification
1967	ST 26	dark grey siltstone	1970	D, V, 1, 249	hard grey mudstone
	ST 27	fine grey sandstone		B, X, 1, 257	hard grey siltstone
	ST 28	fine grey sandstone		C, I, 54, 234	fine grey sandstone
	ST 31	fine grey sandstone		A, XIV, 2, 223	dark grey siltstone
	ST 35	fine grey sandstone		E, I, 6, 276	fine dark grey siltstone
	ST 37	fine grey sandstone		A, XII, 2	fine dark grey siltstone
1969	E, I, 2, 16	shale	F, V, 2, 42, 222	?lava, Niedermendig	
	C, I(S), 2, 13	shale	J, II, 3, 22, 223	dark red sandstone	
	D, II, 5, 62	siltstone	F, IV, 3, 45, 224	pale grey calcareous sandstone	
	A, VI, 1, 37	mica schist	F, II, 3, 43, 225	very fine-grained micaceous sandstone	
	A, XVII, 1, 135	fine-grained sandstone	H, VI, 1, 134, 388	?basalt	
	A, IV, 3, 138	fine-grained sandstone	G, III, 5, 67, 389	chert, full of sponge debris	
	A, XVI, 1, 139	fine-grained sandstone	H, VI, 1, 148, 390	dark red-brown sandstone	
	D, III, 1, 255	hard dark grey sandstone			
	E, X, 2, 231	hard grey mudstone			
A, XII, 1 176	fine grey sandstone				

16. GLASS (FIGS 64–7)

By Louise Monk

Introduction

In total, 1437 glass fragments (excluding beads) were found. Of these, 329 were from pre-1969 excavations and fieldwork up to 1977. The 1969–70 and 1976 excavations yielded 1108 fragments. Many of the pieces were unidentifiable, particularly fragments of bottle glass and undecorated, convex blown glass which might be from a number of different shapes made during the first three centuries A.D. Only one vessel (No. 48) was almost intact and no others could be reconstructed.

The catalogues and lists provide a representative selection of the vessels and decorative styles in use at Wanborough during the Roman period. For some of the rarer varieties, such as mosaic glass (*millefiori*), jewellery, and pins, every example has been either catalogued or listed as have all the fragments of pillar moulded bowls and translucent coloured vessels. Elsewhere, only a typical selection has been made, particularly among the common blue/green bottles, the undecorated blue/green or colourless fragments, the window glass, and the counters. The glass from the pre-1967 excavations and fieldwork has been catalogued separately from that found during the 1969–70 and 1976 excavations. This report was submitted in 1986.

The glass from the pre-1969 excavations and other fieldwork

The most surprising thing about the glass from Greenfield's excavations is the small amount of window glass and good quality wares found. As in the later excavations, no facet-cut glass and very little colourless glass was found. Unguent bottles were not well represented and there were no identifiable shallow dishes or plates. Much of the glass was residual from fourth century A.D. contexts.

The late Dorothy Charlesworth listed the glass from Ernest Greenfield's excavations.

A representative sample of the glass is described and illustrated below.

The following abbreviations are used: R.D. = Rim Diameter. B.D. = Base Diameter

Cast

1. Rim fragment from a small bowl. Mosaic glass of floral and other cane patterns. Emerald green translucent ground with cane sections of opaque red and opaque yellow with a translucent blue spot. Wheel polished, weathered and pitted. Rim slightly outplayed and flattened, one wheel-cut line on upper surface of the lip. R.D. *c.* 80mm. Before *c.* A.D. 75. 67, G 30
A similar piece but in plain emerald green glass was found at Fishbourne, as was another with a similar pattern but of a different form (Harden and Price 1971, 324, fig. 137, 12). Later in the first century polychrome glass was superseded by monochrome.

Monochrome

3. Fragment of a pillar-moulded bowl; blue/green. Tall bowl with prominent widely spaced ribs. Cast, wheel polished interior and exterior of rim, rest of exterior fire polished. R.D. *c.* 162mm. First century A.D. X 13, G1.

Mould blown

- 6a. Fragment of a bowl with slightly convex sides. Dark brown. Decorated with close-set ribs. Before *c.* A.D. 75.
This is the only piece from a mould blown vessel positively identified from the pre-1969 excavations. It bears a resemblance to a blue/green bowl from *Verulamium* (Charlesworth 1972, fig. 74, 2). T 337, G103.

Blown decorated

Apart from the ribbed 'optic blown' vessels, little decorated blown glass, other than that decorated with applied blobs or trails, sometimes marvered, was found. These appear to be mainly of second or third century date.

Ribbed, coloured, or colourless

Ten fragments of flagons or jars with 'optic blown' ribbed, conical, or globular bodies were found. Only in the case of one vessel (No. 8) is it possible to be definite that the vessel was a flagon. For similar flagons and jars from *Verulamium*, a date range A.D. c. 70–150 was suggested (Charlesworth 1972). These vessels were possibly made in the Seine–Middle Rhine area. The flat strap handle or handle with a single central rib is usually associated with the conical bodied flagons.

14. One neck/body fragment. Blue/green. Ribs widen on the body and vertical on one side of the neck. The other side smoothed. Basal constriction. Very thick metal. Max. L. 60mm, 67, G122.
17. Fragment of body and pinched handle train. Flagon or jug. Deep blue/green. Six folded and then pinched protrusions on trail. L. 35mm. Some iridescence. These are most commonly found as the lower handle attachments on conical vessels. In this case, too little remains for the form to be identified. For a discussion of these attachments see Price 1977, 157. T 312, G94.

With trails and blobs

18. Neck fragment in dark blue with opaque white marvered blobs, elongated by subsequent stretching of the metal, Max. L. 26mm. Possibly from a flask. Pitted and weathered. First to early second century. RB U/S. (Not illustrated)
21. Rim fragment of bright green, very bubbly glass. Upright thickened rim decorated with two horizontal trails. Slightly convex side. R.D. c. 70mm. Late Roman. T 86, G40.
22. Fragment (milky weathering) decorated with two slashed colourless trails — 'snake thread'. Second–third century. T86, G40.
24. Very small bubbly colourless fragment decorated with one dark red circular blob. Fourth century.

Several examples of vessels decorated with coloured blobs were found at Barnsley Park (Price 1982).

Abraded

25. Colourless fragment of a cup. Rim slightly thickened and fire-rounded. Decorated with a rough abraded band on rim exterior. Dull, poor quality metal. c. A.D. 160–250. R.D. c. 80mm. 67, G158.

Blown undecorated

Many of the fragments of undecorated blown glass were from vessels of unidentifiable form. The fragments are grouped by general vessel form.

Bowls, cups and jars

29. Slightly outplayed rim fragment in bright green; very bubbly. Rim roughly knocked off. Unworked. Possibly a small globular-bodied jar. R.D. c. 80mm. Late Roman. Compare a similar but larger bowl from Shakenoak (Harden 1973, no. 216). 67, G120.
32. Base fragment. Greenish-colourless, bubbly, very thin. Side of a vessel folded down and under to form a tubular foot for a jug or beaker, the underfold forming a 'kick' in the base of the vessel. B.D. c. 80mm. Fourth century. 67, G, 119.
33. Fragment of a small bowl or cup. Metal similar to No. 32. Exterior of rim thickened and roughly fire-smoothed. Slightly convex side. R.D. c. 140mm. Fourth century. 67, G82.
35. Outplayed tubular rim fragment. Pale blue/green. From a concave-sided bowl, tapering downwards. R.D. c. 220mm. First–second century. 67, G87.
36. As No. 35. Amber-brown. R.D. c. 200mm. First–early second century. T 343, G104.

Jugs, flagons, flasks, and unguent bottles

37. Fragment of a jug lip. Simple cylindrical shape, formed by bending the glass up and inwards. Pale blue/green, very bubbly. Lips of slightly varying shape occur on several forms of jug at different dates. Possibly second–third century, see Isings 1962, 37, no. 119, for a jug in a similar metal. T30, G16a.
38. One loop of a chain handle from a jug. Colourless. Isings (1962, 36, no. 117) discusses jugs with these handles. Third–fourth century. T 145, G54.
40. Complete rim and one handle attachment from a flagon or other vessel with a narrow cylindrical neck. Deep blue/green. Handle probably a strap handle with a central rib. c. A.D. 70–150. W 17, G1.
41. Fragment of rim and neck of a long-necked flagon. Pale green. L. 380mm. R.D. c. 34mm. c. A.D. 70–150. T 203, G71.

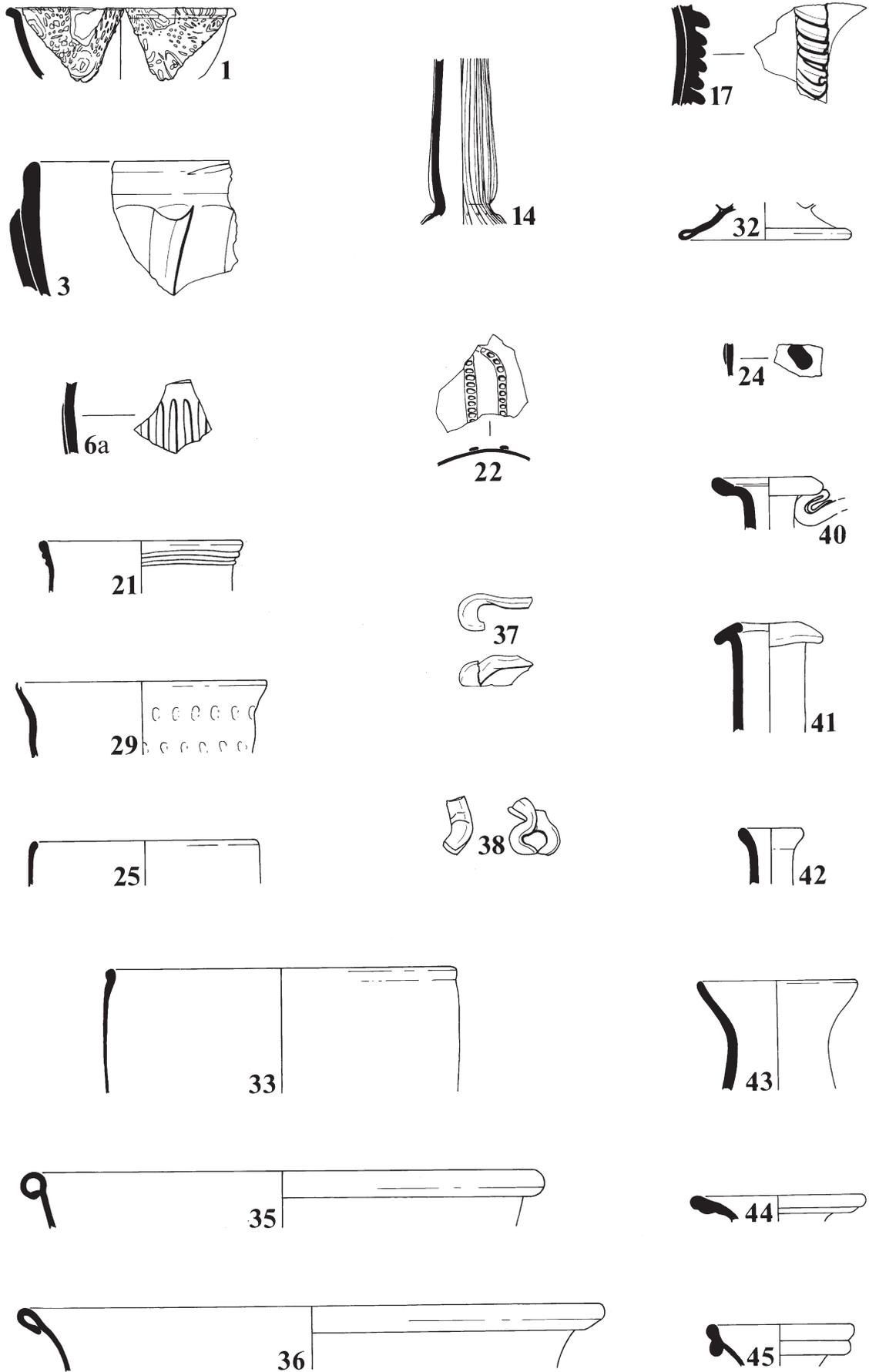


FIG. 64. Cast and blown glass vessels found before 1969. Scale 1:2.

42. Fragment of rim and neck from a small flask or unguent bottle. Pale green, very bubbly glass. Rim slightly everted and rounded. R.D. *c.* 18mm. Late Roman. X 14, G2.
43. Fragment of the rim, neck, and shoulder of a flask with a wide outplayed rim, short neck, and possibly a globular body. Blue/green with brown streaks, poor quality, containing large, long bubbles. Rim ground smooth. R.D. *c.* 60mm. First–second century. RC U/S.
44. Rim fragment from a flask. Rim folded out and under; tooled to form a ‘coil’ below the rim. Wide splayed mouth. Pale greenish, some iridescence. Unusual metal for this type. Possibly a jar of second–third century date. (D. Charlesworth, pers. comm.) 67, G112.
45. Rim fragment from a flask or flagon. Rim rounded. Coil applied below rim. Deep blue/green. Funnel mouth. Second–third century. Y 18, G1.
48. Almost intact small unguent bottle with a drop-shaped body. Blue/green with plain slightly outplayed rim. H. 96mm. First–early second century. Swindon Mus. No. 780111.

Bottles

Considering the quantity of glass, it is surprising that so little glass from prismatic or cylindrical bottles was found. The bases of eight prismatic bottles (six of which were patterned), fragments of five handles and two rims, plus 58 fragments of bottle bodies, only one of which was recognisably cylindrical were found. It would appear that the bulk of these bottles belong to the period A.D. 70–130 (Charlesworth 1966). Most are mould blown with the neck finished by tooling.

49. Fragmentary base of a small prismatic bottle. Dark greenish with streaky brown impurities, dulled on outside. Base decorated with two concentric circles and a raised central dot. L. of side 55mm. 70 FC U/S.
51. Part of the base of a prismatic bottle. Thick, green; dulled and pitted on the outside. Base decorated with two concentric circles. 66, G4.
52. Similar metal to No. 51. Base decorated with ‘U’ shapes in the angle and two concentric circles. 67, G74.
54. Part of the base of a hexagonal bottle. Pale blue/green poor quality bubbly glass. The base decorated with two concentric circles and a raised central dot. Pontil mark visible. L. of each side *c.* 25mm. X 16, G4.
55. Complete rim, neck, part of body, and base of a small, pale blue/green, hexagonal bottle or flask. R.D. 30mm. *c.* A.D. 70–150. 67, G131.

Other objects

56. Head of a pin or rod. Bright blue/green bubbly. There is a possibility that the shank was twisted in an anti-clockwise direction. Globular head D. *c.* 9mm. X 15, G3. These objects are not common. It is possible that this is a hair-pin, since it is finer than the twisted rods known as ‘stirring rods’. There is a very similar one from Wycomb (Price 1980); the only others known are a fragment probably dating from the third or fourth century found at Park St villa and another, unstratified, from *Verulamium*.
57. Fragment of an undecorated finger ring in dark glass, appearing black. Made from a circular rod. Slightly distorted by fire. D. *c.* 25mm. RC 70 U/S.

A child-size bracelet made of a similar but thicker rod to this was also found (No. 143) in a third–fourth century context. A similar ring in opaque yellow with a stamped bezel was found at Shakenoak (Harden 1971, 106–7, no. 153, fig. 45, 70).

Counter or gaming pieces

Ten counters were found in the course of excavations. Six were in dark brown/black glass, one opaque blue, one polychrome, and two which were possible reworked from broken blue/green vessels. Diameters ranged from 11 to 19mm.

59. Flat ‘counter’ made of blue/green bottle glass, the edges roughly chipped to make it circular. D. 14mm. T 361, G109.
60. Counter in deep purple/red opaque glass. Decorated with three opaque white and blue tendrils marvered flat to the surface and outlined by grooves. Truncated cone shape. All surfaces ground. D. 13mm. RC 67, No. 362.

Inlaid gaming pieces are known from Shakenoak (Harden 1971) and Lullingstone villa, where they appear to be of fourth century date.

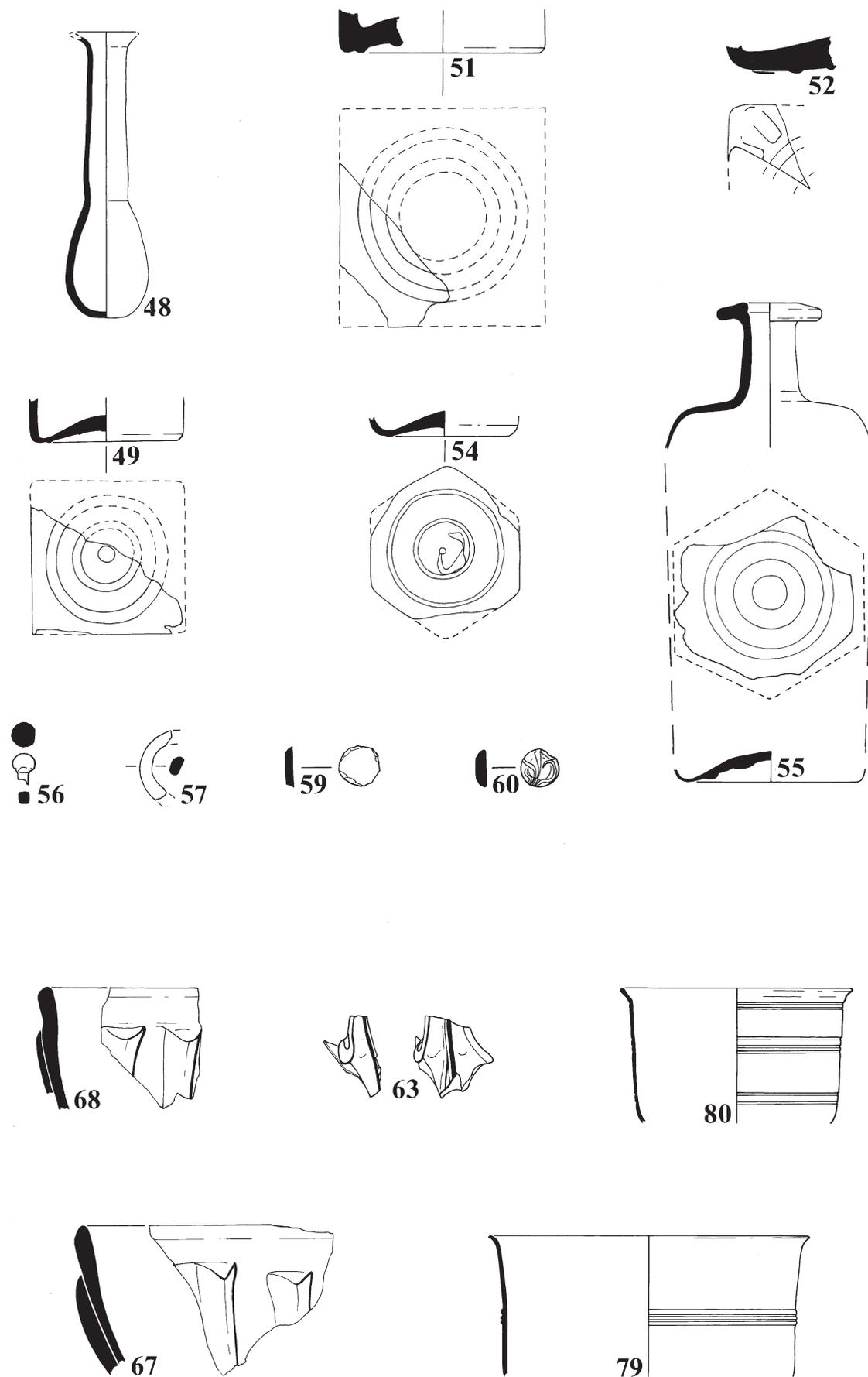


FIG. 65. Glass vessels (48-9, 51-2, 54-5), pin or rod (56), ring (57) and counters (59-60) found before 1969 or in other fieldwork. Glass vessels (1969-70, 1976); cast (63, 67-8), blown (79-80). Scale 1:2.

Window glass

Sixteen fragments of window glass were found, 11 without edges and five with. All fragments were of the matt/glossy type common in the first and second centuries A.D.

The glass from the 1969–70 and 1976 excavations

The 1969–70 and 1976 excavations yielded a total of 1008 fragments of glass. Of these, three fragments were from cast polychrome pieces belonging to the mid first century A.D., one was of opaque white from the same period, while 13 were from monochrome cast and polished bowls from before *c.* A.D. 80. This is comparable to the number from *Verulamium*. ‘Optic blown’ ribbed vessels, made between *c.* A.D. 70 and 150 were represented by approximately 13 vessels. The absence of colourless facet-cut glass, and the small number of fragments from linear-cut vessels is surprising, as is the small amount of colourless glass and the dearth of recognisable fragments from unguent bottles. Most of the glass was undecorated blown glass. There were no examples of coloured, applied blobs or snake-thread decoration. The window glass was all of the matt/glossy type common in the first and second centuries A.D.

It is suggested that the few comparatively exotic Claudio-Neronian pieces, which contrast with the very ordinary assemblage of later periods, may derive from an early military presence.

Cast

Polychrome

63. Lower handle attachment with part of the body from a jug or flagon, possibly with a conical body. The handle is dark blue, with one central rib, attached by two spurs at the left and right of the lower end; the central spur(s) broken off. The body is pale opaque pink, streaked with several shades of deeper pink and purple, to resemble marble. L. 28mm. Claudio-Neronian. 76A, II, U/S, SF 663.

These polychrome fragments date to before *c.* A.D. 75, by which time their manufacture had ceased. It is clear from sites such as *Camulodunum* and *Vindonissa* that they were already losing their position in the market to monochrome wares by the 50s A.D. (Berger 1960).

The glass from *Camulodunum* (Harden 1947) provides made examples of both mosaic and other polychrome wares like Nos 61–2. Number 63 seems to be very rare. The catalogue of the glass in the Landesmuseum at Trier includes several vessel forms in a variety of colour combinations which are not unlike this item (e.g. Goethert-Polascheck 1977, no. 1334, with a brown marbled body and opaque white handle).

Monochrome

67. Fragment of a blue/green pillar-moulded bowl. D. *c.* 140mm. Ermin Street ditch fill. First century A.D. Period 2. 76B, XVI, 20, SF 149.
68. Fragment of pillar-moulded bowl. Blue/green. First century A.D. 69B, IV, 2, 692882. Residual in Phase 3 context.

Blown decorated

Due to their relative scarcity, all the decorated, blown fragments are catalogued to illustrate the techniques found at Wanborough.

Linear-cut

79. Two fragments from the rim and body of a beaker. Very thin colourless, marvered. Rim slightly everted, straight sides. Exterior wheel-cut and polished, decorated with a band of three horizontal ribs 27mm below rim. R.D. *c.* 100mm. Late first–early third centuries. Residual. 76A, IX, 1, SF 251.
80. Two fragments from the rim and side of a small bowl. Very thin, colourless metal; slight iridescence. Rim everted, sides straight, tapering to base. Decorated with three horizontal wheel-cut lines below rim, three on the body 22mm below rim, and two 20mm below that. R.D. *c.* 100mm. Second to early third century. Residual 76A, IX, 11, SF 544.

Ribbed

These vessels show ‘optic blown’ ribs where the glass was first blown into a ribbed mould and then into a plain one. For the most part it has not been possible to determine whether the fragments were from the class of Seine–Middle Rhine flagons and flasks, or globular jars.

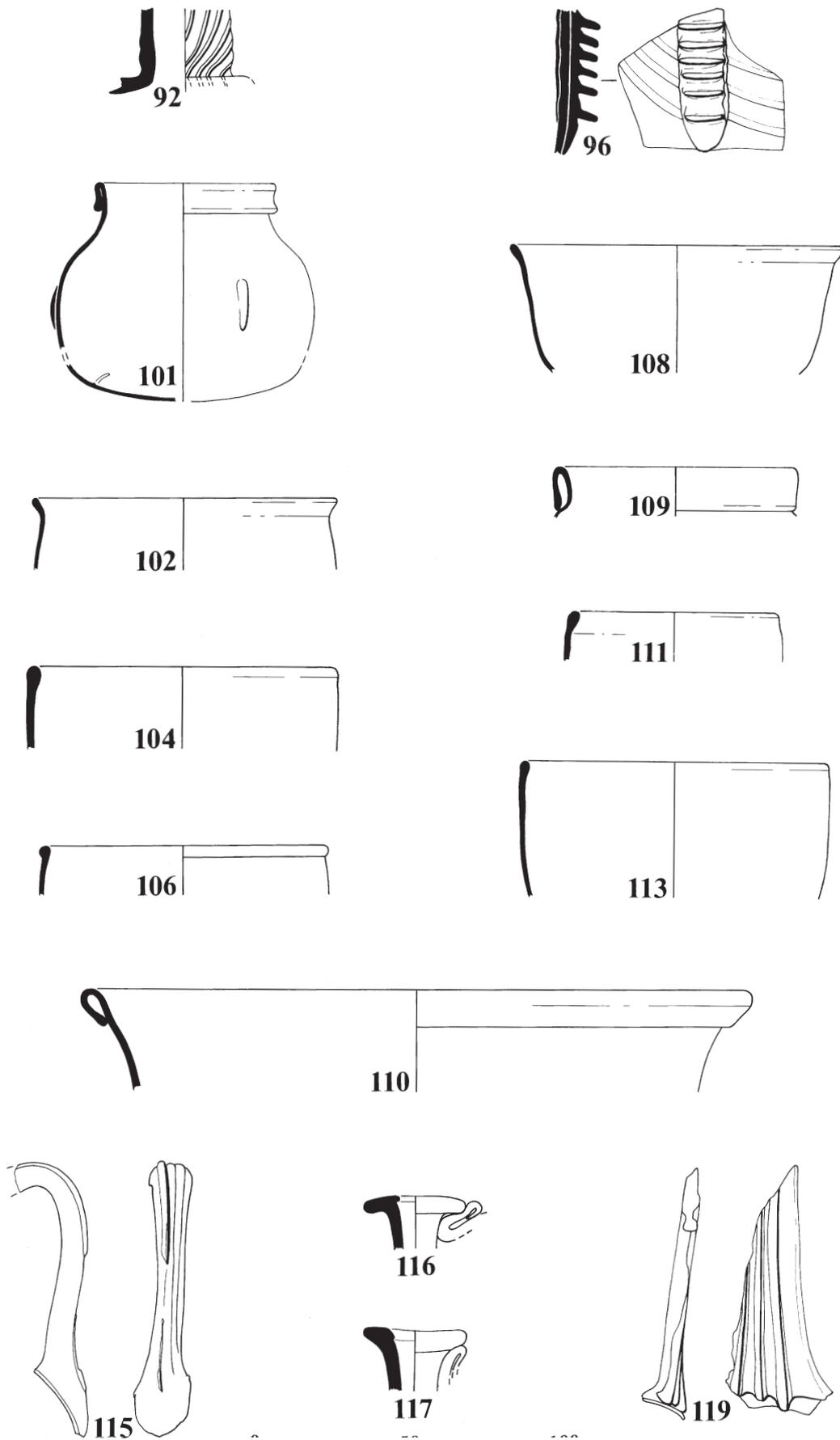


FIG. 66. Glass vessels (1969-70; 1976), blown decorated (92, 96, 101) and undecorated (102, 104, 106, 109-11, 113, 115-19). Scale 1:2.

Some handle fragments belonging to flagons of this type, possibly with undecorated bodies, have also been listed separately; also fragments of the typical pinched decorative handle attachments. These are dated *c.* A.D. 70–150 (Charlesworth 1972).

92. Fragment of lower neck and shoulder from a globular bodied flagon. Deep blue/green. Close-set ribs on neck forming a reverse 'S' shape on the body. Period 2. 76B, IV, 20B, SF 227.
96. Fragment of lower handle attachment and body from a ribbed conical-bodied flagon. Deep blue/green. Ribs swirl diagonally round the body. Six pinches remaining on the handle attachment. L. 49mm. Some dulling on exterior. 76A, U/S SF 608.

With pinched ribs

101. Twelve fragments of a jar with upright tubular rim and globular body. Pale blue/green, very thin. Rim formed by turning glass outwards, down and under, then pinched to form a flattened double tube. The body decorated with widely spaced short (L. 14mm) pinched ribs. First–second century. Ermin Street ditch 76B, IV, 20B, SF 240.

Undecorated

Bowls, cups, and jars

102. Rim and body fragment of a bowl with everted rim and globular body. The rim fire-smoothed. Very bubbly thin metal containing black impurities. Late third–fourth century. 69D, V, 1, 693608.
104. Rim and body fragment of a small bowl or cup. Colourless, bubbly. Rim thickened, slightly incurved; sides nearly vertical; fire-smoothed, and lightly ground. R.D. *c.* 110mm. Late third–fourth century. 69D, III, 4, 692855.
106. Rim and body fragment of a small bowl or cup. Colourless; very thin; milky weathering. Rim and exterior ground to form beaded rim. Sides slightly convex. R.D. *c.* 90mm. 69C, VII, 1, 692868.
108. Fragment of rim and body of a small bowl with sloping sides. The rim slightly thickened on exterior and ground. Blue/green, very thin. R.D. *c.* 110mm. First–early second century. 69A, XIV, 1, 692924.
109. Fragment of rim and body of a jar with slightly flattened, tubular, upright rim and probably a globular body. Clear olive green. R.D. *c.* 100mm. *c.* A.D. 70–150. 69D, VI, 1, 692938.
This belongs to the class of jars, sometimes with ribbed bodies, which were made in the Seine–Middle Rhine region and are closely related to the flagons with globular, conical, or discoid bodies manufactured during the same period.
110. Fragment of the rim and body of a bowl with outplayed, flattened, tubular rim. The side concave, tapering downwards. Blue/green. R.D. *c.* 220mm. Later first century A.D. Residual. 70H, VI, 1.
111. Rim and body fragment of a small cup. Blue/green. Rim slightly incurved, rounded. Rim and exterior ground smooth. R.D. *c.* 70mm. 'Hofheim' type. First century A.D. Residual. 76A, IX, 2, SF 279.
113. Two rim and body fragments of a cup, beaker, or jar, with thickened slightly incurving rim and convex side. Colourless, very thin, the rim smoothed and ground. Some milky weathering. R.D. *c.* 100mm. Later first–second century. 76C, XXXII, 1, SF 57.

Jugs, flasks, and unguent bottles

115. Handle of a jug. Blue/green with brownish streaks. Formed from a rod, drawn out. Decorated with a fine trail forming a central 'rib'. Late first–early third century.
This would appear to come from a jug since it is shorter and less angular than a flagon handle. There is a jug with a similar handle from *Verulamium* (Charlesworth 1972, fig. 76, 24). Phase 3A. The handle may be residual in this context. 76B, X, 5N, SF 370.
116. Rim, part of neck and handle of a long-necked flagon. Pale blue/green with brown streaks. The rim folded up and inwards, then flattened. The handle strap-shaped, possibly with a central rib; angular. Dulled and some weathering. Possibly from a group of Seine–Middle Rhine flagons. *c.* A.D. 70–150. 70, U/S.
117. Rim and handle, probably from a jug. Deep blue/green. Residual. 69C, X, 1, 692969.
119. Lower attachment and part of the lower portion of an angular handle from a flagon or jug, possibly with a globular body. Very similar metal to Nos 115–16. Handle tooled into three ribs forming claws to grip the body at the lower end. Ermin Street ditch. Phase 2A. 76B, X, 20B, SF 320.

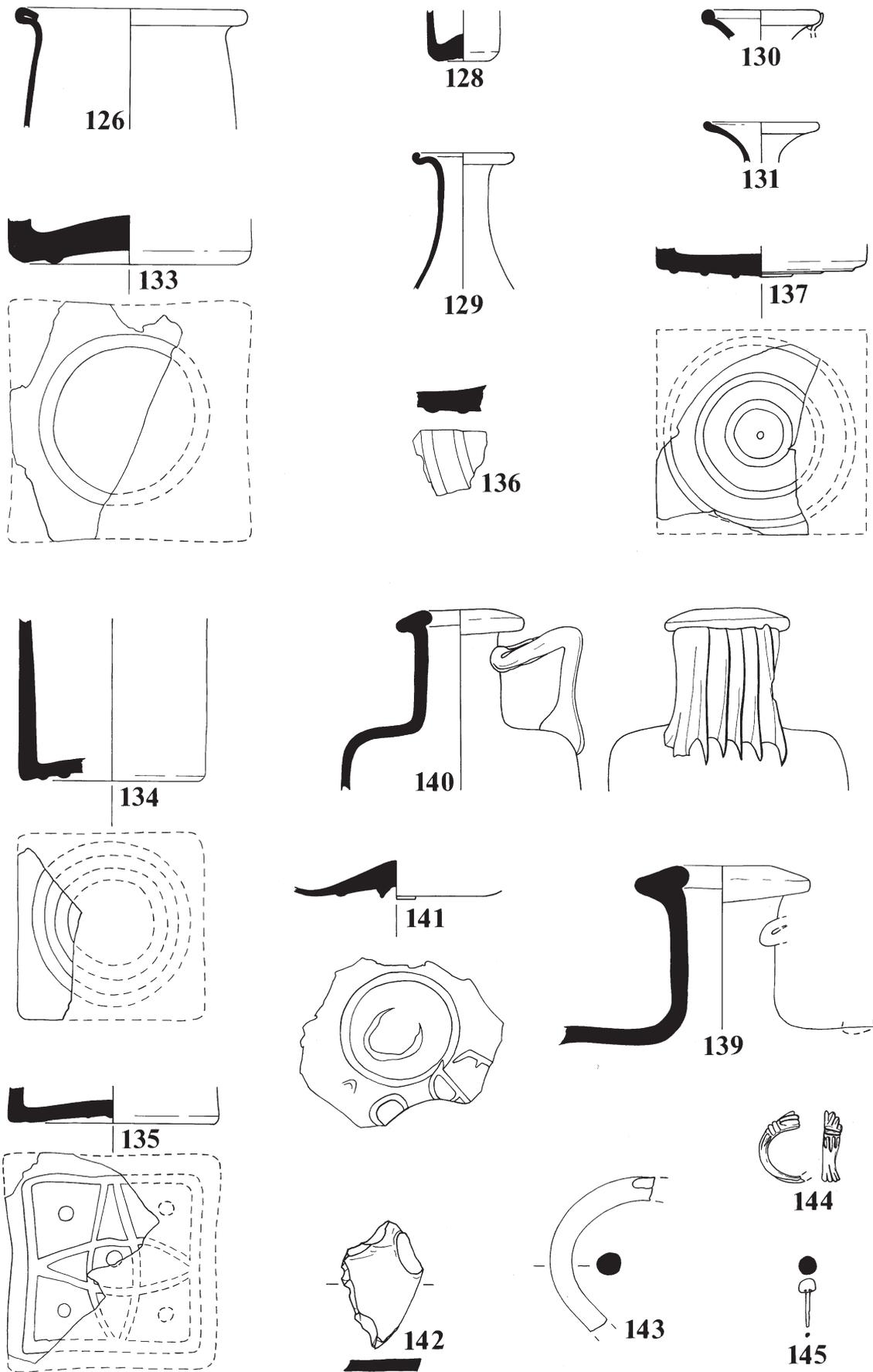


FIG. 67. Glass vessels (126, 128-31, 133-7, 139-41) and other objects (1969-70; 1976) (142-5). Scale 1:2.

126. The rim and body of a jar or wide-mouthed flask with slightly convex sides. The rim bent outwards and then folded inwards. Brown. Iridescence on outside. R.D. *c.* 90mm. First–early second century. 76C, XXXDVIII, 189, SF 576.
128. An unguent bottle. Colourless, very thick, with some milky weathering. The interior base convex, the exterior slightly concave, showing pontil mark. Late first–third century. Residual. 70F, IV, 5.
129. Rim, neck, and shoulder of a small flask with outspayed rim and globular body. The rim folded inwards and flattened. Colourless, very thin. Badly weathered and devitrified. Second–third century. Residual. 69E, IV, 4, 6929076.
130. Fragment of the funnel rim of a jug or flagon, showing one handle attachment. Greenish colourless glass with a few bubbles. Some iridescence. Rim folded inwards. Fire-smoothed. Second–third century. 76C, XXXIII, 2, SF 106.
131. Fragment of a funnel mouth from a flask. Pale blue/green, with some striations and bubbles. R.D. *c.* 40mm. Second–third century. 76C, XVIII, 2, SF 272.

Bottles

Fragments of 21 rims, three handles not contiguous with the rims, and 35 bases (16 patterned and nine plain) were found. All except one in olive green and one late bottle in bright green, were in varying hues of blue/green. The total weight of definitely identified bottle fragments was 1332g. There were other fragments not positively from bottles. In only two cases were bottle fragments definitely from cylindrical bottles. The majority of these bottles belong to the period A.D. 70–130, though specimens dated both earlier and later are known (Charlesworth 1966). Most are mould blown, the necks, rims, and handles finished by hand.

133. Fragment of square base. Very thick, slightly concave base; weathered. Decorated with one circle. 69C, XIII, 1, 692974.
134. Two fragments of a small square base. Decorated with two concentric circles. 70H, VI, 1.
135. Two fragments of a square base. Concave; badly weathered. Decorated with two crossed ellipses with a central dot and dots in each quarter field, the whole surrounded by a square. 76A, IX, 1, SF 225.
136. Fragment from a bottle of indeterminate shape. Decorated with two concentric circles. 76A, XIV, 20, SF 318.
137. Two fragments of a possibly square base decorated with three concentric circles. 76B, IV, 20B, SF 204.
139. The rim, neck, and shoulder of a large bottle. Handle missing. 76A, IX, 11, SF 543.
140. Rim, neck, handle, and part of shoulder of a smaller, probably square bottle. Handle drawn down into six sharp claws to grip the shoulder. 76B, IV, 20, SF 142.
141. Base of a bottle; shape unknown, possibly cylindrical. Bright greenish, very bubbly and thin; base slightly concave. Large pontil mark visible. Decorated with one faint moulded circle and parts of three letters, possibly FRO in retrograde. Fourth century. 77.

This vessel does not belong to the general run of mould-blown bottles of *c.* A.D. 70–130 but to a later, and less common group. It is possibly one of the cylindrical bottles with bands of horizontal raised moulding on the body known as ‘Frontinus bottles’ probably made in Northern France during the third and fourth centuries. These bottles are quite rare in Britain (Price 1978, 76, fig. 61).

Other objects

142. Fragment of window glass. Edge chipped and pointed at one end to form a single-edged cutting tool with rudimentary finger and thumb grip. 69C, XIII, 1, 692935.
143. Fragment of a child-size bangle. Dark greenish glass, appearing black. Made from a drawn, circular-section rod, narrower at one end and slightly distorted by fire.
It has not been possible to date this item independently, but its context suggests it should be dated after *c.* A.D. 250. 70J, VI, 2, SF 71.
144. Fragment of a finger ring. Opaque dark blue glass, slightly distorted by fire. Decorated with two concentric grooves and one pair of raised transverse ‘rings’. Because of fire damage, it is impossible to say whether the decoration was moulded or cut. It is not closely datable. D. *c.* <30mm. 76C, XXXVI, 65 SF 323.
145. Fragment of a pin with hemispherical dark blue/green glass head and twisted copper alloy shank, now broken. The head decorated with a pale blue/green, very fine spiral. Head D. *c.* 5mm.
A similar pin was found at Shakenoak (Harden 1971, 106, no. 152). 76C, XXXIV, U/S.

Counter or gaming pieces

Eleven plano-convex counters were found, eight appearing black, two translucent green and one dark brown. Diameters ranged from 14 to 30mm. Five counters were of the smallest diameter.

Window glass

Fifty-six fragments of window glass were found (including No. 142), of which 18 were from the edges of panes. None were contiguous, so no estimate of pane size could be made. All were of the matt/glossy type usual in the first and second centuries. All were blue/green. No particular layer had a concentration of window glass, Site B, Layer 20B produced the highest number, five, and Site B, Layer 5, produced four fragments.

17. GLASS BEADS (FIG. 68)

By Margaret Guido[†]

Comments

One or two faience melon beads might be early Roman and possibly a further three, all made of bottle glass; the two translucent blue annular beads and one which may be made from a re-used pillar-moulded bowl. Chronologically and typologically, however, almost all the other beads should be late Roman (Guido 1978). An unusual bead from this horizon is the greenish-gold annular bead (No. 6), which could be paralleled from Late Iron Age and early Roman sites, so it could be residual in the fourth century A.D. context. The amber bead (No. 15) is also quite a rare find in a Roman context. There are also beads of jet and bone. This report was submitted in 1984.

Illustrated beads

1. Small biconical bottle glass bead. 69A, XV, 2, 203.
2. Blue square-sectioned glass bead. 69A, XVIII, 1, 119.
3. Translucent blue annular glass bead with opaque white wave. 69B, IV, 1, 160.
4. Half translucent blue annular glass bead (possibly earlier Roman derived). 69C, VIII, 1, 246.
5. Hexagonal, short, opaque greenish-white bead. Probably beryl. 69D, III, 1, 143.
6. Translucent, greenish-gold annular glass bead, possibly derived from an earlier Roman context. 69E, IV.
7. Opaque, emerald green, octagonal sectioned glass bead. 69E, IV, 4, 181.
8. Half a flat-sectioned round bead. Green bottle glass. 70H, VI, 1, 102.
9. Two small opaque blue glass beads, one square-sectioned, the other globular. 70J, VI, 2, 57.
10. Small translucent annular bottle glass bead, possibly from an early Roman context. 76A, VIII, 45, 555.
11. Medium annular bead in translucent blue glass with opaque white wave, a type which starts in pre-Roman times and continues into Saxon times. 76B, X, 19, 284.
12. Long, square-sectioned opaque blue glass bead. 76C, XXXIX, 79, 406.
13. Dark green cylinder bead, translucent bottle glass. 76C, XLVIII, 496.
14. Medium-sized, thick annular, translucent blue glass bead. 76C, U/S, 498.
15. Flat diamond-shaped section, amber bead. 76A, VIII, 20, 480.
16. Large finger-shaped fossil coprolite bead. 76B, IV, 1, 15.
17. Long biconical blue bead. 76A, XV, 20, 236.
18. Fragment of annular bead in translucent blue glass with opaque white wave. 285, G41, 126.
19. Roughly made, long, square-shaped bottle glass bead, probably third or fourth century. WANT 159, G59, 70.
20. Tubular black glass bead. WANT 44, 13.
21. Blue glass melon bead. 3471, G118, 599.

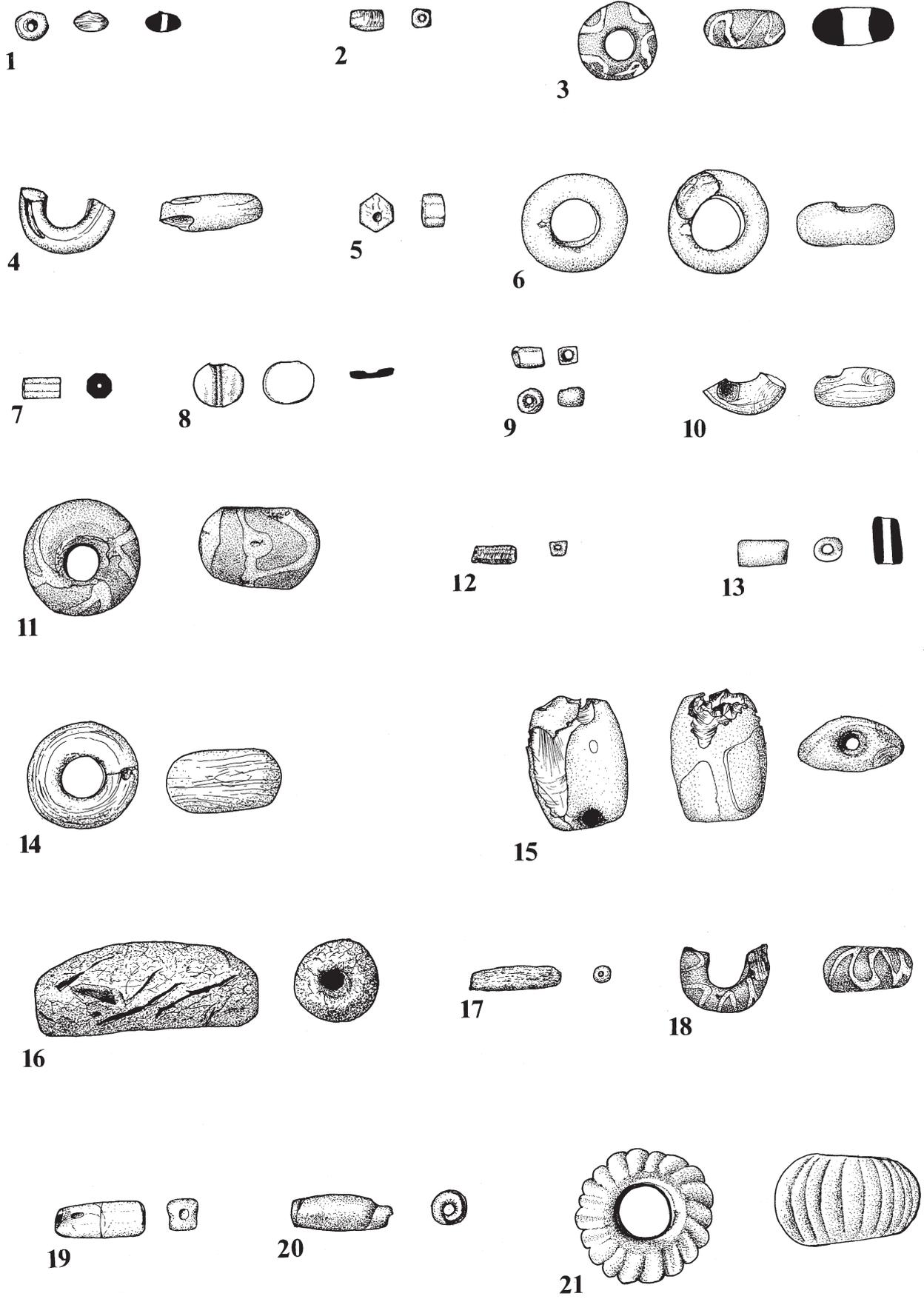


FIG. 68. The beads. Scale 1:1.

18. INTAGLIOS (PL. IX)

By Martin Henig

The descriptions of intaglios are of impressions; the naming of styles follows Maaskant-Kleibrink (1978). The report was submitted in 1986.

- A. Iron ring type III, External D. 23mm, with a nicolo with flat upper face, shape F2 or F4, 9 × 7mm, showing a Muse, a himation draped over her legs, seated on a stool (*diphros*). She supports herself with her left hand and gazes at a theatre mask which she holds in her right hand. Ground line. A seated muse is shown on a nicolo from Chester (Henig 1978, app. no. 147) but here the chair or throne has a back. A standing muse appears on a cornelian found with a coin of Nerva outside the fort of Y Gaer, Brecon (*ibid.*, no. 346). In addition, a gold ring, said to have been found near Catterick, Yorkshire, is set with a nicolo cut with the same subject. With neat and careful cutting, the figure is quite deeply modelled (classicising style). Late first century A.D. (not illustrated). 76A, XIV, 20, 373.
- B. Yellow and orange cornelian with small black inclusions. Slight convex, shape A4, 12 × 9 × 3mm. Ceres to the front, facing right. She wears a chiton and in her right hand is a dish of fruit and in her left two ears of corn. Ground line. This is a common type (Henig 1978, nos 259–74 and app. 136). Coarsely cut without much detail (plain grooves style). Later second century A.D. 68, Field 497.
- C. Yellow cornelian with orange agate banding. Shape F3, designed to project above surface of ring-bezel. 10 × 8 × 3mm (upper engraved surface 8 × 6mm). A branch, fairly coarsely executed but probably a palm. For comparanda on metal bezels from Britain, Henig 1978, nos 768–72; on gems, Walters 1926, nos 2684–8 and Sena Chiesa 1966, no. 1412. Probably third century A.D. 76, 384, U/S.
- D. Iron ring, ring type III, External D. 30mm. Chalcedony (cracked across), shape F2, 14 × 9mm. Two crossed cornucopiae; between them an ear of corn — an emblem of prosperity. For parallels, note a Richborough gem with two cornucopiae and a *caduceus* (Henig 1978, no. 422) and other intaglios there cited; also an intaglio in Munich, with two cornucopiae and a palm (Brandt 1972, no. 2265) and two from Aquileia, one with two cornucopiae and a poppy (Sena Chiesa 1966, nos 1437, 1439). These symbol gems became popular in the first century B.C., but the shape of the ring and the style of cutting suggest the second century A.D. (small grooves style). SSM 76, U/S.
- E. Yellow-orange cornelian. Chipped on right side of stone, shape F1. 11 × 9 × 2.5mm. A capricorn in profile to the right. On its back a cornucopia, and a steering-oar below. Henig 1978, no. 407. Classicising style. First century A.D. 70H, V, 4, 55.
- F. Yellow cornelian with orange agate banding. Shape F3 (compare C) designed to project above surface of ring-bezel. 9 × 7 × 3mm. Deer in profile to the right, head thrown back. Behind it a curved hunting-stick (*pedum*). Henig 1978, no. 619. Schematic cutting (incoherent grooves style). Third century A.D. 69A, IV, 2, 59.
- G. Burnt cornelian, ancient chip on left side of stone. Shape B4, 10 × 8 × 2.5mm. Mercury standing to front holding *caduceus* in left hand, purse in right hand. Chlamys over left arm. Henig 1978, no. 45. The type is a common one (*ibid.*); cf. also Pannuti 1975, 184, no. 15, fig. 20 for a cornelian from the workshop of Pinarius Cerialis at Pompeii which is similar stylistically. (Not illustrated) 69A XII, 3, 214.
- H. Orange cornelian, shape B4. 12 × 9 × 2.5mm. Military symbols. Eagle, standard, helmet?, and shield. Ground line. Henig 1978, no. 709, cf. also app. no. 197. The broadly cut grooves (looking towards plain grooves style or incoherent grooves style) suggest a date around the second century, but the gem is too small and convex to fit a ring of first century A.D. (for variations in style from a single workshop, see Pannuti 1975). The eagle and standard is a legionary emblem and the stone could have belonged to a soldier. WANW 56.
- I. Nicolo paste, very decayed. Shape F4. 13 × 10 × 3mm. Standing figure? Henig 1978, no. 26 as possibly Apollo but the device now seems to me to be virtually illegible. (Not illustrated) 70F, V, 2, 46.
- J. Bronze finger ring with cylindrical hoop and rectangular bezel. External D. 21mm; width across hoop 4–7mm. The separately made bezel measures 1 × 10mm and has a crude intaglio depicting a capricorn cut into the metal. Fourth century A.D. The ring is typical of the late fourth century; most of the specimens known to me from England are made of gold or silver but examples in bronze are known on the Continent (Henkel 1913, nos 1062–7). (Not illustrated) U/S.



B



C



D



E



F



H

PLATE IX. Intaglios. Various scales.

Discussion

Two intaglios (A and E) date from the first century and still display something of the miniaturistic accuracy of the late Hellenistic wheel style. The nicolo showing a muse (A) is set in a ring of a type current at the conquest of southern England, but it may be as late as Flavian. Some authorities assign most gems with capricorns to the reign of Augustus (*cf.* Sena Chiesa 1978, 123–4, nos 157–61; Vollenweider 1979, 512–19, nos 577–86). The capricorn was Augustus's natal sign and the rudder and steering-oar might suggest the battle of Actium in 31 B.C., but it should be remembered that the invasion of southern England in A.D. 43 was also a marine victory and that *Legio II Augusta* took the capricorn as its symbol. The capricorn is not the only symbol gem from the site. The cornucopiae and corn-ears (D) also recall devices used in the triumviral period and earlier (Vollenweider 1972, 85–90, pl. 145–7; 1979, 372–417, nos 416–34, 449–73), but the style of cutting and size of the stone recall gems from Flavian or slightly later contexts in Britain (Henig 1978, nos 404, app. 201) and the ring cannot be much earlier. More difficult to date are two cornelians showing Mercury (G) and an eagle standard and helmet (H) respectively. Both are engraved in a schematic manner which, following Maaskant-Kleibrink's (1978) stylistic divisions, might be assigned to the middle Empire, but the size and shape of the two intaglios suggest an earlier dating, and the subject of (H) would suit a time when there were military garrisons in the area. The intaglio portraying Ceres (B) is typical of the second century A.D.; C and F are cut on very similar agate banded cornelians. They date from the third century when gem-cutting was in decline (Henig 1981). The plant-spray (palm?) is otherwise attested in Britain only as a subsidiary motif on metal rings. In the fourth century, even low quality glass intaglios are rare in the Roman provinces (Johns and Potter 1983) but intaglios on metal bezels are not uncommon.

19. LAMPS (FIG. 69)

By D.M. Bailey

The following catalogue was submitted in 1981.

Catalogue

1. Fragment of a mould-made lamp of Loeschcke Type IX (L. 63mm). Orange-buff clay; traces of matt orange slip. Made in Britain, perhaps at Colchester; *c.* A.D. 65–120. 76B, X, 28.
2. Mould-made lamp of Loeschcke Type IV (L. 94mm, W. 63mm). Near Loeschcke Shoulder-form IIa. Slightly raised circular base. Airhole between nozzle volutes. Discus: erotic scene, with a man reclining on a couch, beside which stands a largely naked woman, caressing him with her left hand.

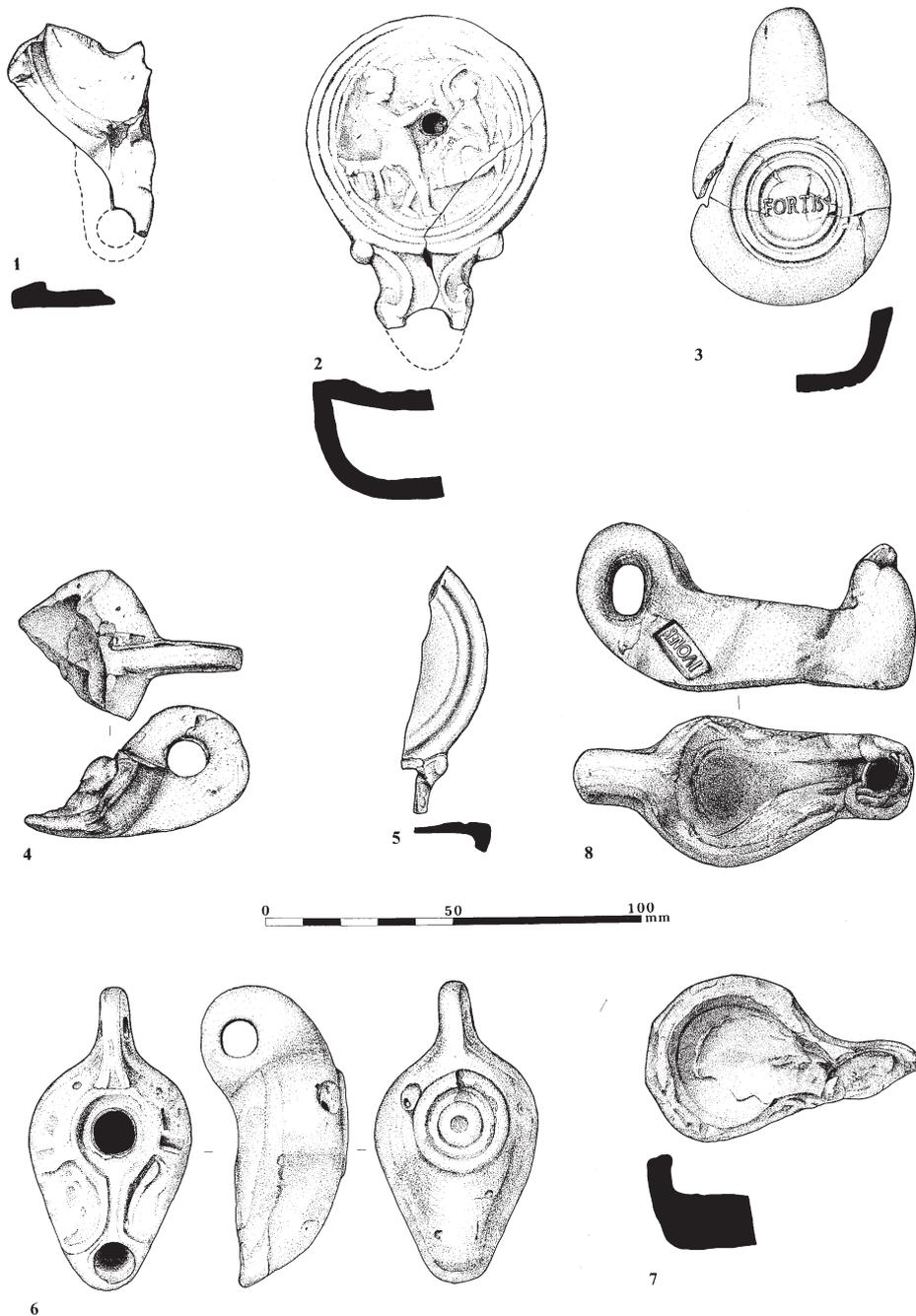


FIG. 69. The lamps. Scale 1:2.

This figure-type is rare; the only published parallel traced is a fragment from the Athenian Agora, probably an import from the eastern Aegean area (Perlzweig 1961, no. 103). A more complete but unpublished example, probably Italian and from Egypt, is in the Benaki Collection in the National Museum in Athens. However, an example, perhaps from the same manufacturing source as the Wanborough lamp, is in the Museum of London (Inv. no. 10.618), from Gracechurch Street, London. Buff clay, traces of an orange slip. Probably a British fabric, perhaps Colchester, although Gaul is possible; *c.* A.D. 50–100. 76B, X, 27.

3. Mould-made lamp of Loeschcke Type IX or X (L. 86mm), upper side lost. Multiple base-ring; within is the name FORTIS in relief. Red clay. Made in northern Italy; *c.* A.D. 70–120. RB, D1.
4. Rear fragment of a mould-made lamp of Loeschcke Type IX or more probably X; the handle and part of the body survive. L. 53mm. Pinkish-orange, micaceous clay, grey–brown at the break. Made in Britain. Probably first half of the second century A.D. COV RB 67, Ford, U/S.
5. Fragment of a mould-made lamp of Loeschcke Type IB, or perhaps Type IV (Loeschcke 1919), L. 66mm. Loeschcke Shoulder-form IIIa. Yellow-buff clay, matt orange slip. Made at Colchester or in central Gaul *c.* A.D. 40–80. 76B, X, 20B.
6. Small mould-made lamp of Evelein Type B (Evelein 1928) with ring-handle and multiple base-ring. L. 77mm, W. 38mm. Pale buff clay, black slip. Made in Gaul; second half of the second century A.D. 69A, IV, 3.
7. Wheel-made open lamp of Loeschcke Type XI, with applied wick-rest and handle, the latter lost. Flat resting surface. Front left side broken away. L. 73mm. Bright orange clay, Gaulish or British fabric. Second half of the first to first half of the second centuries A.D. 76C, XXXVIII.
8. Hand-modelled taper-holder, with open body and applied handle, L. 89mm. The shape is based upon open lamps of Loeschcke Type XI, where the wick-rest would normally be a socket for a taper. Hand-fettled underneath. On each side, adjacent to the handle, is a rectangular stamp with retrograde relief letters: RENOV I (the first three letters are ligatured, the R being upside down). The right side of the body and the exterior of the taper-socket are damaged. Deep orange-buff clay, orange-red at the break. Valerie Rigby informs me that a closely similar stamp, incomplete, is known from a terra nigra platter found at Colchester, but probably made in Gaul (Hawkes and Hull 1947, 213, pl. XLVIII, 216). The fabric of our object does not preclude British manufacture. A date in the second half of the first century A.D. or a little later seems likely.

20. SAMIAN WARE (FIGS 70–3)

By Hedley Pengelly, B.R. Hartley and Brenda Dickinson

This large assemblage of samian ware from Wanborough ranges in date from the mid first century to at least A.D. 200.

Although there are a few Claudian pieces, it is unlikely that Wanborough began to receive significant quantities of samian before *c.* A.D. 50–55. Thereafter, the supply was uninterrupted, and probably continued into the third century.

The situation in the Trajanic period is interesting. Most British sites with continuous occupation in the first and second centuries seem to have received proportionally less samian in the period *c.* A.D. 100–20. This is made up of the latest export material from South Gaul and imports from the new factory at Les Martres-de-Veyre, near Clermont-Ferrand. At Wanborough, the proportion of samian from Les Martres is higher than usual, approximately 10% of the whole, while the South Gaulish ware diminishes markedly in quantity after the Flavian period.

For whatever reason, there is, surprisingly, much less mid- to late-Antonine samian than might be expected in such a large quantity of material. The period *c.* A.D. 160–200 was normally that of the greatest use of samian, when Lezoux ware was flooding the British markets. Similarly, East Gaulish ware, though not normally present in large quantities in Britain, here forms an unusually small proportion of the whole (approximately 2.5%).

The main sources of supply to Wanborough were La Graufesenque, Les Martres-de-Veyre, Lezoux and Rheinzabern. Apart from La Graufesenque ware, the first-century material includes nine vessels from Lezoux, one from Montans, or one of its satellites, and two, perhaps three, from Carrade. The distribution of wares from the minor South Gaulish factory at Carrade is largely unknown, but examples have been noted from Fishbourne (Dannell 1971, no. 62) and Chester.

The second century material includes single sherds of South Gaulish ware from Banassac and Montans. The East Gaulish ware comes mainly from Rheinzabern and is late second or third century, as are the few pieces from Trier. The earlier East Gaulish factories at Blickweiler, La Madeleine and, probably, Chémery-Faulquemont, also contribute small amounts of samian, none of which is likely to be later than the early-Antonine period. The few sherds from the Argonne factories are not closely datable, but are likely to be second century.

In spite of the abundance of samian on this site, it is noticeable that many vessels have been riveted, or have been prepared for mending by drilling or grooving for rivets. This is remarkable, in view of the relatively high proportion of decorated to plain samian, which might be thought to argue a prosperous community.

The following abbreviations are used in this report: figure types in Déchelette (1904) and Oswald (1936–37) are referred to as D. and O., followed by the figure number, respectively; S. & S. refers to Stanfield and Simpson (1958).

This report was submitted in 1986.

KEY CONTEXTS

Period 1

Phase 1A

Ermin Street ditch — primary deposits

76B 29 Forms 15/17 or 18, 18 (3, one burnt) and 27 (2), South Gaulish Neronian-Flavian.

Phase 1B

Ermin Street ditch, later fills

76A 28 i) (with other sherds in B27, 28). Form 29. South Gaulish. Each alternate(?) panel in the upper zone has a series of blade-like motifs. Other panels contain a bird to right (Hermet 1934, pl. 28, 49), in a double-bordered arcade supported by solid triangles and a pyramid of the same triangles, flanked by vertical wavy lines. The sequence of the panels in the

lower zone is not clear. One, with corner tassels, contains a single medallion with a dog (*ibid.*, pl. 28, 17), over rows of wavy lines. Another contains a saltire. Large areas of the lower zone are filled with diagonal wavy lines, arranged in chevrons with a vertical line down the middle. The solid triangles are on two bowls from London (formerly Guildhall Mus.) stamped by Matugenus ii, one of which has the same bird and arcade (but used the other way up, as a festoon). The corner tassel in one of the panels in the lower zone is on a bowl from Vechten stamped by Felix i (Knorr 1919, Taf. 32A). There are no other close parallels for the decoration. *c.* A.D. 50–65. (FIG. 71, 23)

ii) Forms 15/17, 18, 18R, 27 and 29 (2), South Gaulish. Neronian.

76B 28 The bulk of the material is Neronian, but a few sherds may just go into the 70s and the two examples of form Ritt. 1 are Claudio-Neronian.

The forms are 15/17 (MNV 7, one burnt), 15/17 or 18 (with stamp no. 222), 15/17R, 15/17R or 18R (3, one burnt, another with a band of fine grooves instead of the usual rouletting), 18 (MNV 10), 24 (with stamp no. 23 and a joining sherd in B27), 27/27g (MNV 9, including one with stamp no. 310 — joining a sherd in B27), 29 (several), 30, 67 (with other sherds in B27), Ritt. 1 (2), Ritt. 12 (3, two with other sherds in B27) and Curle 11(?) flange (with a sherd in B27). There are also many unidentified fragments. All the material is South Gaulish.

Vessels worthy of individual note are:

i) Form 29. Lower zone, with a winding scroll. The upper concavities contain striated spindles between webbed leaves. One lower concavity has a medallion flanked by rosettes and containing an eagle over two different rosettes. Both rosettes are closely, if not exactly, paralleled on bowls from La Graufesenque stamped by Gallicanus. For the general arrangement of the zone, *cf.* bowls from London (Knorr 1952, Taf. 34A, stamped by Licinus) and Bregenz (*ibid.*, Taf. 79B, unstamped). Modestus i used similar medallions, flanked by rosettes, on stamped bowls from London and Cirencester. *c.* A.D. 50–65. (FIG. 72, 35)

ii) Form 29, with other sherds in B27, A65 and U/S. The scroll in the upper zone normally has alternating stags (Hermet 1934, pl. 27, 11) and eagles (of the general type Hermet pl. 27, 7–9) in the lower concavities, but in one, narrower than the rest, the potter has inserted a dog (O.1968 variant). Each upper concavity contains a tulip leaf between two larger leaves. The panels in the lower zone are divided by vertical series of trifid motifs. The saltire panel incorporates fan-shaped plants, bottle-shaped buds, and lanceolate leaves. The same leaves appear in the corners of an adjacent panel which contains a pair of gladiators (O.1020, mis-stamped, and 1021). Many of the details are on a bowl from London stamped by Modestus i (Knorr 1952, Taf. 42B) and some appear regularly either on bowls stamped by him after moulding, or on signed moulds. *c.* A.D. 50–65. (FIG. 73, 36)

iii) Form 29, with a joining sherd in B27. The zonal arrangement of the decoration and the *horror vacui* are typical of the Bassus ii–Coelus ii firm. The medallions, large rosettes and wreath in the lower zone are on a stamped bowl from Strasburg (Knorr 1952, Taf. 10D) and the poppy-head wreath in the upper zone is on a stamped bowl from Wiesbaden (Knorr 1919, Taf. 13L). *c.* A.D. 55–65. (FIG. 73, 37)

iv) Form Déchelette 67, with rouletting instead of moulded decoration (*cf.* Hermet 1934, pl. 90, 4). A jar with three bands of fluting with rouletting between them, possibly done with something like a vibrating strip of metal. Early-Flavian.

Ditch 125

76A 125 i) Form 15/17, Neronian.

ii) Form 30, with an eagle topping a wavy line, in the manner of Masc(u)lus i of La Graufesenque (*Germania* 38, 1960, Abb. 4, 10–11), and flanked by spirals. *c.* A.D. 55–70.

iii) Form 30, with a palm leaf (Hermet 1934, pl. 6, 7?). Neronian.

iv) Form 18, burnt, Flavian.

v) A burnt sherd. First century?

All South Gaulish, with the possible exception of v.

Ditch 58

76A 58 i) Form 29, South Gaulish, with other sherds in A58B and A33. A bowl stamped, after moulding, by Pass(i)enus of La Graufesenque (see stamp no. 189), OF-PASSIEN. Both upper and lower zones have identical scrolls, with a wreath of trilobed motifs below the

central cordon. This motif and the scroll are on bowls with the same stamp from Hofheim (Knorr 1919, Taf. 64G) and Vechten (*ibid.*, H), respectively. The leaf in the scroll also appears on bowls stamped by Primus iii (who also used the trilobed motif), Crestio and Murranus. *c.* A.D. 50–65. (FIG. 72, 25)

- ii) Forms 18 and 36, South Gaulish. Neronian.

Phase 1C

Ditch 125, fill

76A 125 See entry under Phase 1B.

Ditch 58, fill

76A 58 See entry under Phase 1B.

- 76A 58B i) South Gaulish ware, all pre-Flavian, with forms 15/17 or 18 (slightly burnt), 18 (2), 27, 29 (2, one with sherds in A58, *q.v.*), and inkwell (*cf.* A58A) and an unidentified flake.
 ii) Form 37, in the fabric of Les Martres-de-Veyre, with an ovolo-replacement of beaded circles, over a double medallion in a panel. The circles were used in the same way by potters who supplied moulds to Ioernalis (S. & S. 1958, pl. 40, 468, 471). *c.* A.D. 110–25.

Ditch 110 fill

- 76A 110 i) Form 15/17 or 18, with stamp no. 79. *c.* A.D. 35–55.
 ii) Forms 15/17 (2) and 29, South Gaulish. Claudio-Neronian.
 The form 29 has a scroll in the lower zone, with two concentric cogged medallions in one of the lower concavities. The inner medallion perhaps contains a small hare. The upper concavity contains a striated spindle and a leaf (similar to Knorr 1919, Taf. 35, 83). For the medallions, *cf.* Knorr 1952, Taf. 66A. *c.* A.D. 45–60. (FIG. 72, 26)
 iii) Form 27, South Gaulish. Neronian.

Ermin Street ditch fill

- 76A 27 i) Form 24, South Gaulish. Pre-Flavian.
 ii) Form 29, South Gaulish, with a joining sherd in A65. The lower zone consists of straight gadroons. The scroll of the upper zone includes spirals and tendrils ending in trifold motifs. The last occur on three bowls stamped Modestus i (Knorr 1952, Taf. 42A–C) and on an unstamped sherd from the Cirencester fort ditch (Wacher and McWhirr 1982, fig. 45, 52). *c.* A.D. 50–65. (FIG. 71, 22)
 iii) Form 18 and two scraps from a dish, South Gaulish. Flavian.
- 76A 65 i) Form 29 (2) from the bowls in A27, ii and B28, ii. *c.* A.D. 50–65.
 ii) Form 29, Neronian.
 iii) Forms 15/17 or 18, 15/17R or 18R and 18, Neronian-Flavian.
 iv) Form 30 or 37 base and a decorated scrap, Neronian or Flavian.
 All South Gaulish.
- 76B 20C i) South Gaulish ware, mainly pre-Flavian, but with a few early Flavian pieces. The forms include 15/17, 15/17 or 18 (3), 15/17R, 15/17R or 18R, 18 (6), 27g (2), 27 (burnt), 29 (3 rims), 30 or 37, 37 (2, one belonging to B27, iii) and an inkwell.
 ii) Form 31 (Tq), Central Gaulish. Early to mid Antonine.
 iii) Form 79, Central Gaulish. Mid to late Antonine.
- 76B 20D i) Form 29 South Gaulish. *c.* A.D. 45–65. (See B27).
 ii) South Gaulish ware of Neronian and early Flavian date, with forms 15/17, 15/17R or 18R, 18 (5, one burnt), 27/27g (5, including cups with stamps 154 and 344), Ritt. 9, Ritt. 12 or Curle 11 and a few scraps.
 iii) Four large, joining sherds and several flakes from form 38, probably from Les Martres-de-Veyre. Hadrianic–Antonine.
 iv) Forms 30 or 37 (footring) and 33, Central Gaulish. Antonine.
- 76 B 20Z South Gaulish ware, mainly Flavian, with perhaps a few Flavian–Trajanic pieces, with forms 15/17R, 18 (MNV 2), 18R (3, one burnt), 18/31, 27 (3, one, 386, with graffito Matu[, *post cocturam*), 29 (rim) and 30.
- 76 B 27 The material is all South Gaulish and is mainly Neronian. Form Ritt. 1 is Claudian, but has a fairly worn footring. There are also a few early Flavian pieces. The forms include 15/17 or 18 (4, one burnt, another with stamp no. 170), 15/17 (5), 15/17R (2), 15/17R or 18R, 18

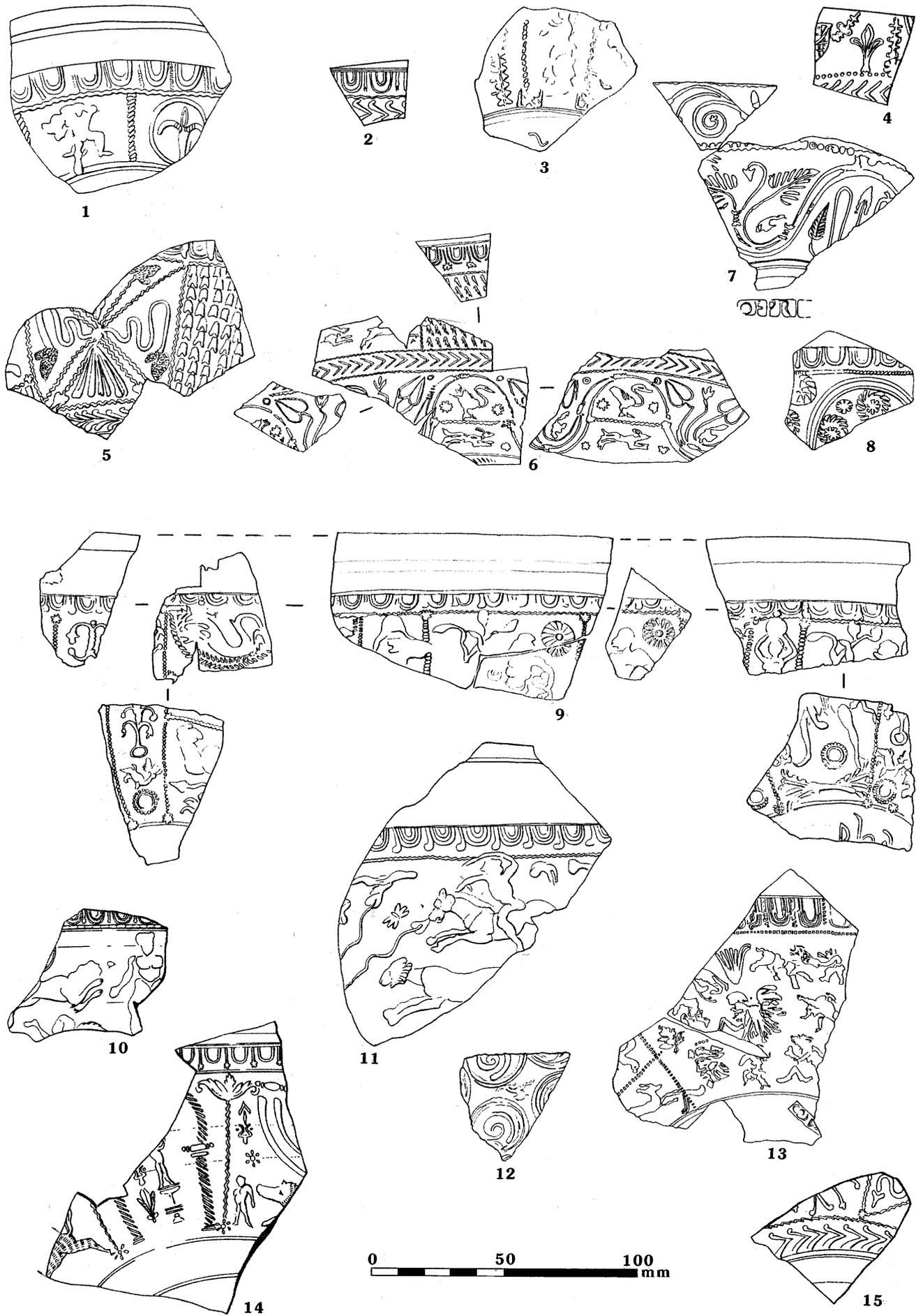


FIG. 70. The decorated samian. Scale 1:2.

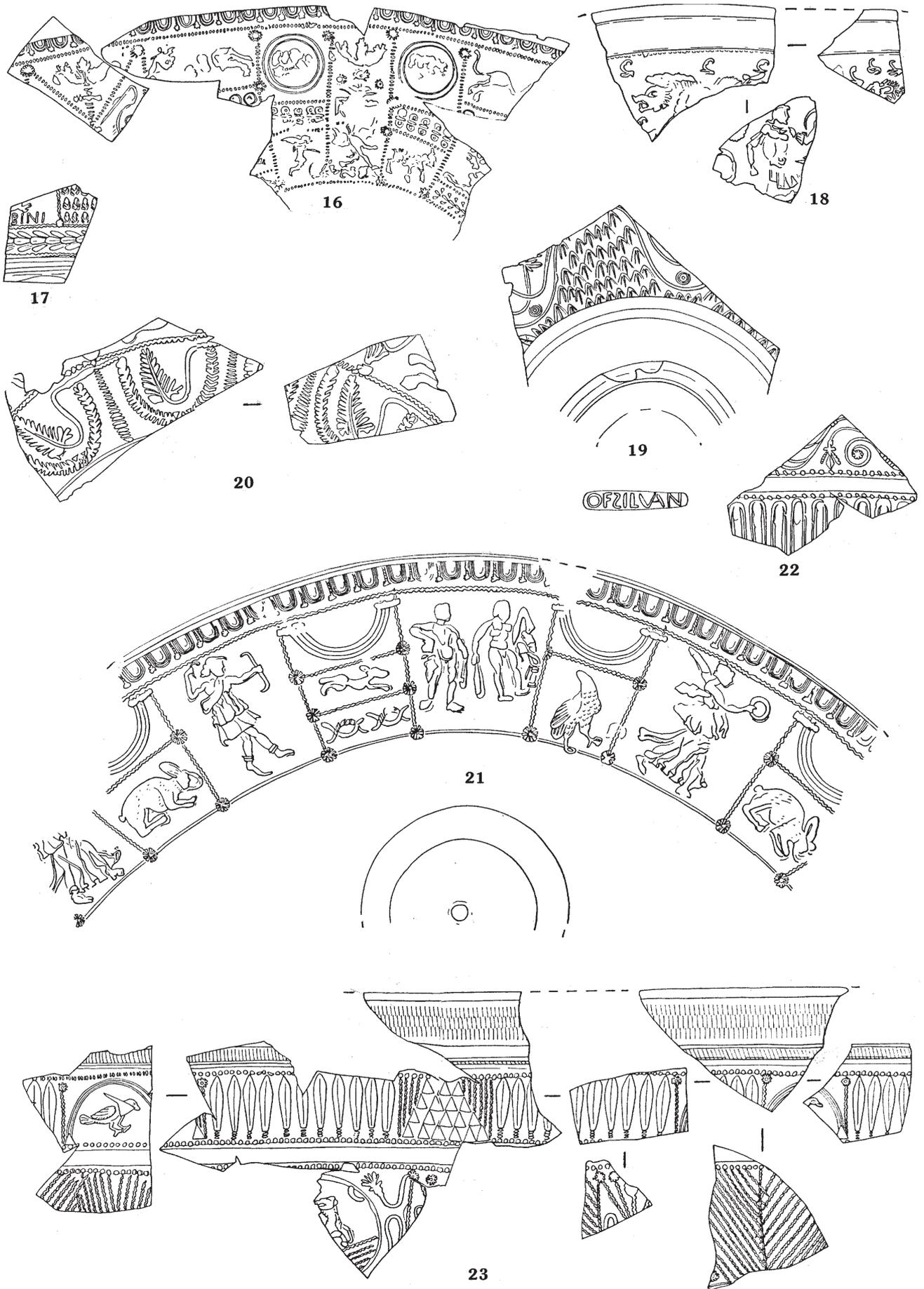


FIG. 71. The decorated samian. Scale 1:2.

(a maximum of 21 with stamps, nos 179, 262), 18R (2), 24 (2, one with its stamp, no. 23, in B28), 22 (tiny), 27g/27 (a maximum of 17, one with stamp no. 17, another with stamp no. 310 and a joining sherd in B28, and others with stamps 352–3), 29 (8, including ones with sherds in A28, i and B28, ii), 37 (3), 67 (from the vessel in B 28), Ritt. 1 (burnt), Ritt. 8 (2, one with stamp no. 304), Ritt. 12 (3, two with sherds in B28), and Ritt. 12 or Curle 11 (2, one with a sherd in B28). There are also many unidentified scraps.

Worthy of separate note are:

- i) Form 29, with other sherds in A41 and B 20D. Upper zone, with a winding scroll with spirals and four-pronged tassels. The tassels are on several bowls from Camulodunum (Hawkes and Hull 1947, pl. XXXIII, 11, 9–13) and on one from Fishbourne, Period 1A (Dannell 1971, no. 1). It is also on bowls stamped by Aquitanus (from Heerlen), Celadus (from Mainz-Weisenau, also with the ring with a dot in the centre) and Murranus (from London, Knorr 1952, Taf. 44B). *c.* A.D. 45–65. (FIG. 72, 29)
 - ii) Form 29, with other sherds in A18, B2, B20A, and B65. Upper zone with trifid motifs, as on a bowl from Ristissen with decoration similar to that of stamped bowls of Modestus i (Knorr 1952, Taf. 42E). The lower zone has alternate saltires and panels with striated medallions containing eagles. The medallion, and perhaps the same eagle, are on an unstamped bowl from Bregenz (*ibid.*, Taf. 79B) with decoration typical of the period *c.* A.D. 50–65. The same date range applies to the Wanborough bowl. (FIG. 72, 32)
 - iii) Form 37, with other sherds in A11, 133; B5, 20B, 20C, and U/S. The main zone of decoration is panelled, with wreaths above and below it. The ovolo was used by Memor, Mommo and Primus *iv.* The panels are separated by a vertical series of arrowheads. Each alternate panel is a saltire. One other panel has spindles as corner-tassels and a double medallion containing a lion (Hermet 1934, pl. 25, 25), over rows of arrowheads. The general layout is paralleled in the Pompeii Hoard (*cf.* Atkinson 1914, no. 55) and the lion is on stamped bowls of Mommo from the same group (*ibid.*, nos 6, 13) and on a signed bowl of Memor from Cannstatt (*Fundberichte aus Schwaben* 17, 1909, Taf. IV, 1, where Knorr misread the signature as Sasmonos). The trifid motif in the top part of the saltire is on a signed bowl of Memor in the Pompeii Hoard (Atkinson 1914, no. 73). *c.* A.D. 70–90. (FIG. 72, 33)
 - iv) Form 37. One panel contains a chevron arcade with a lion (Hermet 1934, pl. 25, 25) attacking a man (*ibid.*, pl. 23, 259). One corner of the panel has a tendril with a bottle-shaped bud. The adjacent panel consists of a saltire, with elongated leaves at the sides and a plant at the top. *c.* A.D. 70–90. (FIG. 72, 34)
 - v) (281, with sherds in A XXI U/S, A47, B20A and B U/S.) Form 29, South Gaulish. The unusual decoration includes triple festoons in the upper zone, containing swans to left and right (Hermet 1934, pl. 28, 34–5). The motif forming the tassel between the festoons, and the upper wreath in the lower zone, has no precise equivalent in Hermet. The panels in the lower zone contain a hare to right (O.2074) and another animal, and a pyramid of leaf-tips flanked by diagonal, wavy lines. The basal wreath consists of trifid motifs. There are no close parallels for the elements of the decoration, but the general arrangement suggests a date *c.* A.D. 65–80. The bowl is mended with a lead rivet. (FIG. 73, 40)
- 76B 61 i) Form 27, South Gaulish, with flattened bead-lip. Neronian.
 ii) Form 18, burnt, South Gaulish. Flavian.
- 76B 65 i) Form 29, see B 27, ii. *c.* A.D. 50–65.
 ii) Forms 27 (2) and 29 (2), South Gaulish. Neronian.

Period 2

Phase 2A

Interface between Phase 1C and Phase 2A

- 76A 11 i) South Gaulish ware ranging from the Neronian to the Flavian–Trajanic period, with forms 15/17 or 18 (over fired), 18 (6, one with a stamp no. 21), 18R, 24 (with illegible stamp), 27 (3), 29, 30, 36, 37 (one with a sherd in B27, iii, the other with sherds in B5 and C2), Ritt. 12 (small) and Ritt. 12 or Curle 11 (2).
 The form 30 has a semi-cursive signature]BINI in a panel which probably has a leaping dog (Hermet 1934, pl. 26, 35). The adjacent panel has rows of pointed leaf-tips. The basal wreath is composed of trilobed motifs. The most likely candidates are Albinus iii and

Sabinus iii, both of whom signed form 30 moulds. There is nothing in the decoration to suggest which potter made this bowl, but it is worth mentioning that Albinus used serif points on his letters, as here, but Sabinus apparently did not. A date *c.* A.D. 50–65 should cover the possibilities. (FIG. 71, 17)

- ii) Form 37 rim, from Les Martres-de-Veyre. Trajanic or early-Hadrianic.
 - iii) Dish, Central Gaulish. Hadrianic or Antonine.
 - iv) Form 37, Central Gaulish, with other sherds in A10, 12; B20A. The potter who made this bowl seems never to have used *ovolos*, usually defining the upper limit of his decoration with a bead-row, instead. Two of his bowls (from Dorchester, Dorset, and York), have partly-impressed acanthus leaves in the background, as here. The Dorchester bowl also has the warrior (not in D. or O.) and this figure-type is on a bowl in his style from Wroxeter (Bushe-Fox 1913, fig. 15). Some of his motifs and figure-types, but not the lion (O.1425?), boar (D.833) or warrior, were used by Drusus ii, and the style is not unlike his earlier one. Hadrianic. (FIG. 71, 18)
 - v) Form 36, East Gaulish. Late second or early third century.
- 76A 33
- i) Forms 15/17 (2), 15/17 or 18 (2), 18 (7), 27 (3), 29 (4, one from the bowl in A 58, i), Ritt. 12, a dish and a cup, South Gaulish. Neronian.
 - ii) Forms 18 or 18/31 and 37, South Gaulish. Flavian–Trajanic.
 - iii) Forms 18/31 (3), 37 (burnt, in the style of X-2) and a scrap, from Les Martres-de-Veyre. Trajanic.
 - iv) Forms 18/31R and 31R and 38, Central Gaulish. Antonine.
- 1976A 41
- i) South Gaulish ware, mainly Neronian, but with at least one early Flavian piece, comprising forms 15/17, 15/17 or 18 (4), 18 (2), 24, 27g (with stamp no. 187), 27 (2), 29 (2, one with other sherds in B20D and 27), 30, 33a, 37 (2, one in the style of Germanus i), 67 and five scraps.
 - ii) Forms 18/31R, 30 or 37 (base) and 37 (in the styles of X-2 and X-3 — i.e. Drusus i), from Les Martres-de-Veyre. Trajanic.
 - iii) Form 18/31 or 31 (2), Central Gaulish. Hadrianic or early-Antonine.
- 76A 58A
- South Gaulish ware, all pre-Flavian, with forms 18, 18R, 27, 29, an inkwell (*cf.* A58B) and three scraps.
- 76A 133
- i) Forms 27, Ritt. 12 or Curle 11 and a scrap, South Gaulish. Neronian or early Flavian.
 - ii) Form 37, see B 27, iii. *c.* A.D. 70–90.
 - iii) Two fragments of form 15/17R, South Gaulish. Neronian.
 - iv) See B20.

Building 24

- 76A 133 See above.
- 76A 134 Form 27, South Gaulish. Pre-Flavian.
- 76A 154 Fragments of form 24, some joining, South Gaulish. Claudio–Neronian.

Shallow ditch 34/55

- 76A 34
- i) Forms 18(R?) and 29, South Gaulish. Pre-Flavian.
 - ii) Form 18, South Gaulish. Flavian.
- 76A 55
- i) Form 18R (4 joining sherds), Flavian.
 - ii) Form 29. Lower zone, with a scroll with stirrup-leaf below a leafy wreath. *c.* A.D. 70–85.
 - iii) Dish footring. All South Gaulish. First century.

Pit 126

- 76A 126
- i) Form 18, South Gaulish. Flavian.
 - ii) See stamp no. 193.

Ermin Street ditch fill

- 76B 20A
- i) South Gaulish ware, ranging from the Neronian to the Flavian–Trajanic period, with forms 15/17, 15/17 or 18 (with stamp no. 188), 15/17R or 18R, 18 (MNV 13), 18R, 27/27g (MNV 6), 29 (7?, including one with sherds in B 27, ii, etc.), 30, 30 or 37, 35 (2), 35/36, 36, 37 (8, including one from a bowl in B5 and another (340) with a lead rivet and traces of two more, from a bowl in B13) and Curle 11 (2?).

- ii) Form 27, in one of the micaceous fabrics with orange glaze produced at Lezoux in the first century. The distribution of these wares in Britain is mainly in the southern half, but more examples have recently been found at northern sites and several vessels are known from Camelon. The Wanborough piece will either be late Neronian or early Flavian. The upper wall is much more curved than the second-century Lezoux examples.
 - iii) Forms 18/31 and 37, from Les Martres-de-Veyre. Trajanic.
 - iv) Central Gaulish ware, mainly from the latter half of the Antonine period, with forms 18/31, 18/31R, 30, 33, 37 (7, including bowls in the styles of the Cerialis ii–Cinnamus ii group, Cinnamus in his later style and Divixtus i (with a sherd in B20A), also a bowl with other sherds in A11, iv, etc.), 38 or 44 (with stamp no. 261), 38 and a gritted samian mortarium.
 - v) Form 31, East Gaulish. late second or third century.
- 76B 20B
- i) South Gaulish ware, mainly Neronian, but with some Flavian material. It comprises forms 15/17 or 18 (4), 18 (6), 18R (3), 27g (with stamp no. 251), 27 (3), 29 (5, one riveted), 35, 37 (3, one with sherds in B 27 iii, etc.), Ritt. 12 (riveted), four cups and a scrap.
 - ii) Form 18/31, with stamp JI·M, stamp no. 347, Central Gaulish. Hadrianic.
 - iii) Form 31 (?), Central Gaulish. Antonine.
 - iv) Form 37, Central Gaulish, with another sherd in B20A. The ovolo is Rogers B103; the panels contain: 1A) A saltire, impressed horizontally, including a cornucopia (Rogers U117); 1B) Victory? (D.474) and an athlete (D.375). 2) Diana and hind (D.64). All the details are on a stamped bowl of Divixtus i from York, which might well be from the same mould (S. & S. 1958, pl. 115, 6). *c.* A.D. 150–80. (FIG. 72, 31)
- 76B 20C See Period 1, Phase 1C.

Phase 2B

Building 28

- 76A 36
- i) Form 27 and a dish fragment, South Gaulish. Flavian.
 - ii) Form 31, Central Gaulish. Early to mid Antonine.
 - iii) Form 37, Central Gaulish, with bands of rouletting replacing the more usual moulded decoration. Rouletted versions of forms 30 and 37 were made in both Central and East Gaul. The earliest Central Gaulish examples are probably Hadrianic. This particular piece is not closely datable within the second century.
- 76A 42 Forms 18R (slightly burnt) and 27(?), South Gaulish, both probably Flavian.
- 76A 44
- i) Form 37, South Gaulish. Flavian.
 - ii) Form 37, in the style of Drusus i (X-3) of Les Martres-de-Veyre. *c.* A.D. 100–20.
 - iii) Form 18/31, from the East Gaulish factories at La Madeleine. Hadrianic–Antonine.
 - iv) Form 31, with stamp no. 210. *c.* A.D. 155–90.
- 76A 44A Form 33, with stamp no. 230. *c.* A.D. 160–90.
- 76A 45 Form 18, slightly burnt, South Gaulish. First century.

‘Oven’

- 76A 35
- i) Cup or bowl and form 29, South Gaulish. Neronian and *c.* A.D. 70–85, respectively.
 - ii) Form 37, Central Gaulish. The freestyle(?) decoration includes a small, double medallion, a fan-shaped plant (Rogers G17) and a tripod (Rogers Q7). The first two details suggest X-5, though the tripod is not known for him. *c.* A.D. 125–40. (FIG. 72, 24)
 - iii) Form 31, Central Gaulish. Early to mid Antonine.
 - iv) Form 37, Central Gaulish. Scroll decoration, with a leaf smaller than Rogers H22. The style is that of the Cerialis ii–Cinnamus ii group, or perhaps Cinnamus ii in his developed style. *c.* A.D. 140–170.
 - v) Form 18/31, probably La Madeleine ware. Hadrianic–Antonine.
- 76A 37B Forms 18 and 27, South Gaulish. Neronian or, more probably, early Flavian.
- 76A 48
- i) Form 24, South Gaulish. Pre-Flavian.
 - ii) Form 18, South Gaulish. First century.

Ermin Street ditch fill

- 76B 20
- i) South Gaulish ware, mainly Flavian, but with some pre-Flavian pieces, with forms 15/17, 18 (7), 18R, 27 (2), 29 (5), 29 or 37, 37 and a bowl. One form 29 (two fragments in B20 and others in A20, A133) has a lower zone of alternating festoons and composite motifs.

The festoons contain elongated, heart-shaped leaves and two kinds of webbed leaf. Smaller heart-shaped leaves form part of the intervening motifs, whose central stems have five and four-bladed plants at the top and bottom, respectively. The same general arrangement of the zone occurs on bowls in a Claudio–Neronian group at La Graufesenque, stamped by Ardacus and Gallicanus. The smaller heart-shaped leaf is on a bowl from Nijmegen stamped by Felix i. The festoon and five-bladed plant are on bowls stamped by Labio, from London (British Mus.) and Rheingönheim (Knorr 1919, Textbild 43), respectively, *c. A.D.* 50–65. (FIG. 72, 30)

- ii) Forms 18/31, 37 and a bowl, from Les Martres-de-Veyre. Trajanic.

Ditch fill stratified below road

- 76C 13 i) Forms 15/17R, 29 and a scrap, South Gaulish. Neronian–Flavian.
ii) Form 38, Central Gaulish. Antonine.

Interface between Phase 2B and Phase 3A

- 76A 20 i) Form 29, South Gaulish, stamped OF 2ILVAN (stamp no. 279). The lower zone has a scroll, with crossed leaf-tendrils in the upper concavities and small roundels. The lower concavities are filled by rows of leaf-tips. The crossed tendrils are common in the period *c. A.D.* 50–65. The filling of whole concavities with leaf-tips, and the roundels, are features of Hermet's 'Canrucatus-Vegenus' style (i.e. Cabucatus and Regenus), though no stamps are illustrated (Hermet 1934, pl. 103, 10; 104, 24–5). The same general arrangement occurs on a bowl from La Graufesenque stamped by Mommo (*ibid.*, pl. 106, 9) and on another, from the same mould, which probably has his cursive signature (*ibid.*, 8). *c. A.D.* 55–65. (FIG. 71, 19)
- ii) South Gaulish ware, ranging from the Neronian to the Flavian–Trajanic period, with forms 15/17 or 18 (stamped V[or]Λ), 18 (several), 18R, 24, 27 (several), 29 (several, one from the bowl in B20, i), 35, 36, and 37 (several).
One form 37 (with another sherd in B 1) is by a potter imitating the style of Germanus i, using his type of tree and similar, but slightly different, festoons and spindles. The leaf, an uncommon one, is perhaps based on one of Germanus's (*cf.* Hermet 1934, pl. 101, 35–6). The animal is a deer (*ibid.*, pl. 27, 23). Flavian or Flavian–Trajanic. (FIG. 71, 20)
- iii) Forms 18/31, 27, 33, 33a, 37 (in the style of X-2) and 42 or an early variety of form Curle 23. All from Les Martres-de-Veyre and Trajanic, apart from two Hadrianic pieces.
- iv) Three large, joining fragments, giving the greater part of a bowl of form 37. Though in Lezoux fabric, this bowl may well have come from a mould made at Les Martres-de-Veyre. The style is that of one of the potters who supplied moulds to Medetus and Ranto there, but may have migrated with them to Lezoux. Unfortunately, the cursive signature below the decoration is too fragmentary for identification. Only the running hare has apparently not been recorded before on bowls in this style. The eagle (not in D. or O.), Diana (D.67), Perseus (D.145), Hercules (D.446), Victory (D.484) and ovolo (Rogers B59) are all on a bowl from London (S. & S. 1958, pl. 34, 402) which has details used frequently by this mould-maker. The sitting hare (*ibid.*, pl. 32, 377), twist (Rogers U103), and rosette (Rogers C229) were also used by him. His range at Les Martres is probably *c. A.D.* 110–25 and, at Lezoux, 125–45. (FIG. 71, 21)
- v) Forms 18/31 (2, one burnt), Central Gaulish. Hadrianic.
- vi) A Central Gaulish fragment, from a vessel with a very thick wall and base. Perhaps from one of the unusually large form 33s occasionally made at Lezoux in the Hadrianic and early Antonine periods.
- vii) Forms 18/31R, 31 (several, one stamped IV[], 33 (several, one stamped]M, another drilled for a rivet), 38 (2) and 37 (several), all Central Gaulish and Antonine.
The latest piece is from a freestyle bowl in the style of Paternus v, with his characteristic striated spindles. *c. A.D.* 160–95.

OTHER CONTEXTS

- 66 B90.3 Form 37, Central Gaulish. A tiny bowl with borders of coarse rhomboidal beads. The surviving panels contain 1) An amphora carrier (D. 365). 2) A single medallion, containing a trifold motif (Rogers G56, reduced?). The ovolo (Rogers B157), figure, trifold motif, and both vertical and horizontal borders appear on stamped bowls of Banuus. Small bowls are

- frequently badly made and are perhaps the work of apprentices, rather than established potters. On this bowl, one foot of the figure is impressed over both basal ridges and the surface was badly scored, before firing. *c.* A.D. 160–190. (FIG. 70, 1)
- 67 B234 Form 37, from the South Gaulish factory at Carrade. The split-tongued ovolo (Pauc 1973, pl. S644–657 XV, 1b) and chevron wreath below it (*ibid.*, 1) are common motifs for Carrade. The fabric is very fine-grained, rather like some in the range produced at Les Martres-de-Veyre and there is an internal groove below the lip, as on form 30. No close dating evidence has yet emerged for Carrade, but the superficial resemblances to La Graufesenque ware suggest that bowls with this wreath are Flavian. (S655). (FIG. 70, 2)
- 67 B643 Form 37, Central Gaulish, in a curious, yellowish fabric with brown glaze. The faint cursive S811 signature below the decoration, Sis [], retrograde, from a mould signed before firing, belongs to Sissus ii. The panels include: 1) a vertical, zigzag motif (Rogers P71). 2) Figure to left (D. 202). 3A) Acanthus (of the type Rogers K5–14). The rosette-like motifs at the bottom of the borders are Rogers U25. The zigzag motif and rosette appear on bowls from Lezoux and Camelon, respectively, both with an ovolo used by Curmillus and, probably, Sissus and Priscinus. *c.* A.D. 130–160. (FIG. 70, 3)
- 68 B202 Form 37, South Gaulish. A bowl in Montans fabric, with a somewhat disorganised design S11 over a chevron wreath. The composite motifs, a spiral and wreath of (larger) chevrons opening to the right are all on a stamped bowl of Felicio iii from London (formerly Guildhall Museum). He belonged to a group of potters who worked at Montans in the period *c.* A.D. 120–145, and whose wares turn up in Antonine Scotland. (FIG. 70, 4)
- 68 S114, Two joining fragments of form 37, South Gaulish. The basal chevron wreath, crenellated 136 borders, and panels of arrowheads were used at the minor South Gaulish factory of Carrade (*cf.* Pauc 1973, pl. XX, 4). The groove below the decoration occurs on another Carrade bowl from Wanborough (FIG. 70, 2). For a fan-shaped motif similar to, but smaller than, the one in the saltire, see *ibid.*, pl. XIX, 2; XX, 1–2. However, all the motifs occur on bowls from Espalion, itself a possible kiln site (Tilhard 1991). One of these has an almost identical saltire. The ovolo, with tongue turning slightly to the right at the bottom, the arrowheads and the borders are on several bowls from Espalion with mould signatures of a Primus, almost certainly not the same man as any of the other South Gaulish potters of that name. The origin of this bowl must remain uncertain for the present, but a Flavian date is scarcely in doubt. (FIG. 70, 5)
- 68 B287 Form 37, South Gaulish. Apart from the leaves in the scroll, the decoration is identical to that (S215, 231 of a bowl in the Pompeii Hoard (Atkinson 1914, no. 41). The rosette-tongued ovolo is on a 246–8, form 37, with handles and a spout, from La Graufesenque. This has a cursive signature, 250–1, Calvo, in the decoration and a plain-ware stamp of Patricius i on one of the handles. The sig- 256, 278 nature is almost certainly that of Calvus i, who used the swans (Hermet 1934, pl. 28, 34 and and, 36) and the almond leaf of the Wanborough bowl on form 29 examples from York and probably, London, respectively. The goose is one of the pair Hermet 1934, pl. 28, 68. The other animals, 273.) a dog and two hares, are not closely identifiable. *c.* A.D. 70–90. (FIG. 70, 6)
- 68 B297 Four fragments of form 29, South Gaulish, stamped OFPRI[MI] (stamp no. 224). The S239–42 arrangement of the lower zone is generally similar to a bowl from London stamped with the same die of Primus iii, which seems to have the same motifs. The decoration of this bowl suggests that it is one of Primus's later ones, and the stamp itself tends to occur on his later wares. *c.* A.D. 60–75. (FIG. 70, 7).
- 68 B331 Form 37, Central Gaulish. The ovolo (Rogers B102) is known for Advocisus, Clemens iii, S330 Priscus iii, and Martio ii, but the style of decoration does not fit any of them. The rosettes are Rogers C251(?) and C98. A double medallion, perhaps the same as one used by Priscus, contains both rosettes and the larger rosette appears also in the field. *c.* A.D. 160–190. (FIG. 70, 8)
- 69 BIV 1 (Seven fragments, with two more, joining, in B IV 2). Form 37, Central Gaulish, with cursive signature of Drusus ii, Drus[] retrograde below the decoration. The ovolo (Rogers B61) occurs on signed Drusus bowls from Doncaster and Castleford. A narrow panel with a candelabrum (a smaller version of Rogers Q40), centaur (O.735A) and beaded ring (Rogers C293) recurs more than once, but the precise sequence of the panels is not obvious. The adjacent panel contains a festoon (Rogers F41) with a dolphin (not in D. or O.), over a panther (D.804), over a pygmy (O.696A). Another series of panels consists of: 1) A Cupid(?). 2) A tambourine dancer (D.210), perhaps over the beaded ring. 3) Hercules (D.469), to the left of a rosette

- (Rogers C87), over a beaded ring and fan-shaped plants (Rogers H113), impressed stem-to-stem. Most of the details are already recorded for Drusus (S. & S. 1958, pls 88–9). *c.* A.D. 125–145. (FIG. 70, 9)
- 69 EVII 3 Form 37, from the East Gaulish factories at Blickweiler. The ovolo (here overrun) is on a stamped bowl of L. A- L- from Arentsburg. The man is O.639, the Cupid approximates to O.431B and there are no parallels for the panther. The fabric, ovolo, and beads are all consistent with manufacture at Blickweiler, though the identified figure-types belong to the Lezoux range, and probably originated there. Antonine. (FIG. 70, 10)
- 70 F I 6 (With another sherd in F I 2 W.) Two joining fragments of form 37, in the fabric of Les Martres-de-Veyre. The ovolo (Rogers B40) was used by X-8 and X-9, mould-makers associated with Medetus. The butterfly motif (Rogers U106) and acanthi (Rogers K2, partly impressed) were both used by these potters. The figure-types are a horseman (O.263 variant), bird (O.2267A), and panther (O.1543). The small leaf is perhaps Rogers J79. *c.* A.D. 100–120. (FIG. 70, 11)
- 70 F III 7 (With another sherd in G I 24.) Form 37, Central Gaulish. The small bird is on a signed bowl of Sissus ii from Lezoux and similar spirals appear on bowls which are almost certainly to be attributed to him. The triple-bordered medallions, with faint inner border, are unparalleled in his work and have not been noted for any other Central Gaulish potter. *c.* A.D. 130–160. (FIG. 70, 12)
- 70 G III 1 Three joining fragments of form 37, Central Gaulish, stamped CON[DOLLIMA] retrograde, below the decoration (see stamp no. 63). The ovolo is not illustrated by Rogers. The other details comprise pygmies (D.437 and one not in D. or O.), a bear (O.1626), a boar (D.825?), a stag (O.1732A, with shorter horns), a mask (D.675 variant), a fan-shaped plant (Rogers G18), a chevron (Rogers G280?), and leaves (Rogers H72 and one like Rogers H165, but smaller). Most of these are on two bowls from Corbridge, one with a Condollus stamp, the other in his style (S. & S. 1958, pl. 90, 1, 2). *c.* A.D. 130–160. (FIG. 70, 13)
- 70 G I 17 (With other sherds in G I 5 and 18.) Form 37, Central Gaulish. The single bordered ovolo (Rogers B28), has a faint guide-line below it, in the manner of Quintilianus i and his associates but, unusually, without an accompanying wavy-line border. The decoration apparently consists of alternating panels, thus: 1) A double-bordered medallion, with fainter inner border, containing a Pan-mask (D.675). This has a pygmy (D.440) to one side and a boar (not in D. or O.) below, over a fan-shaped motif (Rogers G259). To the left of the boar is a small, naked figure (O.658C?). This panel also includes an eight-beaded rosette (Rogers C281) and an arrowhead motif (Rogers U294). 2) An arcade (Rogers F32), supported by striated columns (Rogers P37), containing the arrowhead motif, as in 1), a leaf (Rogers G208) and a Venus (D. 175), on a tier of cups (Rogers Q84). The acanthi at the top of the panel borders are Rogers K11. The style of this bowl does not indicate which member of the Quintilianus group was responsible for it, but a date *c.* A.D. 125–145 is not in doubt. (FIG. 70, 14)
- 70 J III 3 Form 37, South Gaulish. Panelled decoration, over a chevron wreath. The groove under the decoration has removed part of the wreath. La Graufesenque bowls normally have closing ridges, rather than grooves, and the chevrons and other details suggest that this piece is not from there, but from the minor South Gaulish factory at Carrade (Lot). For a bowl with a closing groove, see Pauc 1973, pl. 8, and for the hooped arrangement and the chevron, pl. 20, 7. For the date, *cf.* 1967, B234 S655, above. Probably Flavian. (FIG. 70, 15)
- 76 U/S (Eight joining sherds, including some in C U/S.) Form 37, Central Gaulish, in Lezoux fabric, but with decoration in the style of one of the anonymous potters who made moulds for Donnaucus at Les Martres-de-Veyre. From the evidence of the motifs on this bowl, the potter, Rogers's X-13, is almost certainly Sacer i, who is known to have started his career at Les Martres. He used the ovolo (Rogers B14), goat (D.899), bird (O.2315A), and double-D motif (Rogers U180) at Lezoux but, so far, the other details are not attested for him there, though most appear at Les Martres on bowls in the so-called 'Donnaucus style'. They are: horse (S. & S. 1958, pl. 42, 487), Cupid (D.245), bear (O.1627), panthers (smaller than O.1566 and 1573D), rosette (perhaps Rogers C229, though with more petals), trophy (Rogers Q64), acanthus (Rogers K10), and leaf (Rogers J127). For the wreath, *cf.* S. & S. 1958, pl. 37, 432. The date of this bowl depends on whether the mould was at Les Martres or Lezoux. If at Les Martres, *c.* A.D. 110–120 is likely; if from Lezoux, *c.* A.D. 120–145. (FIG. 71, 16)

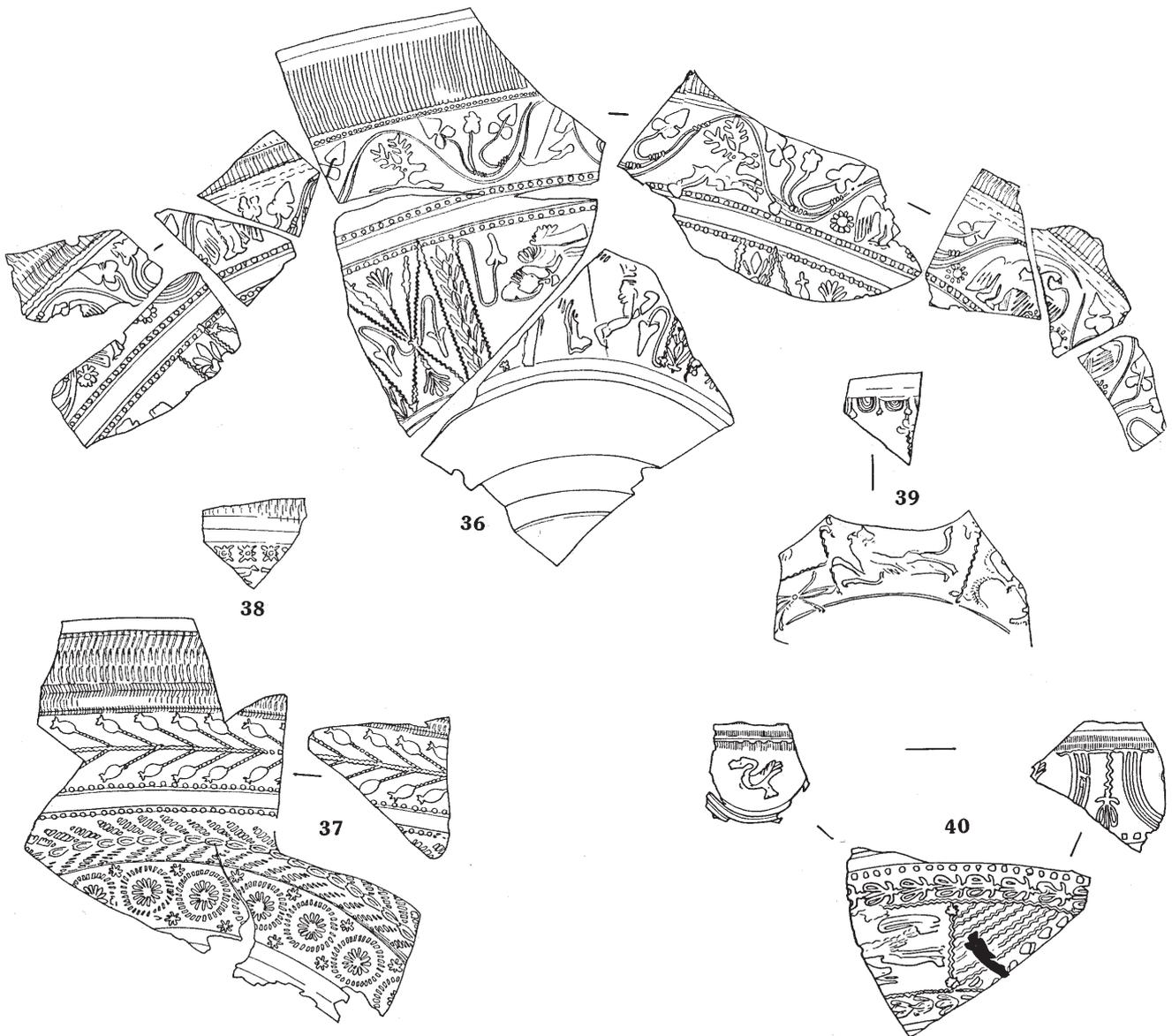


FIG. 73. The decorated samian. Scale 1:2.

- 76 B2 (With B 7.) Form 37, Central Gaulish. The ovolo (Rogers B108), border, vine-scroll (Rogers M29) and rosette (Rogers C200?) are on bowls either stamped by, or in the style of, Maccius of Lezoux. The Pan or Actaeon head (not in D. or O.) and seated figure (either O.291 or D.555) are not known for him. Maccius was one of the earlier potters in the Paternus v group; his plain forms include 18/31, 18/31R and 27. It is just possible that this bowl is by Maccirra, whose style is very similar to that of Maccius but the parallels with Maccius's style suggest that it is more likely to be him. *c.* A.D. 135–160. (FIG. 72, 27)
- 76 B5 Form 37, in the style of Cinnamus ii of Lezoux. The D-motif (of the type Rogers U179–183) is not common in his work, but occurs on a stamped bowl from Vichy (S. & S. 1958, pl. 158, 14). The leaves (Rogers G203) and medallion (Rogers E31) are on a bowl from London with a similar scroll (S. & S. 1958, pl. 162, 58). The acanthus (of the type Rogers K16–26) is on a bowl from Corbridge (*ibid.*, pl. 158, 16). *c.* A.D. 150–180. (FIG. 72, 28)
- 76 C2 Two joining fragments of form 29 rim and upper zone, in orange fabric and glaze. These belong to the first century Lezoux range and are better than most, with a more lustrous glaze

than usual and a non-micaceous fabric. For the zone of squarish rosettes below the rim *cf.* Martin 1942, no. 516, p. 200, 18. Most first century Lezoux ware in Britain is Neronian or early Flavian, confined to certain areas, mainly the South and Midlands, though it turns up occasionally in Scotland and at Flavian foundations in Wales. This piece is Neronian or early Flavian. (FIG. 73, 38)

- 76 C169 (With C U/S and C70.) Form 37, Central Gaulish, grooved for rivets. The ovolo and leopard (D.971) are on a stamped bowl of Pugnus ii from a pit of *c.* A.D. 150–160 at Alcester. The zigzag borders and trilobed junction-masks (Rogers G109) are on a stamped bowl from Corbridge (S. & S. 1958, pl. 153, 3). The trifold motifs are Rogers G32 and the ram's-horn motifs are similar to his G365. This bowl is in one of Pugnus's earlier styles. *c.* A.D. 130–150. (FIG. 73, 39)

THE POTTERS' STAMPS By Brenda Dickinson (FIG. 74)

The superscripts a, b, c, indicate:

- a) A stamp attested at the pottery in question
- b) Not attested at the pottery in question, though the potter is known to have worked there.
- c) Assigned to the pottery on the evidence of fabric, distribution, etc.

In the following catalogue, underlining indicates ligatured letters.

1. B1977/258 Acurio 5a 38 ACV[RIO·I] (Walke 1965, Taf. 40, 51–2) Lezoux.^a A stamp noted on forms 79 and 80 but also, once, on form 27. His other stamps appear on forms 18/31 and 18/31R. *c.* A.D. 155–170.
2. B1977/258 Advocisus 1a 33 ADVOCIS[IO] Lezoux.^a This stamp occurs at Binchester, on Hadrian's Wall (Chesters Mus.) and on forms 79 and 80. *c.* A.D. 160–190.
3. 69 B XII 2 Advocisus 1b 33 ADVOCIS[IO] Lezoux.^b A stamp occurring at Ilkley and in an early-Antonine pit at Alcester. It was used on forms 79 and 80. *c.* A.D. 160–190.
4. C /US Advocisus 2a 38 or 44 [ADVO]CIS[IO] Lezoux.^a A stamp used on forms 31R, 79, 80 and Ludowici Tx. It occurs at Catterick (2) and Malton. *c.* A.D. 160–190.
5. 69 B VII 1 Advocisus 2a 38 ADVOCISI-O. See no. 4.
6. B1977/258 Advocisus 2a 31R (burnt) ADVOCIS[I-O]. See no. 4
7. S406 Advocisus 8a 37 [ADV]OCISI (S. & S. 1958, pl. 169) Lezoux.^a Decorated bowls with this stamp occur at northern forts reoccupied *c.* A.D. 160 and in the group of samian from the Wroxeter Gutter. *c.* A.D. 160–190.
8. B1977/258 Aestivus 3c 31R AE[STIIM] (Walke 1965, Taf. 40, 53) Lezoux.^a A stamp used mainly on form 31R, but noted also on form 79. It occurs at Haltonchesters and Binchester. *c.* A.D. 160–180.
9. A IX 1 171 Alaucus 1a 33 [ALAVC]MA Lezoux.^a Alaucus worked in the Antonine period. This stamp is known from Ilkley and was used on forms 38 and 80. He also made form 79. *c.* A.D. 150–180.
10. C XXXIX 171 Albillus i 2a 33 ALB[ILLI-M] Lezoux.^a Albillus's stamps occur on Hadrian's Wall and at Hinterland forts. This particular one is known from Chesters and Ilkley. Another comes from a late-Antonine pottery store at Corbridge (*Archaeol. Aeliana*, 3 ser. 4, 1908, 254). His forms include 18/31R and 31R (both stamped with Die 2a) and 79. *c.* A.D. 155–185.
11. B1977/258 Albinus iv 7a 18/31 ALBINVS·F (Steiner 1911, no. 7) Lezoux.^a Many of Albinus's stamps, including this one, occur in the Rhineland, suggesting that much of his activity was before *c.* A.D. 150. His wares also reached Scotland (Castlecary and Castledykes). *c.* A.D. 130–160.
12. B1977/258 Albucianus 6e 38 or 44 [AL]BVCIANI (Dannell 1971, 300, 4) Lezoux.^b Albucianus's stamps occur in the group of late-Antonine samian from the Pudding Pan Rock wreck, at Northern forts reoccupied *c.* A.D. 160 and on forms 31R, 80, 79 and 79R. *c.* A.D. 160–200.
13. 69 C X 1 Albucianus 6g 38 [AL]BVcIANI Lezoux.^a There are several examples of this stamp from the Pudding Pan Rock wreck. It occurs also on Hadrian's Wall, at Bainbridge and on forms 31R and 79. *c.* A.D. 160–200.
14. B1977/258 Albucius ii 4b 31R ALBV[CIM] Lezoux.^b Albucius's forms include 27, 79 and Ludowici Tg. The form of the Wanborough piece suggests a date *c.* A.D. 160–180.
15. 69 A XVI 1 Albucius ii 6b 31 ALBV[CI] (Miller 1922, no. 1) Lezoux.^a This stamp appears on forms 18/31, 27 and 42 and so is perhaps from one of his earlier dies. It was also used on form

- 31R, however. It is noted from an early-Antonine burial at Rougham and from Hadrian's Wall. *c. A.D.* 150–170.
16. 69 A VI 3 Albucius ii 6h 30 [ALB]VCI (S. & S. 1958, pl. 120, 1) Lezoux.^a This large label stamp occurs on decorated bowls from Hadrian's Wall, Antonine Scotland and the Wroxeter Gutter. *c. A.D.* 150–180.
 17. B X 27 422 Albus i 9a 27g ALBV[S-FE] (Polak 2000, pl. 1, A37) La Graufesenque.^a This stamp appears on both plain and decorated ware, the latter with details suggesting a date *c. A.D.* 50–65. (FIG. 74)
 18. B1977/258 Andegenus Incomplete 1 79]ANDEGENIM.. Lezoux.^c No other examples of this stamp are known. His others occur in groups of samian of *c. A.D.* 150–160 from Alcester and *c. A.D.* 170 from TÁC (Hungary), and he occasionally made form 18/31. His range, therefore, is *c. A.D.* 150–180, but this dish belongs to the period *c. A.D.* 160–180.
 19. 69 B IV 2 Anniano 1a 33a ANNIAOF retrograde (Terrisse 1968, pl. LII) Les Martres-de-Veyre.^a The form and fabric of this piece, and the occurrence of the stamp at Ilkley suggest a Trajanic date. *c. A.D.* 100–125.
 20. B1977/258 Apolinaris 1a 27 APOLINAR[IS]. Apolinaris is known to have worked at the Terre-Franche kilns at Vichy, where he may have used this die. However, many of the stamps from it, including the Wanborough one, are in fabrics which suggest origin at Les Martres-de-Veyre, and their distribution is consistent with this. Die 1a is usually on form 27, though examples of forms 18/31 and, probably, 33a have been noted. One of the stamps from this die is in the Saalburg *Erdkastell* (before A.D. 139: Hartley 1970, Abb. 2, 8) and one from another die, also probably from Les Martres, occurs at Camelon. *c. A.D.* 120–145.
 21. A IX 11 535 Aquitanus 2a 18 OFAQVITAN (Polak 2000, pl. 2, A58) La Graufesenque.^a This stamp was reserved mainly for form 29. The associated decoration suggests a date *c. A.D.* 45–65. (FIG. 74)
 22. A III U/S 672 Aquitanus 12a 33? AQVITAN (Polak 2000, pl. 2, A68) La Graufesenque.^a A stamp noted in Period I at Valkenburg and Zwammerdam. It occurs on forms 24 and Ritt. 8. *c. A.D.* 45–65.
 23. B X 28 435 Ardanus 4a (probably) 24 OΛ[RDAN] La Graufesenque.^a The site dating for this stamp includes Claudio-Neronian groups of samian from La Graufesenque and Narbonne, La Nautique (*Archaeonautica* 2, 1978, no. 9) and Period I at Valkenburg (Glasbergen 1955, no. 167) and Zwammerdam. *c. A.D.* 40–60. (FIG. 74)
 - 24–5. B1977/258 Atilianus i 2b 79 or Ludowici Tg ATI[LIANIO]; 31 [ATILI]ANIO (Durand-Lefebvre 1963, 32, 104) Lezoux.^a This stamp was used on forms 31R, 79 and 80. Atilianus is represented in the group of late-Antonine samian from Pudding Pan Rock wreck. *c. A.D.* 160–200.
 26. Ashmolean Mus. 1960.116 Atilianus i 2c 33 ATILIANI·O Lezoux.^a This stamp was used on forms 31R, 79, 80 and Ludowici Tg. *c. A.D.* 160–200.
 - 27–8. C XXXIX 76 310, B1977/258 Atticus ii 2b 33 A·T·T·IC·I·M Lezoux.^a Atticus's wares occur in the Rhineland and in a group of burnt samian of *c. A.D.* 140–150 at Castleford. His range of forms includes 18/31R, 27, 79 and 80. This particular stamp, which was used only on form 33, occurs at Bainbridge. *c. A.D.* 140–170.
 29. B1977/258 Attillus v 2d 31 ATTILLIM Lezoux.^b This potter's use of forms 31R and 80 and the style of his decorated ware suggest a range *c. A.D.* 155–185.
 30. 70 F I 3 Aucella 1a 33 AVCELLA·F Lezoux.^a A mid- or late-Antonine date is suggested by the use of this stamp on form 80. Stamps from other dies occur at Chesterholm and Corbridge. *c. A.D.* 150–190.
 31. 68 S62 Aucella 1a 33 AVCELLA·F. See no. 30 for the date.
 32. C XX, XXVI, XXXII U/S 313 Balbinus 2a 18/31 IIIIBINHM (Vanvinckenroye 1968, 26, 7) Les Martres-de-Veyre.^a The lettering of this die degenerated rapidly, so that BALBINHM is often misread as Enibinim. This stamp occurs in the London Second Fire groups. It was occasionally used on form 15/17, which at Les Martres was only made in the Trajanic period. *c. A.D.* 100–120.
 33. 68 S435 Balbinus 2a 18/31 [II]IIBINFM. See no. 32 for the date.
 34. B1977/258 Belsa Arve(rnicus?) 1a 33 BELSA·ARVEF (Dickinson 1986, 187, 3, 19) Lezoux.^a This stamp occurs in groups of late-Antonine samian from Lezoux and Pudding Pan Rock. It was used on forms 31R, 79 and 79R. *c. A.D.* 170–200.
 35. A III U/S Biragillus ii 7a 27 BIR[ACILLI] Les Martres-de-Veyre.^a A stamp recorded from

- Corbridge and in the London Second Fire. His other stamps occur at Catterick and Ilkley. *c.* A.D. 100–120.
36. 70 JVII 3 Biragillus ii 7a 27 [BIRA]GILLI. See no. 35 for the date.
37. AVII U/S 268 Borio 1a 31R BORIO[MA] Lezoux.^a Borio is only known to have used this one stamp, which appears on forms 31, 31R, 33 and 38. A range *c.* A.D. 150–180 is likely.
38. B1977 U/S L. C—Celsus 13a 15/17R or 18R CILSIW, Le Rozier.^b This is one of the less-common stamps of a potter who seems to have worked only at Le Rozier, a branch firm of La Graufesenque active in the Neronian–Flavian period, where its output included Neronian forms, as as 24, Ritt. 8 and Ritt. 9. Stamps from several of the potter’s dies, but not this one, occur in a group of unused samian destroyed by fire at Oberwinterthur, Switzerland. The date of this destruction indicated by the samian is in the early 60s. Few of his known decorated bowls have surviving decoration, but what there is suggests a Neronian–Flavian date. *c.* A.D. 60–75.
39. B XVI O U/S Cabiatus 1a 29 CABIAVSI (Polak 2000, pl. 4, C1). Cabiatus’s decorated bowls are mainly Flavian, but some are earlier, including one from a group of *c.* A.D. 50–60 at La Graufesenque. The Wanborough piece is probably to be dated *c.* A.D. 60–75.
40. S885 Calava 2b 31 [CAL]AVA·F (Simpson 1987, fig. 64, 41b) Lezoux.^a A stamp noted at Chesters and forts in the Rhineland. There are eleven examples in a group of burnt samian of *c.* A.D. 140–150 from Castleford. *c.* A.D. 130–155.
41. 69 A XVI 1 Calendio 1a 37 rim CA[LENDIO·F], Lezoux.^b This stamp appears on the rims of decorated bowls in the styles of Cinnamus ii and Laxtucissa. Calendio’s plain forms include 27 and 81 so a range *c.* A.D. 140–170 is likely.
42. 76 A VIII 1 50 Calendio 2a 18/31R [CALE]IDIO, Lezoux.^a This stamp is known from Balmuildy. It occurs on forms 18/31, 18/31R and 27, but also on form 79. His work appears in the Rhineland and one of his stamps was used on the rims of decorated bowls in the styles of Cinnamus ii and Laxtucissa. *c.* A.D. 140–170.
43. B1977/258 Calvus i 21a 27 C·ALVI retrograde (Mary 1967, Taf. 30, 39) La Graufesenque.^b A stamp noted from Caerleon, Chester, Chesterholm and the main site at Corbridge. *c.* A.D. 70–90.
44. 76 C XXXVIII 176 471 Carantus i 7a 15/17 or 18 [CARA]NT La Graufesenque.^a All the recorded examples of this stamp are on dishes. Both it and his other stamps are common at Flavian foundations, and one comes from Butzbach. *c.* A.D. 80–110.
45. 76 C XLVI 174 505 Carussa 2e 31R CARVSSAF Lezoux.^b There are many examples of Carussa’s stamps from Hadrian’s Wall and hinterland forts. This particular one occurs at Bainbridge. His forms include 38 and 79. *c.* A.D. 160–190.
46. B1977/258 Castus i 8a 15/17 or 18 [CA]STIOF, retrograde La Graufesenque.^a Castus i’s earliest forms include 25 and Ritt. 8 and 9, but his stamps occur occasionally at Flavian foundations, including York and the Nijmegen fortress site. *c.* A.D. 40–65.
47. B1977/258 Casurius ii 6a 27 [CAS]VRIVS, retrograde (Hermet 1934, pl. 110, 29 l, where it is mounted upside down) Lezoux.^b The only other recorded example of this stamp is from Chichester, also on form 27. Most of Casurius’s output is later than *c.* A.D. 160, but form 27 was probably not made after this date. One of his other stamps occurs in Antonine I at Birrens, and this also suggests activity before A.D. 160. The Wanborough piece is not likely to be earlier than the late 150s, however.
48. B1977/258 Catianus ii 4b 38 or 44 CAT·IANI·M, Lezoux.^b Catianus’s stamps appear on the later Antonine forms, such as 31R, 79 and Ludowici Tx, and there are many examples from Pudding Pan Rock. This particular stamp, however, was possibly used on form 27 and may be from a die in use before *c.* A.D. 160. *c.* A.D. 155–185.
49. 68 S17 Catianus ii 6a 33 CATIANVS, Lezoux.^b A stamp represented in the late-Antonine samian from Pudding Pan Rock. The die was used on forms 31R, 79, 80 and Ludowici Tx. *c.* A.D. 160–200.
50. 76 C XXIX U/S 178 Celsianus 8a 33 [CELS]IANIF (Nash Williams 1930, fig. 1, 15) Lezoux.^a A stamp which also occurs on Hadrian’s Wall and at hinterland forts. It was used on forms 31R, 79 and 80. *c.* A.D. 160–190.
51. A XXI U/S Celsianus 8a 33 CELSI[ANIF], Lezoux.^a See no. 50.
52. 76 C XXXVII 71 238 Censor i 2c’18 OFCHNA (Polak 2000, pl. 7, C118) La Graufesenque.^b A recut version of a die which originally gave OFCFNS. 2c occurs at Caerleon and 2c or c’ at the main site at Corbridge. *c.* A.D. 70–100.

53. S774 Censor i 3a 15/17 or 18 (slightly burnt) OF·GEN (sic) (Durand-Lefebvre 1963, 67, 204), La Graufesenque.^a A stamp common at Flavian foundations, including Carmarthen, York (2) and Inchtuthil. *c.* A.D. 75–95.
54. B1977/258 Censor i cursive 37 (below the decoration) Ciin retrograde, La Graufesenque.^b The signature was inscribed in the mould before firing, as probably were those of all the other known examples. Censor i made both forms 29 and 37, and his stamps are common at Flavian foundations. *c.* A.D. 75–100.
55. 68 S359 Cinnamus ii 5a 33 [CIN]NAMI, Lezoux.^a One of Cinnamus's earlier stamps, usually found on decorated moulds in styles recalling associates such as Cerialis ii and Paullus iv. It was also used on form 18/31R. The site record includes Cadder and Newstead. *c.* A.D. 140–160.
56. 70 GI 1 Cinnamus ii 5b 37 (CIN)NA(MI) retrograde (Walke 1965, Taf. 39, 11) Lezoux.^a This is the commonest of Cinnamus's stamps to occur on decorated ware. It occurs frequently on Hadrian's Wall and in Antonine Scotland, but is more common in Scotland. *c.* A.D. 150–180.
57. S550 Cinnamus ii. 5d 37 [CI]NNAMI retrograde, Lezoux.^a One of Cinnamus's earlier stamps, used only on decorated ware. The bowls involved are all in styles recalling associates such as Cerialis ii, whose cursive signature appears, with this stamp, on a bowl from Aquincum (*Fundber. aus Schwaben* 18, 1910, Taf. VI, 10). *c.* A.D. 140–170.
58. Ashmolean Mus. 1960.1121 Cintugenus 3a 31 CIIT[VGENI] (Dickinson 1996, fig. 142, 21) Lezoux.^a Most of the examples noted are on forms 31, 33 and 38, but there is one on form 79. *c.* A.D. 150–175.
59. CB 1 RL Clemens iii 1a flat base CLE[MENTS], Lezoux.^a This potter's decorated ware is mid- to late-Antonine and the stamp occurs on a form 37 mould, together with a stamp of Priscus iii. It is also known on form 79. *c.* A.D. 160–190.
60. 69 A VI 1 Clemens iii 1a 79 etc. [CLEME]NTS, Lezoux.^a A stamp used on forms 31R and 79. It also appears on decorated moulds, including two which also have stamps of Priscus iii. *c.* A.D. 160–190.
61. 76 C XXXVII 2 385 Cobnertus iii 1a 18/31R COBNER[TI·M], Lezoux.^a The earliest recorded examples of this stamp are on form 18/31R and in a pit of the 150s at Alcester. The latest are in a group of burnt samian of *c.* A.D. 170 from TÁC (Hungary). Cobnertus's stamps also appear on forms 31R, 79 and 80. *c.* A.D. 150–180.
62. B IV 1 Cocurus 1a 27 COCV[RVSF] (Williams 1948, 18, 3) Les Martres-de-Veyre.^c The use of this stamp on a variant of form 15/17R suggests a Trajanic date, since both forms 15/17 and its rouletted version were not normally made at Les Martres after *c.* A.D. 120–125. One Hadrianic example is known (from Stanwix), but the fabric of the Wanborough piece is consistent with a date *c.* A.D. 100–125.
63. 70 G III 1 Condollus 1a 37 (below the decoration) CON[DOLLIMA] retrograde, Lezoux.^c Condollus's forms include 18/31R, 27 and, possibly, 79. This particular stamp occurs on both plain forms and decorated ware. See p.190 for a discussion of the decoration. *c.* A.D. 130–160.
64. B1977/258 Cosaxtis/Cosaxto 2a 79 etc. (heavily burnt) [C·O·S·A·X]·T·I·S·I, Vichy (Terre-Franche),^b Lezoux.^c A mid- to late-Antonine date is suggested by the use of this stamp on forms 31R and 79R. *c.* A.D. 160–190.
65. 76 B V U/S 36 Cosius Rufinus 4a 15/17R or 18R? [COSI·RVF]IN, La Graufesenque.^a The record for this stamp includes many examples of form 29, all of which are Flavian. One comes from the main site at Corbridge. *c.* A.D. 70–85.
66. B1977/158 Cotto ii 1c 15/17 or 18 OFCO[TTO] La Graufesenque.^b The site record for this stamp includes Aislingen and Risstissen (both before *c.* A.D. 75), but also Newstead (Curle 1911, 234, 31). *c.* A.D. 70–90.
67. 1977 Cotto ii 2a 15/17 or 18 [O]F.COTON retrograde, La Graufesenque.^b A stamp noted from the Flavian fortress at Nijmegen and at York. *c.* A.D. 70–90.
68. 69 A XIII 2 Cracissa 4a 33 CR·A[CISM], Lezoux.^a A stamp noted on forms 27, 38, 42 and 31R. Its site record includes Binchester, Chesters and Castleford (in a context of *c.* A.D. 140–150: Dickinson and Hartley 2000, fig. 29, 627). *c.* A.D. 135–165.
- 69–70. 76 A XIV U/S and 76 A IX 1 291–2; 77 U/S M. Crestio 1a 30 (2) MCRESTO; MCREST[(Knorr 1919, Taf. 28B) La Graufesenque.^a This stamp appears on forms 29, 30 and 37, all with Flavian decoration. *c.* A.D. 75–100. (FIG. 74)
71. B1977/258 Crestus 3a 15/17 or 18 OF·C[RES] (Nash-Williams 1930, fig. 2, 30) La Graufesenque.^b This stamp occurs at Flavian foundations, such as Caerleon (2) and Binchester,

- but it is also known from the pre-Flavian cemeteries at Nijmegen. Crestus occasionally stamped form 29, though not with this die. *c. A.D.* 65–85.
72. B1977/259 Criciro v 1a 31 [CR-CIR]O·OFI (Walke 1965, Taf. 41, 145) Lezoux.^b Criciro v's stamps occur in Antonine Scotland. This particular one is known from Mumrills and there are others from Camelon, Bearsden, Cappuck, Inveresk and Newstead. His repertoire includes form 79 (both the early and standard types) and 18/31R. Die 1a was used to stamp forms 27 and 31. *c. A.D.* 135–165.
73. 70 J VII 3 Crispus iii 7a 15/17 or 18 CR[ISPI-MAI] (Polak 2000, pl. 8, C175) La Graufesenque.^a A stamp noted in Flavian contexts such as Period IV at Valkenburg and Period IIA at Verulamium (after *c. A.D.* 75), but also at Hofheim (3) and Aislingen (both before *c. A.D.* 75). *c. A.D.* 70–90.
74. 69 D VII 1 Cucalus 1b (probably) 18/31R [CVCALIA]A, Lezoux.^a The form of this dish is consistent with early-Antonine date. If the stamp is identified correctly, it comes from a die used on forms 18/31 and 27. Other stamps of Cucalus occur on form 80 and in Scotland (Old Kilpatrick and Newstead). *c. A.D.* 140–160.
75. 69 A IV N 3 Cunissa ii 1b 31 (Sa) [CVN]ISSAF, Rheinzabern.^b A stamp used on forms 31R, 32 and Ludowici Tb. Late second or third century.
76. 77.76 A IX 1 281 Dagomarus 4c 18/31 DAGOMARVS·F (Hartley 1972, fig. 81, S72). Dagomarus started work at Les Martres-de-Veyre, but moved to Lezoux. Some of his dies were used at both centres, but this stamp seems to have come from a die which was used only at Les Martres, to judge by the associated fabrics. It occurs at Catterick and on Hadrian's Wall (Chesters Mus., not precisely provenanced). *c. A.D.* 110–125.
- 77–8. S177, 184 Dagomarus 4c 18/31 (2) DAGOM[; [DAG]OMARVS·F. See no. 76 for the date.
79. 76 A VIII 110 670 Damonus 10c 15/17 or 18 DAMONVS (Polak 2000, pl. 8, D2), La Graufesenque.^a Damonus's forms include 16 and 24 and Ritt. 1, 8 and 9. His decorated bowls are Tiberio-Claudian. His stamps occur at Hod Hill and in Claudio-Neronian groups at La Graufesenque and Narbonne. *c. A.D.* 35–55. (FIG. 74)
80. 68 S460 Dester 1a 38 or 44 DESTER·F, Lezoux.^a A stamp used on forms 18/31R, 31 and 31R, and noted from Catterick and South Shields. *c. A.D.* 150–190.
81. 69 E III 2 Doccalus 5a 31 DOCCALVS·F (Ettlinger 1978, Taf. 1, 51) Lezoux.^b Doccalus began work at Les Martres-de-Veyre, though this die was apparently not used there. His stamps on plain ware occur in early-Antonine contexts at Alcester and Castleford and he was somehow associated with the Hadrianic-Antonine potter Docilis i in the making of decorated ware. *c. A.D.* 130–155.
82. 1977 Doccius ii 4g 31 DOCCIV·SI: (Dickinson 1991, fig. 302, 5) Lezoux.^b Doccius ii's forms include 31R and 79R. His stamps occur in the Wroxeter forum destruction and at the Brougham cemetery, where most of the Central Gaulish samian is late-Antonine. *c. A.D.* 155–180.
83. Ashmolean Mus. 1960.1122 Donnaucus 2b 27 DONN[AVCI], Les Martres-de-Veyre.^a There is no internal dating for this stamp, but others of the same potter, such as no. 84 below, point to a Trajanic date. *c. A.D.* 100–125.
84. 76 C XXXVIII 6 Donnaucus 5a 27 DO[NNAVCF] with NN and AV ligatured (Terrisse 1968, pl. LII) Les Martres-de-Veyre.^a A stamp used on form 15/17R, which was made at Les Martres only in the Trajanic period. It occurs at Malton and in the London Second Fire deposits. *c. A.D.* 100–125.
85. 76 B X U/S 26 Do(v)eccus i 5a 30 DOIICCI (Dickinson 1986, 189, 3.44–46 and 156, 2.49) Lezoux.^a This is his commonest stamp on decorated ware. It occurs on Hadrian's Wall and at the Brougham cemetery, where the Central Gaulish samian is mainly late-Antonine. *c. A.D.* 165–200.
86. S6 Do(v)eccus i 11e 31R [DOIIC]CVS, Lezoux.^b This stamp occurs at Chester-le-Street, Housesteads (2) and Wallsend. It is common on form 31R. *c. A.D.* 165–200.
- 87–8. B1977/258 Do(v)eccus i 13a 31R (2) DOIICCVS (S. & S. 1958, pl. 147, 2) Lezoux.^b Like no. 85 this stamp occurs in the Brougham cemetery. It also appears on Hadrian's Wall and at Chesterholm. *c. A.D.* 165–200.
89. 69 B U/S Draucus ii 1a 31 DRAVC[IM], Lezoux.^a This stamp occurs at Carrawburgh and Chesterholm, and on forms 31R and 80. Stamps from other dies are noted from Castlecary and Duntocher. *c. A.D.* 160–180.
90. B1977/258 Draucus ii 2a 33 [DRA]VCI, Lezoux.^b One of Draucus ii's earlier stamps, noted on form 27 and at Castlecary, Duntocher and Newstead (Curle 1911, 236, 43). His stamps occur also at Carrawburgh and Chesterholm and on forms 31R, 79/80. *c. A.D.* 150–180.

91. 69 B IV 1 Drusus ii cursive 37 (below the decoration), Drusus, retrograde, Lezoux.^a Drusus ii belonged to the group of potters which includes Sacer i and Attianus ii. Two of his signed bowls come from Corbridge. For a discussion of the decoration of this bowl, see pp. 189–90. *c. A.D.* 125–145.
92. 76 C XXXIX 2a 304 Ecvester 1a 33 ECVESTER, Lezoux.^a Ecvester's stamps are not common and there is no satisfactory site dating for him. His forms and fabrics suggest a range *c. A.D.* 150–180. This particular stamp has been noted on forms 18/31 and 38.
93. 76 C XXXIX 73a 289 Ericus 1b 18/31 ERICI·M (Knorr 1907, Taf. XXX, 126) Lezoux.^b Ericus's stamps occur in the Rhineland, suggesting activity in the second quarter of the second century, and in Period IID at Verulamium (after *A.D.* 150). This particular stamp occurs at Camelon (2) and on forms 18/31, 27, 42(?) and 79/80. *c. A.D.* 135–165.
94. B1977/258 Felicio i 4a 18 FELICIONS (Polak 2000, pl. 9, F6) La Graufesenque.^b Apart from one form 29 (without surviving decoration), all the stamps recorded for this potter are on dishes. This particular stamp occurs in one of the pre-Flavian cemeteries at Nijmegen and another, from a different die, comes from Chester *c. A.D.* 65–85.
95. 68 S362 Felicio iii 5a 37 CE[FLICIO] retrograde, Montans.^a In spite of the curious reading, this stamp certainly belongs to Felicio iii. Like several of his other stamps, it occurs in Antonine Scotland, at Balmuldy and Old Kilpatrick. Another of his decorated bowls is in the London Second Fire material, suggesting a range *c. A.D.* 115–145.
96. 76 C XXVI U/S 234 Felix i 49a 27g FILLIX (Hermet 1934, pl. 111, 51) La Graufesenque.^a One of Felix's less-common stamps, used on forms 24, 29 (with Neronian decoration) and Ritt. 9. *c. A.D.* 50–70.
97. 1977 Fuscus i/ii 2a 15/17 or 18 FVSCI·[MA] (Bechert and Vanderhoeven 1988, 54, 159) La Graufesenque.^a Fuscus i began work in the 40s, at the latest, while Fuscus ii's stamps occur at Domitianic foundations. This particular stamp is more likely to belong to Fuscus i. The dish does not look particularly early, however. *c. A.D.* 55–65.
98. 70 JVII 3 Gabrillus i 6a 18/31R GA[BRILLVSF], Lezoux.^a This stamp occurs on form 18/31 and, probably, on form 27. One of his stamps turns up in the Rhineland and this, together with his forms, suggests activity in the first half of the second century. *c. A.D.* 125–150.
99. B1977/258 Gaius i 1b 27g OFCAI retrograde, La Graufesenque.^c The stamp is common at Flavian foundations, including Carlisle and Chesterholm, but there is one example from the Burghöfe *Geschirrdepot* of *c. A.D.* 69/70 (Ulbert 1959, Taf. 41, 65). *c. A.D.* 65–90.
100. 70 F I 4 Gaius ii 4b GAI·M·, Lezoux.^a Apart from one form 31, all recorded examples of this stamp are on form 33. Gaius also made forms 18/31, 27 and, possibly, 80. *c. A.D.* 130–160.
101. B1977/258 Galbinus 2a 27g GALB(IN)IM, La Graufesenque.^a Galbinus's site record is mainly Flavian and includes Camelon, but this stamp turns up in Period III (pre-Flavian) at Valkenburg (Glasbergen 1955, no. 145). *c. A.D.* 65–90.
102. 76 C XXXIX 174 452 Gallicanus 5a 29 GALLICA·MA (Polak 2000, pl. 10, G4) La Graufesenque.^a The decorated part of this bowl has not survived. A pit group of *c. A.D.* 50–60 at La Graufesenque contains many examples of his wares, both plain and decorated. His range includes forms 24, Ritt. 8 and Ritt. 9. *c. A.D.* 45–65.
103. 69 A XIV 1 Geminus vi 6b 31 GEMI[NI·M], Lezoux.^b Geminus vi's stamps occur in Antonine Scotland, in an early-Antonine context at Castleford and on form 27. This particular stamp turns up on forms 15/31R, 18/31 and 31. *c. A.D.* 140–160.
104. 1977 Geminus vii 7a 33 [GEM]INI· Lezoux.^b A stamp noted on form 31R. Some of his other dies were used on the collars of the samian mortarium form 45, which was apparently not made before *c. A.D.* 170. *c. A.D.* 170–200.
105. B1977/258 Genitor i 1a 33 GENITOR·F, Lezoux.^a A stamp used on forms 18/31, 18/31R, 27 and 42. *c. A.D.* 125–150.
106. 69 B III 1 Genitor ii 5b 31 GENITORF Lezoux.^a This stamp occurs in a late-Antonine pottery store at Corbridge (*Archaeol. Aeliana* 3 ser. 4, 1908, 66) and at northern forts reoccupied *c. A.D.* 160. *c. A.D.* 165–200.
107. B X 5 406 Germanus i 1a' 18 OFGERA La Graufesenque.^a This comes from a broken die, which originally gave OFGERMAI. The shorter version occurs at Nether Denton *c. A.D.* 70–90.
108. B1977/304 Germanus i 13a 29 (burnt) GER[MNIOI]. (Drilled for riveting); no decoration survives. For the date see no. 109.
109. C XXXII U/S 236 Germanus i 29 13a [GER]MNIOI (Walke 1965, Taf. 41, 174) La Graufesenque.^a The decoration on this bowl is Flavian, as is that of the many bowls on which

- the stamp appears. The date is supported by the site record, which includes Pompeii, Chester, Northwich and York. *c.* A.D. 70–85.
110. B1977/258 Germanus i 28j 15/17 or 18 GERMA[NI], La Graufesenque.^b A stamp from one of Germanus i's less-common dies, noted from the pre-Flavian cemeteries at Nijmegen and from the Flavian fortress there. *c.* A.D. 65–85.
111. 70 F III 3 Gnatius ii 4a 33 GNATIVS, Lezoux.^c There are many examples of this stamp in a group of burnt samian of *c.* A.D. 140–150 from Castleford (Dickinson and Hartley 200, fig. 29, 699–772), and it occurs on forms 18/31 and 27. Stamps from some of his other dies come from Birrens, Camelon and Castledykes. *c.* A.D. 130–155.
112. B1977/258 Gongius 2a 31 GO[NGI·M], Lezoux.^b This stamp was used on forms 18/31, 18/31R, 27 and 31R. There are two examples from Camelon, one from Antonine I or primary Antonine II. *c.* A.D. 140–170.
113. B1977/258 Habilis 5d 33 [HA·BIL]IS·F, Lezoux.^b Habilis's stamps appear on forms 18/31R, 27, 79 and 80. This particular stamp was used on forms 31 and 31R. *c.* A.D. 160–180.
114. 1977 Habilis 5e 31 HABILISF, Lezoux.^b This stamp appears on forms 18/31R and 79 or Ludowici Tg. *c.* A.D. 160–180.
115. S491 Indercillus 2a 33 INDERCILLI, Lezoux.^c An Indercillus is known to have worked at Les Martres-de-Veyre in the Trajanic period, but this cup is clearly in Lezoux fabric and Antonine, and so is possibly by a different potter. It occurs once at Wallsend.
116. 69 D I 7 Inea.(?) 1a 15/17 or 18 [I]IIA[F (Dannell and Dickinson 1994, fig. 293, 10) La Graufesenque.^a This may not be a literate stamp, but it is sufficiently common to be given some form of identification. All the examples noted are on dishes. There is no evidence of use in the pre-Flavian period, but it occurs at Caerleon and the Nijmegen Ulpia Noviomagus site. A range *c.* A.D. 70–90 is likely, therefore.
117. 69 B XII 1 Iulius Numidus 4a 79 NVMI[DIMA], Lezoux.^a This potter's output includes many dishes of forms 79 and 80 and he is well represented at northern forts reoccupied *c.* A.D. 160. This particular stamp occurs at Benwell and in a group of late-Antonine samian from London (Dickinson 1986, 190, 3.68). *c.* A.D. 170–200.
118. A XV 3 Iullinus i 3b 18 IV[LIIII], La Graufesenque.^a There is no evidence of pre-Flavian activity for Iullinus i. This stamp occurs at Inchtuthil and Newstead (Curle 1911, 237, 54). *c.* A.D. 70–90.
- 119–20. 69 D IV 2; 70 U/S Iullinus ii 3a 33 (2)]NIM; IVL[LINIM], Lezoux.^a This stamp occurs in the Pudding Pan Rock wreck (2) and in a group of late-Antonine samian from London (Dickinson 1986, 190, 3.71). The die was used on both plain ware and decorated moulds. *c.* A.D. 160–190.
121. B1977/258 Iunius ii 5b 27 IVNIVS, Lezoux.^b A stamp noted in the Rhineland and on forms 18/31, 18/31R and 27. *c.* A.D. 125–150.
122. 76 A XV 1 151 Iustus ii 2b 31 [IVS]TIMA (Dickinson 1990, fig. 183, 18) Lezoux.^a A stamp noted many times on form 31R. It occurs at Chesterholm, Malton and Pudding Pan Rock. *c.* A.D. 160–190.
123. S907 Iustus ii 2b 31 IVS[TIMA]. See no. 122 for the date.
124. 69 A XXVIII 1 Iustus ii 2c 31 IVSTIMA, Lezoux.^a There are two examples of this stamp in a group of late Antonine samian from London (Dickinson 1986, 190, 3.74), and several on form 79. *c.* A.D. 160–190.
125. 70 H I 6 Iustus ii 2d 33 IVSTI·MA, Lezoux.^b For Iustus's date see no. 122.
126. 76C, near N. end of N. trench, U/S Lallus i 1a 38 or 44 LALLI·MA (ORL B72, 48, 72) Lezoux.^c This stamp occurs in a pit of *c.* A.D. 150–160 at Alcester, and on forms 18/31R and 38. His repertoire also includes forms 18/31 and 79. *c.* A.D. 150–180.
127. 69 B IV 1 Laxtucissa 5a, form uncertain, ·LA[XTVCSISF] (Walke 1965, Taf. 42, 194) Lezoux.^a The stamp occurs on both decorated and plain forms. The latter include 27, 31R, 80 and early and standard types of form 79. *c.* A.D. 145–175.
128. 1977 U/S lagoon Libertus i 3a 24 LI[BERTVS], La Graufesenque.^a Some of Libertus i's stamps are Flavian, but this one was almost certainly not in use after the Neronian period. It occurs at *Camulodunum* (Hawkes and Hull 1947, 197, 91) and on forms 24, Ritt. 8 and Ritt. 9. *c.* A.D. 50–65.
129. B1977/258 Logirinus 5a 18 [LOGI]RNI (Dickinson 1986, 190, 3.79) La Graufesenque.^a There are four examples of this stamp from the Inchtuthil Gutter and two from Camelon, but also one from Risstissen (before A.D. 75). *c.* A.D. 70–90.

130. B1977/258 Lollius ii 2a 33 LOLLI·M (Walke 1965, Taf. 42, 196) Lezoux.^a This stamp appears on a wide range of forms, including 15/31, 18/31, 18/31R, 27, 31, 79 and 80. Examples are noted from Camelon and Catterick. *c.* A.D. 140–170.
131. 69 E III 2 Lottius ii 1b 33 LOTTI·OF (Walke 1965, Taf. 42, 198), Lezoux.^b The occurrence of this stamp on forms 18/31, 27 and 42 and an example noted on Hadrian's Wall (Chesters Museum) suggest a range *c.* A.D. 130–160.
132. B1977/258 Lottius ii 3a 18/31R or 31R [L]OTTI·M, Lezoux.^a Stamps from this die occur on forms 18/31, 18/31R and 27, and at Rhineland forts. He is also known to have made form 42. *c.* A.D. 125–150.
133. B1977/258 Luppa ii 1a 33 LVPPAF (Dannell 1971, 309, 58) Lezoux.^a A stamp noted in the Rhineland and at Camelon (2), Binchester and Birdoswald. It appears on forms 18/31, 18/31R and 27. *c.* A.D. 130–160.
134. 76 C XXXVI trial tr. III 312 Maccalus 3a 33 MACCALIM (Dickinson 1986, 190, 3.81) Lezoux.^a A stamp noted from Housesteads and the Pudding Pan Rock wreck. One of his other stamps occurs at Chester-le-Street. *c.* A.D. 160–200.
135. 70 F I 2 Maccalus 3a 38 MACCALIM, Lezoux.^a For Maccalus's date see no. 134.
136. 69 B I 1 Macrianus 1a 33 MACRIANIA (Dickinson 1986, 190, 3.82–3) Lezoux.^a A stamp used on forms 31R and 79R, and recorded from Pudding Pan Rock. Another, presumably earlier, die was used to stamp form 27. *c.* A.D. 160–190.
137. B1977/258 Macrianus 1a 31 MACR[IA]NIA. See no. 136 for the date.
138. 76 C XLVI 77 389 Macrinus ii 6a 33 MA·CRINFE retrograde (Dickinson 1996, fig. 142, 40) Lezoux.^b Macrinus ii's activity seems to have been confined to the first half of the second century. His site record includes the Birdoswald Alley and forts in the Rhineland, and his output consists mainly of forms 18/31, 18/31R and 27. This particular stamp is probably from one of his later dies, since it occurs at Bearsden. *c.* A.D. 135–150.
139. 69 A XIV 1 Macrinus iii 4a 38 [MACR·]IIIM, Lezoux.^a A stamp noted on forms 31 and 79. It occurs at Halton Chesters and in the Wroxeter Gutter deposit. *c.* A.D. 160–180.
140. 69 B XII 1 Macrinus iii 5b 31 [M]ACRI[NI] (Dickinson 1996, fig. 142, 41) Lezoux.^a Like no. 139, this stamp occurs in the Wroxeter Gutter and on Hadrian's Wall (Chesters and South Shields). The die should have been in use before *c.* A.D. 160, since the stamp occurs on form 27. *c.* A.D. 150–180.
141. S989 Magio i 1b 33 MAC[IONI], Lezoux.^a A stamp used on a range of forms including 27 and, probably, 79. Other stamps occur on forms 31R and 80. *c.* A.D. 155–185.
142. S1086 Mainacnus 5a 33 [MAI]NACII (Dickinson 1996, fig. 142, 43) Lezoux.^b A stamp used on form 31R, and noted from Catterick. One of his other stamps occurs in the Pudding Pan Rock wreck. *c.* A.D. 160–200.
143. B1977/258 Mainacnus 5b 33 MAINACN (Rogge 1976, no. 72) Lezoux.^b Mainacnus is represented in the group of late-Antonine samian from Pudding Pan Rock. His stamps occur also at Catterick and South Shields, and on forms 31R and 79 or Ludowici Tg. *c.* A.D. 160–200.
144. S380 Malluro i 5c 18/31 or 31 MALLV[RO] (Simon and Köhler 1992, Taf. 79, 145) Lezoux.^a A stamp noted only on dishes, including several of form 18/31. Malluro also made forms 27 and 42 and his stamps occur at Corbridge and Chesters. *c.* A.D. 140–160.
- 145–6. 69 B II 5; 70 G I 2 Mansuetus ii 2a 31 (2) MA·SVETIO;]Io, Lezoux.^a A broken version of this die was used on form 27, presumably before *c.* A.D. 160. Two stamps from the full die occur at Chesterholm. These will be from the Antonine reoccupation, in view of Mansuetus's use of forms 31 and 79. Die 2a is probably to be dated *c.* A.D. 150–160.
147. 1977 Marcellinus i 1c or 1c' 27 MARCII[LLIVI] or MARC·II[LLIV] (Hartley 1972, fig. 82, S142) Les Martres-de-Veyre.^a The cup is grooved for a rivet. A stamp from the complete die (1c) is in the material from the London Second Fire and one from the broken version (1c'), is on an early variant form 79. *c.* A.D. 125–155.
148. B1977/258 Marcellinus ii 2a 31 MA[RCELLI]IF (Dickinson 1986, 191, 3.93) Lezoux.^a A stamp known from Pudding Pan Rock, South Shields and Chesters, and on forms 31R, 79 and 80. *c.* A.D. 160–200.
149. 76 A XXI 59 671 Marcus ii 1a 27(?) MRC·I, Lezoux.^c A cup in coarse, micaceous fabric, with traces of orange glaze. These belong to the range produced at Lezoux in the first century. Only small quantities of pre-Hadrianic Lezoux ware reached Britain, mainly in the Neronian and early-Flavian periods. A stamp from the same die, at Bourges, is on a form 24 and the Wanborough piece is probably pre-Flavian too.

150. 68 S1 Marcus v 5a 79 etc? [·M]ARC[IM·] retrograde, Lezoux.^a This stamp was used on the late-Antonine forms 79R and Ludowici TgR. One of his other stamps comes from Pudding Pan Rock. *c.* A.D. 170–200.
151. 69 C VI 1 Marinus iii 2m 31 MARINVSF. Marinus iii was apparently an itinerant potter, whose stamps are known from the kilns at Heiligenburg, Ittenweiler, Kräherwald, Waiblingen-Beinstein and Rheinzabern. This piece seems to come from Rheinzabern (Ludowici 1927, 221, i), and to belong to the latter part of his career. The stamp occurs on forms 32 and 79R. Late second century.
152. 1977 Martialis ii 1a 18/31 [MA]RTIAL[IS], Lezoux.^a Martialis ii, who made both plain and decorated ware, belonged to the same group of potters as Sacer i and Attianus ii. This particular stamp, used only on plain ware, occurs on forms 18/31R, 27 and 81, and at forts in the Rhineland. *c.* A.D. 125–145.
153. 68 S63 Martinus iii 2b 33 MARTINI, Lezoux.^a Martinus's stamps occur at northern forts reoccupied *c.* A.D. 160. His forms include 31R, 79, 79R and 80. *c.* A.D. 160–200.
154. 76 B XVI 20D 224 Martius ii 2b 27g MAR[TI] (Montesinos i Martinez 1991, no. 31) La Graufesenque.^b Martius ii is best dated by his forms. This particular stamp appears on forms 24 and Ritt. 8. Others are on forms 24 and 29 (with pre-Flavian decoration). *c.* A.D. 50–65. (FIG. 74)
- 155–6. 69 A XI 2; C XIII 1 Martius iv 1b 80; 33 MARTIM (Dickinson 1986, 191, 3.103) Lezoux.^a This was a common stamp on Hadrian's Wall and at its hinterland forts, including Brougham, where the Lezoux samian from the cemetery was nearly all late-Antonine. It was used mainly on cups of form 33, but was also used on forms 80 and Tx. *c.* A.D. 160–190.
157. 69 A V 2 Mascellio i 4b 31R MASCILLIO, Lezoux.^a A stamp occurring on Hadrian's Wall and in a group of late-Antonine samian from London (Dickinson 1986, 192, 3.111). One of his other stamps is in the samian from Pudding Pan Rock. *c.* A.D. 160–200.
158. 70 J III 3 Masc(u)lus i 19a 15/17 or 18 MASC[VLVS] (Polak 2000, pl. 13, M40) La Graufesenque.^a Masc(u)lus i began work under Claudius, but stamps from some of his dies, including this one, occur at Flavian foundations. Four examples have been noted for Die 19a, from Caerleon, Chester (2) and the Flavian Nijmegen fortress. *c.* A.D. 55–70.
159. B1977/258 Mattius ii 4a 31 MATTI·M, Lezoux.^a A stamp used on forms 18/31R, 27, 38 and 79/80. Examples are noted from Camelon (2), Mumrills and Newstead (Curle 1911, 238, 63). *c.* A.D. 135–165.
160. 68 S3 Maximinus i 4a 33 [·MA]XMINI, Lezoux.^b Maximinus's forms include 31R, 79, 80 and Ludowici TgR. His stamps occur at Brancaster and Cramond and in a grave at Sompting, Sussex, with stamped vessels of Lezoux and Rheinzabern potters and a scarcely worn coin of Geta as Caesar (*Britannia* 5, 1974, 312). *c.* A.D. 170–200.
161. B1977/258 Meddillus 5a 29 [MEΘI]LLVS (Hermet 1934, pl. 111, 100) La Graufesenque.^a No decoration survives on this bowl. Meddillus's output seems to be entirely Flavian and this piece, in view of the form, will fall within the range *c.* A.D. 70–85.
162. B1977/258 Memor 1a 27g OFMEM, La Graufesenque.^a One of Memor's earlier stamps, noted on form 24 and found at Aislingen (2) (Knorr 1912, Taf. XIV, 65), *Camulodunum* and the Gloucester Kingsholm site. Most of his output is Flavian, and his most common stamp occurs at Domitianic foundations, such as Cannstatt and Butzbach. *c.* A.D. 60–70.
163. B1977/258 Mercator iv Incomplete 1 38 MERCΛΛ, Lezoux.^b No other examples of this stamp have been noted. Mercator iv's forms and his site record (Hadrian's Wall, Pudding Pan Rock etc.) suggest a mid- to late-Antonine date. This bowl, with the type of footring also used on form Curle 11, probably belongs to the early part of the range. *c.* A.D. 160–75.
164. 69 A V 2 Mercussa i 3b' 80 MIERC[VSSERF?], Lezoux.^a This stamp comes from a die which originally gave MERCVSSERF, but no complete example is known from the broken version. Mercussa i's stamps occur on forms 18/31R and 27, and in a late-Antonine group from London. *c.* A.D. 150–180.
165. S313 Mettius 1a' 33 METTI·MA, Lezoux.^c The stamp comes from a die which originally had a frame with swallow-tail ends. Both versions were used on form 27 and stamps from both occur at Newstead (Curle 1911, 238, 64). Vessels stamped with the broken die occur also at Corbridge and Mumrills. There are three examples of one of his other stamps from the Saalburg *Erdkastell* (before A.D. 139). *c.* A.D. 135–165.
166. 76 C XXXIII 8 201 Montanus i 15b 24(?) MON[TA·F], La Graufesenque.^a There is no site dating for this particular stamp. Montanus's wares appear in both Neronian and Flavian

- contexts, and his stamps have been recorded from the Boudican burning at Colchester and from Okarben and the main site at Corbridge. The form of the Wanborough piece, if correct, suggests a pre-Flavian date. His range will be *c.* A.D. 55–80.
167. 76 C U/S 235 Moxius ii 1a 38 or 44 [M]QXIVS·F (Dickinson 1996, fig. 143, 55). Moxius ii almost certainly worked at Les Martres-de-Veyre, to judge by his fabrics. One example of this stamp has been recorded from Les Martres, but not from the kilns. It also turns up at Carzield and in the Wroxeter forum destruction deposits. He would therefore be one of the later potters at Les Martres, working in the period *c.* A.D. 130–160.
168. B1977/258 Moxius ii 1a 27 [MOXIVS]·F, see no. 167 for the date.
169. 69 B VI 1 Moxius v 1a 38(?) [M]OXIMA, Lezoux.^b This stamp occurs on plain ware from Bainbridge and South Shields and on the rim of a decorated bowl in the styles of Do(v)eccus i (S. & S. 1958). His output also includes forms 79R and 80. *c.* A.D. 160–190.
170. 76 B XVI 27 449 Murranus 8a 15/17 or 18 [O]F.MVRRAN (Ulbert 1969, Taf. 9, 47) La Graufesenque.^a This stamp appears on both plain and decorated forms, including 29 and Ritt. 8. It was used to stamp moulds and the bases of bowls (after moulding). The associated decoration suggests a range *c.* A.D. 50–65. (FIG. 74)
171. S558 Murranus 8c' 15/17 or 18 OF.MVRRAN (Polak 2000, pl. 15, M115) La Graufesenque.^a There is no site dating for the complete die, but several stamps from the broken version, and several more which could have come from either, occur at Flavian foundations, such as Chester, Malton and York. *c.* A.D. 65–75.
172. 76 B U/S 47 Murranus 10c 27g OF.MV[RRAN] (Hermet 1934, pl. 112, 110a) La Graufesenque.^a A stamp noted in the Boudican burning at Colchester, in the Cirencester Fort Ditch (*c.* A.D. 55–65) and on form 24. *c.* A.D. 50–65.
173. 1977 Muxullus 1b 33 MVXTVLLI[M], Lezoux.^a A stamp noted in early-Antonine groups from Castleford (Dickinson and Hartley 2000, fig. 30, 794) and Alcester, and from Camelon, Mumrills and Halton Chesters. *c.* A.D. 140–170.
174. 76 C XXXVIII 70 219 Muxtullus 2a 33 MVXTVLLIM (Walke 1965, Taf. 43, 263) Lezoux.^a Muxtullus's stamps occur in contexts later than A.D. 160, but also in early-Antonine contexts at Alcester and Castleford. Examples have also been noted from Camelon, Mumrills and Halton Chesters. *c.* A.D. 140–170.
175. 1977 Muxtullus 3a 38 or 44 (small) [MV+TV]LLI.. (Dickinson 1996, fig. 143, 58) Lezoux.^b Perhaps from a slightly later die than the last, since there are no examples from Scotland. The site record includes Benwell, Birdoswald (2) and Bainbridge. *c.* A.D. 155–170.
176. S1069 Nicephor i 3a 18/31 NICEPHOR·F (Terrisse 1968, pl. LIII) Les Martres-de-Veyre.^a A stamp recorded from Chesterholm, Penydarren and London (in the Second Fire groups). *c.* A.D. 100–125.
177. B1977/258 Niger ii 2a 15/17 or 18 [OFNI]GRI ((Hermet 1934, pl. 112, 113) La Graufesenque.^a A stamp most commonly found on Neronion form 29s, but noted occasionally at sites reoccupied or founded in the Flavian period such as the Nijmegen fortress (2) and Rottweil-Hochmauren. *c.* A.D. 50–70.
- 178–9. 76 B XVI 0 42, B IV 27 362 Niger ii 3b 15/17 or 18 (heavily burnt); 18 OFNG[RI]; OFNGRI (Glasbergen 1955, no. 289) La Graufesenque.^a A stamp from a broken version of Die 3b occurs at Hofheim. Niger's output is almost, if not all, pre-Flavian. His decorated bowls and his use of forms Ritt. 8 and 9 suggest a date *c.* A.D. 50–70. (FIG. 74)
180. 1977/258 Niger ii 3b''' 27 [DF]NGIII (Polak 2000, pl. 15, N5) La Graufesenque.^a For evidence for the various stages of this die, see no. 180. 3b''' was probably in use before *c.* A.D. 65.
181. 70 U/S Niger ii 3b'''' 24 (O)FNGI La Graufesenque.^a This stamp comes from the final version of a die which was modified four times. It is likely to belong to the late 60s, since stamps from two of the earlier versions occur at Flavian foundations.
182. 76 A IX 2 164 Nobilianus 2a 33 NOBILIANI+leaf, Lezoux.^a A minor Central Gaulish potter whose output seems to have consisted mainly of form 33, though he also made form 31. This stamp occurs at Chester-le-Street. *c.* A.D. 150–190.
183. B1977/258 Olognato 1a 33 OLOGNAT[TO] (Durand-Lefebvre 1963, 173, 534) Lezoux.^c Mid- to late-Antonine date is suggested by the use of this stamp on forms 79R and 80. *c.* A.D. 160–190.
- 184–5. SSM 76 B 1; B1977/258 Osbimanus 2a 33; 31 [OSBIM]ANVS; OSBIM[(Juhász 1935, XLVII, 203) Lezoux.^b A stamp used on forms 15/31, 18/31R and 80. It is noted from Catterick and the Vallum of Hadrian's Wall. *c.* A.D. 150–180.

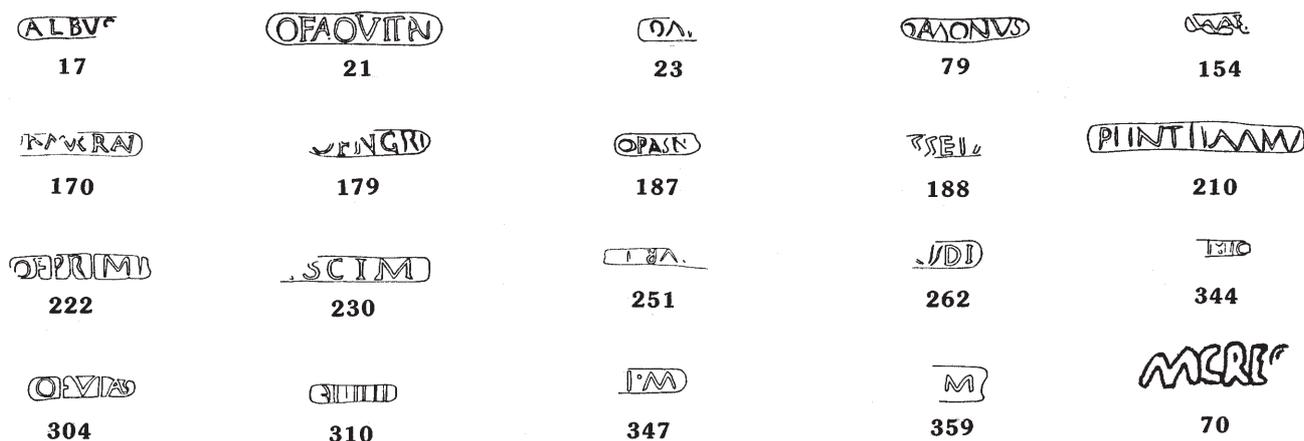


FIG. 74. The samian stamps. Scale 1:1.

186. 76 A XIII U/S 90 Pass(i)enus 5a 29 OF[PA]22ENI (Durand-Lefebvre 1963, 177, 547) La Graufesenque.^a This stamp was used only on form 29. The decoration on most of the bowls is Neronian, but a few are clearly Flavian, including one from Camelon. Vessels with this stamp are not uncommon at Flavian foundations. No decoration survives on the Wanborough piece, so a range *c.* A.D. 65–85 must be allowed.
187. 76 A IX 41 639 Pass(i)enus 18b 27g OPASEN (Durand-Lefebvre 1963, 177, 550) La Graufesenque.^a One of his earlier stamps, to judge by its use on forms 24 and Ritt. 8. It occurs at Gloucester Kingsholm. *c.* A.D. 50–65. (FIG. 74)
188. 76 B X 20A Pass(i)enus 33a 15/17 or 18 [PA-]SSEN (Polak 2000, pl. 16, P19) La Graufesenque.^a The site record for this stamp includes Baginton, Chester and York. *c.* A.D. 55–75. (FIG. 74)
189. 76 A XX 58B 615 Pass(i)enus 42b 29 OF-PASSIEN, La Graufesenque.^a Some of the bowls with this stamp show that the die continued in use into the Flavian period, but the decoration of the Wanborough bowl suggests a date *c.* A.D. 50–65. (Another sherd in A XX 58.)
190. B1977/258 Pass(i)enus 42b 29 [OF-PASSI]EN, La Graufesenque. See no. 189 for the date.
191. 70 G I 12 Pater ii 2b 42(?) P[ATE]R^vF^o (in a circle) Lezoux.^b One of Pater ii's stamps occurs at the Saalburg *Erdkastell* (before A.D. 139) and the latest record is of a stamp in Period IID at *Verulamium* (after *c.* A.D. 150). His forms 18/31, 18/31R, 27, 33a and 81, among others, suggest that his activity was mainly before *c.* A.D. 150. *c.* A.D. 130–155.
192. 76 B U/S 46 Paterclinus 1a 33 PATERCLINIOF (Dickinson 1996, fig. 143, 64) Lezoux.^a Some of Paterclinus's stamps turn up on Hadrian's Wall (South Shields) and at Pennine forts (Bainbridge and Ilkley). His output includes the late forms 31R and 79/80, but this stamp, from one of his early dies, was used on forms 18/31, 18/31R and 27. *c.* A.D. 150–160.
193. 76 A II 126 260 Paterclus ii 2a 18/31 (almost complete) PATERCLVSF (Terrisse 1968, pl. LIII) Les Martres-de-Veyre.^a A stamp noted on form 15/17 and in the London Second Fire deposits. *c.* A.D. 100–125.
194. 76 A IX 9 413 Paterclus ii 10a 18/31 [PA]TERCLOSFE (Allgaier 1992, no. 78) Les Martres-de-Veyre.^a For dating see no. 196. *c.* A.D. 100–110(?)
195. 69 Paterclus ii 10a 18/31 [PA]TERCLOSFE. See no. 196 for the date.
196. 70 J I 6 Paterclus ii 10'' 18/31 -ATERCLOSFE, Les Martres-de-Veyre.^a This stamp comes from the final version of a die which was modified twice through recutting, as some of the letters became blocked with clay. It occurs at Chesterholm and Nether Denton and in the London Second Fire deposits. It was occasionally used on form 15/17, which was made at Les Martres-de-Veyre only in the Trajanic period. The dates of the successive stages cannot be precisely worked out, but since 10'' is the most common version, a range *c.* A.D. 110–120 is likely.
- 197–8. B1977/258 Paterclus ii 10a'' 18/31 (2) -ATERCLOSFE;]LOSFE. See no. 196 for the date.
199. 69 E IV 4 Paterclus ii 17a 18/31 PAT[ERCLO] (Simon 1977, no. 69) Les Martres-de-Veyre.^c The stamp is from a die used at Les Martres, to judge by the associated fabrics, though he is

- known to have worked at Lezoux also. The site record is weighted heavily in favour of Britain, which is normal for Les Martres products. *c.* A.D. 110–125.
200. 76 C XXXIX 70 Paternus iii 1a 18/31–31 PATERNI·M, Lezoux.^a A stamp recorded on forms 18/31R and 27. It also appears on a form 37 mould, together with a stamp of Ianuaris ii. *c.* A.D. 130–160.
201. 76 C XXXVIII 1 175 Paternus iii 2b 18/31 [PATER]NI, Lezoux.^b A stamp noted from Camelon, Wallsend and in a context of *c.* A.D. 140–150 at Castleford (Dickinson and Hartley 2000, fit. 30, 812–16). It appears frequently on form 27. *c.* A.D. 130–160.
202. 70 HV 10 Paternus v 7a 37 PATERN[FE] retrograde (S. & S. 1958, pl. 169) Lezoux.^a There are many decorated bowls with this stamp from Hadrian's Wall, but none from any of the Scottish forts with a normal Antonine occupation. This suggests that the die was not in use before *c.* A.D. 160. *c.* A.D. 160–185.
203. 76 A IX 15 Patricius i 3d 15/17 or 18 OF.PATRICI (Hartley 1972, fig. 81, S82) La Graufesenque.^a There are many examples of this stamp from Flavian foundations, and it is probably to be dated *c.* A.D. 70–90. Patricius began work in the late-Neronian period and his stamps appear occasionally in Domitianic contexts.
204. 76 B X 4 Patricius i 5a 15/17 or 18 [OPATR]C (Polak 2000, pl. 16, P28) La Graufesenque.^a This stamp occurs consistently at Flavian foundations, including sites such as Wilderspool, Butzbach and the Saalburg. *c.* A.D. 75–90.
205. B1977/258 Patricius i 5a 18 OPAT[RC]. See no. 204 for the date.
206. 70 G II 5 Patricius i 13b 15/17 or 18 [PA]TRICI (Polak 2000, pl. 16, P31) La Graufesenque.^a The site record for this stamp is mainly Flavian, and includes sites such as Chesterholm and the main site at Corbridge. *c.* A.D. 75–90.
207. S1098 Patricius ii 7d 31 [PAT]R[II]CIM, Lezoux.^b Patricius ii's stamps occur at forts in the Rhineland and in Antonine Scotland, and in the material from the *Vérulamium* Second Fire and the Wroxeter forum destruction. This particular stamp was used on forms 18/31R and 38, and is noted at Malton and Housesteads. *c.* A.D. 140–170.
208. 68 S461 Paullus v 8b PAV·L·I·I· (Dickinson 1996, fig. 143, 69) Lezoux.^a Paullus v's stamped vessels reached Hadrian's Wall and are represented in groups of late-Antonine samian from Shadwell (London Docks) and Pudding Pan Rock. This particular stamp occurs at Carrawburgh. *c.* A.D. 160–200.
209. 69 B XII 1 Peculiaris i 5a 33 QECVLIAR·F, Lezoux.^a This common stamp occurs on forms 18/31, 18/31R and 27, but also on the later forms, 79 and 80. The site record includes Carzield, Newstead (2) (Curle 1911, 238, 72) and Wallsend. *c.* A.D. 145–165.
210. 76 A VIII 44 552 Pentius 1a 31 PIIVTII·MMI (Juhász 1935, XLVII, 220) Lezoux.^a Pentius made forms 31, 33 and 79. This stamp, which was used on all three, occurs at Catterick and Chesterholm (3) and in the Wroxeter Gutter (10). *c.* A.D. 155–90. (FIG. 74)
211. 69 E X 2 Pepius 1a 32 etc. PIIPIV2FE, Rheinzabern.^c A stamp used on forms 31R and 32 and so, probably, belonging to the late second or third century A.D.
212. B1977/258 Peregrinus i 3a 15/17 or 18 PE[REGRII] (Nieto 1989, 200, 20.1) La Graufesenque.^a A stamp common at Flavian foundations, including Camelon, Loudoun Hill and the main site at Corbridge. However, it appears occasionally on bowls of form 29, including a few stylistically pre-Flavian ones. *c.* A.D. 60/65–85.
213. 69 B III(?) Pistillus 4a 33 PISTIL[LI], Lezoux.^a There are nine examples of this stamp from the Wroxeter Gutter group. It occurs also at Halton Chesters and on form 80. *c.* A.D. 160–190.
214. 68 S432 Pistillus 4a 33 PISTILL(I). See no. 213 for the date.
215. B1977/258 Pistillus 4a 33 PISTILLI. See no. 213 for the date.
216. 1977 Pol(l)io i 2a 18 OFPOLIO., La Graufesenque.^a A stamp from this die occurs at Heidelberg-Neuenheim, and one from a broken version comes from Butzbach. *c.* A.D. 70–100.
217. 70 G II 5 Pontus 5a (probably), 15/17 or 18 [OF]PONT[IM], La Graufesenque.^b The fabric and glaze of this dish suggest a late-Neronian or early-Flavian date. This would fit the date of the stamp, which occurs on form 29s with decoration typical of that period.
218. 76 C XXXII U/S 490 Pontus 8a 18 OF.PONTI, La Graufesenque.^a Most of the recorded examples of this stamp are on form 18, but two are on form 29, both with decoration typical of the period *c.* A.D. 70–85. Pontus also made form 37. Most of his output is Flavian, but he occasionally made forms 24 and Ritt. 8. *c.* A.D. 65–90.
219. 76 B X 1 24 Primanus iii 3c 31R [PR]IMANI·M, Lezoux.^b There is no dating evidence for this stamp, apart from the form which places it in the mid- to late-Antonine period. See no. 220.

220. 76 C XXXIX 175 451 Primanus iii 6d 33 PRIMAN[I] (Dickinson 1986, 194, 3.161) Lezoux.^a Both this and other stamps of Primanus occur at Pudding Pan Rock. Die 6d was used exclusively on form 33, but he also made forms 31R, 79 and 80. *c.* A.D. 160–200.
221. B1977/258 Primanus iii 6e 33 PRIMANI, Lezoux.^b Stamps of this potter come from Housesteads and Pudding Pan Rock, and his forms include 31R and 79R. This particular stamp occurs at Chesterholm. *c.* A.D. 160–200.
222. 76 B X 28 433 Primus iii 12c 15/17 or 18 oFPRIMI La Graufesenque.^a Primus iii's output is almost certainly all pre-Flavian and he began work under Claudius. This particular stamp occurs in Boudican contexts at Colchester (Hull 1958, fig. 99, 14). *c.* A.D. 50–65. (FIG. 74)
223. S610 Primus iii 12e 29 OFP[RIMI] La Graufesenque.^a This is from a die used only on form 29. To judge by their decoration, the bowls with this stamp are all pre-Flavian, and there are several in a group of samian of *c.* A.D. 50–60 at Narbonne (Fiches *et al.* 1978, 191, 61). *c.* A.D. 50–70.
224. 68 S241 Primus iii 12r 29 OFPRI[AMI] (Nieto 1989, 200, 39.1) La Graufesenque.^a The decoration of the bowls with this stamp suggests a date *c.* A.D. 60–80. The lettering is consistent with other stamps of Primus, so it is certain that the stamp reads OFPRIMI, rather than OFPRIAMI, in spite of the vertical stroke in the M.
225. 76 B V 202 394 Primus iii 21b or b' [O]FPRM or [O]FPRM (Polak 2000, pl. 18, P.115) La Graufesenque.^b The complete die was used on forms 24 and Ritt. 8. Stamps from the broken die, which has so far only been noted on form 27, occur in the Boudican burning at Colchester and at York and the Nijmegen fortress. *c.* A.D. 55–70.
226. 76 B XVI 1 80 Priscillus 2a 33 PRISCILI·MΛNV (Durand-Lefebvre 1963, 295, 608) Lezoux.^b This stamp has been noted several times on the collars of form 45s. The form is unlikely to have been made at Lezoux before *c.* A.D. 170, or after A.D. 200. Its use on form 33 probably falls within the same range.
227. 69 A IX 1 Priscillus 2a 45 collar (PRISCILI·M)AN(V) Lezoux. See no. 226 for the date.
228. S950 Priscillus 2a 33 PRISCILI·MΛNV. See no. 226 for the date.
229. 70 G II 5 Priscinus 3a 81 PRISCINVSFC, Lezoux.^a This stamp was used on some of Priscinus's earlier forms, including 18/31, 27 and 33a, but occurs in Period IID at *Verulamium* (after *c.* A.D. 150: Hartley 1972, fig. 82, S122). *c.* A.D. 130–155.
230. 76 A VIII 44A 561 Priscus iii 4d 33 [PRI]SC·I·M (Nash-Williams 1930, fig. 2, 82) Lezoux.^a The stamp was used on forms 31R, 79 and 79R and on a form 37 mould which also carries a stamp of Clemens iii. It is known from Birdoswald, Forden Gaer and Pudding Pan Rock. *c.* A.D. 160–190. (FIG. 74)
231. 70 O III 2 Pugnus ii 1a 38 PVG[NI·MΛ] (Nash-Williams 1930, fig. 2, 83) Lezoux.^a One of Pugnus's later stamps, noted from Benwell and in the Wroxeter Gutter (2). Some of his decorated ware suggests that he began work under Hadrian. *c.* A.D. 150–180.
232. B1977/258 Quartus iii 1a 38 [QVA]RTIMS, Lezoux.^a There are three examples of this stamp from the Wroxeter Gutter and the die, and one of his others, was used on form 79. *c.* A.D. 160–190.
233. S1021 Quintus iv 2a 33 QV[INTI], Lezoux.^a A stamp noted at Corbridge and Newstead (Curle 1911, 239, 77), and on form 27. Another stamp comes from Camelon. *c.* A.D. 140–160.
234. 76 C XXXII 41 330 Reburus ii 2a 31 REBVRRI·OFI, Lezoux.^a One of Reburus's less-common stamps, used on forms 31, 33 and 27. His forms range from 18/31 to 79 and 80; his site record includes the *Verulamium* Second Fire and forts in the Hadrian's Wall system. *c.* A.D. 140–170.
235. B1977/258 Reditus 3a 38 REDITI·M (ORL B73, 50, 103) Lezoux.^a Reditus's site record ranges from the Saalburg *Erdkastell* (before A.D. 139) to TÁC, Hungary (a group of burnt samian of *c.* A.D. 170). This stamp occurs in the Rhineland, at Camelon and on forms 18/31, 18/31R and 27. *c.* A.D. 135–165.
236. S34 Reditus 3b 27 REDITI·M, Lezoux.^b A stamp noted in the Rhineland and at the Saalburg *Erdkastell* (Hartley 1970, 30, 54). It appears mainly on forms 18/31 and 27. *c.* A.D. 130–150.
- 237–8. B1977/258 Reginus ii 2a 18/31 (2) REGINVS·F;]GINVS·F (ORL B59, Taf. IV, 130) Les Martres-de-Veyre.^a A stamp from one of Reginus ii's earlier dies. It occurs in the London Second Fire deposits, at Catterick and Malton and on Hadrian's Wall (Chesters Mus.). Stamps from another die occur in Antonine Scotland. *c.* A.D. 115–135.
239. 69 E VIII 2 and 76 B XVI 1 61 Reginus vi 1a' 31 or 31R (heavily burnt) (RE)GINVSFECIT (Ludowici 1904, 15) Rheinzabern.^a The full version of Die 1a was used on decorated moulds

- at both Heiligenberg and Rheinzabern. The broken die (1a') appears only on plain ware, including form 32, and there is no evidence that it was used at Heiligenberg. Reginus vi is unlikely to have worked in the third century. Die 1a may have been in use at Rheinzabern by A.D. 160 and the broken version, which is much less common, was probably only current for a short time. *c.* A.D. 170–180(?)
240. B1977/258 Reginus iv 1c 33 REGINIOF, Lezoux.^b No other examples of this stamp have been noted. Reginus iv's output includes forms 18/31, 18/31R, 27, 79, 79R and 80. His stamps occur in the Wroxeter forum destruction deposits and on Hadrian's Wall (Chesters Mus.). *c.* A.D. 150–180.
241. B1977/258 Reginus iv 5e 79 REGINI·M Lezoux.^b A stamp noted on forms 79, 80 and Ludowici Tg/Tx, and therefore from a die in use *c.* A.D. 160–180.
242. 69 D IV 2 Regullus 1a 31 REGVLLVS[F] (Vanderhoeven 1975, 112, 594) Les Martres-de-Veyre,^a Lezoux.^a A stamp used on form 18/31 at Les Martres and on form 80 at Lezoux, suggesting a range *c.* A.D. 140–165. This piece is in Lezoux fabric. *c.* A.D. 150–165.
243. S763 Regulus 4a 33 RIIGVLLIM Lezoux.^a Regulus's output includes forms 27, 42 and 80. His stamps occur in the Rhineland, but also at Benwell, presumably after *c.* A.D. 160. *c.* A.D. 145–175.
244. 70 F IV 2 Roppus ii 1a 18/31R RO[PPVSFE] Les Martres-de-Veyre.^b This stamp occurs at the Saalburg *Erdkastell* (before A.D. 139: Hartley 1970, 26, 56), at Corbridge, where it could be either Trajanic or Antonine, and in a group of burnt samian of the 140s from Castleford. *c.* A.D. 115–145.
245. 76 C XXXIX 2 152 Roppus ii-Rutus 1a 18/31R ROPPI·RVT·M (Dickinson 1984, fig. 70, 44) Les Martres-de-Veyre.^a A stamp which was probably used exclusively on rouletted dishes. It occurs in the London Second Fire deposits. *c.* A.D. 100–200.
246. A U/S 695 Rottalus 1a 38 or 44 ROTTA[LIM] (Dickinson 1986, 194, 3.176) Lezoux.^a Rottalus's range of forms includes 31R, 79, 79R and 80. This stamp occurs at Benwell, Catterick and Chesters. *c.* A.D. 160–190.
247. 69 B IV 1 Rottalus 1a 33 [ROTT]ALIM. See no. 246 for the date.
248. 68 S439 Rufinus iii 3a 15/17 or 18 [OF.]RVFNI La Graufesenque.^a This common stamp was used almost exclusively on dishes. There is no evidence of its use in the pre-Flavian period, though Rufinus probably began work *c.* A.D. 65. The latest example noted comes from a wreck in the Mediterranean off the Spanish coast, containing samian made within the range A.D. 75–85 (Nieto 1989, 201, 10.1). *c.* A.D. 70–85.
249. B1977/258 Rufus iii 4b 27 [OFR]VF (Steiner 1911, Taf. XXI, 173) La Graufesenque.^a A few of Rufus iii's stamps are pre-Flavian, but the bulk of his output is Flavian and examples have been noted from Butzbach and Newstead. *c.* A.D. 65–90.
250. B1977/294 Sabinulus 1b 18/31 (almost complete) SABI/VLVS, Les Martres-de-Veyre.^c There is no site dating for this potter, but the dish is clearly Trajanic.
251. 76 B IV 20B 225 Sabinus iii 12a 27g [OF]SABIN retrograde (Dannell 1971, 314, 84) La Graufesenque.^a There are many examples of this stamp at Flavian foundations, including two from Camelon, but its occurrence at Gloucester Kingsholm suggests that the die was in use in the 60s. *c.* A.D. 65–90. (FIG. 74)
252. 69 B VIII 1 Sabinus viii 5a 33 [SABIN]IOF, Lezoux.^a This Sabinus's stamps appear on forms 79R and 80, and in a group of late-Antonine samian from London. This particular stamp occurs at Bainbridge, Wallsend and on form 31R. *c.* A.D. 160–190.
253. B1977/258 Sabinus viii 5a 33 SABINIOF. See no. 252 for the date.
254. B1977/258 Sacer iii 2a 33 SA·CI[IRF] (Dickinson 1996, fig. 143, 81) Lezoux.^c There is no independent dating for this stamp, but stamps from other dies at Catterick (2) and on form 31R suggest a mid- to late-Antonine date.
255. 68 S94 Saciro iii 2a 33 SACIROM (Juhász 1935, XLVIII, 275) Lezoux.^b This potter occasionally made forms 27 and 80, though the bulk of his output consists of forms 31 and 33. *c.* A.D. 150–180.
256. B1977/287 Saciro iii 3a 33 [S]ACI[ROF] (Durand-Lefebvre 1963, 207, 653) Lezoux.^b This stamp was used on forms 18/31R, 31 and 80. *c.* A.D. 150–180.
257. 69 E IV 2A Sacirus ii 6c 33 [S]ACIRV, retrograde (Dickinson 1996, fig. 143, 83) Lezoux.^a Sacirus's stamps, including this one, are common on form 27, but there is an example of form 79 stamped with one of his other dies. *c.* A.D. 135–165.
258. S1032 Sacrillus 5a 33 SACRILL[I] (Dickinson 1986, 195, 3.184) Lezoux.^b A stamp noted on

- Hadrian's Wall and at Pennine forts reoccupied *c.* A.D. 160. One of his other stamps comes from the Pudding Pan Rock wreck. *c.* A.D. 160–200.
259. 76 B XXIV 1 269 Saturninus ii 1a 33 SATVRN·INI·OF (Rodwell 1985, 82, 463) Lezoux.^b Saturninus's stamps occur at Pudding Pan Rock, on Hadrian's Wall and at Pennine forts reoccupied *c.* A.D. 160. Die 1a was used on forms 31R and 79 or Tg. *c.* A.D. 160–200.
260. 70 H I 1 Saturninus ii 1a 33 SATVRN·INI·OF. See no. 259 for the date.
261. 76 B XVI 20A Saxamus 1b 38 or 44 [SAXAMI]·M, Lezoux.^a A stamp used commonly on form 31R. It has been noted from Piercebridge and Turret 45a of Hadrian's Wall. *c.* A.D. 160–190.
262. B XV 27 248 Secundus i 22f or f' 18 [SE]CVIDI or [∩E]CVIDI, La Graufesenque.^b Stamps from both versions of the die occur on form 24. The broken die, 22f', was also used on form Ritt. 8. *c.* A.D. 50–65. (FIG. 74)
263. 68 S462 Secundus ii 12d 27g OFSEC (Polak 2000, pl. 22, S96) La Graufesenque.^b Secundus ii started work under Nero, but there is no evidence for the use of Die 12d in the pre-Flavian period, and a stamp from Camelon makes it unlikely. *c.* A.D. 75–90.
264. B1977/258 Secundus ii 25a 15/17 or 18 SECVNDVSI· (Polak 2000, pl. 22, S99) La Graufesenque.^a Secundus ii began work in the late-Neronian period, but this die is not likely to have been in use before the 70s. Stamps from it occur at the Nijmegen fortress (2) and at Camelon. *c.* A.D. 75–90.
265. S745 Secundus ii 31b 15/17 or 18 SECV[N·F] (Polak 2000, pl. 22, S100) La Graufesenque.^a A stamp used mainly on dishes, though there is one example on form 29. The site record includes Chester, the Nijmegen Flavian fortress and Inchtuthil (two examples from the Gutter). *c.* A.D. 70–90.
266. S492 Sedatus iv 2c 18/31 or 31 [SE]DATI·M (Walke 1965, Taf. 44, 341) Lezoux.^a A heavily burnt example of this stamp at Gauting is likely to have been a casualty of the Hadrianic fire there. It is also known from lower Germany, where the supply of Central Gaulish samian seems to have ceased by about the middle of the second century. *c.* A.D. 130–150.
267. B1977/258 Senator 2a 38 [∩EN]ΛTOR retrograde (Durand-Lefebvre 1963, 242, 750) Lezoux.^a A stamp noted mainly on forms 79, 79R and 80 and so from a die in use *c.* A.D. 160–200 or, more probably, 170–200.
268. B1977/258 Senicio 5b 27g [S]ENICIOI (Nieto 1989, 200, 15.2) La Graufesenque.^a Although the bulk of the potter's output is pre-Flavian, this particular stamp occurs at Chester, in an early-Flavian grave at Winchester and in a wreck off Cap Creus, Spain, whose cargo includes samian manufactured in the late 70s or early 80s (Nieto 1989, 200, 15.2). *c.* A.D. 60–80.
269. S963 Severianus i 4a 33 SEVERIANI, Lezoux.^a Severianus i's output includes forms 31R, 79 and 79R and his stamps have been noted from Stanwix and the Pudding Pan Rock wreck. *c.* A.D. 160–200.
270. B1977/258 Severus iii 7e 15/17 or 18 [OF.S]EVERI (Polak 2000, pl. 22, S143) La Graufesenque.^a There is no close dating for this stamp, but a stamp from a broken version of the die occurs at Carlisle. *c.* A.D. 65–90.
271. A XXI U/S 571 Severus iii 7e 18 OFSEV[ERI] La Graufesenque.^a The site record for this stamp includes many Flavian foundations such as Castleford, Ribchester, the Chester fortress and the main site at Corbridge. *c.* A.D. 70–90.
272. B1977/258 Severus iii 7m 27g OFSEVER(I) (Polak 2000, pl. 22, S136) La Graufesenque.^a A stamp common at sites founded in the Flavian period, including Rottweil and the Nijmegen fortress. It may possibly have been used on form Ritt. 8. *c.* A.D. 65–90.
273. B1977/258 Severus iii 7q 15/17R or 18R @SEVERI, La Graufesenque.^a A stamp noted from Caerleon and Chester, and on form 29. *c.* A.D. 70–90.
- 274–5. 76 C XXXIII U/S; XXXVIII 70A Severus iii 7t 27(?); 15/17 or 18 [@SEV[ERI]; @], La Graufesenque.^a The site record for this stamp includes Caerleon, Newstead (Curle 1911, 241, 94) and Winchester (in a grave group with stamps which occur at Domitianic foundations). *c.* A.D. 80–95.
276. 69 A XI 1 Sextus v 2b 33 SEXTIMAN, Lezoux.^b See no. 277 for the date.
277. 69 C X 1 Sextus v 4a 79 (slightly burnt), SIIX[TIMA] (Durand-Lefebvre 1963, 225, 697) Lezoux.^a The die was used on forms 79 and the rouletted version of Ludowici Tg and a stamp from another die is in the group of samian from Pudding Pan Rock. *c.* A.D. 160–200.
278. Ashmolean Mus. 1960 1226 Sextus v 4a 33 SIIXTI[MA]. See no. 277 for the date.
279. 76 A XXI 20 576 Silvanus i 3a 29 OF@ILVAN, La Graufesenque.^b This is the latest stamp of a potter who began work under Tiberius. It is mostly Neronian, with very few Vespasianic records. The decoration of the Wanborough bowl suggests a date *c.* A.D. 55–65.

280. B1977/258 Silvanus ii 3b 27 SILVANI, Lezoux.^b Silvanus ii's output consists mainly of forms 18/31, 18/31R and 27, but one example of form 80 has been noted. This particular stamp occurs at Corbridge, Inveresk and Newstead (Curle 1911, 241, 96). *c.* A.D. 130–160.
281. 76 C XLVI 186 491 Silvanus ii 3c 27 SILVANI, Lezoux.^b A stamp used on forms 18/31, 18/31R and 27. It occurs in Period IID at *Verulamium* (after A.D. 150: Hartley 1972, fig. 82, S125). Silvanus ii's wares appear in the Rhineland, suggesting that he began work in the first half of the second century, but he is known to have made form 80. *c.* A.D. 130–160.
282. 76 A IX 1 195 Silvinus ii 9a 15/17R or 18R [SILV]INI, La Graufesenque.^a Although this Silvinus's stamps were occasionally used on pre-Flavian forms, the bulk of his output is Flavian. This particular stamp is known from Caerleon (2), Carlisle and the main site at Corbridge. *c.* A.D. 70–90.
283. 1978 U/S Sinturo/Sinturus 2a 31 SINTV[RO·FII], Les Martres-de-Veyre.^c Sinturo's stamps occur in Antonine Scotland (Camelon (2), Bothwellhaugh and Inveresk). He will therefore be one of the later potters at Les Martres. Hadrianic or early-Antonine.
284. 69 A XVIII 1 Sollemnis i 3a 33 SOLLEMMNI.M, Lezoux.^b Sollemnis i's forms include 18/31R and 27 and his stamps occur in the Birdoswald Alley and in a group of samian of the 140s at Castleford. A stamp from Die 3a is known from Hadrian's Wall (Chesters Mus.). *c.* A.D. 130–150.
285. B1977/258 Suadullius 1a 31 (slightly burnt) SVA(DVLL)IVSI, Rheinzabern,^a Ittenweiler.^a The fabric of this piece suggests origin at Rheinzabern (Ludowici 1927, 230, a). This particular stamp occurs at Housesteads and on forms 40 and Ludowici Tz. Another is on the rim of a decorated bowl of Reginus vi from Carlisle, also made at Rheinzabern. *c.* A.D. 160–190.
286. B1977/258 Sulpicius 1a 15/17 or 18 [OFVSL]PICI (Hermet 1934, pl. 113, 164b) La Graufesenque.^a Sulpicius's stamps occur at several Domitianic foundations, including Butzbach and the main site at Corbridge. This particular stamp is known from the Saalburg. *c.* A.D. 80–110.
287. S729 Sulpicius 8c 15/17 or 18 SVLPICI (ORL B26, 33, 51) La Graufesenque.^b Several of Sulpicius's stamps occur at Domitianic foundations. This particular one is known from the Saalburg. *c.* A.D. 80–110.
288. S846 etc. Surdillus 5a 18/31 SVRDILLVSF. Some of Surdillus's dies are known to have been used at Les Martres-de-Veyre, but the vessels stamped with Die 5a seem to be Hadrianic or early-Antonine Lezoux ware.
289. B1977/258 Teddillus 2a 33 OTEÐDILJO, Lezoux.^a This stamp occurs on form 18/31, at Corbridge (2) and on Hadrian's Wall (Chesters Museum). Another die was used on form 27. *c.* A.D. 130–160.
290. 76 C XXXII 41 331 Tigotalus 1a 33 TIGOTALIM, Lezoux.^a Tigotalus impressed this stamp on the rims of decorated bowls, including ones with *ovolos* used by Cinnamus ii and the Paternus v group. It also appears on form 79. *c.* A.D. 150–180.
291. U/S Tituro 1a 31 (TITVRO)NISOE (Dickinson 1986, 196, 3.209) Lezoux.^a There are five examples of this stamp from the Wroxeter Gutter and it occurs also at Benwell, South Shields and Wallsend. It was used on forms 31R, 79 and 80. The stamp is incompletely impressed here. *c.* A.D. 160–190.
292. 69 C V 3 Tintirio 3a 33 TINTIRIA[IO], Lezoux.^b Tintirio's repertoire includes forms 18/31, 18/31R, 81, 31R and 80. His stamps occur in an early-Antonine context at Castleford, at Catterick and on Hadrian's Wall (Chesters Mus.). *c.* A.D. 140–170.
- 293a–b. 76 C XXXVIII 1 125; XXXVIII 174 Titus iii 8a 33; 38 [leaf TIT]IM leaf; leaf[, Lezoux.^b Titus's site record includes Alcester (a pit of *c.* A.D. 150–160), Mumrills and TÁC, Hungary (a group of burnt samian of *c.* A.D. 170). His dishes include both forms 18/31R and 31R. *c.* A.D. 150–180.
294. B1977/258 Titus iii Incomplete 2 18/31R TITI[MA--], Lezoux.^b Titus iii's stamps occur at Mumrills, in a pit of *c.* A.D. 150–160 at Alcester and in a group of burnt samian of *c.* A.D. 170 from TÁC (Hungary). *c.* A.D. 155–185.
295. S1051 Titus iii 8a 18/31R leaf T[ITIM leaf]. See nos. 293–4 for the date.
296. B1977/258 Uxopillus 2a 33 V·XOPLLIO, Lezoux.^b No other examples of this stamp have been noted. Uxopillus's stamps occur in early and mid-Antonine groups from Alcester and TÁC (Hungary) respectively. His repertoire includes forms 18/31R, 27 and 80. *c.* A.D. 150–180.
297. 69 A XVII 1 Verecundus iii 1d 79 VERECVNDI, Lezoux.^a Stamps of Verecundus iii occur in a late-Antonine group of samian from London and at northern forts reoccupied, or founded, *c.* A.D. 160. This particular stamp appears at Birdoswald and on form 31R. *c.* A.D. 160–190.

298. 69 C IV 14A Victor iv 1c 38 VIC+ORI[M], Lezoux.^a This stamp was used on forms 31R and 79. One of his others is in a grave at Sompting, Sussex, with stamps of Lezoux and Rheinzabern potters and a scarcely worn coin of Geta as Caesar (*Britannia* 5, 1974, 312). *c.* A.D. 170–200.
299. S964 Victor iv 1c 33 VI[C+OR]IM. See no. 299 for the date.
300. 69 B I 4 Victorinus ii 4q 31R (burnt) VICToR[INVSF] (Ludowici 1927, 233, a) Rheinzabern.^a Victorinus's plain forms include 31, 31R and 32, all with this stamp, and Ludowici Tb. His decorated ware is almost certainly third century. Late second or, more probably, third century.
301. 76 C XXVII U/S 517 Vir..-Coc.. 1a' 18 VIIRCOC retrograde, La Graufesenque (1a'). This stamp probably represents the names of two potters, the second of whom is likely to be Cocus i. There are several possible restorations for Vir... A stamp from the complete die occurs at the pre-Flavian cemeteries at Nijmegen. The broken die was used on form Ritt. 1. *c.* A.D. 46–65.
302. B1977/258 Vironus 2b 31 VIRONI[-OF], Lezoux.^b A stamp used on form 80. Three stamps from one of his other dies occur at Camelon. *c.* A.D. 140–170.
303. 76 A XIV U/S 573 Virthus 2a 15/17R or 18R [VIRTHVS]FECIT (Polak 2000, pl. 25, V46) La Graufesenque.^a Most of the vessels bearing this stamp are rouletted dishes, including one form Ritt. 1R. One of his other stamps occurs in Period I at Valkenburg. An example from Die 2a in Period IIA at Verulamium (after A.D. 75) may possibly be residual. *c.* A.D. 50–70, or perhaps 45–70.
304. 76 B X 27 418 Vitalis i 3a Ritt. 8 OFVITAL (Polak 2000, pl. 25, V55) La Graufesenque.^a A stamp used also on form 24. Vitalis i's output includes a relatively high proportion of these two forms, and he also made form Ritt. 9. One of his other stamps is in the material from the Cirencester Fort Ditch of *c.* A.D. 55–65. *c.* A.D. 45–65. (FIG. 74)
305. B1977/258 Vitalis ii 8h OF.VITA (Polak 2000, pl. 25, V69) La Graufesenque.^b This stamp is entirely Flavian and is known from Caerleon, Carlisle and Newstead. *c.* A.D. 70–90.
306. S1060 Vitalis iii 2a 18/31 [V+A]LIS·M·S·F (Hartley 1972, 233, S58) Les Martres-de-Veyre.^a A stamp noted at Malton, in the London Second Fire deposits and on a Trajanic variant of form 15/17. *c.* A.D. 100–125.
307. B1977/258 Vitalis viii 6f 31 (Sa) VITVLIS[F] retrograde, Rheinzabern.^b Late second or third century, on the form.

ILLITERATE STAMPS

1970

308. 70 G III 1 [Λ|]IIVII on form 18, South Gaulish. One of the commoner illiterate stamps. An example at York and the fabric and glaze of the Wanborough piece suggest a Flavian date.

1976

309. 76 C XLVII 174 485 |+v\ on form 27, South Gaulish.^c Neronian or early-Flavian.
310. 76 B X 27 417 HIIIIII on form 27, South Gaulish.^c Flavian. (FIG. 74)
311. 76 B XVI 1 87 ||M|ΛM·Λ= on form 31, Lezoux.^c Mid- to late-Antonine.

ROSETTE STAMPS

312. 68 S232 An eight-petalled rosette on form Curle 23 etc., Central Gaulish. Antonine.
313. S918 An eight-petalled rosette on a worn form 38 base, Central Gaulish. Mid- to late-Antonine.
314. 1977 An eight-petalled rosette on form 46, from Les Martres-de-Veyre. Trajanic or early-Hadrianic.
315. 1977 An eleven(?)-petalled rosette on form 79, Central Gaulish. Mid- to late-Antonine.

UNIDENTIFIED STAMPS

1966–68

316. S596]MI on form 29 base, South Gaulish. Neronian or early-Flavian.
317. 68 S23 OF.C[on form 18, South Gaulish. Flavian.
318. 68 S46 SEI? on form 27g, South Gaulish. Flavian-Trajanic.
319. S516 ΛINN retrograde, on form 27, South Gaulish. A common illiterate stamp, noted from Caerleon, Castleford and the Saalburg. Flavian–Trajanic.

320. S120]F on form 18/31, from Les Martres-de-Veyre. Trajanic.
 321. S1120 R[on form 27, Central Gaulish. Hadrianic or early-Antonine.
 322. S438]CIM on form 31, Central Gaulish. Antonine.
 323. S1020 MΛ[on form 31, Central Gaulish. Antonine.
 324. S312 P[on form 31, burnt, Central Gaulish. Antonine.
 325. 68 S2]CI on form 31(?), Central Gaulish. Antonine.
 326. S116]M/[on form 33, Central Gaulish. Antonine.
 327. S350 V[or]Λ on form 38 or 44, Central Gaulish. Antonine.
 328. S333]ΛIM on form 31, Central Gaulish. Mid- to late-Antonine.

1969–70

329. 70 JVII 3 SA[or SE[on form 15/17 or 18, South Gaulish. Pre-Flavian.
 330. 70 F I 8]VNII[? on form 15/17 or 18, South Gaulish. Pre-Flavian.
 331. 70 HV 2]IA or VI[on form 15/17 or 18, South Gaulish. Neronian or early-Flavian.
 332. G III 5 CA[on form 15/17 or 18, South Gaulish. Neronian or early-Flavian.
 333. 70 G III 1]NM on form 15/17 or 18, South Gaulish. Flavian.
 334. 70 JV 2 OF.[on form 15/17 or 18, South Gaulish. Flavian.
 335. 69 D II 7 //\\V[on form 27, South Gaulish. Flavian.
 336. 69 B I 13]CVNDIM on form 18/31R, Central Gaulish. Hadrianic-Antonine.
 337. 69 D II 5]II on form 31, Central Gaulish. Antonine.
 338. 69 B 1]N[on form 38, Central Gaulish. Antonine.
 339. 69 B VI 1 Λ[or]V on form 38 or 44, Central Gaulish. Antonine.
 340. 70 J II 3]I.M on form 33, Central Gaulish. Antonine.
 341. 70 F IV 2].....Ϸ on form 32 etc., East Gaulish. Late second or third century.

1976

342. 76 B U/S Ermin Street Ditch. CA[, CE[or CR[on form Ritt. 8, South Gaulish.^c Pre-Flavian.
 343. 76 B XVI 0 43 MA[on form 15/17 on form 15/17 or 18, South Gaulish.^c Neronian.
 344. 76 B XVI 20D 225]OI'Ç[on form 27g, South Gaulish.^c Neronian or early-Flavian. (FIG. 74)
 345. 76 B XVI 1 91 O[or]O on form 15/17 or 18, South Gaulish.^c Flavian.
 346. 76 C XXXIX 2 Λ[on form 18/31, Les Martres-de-Veyre.^c Trajanic.
 347. 76 B XVI 20B 226]I·M on form 18/31, Lezoux.^c Hadrianic. (FIG. 74)
 348. 76 A XV 20 235]M on form 33, Lezoux.^c Antonine.
 349. 76 C XXVII U/S MΛÇ[retrograde on form 38 or 44, Lezoux.^c Antonine.
 350. 76 C XXXIV 111 362]^M on form 80 or Ludowici Tx, Lezoux.^c Mid- to late-Antonine.
 351. 76 A VIII 11 461]BINI, in semi-cursive lettering, on form 30. See 76 A 11. *c.* A.D. 50–65.
 352. 76 B XVI 27 249 COC[on form 27g, South Gaulish. Neronian.
 353. 76 B IV 27 366 MAN? on form 27g, South Gaulish. Pre-Flavian.

1977

354. B1977/287]ALISF on form 29, South Gaulish. Before *c.* A.D. 85.
 355. B1977/258 LIIN retrograde on form 27g, South Gaulish. A stamp recorded from York and Chester. Flavian.
 356. B1977/258]C on form 15/17 or 18, South Gaulish. Flavian.
 357. B1977/258]IV... on form 27, South Gaulish. Flavian or Flavian-Trajanic.
 358. B1977/258 LIVLVMI on form 27g, South Gaulish. Flavian-Trajanic.
 359. B1977/258]M on form 18/31R or 31R, burnt, Central Gaulish. Hadrianic or Antonine. (FIG. 74)
 360. B1977/258]/| on form 31, Central Gaulish. Antonine.
 361. B1977/258 CIVNLEFIYIϷI[on form 31, Central Gaulish. Antonine.
 362. B1977/258 A fish, on form 79, Central Gaulish. Mid- to late-Antonine.
 363. B1977/258 Λ[or]V on form 31, East Gaulish(?). Antonine or later.
 364. B1977/258 ϷI...Ϸ... on form 31R, East Gaulish. Late second or third century.
 365. B1977/258]KEC on form 32 etc., East Gaulish. Late second or third century.

ILLEGIBLE STAMPS

366. 70 F II, 3; 370, 70 FIV3; 371, 76 A 20 ii; 372–3, 76 4 2 0 vi.

21. AMPHORAE (FIGS 75–6)

By Simon J. Keay

Introduction

A total of 78.46kg of amphora fragments was recovered. The amphorae were well stratified and may perhaps reflect the site's reliance upon imported foodstuffs through the Roman period.

Although amphorae are fairly common on British sites, they have attracted little specialised attention. Work by Williams and Peacock (1983) has shown the potential of amphorae in elucidating questions of the mechanics of supply. However, the pitiable lack of quantified material remains a central problem in the study of amphorae in Britain.

This contrasts with work in Mediterranean amphora studies, where research in North Africa, Italy, Spain, and France has used quantification as a means of clarifying questions about the production, supply, and loss of amphorae in the first three centuries A.D. Furthermore, work in the production areas of the Dressel 20 (southern Spain), Dressel 30 (southern France) and Catalan wine amphorae (northeastern Spain), has revealed something of the contrasting organisation of each industry and its political importance.

This report, which was submitted in 1985, examines the amphorae from Wanborough in a local context, but at the same time not losing sight of their Mediterranean origins and the implications that this might have had for the economy of the site.

Dressel 20

This was the most common variety of amphora found on the site. The type is well known, consisting of a large globular vessel with a pronounced rim and well-developed handles. It carried olive oil produced on estates in the Guadalquivir valley in the Roman province of Baetica (southern Spain). Dressel 20 amphorae were first manufactured in the early first century A.D. (Tchernia 1967) and rapidly supplied markets in most western provinces. It is usually accepted that production peaked by the Antonine period (Ponsich 1979) and that it had ended by the middle third century A.D. Recent research has modified this view, and it now seems that the type was replaced by a smaller vessel, the Dressel 23, which was produced between the third to fifth centuries (Keay 1984; Remesal 1983).

Rims

Variant A (FIG. 75, 1): Concave face with a ledge around the inside. One example identified, in Fabric 2; max. D. c. 170mm. 76B, XVI, 59.

This was found in a Phase 2B context and represents one of the earlier phases of production in the Dressel 20 industry. A similar example was discovered at Exeter in a deposit of A.D. 60/65–80 (Bidwell 1979, fig. 60, 1). It can also be paralleled by a more complete example from *Verulamium*, dated to between A.D. 75–105 (Frere 1972, fig. 99, 9). At Augst, a similar example was found in a deposit of A.D. 60 plus (Martin-Kilcher 1983, fig. 2, 10).

Variant B (FIG. 75, 2): Sharply everted with rounded lip and internal ledge: cylindrical neck and handles with circular profile. One example identified, in Fabric 2; max. D. 180mm, with stamp CEHN on handle (below, stamp No. 4). B/S 77, 289.

At *Verulamium* a similar example was dated to A.D. 60–75 (Frere 1972, fig. 99, 5), while another from the Horti Torlonia at Rome was dated between the reigns of Claudius and Trajan (Rodriguez Almeida 1974–75, 229, fig. 203).

Variant C (FIG. 75, 3): Similar to Variant B except for a flatter lip. One example identified, in Fabric 2; max. D. c. 180mm. WAN 1309.

At *Verulamium* a similar example was found in the context of A.D. 150–130 (Frere 1972, fig. 99, 10), while at Augst another was found in a context of A.D. 75–125 (Martin-Kilcher 1983, fig. 2, 22).

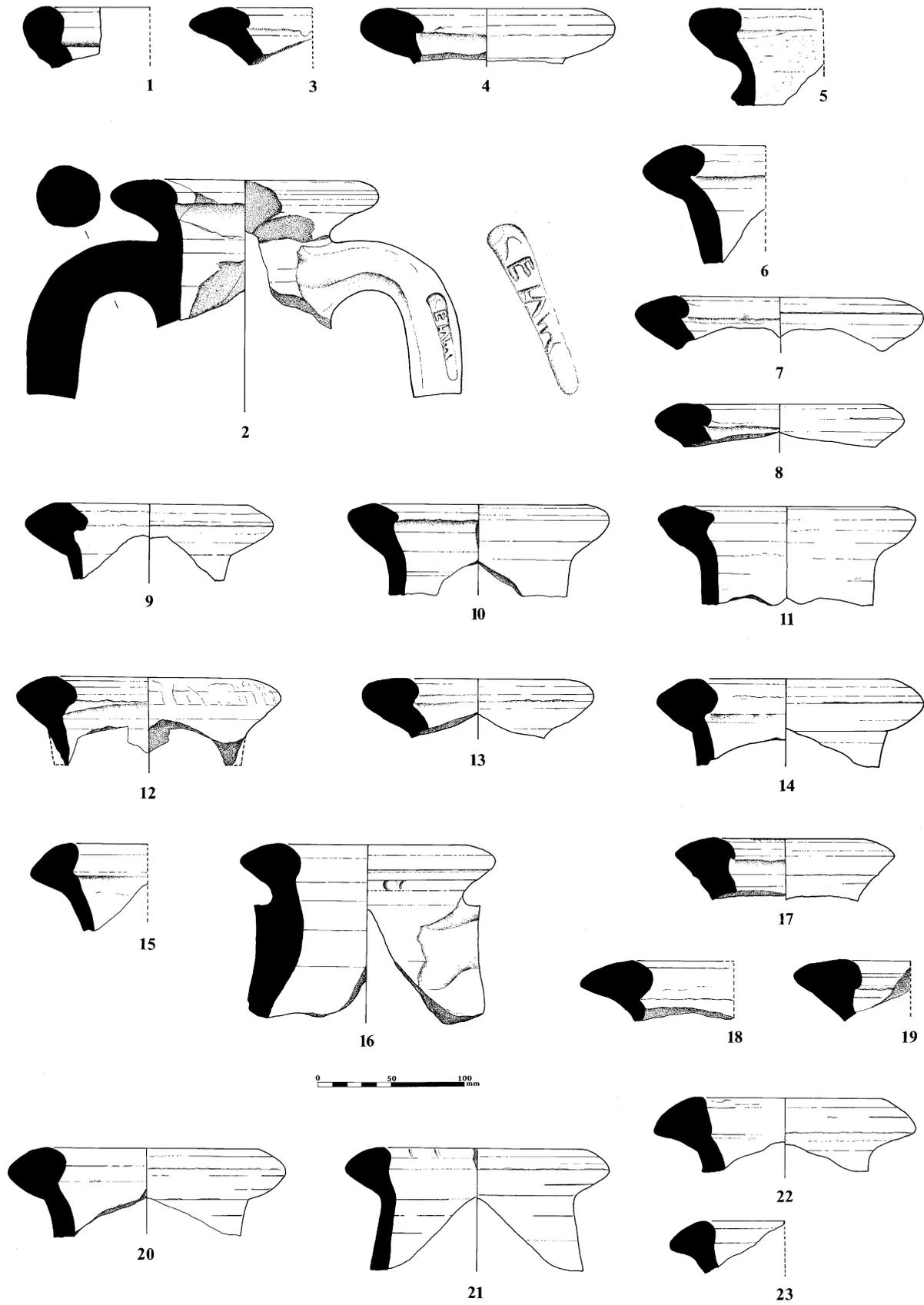


FIG. 75. Amphorae rims, Dressel 20 (1-23). Scale 1:4.

Variant D (FIG. 75, 4): Similar to the above, except that it has a more developed internal ledge. One example identified, in Fabric 3; max. D. c. 176mm. 76C, XLVIII.

This was discovered in a Phase 3B context and is undoubtedly residual. A similar example was discovered in a first-century A.D. deposit at Exeter (Bidwell 1979, fig. 65, 138). At August it occurred in a context of A.D. 75–125 (Martin-Kilcher 1983, fig. 2, 23), and at Rome in one of the first to second centuries A.D. (Rodriguez Almeida 1974–75, 229, fig. 20, 3).

Variant E (FIG. 75, 5): More elevated and with a thicker profile. One example was identified, in Fabric 2. WANT 1603.

A similar example came from a context of the late first or early second century A.D. at Cirencester (Wacher and McWhirr 1982, fig. 54, 161). At Rome this variant was found in a deposit dating to between the reigns of Claudius and Trajan (Rodriguez Almeida 1974–75, 2288, fig. 19, 2), while another was dated to between A.D. 80 and 150 at August (Martin-Kilcher 1983, fig. 2, 26).

Variant F (FIG. 75, 6–8): A more angular lip with a well developed internal groove. Three examples were identified, in Fabrics 2 and 3; average D. 187mm (respectively 176mm, 198mm and incalculable). 76B, X, 5; 76B, X, 5; 76A, IX, 11.

These were undoubtedly residual in Phase 3A contexts of between A.D. 230–325. However, an example from *Claesentum* was dated to between A.D. 70–170/180 (Cotton and Gathercole 1958, fig. 24, 6). On the Continent dated occurrences are later; at August a similar rim was dated to A.D. 100–150 (Martin-Kilcher 1983, fig. 2, 25), and at Ostia in Italy another was dated to between A.D. 140–180/190 (Panella 1983).

Variant G (FIG. 75, 9–10): More upright with a sharper internal groove. Two examples were identified, in Fabrics 2 and 3; D. 180mm and 170mm. 76B, X, 67; WAN 952.

These were undoubtedly residual in Phase 3A contexts. At Cirencester a similar example was discovered in a context of the late first to early second century A.D. (Wacher and McWhirr 1982, fig. 54, 137). Similarly, another example from Ostia was dated to the Trajanic/Hadrianic period (Panella 1972, 78, fig. 1), although at August one was dated to A.D. 125–175 (Martin-Kilcher 1983, fig. 2, 27). At Rome, on Monte Testaccio, an example was dated to the Antonine period (Rodriguez Almeida 1974–75, 231, fig. 22, 3).

Variant H (FIG. 75, 11–15): The rim assumes an ovoid profile and the internal rim loses its overhang. Nine examples in Fabrics 1 and 2 were identified with an average diameter of 165mm (respectively 180mm, 182mm, 181mm, 181mm, 200mm, 176mm, 160mm, and incalculable). 76A, X, 5; 74B, X, 5; 76B, X, 67; 66 B82/2; 76C, XXXVII, 71A; 76A, IX, 11; 76C, XLVIII; 76B, X, 5.

The datable examples were undoubtedly residual in a Phase 3A context. For example, at August, an example was dated to A.D. 130–180 (Martin-Kilcher 1983, fig. 2, 28), while at Monte Testaccio another was found in the Antonine sector (Rodriguez Almeida 1974–75 231, fig. 22, 1). A similar rim at *Verulamium* was dated to A.D. 140–150 (Frere 1972, fig. 99, 15).

Variant I (FIG. 75, 16): A more elliptical rim which loses internal definition. Two examples were identified, in Fabrics 2 and 4. D. 176mm. LW/U/S; 76A, IX, 11.

The latter was undoubtedly residual in a Phase 3A context. At August, a similar piece was dated to A.D. 125–175 (Martin-Kilcher 1983, fig. 2, 29), while at Monte Testaccio an example stamped (Sax)OFERREO came from the Antonine sector (Rodriguez Almeida 1974–75, 231, fig. 22, 3).

Variant J (FIG. 75, 17–19): Flatter profile with a more inclined outer face. Three examples were identified in Fabrics 1 and 2. D. 152mm. WANT 1708; WANT 3647; 69A, V (2).

A similar example was found at August and dated to A.D. 80–130 (Martin-Kilcher 1983, fig. 2, 30).

Variant K (FIG. 75, 20): More everted and angular version of variant J. One example in Fabric 2 was identified: D. 190mm. 76A, X, 5.

This was residual in a Phase 3A context. At Augst an example was discovered in a context of A.D. 150–210 (Martin-Kilcher 1983, fig. 2, 35).

Variant L (FIG. 75, 21): Narrower profile with concave depression on the inner face: two notches in the top of the rim. One example was identified in Fabric 2. D. 180mm. '393'/1966/67.

At Augst a similar example was dated to A.D. 150–210 (Martin-Kilcher 1983, fig. 2, 36). In view of this, one from *Verulamium* was probably residual (Frere 1972, fig. 100, 20).

Variant M (FIG. 75, 22–3): More pronounced outer face with a gentle overhang. Two examples were identified in Fabric 2. D. 180mm and incalculable. 1967, 3583; 76B, X, U/S.

A similar example from Ilchester was dated to the third century (Leach 1982, fig. 62, A12). This suggests that the more complete example from Dorchester (Draper and Chaplin 1982, 42, fig. 19, 30), stamped ARAXI EM (Callender 1966, no. 123) and dated to the first quarter of the fourth century was probably residual. This is confirmed by two other third-century contexts, at Augst (Martin-Kilcher 1983, fig. 2, 39: A.D. 200–250) and at Rome (Rodriguez Almeida 1974–75, fig. 25, 1–2: Cimitiero dei Inglesi and Monte Testaccio).

Variant N (FIG. 76, 24–5): Everted rim with ridging and overhang on the outer face: thick elliptical handles with circular profile. Three examples were identified, in Fabrics 2 and 3. Average D. 153mm (151mm; 156mm). RC, 1970; B, 1977/257; WAN 7(1)7 U/S and WAN 7?, A, U/S.

At Augst, one example was dated to A.D. 200–250 (Martin-Kilcher 1983, fig. 2, 38).

Variant O (FIG. 76, 26): Very characteristic tall rim with moulded outer face and heavy internal groove. One example identified in Fabric 4. D. 150mm. 76C, XXXVIII.

This was found in a Period 3 context. At Catsgore another was dated to between the late second/early third and the later fourth centuries A.D. (Leech 1982, fig. 97, 1). At Augst, a similar example was dated to between A.D. 300–350 (Martin-Kilcher 1983, fig. 2, 49).

Feet

Dressel 20 amphora feet exhibit virtually no typological variation and cannot be subdivided into different categories on the basis of chronology. They are knob or button-shaped with a small plug on the inside.

Two examples were identified (FIG. 76, 27–8) in Fabrics 2 and 3, WAN 5785; WAN 1310.

Handles

Variant I: As those on the semi-complete example (FIG. 75, 2) WAN B/S 1977/289. Two examples were identified in Fabric 2: CBI R.D.; 76A, IX, 1. One of these was found in a Phase 3B context. However, their similarity to those on B/S 1977/289 suggests that they were of first century date.

Variant II: Profile and section typical of early Dressel 20s. Note the marked kink at the junction of shoulder, and the elliptical section. Seven examples identified: 1977/289, U/S; 76A, IX, 3; 76B, IV, (20B); 76A, IX, 18; LW, US, one example with no inventory record; 76B, X, 9 (FIG. 76, 30). These probably date to the first century A.D., although the examples from Wanborough appear in Phase 2B and Period 3 contexts. Fabrics 2–4.

Variant III: Plain rounded section with a profile broadly similar to the semi-complete amphora (FIG. 75, 2). Nineteen examples were identified: WANT 3162; WAN 5728; 76A, IX, 20; 76C, XXXVII, 112; U/F, B, 1977/289; WANT 3849; 76B, X, 16, 174; WANT 4274; LW U/S; 76B, X, 5, 388; WANT 3588; 76B, XVI, 400; 70 HI, 7; 69C, VI, 3; 76B, 20Z; 76A, XXI, 59; 76A, XXI/XX?, U/S; 76A, IX, 18 and LW U/S (FIG. 76, 29, 31–7); Fabrics 2, 3, and 4. The dated examples from Wanborough were found in Phase 2B and 3 contexts, although they are all probably of second or third century date (see for example, Rodriguez Almeida 1974–75, table preceding p. 238).

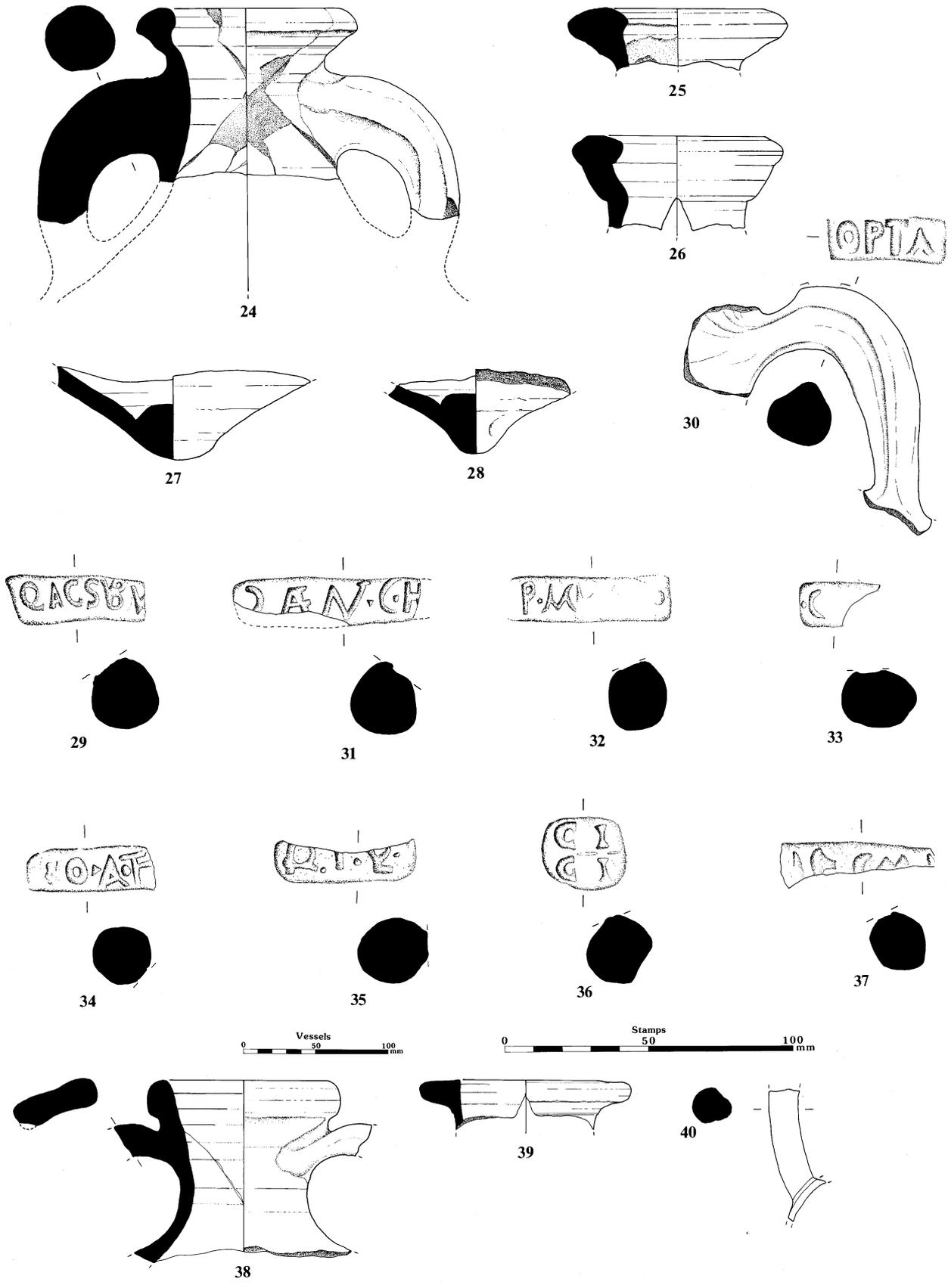


FIG. 76. Amphorae: Dressel 20 (24-37); Pélichet 47 (38); Dressel 30 (39); unidentified (40). Scale 1:4, stamps 1:2.

Stamps

Ten stamps were identified. These stamps record the name of the owner of the estates which produced the olive oil carried in the amphorae. It has been suggested that the stamps may have acted as a form of fiscal control (Remesal 1977–78, 90ff).

1. Q AGSVBV; on a handle (FIG. 76, 29). Callender 1965, 220, no. 1417d; Ponsich 1979, 65–6, fig. 22. This can be expanded to Q(uintus) A()G()SUVU(r) and interpreted as *Quintus Attius Gemellus Suburanus*. The amphora was probably produced on one of the kilns in the vicinity of Cortijo del Judio (Palma del Rio), to the northeast of Seville. The kilns date to c. A.D. 100. U/F, B 77/289.
2. OPTA; on a handle (FIG. 76, 30). Callender 1965, 199, no. 1266; Ponsich 1974, 54, figs 54–7; *idem* 1982, 185, Lam XLVIII, 14. This undoubtedly refers to the family of the *Optati*, whose stamps are recorded at many sites along the Guadalquivir valley (Thevenot 1952; Remesal 1977–8, 111ff). This particular variant is only recorded at the kiln of Tejillo or Tejarillo and while it is possible that this was manufactured there, a recent excavation of two of the kilns failed to yield further examples (Remesal 1983, 122ff). Callender dated this between A.D. 60–100. B 77, 289.
3. ÆN C H E; on a handle (FIG. 76, 31). Callender 1965, 239, no. 1559o; Ponsich 1979, 43. This can be expanded to SAENI C H E, and interpreted as SAEN(ianense) C()H()E(). This was probably manufactured at one of the kilns in the vicinity of Huertas del Rio between A.D. 90–140. 76B, XVI, 20A.
4. CEHN.....; on the handle of a variant B rimmed vessel (FIG. 75, 2). Callender 1965, no. 1559e. The interpretation of this stamp is difficult but may be a variant of the stamps of the figlinae producing the Saenienses stamps. In this way the legible part of the stamp would read CEHNISPÆ, a misspelling of CENHISPÆ. This could be expanded as *Cenii* (figlinae) (oleum) *Hisp(anum) Sae(nienses)*. Callender suggested that these stamps would have been produced on kilns lying between Axati (Lora del Rio) and Arva (Pena de la Sal) and recent work tends to confirm this. The stamps were probably produced between A.D. 80/90–130/40, marginally later than the suggested typological date for the vessel on which the stamp appears. B 77/289.
5. P M....; on a handle (FIG. 76, 32). The stamp is incomplete and identification is difficult; however, it may belong to *P() Manili Super(stitis)*, a stamp dated to the first half of the first century A.D. (Callender 1965, no. 1345). 76B, X, 16, 174.
6. C...; on a handle (FIG. 76, 33). This is incomplete and difficult to interpret. LW U/S.
7. ..O.A.TF ; on a handle (FIG. 76, 34). This is also incomplete and difficult to interpret. WANT 3849.
8. On a handle (FIG. 76, 35). Callender 1965, no. 1457b; Will 1983, 405, pl. IV, 35. This is difficult to read but may perhaps be expanded to Q.F. VLVIP, which Will dates to the second half of the second century A.D. and ascribes to the figlina of Arva (Castillejos). She also suggests that this is in fact the correct reading of the stamp listed by Callender as Q.F.VE which he dated to the later first century A.D. 76B, X, 5.
9. CI/CI on a handle (FIG. 76, 36). To my knowledge this stamp is unparalleled. It should be expanded to read C(...) I(...) / C(...) I(...).
10. Illegible; on a handle. (FIG. 76, 37)

Body sherds

A total of 341 body sherds, readily distinguishable by their extreme thickness and heavy weight, weighing 52.09kg, was found in the more recent excavations. These can be subdivided into three main fabrics:

Fabric 2:	314 sherds	=	46.71kg
Fabric 3:	17 sherds	=	4.03kg
Fabric 4:	10 sherds	=	1.35kg

Dressel 20 fabrics

Fabric 1: Light buff to yellow fine-grained clay, hard and brittle. Contained frequent angular/subangular quartz grains and occasional calcite and biotite mica. The outside of vessels in this fabric were covered in a fine yellow clay wash.

Fabric 2: Light pinkish-brown (occasionally fired to a reduced grey) fine-grained clay, fired to a very hard consistency. Contained frequent inclusions of quartz crystals, calcite, and limestone, together with occasional pieces of ironstone. The outside surface of vessels was covered in a white/yellow wash.

Fabric 3: Light buff to white, hard and fine-grained clay. Fabric characterised by a ground scatter of very common quartz crystals, less angular than those of Fabric 1. In addition, particles of biotite mica.

Fabric 4: Light buff to yellow fine-grained clay, fired to a very hard consistency. Similar to Fabric 2, but characterised by a high proportion of lime particles.

Fabric 5: Buff to off-pink clay, fired to a hard consistency. Characterised by a moderate presence of larger quartz grains (up to 1mm). Other minerals, like mica, and calcite also present. Covered by external whitish wash.

Southern Spanish amphorae

These were manufactured at sites along the south coast of Baetica and southern Tarraconensis (Beltrán Lloris 1977; Peacock 1974). There were a wide range of forms, the most common being Beltrán I, IIA, IIB, IIC, III, and IV (Beltrán Lloris 1970). These carried different varieties of fish preserve, like *garum*, *liquamen*, *muria*, and *laccatum* to most western provinces between the late first century B.C. and the middle of the second century A.D. The amphorae appear on sites in Britain between the first and second centuries A.D. (Exeter: Bidwell 1979, fig. 61, 42; Cirencester: Wachter and McWhirr 1982, fig. 54, 162–3; *Camulodunum*: Hawkes and Hull 1947, pl. LXXII, 186A).

1. One body sherd and two handle fragments were identified: no inventory number, 1966/1967; 76B, X, 20Z; WAN U/S; Fabric 6. The body sherd is readily distinguishable from those of form Dressel 20 on the basis of the fabric and because it is thinner and more finely finished. The handles have an elliptical profile and exterior groove. (FIG. 76, 40–1)
Only the latter example was dated, occurring in a Phase 1C context.
2. One possible body sherd of southern Spanish origin in Fabric 7, in a Phase 3B context. 76A, IX, 3.

Fabrics

Fabric 6: Light orange to buff/yellow fine-grained clay. This was hard and contained few visible inclusions, except the occasional speck of calcite and quartzite. It was covered with traces of an external wash.

Fabric 7: Light buff clay, finely levigated, with occasional laminar airholes or cracks. Inclusions of lime, pellets of clay, and lesser minerals. The outside was covered in a fine slip or wash.

Tarraconensian wine amphorae

These were produced along the eastern coast of Hispania Tarraconensis, in what is now Catalunya where a number of kilns are known (Pascual-Guasch 1977; Key and Jones 1982). The main amphora types were Dressel 1/Pascual 1 and Dressel 2–4. Dressel 28 and 7–11 were manufactured less frequently. Wine was the principal commodity carried in the amphorae, being consumed locally and also exported overseas (Tchernia 1971) between the late first century B.C. and the second century A.D. Work by Williams (1981) has shown Catalan amphorae to have been imported to a number of Late Iron Age sites in Britain.

One body sherd was identified, Fabric 8. 76B, XXIV/76A, U/S.

Fabric 8: Orange-ochre clay, fired to a hard consistency. Inclusions were poorly sorted and consisted of specks of mica, calcite, quartz, clay pellets, and ferromagnesian minerals. There was no external wash visible. This fabric is typical of the region of Laietania, i.e. Barcelona, Mataero, Badalona, and Caldes de Montbui.

South Gaulish Pélichet 47/Ostia form LX

These were manufactured in southern France in Languedoc and at the mouth of the Rhône. Kiln sites are known at Fours (Sauveterre near Avignon: Barraol 1969, 409) and Velaux, near Aix-en-Provence (Tchernia and Villa 1977). The amphorae are part of a repertoire which included the Dressel 2–4, and carried wine between the middle of the first and the third or fourth centuries A.D. This was exported to Spain, throughout Gaul, military installations along the Rhine and Danube, and to Britain (e.g. Colchester: Hull 1963, fig. 118, 188; *Claesentum*: Cotton and Gathercole 1958, fig. 26, 9; Ilchester: Leach 1982, fig. 62, AI; Gloucester: Peacock 1972, 68; Heighway 1983, fig. 69, 114; cf. Peacock 1978, fig. 44).

Rims

Short stocky neck with a gently everted rim with squarish section. The handles had a characteristic junction with the neck of the vessel and an elongated section (FIG. 76, 38). One example was identified in Fabric 9, D. c. 130mm. 76B, X, 9/ 76B, X 5 (both part of the same vessel). This was discovered in a Phase 3B context but was almost certainly residual.

Fabric 9: Light buff to light brown clay, very finely elutriated. Frequent scatters of muscovite(?) mica, together with particles of lime and the occasional air-hole. The exterior of the piece was covered in a light buff wash.

South Gaulish Dressel 30/Ostia Form L Nijmegen 132b

A lesser known variant of the more common South Gaulish wine amphora. The type has been studied by Panella (1973), who tentatively suggested a south Gaulish origin. This has been confirmed by the discovery of a kiln at Pavadou in Provence (Brentchalloff 1981, 43).

Rims

Characteristic flared rim with rounded edge and flat upper side: a marked ridge around the base of the rim and traces of a bevelled edge around the inner mouth of the rim. One example identified in Fabric 9, D. 150mm (FIG. 76, 39). 76A, IX, 1. This was discovered in a Phase 3B context and was probably residual. A similar vessel was discovered at Fishbourne in a context dated to the turn of the first and second centuries A.D. (Cunliffe 1971, fig. 100, 157). The type is also found at Ostia between the last decade of the first century A.D. and the second quarter of the third century A.D. (Panella 1973). Finally, at the Pavadou kiln, examples were found in a context of the late first century A.D.

Miscellaneous

One handle sherd of an unknown amphora type; Fabric 10 (FIG. 76, 42). 76 U/S EW trench.

Fabric 10: Dark grey clay fired to a hard consistency. There were occasional inclusions of limestone reaction rings, together with traces of ironstone and the occasional dark mineral. The surface was an off-pink to buff-coloured wash. The origin of the fabric is not known.

Discussion

The counts and weights of the amphorae found in the Wanborough excavations are presented in TABLE 13. This establishes the *pattern of loss* of amphorae through time (TABLE 14), although this has undoubtedly been distorted to some degree by residuality.

There is little doubt that only the southern Spanish Dressel 20 was consistently imported to the site. It was present in Claudio–Neronian Phase 1A contexts and well represented by the late Neronian/early Flavian period (Phase 1B–C). This is followed by a drop in its presence during the second and earlier third century, followed by a sharp increase during the later third and fourth century, Phase 3. It should also be noted that, apart from variants B and O, all the rims were found in deposits up to 100 years later than similar examples on sites in Italy and Germany.

In absolute terms, the number of complete Dressel 20 amphorae present at the site at any one time was never great. A total of 19 different rims was identified: spread over a theoretical 350 years of occupation (A.D. 50–400 plus); this is equivalent to the loss of only 0.05 amphorae

TABLE 13: COUNTS AND WEIGHTS OF ALL AMPHORAE RIMS, BASES, HANDLES AND SIDE SHERDS

Period	Miscellaneous		Dr. 20	S. Spanish <i>Garum</i>		Tarrac. wine		S. Gaulish <i>Pélichet 47/0.LX</i>		Dr. 30/0.L		
1A: A.D. 50–60	–	–	3	0.15	–	–	–	–	–	–	–	
1B: A.D. 60–65	–	–	18	3.65	–	–	–	–	–	–	–	
1C: A.D. 65–75/80	–	–	11	4.47	1	0.30	–	–	–	–	–	
2A: A.D. 80–150	–	–	12	2.10	–	–	–	–	–	–	–	
2B: A.D. 150–230	–	–	11	2.05	–	–	–	–	–	–	–	
2: A.D. 80–230	–	–	123	7.10	–	–	–	–	–	–	–	
3A: A.D. 230–325	–	–	54	10.10	–	–	–	–	–	–	–	
3B: A.D. 325–400+	–	–	119	21.71	1	0.10	–	–	–	1	0.60	
3: A.D. 230–400+	–	–	12	2.27	–	–	–	3	1.32	–	–	
undatable	1	0.30	43	21.08	1	0.45	1	0.71	–	–	–	
Total	1	0.30	406	74.68	3	0.85	1	0.71	3	1.32	1	0.60

TABLE 14: WEIGHTS OF DRESSSEL 20 THROUGH TIME, AS A PERCENTAGE OF ALL DRESSSEL 20 SHERDS

A.D. 50–80	14.80%
A.D. 80–230	45.06%
A.D. 230–400	69.30%

per annum. Similarly, on the basis that a complete Dressel 20 weighed approximately 35.10kg (Zevi and Tchernia 1969, 177), the weight of quantified sherds (74.68kg; TABLE 13) is the equivalent to 2.12 complete examples, or 0.006 amphorae per year. Although these are comparatively large totals by British standards (Williams and Peacock 1983, 275), they are dangerously small for any ‘economic’ conclusions about the site.

Nevertheless, this pattern of loss is very different from those on other British sites (Williams and Peacock 1983). Williams and Peacock established that from the middle of the first century A.D. until 150/200, Dressel 20 comprise an increasingly large share of pottery assemblages. Subsequently there is a sharp drop, with the type disappearing altogether by *c.* A.D. 250. This would appear to coincide with the accepted ‘end-date’ of the industry. Although fragments are present in fourth-century contexts, Williams and Peacock suggest that they were residual and they represented neither the ‘later’ phase of Dressel 20 production, nor Dressel 23.

In comparison, the second century at Wanborough is a period of low loss, while the third, fourth, and early fifth centuries are substantially higher. This may be due to a high level of residual pottery in the layers. On the other hand, a similar phenomenon was recorded at the nearby site of Catsgore (Leech 1982, 153), where, in terms of the percentage share of all the site pottery, amphorae comprise 0.4% between A.D. 100–150/180: 2.7% during the third century, 4.2% after A.D. 320. Leech explained this by suggesting that the amphorae had been used as storage vessels for long periods after their arrival at the site.

The same may also be true for the Dressel 20 from Wanborough. It is known that in the Mediterranean world, amphorae were used for many different purposes after their original cargo of oil had been discarded: for example, as storage vessels for different commodities, coffins for children or as ready-made ‘cavities’ in the spring of concrete vaults. It is possible that the amphorae from Wanborough were originally shipped from Baetica to Gloucester, either fulfilling a contract or as occasional cargo. They would then have been emptied of oil which would have been sold to clients through merchants (*mercatores*) or other agents. The discarded amphorae would either be sold as empty containers, or as containers for a different commodity, at local markets. Once at Wanborough, the vessels could have been used for storage for many years. If such a sequence of events were true, it would help to explain the high period of loss during the fourth century and, at the same time, suggest that the presence of Dressel 20s on inland town and rural sites does not pre-suppose that they were importing southern Spanish olive oil.

Once it has been shown that the rate of importation of Dressel 20s is actually quite low, the import of amphorae from the south coast of Baetica, the northeastern coast of Tarraconensis and Southern Gaul can be seen as infrequent and hardly classed as a regular 'trade'. This conforms to results from sites elsewhere in Britain (Williams and Peacock 1983, 268).

Another point of note is the total absence of fragments of north African oil and *garum* amphorae, common in the Mediterranean during the third to sixth centuries A.D. (Keay 1984, Types I, III–VII, XXV and LXII). In Britain, Peacock has recorded sherds at Poundbury (Dorset), Exeter, and York (Williams and Peacock 1983, 269, table 1). This absence might point to a breakdown in commercial contacts in the area of Wanborough, which in turn might have made the Dressel 20s on the site even more important as storage vessels.

22. MORTARIA (FIGS 77–9)

By Katharine F. Hartley

This report was submitted in 1986; for updates on all entries concerning imports in Fabrics 11–12, Gillam 238 and 255, Hartley Group 1 and Bushe-Fox 26–30, see Hartley 1998. For Fabric 24 see Tomber and Dore 1998, 68–9.

INTRODUCTION

A total of 1172 mortaria fragments from Wanborough was recorded. The archive catalogue records details of fabric, form, origin, and date. The mortaria are discussed here in three sections: fabrics (1–29); forms (1–74); and stamps (1–24).

Form types which are well published elsewhere, e.g. the Oxford types, are not re-illustrated here. With these exceptions, the illustrated type series aims to present a representative sample of the range of mortaria present, particularly the unusual vessels which probably derive from a local source in the Wanborough area (form type 10). The minimum number of vessels has been calculated from identifiable rim sherds.

THE FABRICS

1. Slightly sandy, greyish-cream fabric, occasionally with pink core, and sometimes cream to buff slip; some well-sorted, transparent, pinkish and brownish quartz, and very occasional opaque red-brown inclusions. The distinctive trituration consists entirely of mixed pink, brownish and transparent quartz. It was produced at workshops like those at Cowley, Headington, Sandford etc., in the vicinity of Oxford (Young 1977). Unless the specific workshop is known or suspected, the term 'Oxford' is used. The quantity of tempering can vary considerably. Mortaria of the period A.D. 100–140 normally have a large quantity of inclusions, while occasional mortaria, always later than A.D. 140, can have fewer or finer inclusions than the norm and have, therefore, an unusually fine texture.
2. Fine-textured, slightly micaceous, red-brown fabric, sometimes with a grey core and with a thin white slip; trituration as Fabric 1. From workshops at Baldon, Cowley, Dorchester, and elsewhere in the Oxford region (Young 1977).
3. Fabric and trituration as Fabric 2, but with a red-brown, samian-like slip; produced in the same workshops as Fabric 2 (Young 1977).
4. Normally a distinctively fine-textured fabric sometimes termed 'pipeclay', often fired to a very hard texture in the third and fourth centuries A.D. However, the amount of tempering can vary considerably from a fabric almost free of it to one with a fair amount of fairly well-sorted quartz and occasional red-brown or dark brown inclusions. The trituration after A.D. 130–140 consisted of abundant refired dark brown and/or red-brown grog. Produced in workshops adjacent to *Manduessedum*, the modern village of Hartshill, and probably in the surrounding area on the borders of Warwickshire and Leicestershire.
5. A poorly mixed, softish, greyish-cream fabric, somewhat soapy to the touch, with grey and pink in the core. It is basically fine-textured but has laminations within the fabric; ill-sorted, quartz, sandstone, and mudstone inclusions are scattered throughout. The surviving trituration grit consists of quartz with a little sandstone. The unusual composition of the fabric, together with the rim form of Mortarium 396, supports attribution to the same source as two fabrics represented at Richborough and Sheepen (Hartley 1985, 92–3). On petrological grounds, fabric 5 at Sheepen can be attributed to the Eifel/Rhine area; the visual similarity of the mortarium fabric at Richborough to Mayen ware there was noted by the present writer. Fabric 4 (Sheepen and Richborough) and Wanborough (archive 396) do not contain inclusions which permit attribution on petrological grounds, but the most unusual types of fabric, together with the rim forms, make it reasonable to attribute them to the Eifel/Rhine area.
6. Self-coloured and very fine-textured, orange-brown fabric with very thick grey core; some limestone and occasional quartz inclusions. The trituration consists almost entirely of quartz with very occasional haematite. Probably locally produced.

7. Granular, greyish-white fabric, packed with well-sorted quartz and possibly some flint inclusions, and with flint and quartz trituration. This is the coarser fabric in which mortaria were produced in the New Forest potteries. It can be almost identical to that produced in the *Verulamium* region (see Fabric 13), although the whiteness of the former may have a starker quality. Mortarium 975 is certainly a New Forest product.

8. Rather granular fabric, fired to orange-brown near the surface but often with a thick grey core and always with a white or cream slip. Abundant quartz and occasional red-brown inclusions. The trituration consists of transparent white and pinkish quartz with opaque red-brown (?iron-rich) and black particles. The texture can vary a little. The main outlet for this ware was probably at Cirencester and the distribution fans out to the south and west, reaching sites in Wiltshire, Somerset, Avon, and south Wales. The workshops seem likely to have been either in southeast Gloucestershire or north Wiltshire. It is not identical with Fabric 16, which must be attributed to somewhere in the vicinity of Wanborough, but it is so close that the kilns may well have been between Cirencester and Wanborough, and probably nearer to the latter.

9. Very hard, fine-textured orange-brown fabric weathering to a pink-brown surface, with a white slip. There is a moderate amount of small-sized quartz, red-brown and black inclusions with occasional very ill-sorted limestone inclusions throughout the fabric. The trituration grit consists of red-brown, pink, and white quartz with occasional opaque red-brown and black and probably some limestone originally; the predominant effect is red-brown. This is from an unknown workshop, certainly situated in the southwest of England and possibly in the vicinity of Wanborough.

10. Self-coloured, fine-textured, orange-brown fabric with very little red-brown, and occasional quartz and limestone tempering; trituration probably similar. Made in southwest England.

11. Fine-textured, pale brownish-cream fabric often with pink core; a minimum amount of tiny red-brown quartz, calcareous, and perhaps flint inclusions; trituration is mostly flint with occasional quartz.

12. Similar to Fabric 11 in every way except in being cream, occasionally a distinctly greenish-cream. Fabrics 11 and 12 were probably produced in the Pas-de-Calais area of northern France.

13. Usually a granular, greyish-cream fabric, sometimes with a pink or black core, and often with cream to buff slip; the fabric colour and/or the slip can be reddish-brown. The texture is obtained by the addition of a massive quantity of well-sorted quartz inclusions, perhaps with a little flint also. The trituration consists of flint, with a little reddish-brown material and quartz. Workshops producing this fabric existed at Brockley Hill, Bricket Wood, Radlett, and *Verulamium*, but unless the specific site is known or suspected, the term 'Verulamium region' is used in this report. The greyish-cream version is closely similar to the coarse fabric produced in the New Forest potteries (Fabric 7).

14. Fine-textured cream fabric with transparent and rose quartz and occasional opaque red-brown and black inclusions; quartz trituration. Probably made in the Rhineland.

15. Very hard creamy-buff fabric with quartz and occasional black and brown inclusions and solely quartz trituration grit. Probably made in the Rhineland.

16. Orange-brown fabric packed with fine quartz and occasional black inclusions, usually with a cream slip but occasionally a matt red-brown slip; transparent, milky, and rose quartz trituration with rare black, brown, and white opaque grits. Probably made in the Wanborough area (see stamp Nos 1–2).

17. Fine-textured cream to brownish-cream fabric with black, quartz and occasional red-brown inclusions; occasionally a few calcareous inclusions; orange-brown and quartz trituration. Probably made in the Rhineland.

18. Hard, red-brown fabric with grey-brown core and thin, matt, red-brown slip; sand-sized quartz temper; no trituration survives. Made in southwest England.
19. Fine-textured cream fabric with little or no tempering; quartz used in the trituration. Made in the Rhineland.
20. Fine-textured cream fabric with moderate amount of tiny quartz; flint and occasional black and red-brown inclusions. Attributed to Colchester from the stamp Sextus Valerius Viroma[rus?] (stamp No. 14), but the fabric is rather unusual for the Colchester workshops.
21. Buff fabric with thick dark grey core, and cream slip; packed with quartz and with occasional large red-brown inclusions; the addition of the temper makes the fabric very coarse. Trituration includes quartz, ?flint and opaque black material. Source unknown but likely to be from either southwest England or imported.
22. Soft, fine-textured brownish-cream fabric with very little temper (quartz, red-brown, black, and grey material); no trituration survives. This fabric is attributed on account of the vessel form to the workshops of the Atisii at Aoste, Isère, in Gallia Narbonensis.
23. Soft, fine-textured, slightly micaceous bright orange-brown fabric with no visible tempering. The trituration grits are of white quartz. These mortaria always have a red-brown samian-like slip overall. They are found in southwestern England and south Wales but predominantly at Caerleon and Caerwent, and the workshops are assumed to be at Caerleon.
24. Very fine-textured pale brown fabric with large angular quartz inclusions scattered throughout the fabric and occasional flecks of golden mica; quartz trituration. Probably produced in central France; the quartz is likely to be derived from the Massif Centrale.
25. Self-coloured, fine-textured, brown fabric with thick, bright orange-brown core; few quartz and ?mudstone inclusions. The trituration includes quartz. Probably made in southwest England.
26. Pink to orange-brown fabrics from more than one workshop in southwestern England. The texture varies, but all have some quartz inclusions and the trituration is solely or partly of quartz.
27. Orange-brown fabric with a good amount of white and rose quartz inclusions. Quartz is included in trituration. From southwestern England.
28. Fine-textured, drab yellowish-cream fabric with black and occasional quartz, flint, red-brown and calcareous inclusions. The trituration consists of quartz with some flint and black material. These vessels were probably made in northern France but it should be noted that the fabric is quite like one produced at Colchester.
29. Fine-textured, greyish-white matrix with abundant transparent quartz, and very occasional orange-brown inclusions. The trituration is probably of quartz.

THE FORMS (FIGS 77–8)

Imports

Hartley mortaria types refer to Hartley 1977; Gillam types to Gillam 1970.

1. Hartley Group IA (in Hartley 1998, Ii). A hooked-rim mortarium with horizontal or near horizontal ledge on the flange, adjacent to the bead, and a marked angle where the flange changes direction. There is always rough concentric scoring combined with the trituration grit on the inside, but there is no scoring or added grit on the flange. Probably made in central France. Fabric 24. A.D. 50–80.
Minimum no. of vessels: 6
2. Hartley Group IB (in Hartley 1998, Iiii). Other imported hooked-rim mortaria. These usually have concentric scoring combined with grit both inside and on top of the flange, except where the added clay for the spout conceals it. Fabrics 11, 12, 24. A.D. 50–90.
Minimum no. of vessels: 8
In addition, there are two vessels of Group I indeterminate type.

3. Gillam Type 238 or Hartley Group II. Mortarium with broad, flat, thin flange and handsomely moulded spout; the flange and the internal surface have concentric scoring combined with grit. Source probably in the Pas-de-Calais. Fabric 12. A.D. 70–100.
Minimum no. of vessels: 35
4. Mortaria related to Type 3 but possibly marginally earlier. They have the same distinctive spout, but the flange is more curved, approaching Hartley Group I. Could be related to Gillam 238. Source probably as Type 3. Fabrics 11, 12. A.D. 65–100.
Minimum no. of vessels: 11
5. Gillam Type 236. Mortarium with large, thin flange, sweeping down at a diagonal angle. Source in Aoste, Gallia Narbonensis. Fabric 22. Pre-early Flavian.
Minimum no. of vessels: 3
6. Bushe-Fox Type 26–30 (Bushe-Fox 1913, fig. 19). Usually with high bead, and thickish, turned-in flange. One notable feature of this type is the pronounced angle at the top of the flange as it changes direction. Their source is not known but is probably to be found in Gaul. Some variations occur in the rim profiles, but there are not enough closely dated examples known to permit dating of these. Fabrics 11, 12. A.D. 80–150.
Minimum no. of vessels: 12
7. A flanged mortarium with heavy, squarish section and inturned bead. Source in the Rhineland. Fabric 14. Probably A.D. 140–250.
Minimum no. of vessels: 1
8. Mortarium with high bead and downward pointing flange. Source in the Rhineland. Fabrics 17, 19, 28. A.D. 140–250.
Minimum no. of vessels: 3
9. Gillam Type 255. Very tightly bunched-up flange. Its source is unknown, but is probably in the Rhineland. Fabric 19. A.D. 140–200 plus.
Minimum no. of vessels: 3

British mortaria

Wanborough area

10. There are a minimum of 22 mortaria whose fabric and unusual style point to a single unknown source; the large number and their unusual features point to manufacture in some small workshop in the vicinity of Wanborough. All are in one fabric (Fabric 16), except that Mortarium archive no. 203/204 has a matt, self-coloured slip instead of a cream slip. It is somewhere between Fabrics 2 and 8 in texture and trituration, but there is a superficial similarity to both.

The rim forms associated with stamps from two dies of the new potter I.VO.NER and the profiles of archive nos 34, 98, 288, 842, and 876 would fit with the workshop being established during the first half of the second century and, although some of the other rims cannot be readily dated, they probably belong to the second half of the second century. The *floruit* for most minor workshops was in the second century and it is quite possible that the activity of this one was confined largely to that period.

Most of the mortaria do not have a normal bead but, in its place, have a wide, flat ledge sometimes rising slightly at the inside; in a few, which may be the latest, the inner edge is swept up into a peak, and this is matched by the flange which is similarly treated, giving a highly idiosyncratic result.

Minimum no. of vessels: 22

Southeast Gloucestershire or North Wiltshire

Types 11–20 are all in Fabric 8.

11. Flanged mortaria, often with distal bead, mostly Antonine.
Minimum no. of vessels: 3
12. Unusual flanged form, also with distal bead. This could be later than the second century.
Minimum no. of vessels: 1
13. Similar to mortaria made in the *Verulamium* area (Frere 1972, no. 1037), with very high bead. Probably A.D. 150–200, but could also be early third century.
Minimum no. of vessels: 1
14. Mortarium with very high bead, rather stubby ortho-flange and a bead broken and turned out to form a spout; they frequently have concentric grooving on the outside of the body. *c.* A.D. 250–400.
Minimum no. of vessels: 3

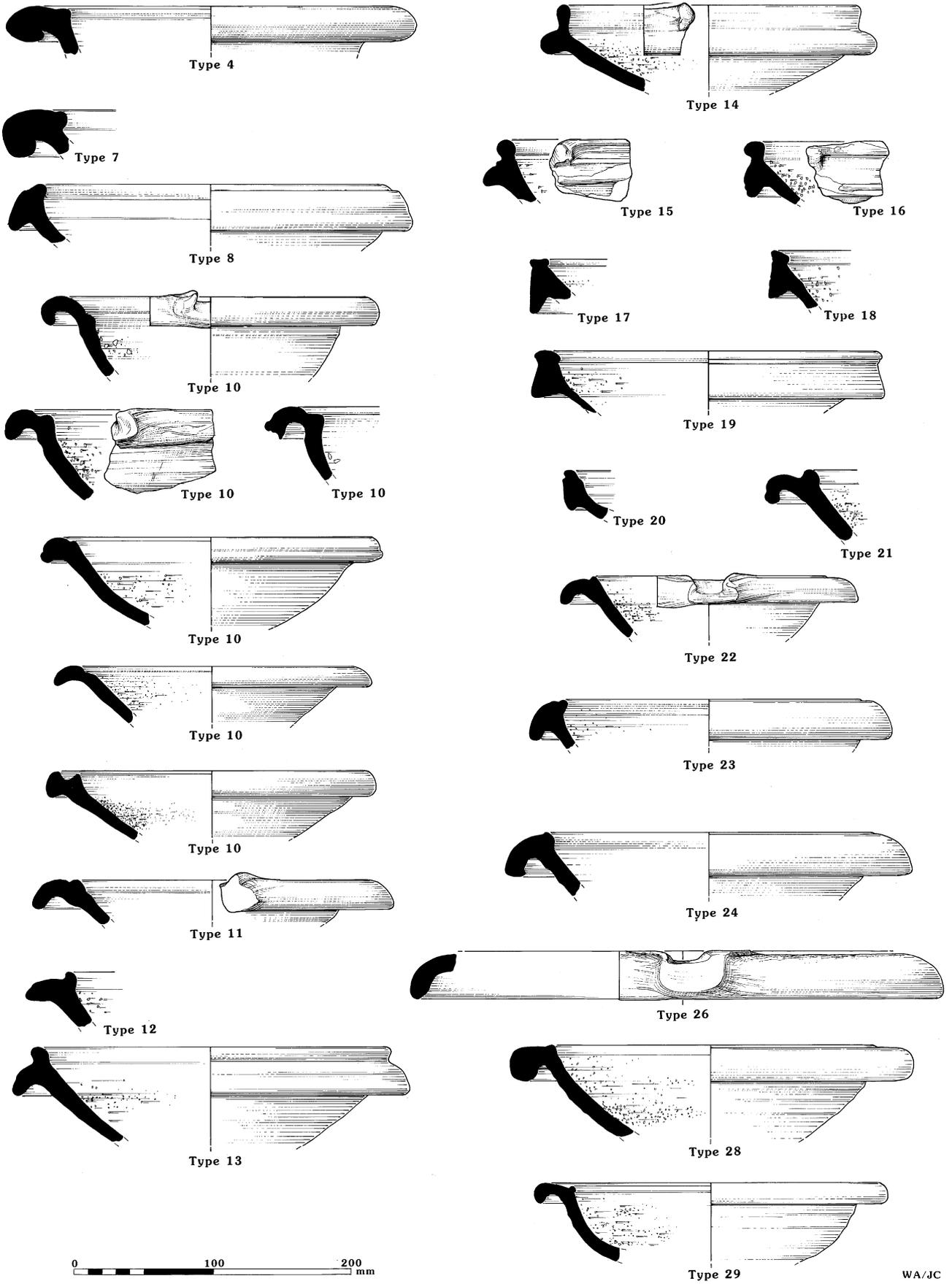


FIG. 77. Mortaria type series. Scale 1:4.

15. Similar to Type 14 in all features except that the flange is downturned and there is often a little step on the shoulder. A.D. 150–300.
Minimum no. of vessels: 2
16. A near wall-sided form with very high bead, convex flange, and bead turned out to form spout. A.D. 160–250.
Minimum no. of vessels: 3
17. Near wall-sided mortarium with plain wall and a spout as above; the high bead can be grooved. *c.* A.D. 180–250.
Minimum no. of vessels: 3
18. Wall-sided and near wall-sided, sometimes with a thin collar and one or more grooves at the bottom of the collar. A.D. 150–250.
Minimum no. of vessels: 5
19. Wall-sided mortarium with the wall fused into the body. A.D. 160–250.
Minimum no. of vessels: 1
20. A rather distinctive variation on Type 19. *c.* A.D. 160–250.
Minimum no. of vessels: 1

Caerleon and West Country

21. Mortarium with high bead and with distal bead on the flange; form typical of the Caerleon potteries. Fabric 23. A.D. 120–180.
Minimum no. of vessels: 1
22. Mortarium with lower bead, neatly moulded flange and spout; includes mortaria made at Caerleon and at a workshop in southwest England. Fabric 23. A.D. 120–160.
Minimum no. of vessels: 2
23. Unusual mortarium with a high bead, adjacent horizontal ledge, and almost vertical flange. Source in southwest England. Fabric 26. Pre-early Flavian.
Minimum no. of vessels: 1
24. Mortarium with heavy, rather shallow hooked rim. Source in southwest England. Fabric 18. Pre-early Flavian.
Minimum no. of vessels: 2
25. Mortarium with small, upstanding bead and fairly wide, flattish flange, sometimes downpointed at the end. Source in southwest England. Fabrics 6, 25. This is a typical pre-Flavian form (*cf.* Hawkes and Hull 1947, pl. lxxiii, 192A). (Not illustrated).
Minimum no. of vessels: 2
26. Mortarium with wide, shallow, hooked rim and clearly cut, projecting spout; there is rough concentric scoring on the flange and on the inside surface. Source in southwest England. Fabric 10. Pre-early Flavian.
Minimum no. of vessels: 5
27. Mortarium similar to Type 26 but with more rounded flange and with a projecting spout, typical of the pre-Flavian period. Source in southwest England. Fabric 9. (Not illustrated).
Minimum no. of vessels: 1

Second century mortaria made in the Oxford potteries

28. Mortarium with flange curled under and sometimes joined into itself, the whole flange rising above the level of the bead. Primarily A.D. 100–140.
Minimum no. of vessels: 18
29. Similar to Type 28 but flange not curled under. Primarily A.D. 100–140.
Minimum no. of vessels: 5
30. Similar to Type 29 but flange not raised perceptibly above the level of the bead. Primarily A.D. 110–150.
Minimum no. of vessels: 2
In addition, seven other vessels probably belong to Types 28–30.
31. Flange usually rising above bead, as in Type 28, but not curled under and with distal bead. Probably A.D. 100–140.
Minimum no. of vessels: 6
32. Mortarium with flange rising above the bead, not as tightly curved as Types 28–31; two grooves on the flange near to the bead. A.D. 110–50/60.
Minimum no. of vessels: 1

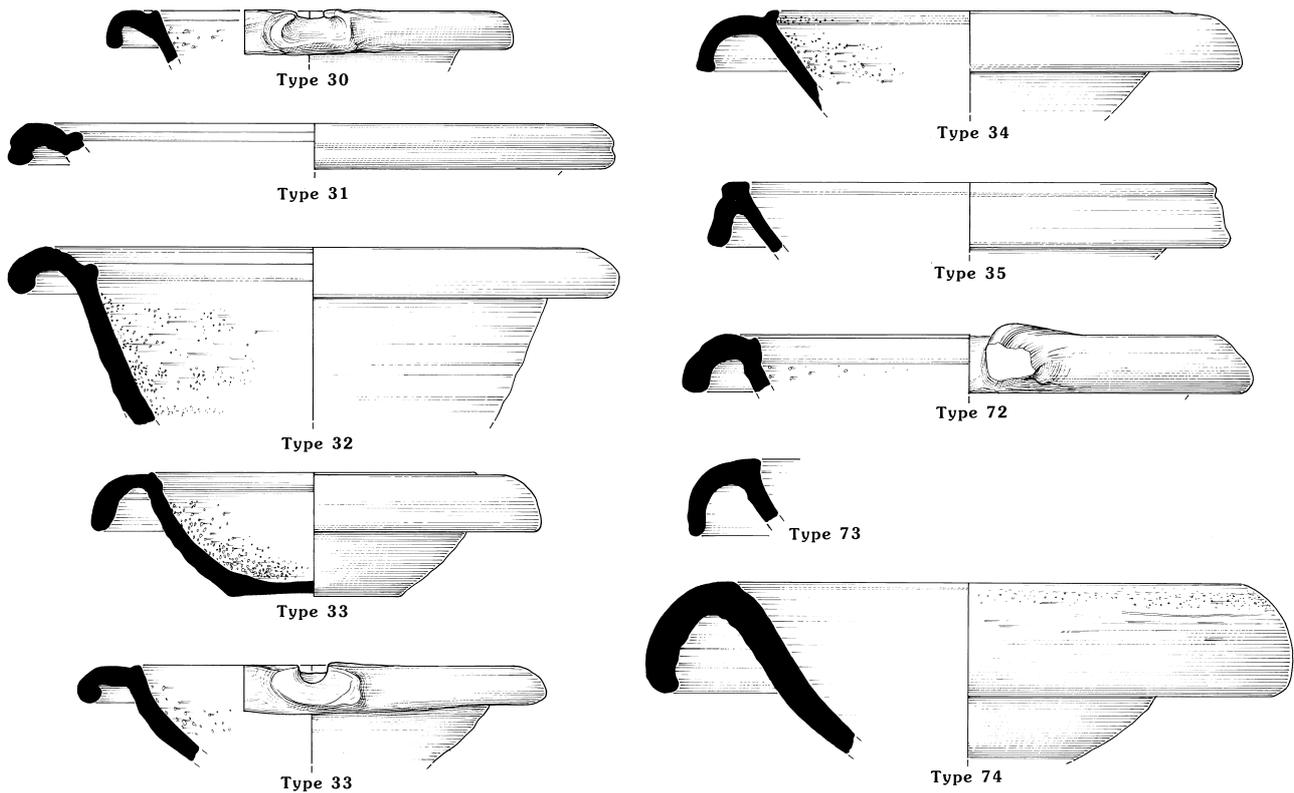


FIG. 78. Mortaria type series. Scale 1:4.

33. This group includes mortaria showing several slight differences in form, but which have no outstanding characteristics. Primarily A.D. 120–160.
Minimum no. of vessels: 17
34. Mortaria with wide, flat beads, particularly characteristic of the Oxford potteries in the Antonine period.
Minimum no. of vessels: 21
35. A type with high bead and diagonal, downward pointing flange. This type could still have been stamped, but it already has the features which link it closely with mortaria produced after the practice of stamping ceased in these potteries. A.D. 140–180.
Minimum no. of vessels: 1

Other Oxford mortaria (not illustrated)

Types refer to Young (1977).

36. Type M10. Mortarium with upright rim and downward-pointing flange. A.D. 180–240.
Minimum no. of vessels: 6
37. Type M11. Variant of Type M10, with flange hooked back almost to join body. A.D. 180–240.
Minimum no. of vessels: 4
In addition, two mortaria are of Type M10/M11.
38. Type M12. Mortarium with upstanding rim and stubby, downward-pointing flange. A.D. 180–240.
Minimum no. of vessels: 1
39. Type M14. Wall-sided mortaria made in the Oxford potteries; there is much minor variation in rim section. Where no trituration has survived, they can occasionally be confused with wall-sided mortaria made in the Rhineland.
Minimum no. of vessels: 14
40. Type M17. Mortarium with high bead and wide, flattish flange, hooked under at the end but never completely joined back into the flange. The bead and/or flange may be grooved, and the spout is formed by turning the bead out over the flange.
Minimum no. of vessels: 50
In addition, one mortarium is of Type M11/M17.

41. Type M17A. As Type M17, but a much smaller and daintier version.
Minimum no. of vessels: 2
42. Type M18. As M17, but the end of the flange is fused back into the flange.
Minimum no. of vessels: 26
43. Type M18A. As M18 but much smaller and daintier.
Minimum no. of vessels: 3
In addition, there are 13 mortaria of Type M17/M18.
44. Type M19. Mortarium with upstanding rim and wide, thick, unbent flange. A.D. 240–300.
Minimum no. of vessels: 2
45. Type M20. Mortarium with upstanding rim and wide, thin flange. A.D. 240–300.
Minimum no. of vessels: 3
46. Type M20A. Small versions of Type M20.
Minimum no. of vessels: 6
47. Type M21. Mortarium with downward-pointing angular flange, hooked back sharply. A.D. 240–300.
Minimum no. of vessels: 13

Young Type M22. Mortarium with high bead and small flange, variously treated; all variations dated A.D. 240–400 (Young 1977). An attempt has been made to indicate the numbers in which the different variations occur at Wanborough. There are seven vessels of indeterminate type within this group (Wanborough Types 48–57 below).

48. Type M22A. Thick flange, oblong in section, horizontal or very slightly raised; it has been folded up into itself. The bead is variously treated.
Minimum no. of vessels: 26
49. Type M22AA. Another mortarium with high bead and very thick, oblong flange turned up into itself. It usually has a distal groove. Perhaps A.D. 240–300.
Minimum no. of vessels: 5
50. Type M22B. Similar to M22A but flange often more squat and always raised at the distal end; bead plain or grooved.
Minimum no. of vessels: 19
51. Type M22C. As M22A but the flange is more curved; bead plain or grooved.
Minimum no. of vessels: 16
52. Type M22D. Horizontal flange, curved as M22C but with developed, rounded bead under the flange at the distal end.
Minimum no. of vessels: 13
53. M22E. Flange usually curved and the end turned up in a triangular section.
Minimum no. of vessels: 17
54. Type M22F. Short curved flange with triangular section at distal end; sometimes very stubby.
Minimum no. of vessels: 16
55. Type M22G. Similar to M22F but with rounded flange.
Minimum no. of vessels: 3
56. Type M22H.
Minimum no. of vessels: 2
57. Type M22I. Unusual form.
Minimum no. of vessels: 1
58. Type M23.
Minimum no. of vessels: 1
59. Type C51. Copying samian form (Dr 38). Not all examples of this type are necessarily mortaria, and may be merely flanged bowl forms, but at least one example is gritted.
Minimum no. of vessels: 5
60. Type C97. A wall-sided mortarium based on samian form Dr. 45. Some have spouts imitating the lion's head or bat's head spout of the samian form but spouts on the Oxford mortaria were only rarely pierced and many may not even have had a pseudo-spout. Even in those which were pierced, the hole is often perfunctory and may not have been used. Two of the mortaria are decorated with rouletting, and one preserves some decorative features which would be adjacent to the spout. A.D. 240–400.
Minimum no. of vessels: 67
61. Type C100. Mortarium with upright rim and angular flange. A.D. 300–400+.
Minimum no. of vessels: 44
In addition, there are 27 vessels of Type C97/C100.

62. Type WC4A. These mortaria are of the same type and size as Type M17A. A.D. 240–300.
Minimum no. of vessels: 9
63. Type WC5. Equivalent to M18A.
Minimum no. of vessels: 30
In addition, there are two vessels of Type WC4/WC5, and one of Type WC5/WC7.
64. Type WC7.2A. A mortarium with a high bead similar to WC7.2 but with a more elongated flange.
Minimum no. of vessels: 21
65. Type WC7.2B. A mortarium similar to WC7.2A but with a more elongated flange.
Minimum no. of vessels: 6
66. Type WC7.2C. High bead with thick, curved flange, often with a groove at the distal end; bead can be plain or grooved.
Minimum no. of vessels: 26
67. Type WC7.2D. Similar to WC7.2C, but concave under the flange.
Minimum no. of vessels: 4
68. Type WC7.2E. Mortarium with very high bead and short, slightly curved, ortho-flange; an unusual form in this fabric and probably early. A.D. 240–300.
Minimum no. of vessels: 1
69. Type WC7.2F. High bead and shortish flange, sharply downturned at the end.
Minimum no. of vessels: 5
70. Type WC7.3. Rather similar to M20A. A.D. 240–300/400.
Minimum no. of vessels: 6
In addition, there are five mortaria of Type WC7, indeterminate type.

New Forest (not illustrated)

71. Mortarium with high bead and horizontal flange turning down almost vertically at the halfway point (Fulford 1975a, fig. 25, 104.2). Fabric 7. Fourth century?
Minimum no. of vessels: 1

Mancetter/Hartshill

72. Mortarium with heavy hooked flange and projecting spout. Fabric 4.
Minimum no. of vessels: 2

Colchester

73. Mortarium approximating to Bushe-Fox 50. Fabric 20. A.D. 50–80.
Minimum no. of vessels: 1

Verulamium region

74. Mortarium with very deep, overhanging rim and bead practically non-existent. Fabric 13. A.D. 55–85.

Eifel/Rhine area (not illustrated)

75. Archive no. 396. Fabric 5. A.D. 30–65.

The stamped mortaria (FIG. 79)

1. A rim fragment of Type 10 in Fabric 16, badly discoloured beneath the flange, with three stamps impressed close together, reading IVONER. 67, 5700, 252.
2. A mortarium of Type 10 in Fabric 16 with at least two stamps impressed close together, giving I·VO·NER·F; graffito on outside. 68, M53, 629.
The stamps on these two mortaria are from two different dies which clearly belonged to the same potter, who is not otherwise known. The straightforward reading would give IVONER(us?), an unknown but not impossible name. The stops are either decorative, allowing the former reading, or indicate that he was a Roman citizen with *tria nomina*. It is not possible to restore such a name with any confidence since I and VO[are not normally used in *praenomina* or *nomina*. The *cognomen* could be Nero or Nerva, but there are other alternatives like the Celtic names Nerius and Nertus etc. (Holder 1896, *sv*). There is also the possibility that he was semi-literate. These are the only two stamped mortaria from Wanborough in this fabric, which is likely to be from a local workshop.
3. A mortarium in Fabric 11 with a faint stamp of Q. Valerius Veranius. LW U/S, 395.
4. A mortarium in Fabric 12 with a fragmentary stamp of Q. Valerius Veranius. 68, M66, 620.

5. A mortarium of Type 3 in Fabric 12 with an incomplete stamp of Q. Valerius Veranius (Hartley 1977; see Hartley 1998 for update). 68, M45, 621.
 Q. Valerius Veranius used at least ten dies and these stamps are from three different ones. Seventy-three of his mortaria are known from British sites, apart from 30 from Richborough which may have been the main port of entry. Over 21 are known from the Continent, mostly from *Gallia Belgica*. He worked at one time in the vicinity of Bavai, where several of his mortaria are found in the local fabric, but the source of his mortaria in Britain may well be in the Pas-de-Calais where an identical fabric could certainly have been produced. His work can be dated to A.D. 70–100, although a fractionally earlier start *c.* A.D. 65 is also possible (Hartley 1977, 5–17; all his mortaria in Britain are now believed to have been imported).
- 6–7. Probably parts of the same, worn mortarium, in Fabric 13, with a stamp of the potter Oastrius and his counterstamp LVG[D.F. The deep, overhanging rim is generally typical of his style, although it is not usually so exaggerated (Frere 1984, 287). A.D. 55–75, 70, RC, U/S, 294/295.
8. A worn and slightly burnt mortarium in Fabric 13 with a fragmentary stamp of Albinus (from the same die as one from *Verulamium*; Frere 1972, fig. 145, 11). 70, RC, U/S, 300.
 Albinus was by far the most prolific producer of stamped mortaria in Roman Britain. Over 350 mortaria of his are known from sites throughout Roman Britain, including 12 from Scotland and approximately 115 and 55 from London and *Verulamium* respectively. There is considerable evidence to attest his mainly Flavian date, but the earliest record of his stamps is from a deposit at *Verulamium*, dated A.D. 55–61 (Richardson 1944, 123, no. 4). His overall activity was probably between A.D. 60–90. His kilns have not been found, but the bulk of his work was undoubtedly produced in the *Verulamium* region, and counterstamps of the type he sometimes used were also used by Oastrius at Bricket Wood (Saunders and Havercroft 1977). Since these counterstamps refer to a placename, presumably the place of manufacture, it is quite possible that he had a workshop at Bricket Wood.
9. A flange fragment in Fabric 13, burnt before fracture, with a very fragmentary stamp of Matugenus,]TVGE[(from the same die as one from *Verulamium*: Frere 1984, fig. 118, 83). Stamps from two of the six name-dies of Matugenus record him as the son of Albinus. The fabric and rim forms used provide any further proof required that the Albinus concerned was the very successful potter working A.D. 60–90, discussed above (see No. 8). 70G, II, 10, 873.
 The discovery of 50–55 fragments from mortaria stamped by Matugenus as well as one of his clay dies at Brockley Hill (*Sulloniacae*) shows that he had a workshop there (Suggett 1954; 1955). Excluding Brockley Hill, more than 125 stamps of his are known from sites in England and Wales, which means that in terms of numbers of stamps recorded he stands in the next rank to Albinus, who has by far the greatest number.
 Matugenus' work is common in the north of England, but so far has not been recorded on Hadrian's Wall or in Scotland. The profiles indicate a Flavian–Trajanic date but, while activity in the period A.D. 80–125 is certain, most of his work cannot be dated more closely. The absence of his work from the first century occupation of Scotland would be curious if he was working before A.D. 85. It is also not clear whether he established his own workshop before or after his father's death.
10. A worn mortarium in Fabric 13 with broken retrograde stamp of Melus I who worked at Brockley Hill (Suggett 1954). When complete, the stamp has two vertical strokes for E in both lines, and the lower bar of the F is lacking. In many respects it is similar to a stamp from *Verulamium* (Frere 1972, fig. 145, 28), but it is undoubtedly from another die. Thirty-two of his stamps have been noted from sites in the south and midlands of England. The range of forms suggests production between A.D. 95–135. 70, RC, 301.
11. Flange fragment in Fabric 13 with an incompletely impressed stamp of Doinus who worked at Brockley Hill (Castle 1972, *cf.* fig. 5, namestamp B for a stamp from the same die). There are 128 stamps of his known from other sites in England and Wales, and four from Scotland. There is no new evidence to add to that discussed in detail by Castle (1972) and Frere (1972), which indicates an overall date of A.D. 70–110 for his activity and a date of A.D. 70–100 for Die B. 70, RC, 299.
12. A worn mortarium in Fabric 13 with fragmentary 'FECIT' counterstamp of Moricamulus, whose work can be attributed to the *Verulamium* region, where kilns are known to have existed at Bricket Wood, Brockley Hill, Radlett, and at *Verulamium* itself. Forty-eight mortaria of his are known from sites throughout England. One of his Richborough stamps was from a pit dated A.D. 80–90, and his rims are closely comparable to the earlier rims of Doinus, which indicates a date of A.D. 70–100. 67, 548, 47.
13. A flange fragment in Fabric 13, burnt before fracture, with a fragmentary stamp. Other stamps from the same die are known from Dorchester, Oxfordshire, and Watercreek. When complete the stamp is clear and the letters neatly made, but it is also very difficult to read and could perhaps be

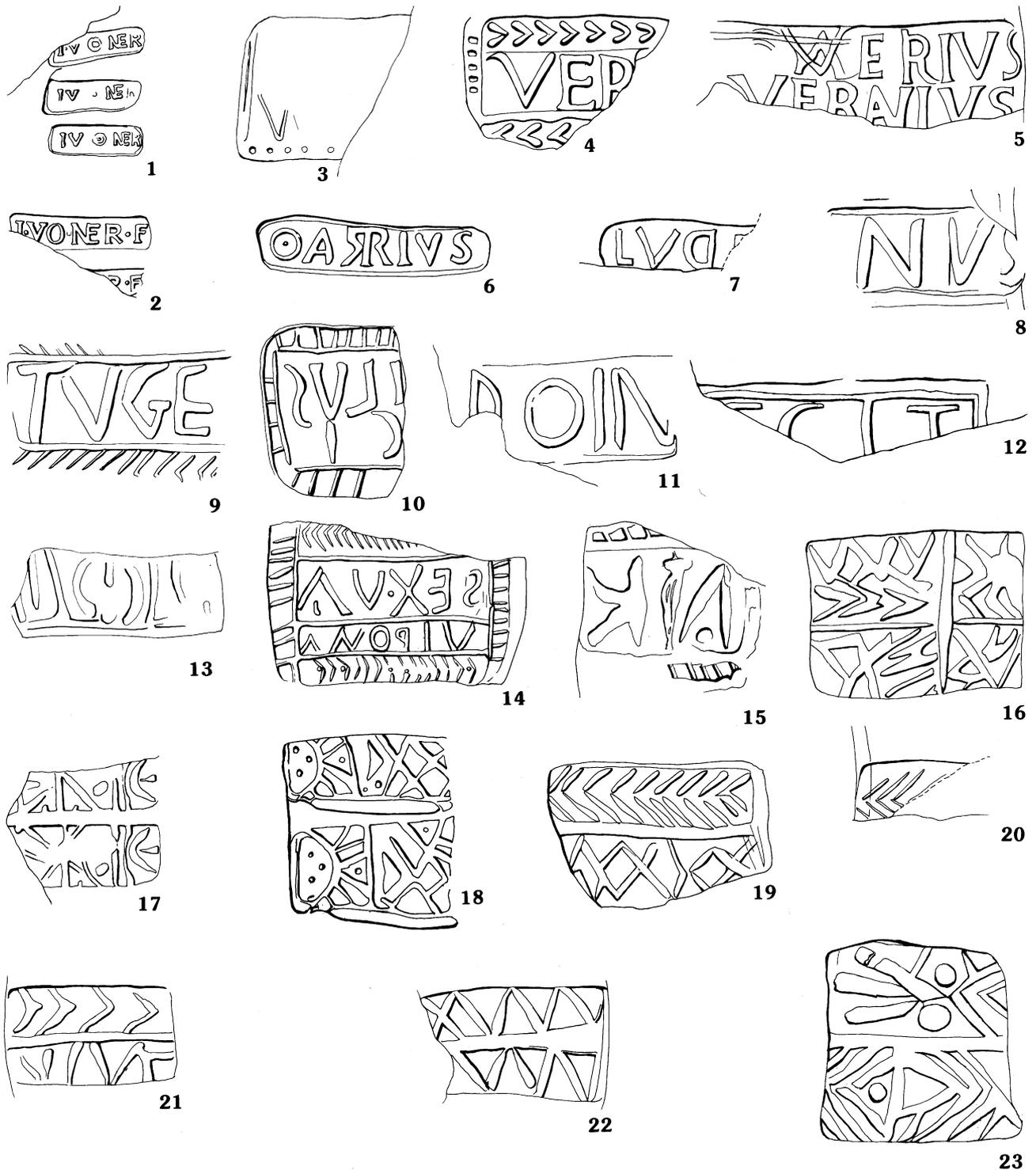


FIG. 79. The stamped mortaria. Scale 1:1.

the work of an illiterate potter. The fabric and rim profiles suggest manufacture in the Verulamium region *c.* A.D. 110–140. (For a published drawing of complete stamp see Young 1973, fig. 5, 13.) 67, 1129, 78.

14. Mortarium of Type 73 in Fabric 20, with deeply hooked rim, approximating to Bushe-Fox 50, with a retrograde stamp of Sextus Valerius Viroma[rus?], who was one of a group of at least five potters sharing the same *praenomen* and *nomen* and who worked primarily at Colchester within the period A.D. 50–110. Some or all of the potters in this group could well have been freedmen of one *patronus*, although a father and son relationship could also be involved. Other stamps of Viromarus are known from Colchester and London and his rim profiles suggest activity between *c.* A.D. 50–80. 70, RC, U/S, 296.

15. Mortarium of Type 22 in Fabric 23, with a perhaps illiterate stamp attributable to a potter who worked at the Caerleon potteries. His only other known stamp is from Caerleon (Nash-Williams 1932, fig. 68, 19). The Caerleon potteries were active in the period A.D. 110–80, but these two mortaria are likely to have been made within the period A.D. 120–50. 70, RC, U/S, 297.
16. A mortarium of Type 34 in Fabric 1, with trademark stamp (Trademark 18.1.1, Hartley: unpublished index). U/S, 298.
- 16b Flange fragment in Fabric 1 from a different mortarium of Type 34 with a trademark stamp is represented only by stamp No. 16b from Wanborough (Trademark 18.3 in author's unpublished index). (Not illustrated) 70, RC, U/S, 322.

There is ample evidence to show that the potter who produced these mortaria worked at Cowley, Oxford (Atkinson 1941, fig. 5, 49; Young 1973, fig. 5, 3–5; 1977, fig. 13, 3–5; Green 1983, fig. 5, 1–2). The trademark is a large elaborate one, divided into four sections and there are now four different versions of this die-type recorded. The largest and perhaps the original one (no. 18 in author's unpublished index) is recorded by Green (1983; at least ten stamps from a maximum of nine vessels); two other examples are known, one from Atkinson's excavations at Cowley, and another from Tiddington, Warwickshire.

The second version, die-type 18.1, is represented in its original state by only one stamp from the Atkinson excavations, but two stamps from Dunstable (Puddlehill) and Wanborough (516) appear to be from a later stage in its use when parts of the pattern had become blocked with clay in the die (18.1.1).

All the remaining Atkinson finds and those published by Young (1973) are from a third version (18.2); one from Cirencester is also this version. A final version, die-type 18.3, is represented only by this stamp (No. 16b) from Wanborough. A second stamp from Cirencester and one from Headington are too fragmentary to assign to a type.

The die become progressively narrower in each version but in die-types 18.00 and 18.2, where sufficiently complete stamps are available, the length is identical. The blocking which occurred during the use of the die (i.e. on 18.1) continued on all the later versions. The die may have been progressively trimmed on one side, while the small patches of pattern which became blocked or blurred presumably resulted from general deterioration and lack of adequate cleaning.

The rim profiles used by this potter indicate activity in the period A.D. 130–170.

17. A flange fragment, burnt before fracture, in Fabric 1 with a trademark stamp which is otherwise unknown. It is probably a two-line stamp through it is not impossible that there are two impressions close together. A.D. 130–170. B1977/290, 322.
 18. A mortarium of Type 33 in Fabric 1, with trademark stamp, impressed twice close together. Other stamps from the same die have been noted from Cirencester, Dorchester, Oxfordshire, Hambleden Villa, Buckinghamshire (2), and Staines. The fabric leaves no doubt that they are products of an Oxford workshop, and the rim forms point to a date *c.* A.D. 130–170. 70F, II, 2, 332.
 19. A worn mortarium of Type 28 in Fabric 1 with incomplete trademark; there is again ample evidence for production at Cowley, Oxford (Atkinson 1941, fig. 5, 41, 50–1; Young 1973, fig. 5, 6, 8–9; 1977, fig. 13, 6, 8–9; Green 1983, fig. 5, v–vi; the drawings often show different parts of the same stamp). 76 U/S, 914.
 20. The corner of a stamp on a mortarium of Type 29 in Fabric 1, from the same die as No. 19, showing only part of the herringbone. The stamps are from different vessels. The only other stamp recorded away from Cowley is from Silchester. The two Wanborough stamps are on mortaria not likely to be later than *c.* A.D. 120–140, but others produced by the user of this die suggest that the potter might be dated A.D. 120–160. 70J, I, 900.
 21. A mortarium of Type 34 in Fabric 1 with trademark stamp; the only other stamp known from the same die is from Silchester. The fabric and stamp are undoubtedly from a workshop at Oxford, probably Cowley, and the rim profiles indicate manufacture between A.D. 130–170. 66, F3, 6.
 22. A mortarium of Type 31 in Fabric 1 with an otherwise unknown trademark stamp impressed twice close together. The mortarium is undoubtedly from a workshop such as Cowley and was probably made in the period A.D. 100–140. 69E, II, 2, 325.
 23. A burnt mortarium of Type 29 in Fabric 2 with an otherwise unknown trademark stamp or even two different stamps impressed close together, but only further examples will make this clear. It was clearly made in an Oxford workshop, probably in the period A.D. 100–140. 70F, I, 4, E, 331.
- Two joining fragments from a worn mortarium in Fabric 13; made in the Verulamium region. The stamp is too fragmentary for identification, but is likely to be Moricamulus, who worked *c.* A.D. 70–110. Not illustrated. 70G II, 1, 869–70.

23. THE COARSE POTTERY (FIGS 80–104)

By Rachael Seager Smith

Introduction

The considerable ceramic assemblage from Wanborough has never been fully quantified. Excluding the illustrated material, the amphora, samian, mortaria, imported, and north Wiltshire finewares, all extracted for special study, the assemblage from the various seasons of excavation, salvage work and surface finds amounts to some 172 standard boxes and forms the basis of the following commentary, submitted in 1995.

Since excavation, the assemblage has had a chequered history. Basic finds processing was undertaken and the vast majority of sherds were washed and marked, although a small section of the 1976 assemblage (seven boxes) remains unwashed. Many of the sherds from the small-scale rescue and salvage operations are unmarked.

Some analysis has been undertaken by several different researchers, resulting in the publication of parts of the assemblage in isolation (Walters *et al.* 1973; Greene 1974; Swan 1977; Anderson 1978a; 1978b; Arthur 1978, 319–24; Anderson 1979; Anderson and Wachter 1980, 124–6). The most comprehensive phase of analysis was undertaken at the University of Leicester during the early to mid 1980s with the active participation of a Manpower Services Commission scheme under the supervision of Scott Anderson. This work, concentrated on the 1976 assemblage, resulted in the identification of 100 fabric types and the establishment of coded descriptions for vessel form, rim, base, handle, and decorative technique and motif types. These are all listed in the archive.

Detailed recording was undertaken for 1976 material which derived from phased contexts and the data entered onto the University of Leicester's mainframe computer. A paper copy of the data-base is contained in the archive. Basic number and weight quantification for this material alone indicates a total of 31,751 sherds (498,025g). Each sherd, or group of closely related sherds, was assigned a fabric type and a generalised vessel form (bowl, dish, jar, flagon etc.) which was then further sub-divided to define the vessel type more closely (flagons, for example, were divided into 'ring-neck', 'Hofheim', 'pulley-wheel', 'collared', 'pinch-spout' and 'screw-neck' types). Further detailed information concerning rim, base, and handle shape was then recorded on a similar basis ('upright-rims', for example, were subdivided into 'upright', 'square', 'round', 'pointed', 'triangular' and 'curved'). A similar system of sub-divisions was then used to record decorative technique and motif type. Where appropriate, the rim diameter and percentage present were also recorded.

Recording of the 1969 and 1970 assemblages was less detailed and lacked the basic number and weight quantification, but the data were also computerised and a paper copy is included in the archive.

Over 1000 working drawings were completed, mostly selected from the 1976 assemblage, and are retained in the archive. From these, 19 text figures (*c.* 500 vessels) were compiled, together with accompanying text descriptions. After the close of the MSC scheme, the whole assemblage from Wachter and Anderson's seasons of excavations (1969, 1970, and 1976) was deposited in Swindon Museum.

Methods

With the exception of material on display in the public galleries and the finewares published by Greene (1974), the complete pottery assemblage from Wanborough, covering all episodes of excavation and other investigation on the site between 1966 and 1979, was collected from Swindon Museum by Wessex Archaeology. The project design for this phase of work focused on the ordering and organising of the assemblage and archive in a manner facilitating public consultation, and the creation of a publication text assessing and incorporating the existing report components, where necessary completed in their own style, and providing some indication of the content of, and variability within, the assemblage and its potential for further research.

Thus the work undertaken by Wessex Archaeology concentrated on the illustrated sherds and the completion of the fabric series, with limited use being made of the computerised data provided by Leicester University. It must be stressed at this point that no attempt to reassess the entire assemblage was considered viable and, therefore, any conclusions presented in this report are the result of examination of a very limited part of the assemblage, consisting largely of the material initially selected for illustration. Superficial visual coverage of the rest of the assemblage was undertaken only as part of the reboxing process, and cannot be considered to be a thorough investigation.

The fabrics

As noted above, 100 fabric types have been identified amongst the 1976 assemblage, and descriptions for 39 of these types were found in the archive. Fabric samples identified amongst the collection included examples of 80 of the 100 fabric types. A further five fabrics without samples were represented amongst the illustrated sherds. Using the fabric samples and illustrated sherds assigned to a particular fabric type, the 39 existing descriptions were checked and, where necessary, amended while new descriptions, following the style of the pre-existing ones, were written. Where necessary, fabric samples and the illustrated sherds were used independently both to check and create fabric descriptions. Only three fabrics could not be described in this way:

Fabric 33	Miscellaneous buff ware
Fabric 34	Miscellaneous orange ware
Fabric 107	Micaceous, red-slipped orange ware

Six of the original fabrics listed described mortaria and have therefore been removed from this section of the report (the mortaria fabrics are fully described elsewhere: see Hartley, pp.220–2). A further 17 fabrics were identified from the pottery which was examined in detail (i.e. the illustrated sherds), but no attempt has been made to extend this fabric series over the rest of the Wanborough assemblage.

In general, the existing fabric descriptions provided an accurate guide to the appearance, texture, and inclusions of a fabric; in only one case (Fabric 27 — ‘brick-red flagon’ fabric) was the sample sherd completely different from the written description. However, problems typical of fabric analysis undertaken by inexperienced or non-specialist analysts, such as the excessive sub-division of fabrics on the basis of differing firing colour alone, were noticed (these fabrics have been amalgamated in the quantification given in this report). Where the presence of illustrated sherds extended the number of examples of a particular fabric type, greater errors in assigning sherds to fabrics were encountered either due to mistaken or inconsistent identification or the lack of recognition of distinct fabric groups (most notably the glauconitic sandy wares). Amongst the illustrated sherds, a 60% success rate in fabric identification was achieved which clearly severely lowers the level of confidence in the fabric recording across the assemblage as a whole.

Vessel forms

The accuracy and consistency with which vessel form, rim, base, handle, and decoration types were assigned is more difficult to estimate without re-examining at least a percentage of the assemblage. Among the illustrated sherds, there are clearly considerable overlaps between the vessel forms described as ‘jar’, ‘necked-jar’, ‘wide-mouth jar’ (e.g. FIG. 82, 66–74) while the definitions of straight and curved sided platters, dishes, and bowls are also blurred (e.g. FIGS 84, 125–34). Seven examples of joining sherds illustrated as separate vessels were also noted, and in three of these cases, different vessel form descriptions had been given to sherds of the same vessel. However, with knowledge of the assemblage limited to such a restricted part of the whole (the illustrated sherds), it is difficult to ascertain what is true variability among the material and what is the result of the methods of analysis and the type series as created. Certainly the type series as listed in the archive would permit considerable flexibility of

interpretation — each of the numerical codes is defined by one or two words only, and no detailed descriptions or criteria for consistently determining the difference between variables are available. Indeed, in an assemblage as large as this, recorded over considerable lengths of time by many individuals, it would be surprising if inconsistencies and errors did not occur. It was felt to be inappropriate to use resources quantifying this, so, except where completely inaccurate, inconsistencies in the form descriptions amongst the illustrated sherds have not been altered, although further details of rim type, decoration etc. have been added where appropriate.

The illustrated sherds

The basis on which sherds were originally selected for illustration and then subsequently selected for the 19 original text figures (FIGS 80–98) remains enigmatic. These figures concentrate on the coarsewares, although some fineware vessels are included. Certainly the vast majority of illustrated sherds were selected from the better-recorded 1976 assemblage, and it appears that ‘key-contexts’ were chosen. However, the illustrations are heavily biased in favour of earlier Roman material (422 vessels from Phases 1A–2B, *c.* A.D. 50–230, compared with only 67 from Phases 3A and B, *c.* A.D. 230–400), although the third and fourth centuries A.D. are the most widely represented in the archaeological record at this site. The reasons behind the selection of some individual sherds may have been influenced by the visual appeal and/or exemplification of sherds from any one context but other choices do not meet these criteria — 53 (10%) of the final illustrations are of sherds representing less than 5% of the rim diameter, while larger sherds of similar forms, together with sherds of forms not illustrated elsewhere, were rejected. In order to illustrate a more representative selection of the assemblage, some of the more unusual and interesting coarseware forms have been selected for illustration in FIGURE 99. Graffiti are considered on pp.307–8.

Fabric classification

A total of 100 fabric types was identified, based on the existing archive list, and using the illustrated sherds, as described above. The fabrics listed here follow the numerical sequence set out for the 1976 assemblage and which is contained in the archive. However, gaps occur within the numerical sequence for the following reasons:

1. The numbers were never assigned (35–48, 119 and 125)
2. The numbers were used in the original sequence but refer to mortaria fabrics which form a separate section within this volume (55, 62, 69, 75, 78, 111)
3. The fabrics have subsequently been amalgamated (50, 58, 63, 74, 89, 94, 95, 101, 102, 105, and 108).

With the exception of Fabrics 33 and 34, the descriptions of Fabrics 1–56 are those found in the archive, with only minor additions and alterations. Descriptions of the remaining fabrics have not been discovered, so new descriptions for these, and the additional fabrics recognised, have been created in the style of the pre-existing ones.

Unless otherwise stated, all quantification and indications of vessel forms given in this section of the report refer only to the material from the phased contexts of the 1976 season of excavation and have been extracted from the computerised data-base. In addition to referring to a very limited part of the collection, as noted above, the accuracy of the original recording of this material is doubtful and thus the figures presented here can only be used as a general indication of the relative importance of the various fabrics rather than a precise indication of their exact quantity within the assemblage. For these reasons, only the number of sherds is given here, although quantification by weight for each fabric is also included in the archive. A more detailed re-examination of the whole collection, especially the pre-1976 material, would doubtless increase the number of fabric and specific vessel forms present. However, such an exercise is unlikely to alter the relative importance of the major wares or to change the overview of the range of vessel forms present in each fabric described here.

Fabric 1, Savernake wares

Description of fabric: Coarse-grained ware containing various inclusions, between 0.5mm and 4mm in length, including ferrous grits, clay pellets, siltstone grit and flint, quartz, carbonaceous material and soft, white calcareous, and non-calcareous particles. The fabric sometimes has a soapy texture, although the inclusions can produce a lumpy appearance at the surface but are frequently covered by a slurry finish which can be left matt, rilled or smoothed to a glossy finish. Fired to a mid dark grey colour, usually with a pale grey core.

Forms represented: Principally jars, bowls, and platters.

Discussion: The several varieties of tempering mixture closely resemble Savernake Ware as produced near Mildenhall, in Savernake Forest (Annable 1962, 142–55) and as defined by Hodder (1974, 67–84), Swan (1975, 36–47) and Rigby (1982a, 153–4, fabric 6). However, some of the less heavily tempered fabric varieties may be from sources more local to Wanborough. Indeed, potters working in the area of Toothill, to the west of Swindon, certainly produced a range of vessels very similar in form, and sometimes fabric, to those produced in Savernake Forest (Anderson 1979). The quantities and different versions of Fabric 1 found at Wanborough suggest that more than one source of supply is involved. Fabric 1 represents approximately 20% (6316 sherds) of the phased material from 1976 and is present in the earliest contexts on the site *c.* A.D. 50–60 but statistically reached a peak of popularity in Phase 2A. This may be accounted for by the nature of the early deposits, being largely in ditch fills, but it is certain that the Savernake wares provided competition for other local wares and BB1 well into the second century. Thereafter its incidence declines until Phase 3B when large quantities of sherds are found in residual contexts. Early vessel forms include bead rim jars, high neck jars, platters, and bowls. Both narrow and wide mouth everted rim jars are common and these continue well into the second century. The Savernake ware vessels were principally kitchen wares, often storage jars and other thick-walled forms.

Fabric 2, Powdery buff/orange ware

Description of fabric: Fine-grained ware with mica, multi-coloured quartz, ferrous, and calcareous grits. Fired to even buff/orange colour throughout.

Forms represented: Principally early flagon types but also bowls and jars.

Discussion: One of the most common orange/buff coarseware fabrics to occur at the site — a total of 555 sherds was recovered. In addition to the forms listed above, the production of platters and butt-beakers was represented by two and three sherds respectively. This, and the manufacture of Hofheim-derived flagon forms, is in keeping with the first appearance of the fabric in Phase 1B (262 sherds). Only 25 sherds of this fabric are recorded from Phase 1C deposits, *c.* A.D. 65–80, but a further peak (223 sherds) during Phase 2A, *c.* A.D. 80–150, is probably to be explained by residuality of the fabric and its occurrence thereafter is negligible.

Fabric 3, Coarse, pink-surfaced grey ware

Description of fabric: Coarse-grained ware with black iron, quartz, and calcareous grits. Fired to a pink to light brown colour on external surfaces and with a grey core.

Forms represented: Bowls and ring-neck flagons.

Discussion: This fabric first appears on the site in Phase 1B (12 sherds). With the exception of Phase 1C, the fabric, in ever lesser quantities, occurs in each succeeding phase, presumably in residual contexts.

Fabric 4, Fine, buff calcareous fabric

Description of fabric: Fine-grained ware with soapy feel and varying quantities of inclusions — most noticeably dull white calcareous grits, up to 6mm in length, mica, and sparse red or black ferrous grits, and occasional translucent quartz grits. The surface, which can often have a slightly vesicular appearance, presumably due to the surface leaching of the calcareous

inclusions, is fired to a pale creamy brown and the core is usually mid grey. In most examples, the surface colouring is only a thin layer to either side of the grey core, and only rarely is the ware oxidised throughout. External surfaces are usually smoothed and can occasionally carry a thin white slip (Rigby 1982a, 157, fabric 29; Darling 1985, 80, fabric 24).

Forms represented: Principally flagons of collared, Hofheim and ring-neck varieties. Also mortaria displaying a pronounced bead and rather delicate flange, with opaque white quartz trituration grits, some bowls, and possibly a tankard (one sherd).

Discussion: This is one of the most characteristic fabrics occurring in early levels at Wanborough, Cirencester (Rigby 1982a, 157) and Kingsholm (Darling 1985, 80). It is presumed to be of local origin and it has been suggested that vessels in this fabric may have been supplied under contract to the army at Kingsholm and Cirencester (Rigby 1982a, 157) and presumably also at Wanborough. Certainly, most of the same standard flagon types can be paralleled at all three sites, illustrating a single source of supply over a relatively short period *c.* A.D. 55–75. A total of 176 sherds occur, first appearing late in Phase 1A (four sherds), becoming more common in 1B (36 sherds) before reaching a peak in 1C (62 sherds). Thereafter, the frequency of sherds decreases sharply and it seems likely that the supply of this material ceased, possibly due to the withdrawal of a military garrison *c.* A.D. 75. All finds in contexts after this date are probably residual.

Fabric 5, Fine orange ware

Description of fabric: Fine-grained ware containing occasional red ferrous grits. Fired to a pale orange colour on external surfaces, with a grey core. Exterior smoothed or burnished and sometimes rouletted.

Forms represented: Butt-beakers, small jars, ring-neck flagons and a hemispherical flanged bowl.

Discussion: Only 101 sherds of this fabric were recorded, first appearing in Phase 1A (eight sherds) but increasing in frequency in 1B (30 sherds) and 1C (31 sherds) before dwindling again in Phase 2A onwards. This, coupled with characteristics of vessel form, indicates a date range of *c.* A.D. 55–85 for this fabric.

Fabric 6, Fine, micaceous cream ware

Description of fabric: Fine-grained ware with mica, translucent quartz and red ferrous grits. Usually a uniform cream to white colour throughout but occasionally displaying a pale grey core. Exterior surfaces smoothed and often decorated with rouletting. Finer but otherwise broadly similar to Fabric 7.

Forms represented: Butt-beakers, carinated beakers, a flagon and a platter.

Discussion: A total of 216 sherds of this fabric were recovered. Present in all phases, it peaks in Phase 1B (95 sherds). Probably not a local fabric; datable to *c.* A.D. 55–85.

Fabric 7, Brown sandy ware

Description of fabric: Even-textured sandy ware with translucent quartz grits up to 1mm in length, mica and red ferrous grits. External surface pale brown to buff, internal surface pale orange, with pale brown core. Exterior of vessels usually burnished and decorated with rouletting. Coarser version of Fabrics 6 and 65.

Forms represented: Butt-beakers, bowls, jars, and platters.

Discussion: A rare fabric (only 27 sherds were recorded) occurring first in Phase 1B. Probably current *c.* A.D. 60–85, although the very small number of sherds suggests an even narrower date bracket.

Fabric 8, Cream/buff sandy ware

Description of fabric: Even-textured, fine-grained sandy ware with white mica, pink and brown translucent quartz, carbonaceous material, and red and black ferrous grits. Normally fired to a

cream to buff colour, often with a pale grey core. Vessel surfaces carry a thin and often much-worn orange-pink slip.

Forms represented: Ring-neck flagons and bowls.

Discussion: Probably a relatively local fabric occurring in small quantities (52 sherds). Found in contexts from Phase 1A onwards.

Fabric 9, Fine, calcareous orange ware

Description of fabric: Hard-fired, fine-grained ware with calcareous inclusions up to 2mm in length, ferrous grits and mica plates. Fired to a pale orange colour, often with a darker core. Exterior surfaces are usually smoothed.

Forms represented: Beakers, bowls and platters.

Discussion: This fabric occurs only rarely (38 sherds) from Phase 1B onwards and is datable to c. A.D. 60–100.

Fabric 10, Coarse, cream-slipped sandy ware

Description of fabric: Even-textured sandy ware with multicoloured, translucent quartz, and red ferrous grits. Fired to a mid orange colour, usually with a grey core and covered with a thick cream slip.

Forms represented: Pulley-wheel mouth and ring-neck flagons. Also one sherd from a narrow-mouthed jar.

Discussion: A minor fabric type (36 sherds), first found on the site c. A.D. 60. Pre- to early Flavian.

Fabric 11, Chalky white ware

Description of fabric: Fine-grained iron-free ware with occasional red ferrous grits. Fired to a chalky white colour with a self-coloured slip on the outside giving a smooth exterior surface. Occasional brown or red horizontal streaks are visible, caused by the smearing of the ferrous grits during manufacture. Vessel interiors are usually covered with a thick brown slip. Bases often have high, turned footrings (Rigby 1982a, 156, fabric 21).

Forms represented: Flagons, mainly ring-neck forms, although single sherds from beaker and flanged bowl forms were also recorded.

Discussion: Vessels in this fabric are widely spread at sites throughout southern England, being identified at Canterbury, Kent; Winchester, Hampshire; Mildenhall, Wiltshire; Chichester and Fishbourne, West Sussex; Cirencester, Gloucestershire; Sea Mills, Avon. At Cirencester a date of after c. A.D. 60 is suggested for the arrival of this fabric (Rigby 1982a, 156); at Wanborough, three sherds were found in Phase 1A deposits but 28 from 1B, thereby supporting the Cirencester data. A total of 127 sherds was recorded. The fabric may be an import, probably from Lezoux (*ibid.*, 156), although very similar vessels were produced in Britain during the third quarter of the first century A.D., as at Corfe Mullen, Dorset (Calkin 1935), for example.

Fabric 12, Mica-dusted ware A

Description of fabric: Medium to fine-grained fabric with quartz and red ferrous inclusions. Fired to an orange-brown colour with a grey core and covered with a yellow-gold mica-coating on exterior visible surfaces.

Forms represented: Bowls, dishes, beakers and jars of a variety of forms.

Discussion: A total of 70 sherds are present, first appearing in Phase 1B (2 sherds) and commonest in Phase 1C (21 sherds). The vessel forms present are paralleled in London (Marsh and Tyers 1976, 232; Marsh 1978) and may well have been produced in this area, although the vessels belong to a Continental tradition. Other examples of mica-dusted wares from

Wanborough are illustrated by Walters *et al.* (1973, fig. 3, 1–5) and Greene (1974, fig. 2, 6 and 7). Date range *c.* A.D. 65–100.

Fabric 13, Sandy white/orange ware

Description of fabric: Coarse-grained ware with abundant rounded quartz grains and occasional black or red ferrous grits. Colour can vary from an off-white, cream or pink with a pale grey core to fully oxidised orange examples. Exterior surfaces can be coated in an off-white or cream slip. Texturally very similar to Fabric 26, and may be related to these sandy grey wares.

Forms represented: Flagons, beakers, bowls and jars of a variety of forms. Also a ‘honey-pot’ (one sherd).

Discussion: A total of 353 sherds of this fabric were recorded. Occurring in all phases, this fabric reaches a peak in the number of sherds during Phase 2A (87 sherds). A date range of *c.* A.D. 55–100 is suggested.

Fabric 14, Hard, fine, sandy grey ware

Description of fabric: Even-textured sandy ware also containing rare red and black ferrous grits. Generally dark grey or, less frequently, orange with a dark grey core. External surfaces usually covered in self-coloured or white slip.

Forms represented: Jars, flagons and a colander. Also one example of an indented beaker.

Discussion: First appearing in Phase 1B (8 sherds), a total of 172 sherds were recovered. This fabric is absent from Phase 3A and the majority of sherds (104 sherds) occurred in Phase 3B contexts where they are probably residual. Date range *c.* A.D. 60–120.

Fabric 15, Fine, white-slipped orange ware

Description of fabric: Even-textured, fine-grained ware with mica, variable quantities of translucent quartz as well as red and black ferrous inclusions. Fired to a uniform orange colour and coated with a thin white slip.

Forms represented: Flagons, often of the ring-necked variety and occasional examples of beaker forms.

Discussion: A total of 406 sherds was recorded, occurring from Phase 1B onwards. Numerically, occurrences of this fabric peak in Phases 1C, *c.* A.D. 65–80 (107 sherds), and 2A, *c.* A.D. 80–150 (99 sherds), indicating a date range from *c.* A.D. 60 until well into the second century. The source of this fabric was an important supplier of flagons to Wanborough and is probably fairly local. Similar to Fabrics 72, 92, and 101.

Fabric 16, Fine, red-slipped orange ware

Description of fabric: Even-textured, fine-grained ware with quartz and red ferrous grits. Fired to an orange colour. All external surfaces covered in a light red colour coat.

Forms represented: Bowls, jars and platters.

Discussion: Rare fabric occurring in Phases 1C, 2A, 3A, and 3B, although the overall total is only nine sherds. Believed to be of Flavian date, thereafter occurring in residual contexts, although in fact, this fabric more closely resembles the coarser New Forest red-slipped wares (Fulford 1975a, 25, fabric 1c).

Fabric 17, Coarse, vesicular grey ware

Description of fabric: Coarse fabric with numerous irregular vesicles up to 2mm in length and black ferrous particles. Fired to a grey/brown colour with a grey core.

Forms represented: Jars and beakers.

Discussion: Not common (49 sherds), although occurring in all phases. First century A.D.

Fabric 18, Coarse, micaceous, sandy grey ware

Description of fabric: Coarse-grained ware with multicoloured quartz, up to 2mm across, and abundant mica. Generally unoxidised and fired to a uniform grey throughout, although occasional examples with oxidised surfaces also occur.

Forms represented: Jars and bowls of a variety of forms and one example of a platter.

Discussion: Not common (42 sherds), although present in all phases. Probably pre- to early Flavian.

Fabric 19, Sandy, red-slipped orange ware

Description of fabric: Even-textured, coarse sandy ware with red ferrous grits. Fired to an orange colour with a grey core. External surface covered with a thin red to pink slip.

Forms represented: Jar, beaker, straight-sided bowl.

Discussion: Very rare; 10 sherds recorded. Present in Phases 1B, 2A, 3A, and 3B but probably of pre-Flavian date.

Fabric 20, Severn Valley wares

Description of fabric: A range of generally fine-grained, sand-free micaceous fabrics with occasional red, and sometimes black, ferrous grits. Fired to a bright orange colour, sometimes with a grey core. Exterior surface smoothed or given a rather uneven, faceted burnished finish.

Forms represented: Flagons, beakers, tankards, bowls, platters.

Discussion: This fabric group (141 sherds) covers a range of orange wares which more or less conform to the characteristics of fabric, vessel form, and surface treatment of Severn Valley wares (Walters 1976; Webster 1976). Some examples may actually originate in the Severn Valley area, but a more local source is likely. Also present at Cirencester (Rigby 1982a, 153, fabric 4). Similarities with Fabric 24, 31, 34, and 93 have been noted. First occurs in Phase 1B deposits but is most common in Phases 1C and 2A, indicating a late first to mid-second century A.D. date. The 32 sherds from Phase 3B are likely to be residual.

Fabric 21, Black-surfaced grey ware

Description of fabric: A moderately coarse, even-textured ware, containing quartz grits and ferrous particles. Surfaces fired to a dark grey to black with a grey core. Margins can occasionally be darker or lighter than the core giving a 'sandwich' firing effect. Surfaces often facet-burnished, though not to the same extent as in BB1.

Forms represented: Bowls, beaker, jars, flagons; a wide variety of the most commonly occurring types.

Discussion: This is a typical north Wiltshire fabric, most vessels in this group probably originating at kiln sites such as Whitehill Farm to the west of Swindon (Anderson 1979) and, as such, is closely related to Fabrics 29, Black-surfaced orange ware, and 52, Common grey ware, the differences between them being largely ones of firing colour. However, a number of local sources are likely as the ware occurs in all phases on the site, and pre-dates production at Whitehill Farm. A total of 1459 sherds were recorded and the main period of popularity of vessels in this fabric was in Phases 1C and 2A. It is the sixth most numerous fabric on the site, representing 5% of the sherds recorded.

Fabric 22, Hard, cream-slipped red ware

Description of fabric: A fine-grained ware with inclusions of quartz, mica, red ferrous grits, and occasional soft, white non-calcareous particles. Even-textured but grain-size varies markedly between sherds. Fired to a red/brown colour. Exterior surfaces sometimes coated with a cream or white slip.

Forms represented: Flagons, mostly ring-necked forms. One sherd from a beaker.

Discussion: A total of 135 sherds was recorded, present in all phases with the exception of Phase 3A. However, the distribution is basically restricted to Phase 1B (86 sherds), although one sherd occurred in a Phase 1A deposit.

Fabric 23, Buff-surfaced grey ware

Description of fabric: Coarse-grained ware with abundant translucent quartz grits. Fired to a buff colour on external surfaces and with a dark grey core.

Forms represented: Beakers, bowls, flagons and jars of a variety of types. Also one platter sherd.

Discussion: Present in small quantities at all periods (total 110 sherds). Probably from a variety of local sources. This fabric is very similar to Fabric 52, Common grey ware, and can probably be considered as a sub-division of it, the differences in surface colour being due to differing atmospheric conditions during firing.

Fabric 24, Coarse orange ware

Description of fabric: A coarse-textured ware with quartz, abundant white or grey non-calcareous grits up to 2mm in length, red and occasionally black ferrous grits up to 4mm in length and mica. Fired to a dull orange colour with a grey core. Occasionally, surfaces can be black in places.

Forms represented: Butt beakers and rarer examples of flanged-bowl and necked jar forms.

Discussion: Current in Phase 1B, with 95 of the 121 sherds recorded occurring here. Only two sherds occur in Phase 1A.

Fabric 25, North Wiltshire colour-coated ware

Description of fabric: An even-textured ware containing sub-angular quartz grains and rounded ferrous grits. Usually fired to a bright orange colour, frequently with a grey core. Some examples can be grey throughout. Exterior surfaces are covered with a matt, often rather thin, colour coating. This is usually red to light brown in colour but can occasionally be dark brown or even black. In addition, most vessels are decorated with either incised multiple lines, horizontal rilling, roughcasting, or impressed stamp decoration (Anderson 1978b, 373–92).

Forms represented: Bag-shaped beakers, indented beakers, and ovoid beakers loosely copying samian Déchelette forms 72 and 74. One sherd from a bowl is known.

Discussion: Pottery in this fabric represents a unique ceramic venture in north Wiltshire. A study of the distribution of this ware (Anderson 1978b, fig. 10) showed the main density of finds to be centred on Wanborough with Cirencester forming a second, though noticeably less significant, focus of distribution. Other scattered finds have been discovered as far to the west as White Walls, Wiltshire, a settlement on the Fosse Way south of Cirencester (finds recognised since 1978) and at various sites in the locality of Swindon. This distribution pattern strongly suggests production at a kiln site close to Wanborough and this is supported by finds of grey ware copies of beakers with the incised wavy line decoration so characteristic of the north Wiltshire colour-coated ware vessels at the Whitehill Farm kiln to the west of Swindon.

This fabric is first found in Phase 2A (one sherd) at Wanborough and is thereafter present in all phases (4, 9 and 60 sherds present in Phases 2B, 3A, and 3B respectively). Anderson's dating of this fabric to *c.* A.D. 125–40/50 (1978b, 380–3) is based on its presence in levels terminating in *c.* A.D. 150 (i.e. the one sherd from Phase 2A) at Wanborough, indicating its manufacture prior to this date, and its production over a short period of time, perhaps the working life of a single potter, is indicated by its stylistic uniformity and lack of local predecessors or successors. Details of vessel shape and decoration, especially the grooved corniced rim form, copied from imported vessels popular *c.* A.D. 140 (Anderson 1978b, 378) and the impressed stamp decoration which utilises dies taken directly from figure-types on Central Gaulish samian of *c.* A.D. 125–50 reinforce a production date prior to the middle of the second century. This fabric type has also been found in association with Antonine-Hadrianic pottery at other sites (*ibid.*, 382).

Where noticed, Fabric 25 sherds were extracted from the entire assemblage during re-boxing, and a total of 314 sherds was recovered. This is likely to be an underestimate of the true total present as not all the vessels illustrated by Anderson (1978b, figs 10.2–10.5) were located and the whole assemblage was not examined in detail. Amongst these 314 sherds, as noted by Anderson (*ibid.*, 378), bag-shaped beakers with grooved, corniced rims are the most commonly occurring form, a total of 89 rim sherds being located. Of these, 41 had incised wavy line decoration, 13 were roughcast, one had faint curvilinear barbotine trails and one has horizontal rilling beneath the rim. The remaining 33 examples were either plain or too small for any traces of decoration to survive. These vessels range from 60–120mm in diameter, with the majority measuring between 80–100mm. A further 16 bag-shaped beakers had rims of different forms, including beaded, everted, and flat-topped, pointed everted, and upright types. Six ovoid beakers from Wanborough have already been published (Swan 1977, fig. 19, 1–3; Anderson 1978b, fig. 10.4, 11–16; Anderson 1979, fig. 7, 3 and 4) and one further example, represented by the base and lower body sherds with a fragment of one face-mask surviving, found in 1973 at Whitehill Farm, was located. The published indented beakers (Anderson 1978b, fig. 10.3, 7–9) were supplemented by a further four vessels with grooved, corniced rims, two with roughcast and one with incised wavy line decoration, and of the 16 indented body sherds, eight were plain, three roughcast and five had incised wavy line decoration. The range of north Wiltshire colour-coated vessels published by Anderson (1978b, figs 10.2–10.5; 1979, fig. 7) and Swan (1977) is extended in FIGURES 103 and 104.

Fabric 26, Sandy grey ware

Description of fabric: A coarse-grained, open-textured ware with abundant multicoloured, rounded quartz grains and black iron grits up to 1mm in length. Colour of surfaces varies from mid to dark grey or black, with a lighter, generally grey core, although occasional examples with a brick red or a sandwiched fired core also occur. Surfaces may be burnished or left matt, and are occasionally decorated with burnished line motifs, usually lattice.

Forms represented: Beakers, bowls, platters, flagons, and jars of a wide variety of the most common types. Rarer examples of lids, tankards, and a candle-stick are also known.

Discussion: Numerically one of the most important fabrics at Wanborough, representing 8% of the sherds from the 1976 phased contexts, and used in the production of a wide range of vessels. Present at all periods (totalling 2575 sherds), the number of sherds shows a continuous increase in successive phases. However, this fabric probably reached a peak of popularity in Phase 2B (492 sherds), the continuing increase in the numbers of sherds deposited suggesting that a large residual element is present in the later phases. Texturally, this fabric is very similar to Fabric 13, sandy white/orange ware, which may well be closely related to this more commonly unoxidised version.

Fabric 27, Brick red fabric

Description of fabric: A coarse-grained ware with red ferrous grits up to 2mm in length and multicoloured quartz grains. Fired to a uniform orange/red colour and covered with a thin red colour coat.

Forms represented: Ring-neck flagons and one example of a bowl.

Discussion: Only 30 sherds in this fabric were recorded, present from Phase 1B onwards. Datable to c. A.D. 60–80.

Fabric 28, Central Gaulish colour-coated ware

Description of fabric: Very fine-grained fabric containing plentiful plates of mica, generally lying parallel to the surface of the vessels, and occasional calcareous particles and red ferrous grits (Greene 1979, 43). The fabric is a uniform orange-brown with a matt, irregularly applied ‘blotchy’ colour-coat, varying from brownish-orange to very dark brown. Decoration in the form of rough-casting with small clay granules.

Forms represented: Ovoid beaker (Greene 1979, fig. 17, 3) and hemispherical cup (*ibid.*, fig. 17, 1) forms.

Discussion: Twelve sherds were recorded amongst the 1976 assemblage but all occurred in Phase 3B deposits. A further five sherds were identified while reboxing the material from earlier excavations. This fabric was produced in Central Gaul at several centres, including Lezoux (Greene 1979, 43). Some changes in the fabric can be identified through time but, in general, the dating of these wares is complex as their distribution in Britain is sparse and thus securely dated examples are rare. In general, however, the hemispherical cups, never a common type, appear to pre-date *c.* A.D. 70 (*ibid.*, 43) while the more widely distributed beakers continue well into the second century A.D. Central Gaulish wares also occur at Usk in contexts dated to the end of the occupation of the fort, *c.* A.D. 70, at Gloucester which was not occupied until *c.* A.D. 65–70 and at Kingsholm, occupied from the Claudian period to *c.* A.D. 65–70 (*ibid.*, 47).

Fabric 29, Black-surfaced orange ware

Description of fabric: A coarse-grained ware with multicoloured quartz and red ferrous grits. Fired to a bright orange with black or dark grey external surfaces.

Forms represented: Many varieties of beaker, bowl, dish, flagon, platter, and jar forms.

Discussion: A total of 640 sherds of this fabric was recorded, rising from two sherds in Phase 1A to a peak of 170 sherds in Phase 2A. This fabric is probably closely related to Fabric 21, Black-surfaced grey ware, and both are likely to be sub-divisions of the locally produced Fabric 52, Common grey ware.

Fabric 30, Terra Nigra

Description of fabric: Highly variable fabric, the numerous combinations of colour, texture, and hardness making it difficult to isolate specific groups (Rigby 1973, 13). Ideally, TN has a well-prepared, fine-grained, iron-free matrix with glossy, blue-black surfaces. However, sandy, abrasive fabrics occur and the colour can vary from white or pale pink to pale grey.

Forms represented: Curved-sided platter/dish forms (*Cam.* 16) predominate, although examples of high-shouldered and necked jars and segmental bowl forms were assigned to this fabric. Also one sherd from a flanged cup (*cf.* Rigby 1973, fig. 4, 40 or 42).

Discussion: Not common on the site (53 sherds were recorded) but present in all phases. Given the highly variable nature of this fabric (Rigby 1973, 13), at least some of the sherds recorded as Fabrics 60 and 103 may also be part of this general TN group. Some of the vessels in this fabric group may be from southeastern England rather than the Continent. One *Cam.* 16 platter (FIG. 80, 11) and one platter base sherd are stamped (FIG. 105, 1 and 5) but are in Fabrics 52 and 60 respectively.

Fabric 31, Fine, pale orange ware

Description of fabric: Well-fired ware containing quartz, mica, and occasional red and black iron particles. Generally fired to a uniform colour throughout, varying from pale orange to light brown. Exterior surfaces are smoothed and sometimes given a white slip.

Forms represented: Beakers, mostly butt and spherical forms; also platters.

Discussion: Uncommon, a total of only 27 sherds was recorded, predominantly in Phase 1C. Date range *c.* A.D. 60–80. Broadly similar to the other light-firing fabrics used for beaker forms (Fabrics 5, 6 and 65) and may well be related to them.

Fabric 32, Buff, sandy, colour-coated ware

Description of fabric: Coarse-grained ware with abundant angular white quartz and occasional red and black iron grits. Fired to a buff colour with a grey core. External surfaces have a thin red/brown colour-coat.

Forms represented: Butt-beakers, bowls and platter forms.

Discussion: Present in small quantities in all phases but most common in Phase 1B (25 out of the total of 73 sherds). Date range *c.* A.D. 50–80.

Fabric 33, Miscellaneous buff wares

Fabric not described as no examples were located.

Forms represented: Ring-necked flagons, straight-sided bowls, wide-mouthed jars.

Discussion: Examples of this fabric occurred in all phases but were most numerous in Phase 2A (71 of the 204 sherds recorded). Little is known about this fabric, although its title implies that it encompasses a range of fabrics, probably produced at several different centres and spanning a wide date-range.

Fabric 34, Miscellaneous orange wares

Fabric not described as no examples were located.

Forms represented: Unspecified body sherds only.

Discussion: Probably a group of fabrics, encompassing a range of products and dates, not individually described. Only 12 sherds were recorded, one in Phase 2B, the remainder from Phase 3B contexts.

Fabric 49, Lyons ware

Description of fabric: Pale cream clay, often with a greenish tinge, with no visible inclusions and a colour-coat varying from red-brown to almost black but most commonly greenish-brown (Greene 1979, 3).

Forms represented: Small ovoid beakers/jars and hemispherical cups.

Discussion: Greene (1979, 18) suggests a date range of *c.* A.D. 40–75 for the whole range of Lyons ware types. A total of 210 sherds were recorded, present in all phases except 1A. Sherds of this fabric were most numerous in Phase 1C (174 sherds).

Fabric 52, Common grey ware

Description of fabric: Medium to coarse-grained ware with some quartz grits. Calcareous and ferrous inclusions occur in varying proportions in different examples. Usually fired to a uniform grey colour throughout. External surfaces are often smoothed and occasionally burnished.

Forms represented: Lids, beaker, bag-shaped beakers, biconical beakers, bulbous beakers, butt-beakers, girth beakers, indented beakers, ovoid beakers, poppy-head beakers, bowls, carinated bowls, chamfered bowls, flanged bowls, hemispherical flanged bowls, S-sided bowls, segmental bowls, cheese presses, colanders, dishes, flagons, ring-neck flagons, jars, flared-mouth jars, high-shouldered jars, narrow-mouthed jars, ovoid jars, wide-mouthed jars, platters, tankards and tuyères.

Discussion: This is the most numerous fabric found on the site (11,381 sherds), accounting for 36% of all sherds recovered. This fabric grouping embraces a number of slightly differing grey ware fabrics which are macroscopically similar in composition of the clay matrix and number and type of inclusions. The minor differences may be accounted for, in the most part, by origins at a number of kiln sites, the majority of which are local to Wanborough. The fabric variations are typical of those found at the kiln sites at Whitehill Farm and Toothill Farm to the west of Swindon (Anderson 1979) and, with a few exceptions, share a series of characteristics of vessel form and manufacturing technique. Present from Phase 1A (246 sherds) onwards but most numerous in 1C (1546 sherds) and 2A (1958 sherds) and with even greater numbers in 3B (3565 sherds). This latter feature may be accounted for by residual material and/or less deposition in Phases 2B and 3A followed by increased occupation of the site and a

consequently greater usage of ceramics in 3B and/or a greater reliance on locally produced coarsewares in 3B. Fabrics 21, Black-surfaced grey ware, and 29, Black-surfaced orange ware, are both likely to be sub-divisions of this major fabric group.

Fabric 53, Fine grey ware

Description of fabric: Fine-grained, sandy ware with few visible inclusions. Generally dark grey in colour, sometimes with a lighter core, usually buff to dark brown. External surfaces usually smoothed.

Forms represented: Mostly jars, often with rusticated decoration, but also some beakers, bowls, and platters.

Discussion: A total of 401 sherds were recorded, present in all periods. A finer-grained version of the grey wares produced at local kilns (Fabrics 21, 26, 29, and 52). Considerable problems of definition were noted amongst the illustrated sherds, suggesting a higher proportion of this fabric type in the assemblage as a whole.

Fabric 54, Black Burnished ware

Description of fabric: Hard, moderately coarse-grained fabric containing abundant rounded translucent quartz grains up to 2mm across, and occasional rounded fragments of shale up to 5mm across, ferrous grits and flint chips. Usually dark grey, brown, or black in colour, although fully oxidised and variably fired examples are also common. Surfaces are generally facet burnished and decoration is most usually in the form of burnished line motifs.

Forms represented: Jars of narrow-mouthed, wide mouthed, necked and ovoid types, platters, lids, S-sided bowls, straight-sided bowls and dishes, and flanged bowls and dishes.

Discussion: This fabric was produced in the Wareham/Poole Harbour region of Dorset from the first to late fourth/early fifth century A.D. Present on the site in small quantities from Phase 1A (29 sherds). Supplies of BB1 to Wanborough seem to have been small during the pre-Flavian period and to have ceased thereafter. A resumption of supplies c. A.D. 120 led to a gradual increase in usage, rivalling that of Fabric 52 and culminating, in Phase 3B, in a dramatic rise in the number of sherds deposited. In consequence, in the fourth century, BB1 became the most common coarse ware used at Wanborough for, although the number of sherds of Fabric 1, Savernake ware, exceeds those of Fabric 54 during Phase 3B, the former fabric is considered to be residual in these contexts.

Fabric 56, Calcareous orange ware

Description of fabric: An even-textured ware with pink quartz, calcareous inclusions up to 4mm in length and red ferrous grits. Fired to a uniform bright orange colour and smooth and slightly powdery to the touch.

Forms represented: Beakers, bowls, ring-neck flagons, lids and 'honey jars'.

Discussion: Date range c. A.D. 65–100. Occurs only in small quantities (total of 92 sherds) and is present in all phases from Phase 1B onwards.

Fabric 57, Pale grey sandy ware

Description of fabric: A fine-grained ware with abundant quartz grits, possibly some mica, and red and black ferrous grits. Surfaces of fabric tend to be a light greyish-brown in colour; sandwich firing effects are common with red-brown margins and a grey core or grey-brown margins and a red core.

Forms represented: Beakers, bowls, dishes, platters, lids, and jars, some with rusticated decoration.

Discussion: Occurs in all phases, becoming increasingly common through time — single sherds only are present in Phases 1A and 1B but the total rises to 221 sherds in Phase 3B.

Fabric 59, Orange-brown sandy coarseware

Description of fabric: Hard, medium-grained fabric fired to a dull orange-brown throughout. Inclusions consist of clear and translucent rounded quartz grains, white mica plates, black ferrous grits and rounded, pale brown particles, possibly clay pellets, up to 0.5mm across. Surfaces smoothed.

Forms represented: Bowl, jar, and flagon forms.

Discussion: Thirty-two sherds were recorded, present from Phase 1B onwards.

Fabric 60, Fine, micaceous grey ware

Description of fabric: Moderately hard, very fine-grained fabric, containing moderate amounts of white mica and black ferrous or carbonaceous inclusions less than 0.25mm across, and occasional soft, off-white calcareous particles up to 0.5mm across. Generally fired to a pale brownish grey.

Forms represented: Jar, narrow-mouthed beaker and a segmental bowl or cup, possibly copying Dr. 27 vessels.

Discussion: Present only in small quantities (totalling 20 sherds) in Phases 1B, 1C, 2A, and 3B. Probably current during the first century A.D., thereafter occurring in residual contexts.

Fabric 61, Hard, fine orange ware

Description of fabric: Hard, fine-grained fabric with few visible inclusions other than occasional red ferrous particles. Core is bright orange-brown in colour, surfaces are slightly paler.

Forms represented: Flagons, including ring-necked varieties, jar and straight-sided bowl forms.

Discussion: Only 30 sherds were recorded, present in all phases from 1B onwards.

Fabric 64, Fine orange slipped ware

Description of fabric: Hard, moderately fine-grained fabric containing abundant minute quartz/white mica, occasional larger rounded translucent quartz grains up to 0.5mm across, and rare red ferrous particles. Fabric is fired to a bright orange throughout and coated in a pale orange or cream slip. Surfaces are frequently burnished.

Forms represented: Spherical beakers, curved, straight-sided and flanged bowls.

Discussion: Only 29 sherds were recorded from the phased contexts, occurring from Phase 2A onwards, although the majority occurred in Phase 3B (23 sherds).

Fabric 65, Fine cream ware

Description of fabric: Fine-grained, even-textured fabric containing moderate to common amounts of quartz, red and black ferrous grits. All inclusions are less than 0.25mm across. Generally fired to a uniform off-white, buff or pink colour. Surfaces smoothed.

Forms represented: Butt- and other beaker forms, flagons, bowl and jar forms.

Discussion: A total of 483 sherds were recorded. This fabric is present in all phases but is most numerous in Phase 1B (248 sherds), indicating a date in the third quarter of the first century A.D. Probably related to Fabrics 6 and 7.

Fabric 66, Fine, slightly vesicular orange ware

Description of fabric: Hard, fine-grained fabric containing abundant minute, soft, white, slightly calcareous particles and occasional larger, up to 1mm across, particles of the same material and rare quartz and red ferrous grits. Voids in the fabric indicate the leaching of the slightly calcareous material. Sherds often display 'sandwich' firing with a mid-grey core, pinkish-orange margins, and slightly paler surfaces.

Forms represented: Flagons, including ring-neck types, and flanged bowls.

Discussion: Present in all phases but numerically most common in Phase 1C, where 35 of the 56 recorded sherds occurred.

Fabric 67, Fine, sandy, red-slipped orange ware

Description of fabric: Fine, even-textured fabric containing translucent quartz, carbonaceous material and red and black ferrous grits. Fired to a uniform bright brownish orange. Surfaces carry a thin, often worn, brick red slip. Possibly same as Fabric 8 under different firing conditions.

Forms represented: Beakers, including indented forms.

Discussion: A total of only 16 sherds were recorded, occurring in Phases 1B, 2A, 2B, and 3B.

Fabric 68, Oxfordshire red/brown colour-coated ware

Description of fabric: Hard, sandy, micaceous fabric with additional red and black ferrous grits and occasional chalk fragments. Colour varies from brownish-orange to reddish-brown, often with a grey core. Colour-coat varies from reddish-orange to dark brown, the closed forms being far more likely to have a brown coating (Young 1977, 123).

Forms represented: Flagons (including Young 1977, type C8), beakers (including type C32), bowls of a variety of forms (including types C55, C78 and C91), mortaria, and occasional jar forms.

Discussion: A total of 279 sherds of this fabric was recorded, most commonly occurring in Phase 3B contexts (262 sherds), although two sherds were recorded as early as Phase 1A. Pottery was being produced in the Oxford region in small quantities for a restricted market, from the first century A.D. onwards, but the main production phase of this industry occurred c. A.D. 240–400 plus. It is likely that the majority of sherds found at Wanborough are datable to within this later period.

Fabric 70, Oxfordshire parchment ware

Description of fabric: Hard, sandy fabric with small black and red ferrous inclusions. Generally a uniform white or off-white colour, occasionally with a pink core. Surfaces are smooth, and red painted decoration frequently occurs on this fabric type (Young 1977, 80–2).

Forms represented: Various bowl, jar, and platter forms, including one example of a wall-sided bowl with a moulded rim (Young 1977, 87, type P.24).

Discussion: All 16 of the sherds of this fabric recorded occurred in Phase 3B contexts. This fabric type never formed a large proportion of the output of the Oxfordshire potteries, although it was produced throughout the life of this industry, c. A.D. 240–400. The wall-sided bowl form is one of the most common, and widely distributed forms made in this fabric (Young 1977, fig. 25).

Fabric 72, Orange sandy ware

Description of fabric: Moderately hard fabric containing moderate to common amounts of rounded multicoloured quartz grains, rare to sparse red, and occasionally black ferrous particles, and occasional calcareous particles. Fabric is generally fired to a uniform bright orange or light orangey-brown colour. Surfaces are smoothed.

Forms represented: Beakers, including butt, indented, and spherical forms, narrow-mouthed jars, flanged, hemispherical, curved-sided, and carinated bowls and ring-necked flagon forms.

Discussion: A total of 197 sherds were recorded. This fabric was present in all phases, although occurrences become increasingly common after the middle of the second century A.D.

Fabric 73, Soft, powdery, orange coarseware

Description of fabric: Moderately fine-grained, even-textured ware with common translucent quartz grains and sparse red and black ferrous grits. Core is pale brownish-orange, margins bright orange with slightly paler surfaces. Rouletted decoration common.

Forms represented: Beakers, including butt and *Cam.* 113 types, and jars.

Discussion: Sherds of this fabric (totalling 101) were recorded in all phases but were commonest in Phases 1B (34 sherds), 2B (20 sherds) and 3B (39 sherds). Only one sherd was recorded from Phase 1A, but a first century A.D. date for this fabric is indicated by the greater average weight of the sherds from the Phase 1B contexts.

Fabric 74, New Forest colour-coated ware

Description of fabric: Fine-grained, iron-rich paste containing few visible inclusions, although occasionally red and black ferrous particles up to 0.5mm may be present. Fired with a range of hardness up to a stoneware. Can vary from pale yellow to light brown with a grey core but is more usually a uniform mid to dark grey throughout (Fulford 1975a, 24, fabric 1a).

Forms represented: Indented (*cf.* Fulford 1975a, type 27.10) and bulbous beakers, jugs.

Discussion: A total of 60 sherds were recorded. Two sherds occurred in Phase 1A contexts but this fabric only becomes common in Phase 3B where 50 sherds occur. This fabric was produced throughout the life of the New Forest industry, *c.* A.D. 270–400 and represents the most widely distributed fabric produced there (Fulford 1975a, figs 46–54).

Fabric 76, Central Gaulish green glazed ware

Description of fabric: Slightly coarse, greyish-white or buff fabric with red-brown inclusions and white mica. The glaze is translucent, of consistent quality, and varies from pale yellowish-green to dark olive green in colour (Greene 1979, 90, fabric B).

Forms represented: Mostly body-sherds but fragments from handled bowls (Greene 1979, fig. 40, 4), at least one with barbotine dot decoration, beaker (*ibid.*, fig. 40, 13) and a base sherd possibly from a flagon (*ibid.*, fig. 40, 2 or 3) were also noted amongst the assemblage as a whole.

Discussion: A total of 11 sherds were recorded in the 1976 assemblage, occurring in Phases 1A and 2A onwards, with a further 12 sherds from the earlier seasons of excavation at this site noted during the reboxing process. These wares were produced in the Allier region of France and were current in Britain during the period *c.* A.D. 40–70 (although survivals do occur) and their distribution is similar to that of other Gallo-Roman fine wares, especially Lyons ware (Greene 1979, 99).

Fabric 77, Sandy, white-slipped red ware

Description of fabric: Hard, fairly coarse-grained fabric containing moderate to common amounts of quartz, rare soft, white, non-calcareous particles and occasional probable quartzite grits. Harsh, granular texture. Fired brick red throughout with an off-white or cream slip on the exterior surface.

Forms represented: Bowl, flagon including ring-neck types and jar forms.

Discussion: A total of 76 sherds were recorded. The fabric first occurs in Phase 1B (four sherds) and is present in small quantities (never more than six sherds) in all phases thereafter, peaking in Phase 3B at a total of 59 sherds, presumably redeposited in these contexts.

Fabric 79, North Gaulish colour-coated ware

Description of fabric: Two fabrics from this area have been identified by A.C. Anderson (1980, 28–34): Fabric i: Extremely hard, fine red fabric sometimes with a grey core, few visible inclusions and a very dark colour-coat. Diagonal wipe marks often occur on the interior surface just below the rim. Roughcast decoration is common, often delineated by a deep horizontal groove.

Fabric ii: Fine-grained fabric, generally pale orange or buff in colour, containing biotite mica and red ferrous inclusions. The colour-coat varies from pale orange to brown and can be matt or have a glossy, metallic sheen. Vessels are generally decorated with roughcast clay particles usually confined to the exterior surface only.

Forms represented: Bag-shaped beakers with corniced rims (A.C. Anderson 1980, fig. 12, 3).

Discussion: Both fabrics were present at Wanborough but were not recorded separately. A total of 115 sherds were recorded from the 1976 assemblage, mostly occurring in Phase 3B (105 sherds) — a total which seems suspiciously large given the small quantities of other imported finewares present. Fabric 79i is likely to have been produced in the Forêt de Compiègne in northern France and exported to Britain *c.* A.D. 80–135 (A.C. Anderson 1980, 29–31). Fabric 79ii was produced in the Argonne region of northeast France and was also exported during the Flavian to Hadrianic (*c.* A.D. 80–135) periods (*ibid.*, 33–4).

Fabric 80, Hard cream ware

Description of fabric: Hard, fine-grained fabric containing sparse red and black ferrous particles and moderate amounts of microscopic quartz/white mica. Small (0.25mm across) elongated voids also occur within the fabric. Fired to a pale creamy-brown often with a pale grey core. Surfaces smoothed.

Forms represented: Beaker, cup, flanged bowl and flagons including cup-mouthed types.

Discussion: A total of 57 sherds was recorded. This fabric first occurs in Phase 1B (19 sherds) and is most numerous in this and Phase 2A (25 sherds), suggesting a first century A.D. date. The small quantities recovered from later deposits are presumably residual.

Fabric 81, Nene Valley colour-coated ware

Description of fabric: Fine-grained, light coloured fabric varying from white to pale brown in colour, with a darker colour-coat ranging from orange to very dark brown. Inclusions consist of abundant minute grains of translucent quartz, occasional quartz up to 1mm across, red and black ferrous particles and soft, white material that does not react to hydrochloric acid.

Forms represented: Biconical beakers, castor box.

Discussion: This fabric is very similar to that produced in the area of the Lower Nene Valley from the later second–fourth centuries A.D. (Howe *et al.* 1980). Wanborough is situated towards the western edge of the distribution of these wares and only 13 sherds were recorded, one in a Phase 1B context, the remainder from Phase 3B.

Fabric 82, Rhenish wares

Description of fabric: Two distinct fabrics occur within this group, one produced in Central Gaul, the other at Trier (Greene 1978, 18). Both occur at Wanborough.

Central Gaulish ‘Rhenish’ ware: a fine-grained fabric, yellow-buff to reddish orange in colour, usually containing mica. The surfaces are very highly polished, often ‘metallic’ in appearance and varying from golden to dark green or black.

Trier ‘Rhenish’ ware: a hard, very fine-grained fabric with no visible inclusions, often with a ‘sandwich’ of dark red and grey layers. The colour-coat of these vessels is fine glossy and generally dark brown or black, often with a greenish lustre.

Forms represented: Bag-shaped and indented beakers, bowls, and a candlestick were recorded amongst the 1976 assemblage. More specifically, sherds from a two-handled cup (Brewster 1972, fig. 1, 7–9; Greene 1978, fig. 2.3, 8) and rouletted indented beakers (Gillam 1970, fig. 7, 46) as well as sherds from long-necked beaker forms and body sherds with barbotine and/or rouletted decoration occur amongst the Central Gaulish fabric. Fragments of ‘motto’ beakers and sherds from long-neck, globular-bodied and indented forms, often with barbotine or rouletted decoration, occurred amongst the Trier fabric.

Discussion: Only 37 sherds of Rhenish ware were recorded for the 1976 assemblage, present in Phases 2B (1 sherd) and 3B (36 sherds) only. A further 49 sherds of Central Gaulish Rhenish ware and 88 sherds of the Trier fabric were identified while reboxing the material from the earlier seasons of excavation. The date range of the Central Gaulish fabric is *c.* A.D. 150–200

continuing into the third century A.D., while production at Trier probably began in the later second century A.D. and possibly continued into the late third or even fourth centuries A.D. (Greene 1978, 18–19; Millett 1986, 75).

Fabric 84, Fine, micaceous orange ware

Description of fabric: Moderately hard, very fine-grained sandy fabric with moderate amounts of mica, and occasional soft, white, non-calcareous particles and red ferrous grits. Surfaces are generally fired to a dull orange, the core is grey and occasionally the margins are greyish brown. Surfaces are smoothed.

Forms represented: Narrow-necked jars, carinated, indented, and ovoid high-necked beakers and segmental bowls.

Discussion: A total of 76 sherds occur, predominantly in Phase 3B (46 sherds), although this fabric does occur as early as Phase 1B (8 sherds).

Fabric 85, Shell-tempered ware

Description of fabric: Hard, well-fired fabric containing moderate to common amounts of poorly sorted crushed shell, up to 3mm across and occasional quartz and red ferrous grits. Core of the vessels is generally dark grey, while the surfaces are variably fired from buff to orange, brown and even very dark grey on a single sherd. Surfaces smoothed and occasionally rilled.

Forms represented: Necked jars, flanged and 'hammerhead' bowl/dish types.

Discussion: A total of 26 sherds are recorded, single sherd occurring in Phases 1A and 3A, the remainder occurring in Phase 3B, suggesting a late Roman date for this fabric.

Fabric 86, Fine white ware

Description of fabric: Hard, fine-grained fabric containing common amounts of quartz grits and rare red and black ferrous particles, both up to 0.25mm across and occasional larger black ferrous particles up to 0.5mm across. Generally fired to an off-white or pale creamy-buff colour, often with a pale grey core.

Forms represented: Various beaker, bowl, flagon and jar types, and a honey-pot.

Discussion: Present in small quantities in all phases; a total of 73 sherds was recorded.

Fabric 87, Cologne colour-coated ware

Description of fabric: Hard, fine-grained, off-white fabric with sparse red and black ferrous particles and minute quartz grains. Colour-coat varies from reddish-brown to black and can be matt or glossy. Roughcast and barbotine decoration is common.

Forms represented: Beakers, including roughcast (A.C. Anderson 1980, fig. 7, 3) and 'hunt-cup' types with applied barbotine tendril or animal decoration (*ibid.*, fig. 8, 1) as well as sherds possibly from a segmental beaker with rouletted decoration (*ibid.*, fig. 8, 4) occurred amongst the assemblage from all seasons of excavation.

Discussion: Produced in the Lower Rhineland, especially around Cologne from the late first into the third century, although it is unlikely to have been exported to Britain after *c.* A.D. 165–70 (A.C. Anderson 1980, 14–20). Nine sherds were recorded from the 1976 phased contexts, occurring from Phase 2A onwards, with an additional 36 sherds identified during the reboxing of the material from the earlier seasons of excavation.

Fabric 88, Hard, colour-coated grey ware

Description of fabric: Very hard, brittle, fine-grained ware. Inclusions consist of microscopic quartz/white mica and black ferrous particles up to 0.25mm across. Surfaces fired to a pale greyish-orange generally with a grey core. Exterior surface often coated in a thin orange-brown colour-coat. Surfaces smoothed; rouletted decoration occurs.

Forms represented: Beaker and bowl forms.

Discussion: A total of 11 sherds was recovered, occurring from Phase 1B onwards, with the exception of Phase 2A.

Fabric 90, Flint-gritted ware

Description of fabric: Very hard, dense fabric containing rare to sparse, poorly sorted angular flint chips up to 4mm across, and sparse to moderate clear and translucent quartz, red and black ferrous grits. Surfaces smoothed and fired to a pale creamy-brown, the core is grey.

Forms represented: Beakers and necked jars.

Discussion: Single sherds were recorded in Phases 1C and 2A, while six sherds occurred in Phases 3A and 3B, suggesting a later Roman date for this fabric.

Fabric 91, Fine, sandy buff ware

Description of fabric: Moderately hard, fine-grained fabric containing common to abundant amounts of quartz, and less frequent red and black ferrous particles. Inclusions generally less than 0.25mm across, although occasional quartz grains, up to 0.5mm across, also occur. Core is light greyish-brown in colour, the margins orange-brown, while the surfaces are smoothed and a light brownish-buff in colour.

Forms represented: Bowl and flagon forms.

Discussion: This fabric first occurs in Phase 1B and of the 39 sherds recorded, 22 occur in Phases 1C and 2A suggesting a later first–second century A.D. date for this fabric.

Fabric 92, Micaceous, sandy orange ware

Description of fabric: Hard, fine-grained sandy fabric also containing white mica, red and black ferrous particles and soft, white non-calcareous particles. Surfaces are generally untreated and orange-brown in colour, gradually merging into a grey core.

Forms represented: Various bowl, platter and flagon forms, and one example of a cheese press.

Discussion: Present from Phase 1B onwards, a total of only 51 sherds was recorded.

Fabric 93, Micaceous orange/pink ware

Description of fabric: Hard, fine-grained, even-textured fabric with moderate to common amounts of mica plates and sparse black iron particles and soft, white calcareous material, probably limestone. Fired to a uniform pinkish-orange, surfaces unaltered.

Forms represented: Flagon and platter forms.

Discussion: A minor fabric type, only 16 sherds was recorded but present in all phases with the exception of Phase 2A.

Fabric 96, Gritty, white-slipped red ware

Description of fabric: Hard, brittle fabric containing rare to sparse unidentified rock fragments, up to 1mm across, sparse red and black ferrous particles and rare grog/clay pellets, quartz and soft, white calcareous particles. Core is mid-grey in colour, the margins are reddish-orange, while both the internal and external surfaces are coated in a thick white or off-white slip.

Forms represented: Flagon, jars, and platter forms.

Discussion: Present from Phase 2A onwards, but most numerous in the Phase 3A and 3B deposits (26 out of a total of 35 sherds), suggesting a later Roman date.

Fabric 97, White-slipped red ware

Description of fabric: Hard, granular fabric containing rounded multicoloured quartz, up to 0.75mm across, sparse red and black ferrous particles up to 0.5mm across and soft white

calcareous particles or voids, up to 1mm across. The core is dark grey, the margins a dull greyish-brown and the surfaces orange-red and often coated with a thick off-white or cream slip.

Forms represented: Beaker, flagon and platter forms.

Discussion: This fabric first occurs in Phase 2A (11 sherds) and increases in frequency in each successive phase (up to 22 sherds in Phase 3B). A total of 61 sherds was recorded.

Fabric 98, Mica-dusted ware B

Description of fabric: Hard, coarse-grained ware with abundant quartz and occasional ferrous particles. Fired to a uniform bright orange. Surfaces coated in a thin self-coloured slurry containing abundant large (up to 0.5mm across) plates of both white and golden mica.

Forms represented: Flagons, including cup-mouthed types.

Discussion: A total of nine sherds of this fabric was recorded, occurring from Phase 1C onwards. The inclusions present, texture, and general appearance of this fabric are very similar to Fabric 13 and this mica-dusted ware may, then, be a characteristically surface treated sub-division of this wider fabric group.

Fabric 99, Black colour-coated ware

Description of fabric: Hard, fine-grained fabric containing abundant microscopic quartz or white mica, and rare to sparse black ferrous particles. Fired to a uniform brick-red, the exterior surface is covered with a thick, matt black colour coat. Rouletted decoration.

Forms represented: Unspecified body sherd only.

Discussion: Only one sherd, from a Phase 3B context, was recorded. Probably British.

Fabric 100, Alice Holt grey ware

Description of fabric: Hard, very dense, comparatively fine-grained fabric. Inclusions predominantly of quartz with occasional grog and ferrous grits. Sherds occasionally slipped, varying from white to black in colour. Unslipped surfaces and core are generally mid- to dark grey often with a bluish tinge.

Forms represented: Mostly body sherds but single examples of a large, rounded bowl, a narrow-mouthed jar and a flagon were recorded.

Discussion: Only 12 sherds of this fabric were recorded, all occurring in Phase 3B deposits. The Alice Holt kilns were in production *c.* A.D. 60 until the fifth century. The bowl form (FIG. 98, 480) does not appear to have been a common element within the Alice Holt industry, although there is a broad similarity of rim form with the Type 5C strainers produced after *c.* A.D. 270 (Lyne and Jefferies 1979, 47, fig. 33). However, similar bowls do occur amongst the greywares of the New Forest (Fulford 1975a, types 8 and 16, figs 31 and 32) and confusion between these very similar fabric types is a possibility.

Fabric 103, Fine, micaceous, black-surfaced grey ware

Description of fabric: Very fine-grained, moderately hard fabric, containing quantities of mica and occasional black carbonaceous particles and red ferrous grits. Core is pale grey in colour, while surfaces are dark grey or black and are generally carefully finished.

Forms represented: Segmental bowl.

Discussion: Micaceous Terra Nigra — given the variability within the Terra Nigra (Rigby 1973, 13), this fabric may be included in this wider grouping. Four sherds were recorded, present in Phases 1B, 2A, and 3A.

Fabric 104, Dark-slipped orange ware

Description of fabric: Hard, very fine-grained fabric with few visible inclusions; white mica plates and ferrous particles less than 0.25mm across are occasionally present. Core is fired to a

bright orange, the margins are orange-brown. The exterior surface is coated in a thin, purplish-grey slip.

Forms represented: Bowl, flagon, including ring-neck types, and wide-mouth jar forms.

Discussion: A total of 90 sherds were recorded, occurring from Phase 1B onwards.

Fabric 106, Mica-dusted ware C

Description of fabric: Hard, fine-grained fabric containing moderate to common amounts of rounded, multicoloured quartz grains and soft, white calcareous particles, probably limestone, and occasional red ferrous grits. Surfaces and margins are pale creamy-buff in colour while the core is reddish-orange. Exterior surface is coated in a thin, self-coloured slurry containing abundant golden mica plates, the interior is untreated.

Forms represented: Curved-sided platters (copies of Cam. 16) and segmental bowl forms.

Discussion: Only three sherds were recorded, two from Phase 2A and one from a Phase 3B deposit.

Fabric 109, Micaceous buff ware

Description of fabric: Hard, fine-grained calcareous fabric. Inclusions consist of abundant white and golden mica plates, aligned parallel with the surfaces of the sherds and small quantities of quartz and red and black ferrous particles. Exterior surface is greyish-buff in colour while the interior surface and core are greyish-pink.

Forms represented: Unspecified body and miscellaneous sherds only.

Discussion: Four sherds were recorded, all in Phase 3B deposits.

Fabric 110, Buff-surfaced orange ware

Description of fabric: Soft, soapy-textured, fine-grained fabric. The only visible inclusions consist of occasional red and black ferrous particles and white mica plates. Exterior surface is orange-buff in colour, while the core and interior surface are bright orange.

Forms represented: Beaker, bowl, flagon and jar forms.

Discussion: Thirty-nine sherds of this fabric were recorded, occurring in Phases 1B, 2A, 3A, and 3B.

Fabric 112, Micaceous lead-glazed ware

Description of fabric: Moderately hard, fine-grained, calcareous fabric, fired to a pale creamy-buff throughout. Inclusions comprise soft white calcareous particles, white and golden mica plates and red and black ferrous particles. Glaze on interior surface is pale greenish-grey in colour while on the exterior it is dark bluish-green.

Forms represented: Body sherd only.

Discussion: Only one sherd of this fabric has so far been identified at Wanborough (from salvage recording during road construction in 1970). This fabric does not appear to be paralleled amongst the British lead-glazed wares described by Arthur (1978) but is probably also of first–second century A.D. date.

Fabric 113, Lead-glazed ware; ‘The Wanborough Group’ (Arthur 1978)

Description of fabric: Very hard, often fired almost to stoneware hardness, fine-grained fabric with few visible inclusions. Generally medium to dark grey throughout, although occasional oxidised examples, orange in colour, sometimes with a grey core, also occur. The lead glaze is generally medium to dark green in colour, varying to dark brown where thickest, while on the oxidised examples the glaze may be reddish-brown in colour. Decoration generally consists of various combinations of incised motifs and stabbed dots.

Forms represented: Globular (Arthur 1978, fig. 8.8, type 3) and conical beakers (*ibid.*, fig. 8.8, type 5), cylindrical cups (*ibid.*, fig. 8.8, type 7) and angular jars (*ibid.*, fig. 8.8, type 2).

Discussion: A total of 35 sherds of this fabric were identified amongst the whole Wanborough assemblage. Sherds of this fabric are published by Walters *et al.* (1973, fig. 2, 4, 5) and it forms the core of the Wanborough group of British lead-glazed wares described by Arthur (1978, 319–24; the other lead-glazed wares — Fabrics 112, 114, and 115 — are also included in Arthur's 'Wanborough group', although this fine-grained, very hard fabric is clearly the one he describes). The location of the production centre of these wares remains unknown, but it is likely to be fairly local as the majority of the known sherds of this ware occur at Wanborough (Arthur 1978, 319). This fabric is of first–second century A.D. date.

Fabric 114, Medium-grained lead-glazed ware

Description of fabric: Hard, medium-grained, slightly sandy fabric containing moderate amounts of rounded quartz and rare red and black ferrous particles and soft white slightly calcareous material. Fabric is generally partially oxidised with bright orange surfaces and a thin grey core while the glaze varies from reddish-brown to dark olive-green.

Forms represented: Angular jars (Arthur 1978, fig. 8.8, type 2) and imitation Dr. 37 bowls (*ibid.*, fig. 8.8, type 9).

Discussion: This fabric is coarser and less hard than Fabric 113 while being harder and less coarse than Fabric 115. Seven sherds of this fabric were recognised, one of which, a body sherd from an angular jar, has already been published (Walters *et al.* 1973, 66, fig. 2, 3; Arthur 1978, 230, fig. 8.8, 2.1). This fabric is also likely to be of fairly local origin and to be of first–second century A.D. date.

Fabric 115, Soft, sandy lead-glazed ware

Description of fabric: Soft to moderately hard, fairly coarse-grained fabric containing moderate to abundant quantities of rounded, translucent quartz, rare red and black ferrous grits and occasional black glassy grains, possibly glauconite. All the inclusions measure up to 0.5mm across. The fabric is usually at least partially oxidised, reddish-orange in colour, sometimes with a medium to dark grey core but occasional examples are grey throughout. The glaze varies from reddish-brown to yellowish-green in colour.

Forms represented: Flanged bowl, imitation Dr. 27 cups and Dr. 37 bowls and beaker forms.

Discussion: Twenty-one sherds of this fabric have been recognised amongst the assemblage as a whole. One group of 10 sherds, all from a single imitation Dr. 37 bowl, has combed wavy line decoration beneath the glaze, paralleled by that on the north Wiltshire colour-coated beakers. This vessel is recorded as being from Covingham and is very similar, if not identical, to the actual vessel published by Arthur (1978, fig. 8.15, 8) amongst his miscellaneous, unassigned group of British lead-glazed wares, although it is recorded as being from Nythe Farm. Sherds from an imitation Dr. 27 cup (Arthur 1978, fig. 8.5, 12) were accompanied by a note from Paul Arthur indicating their similarity to lead-glazed vessels found in Wiltshire, Hampshire, and West Sussex, especially examples from Chichester (Down and Rule 1971) dated from the late first–second centuries A.D. Clearly then the source of this fabric is far from certain, although the textural similarities between this fabric and other coarse sandy wares at this site (most notably Fabrics 13 and 26) and the occurrence of underglaze wavy line decoration paralleled by that on the north Wiltshire colour-coated beakers points to a local origin.

Fabric 116, Argonne ware

Description of fabric: Hard, very fine-grained ware with few visible inclusions, although rare white mica plates, red ferrous grits and particles of soft, white, non-calcareous material are occasionally present. The fabric and slip range from reddish-orange to brick red in colour and generally adheres well, although some of the softer sherds are abraded. Roller-stamped decoration occurs.

Forms represented: Imitation Dr. 37 bowls (Chenet 1941, type 320).

Discussion: Five sherds were identified amongst the Wanborough assemblage, including one from a Phase 3B context, by M.G. Fulford (pers. comm.). Four pieces have roller-stamped decoration, two of which can be paralleled at Portchester (Fulford 1975b, fig. 143). The remaining sherd is a footring base. Fulford notes that Portchester is located on the western limits of the distribution of these wares in Britain (*ibid.*, 278) and thus their presence at Wanborough, even further west, indicates the extensive range of imports available to its inhabitants. Argonne wares are dated to the later third and fourth centuries A.D.

Fabric 117, Marbled colour-coated ware

Description of fabric: Hard, fine-grained fabric containing rare to sparse sub-angular, translucent quartz and red and black ferrous particles. Fired to a very pale pink, occasionally with a pale bluish-grey core. Surfaces coated in a reddish-orange marbled colour-coat.

Forms represented: Flanged bowls, some probably based on Dr. 44 vessels.

Discussion: The most complete flanged bowl of this fabric is illustrated by Greene (1974, 60, fig. 2, 2), who dates it to the late first or early second century A.D. and suggests a source in either the Rhineland or Central Gaul. Two other very small sherds from similar forms are known.

Fabric 118, Wiltshire imitation samian

Description of fabric: Moderately hard, fine-grained fabric containing clear rounded quartz, calcite, red and black ferrous grits and plentiful golden mica, generally lying in the same plane as the surface of the vessel. The core is pale blue-grey in colour and the surfaces light reddish-brown. The slip, often very worn, is a dull mid brown.

Forms represented: Rounded open bowls, probably copying Dr. 37 vessels.

Discussion: Only one sherd of this fabric is currently known amongst the assemblage. Although the fabric composition is similar to that described by Anderson for the Wiltshire moulded imitation samian (1978a, 358), this vessel appears to have been wheel-thrown and the decoration is far superior to any illustrated by Anderson (*ibid.*, figs 9.2–9.4). The position of this sherd amongst the group of Wiltshire imitation samian vessels is therefore tentative, although its fabric clearly links it with this group. It is probably of first century A.D. date.

Fabric 120, Possible poppy-head beakers

Description of fabric: A uniform, moderately hard, fine-grained fabric containing quartz, mica and black ferrous particles. Exterior surface varies from pale to dark grey in colour and is generally darker than the core. The exterior is also normally burnished with horizontal strokes running around the circumference of the vessel. Barbotine dots are the characteristic decoration for this fabric type.

Forms represented: Beakers with globular bodies and short, everted rims.

Discussion: Known only amongst the illustrated sherds at Wanborough, in Phase 2A and Period 2 contexts. Poppy-head beakers are known to have been produced at a variety of centres in southern Britain, including Highgate Wood, London; Upchurch, Kent; the Northampton area and the Oxfordshire potteries, during the second century A.D. (Tyers 1978, 62). Similar forms were also produced *c.* A.D. 70–120/40 in the Wetterau region of the Rhineland (*ibid.*, 96). The origin of the vessels recovered at Wanborough is uncertain but these vessels are likely to date from the second century A.D.

Fabric 121, Fine, sandy, micaceous grey ware

Description of fabric: A group of fabrics all moderately fine-grained and containing moderate to common amounts of quartz, white mica generally aligned parallel with the surfaces of the sherd, and black ferrous particles. Surface colour varies from mid greyish-brown to dark grey.

The core is generally grey with some tendency towards a 'sandwich' firing effect. Surfaces of vessels often horizontally burnished although there is considerable variability in the finish achieved.

Forms represented: Beakers, of a variety of types, and small bowls.

Discussion: This fabric group probably encompasses the products of several centres. It is known only amongst the illustrated sherds, examples present in Phases 1B and 1C and Period 2 contexts.

Fabric 122, Fine ?Savernake ware

Description of fabric: Fine-grained, medium hard fabric containing various inclusions, including quartz, carbonaceous material, white mica, black ferrous grits, and soft, white or yellow non-calcareous particles, all generally less than 0.5mm across. Smooth, slightly chalky texture. Surfaces fired to a pale grey in colour with a lighter core. Surfaces smoothed.

Forms represented: Jars with upright, flaring rims.

Discussion: Identified amongst the illustrated sherds only. This fabric may represent the finest end of the range of Savernake wares and is likely to be of local manufacture.

Fabric 123, Hard, off-white fineware

Description of fabric: Very hard fired, fine-grained fabric containing sparse amounts of quartz, mica and red and black ferrous oxides up to 0.25mm across. Fabric is more dense than that of the other fine beaker/flagon fabrics (i.e. Fabrics 6, 11, 65, etc.) and a fresh break shows a laminated fracture characteristic of this fabric type. Surfaces are off-white to cream in colour, while the core may have a grey or pink tint.

Forms represented: Wide-mouthed beaker and a hemispherical flanged bowl.

Discussion: Identified only amongst the illustrated sherds, both examples occurring in Phase 1C.

Fabric 124, North African red-slipped ware

Description of fabric: Hard, brick-red fabric, granular in texture with fine quartz, limestone and mica inclusions. The slip is lustrous and close in colour to the fabric (Hayes 1972, 287–92; Bird 1977, 272).

Forms represented: Bowl, based on Dr. 37 forms, decorated with grooves and rouletting beneath the rim. Dated c. A.D. 100–160 plus (Hayes 1972, type 9A; Bird 1977, fig. 20.2).

Discussion: The distribution of African red-slipped ware in Britain is widespread (Bird 1977, 272, fig. 20.1), although numerically small, many sherds presumably being mis-identified amongst the larger samian collections. African red-slipped ware reached Britain between the later first century A.D. and the late fourth/early fifth centuries A.D. and Bird (1977, 272) suggests that these vessels are unlikely to have been direct objects of trade but rather to have entered Britain along with their owners. The form present at Wanborough is one of the commonest of the early African series, generally distributed along the western and central Mediterranean coasts (Hayes 1972, 454, map 3). In Britain an example of this form has been found at South Shields in a deposit dating to c. A.D. 370, although the sherd itself is thought to date to the time of the building of Hadrian's Wall (Dore and Greene 1976, 188). Seven sherds of African red-slipped ware are known in the Corinium Museum, Cirencester (Bird 1977, 272).

Fabric 126, Buff-slipped ware

Description of fabric: Hard, fine-grained fabric containing quartz, occasional red and black ferrous grits and occasional soft, white or off-white calcareous inclusions. Rounded and elongated voids also occur, perhaps indicating the position of leached calcareous inclusions. Both interior and exterior surfaces are covered in a thick buff slip, the margins are orange-brown and the core grey.

Forms represented: Curved-sided bowl with stabbed decoration on the rim.

Discussion: Known only from the illustrated sherds. The one example of this fabric type occurs in Phase 2A.

Fabric 127, Sandstone and grog-gritted coarseware

Description of fabric: Hard, coarse-textured fabric containing sandstone (?greensand) fragments up to 2mm across and more occasionally grog pieces of a similar size, soft, white non-calcareous particles, clear and translucent quartz, and occasional red and black ferrous particles. Surfaces and core are generally pale grey in colour, while the internal and external margins may be pale orangey-brown to a variable depth. Surfaces roughly smoothed.

Forms represented: Large storage jars.

Discussion: Known only amongst the illustrated sherds but is probably a fairly local product, possibly related to the Savernake wares.

Fabric 128, Colchester colour-coated ware

Description of fabric: Fine-grained, moderately hard fabric containing moderate quartz grains, less than 0.25mm across, moderate black ferrous grits up to 0.5mm across, and rare white mica plates. Fabric varies in colour from pinkish-grey to light orange-brown and the exterior surface has a thin matt colour coat ranging from very dark brownish-grey to light reddish-brown.

Forms represented: Closed form with applied scale decoration, probably a beaker (*cf.* A.C. Anderson 1980, fig. 13, 5).

Discussion: Production of colour-coated finewares in the Colchester region commenced during the pre-Flavian period and continued at a fairly low level until *c.* A.D. 120 when the industry expanded (A.C. Anderson 1980, 35). After *c.* A.D. 170 the distribution of these wares seems limited to the southeast of England, possibly due to competition from the Nene Valley. Similar scale-decorated beakers are dated to the mid second century A.D. at Colchester (*ibid.*, fig. 3, 5, *c.* A.D. 120–180).

Fabric 129, Very hard, pale grey ware

Description of fabric: Very hard, dense fabric containing moderate amounts of translucent quartz, up to 0.25mm across. The core is generally very pale grey in colour, the surfaces are darker than the core, usually mid grey in colour and are occasionally slipped.

Forms represented: Flagons, bead rim jars, and carinated bowls.

Discussion: Known only amongst the illustrated sherds where examples occur in Phases 1B and 2B.

Fabric 130, Glauconitic sandy ware

Description of fabric: Medium to coarse-grained fabric containing common rounded clear and translucent quartz grains and black glassy grains, probably glauconite. The matrix of the fabric is slightly calcareous, unlike those of the other sandy fabrics present. Glauconite grains are most clearly seen in sherds where both the surfaces and core are slightly oxidised, pale to mid greyish-brown in colour; unoxidised examples with very dark grey and black surfaces and cores also occur but are identified with less confidence.

Forms represented: Carinated bowls, platters, straight-sided dish, straight and curved-sided platters, and wide mouthed jar/bowl forms.

Discussion: The presence of glauconite was recognised in the fabric of 26 of the illustrated vessels all previously classified as Fabrics 26 or 52, and the true total may be higher than this due to the problems of identifying this mineral in unoxidised fabrics. The glauconitic sandy wares then, may well represent a significant proportion of the sandy fabrics at Wanborough and,

like them, probably a fairly local product from the Greensand areas of north Wiltshire. Amongst the illustrated sherds, examples occur in Phases 1B, 1C, and 2A; the straight-sided dish and the straight and curved-sided platter forms are the most common.

Fabric 131, New Forest parchment ware

Description of fabric: Coarse, very granular fabric, generally white or off-white in colour containing abundant quartz grains up to 1mm across, and very occasional ironstone and red ferrous particles of a similar size. Surfaces may be coated with a slip varying from off-white to purple or dark brown in colour (Fulford 1975a, 26 fabric 2a).

Forms represented: Open bowl with thickened rim and grooving below (Fulford 1975a, 70, type 88).

Discussion: Known only from a fabric sample at Wanborough, although other sherds are likely to be present. This fabric was produced throughout the life of the New Forest industry *c.* A.D. 270–400 plus, most commonly for bowl and mortaria forms.

Fabric 132, Black colour-coated ware from Lezoux

Description of fabric: Moderately fine fabric with a slightly granular texture containing sparse quartz, mica and red and black iron oxide inclusions, up to 0.25mm across. The fabric is pinkish-buff in colour with a dark brown, metallic colour-coat on both surfaces. Wheel-made with applied decoration.

Forms represented: Single body sherd only recognised, probably from a Déchelette 74 beaker.

Discussion: These wares are more fully described by Simpson (1957). It is an unusual fabric type in Britain, traditionally known as metallic black samian and probably produced by the same workshops as the common red samian ware. Similar sherds with appliqué decoration are known from Silchester, Hampshire (Simpson 1957, pl. xiv, 20–3) and from Cirencester (Simpson 1957, pl. xiv, 24–5) although no exact parallels for this face-mask have been identified. These wares are generally dated to the second century A.D.

List of fabric types

- | | | | |
|----|------------------------------------|----|--|
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| 2 | Powdery buff/orange ware | 26 | Sandy grey ware |
| 3 | Coarse, pink-surfaced grey ware | 27 | Brick red fabric |
| 4 | Fine, buff calcareous fabric | 28 | Central Gaulish colour-coated ware |
| 5 | Fine orange ware | 29 | Black-surfaced orange ware |
| 6 | Fine, micaceous cream ware | 30 | Terra Nigra |
| 7 | Brown sandy ware | 31 | Fine, pale orange ware |
| 8 | Cream/buff sandy ware | 32 | Buff, sandy, colour-coated ware |
| 9 | Fine, calcareous orange ware | 33 | Miscellaneous buff wares |
| 10 | Coarse, cream-slipped sandy ware | 34 | Miscellaneous orange wares |
| 11 | Chalky white ware | 49 | Lyons ware |
| 12 | Mica-dusted ware A | 52 | Common grey ware |
| 13 | Sandy white/orange ware | 53 | Fine grey ware |
| 14 | Hard, fine, sandy grey ware | 54 | Black Burnished ware (BB1) |
| 15 | Fine, white-slipped orange ware | 56 | Calcareous orange ware |
| 16 | Fine, red-slipped orange ware | 57 | Pale grey sandy ware |
| 17 | Coarse, vesicular grey ware | 59 | Orange-brown sandy coarseware |
| 18 | Coarse, micaceous, sandy grey ware | 60 | Fine, micaceous grey ware |
| 19 | Sandy, red-slipped orange ware | 61 | Hard, fine orange ware |
| 20 | Severn Valley wares | 64 | Fine orange-slipped ware |
| 21 | Black-surfaced grey ware | 65 | Fine cream ware |
| 22 | Hard, cream-slipped red ware | 66 | Fine, slightly vesicular orange ware |
| 23 | Buff-surfaced grey ware | 67 | Fine, sandy, red-slipped orange ware |
| 24 | Coarse orange ware | 68 | Oxfordshire red/brown colour-coated ware |

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87	Cologne colour-coated ware	122	Fine ?Savernake ware
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90	Flint-gritted ware	124	North African red-slipped ware
91	Fine, sandy buff ware	126	Buff-slipped ware
92	Micaceous, sandy orange ware	127	Sandstone and grog-gritted coarseware
93	Micaceous orange/pink ware	128	Colchester colour-coated ware
96	Gritty, white-slipped red ware	129	Very hard, pale grey ware
97	White-slipped red ware	130	Glauconitic sandy wares
98	Mica-dusted ware B	131	New Forest parchment ware
99	Black colour-coated ware	132	Black colour-coated ware from Lezoux, Central Gaul
100	Alice Holt grey ware		
103	Fine, micaceous, black-surfaced grey ware		

List of illustrated sherds

FIGURES 80–99 represent the vessels finally selected for illustration and contained in the 1976 archive. Of the original drawings, seven vessels have been redrawn, minimal corrections and alterations have been made to 52 vessels and 12 have been removed (mortaria, prehistoric and other material included out of phase) or amalgamated (separate illustrations of joining sherds). An asterisk next to the sherd number has been used to indicate that less than 5% of the rim diameter survives and therefore the accuracy of the rim diameter as reconstructed is questionable. These illustrations are ordered by phase, as described in the stratigraphic report, and are organised within each group by major vessel class (i.e. flagons, beakers, jars, bowls, platters, and miscellaneous forms).

As noted in the introduction to this report, the basis on which individual sherds were originally selected for final illustration remains obscure, although the contexts from which the sherds were chosen seem to reflect 'key-groups' illustrating the material from the major features of each phase. However, residual and/or intrusive sherds occurring within these contexts have been illustrated in the phase corresponding to their date of production/currency. This is especially noticeable in the case of the 'evacuation deposit' in the Ermin Street ditch, stratigraphically belonging to Phase 1C but noted to be contaminated by later, intrusive material. Consequently, material from this deposit is illustrated in Phase 1C and subsequently in the Period 2 and the Phase 3A and 3B groups according to the date of the vessels themselves.

All the Period 1 material was recovered from the Ermin Street ditches (FIG. 80, 1–11) from its primary silt layers (Phase 1A), while Phase 1B material, from the secondary silting in the Ermin Street ditches and two associated drainage ditches (ditches 58 and 125), is shown in FIGS 80–5, 12–137. The Phase 1C sherds, FIGS 85–91, 138–292 were found in drainage ditch 110 and in the 'evacuation deposit' in the Ermin Street ditches.

The Phase 2A material (FIGS 91–3, 293–358) was selected from that recovered in buildings 24 and 27, ditch 34/55 and pit 126 as well as four other apparently unrecorded contexts (76B, 58A, 133, 134 and 137). Illustrated material from Phase 2B (FIG. 95, 408–422) is from the rubble overlying Building 24 and Building 28 and its associated features. The Phase 2 material

(FIGS 93–5, 359–407) is from the upper fills of the Ermin Street ditches, although vessels of the period *c.* A.D. 80–230 found with the Phase 1C ‘evacuation deposit’ are included here (FIG. 93, 360, and 363; FIG. 94, 364–6, 372, 374, 376, 378–81, 384–6, 388, and 389; FIG. 95, 390, 394, 396, 398, 399 and 402).

The Phase 3A sherds (FIG. 96, 423–49) are mainly drawn from the assemblages from ditch 125 and the floors of Buildings 12 and 19 but also include more of the later intrusive material from the Phase 1C ‘evacuation deposit’ (FIG. 96, 435 and 447), and a Phase 2A context (FIG. 96, 446). The Phase 3B material (FIGS 97–8, 450–89), is from the upper fills of ditches 114 and 125, soil and rubble layers over building 17, the oven in Building 18, various late Roman black soil and rubble layers across the site. However, FIGS 97 and 98 also include some late Roman sherds found in earlier contexts (FIG. 97, 453, 459, and 471 and FIG. 98, 479 and 483), as well as material (FIG. 97, 455, 463 and 468) from a ditch excavated in 1969.

The original illustrations are clearly heavily biased in favour of early Roman material — 292 or 60% of the original drawings are from Period 1 contexts, 130 or 26% are from Period 2 and 67 or 14% are from Period 3 deposits; yet of the total number of sherds from the phased contexts of the 1976 assemblage, 25%, 32%, and 44% respectively were assigned to these periods. The reasons for this bias remain unclear but the post-excavation work previously undertaken and the type of deposit characteristic of each phase may be contributory factors. The early Roman material derived from ditch fills is likely to be characterised by large sherds and whole profiles, while the later material, predominantly from construction feature and soil layers, probably comprises smaller, more abraded sherds, which are consequently less conducive to illustration.

The nineteen original figures (FIGS 80–98) have been supplemented by new drawings of complete or unusual coarseware vessels selected for their intrinsic interest (FIG. 99). FIGURE 100 supplements the range of imported, Continental finewares included amongst the main series of illustrations, Terra Nigra: FIG. 84, 126 and FIG. 90, 275; Lyons ware: FIG. 83, 100, FIG. 84, 104 and FIG. 86, 167; Central Gaulish colour-coated ware: FIG. 89, 243; North African red-slipped ware: FIG. 97, 473. New illustrations of the mica-dusted wares and locally produced finewares (the north Wiltshire colour-coated and lead-glazed wares) comprise FIGS 101–4 and extend the range of these wares previously published elsewhere (Walters *et al.* 1973; Greene 1974; Swan 1977; Anderson 1978a; 1978b; Arthur 1978, 319–24; Anderson 1979; Anderson and Wachter 1980, 124–26).

Figure 80

Phase 1: All contexts c. A.D. 50–60

1. Butt beaker. Fabric 65: Fine cream ware. 76B, IV, 29, 2.
2. Butt beaker. Fabric 53: Fine grey ware. 76B, IV, 29, 1.
3. High-necked beaker (Holwerda 1941, type 27c; Tyers and Marsh 1979, fig. 239, type III H). Fabric 52: Common grey ware. 76B, XVI, 29, 5.
4. High-shouldered jar (Tyers and Marsh 1979, fig. 235, Type IIc). Fabric 26: Sandy grey ware. 76B, XVI, 32 1.
5. Bead rim jar (Rigby 1982a, fig. 50, 6 and 8). Fabric 52: Common grey ware. 76B, XVI, 29, 2.
6. Ovoid jar with rouletted decoration (Rigby 1982a, fig. 53, 126). Fabric 53: Fine grey ware. 76B, XVI, 29, 4.
7. Wide-mouthed jar. Fabric 52: Common grey ware. 76B, XVI, 29, 3.
8. Wide-mouthed jar. Fabric 53: Fine grey ware. 76B, IV, 29, 3.
9. Beaker. Fabric 65: Fine cream ware. 76B, XVI, 29, 6.
10. Bowl. Fabric 21: Black-surfaced grey ware. 76B, XVI, 29, 1.
11. Curved-sided platter with potter’s mark placed centrally on base (see FIG. 105, 1). Copy of Cam. form 16. Fabric 52: Common grey ware. 76B, IV, 29, 6.

Phase 1B: All contexts c. A.D. 60–65

12. Flagon. Fabric 15: Fine, white-slipped orange ware. 76A, XXI, 27, 3.
13. Flagon (Darling 1985, fig. 24, 1). Fabric 4: Fine, buff, calcareous fabric 76B, X, 28, 40.

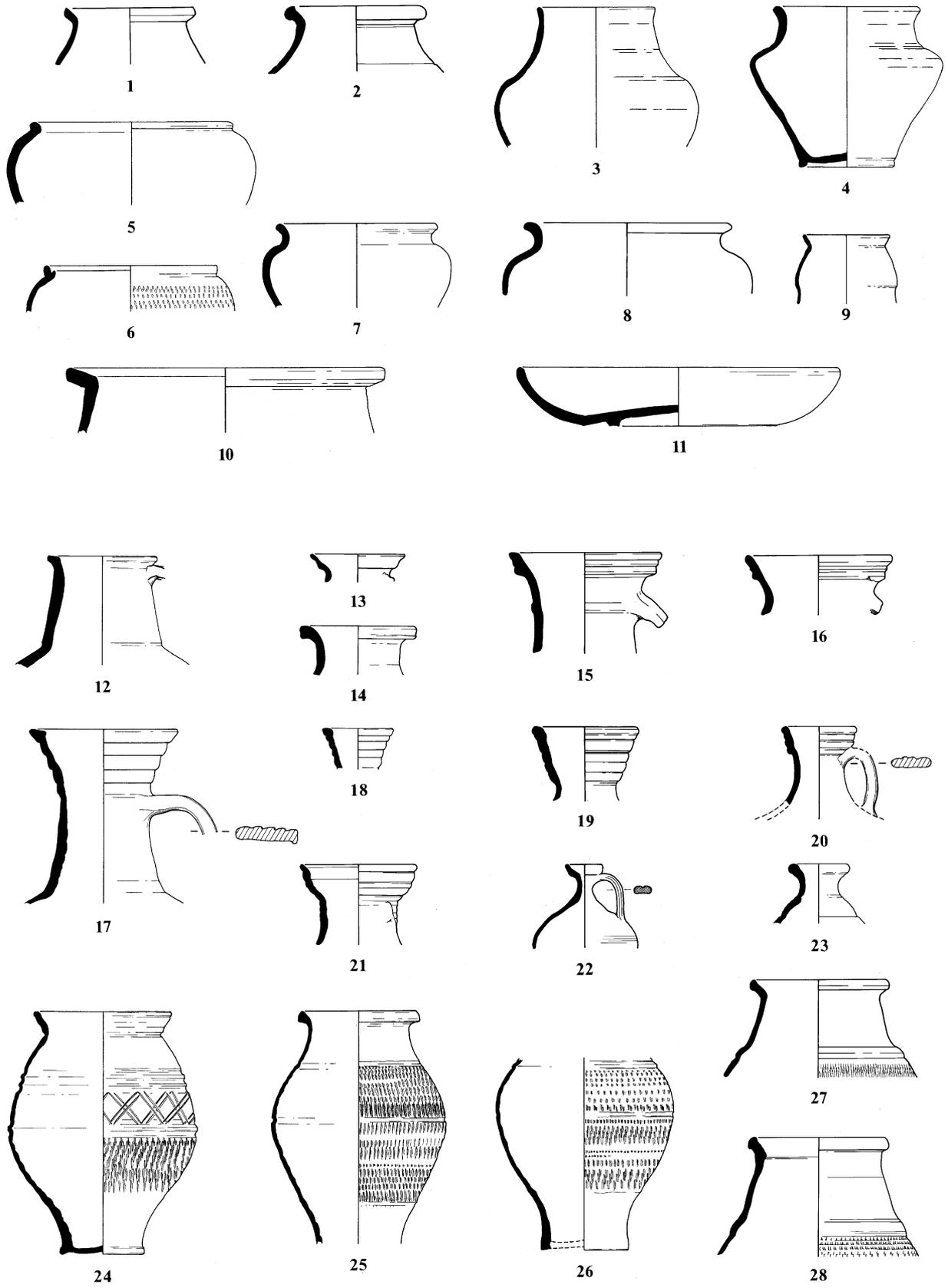


FIG. 80. The coarsewares: Phase 1 (1-11); Phase 1B (12-28). Scale 1:4.

14. Flagon. Fabric 14: Hard, fine, sandy grey ware. 76B, XVI, 28, 23.
15. Flagon. Fabric 13: Sandy white/orange ware. 76B, X, 28, 71.
16. Flagon. Fabric 13: Sandy white/orange ware. 76B, IV, 28, 16.
17. Ring-neck flagon (Rigby 1982a, fig. 55, 180). Fabric 22: Hard, cream-slipped red ware. 76A, XXI, 27, 2.
18. Ring-neck flagon. Fabric 15: Fine, white-slipped orange ware. 76B, X, 28, 38.
19. Ring-neck flagon. Fabric 22: Hard, cream-slipped red ware. 76A, XXI, 28, 14.
20. Ring-neck flagon with vertical burnishing on neck. Fabric 29: Black-surfaced orange ware. 76B, X, 28, 6.
21. Ring-neck flagon. Fabric 13: Sandy white/orange ware. 76A, XXI, 28, 13.
22. Flagon. Fabric 11: Chalky white ware. 76B, IV, 28, 12.
23. Flagon. Fabric 65: Fine cream ware. 76A, XXI, 58, 5.
24. Butt beaker with rouletted and grooved decoration (Cam. form 112 A). Fabric 6: Fine, micaceous cream ware. *c.* A.D. 50–65. 76B, X, 28, 42.
25. Butt beaker with rouletted and grooved decoration (Cam. form 119). Fabric 6: Fine, micaceous cream ware. 76B, X, 28, 43.
26. Butt beaker with rouletted and grooved decoration. Fabric 65: Fine cream ware. 76B, X, 28, 44.
27. Butt beaker with rouletted and grooved decoration. Fabric 72: Orange sandy ware. 76B, X, 28, 32.
28. Butt beaker with rouletted decoration. Fabric 32: Buff, sandy colour-coated ware. 76A, III, 125, 1.

Figure 81

Phase 1B cont.

29. Butt beaker with rouletted and grooved decoration. Fabric 72: Orange sandy ware. 76B, XVI, 28, 30.
30. Butt beaker. Fabric 53: Fine grey ware. 76A, II 125, 1.
31. Butt beaker with rouletted and grooved decoration. Fabric 24: Coarse orange ware. 76B, X, 28, 18.
32. Narrow-mouthed jar with a lid-seated rim, burnished decoration and neck cordon. Fabric 21: Black-surfaced grey ware. 76B, X, 28, 12.
33. Bowl/beaker with burnished lattice decoration. Fabric 53: Fine grey ware. 76B, XVI, 28, 7.
34. Beaker. Fabric 52: Common grey ware. 76B, XVI, 28, 24.
35. Narrow-mouthed beaker. Fabric 60: Fine, micaceous grey ware. 76B, XVI, 28, 22.
36. Carinated beaker with rouletted decoration. Fabric 6: Fine, micaceous cream ware. 76B, IV, 28, 11.
37. Jar with neck/shoulder cordon. Fabric 52: Common grey ware. 76B, IV, 28, 6.
38. Jar with bead rim (Cam. form 249; Fulford 1984, fig. 42, 30). Fabric 21: Black-surfaced grey ware. 76B, XVI, 28, 10.
39. Jar with triangular bead rim (Cam. form 249; Fulford 1984, fig. 42, 30). Fabric 29: Black-surfaced orange ware. 76A, XXI, 28, 6.
40. Ovoid jar with bead rim (Cam. form 249; Fulford 1984, fig. 42, 30). Fabric 53: Fine grey ware. 76B, IV, 28, 5.
41. Narrow-mouthed jar with incised groove decoration. Fabric 21: Black-surfaced grey ware. 76A, XXI, 27, 1.
42. Ovoid jar with rouletted decoration (Rigby 1982a, fig. 53, 126). Fabric 121: Fine, sandy, micaceous grey ware. 76B, X, 28, 48 and 76B, X, 28, 8.
43. Narrow-mouthed jar with rouletted decoration and a neck cordon. Fabric 53: Fine grey ware. 76B, IV, 28, 11 and 76B, X, 28, 9.
44. Ovoid jar with rouletted decoration. Fabric 53: Fine grey ware. 76B, X, 28, 47.
45. Ovoid jar with rouletted decoration. Fabric 53: Fine grey ware. 76B, XVI, 28, 19.
46. Ovoid jar with rouletted decoration. Fabric 53: Fine grey ware. 76B, X, 28, 29.
47. Jar. Fabric 26: Sandy grey ware. 76A, XXI, 27, 9.
48. Jar. Fabric 1: Savernake ware. 76B, XVI, 28, 9.
49. Jar. Fabric 1: Savernake ware. 76B, X, 28, 11.
50. Jar. Fabric 26: Sandy grey ware. 76A, XXI, 58, 3.
51. Jar. Fabric 129: Very hard, pale grey ware. 76A, XXI, 27, 10.
52. Jar. Fabric 52: Common grey ware. 76A, II, 125, 4.
53. Jar. Fabric 1: Savernake ware. 76B, X, 28, 10.
54. Jar. Fabric 1: Savernake ware. 76B, X, 26, 21.
55. Jar. Fabric 26: Sandy grey ware. 76B, X, 28, 69.
56. Jar. Fabric 26: Sandy grey ware. 76B, X, 28, 70.

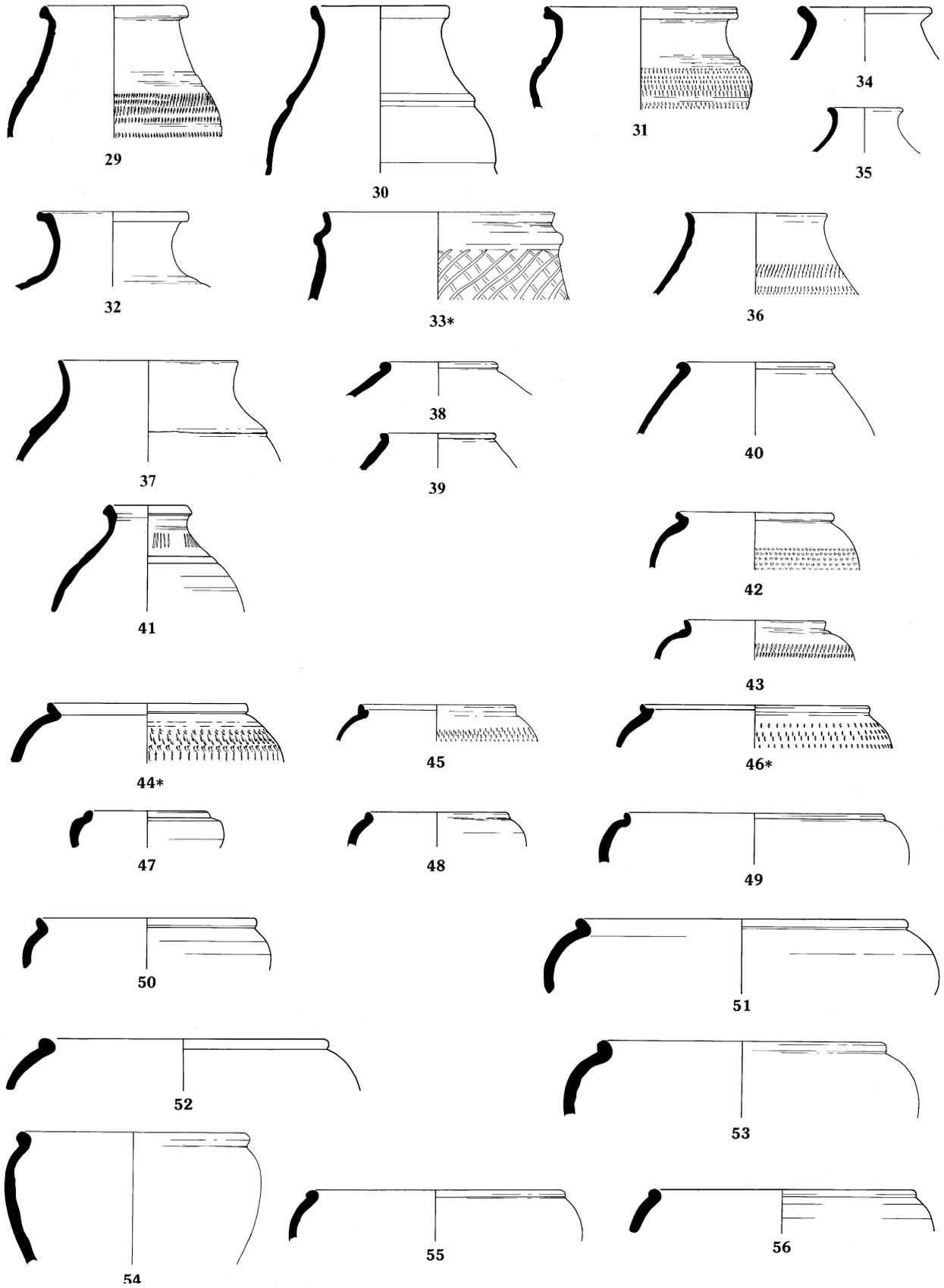


FIG. 81. The coarsewares: Phase 1B. Scale 1:4.

Figure 82

Phase 1B cont.

- 57. Jar (Davies and Seager Smith 1993, 231, type 5). Fabric 54: Black Burnished ware. 76B, XVII, 28, 28.
- 58. Jar. Fabric 122: Fine (?)Savernake ware. 76B, XVI, 28, 27.
- 59. Narrow-mouthed jar with neck cordon and shallow groove on shoulder. Oxidised. Fabric 26: Sandy grey ware. 76B, XVI, 28, 11.
- 60. Narrow-mouthed jar with neck cordon and burnished line decoration. Fabric 1: Savernake ware. 76A, XXI, 28, 1.

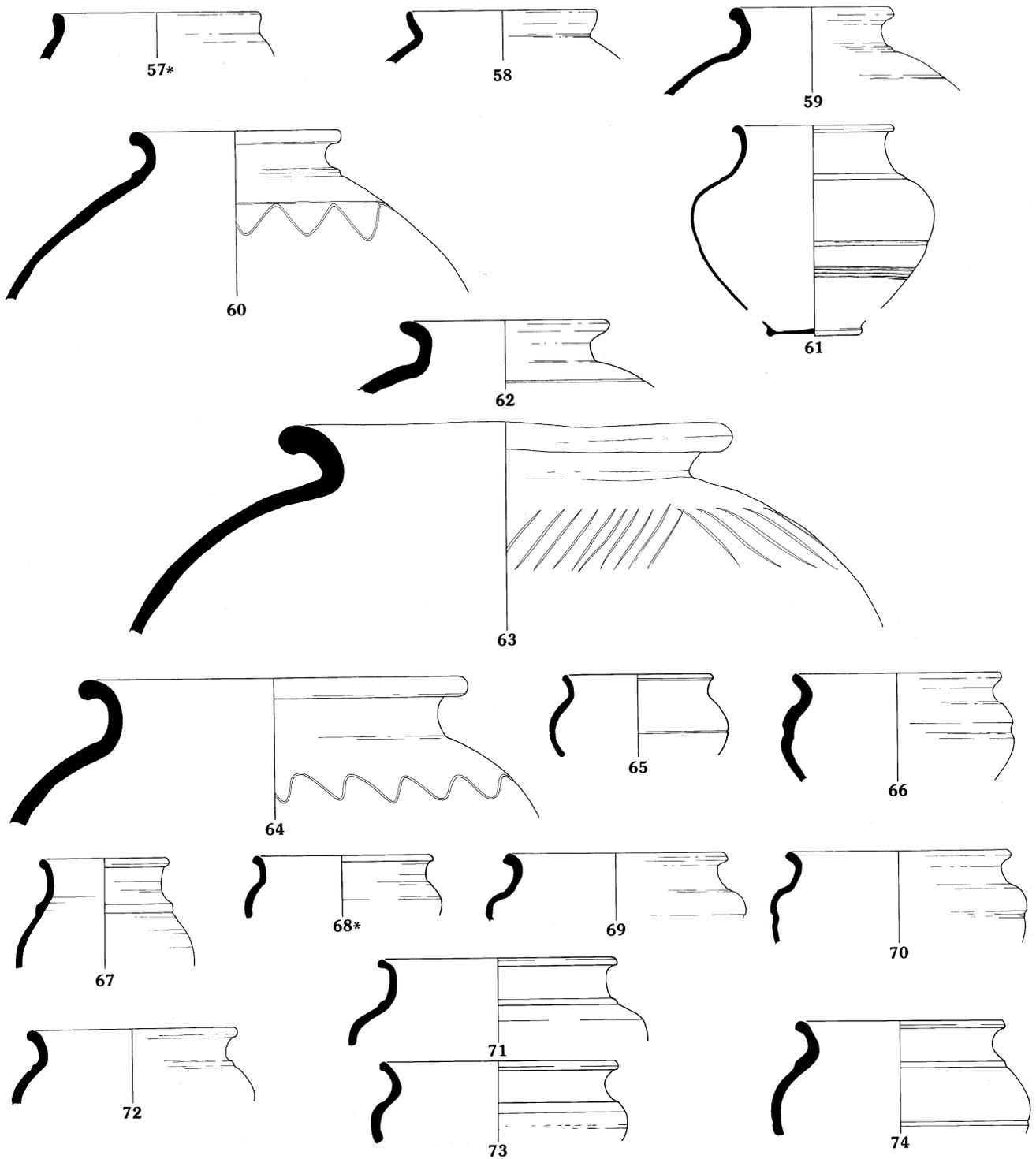


FIG. 82. The coarsewares: Phase 1B. Scale 1:4.

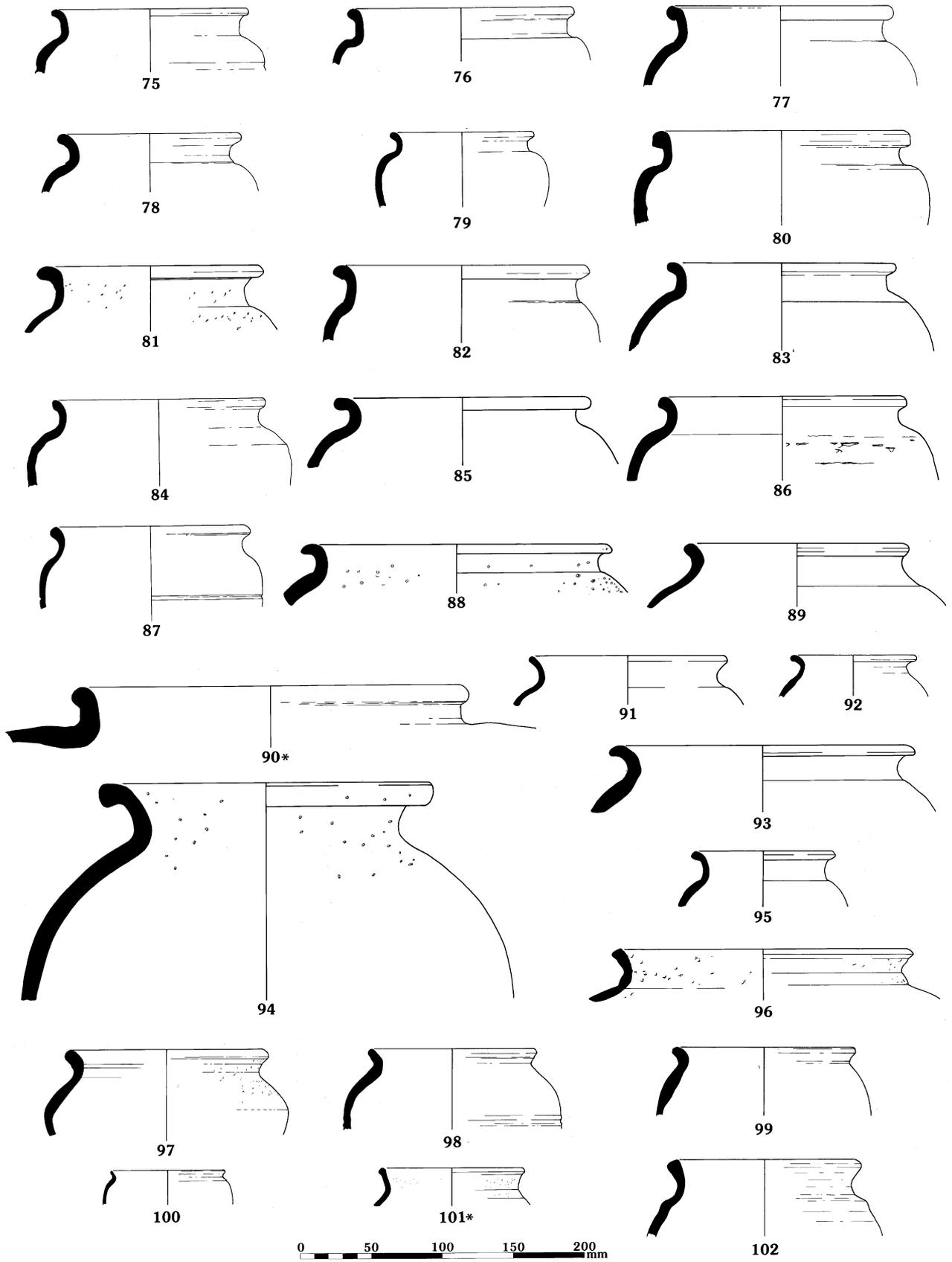


FIG. 83. The coarsewares: Phase 1B. Scale 1:4.

61. Narrow-mouthed jar with neck cordon. Fabric 72: Orange sandy ware. 76A, III, 125, 4.
62. Narrow-mouthed jar with burnished line decoration. Fabric 1: Savernake ware. 76B, IV, 28, 2.
63. Storage jar with burnished line decoration (Annable 1966, fig. 3, 41 and fig. 4, 70). Fabric 1: Savernake ware. 76A, XXI, 28, 2.
64. Jar. Fabric 1: Savernake ware. 76B, IV, 28, 1.
65. Wide-mouthed jar with girth groove. Fabric 1: Savernake ware. 76B, X, 28, 61.
66. Wide-mouthed jar with a pronounced girth groove. Fabric 1: Savernake ware. 76B, IV, 28, 3.
67. Necked jar. Fabric 26: Sandy grey ware. 76A, III, 125, 3.
68. Necked jar. Fabric 52: Common grey ware. 76B, IV, 28, 21.
69. Wide-mouthed jar with girth groove. Fabric 53: Fine grey ware. 76B, XVI, 28, 12.
70. Wide-mouthed jar with girth groove. Fabric 21: Black-surfaced grey ware. 76B, X, 28, 14.
71. Necked jar with neck cordon. Fabric 26: Sandy grey ware. 76B, X, 28, 53.
72. Jar with neck cordon. Fabric 26: Sandy grey ware. 76B, IV, 28, 4.
73. Wide-mouthed jar. Fabric 29: Black-surfaced orange ware. 76B, X, 28, 31.
74. Wide-mouthed jar with neck cordon. Fabric 21: Black-surfaced grey ware. 76B, X, 28, 65.

Figure 83

Phase 1B cont.

75. Wide-mouthed jar with girth groove. Fabric 1: Savernake ware. 76B, XVI, 28, 17.
76. Jar. Fabric 1: Savernake ware. 76A, XXI, 58C, 1.
77. Wide-mouthed jar. Fabric 1: Savernake ware. 76B, XVI, 28, 15.
78. Jar. Fabric 52: Common grey ware. 76B, XVI, 28, 16.
79. Wide-mouthed jar. Fabric 52: Common grey ware. 76B, XVI, 28, 21.
80. Wide-mouthed jar. Fabric 1: Savernake ware. 76B, XVI, 28, 29.
81. Wide-mouthed jar. Fabric 1: Savernake ware. 76A, XXI, 27, 8.
82. Wide-mouthed jar. Fabric 1: Savernake ware. 76B, XVI, 28, 14.
83. Jar. Fabric 57: Pale grey sandy ware. 76A, XX, 58B, 2.
84. Wide-mouthed jar. Fabric 1: Savernake ware. 76B, X, 28, 20.
85. Jar. Fabric 127: Sandstone and grog-gritted coarseware. 76A, II, 125, 3.
86. Wide-mouthed jar. Fabric 1: Savernake ware. 76B, X, 28, 66.
87. Wide-mouthed jar with girth groove. Fabric 1: Savernake ware. 76A, XX, 58B, 1.
88. Jar. Fabric 1: Savernake ware. 76B, X, 28, 67.
89. Wide-mouthed jar. Fabric 52: Common grey ware. 76B, X, 28, 57.
90. Narrow-mouthed jar. Fabric 1: Savernake ware. 76A, XXI, 28, 3.
91. Wide-mouthed jar. Fabric 26: Sandy grey ware. 76B, X, 28, 28.
92. Wide-mouthed jar. Fabric 53: Fine grey ware. 76B, X, 28, 68.
93. Wide-mouthed jar. Fabric 1: Savernake ware. 76B, X, 28, 58.
94. Jar. Possibly same vessel as FIG. 89, 237, although does not join. Fabric 1: Savernake ware. 76B, IV, 28, 15.
95. Jar. Fabric 53: Fine grey ware. 76A, XXI, 58, 1.
96. Jar. Fabric 1: Savernake ware. 76A, XXI, 58, 2.
97. Jar. Fabric 26: Sandy grey ware. 76A, III, 125, 2.
98. Jar. One of only three vessels in this fabric known from the site. Fabric 19: Sandy, red-slipped orange ware. 76B, X, 28, 7.
99. Jar. Fabric 26: Sandy grey ware. 76B, X, 28, 15.
100. Beaker (Greene 1979, fig. 8, 20). Fabric 49: Lyons ware. *c.* A.D. 40–70. 76B, X, 28, 13.
101. Necked jar. Fabric 26: Sandy grey ware. 76A, XXI, 27, 6.
102. Wide-mouthed jar. Fabric 57: Pale grey sandy ware. 76B, XVI, 28, 13.

Figure 84

Phase 1B cont.

103. Lid. Fabric 53: Fine grey ware. 76A, XXI, 58, 6.
104. Hemispherical cup with applied 'raspberry' roundels and curved leaves (Greene 1979, fig. 6, 5.2). Fabric 49: Lyons ware. *c.* A.D. 40–70. 76A, XXI, 58C, 2.
105. Wide-mouthed bowl with lid seating on interior of rim and a girth cordon. Fabric 26: Sandy grey ware. 76A, XX, 58B, 3.
106. Round-bodied open bowl. Similar to Durotrigian and early Roman forms from Dorset (Wheeler

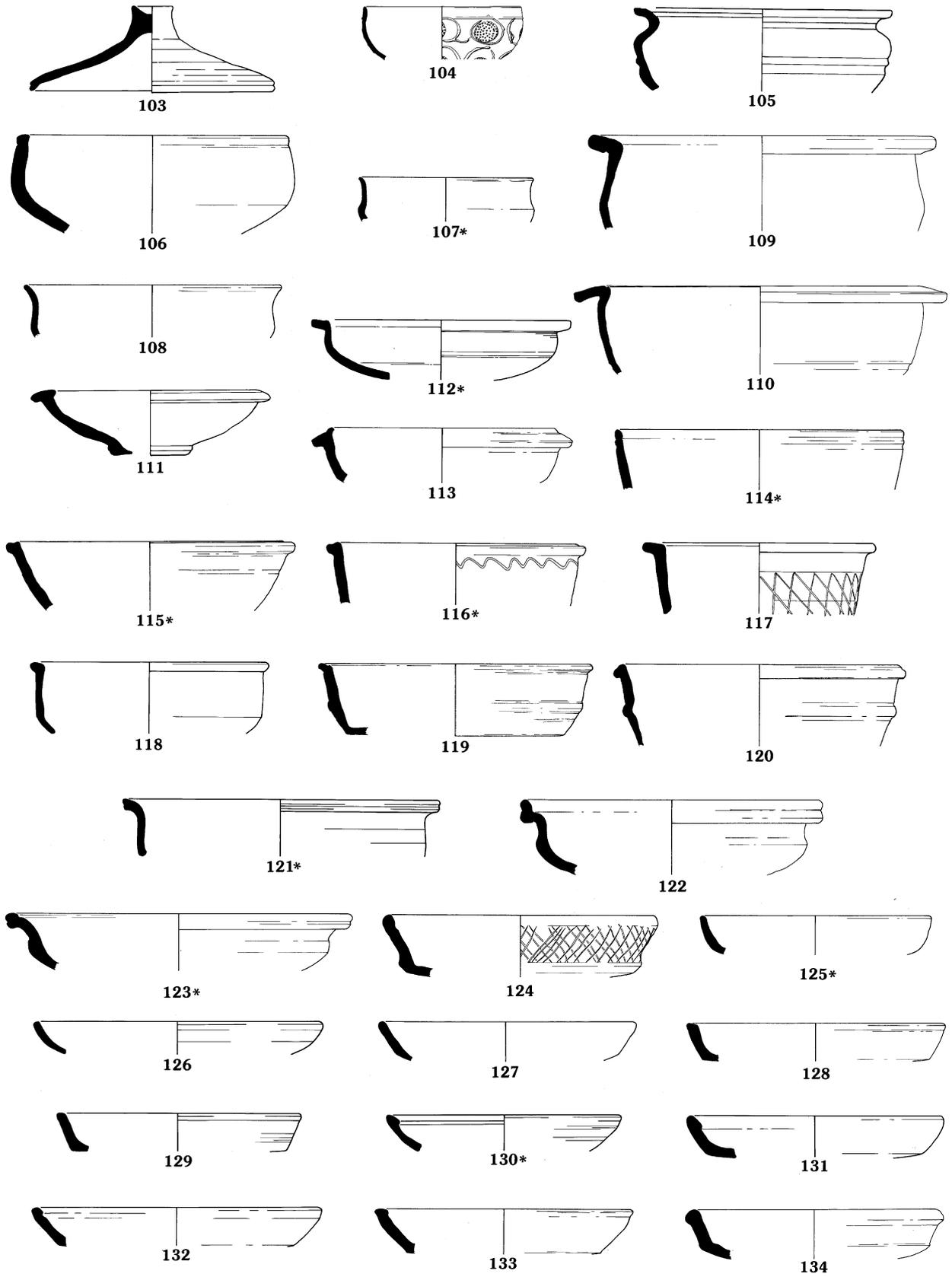


FIG. 84. The coarsewares: Phase 1B. Scale 1:4.

- 1943, fig. 72, 171–81; Davies and Seager Smith 1993, 233, type 15). Fabric 1: Savernake ware. *c.* A.D. 50–65. 76B, X, 28, 16.
107. S-sided bowl. Fabric 21: Black-surfaced grey ware. 76B, IV, 28, 8.
108. S-sided bowl. Fabric 29: Black-surfaced orange ware. 76B, X, 28, 4.
109. Carinated bowl. Fabric 53: Fine grey ware. 76B, XVI, 28, 8.
110. Flanged bowl with girth groove. Fabric 13: Sandy white/orange ware. 76A, XXI, 27, 4.
111. Curved-sided bowl. Fabric 21: Black-surfaced grey ware. 76A, XXI, 27, 5.
112. Flanged bowl. Oxidised. Fabric 26: Sandy grey ware. 76B, X, 28, 5.
113. Flanged bowl. Fabric 53: Fine grey ware. 76B, XVI, 28, 6.
114. Bowl. Fabric 21: Black-surfaced grey ware. 76B, XVI, 28, 26.
115. Bowl with grooved decoration. Fabric 26: Sandy grey ware. 76A, XXI, 28, 9.
116. Bowl with burnished wavy line decoration. Fabric 23: Buff-surfaced grey ware. 76B, X, 28, 2.
117. Straight-sided bowl with burnished line decoration (Davies and Seager Smith 1993, 233, type 22). Fabric 54: Black Burnished ware. 76A, XXI, 58, 10.
118. Carinated bowl. Oxidised. Fabric 26: Sandy grey ware. 76A, XXI, 58, 8.
119. Straight-sided bowl with girth cordon (similar in form to bowls made in the Alice Holt/Farnham area — Lyne and Jefferies 1979, 31, fig. 17, class 5 — but with minor differences in rim form and cordon moulding). Fabric 26: Sandy grey ware. 76B, IV, 28, 10.
120. Straight-sided bowl with girth cordon (similar in form to bowls made in the Alice Holt/Farnham area — Lyne and Jefferies 1979, 31, fig. 17, class 5 — but with minor differences in rim form and cordon moulding). Fabric 26: Sandy grey ware. 76B, IV, 28, 10.
121. Bowl. Fabric 1: Savernake ware. 76B, IV, 28, 22.
122. S-sided bowl. Oxidised. Fabric 26: Sandy grey ware. 76B, XVI, 28, 2.
123. S-sided bowl. Oxidised. Fabric 1: Savernake ware. 76B, X, 28, 18.
124. Platter with burnished lattice decoration. Oxidised. Fabric 26: Sandy grey ware. 76B, X, 28, 1.
125. Curved-sided platter. Copy of Cam. form 16. Fabric 130: Glauconitic sandy ware. 76A, XXI, 28, 10.
126. Curved-sided platter. Cam. form 16. Fabric 30: Terra Nigra. 76B, IV, 28, 14.
127. Carinated dish/platter. Fabric 130: Glauconitic sandy ware. 76B, XX, 58B, 6.
128. Straight-sided platter. Fabric 130: Glauconitic sandy ware. 76B, XVI, 28, 3.
129. Straight-sided platter. Fabric 26: Sandy grey ware. 76B, X, 28, 56.
130. Platter. Fabric 130: Glauconitic sandy ware. 76B, IV, 28, 13.
131. Curved-sided platter. Fabric 130: Glauconitic sandy ware. 76A, XXI, 32, 1.
132. Straight-sided platter. Fabric 130: Glauconitic sandy ware. 76B, X, 28, 3.
133. Curved-sided platter. Fabric 52: Common grey ware. 76B, IV, 28, 7.
134. Curved-sided platter. Fabric 26: Sandy grey ware. 76B, XVI, 28, 4.

Figure 85

Phase 1B cont.

135. Straight-sided dish with burnished line decoration on base interior. Fabric 130: Glauconitic sandy ware. 76A, XXI, 28, 11.
136. S-sided platter imitating Gallo-Belgic forms (Rigby 1973, fig. 2, 11 and 12). Internally rilled. Fabric 1: Savernake ware. 76A, XXI, 28, 7.
137. S-sided platter. Imitation Gallo-Belgic form (Rigby 1973, fig. 2, 11 and 12) and paralleled at Kingsholm (Darling 1985, fig. 32, 250) and Cirencester (Rigby 1982a, fig. 51, 50 and fig. 52, 99). Fabric 26: Sandy grey ware. 76B, XVI, 28, 1.

Phase 1C: All contexts c. A.D. 65–75/80

138. Flagon. Fabric 2: Powdery buff/orange ware. 76A, VIII, 110, 10.
139. Flagon with burnished wavy line decoration. Fabric 52: Common grey ware. 76B, X, 27, 8.
140. Ring-neck flagon. Fabric 13: Sandy white/orange ware. 76B, XVI, 27, 53.
141. Ring-neck flagon. Fabric 15: Fine, white-slipped orange ware. 76B, XVI, 27, 64.
142. Ring-neck flagon. Fabric 4: Fine, buff calcareous fabric 76B, X, 27, 39.
143. Ring-neck flagon. Fabric 8: Cream/buff sandy ware. 76B, X, 27, 65.
144. Ring-neck flagon. Fabric 15: Fine, white-slipped orange ware. 76B, X, 27, 93.
145. Ring-neck flagon. Fabric 15: Fine, white-slipped orange ware. 76B, X, 27, 69.
146. Butt beaker with rouletted decoration (Cam. form 112). Fabric 53: Fine grey ware. 76A, VIII, 110, 2.

147. Butt beaker with rouletted decoration. Upper part of the vessel is very warped, the mouth being oval in plan. No indication of over-firing but this vessel can probably be considered a second-class product. Fabric 53: Fine grey ware. 76A, VIII, 110, 3.
148. Butt beaker with neck cordon. Fabric 53: Fine grey ware. 76B, IV, 65, 6.
149. Butt beaker with neck cordon. Fabric 53: Fine grey ware. 76B, X, 20Z, 13.
150. Butt beaker with rouletted and grooved decoration. Fabric 65: Fine cream ware. 76B, XVI, 27, 65.
151. Butt beaker with grooved decoration. Fabric 13: Sandy white/orange ware. 76B, IV, 27, 26.
152. Butt beaker. Fabric 53: Fine grey ware. 76B, XVI, 20D, 15.
153. Butt beaker with rouletted decoration. Fabric 65: Fine cream ware. 76B, X, 27, 32.
154. Butt beaker with burnished line decoration. Fabric 21: Black-surfaced grey ware. 76B, XVI, 27, 13.

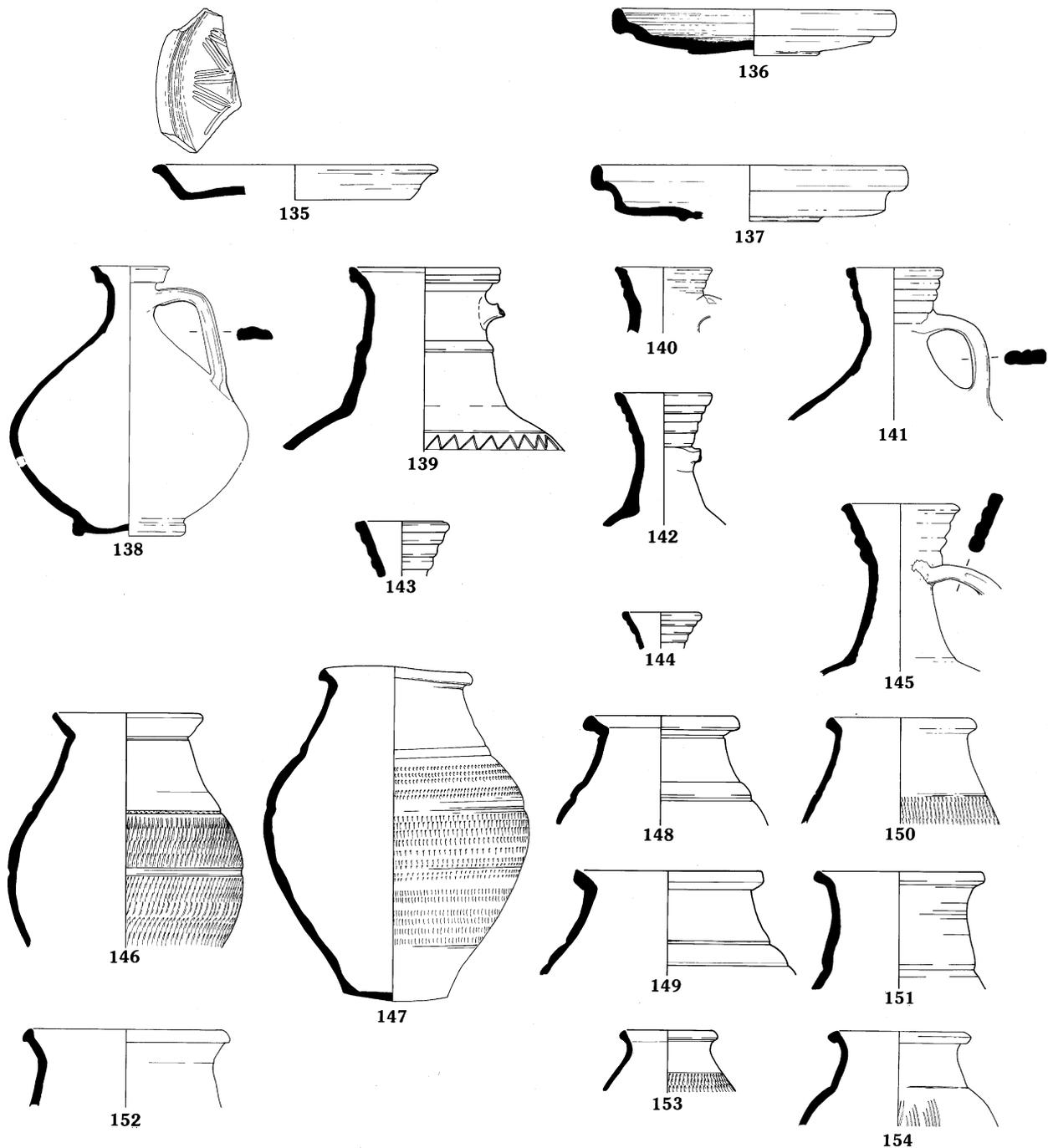


FIG. 85. The coarsewares: Phase 1B (135-7); Phase 1C (138-54). Scale 1:4.

Figure 86*Phase 1C cont.*

155. Girth beaker with burnished lattice decoration (Cam. form 84B). Fabric 52: Common grey ware. 76B, X, 27, 38.
156. Girth beaker with burnished line decoration (Cam. form 84B). Fabric 52: Common grey ware. 76B, XVI, 27, 40.
157. Girth beaker with burnished line decoration (Cam. form 84B). Fabric 52: Common grey ware. 76A, VIII, 110, 5.
158. Beaker. Fabric 29: Black-surfaced orange ware. 76B, X, 27, 88.
159. Beaker with incised vertical groove decoration. An unusual variant of a Holwerda (1941) type 27c. Fabric 52: Common grey ware. 76B, XVI, 27, 31.
160. Carinated beaker. Broadly paralleled at Cirencester (Rigby 1982a, fig 56, 226). Fabric 26: Sandy grey ware. 76B, XVI, 27, 12.
161. Carinated beaker (Cunliffe 1971, fig. 89, 69; Frere 1972, fig. 103, 135). Fabric 52: Common grey ware. 76B, X, 20Z, 36.
162. Beaker. Fabric 126: Sandy grey ware. 76B, XVI, 20D, 19.
163. Ovoid jar with neck-cordon. Fabric 21: Black-surfaced grey ware. 76B, XVI, 20D, 12.
164. Wide-mouthed beaker with a shallow groove on shoulder. Fabric 123: Hard, off-white fineware. 76B, XVI, 27, 66.
165. Beaker with girth groove and incised vertical line decoration. Fabric 31: Fine, pale orange ware. 76B, XVI, 27, 69.
166. Beaker with diamond-shaped panels of barbotine dot decoration (Rigby 1982a, fig. 51, 59). Fabric 52: Common grey ware. 76B, IV, 27, 24.
167. Ovoid beaker with roughcast decoration (Greene 1979, fig. 8, 20). Fabric 49: Lyons ware. *c.* A.D. 40–70. 76A, VIII, 110, 11.
168. Ovoid beaker with rouletted decoration (Rigby 1982a, fig. 53, 126). Fabric 52: Common grey ware. 76B, XVI, 27, 60.
169. Ovoid beaker with rouletted decoration (Rigby 1982a, fig. 53, 126). Fabric 52: Common grey ware. 76B, X, 27, 27,
170. Shouldered beaker with rouletted decoration. Fabric 53: Fine grey ware. 76B, XVI, 20D, 17.
171. Ovoid beaker with rouletted and grooved decoration. Fabric 52: Common grey ware. 76B, X, 20Z, 23.
172. Ovoid beaker with rouletted decoration. Fabric 53: Fine grey ware. 76B, X, 27, 66.
173. Ovoid beaker with rouletted decoration. Fabric 52: Common grey ware. 76B, X, 27, 10.
174. Ovoid beaker with rouletted decoration. Fabric 52: Common grey ware. 76B, XVI, 27, 57.
175. Ovoid beaker with rouletted decoration. Fabric 52: Common grey ware. 76B, IV, 65, 2.
176. Ovoid beaker with rouletted and grooved decoration. Fabric 52: Common grey ware. 76B, X, 20Z, 33.
177. Jar with incised shoulder groove. Fabric 52: Common grey ware. 76B, X, 20Z, 14.
178. Ovoid jar with rusticated decoration (Rigby 1982a, fig. 56, 222). Fabric 53: Fine grey ware. 76B, XVI, 20D, 22.
179. Jar with horizontal grooves and burnished line decoration. Fabric 26: Sandy grey ware. 76B, XVI, 20D, 2.
180. Bead rim jar. Fabric 26: Sandy grey ware. 76B, XVI, 20D, 3.
181. Bead rim jar. Fabric 1: Savernake ware. 76B, X, 27, 23.
182. Bead rim jar. Fabric 1: Savernake ware. 76B, XVI, 27, 41.
183. Bead rim jar. Fabric 21: Black-surfaced grey ware. 76B, XVI, 20D, 21.
184. Bead rim jar (Annable 1966, fig. 2, 54). Fabric 1: Savernake ware. 76B, XVI, 20D, 20.

Figure 87*Phase 1C cont.*

185. Bead rim jar. Fabric 1: Savernake ware. 76B, XVI, 27, 42.
186. Bead rim jar. Fabric 1: Savernake ware. 76B, X, 27, 13.
187. Bead rim jar. Fabric 1: Savernake ware. 76B, IV, 27, 12.
188. Jar with body cordons and burnished line decoration (Rigby 1982a, fig. 57, 250). Fabric 1: Savernake ware. 76B, XVI, 20D, 1.
189. Jar with girth cordon and burnished line decoration. Fabric 1: Savernake ware. 76B, XVI, 20D, 25.

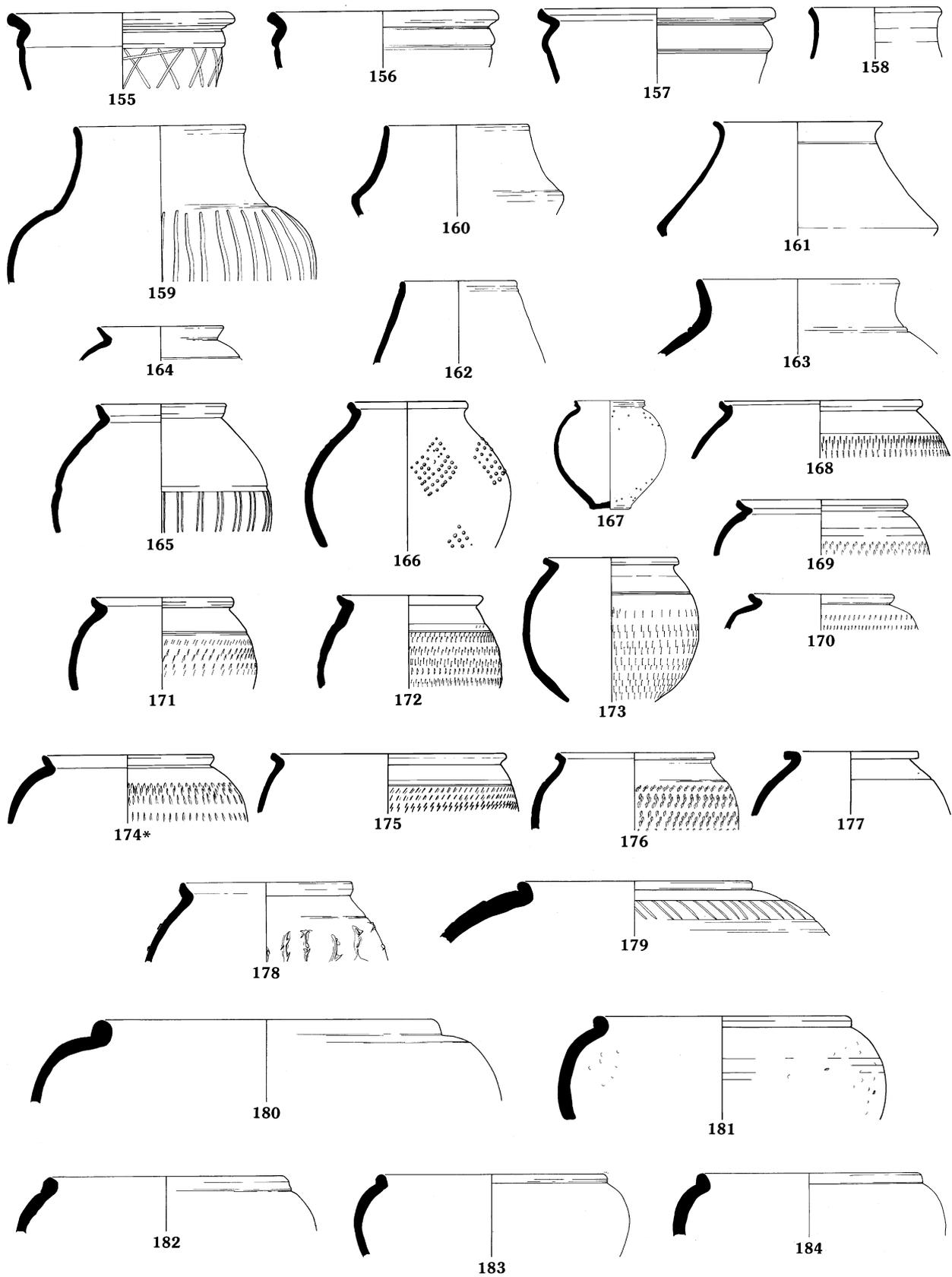


FIG. 86. The coarsewares: Phase 1C. Scale 1:4.

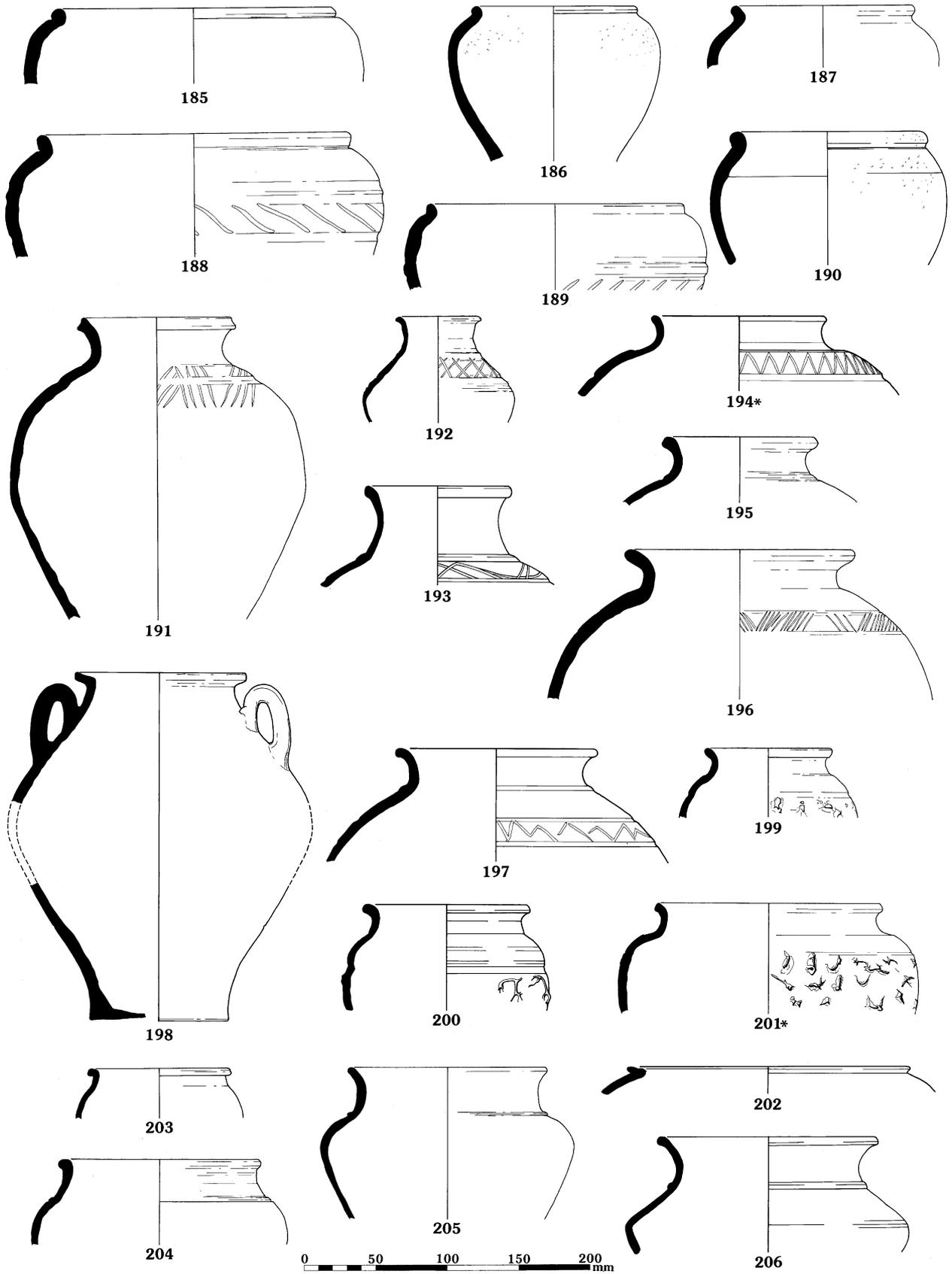


FIG. 87. The coarsewares: Phase 1C. Scale 1:4.

190. Jar. Fabric 1: Savernake ware. 76B, X, 27, 12.
191. Jar with burnished line decoration. Fabric 84: Fine, micaceous orange ware. 76B, IV, 27, 15.
192. Narrow-mouthed jar with horizontal grooves and burnished line decoration. Fabric 52: Common grey ware. 76B, XVI, 27, 32.
193. Necked jar with burnished wavy line decoration and neck cordon. Fabric 52: Common grey ware. 76B, IV, 27, 8.
194. Narrow-mouthed jar with incised groove on shoulder and burnished line decoration. Fabric 52: Common grey ware. 76B, X, 20Z, 6.
195. Narrow-mouthed jar with neck cordon. Fabric 26: Sandy grey ware. 76B, XVI, 27, 15.
196. Jar with horizontal grooves bordering and burnished line decoration on shoulder. Fabric 1: Savernake ware. 76B, XVI, 27, 43.
197. Narrow-mouthed jar with neck cordon and burnished line decoration. Fabric 1: Savernake ware. 76B, X, 20Z, 1.
198. Honey pot (Rigby 1982a, fig. 59, 312). Fabric 56: Calcareous orange ware. 76B, XVI, 27, 61.
199. Jar with a shoulder groove and rusticated decoration (Rigby 1982a, fig. 52, 77). Fabric 53: Fine grey ware. 76B, X, 27, 72.
200. Jar with a shoulder groove and rusticated decoration (Rigby 1982a, fig. 52, 77). Fabric 52: Common grey ware. 76B, X, 27, 14.
201. Jar with rusticated decoration. Fabric 52: Common grey ware. 76B, XVI, 20D, 4.
202. Jar. Fabric 53: Fine grey ware. 76B, X, 27, 85.
203. Jar. Fabric 53: Fine grey ware. 76B, XVI, 27, 44.
204. Jar with neck cordon. Fabric 53: Fine grey ware. 76B, XVI, 27, 16.
205. Wide-mouthed jar with neck cordon. Oxidised. Fabric 26: Sandy grey ware. 76B, XVI, 27, 45.
206. Carinated jar with neck cordon. Fabric 26: Sandy grey ware. 76B, IV, 27, 16.

Figure 88

Phase 1C cont.

207. High-shouldered jar. Fabric 53: Fine grey ware. 76B, X, 20Z, 35.
208. Jar. Fabric 1: Savernake ware. 76B, XVI, 27, 23.
209. Jar. Fabric 1: Savernake ware. 76B, XVI, 27, 49.
210. Jar with small neck cordon. Fabric 53: Fine grey ware. 76B, XVI, 27, 26.
211. Jar. Fabric 1: Savernake ware. 76B, X, 27, 36.
212. Wide-mouthed jar with neck cordon. Fabric 52: Common grey ware. 76B, X, 27, 15.
213. Wide-mouthed jar with girth groove. Fabric 53: Fine grey ware. 76B, XVI, 27, 18.
214. Wide-mouthed jar with girth groove. Fabric 52: Common grey ware. 76B, X, 27, 75.
215. Wide-mouthed jar with burnished wavy-line decoration on shoulder and a girth groove. Fabric 52: Common grey ware. 76B, XVI, 27, 50.
216. Wide-mouthed jar with girth cordon. Fabric 21: Black-surfaced grey ware. 76B, XVI, 20D, 7.
217. Wide-mouthed jar with girth groove. Fabric 1: Savernake ware. 76B, XVI, 20D, 6.
218. Wide-mouthed jar with a groove delineating burnished line decoration on shoulder. Fabric 52: Common grey ware. 76B., X, 20Z, 31 and 76B, X, 20Z, 5.
219. Wide-mouthed jar. Fabric 1: Savernake ware. 76B, X, 27, 22.
220. Jar. Fabric 1: Savernake ware. 76B, XVI, 20D, 27.
221. Wide-mouthed jar with girth cordon. Fabric 52: Common grey ware. 76B, X, 27, 71.
222. Wide-mouthed jar with burnished lattice decoration on shoulder. Fabric 52: Common grey ware. 76B, X, 20Z, 22.
223. Wide-mouthed jar with girth groove. Fabric 26: Sandy grey ware. 76B, XVI, 27, 68.
224. Wide-mouthed jar with girth groove. Fabric 52: Common grey ware. 76B, X, 27, 78.
225. Wide-mouthed jar with girth groove. Fabric 52: Common grey ware. 76B, XVI, 27, 48.
226. Wide-mouthed jar with neck cordon. Fabric 52: Common grey ware. 76B, XVI, 27, 17.
227. Necked jar. Fabric 1: Savernake ware. 76B, IV, 65, 10.
228. Jar. Fabric 26: Sandy grey ware. *c.* A.D. 50-75. 76B, XVI, 27, 47.
229. Jar with burnished acute lattice decoration. Fabric 26: Sandy grey ware. 76B, X, 20Z, 10.
230. Wide mouthed jar. Fabric 122: Fine (?)Savernake ware. 76B, X, 27, 18.

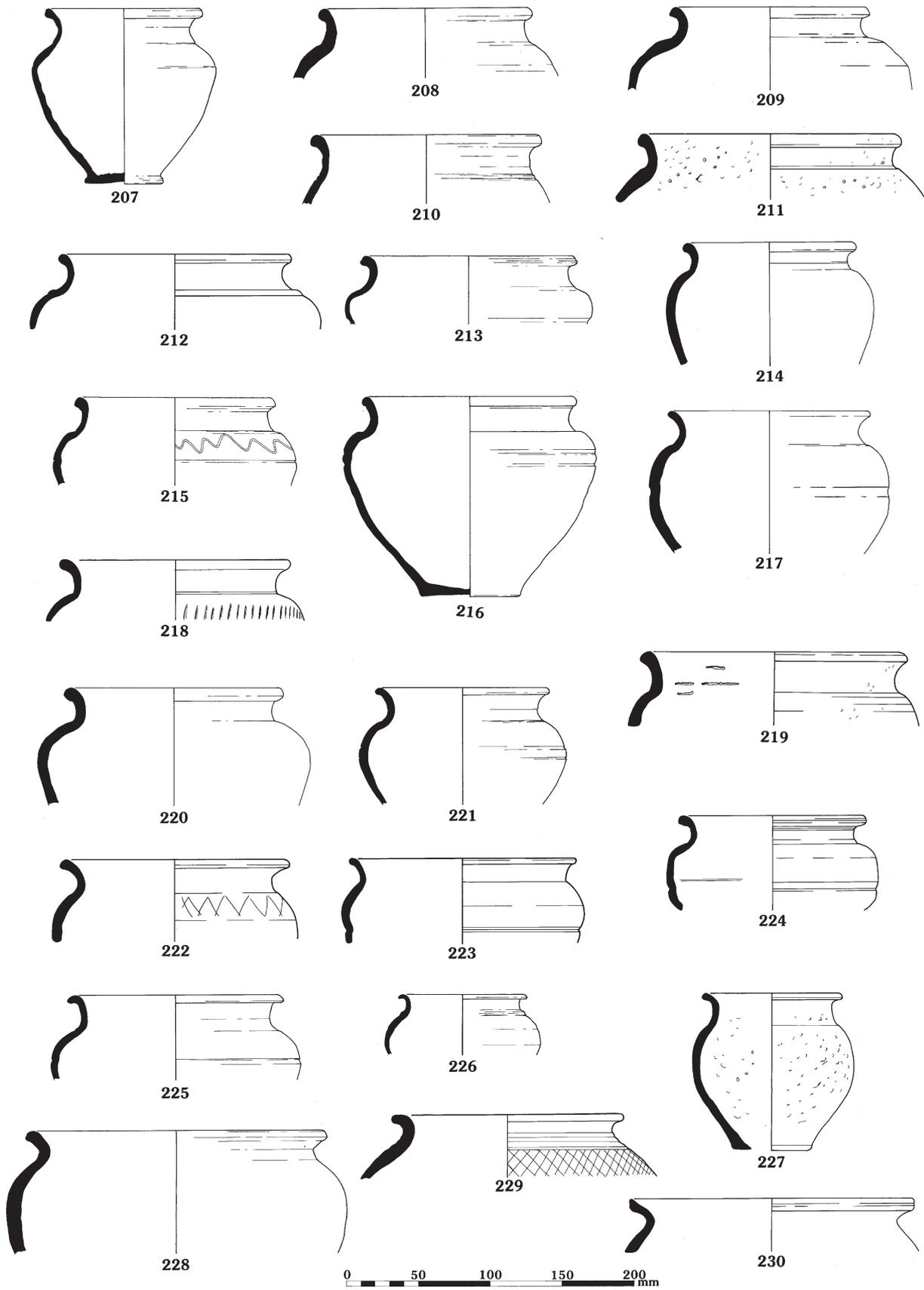


FIG. 88. The coarsewares: Phase 1C. Scale 1:4.

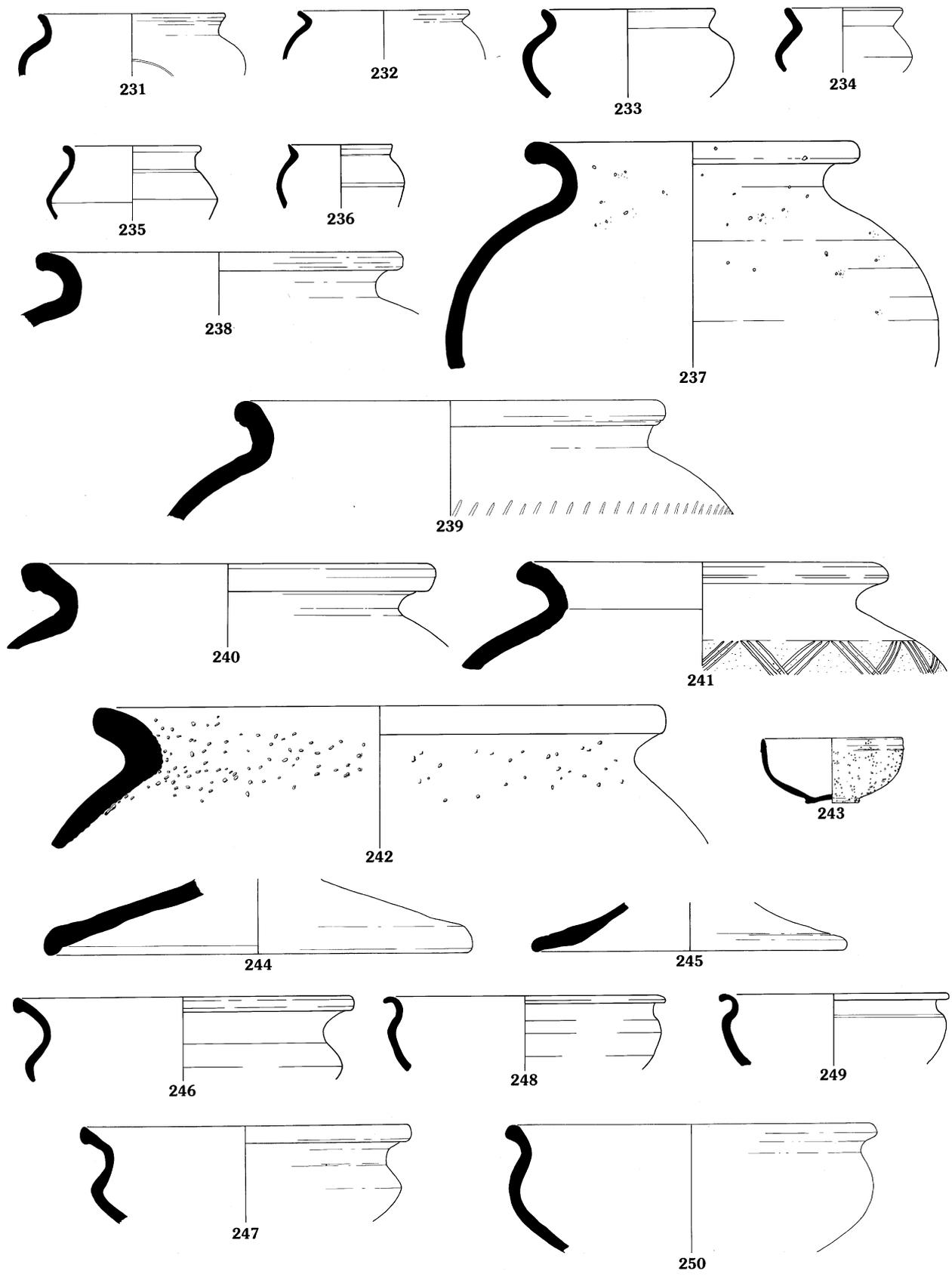


FIG. 89. The coarsewares: Phase 1C. Scale 1:4.

Figure 89*Phase 1C cont.*

231. Wide-mouthed jar. Fabric 26: Sandy grey ware. 76B, XVI, 27, 21.
232. Wide-mouthed jar. Fabric 52: Common grey ware. 76B, X, 20Z, 34.
233. Jar. Fabric 26: Sandy grey ware. 76B, IV, 65, 1.
234. Carinated jar. Fabric 52: Common grey ware. 76B, VIII, 110, 8.
235. Carinated jar. Fabric 52: Common grey ware. 76B, X, 20Z, 3.
236. Small jar with shallow incised grooves around shoulder. Fabric 52: Common grey ware. 76B, X, 20Z, 20.
237. Jar. Possibly the same vessel as FIG. 83, 94, although does not join. Fabric 1: Savernake ware. 76B, IV, 65, 9.
238. Jar. Fabric 1: Savernake ware. 76B, XVI, 27, 20.
239. Jar with burnished line decoration. Fabric 1: Savernake ware. 76B, XVI, 27, 46.
240. Jar. Fabric 1: Savernake ware. 76A, XIV, 110, 1.
241. Jar with burnished line decoration. Fabric 1: Savernake ware. 76B, X, 27, 82.
242. Jar. Fabric 1: Savernake ware. 76B, X, 20Z, 18.
243. Hemispherical cup with roughcast decoration copying similar forms made in Lyons ware (Greene 1979, fig. 5, 1.4). The form of this vessel suggests a pre- c. A.D. 70 date (*ibid.*, 43) but the hard, well-fired fabric is more characteristic of a Flavian/Hadrianic date. Fabric 28: Central Gaulish colour-coated ware. 76B, X, 27, 34.
244. Lid. Fabric 1: Savernake ware. 76B, XVI, 27, 11.
245. Lid. Fabric 52: Common grey ware. 76B, XVI, 27, 10.
246. Wide-mouthed jar/bowl. Fabric 130: Glauconitic sandy ware. 76B, X, 27, 17.
247. Wide-mouthed jar/bowl. Fabric 26: Sandy grey ware. 76B, XVI, 27, 14.
248. Wide-mouthed jar/bowl. Fabric 52: Common grey ware. 76B, IV, 27, 20.
249. Wide-mouthed jar/bowl. Fabric 52: Common grey ware. 76B, X, 27, 26.
250. Wide-mouthed jar/bowl. Fabric 1: Savernake ware. 76B, XVI, 20D, 8.

Figure 90*Phase 1C cont.*

251. Carinated bowl. Fabric 130: Glauconitic sandy ware. 76B, X, 27, 28.
252. Carinated bowl (Fulford 1984, fig. 2, 46). Fabric 130: Glauconitic sandy ware. 76B, XVI, 27, 39.
253. Hemispherical bowl. Flange or applied strip just beneath the rim is missing. Fabric 121: Fine, sandy, micaceous grey ware. 76B, XVI, 27, 35.
254. Carinated bowl with burnished vertical line decoration. Fabric 52: Common grey ware. 76B, X, 20Z, 30.
255. Bowl. Oxidised. Fabric 26: Sandy grey ware. 76B, XVI, 27, 7.
256. Carinated bowl. Fabric 53: Fine grey ware. 76B, XVI, 27, 5.
257. Bowl. Fabric 52: Common grey ware. 76B, XVI, 20D, 10.
258. Bowl. Fabric 29: Black-surfaced orange ware. 76B, X, 27, 3.
259. Carinated bowl. Fabric 53: Fine grey ware. 76B, X, 27, 2.
260. Bowl or possibly a colander. Colander base sherds of this fabric and similar appearance are present in this context, although no actual joins occur. The form is broadly paralleled by the Alice Holt/Farnham strainers (Lyne and Jefferies 1979, fig. 33, type 5c), although the fabric is inconclusive. Fabric 26: Sandy grey ware. 76B, X, 27, 35.
261. Bowl. Fabric 53: Fine grey ware. 76B, X, 27, 31.
262. Bowl with spiral burnished line decoration on interior. Fabric 52: Common grey ware. 76B, XVI, 27, 54.
263. Flanged bowl. Fabric 53: Fine grey ware. 76B, XVI, 20D, 16.
264. Bowl with rouletted decoration. Fabric 52: Common grey ware. 76B, X, 27, 70.
265. Hemispherical flanged bowl copying samian form Dr. 24/25. Fabric 52: Common grey ware. 76B, XVI, 27, 33.
266. Hemispherical flanged bowl. Fabric 123: Hard, off-white fineware. 76B, XVI, 27, 67 and 76A, XV, 33, 9.
267. Bowl with girth cordon and burnished line decoration. Fabric 1: Savernake ware. 76B, X, 27, 1.
268. Bowl. Fabric 29: Black-surfaced orange ware. 76B, X, 27, 7.
269. Bowl with groove in upper surface of rim. Fabric 26: Sandy grey ware. 76B, XVI, 27, 8.

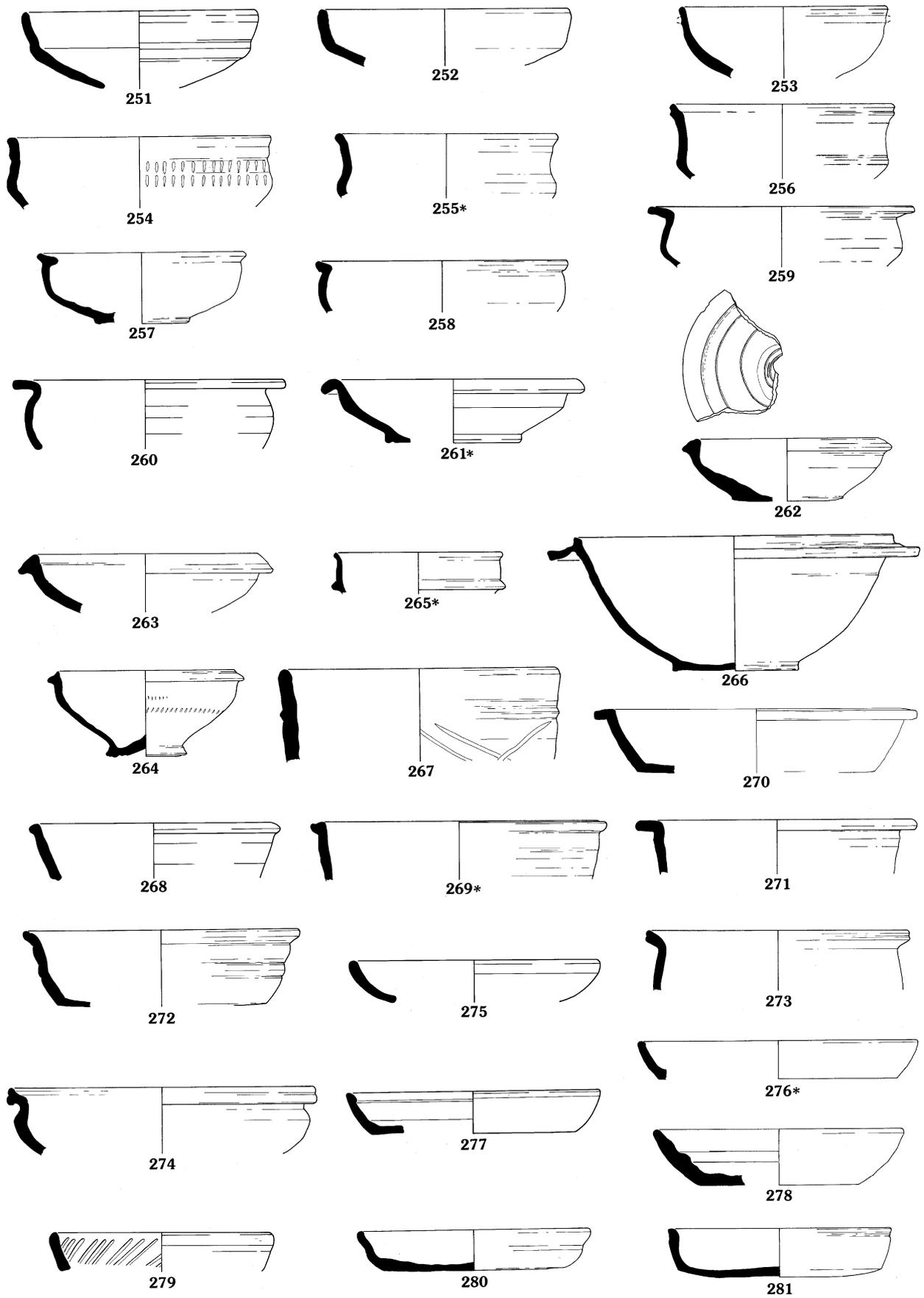


FIG. 90. The coarsewares: Phase 1C. Scale 1:4.

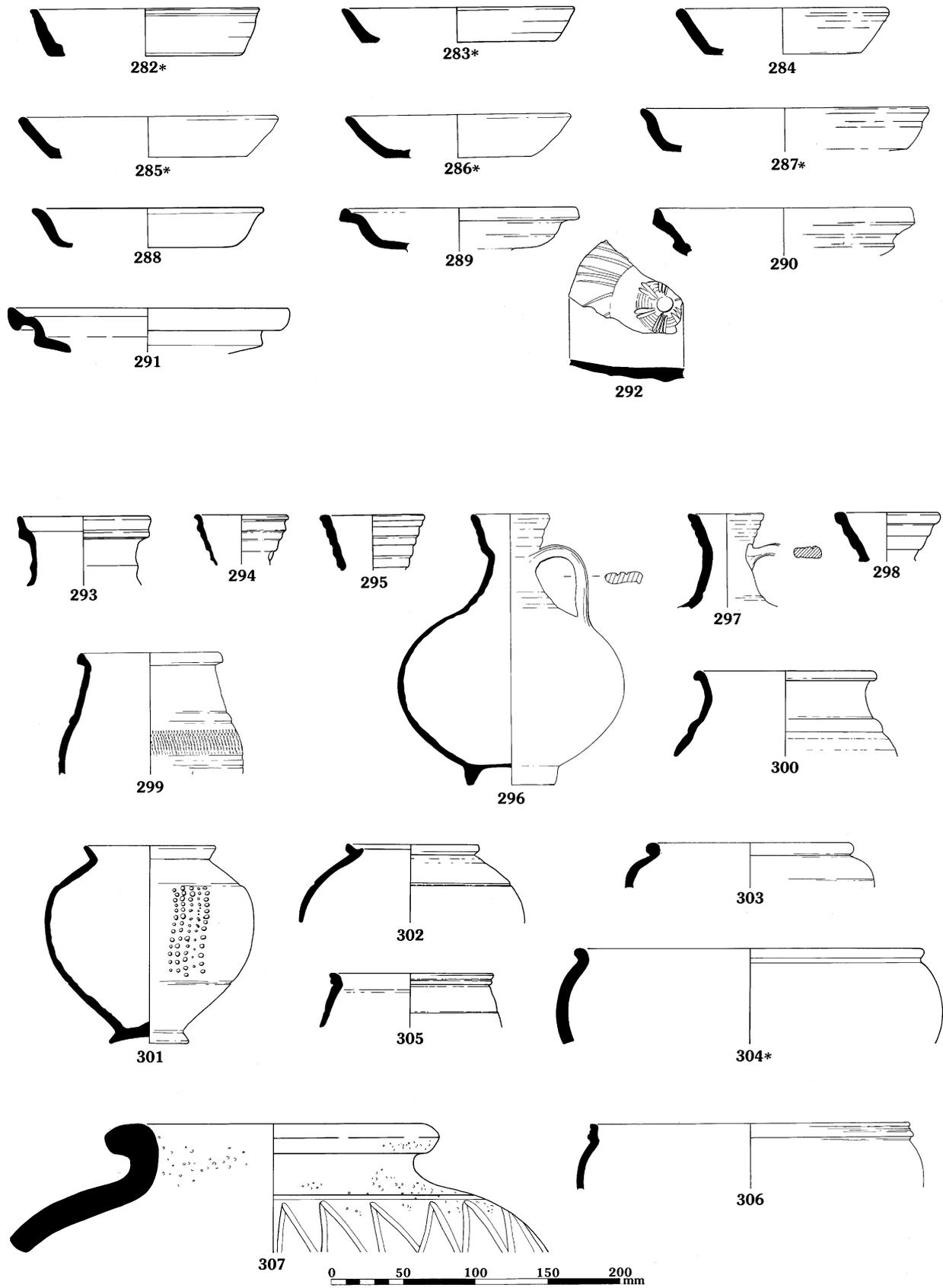


FIG. 91. The coarsewares: Phase 1C (282-92); Phase 2A (293-307). Scale 1:4.

270. Bowl with a very slight groove towards the outer edge of the upper surface of the rim. Fabric 12: Mica-dusted A ware. 76B, X, 20Z, 27.
271. Flat-rimmed bowl. Fabric 53: Fine grey ware. 76B, X, 27, 73.
272. Bowl with girth cordon and a groove on the interior of the rim. Similar to FIG. 83, 124, but has a devolved rim. Fabric 26: Sandy grey ware. 76B, XVI, 27, 1.
273. Bowl. Fabric 1: Savernake ware. 76B, XVI, 27, 37.
274. S-sided bowl. Broadly paralleled at Cirencester (Rigby 1982a, fig. 65, 49). Fabric 1: Savernake ware. 76B, XVI, 27, 36.
275. Curved-sided platter. Cam. form 16. Fabric 30: Terra Nigra ware. 76B, X, 27, 25.
276. Curved-sided platter. Copy of Cam. form 16. Fabric 130: Glaucanitic sandy ware. 76A, XIV, 111, 2.
277. Platter. Fabric 130: Glaucanitic sandy ware. 76B, IV, 65, 8.
278. Curved-sided platter with internal cordon. Fabric 26: Sandy grey ware. 76B, XVI, 27, 55.
279. Straight-sided dish with interior burnished line decoration. Fabric 130: Glaucanitic sandy ware. 76B, X, 27, 48.
280. Platter with incised groove. Fabric 130: Glaucanitic sandy ware. 76B, X, 20Z, 32.
281. Platter. Fabric 130: Glaucanitic sandy ware. 76A, XIV, 111, 1.

Figure 91

Phase 1C cont.

282. Straight-sided platter. Fabric 130: Glaucanitic sandy ware. 76B, X, 27, 45.
293. Straight-sided platter. Fabric 130: Glaucanitic sandy ware. 76B, IV, 27, 17.
284. Straight-sided platter. Fabric 130: Glaucanitic sandy ware. 76B, XVI, 27, 3.
285. Straight-sided platter. Fabric 130: Glaucanitic sandy ware. 76B, XVI, 20D, 24.
286. Straight-sided platter. Fabric 130: Glaucanitic sandy ware. 76B, XVI, 20D, 13.
287. Curved-sided platter. Fabric 130: Glaucanitic sandy ware. 76B, XVI, 27, 6.
288. Platter. Fabric 130: Glaucanitic sandy ware. 76B, X, 20Z, 7.
289. S-sided platter. Fabric 26: Sandy grey ware. 76B, X, 20Z, 29.
290. S-sided platter. Fabric 26: Sandy grey ware. 76B, XVI, 20D, 11.
291. S-sided platter. Fabric 26: Sandy grey ware. 76B, X, 20Z, 17.
292. Platter with interior burnished line decoration. Fabric 21: Black-surfaced grey ware. 76B, XVI, 27, 9.

Phase 2A: All contexts c. A.D. 80–150

293. Flagon. Fabric 129: Very hard, pale grey ware. 76A, XV/XXI, 55, 8.
294. Ring-neck flagon. Fabric 11: Chalky white ware. 76A, XV, 33, 11.
295. Ring-neck flagon. Fabric 4: Fine, buff calcareous fabric 76A, XV/XXI, 55, 15.
296. Ring-neck flagon. Fabric 11: Chalky white ware. 76A, III, 137, 8.
297. Ring-neck flagon. Fabric 15: Fine, white-slipped orange ware. *c.* A.D. 70–100. 76A, IX, 41, 1.
298. Ring-neck flagon. Fabric 22: Hard, cream-slipped red ware. 76A, XV/XXI, 55, 14.
299. Butt beaker with rouletted and grooved decoration, (Cam. form 113). Fabric 24: Coarse orange ware. *c.* A.D. 60–80. 76A, IX, 41, 6.
300. Ovoid, high-necked jar with neck cordon. Fabric 52: Common grey ware. 76A, XV/XXI, 55, 4.
301. Ovoid jar with barbotine dot decoration. Fabric 120: Possible poppy-head beaker. 76A, II, 126, 1.
302. Ovoid jar with incised shoulder groove. Fabric 21: Black-surfaced grey ware. 76A, XV, 33, 15.
303. Bead-rimmed jar with incised groove on shoulder. Fabric 52: Common grey ware. 76A, IX, 41, 4.
304. Bead-rimmed jar. Fabric 1: Savernake ware. 76A, IX, 134, 4.
305. Bag-shaped beaker with grooved cornice rim. Fabric 52: Common grey ware. 76A, XV, 33, 10.
306. Bowl. Fabric 29: Black-surfaced orange ware. 76A, IX, 41, 2.
307. Narrow-mouthed jar with burnished line decoration. Fabric 127: Sandstone and grog-gritted coarseware. 76A, XV, 33, 1.

Figure 92

Phase 2A cont.

308. Jar with burnished line decoration. Fabric 1: Savernake ware. 76A, XV, 34, 1.
309. Jar with burnished line decoration. Fabric 1: Savernake ware. 76A, III, 137, 3.
310. Jar. Fabric 22: Hard, cream-slipped red ware. 76A, XV, 33, 21.

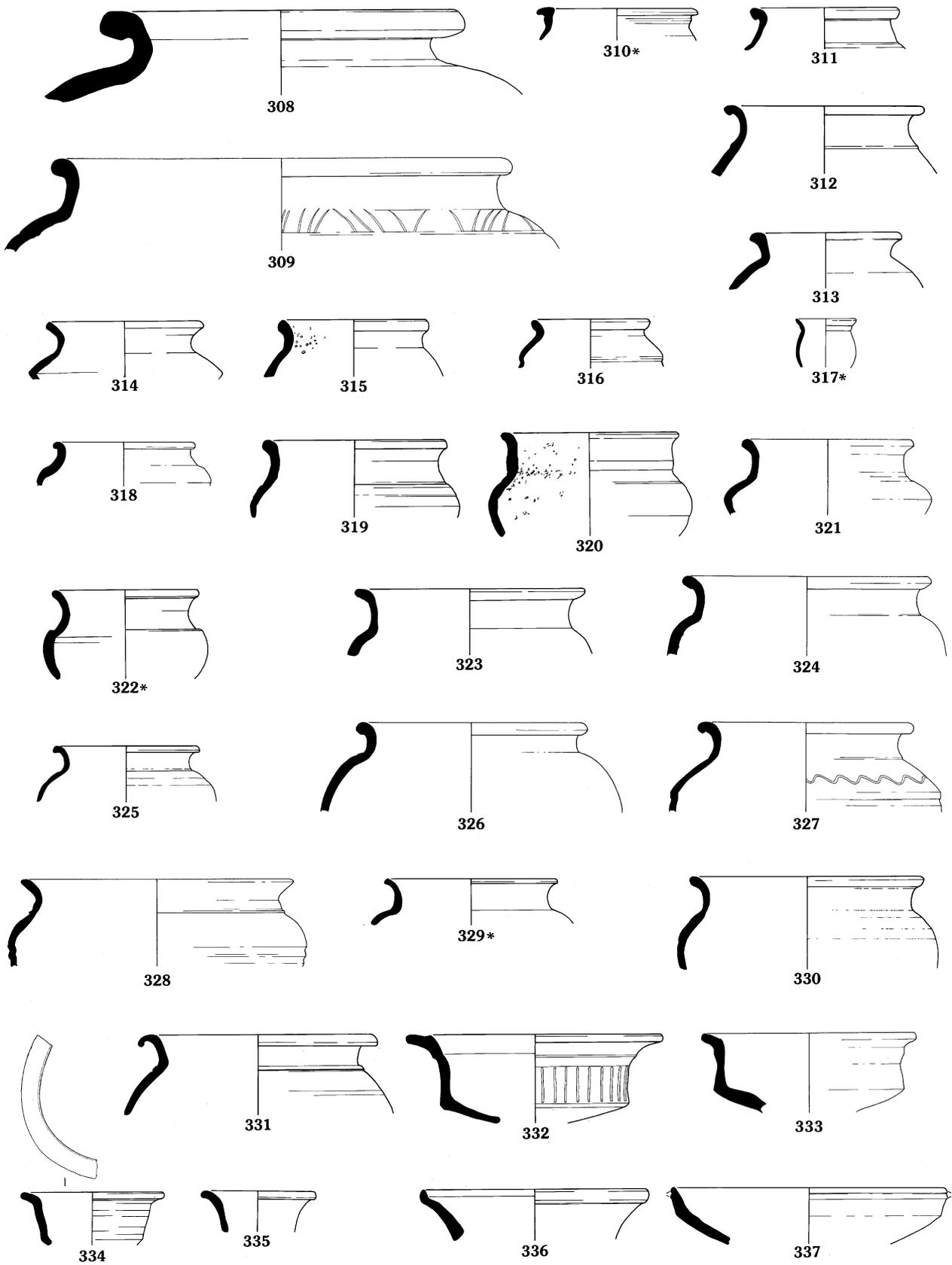


FIG. 92. The coarsewares: Phase 2A. Scale 1:4.

311. Jar. Fabric 53: Fine grey ware. 76A, VIII, 41, 3.
312. Jar with neck cordon. Fabric 52: Common grey ware. 76A, XV, 33, 5.
313. Jar. Fabric 26: Sandy grey ware. 76A, XV/XXI, 55, 5.
314. Jar. Fabric 52: Common grey ware. 76A, IX, 133, 1.
315. Jar. Fabric 1: Savernake ware. 76A, XV/XXI, 55, 7.
316. Jar. Fabric 53: Fine grey ware. 76A, IX, 41, 7.
317. Jar/beaker with a slight neck cordon. Fabric 72: Orange sandy ware. 76A, XV, 33, 22.
318. Jar. Fabric 29: Black-surfaced orange ware. 76A, III, 137, 4.
319. Wide-mouthed jar. Fabric 23: Buff-surfaced grey ware. 76A, XV, 33, 7.
320. Necked jar. Fabric 1: Savernake ware. 76A, XV, 33, 19.
321. Jar. Fabric 26: Sandy grey ware. 76A, III, 137, 6.
322. Wide-mouthed jar. Fabric 52: Common grey ware. 76A, VIII, 41, 7.
323. Wide-mouthed jar. Very similar to No. 324, although does not actually join. Fabric 1: Savernake ware. 76A, III, 135, 1.
324. Wide-mouthed jar. Very similar to No. 323, although does not actually join. Fabric 1: Savernake ware. 76A, III, 137, 2.
325. Wide-mouthed jar. Fabric 53: Fine grey ware. 76A, XX, 58A, 2.
326. Jar. Fabric 1: Savernake ware. 76A, III, 137, 1.
327. Jar with burnished decoration. Fabric 52: Common grey ware. 76A, XX, 33, 1.
328. Wide-mouthed jar with small neck cordon and a double girth cordon. Fabric 52: Common grey ware. 76A, IX, 41, 3.
329. Wide-mouthed jar. Fabric 52: Common grey ware. 76A, IX, 41, 10.
330. Wide-mouthed jar. Fabric 127: Sandstone and grog-gritted coarseware. 76A, XX, 58A, 1.
331. Wide-mouthed jar with neck cordon. Fabric 52: Common grey ware. 76A, VIII, 41, 1.
332. Carinated bowl with slightly lid-seated rim, a neck cordon and burnished line decoration. Fabric 52: Common grey ware. 76A, VIII, 41, 12.
333. Carinated bowl. Fabric 52: Common grey ware. 76A, VIII, 33, 1.
334. Carinated bowl, oval in plan. Uncertain whether this is a warped 'second' or an intentional vessel shape. Fabric 53: Fine grey ware. 76A, VIII, 41, 10.
335. Jar/flagon/jug — only a very small sherd present. Fabric 22: Hard, cream-slipped red ware. 76A, VIII, 41, 14.
336. Bowl. Fabric 1: Savernake ware. 76A, IX, 41, 11.
337. Curved-sided dish/bowl. Flange or an applied strip has broken off just beneath the rim. Fabric 26: Sandy grey ware. 76A, XV/XXI, 55, 10.

Figure 93

Phase 2A cont.

338. Bowl. Dr. 29 copy. Fabric 52: Common grey ware. 76A, IX, 41, 12.
339. S-sided bowl. Fabric 52: Common grey ware. 76A, III, 137, 5.
340. Bowl or more probably a jar, with groove on shoulder. Fabric 1: Savernake ware. 76A, IX, 41, 5.
341. Bowl. Fabric 57: Pale grey sandy ware. 76A, VIII, 41, 8.
342. Hemispherical flanged bowl. Fabric 1: Savernake ware. 76A, IX, 134, 2.
343. Flanged bowl. Fabric 52: Common grey ware. 76A, VIII, 41, 6.
344. Flanged bowl. Very similar to 345. Fabric 52: Common grey ware. 76A, XV, 33, 13.
345. Flanged bowl. Very similar to 344. Fabric 52: Common grey ware. 76A, XV, 33, 8.
346. Flanged bowl. Fabric 13: Sandy white/orange ware. 76A, XV, 33, 12.
347. Curved-sided bowl with stabbed decoration on the rim. Edge of the rim is missing. Fabric 126: Buff-slipped ware. 76A, VIII, 41, 15.
348. Straight-sided bowl with neck cordon and groove on interior of rim. Fabric 21: Black-surfaced grey ware. 76A, III, 137, 7.
349. Flat rimmed bowl. Fabric 12: Mica-dusted A ware. 76A, XV, 33, 4.
350. Bowl. (Davies and Seager Smith 1993, 233, type 22). Fabric 54: Black Burnished ware. 76A, IX, 133, 2.
351. Bowl (Davies and Seager Smith 1993, 233, type 22). Fabric 54: Black Burnished ware. 76A, VIII, 41, 11.
352. Straight-sided bowl. Fabric 1: Savernake ware. 76A, XV/XXI, 55, 12.
353. Curved-sided platter. Fabric 130: Glauconitic sandy ware. 76A, XV, 33, 18.
354. Platter. Fabric 130: Glauconitic sandy ware. 76A, IX, 41, 9.

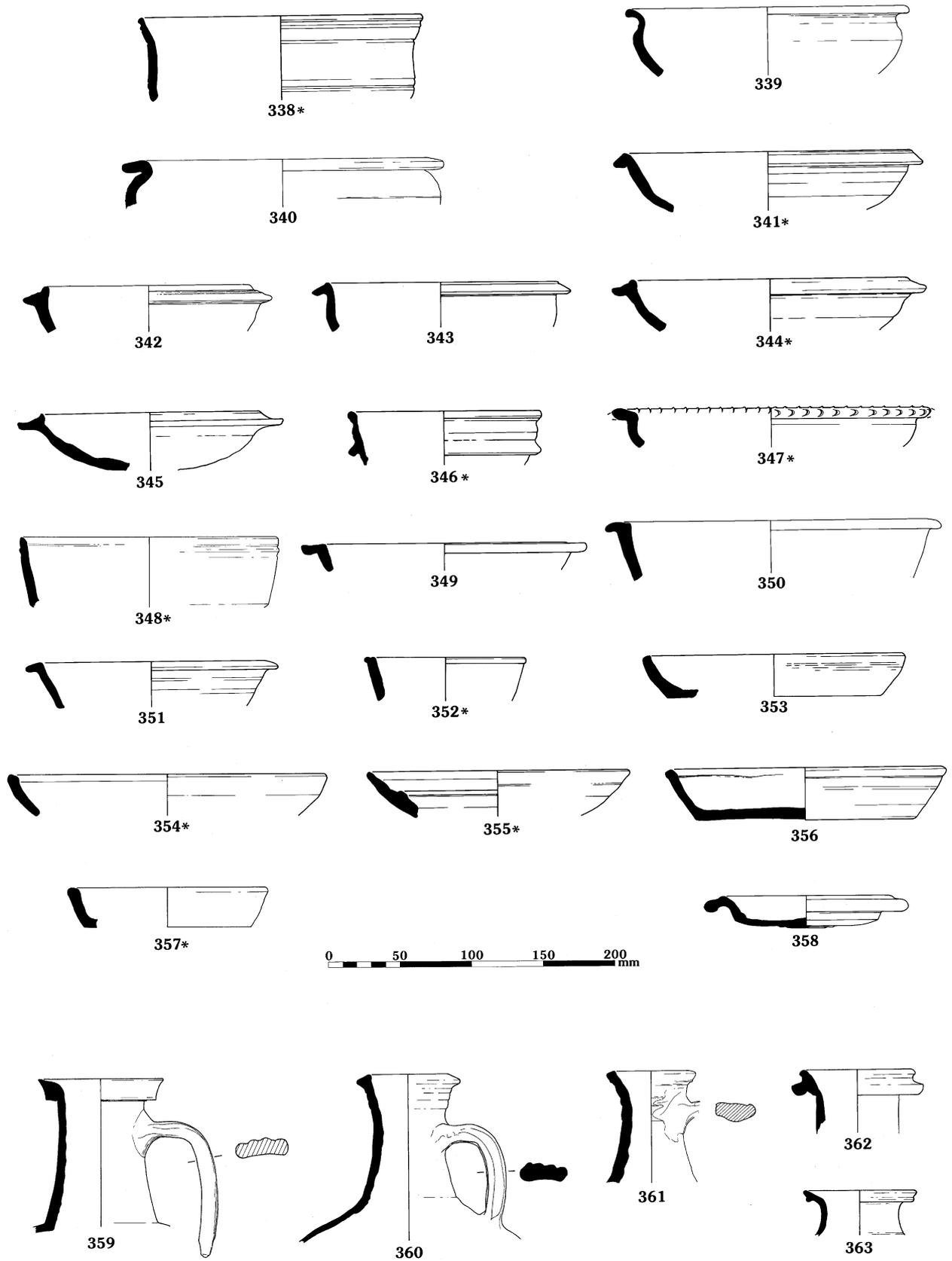


FIG. 93. The coarsewares: Phase 2A (338-58); Period 2 (359-63). Scale 1:4.

- 355. Curved-sided platter with internal cordon. Fabric 26: Sandy grey ware. 76A, XV/XXI, 55, 9.
- 356. Straight-sided platter. Fabric 130: Glauconitic sandy ware. 76A, XV, 33, 17.
- 357. Straight-sided dish. Fabric 130: Glauconitic sandy ware. 76A, VIII, 33, 2.
- 358. Platter. Fabric 53: Fine grey ware. 76A, XV/XXI, 55, 6.

Period 2: All contexts c. A.D. 80–230

- 359. Collared flagon of Hofheim type; residual. Fabric 4: Fine, buff calcareous fabric *c. A.D. 55–75*. 76B, IV, 20A, 17.
- 360. Ring-neck flagon. Fabric 72: Orange sandy ware. 76B, IV, 20B, 1.
- 361. Ring-neck flagon. Fabric 22: Hard, cream-slipped red ware. 76B, X, 20A, 4.
- 362. Pulley-wheel flagon. Fabric 15: Fine, white-slipped orange ware. 76B, XVI, 20A, 30.
- 363. Narrow-mouthed jar. Fabric 52: Common grey ware. 76B, XVI, 20C, 3.

Figure 94

Period 2 cont.

- 364. Butt beaker with rouletted and grooved decoration. Rough knife-trimming between decoration and base. Fabric 52: Common grey ware *c. A.D. 60–80*. 76B, IV, 20C, 26.
- 365. Ovoid high-necked beaker with rouletted decoration, variant of Holwerda (1941) type 27c. Fabric 26: Sandy grey ware. 76B, IV, 20C, 29.
- 366. Ovoid high-necked beaker with neck cordon. Fabric 26: Sandy grey ware. 76B, IV, 20B, 39.
- 367. Jar with incised decoration. Fabric 29: Black-surfaced grey ware. 76B, X, 20A, 19.
- 368. Beaker with burnished acute lattice decoration. Fabric 52: Common grey ware. *c. A.D. 120–180*. No context recorded.
- 369. Ovoid jar with barbotine dot and line decoration. Fabric 120: Possible poppy-head beaker. 76B, XVI, 20A, 1.
- 370. Ovoid jar with rouletted and barbotine dot and line decoration. Fabric 120: Possible poppy-head beaker. 76B, X, 20A, 7.
- 371. Indented beaker. Fabric 52: Common grey ware. *c. A.D. 120–200*. 76B, XVI, 20A, 34.
- 372. Beaker with rouletted decoration. Upper edge of rim damaged. Fabric 52: Common grey ware. 76B, IV, 20B, 42.
- 373. Bag-shaped beaker with grooved cornice rim. Fabric 121: Fine, sandy, micaceous grey ware. *c. A.D. 80–130*. 76B, XVI, 20A, 4.
- 374. Jar with burnished lattice decoration. Fabric 21: Black-surfaced grey ware. 76B, IV, 20B, 3.
- 375. Jar with incised groove decoration. Fabric 26: Sandy grey ware. *c. A.D. 100–140*. 76B, IV, 20A, 3.
- 376. Jar with rusticated decoration. Fabric 53: Fine grey ware. *c. A.D. 80–120*. 76B, IV, 20C, 24.
- 377. Jar with rusticated decoration. Fabric 52: Common grey ware. *c. A.D. 80–120*. 76B, X, 20A, 9.
- 378. Jar with rusticated decoration. Fabric 52: Common grey ware. *c. A.D. 80–120*. 76B, IV, 20C, 20.
- 379. Jar with rusticated decoration. Fabric 26: Sandy grey ware. *c. A.D. 80–120*. 76B, IV, 20C, 3.
- 380. Jar with rusticated decoration. Fabric 52: Common grey ware. *c. A.D. 80–120*. 76B, IV, 20C, 2.
- 381. Narrow-mouthed jar. Vessel is lop-sided and parts of the surface have spalled. Fabric 26: Sandy grey ware. *c. A.D. 80–120*. 76B, IV, 20C, 1.
- 382. Jar. Fabric 52: Common grey ware. *c. A.D. 120–150*. 76B, XVI, 20A, 15.
- 383. Jar (Davies and Seager Smith 1993, 231, type 2) with burnished line decoration. Fabric 54: Black Burnished ware. *c. A.D. 120–150*. 76B, X, 20A, 1.
- 384. High-shouldered jar. Fabric 1: Savernake ware. 76B, IV, 20C, 30.
- 385. Jar. Fabric 26: Sandy grey ware. 76B, IV, 20C, 28.
- 386. Jar. Fabric 53: Fine grey ware. 76B, XVI, 20C, 19.
- 387. Jar. Fabric 1: Savernake ware. 76B, X, 20A, 6.
- 388. Jar. Fabric 26: Sandy grey ware. 76B, IV, 20C, 8.
- 389. Lid. Fabric 52: Common grey ware. 76B, IV, 20B, 4.

Figure 95

Period 2 cont.

- 390. Tankard with body cordons (Webster 1976, fig. 7, 38, and 41). Fabric 20: Severn Valley ware. *c. A.D. 120–150*. 76B, XVI, 20B, 19.
- 391. Bowl with rouletted and grooved decoration. Oxidised. Fabric 52: Common grey ware. *c. A.D. 80–140*. 76B, XVI, 20A, 40.

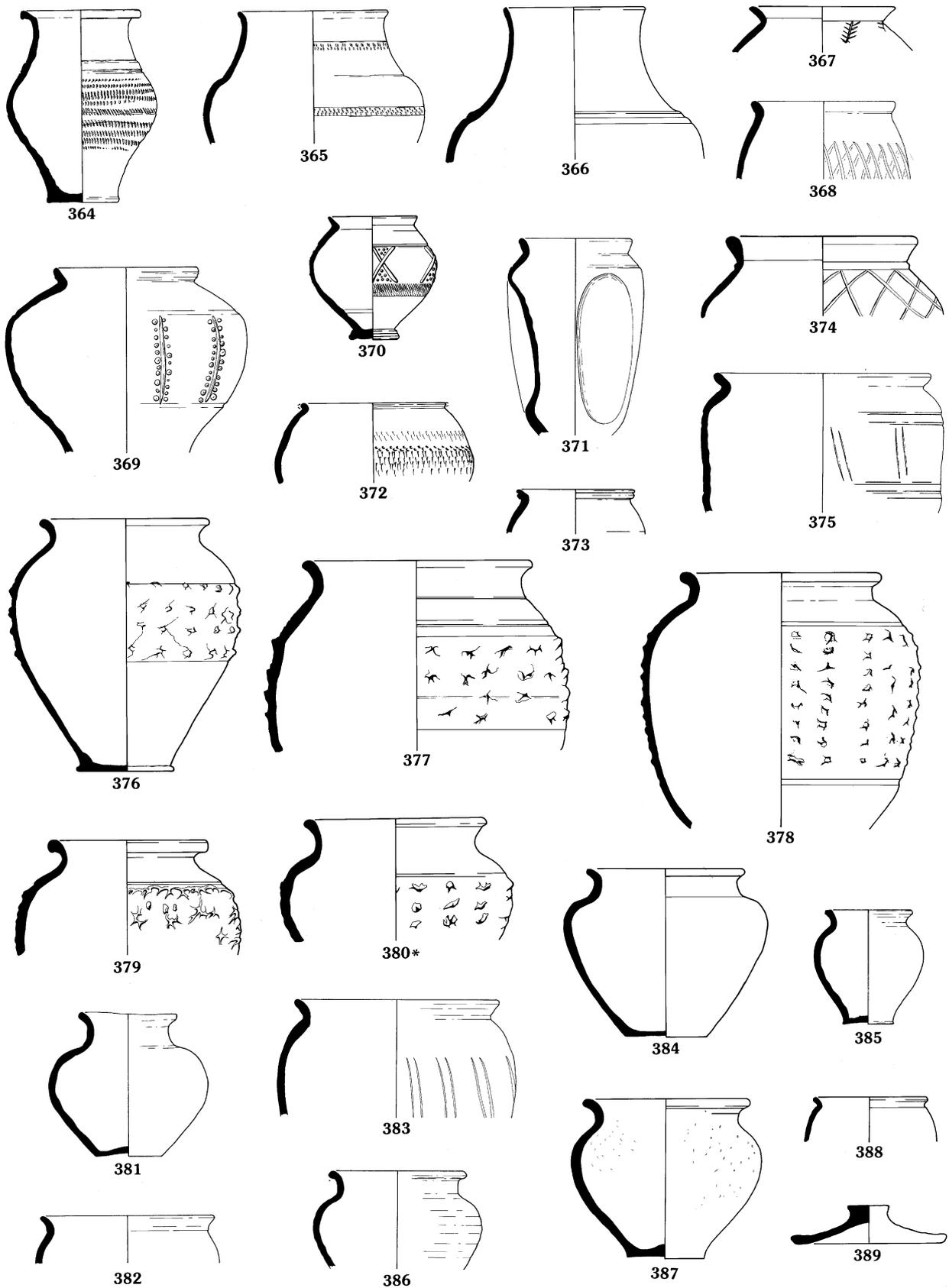


FIG. 94. The coarsewares: Period 2. Scale 1:4.

392. Carinated bowl. Fabric 20: Severn Valley ware. *c.* A.D. 90–120. 76B, XVI, 20A, 5.
393. Unusual form but possibly a tazza or a chafing-dish. The rim has been flattened at four regularly spaced intervals around its circumference (as in an ash-tray) and the bowl has a small (5mm in diameter), sub-rounded pre-firing perforation extending down through the stem to the base. Fabric 26: Sandy grey ware. 76B, X, 20A, 31 and 76B, IV, 20A, 232.
394. Carinated bowl with grooved and burnished line decoration. Fabric 1: Savernake ware. 76B, XVI, 20A, 9.
395. Bowl with barbotine dot decoration. Fabric 53: Fine grey ware. *c.* A.D. 100–150. 76B, XVI, 20A, 33.
396. Carinated bowl with rouletted decoration. Fabric 13: Sandy white/orange ware. 76B, IV, 20C, 31.
397. Carinated bowl with grooved decoration. Fabric 53: Fine grey ware. 76B, XVI, 20, 2.
398. S-sided bowl. Fabric 26: Sandy grey ware. 76B, IV, 20C, 27.
399. Bowl with grooved decoration (Frere 1972, fig. 113, 501). Fabric 26: Sandy grey ware. 76B, IV, 20B, 46.
400. Hemispherical flanged bowl. Fabric 52: Common grey ware. *c.* A.D. 100–140. 76B, XVI, 20A, 8.
401. Hemispherical flanged bowl. Fabric 52: Common grey ware. *c.* A.D. 120–160. 76B, XVI, 20A, 31.
402. Segmental bowl with grooves near the base. Fabric 103: Fine, micaceous, black-surfaced grey ware. 76B, IV, 20B, 41.
403. Wall-sided flanged bowl. Fabric 3: Coarse, pink-surfaced grey ware. *c.* A.D. 80–120. 76B, X, 20A, 2.
404. Bowl with burnished line decoration. Fabric 26: Sandy grey ware. 76B, XVI, 20A, 11.
405. Straight-sided bowl/dish (Davies and Seager Smith 1993, 23, type 22) with burnished acute-angled lattice decoration. Fabric 54: Black Burnished ware. 76B, IV, 20A, 13.
406. Carinated bowl with burnished lattice decoration. Fabric 52: Common grey ware. 76B, XVI, 20A, 10.
407. Straight-sided bowl/dish (Davies and Seager Smith 1993, 233, type 22) with burnished acute-angled lattice decoration. Fabric 54: Black Burnished ware. 76B, XVI, 20A, 38.

Phase 2B: All contexts c. A.D. 150–230

408. Ring-neck flagon. Fabric 52: Common grey ware. 76B, XIV, 35, 12.
409. Beaker with incised groove around girth and barbotine dot decoration. Fabric 52: Common grey ware. *c.* A.D. 80–150. 76B, XIV, 35, 14.
410. Bag-shaped beaker. Fabric 52: Common grey ware. *c.* A.D. 80–150. 76A, IX, 19, 1.
411. Jar with incised decoration. Fabric 52: Common grey ware. 76A, IX, 19, 2.
412. Jar. Fabric 52: Common grey ware. 76A, XIV, 35, 6.
413. Jar with vertical burnished line decoration. Fabric 57: Pale grey sandy ware. 76A, XIV, 35, 15.
414. Jar (Davies and Seager Smith 1993, 231, type 2) with burnished, acute-angled lattice decoration. Fabric 54: Black Burnished ware. 76A, XIV, 35, 3.
415. Jar with burnished lattice decoration. Fabric 52: Common grey ware. *c.* A.D. 180–230. 76A, VIII, 44, 1.
416. Wide-mouthed jar. Fabric 52: Common grey ware. 76A, XIV, 35, 5.
417. Carinated bowl with burnished lattice decoration. Fabric 129: Very hard, pale grey ware. *c.* A.D. 120–200. 76A, VIII, 38, 1.
418. Straight-sided bowl (Davies and Seager Smith 1993, 233 type 22) with burnished diamond-shaped lattice decoration. Fabric 54: Black Burnished ware. 76A, VIII, 42, 1.
419. Straight-sided bowl (Davies and Seager Smith 1993, 233, type 22) with burnished acute-angled lattice decoration. Fabric 54: Black Burnished ware. 76A, VIII, 42, 2.
420. Straight-sided bowl (Davies and Seager Smith 1993, 233, type 22) with burnished, acute-angled lattice decoration. Fabric 54: Black Burnished ware. 76A, VIII, 38, 3.
421. Carinated, flanged bowl with burnished wavy line decoration. Fabric 26: Sandy grey ware. 76A, VIII, 44A, 3.
422. Straight-sided dish (Davies and Seager Smith 1993, 233, type 20) with burnished, irregular diamond-shaped lattice decoration. Fabric 54: Black Burnished ware. 76A, VIII, 39, 1.

Figure 96

Phase 3A: Context dates as recorded at the end of each entry

423. Flagon (Davies and Seager Smith 1993, 235, type 29) with burnished lattice decoration. Fabric 54: Black Burnished ware. Context *c.* A.D. 275–325. 76C, XXXI, 6, 1.
424. Flagon, residual. Fabric 10: Coarse, cream-slipped sandy ware. Context *c.* A.D. 230–325. 76A, XV, 20, 1.

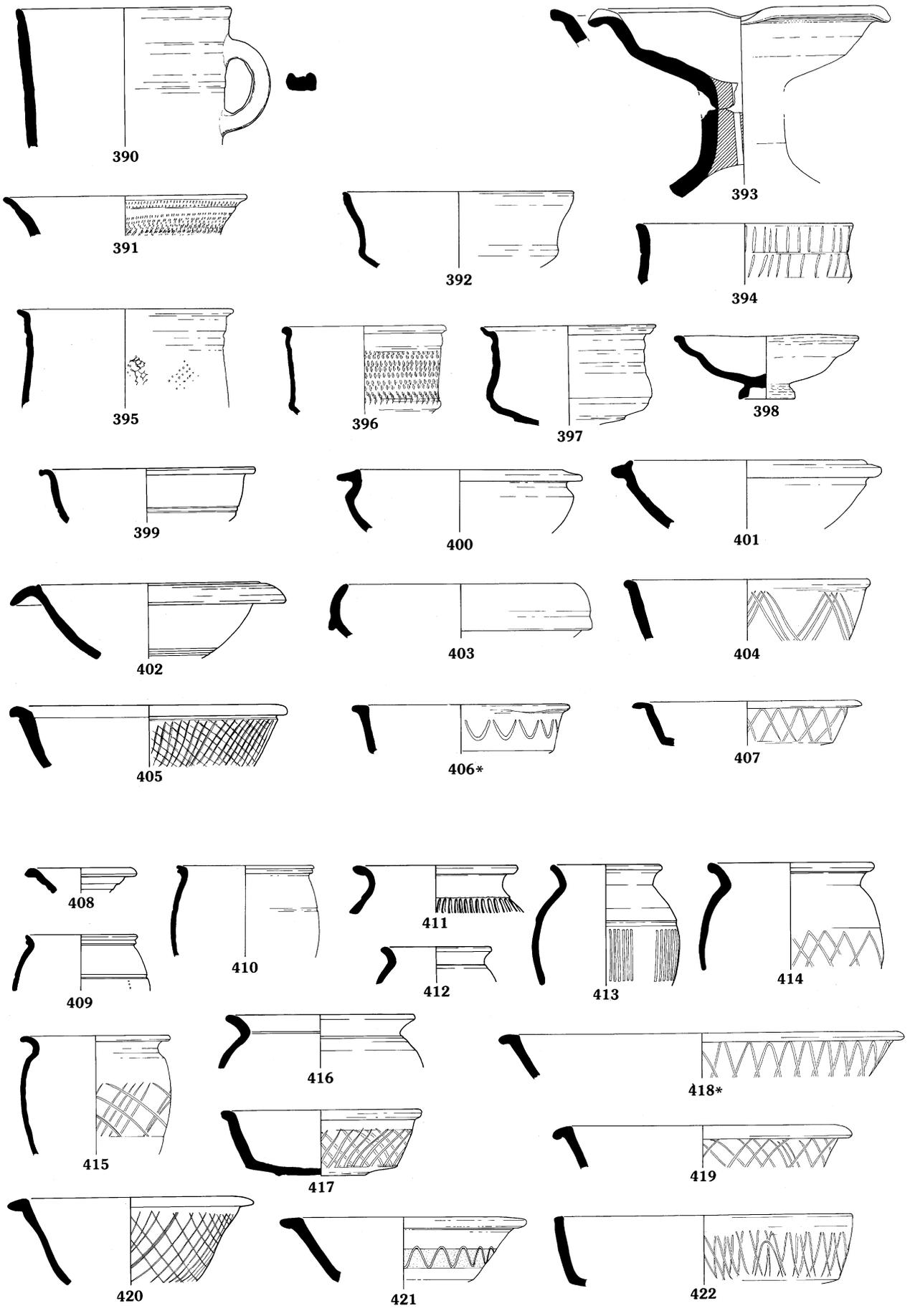


FIG. 95. The coarsewares: Period 2. Scale 1:4.

425. Flagon, residual. Fabric 10: Coarse, cream-slipped sandy ware. Context *c.* A.D. 275–325. 76C, XXXIX, 6, 5.
426. Jar with neck cordon. Fabric 52: Common grey ware. Context *c.* A.D. 230–325. 76A, VIII, 20, 37.
427. Narrow-mouthed jar with rilled decoration. Fabric 52: Common grey ware. Context *c.* A.D. 275–325. 76C, XXXVIII, 6, 2.
428. Narrow-mouthed jar. Fabric 1: Savernake ware. Context *c.* A.D. 230–325. 76A, XXI, 60, 5.
429. Narrow-mouthed jar with burnished lattice decoration. Fabric 1: Savernake ware. Context *c.* A.D. 275–325. 76C, XXXIX, 6, 4.
430. Beaker. Fabric 26: Sandy grey ware. Context *c.* A.D. 275–325. 76C, XXXVIII, 6, 1.
431. Jar (Davies and Seager Smith 1993, 231, type 5). Fabric 54: Black Burnished ware. Context *c.* A.D. 230–325. 76A, IX, 9, 17.
432. Small jar with acute-angled lattice decoration. Fabric 53: Fine grey ware. Context *c.* A.D. 230–325. 76A, XIV, 20, 1.
433. Jar (Davies and Seager Smith 1993, 231, type 8). Fabric 54: Black Burnished ware. Context *c.* A.D. 230–325. 76A, IX, 12, 4.
434. Jar (Davies and Seager Smith 1993, 231, type 2). Fabric 54: Black Burnished ware. Context *c.* A.D. 230–325. 76A, IX, 12, 6.
435. Jar. Fabric 26: Sandy grey ware. Context *c.* A.D. 230–325. 76A, VIII, 20, 30.
436. Jar. Fabric 21: Black-surfaced grey ware. Context *c.* A.D. 230–325. 76A, IX, 11, 1.
437. Jar (Davies and Seager Smith 1993, 231, type 2) with acute-angled lattice decoration. Fabric 54: Black Burnished ware. Context *c.* A.D. 230–325. 76A, IX, 12, 14.
438. Jar. Fabric 127: Sandstone and grog-gritted coarseware. Context *c.* A.D. 275–325. 76C, XXXIX, 6, 2.
439. Wide-mouthed jar. Fabric 53: Fine grey ware. Context *c.* A.D. 230–325. 76A, IX, 11, 23.
440. Wide-mouthed jar. Fabric 26: Sandy grey ware. Context *c.* A.D. 250–325. 76B, X, 5N, 7.
441. Wide-mouthed jar. Fabric 1: Savernake ware. Context *c.* A.D. 230–325. 76A, VIII, 11, 1.
442. Wide-mouthed jar with grooved decoration. Fabric 1: Savernake ware. Context *c.* A.D. 230–325. 76A, IX, 12, 7.
443. Wide-mouthed jar with neck cordon and deep groove on interior edge of rim. Fabric 26: Sandy grey ware. Context *c.* A.D. 230–325. 76A, XXI, 60, 12.
444. Jar with neck cordon. Fabric 52: Common grey ware. Context *c.* A.D. 275–325. 76C, XXXIII, 43, 2.
445. Wide-mouthed jar with neck cordon. Fabric 52: Common grey ware. Context *c.* A.D. 275–325. 76C, XXXIX, 6, 3.
446. Jar. Fabric 53: Fine grey ware. Context *c.* A.D. 230–325. 76C, XX, 56, 1.
447. Flanged bowl with white painted decoration on rim. Fabric 72: Orange sandy ware. Context *c.* A.D. 230–325. 76A, VIII, 20, 32.
448. Straight-sided dish (Davies and Seager Smith 1993, 233, type 20) with burnished intersecting arc decoration. Fabric 54: Black Burnished ware. Context *c.* A.D. 230–325. 76A, IX, 12, 2.
449. Straight-sided dish (Davies and Seager Smith 1993, 231, type 20). Fabric 54: Black Burnished ware. Context *c.* A.D. 275–325. 76C, XXXII, 6, 1.

Figure 97

Phase 3B: Context dates as recorded at the end of each entry

450. Flagon (Young 1977, type C8). Fabric 68: Oxfordshire brown colour-coated ware. *c.* A.D. 240–400 plus. Context *c.* A.D. 325–400. 76C, XXXII, 1, 1.
451. Flagon. Fabric 52: Common grey ware. Context *c.* A.D. 360–400. 76C, XXXVIII, 70, 15.
452. Flagon. Fabric 10: Coarse, cream-slipped sandy ware. Context *c.* A.D. 325–400. 76C, XXXIX, 178, 4.
453. Narrow-mouthed jar with neck cordon. Fabric 52: Common grey ware. Context *c.* A.D. 325–50. 76B, X, 5, 5.
454. Narrow-mouthed jar with neck cordons. Fabric 29: Black-surfaced grey ware. Context *c.* A.D. 325–400. 76C, XXXIII, 21, 1.
455. Indented beaker (Fulford 1975a, fig. 12, 27.10). Fabric 74: New Forest colour-coated ware. *c.* A.D. 270–400. Context *c.* A.D. 325–400. 69C, IS, 5, 3.
456. Bulbous beaker with rouletted decoration (Young 1977, fig. 55, type C23 variant). Fabric 68: Oxfordshire brown colour-coated ware. *c.* A.D. 270–400. Context *c.* A.D. 325–400. 76C, XXXII, 40, 1.

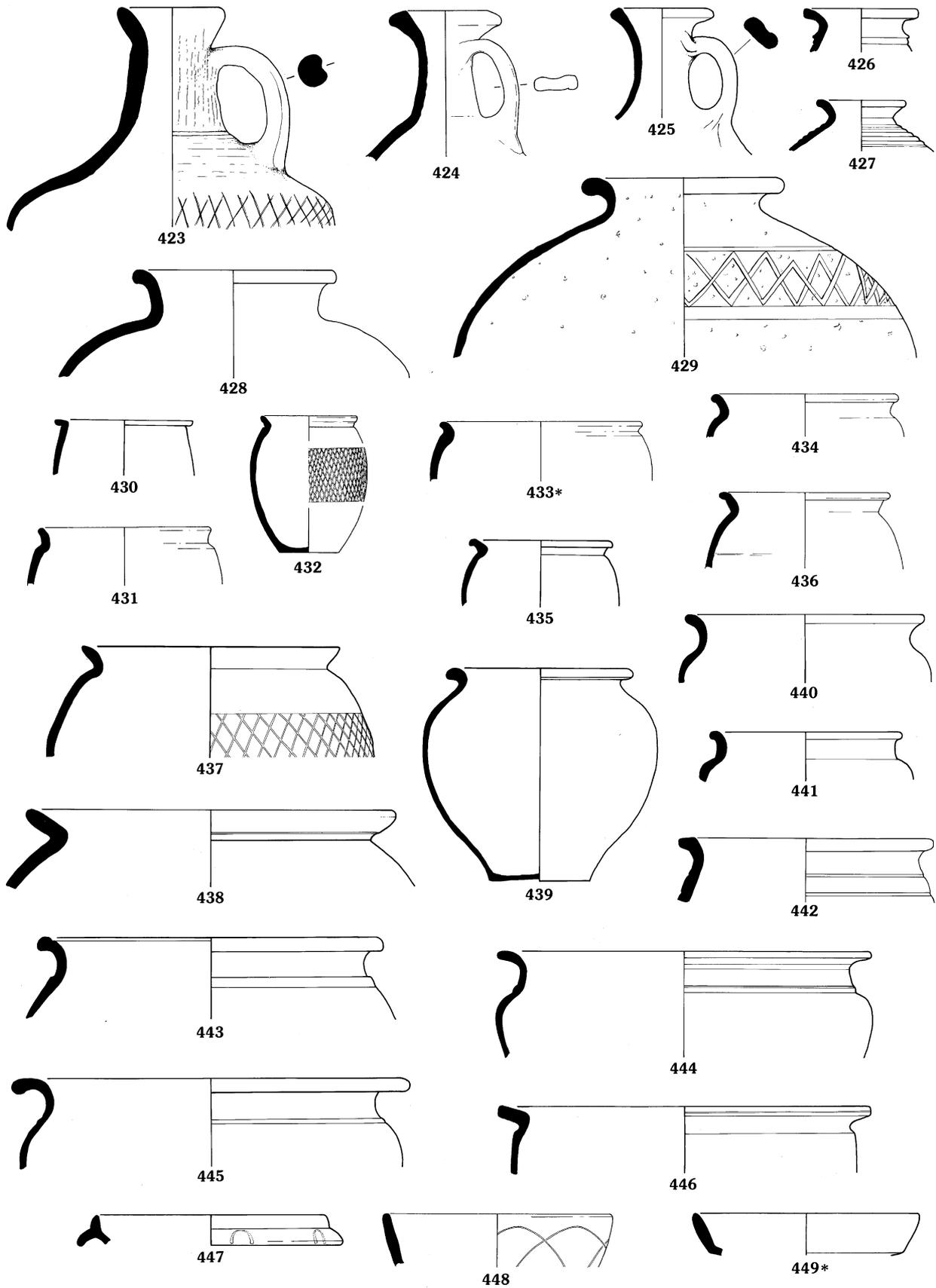


FIG. 96. The coarsewares: Phase 3A. Scale 1:4.

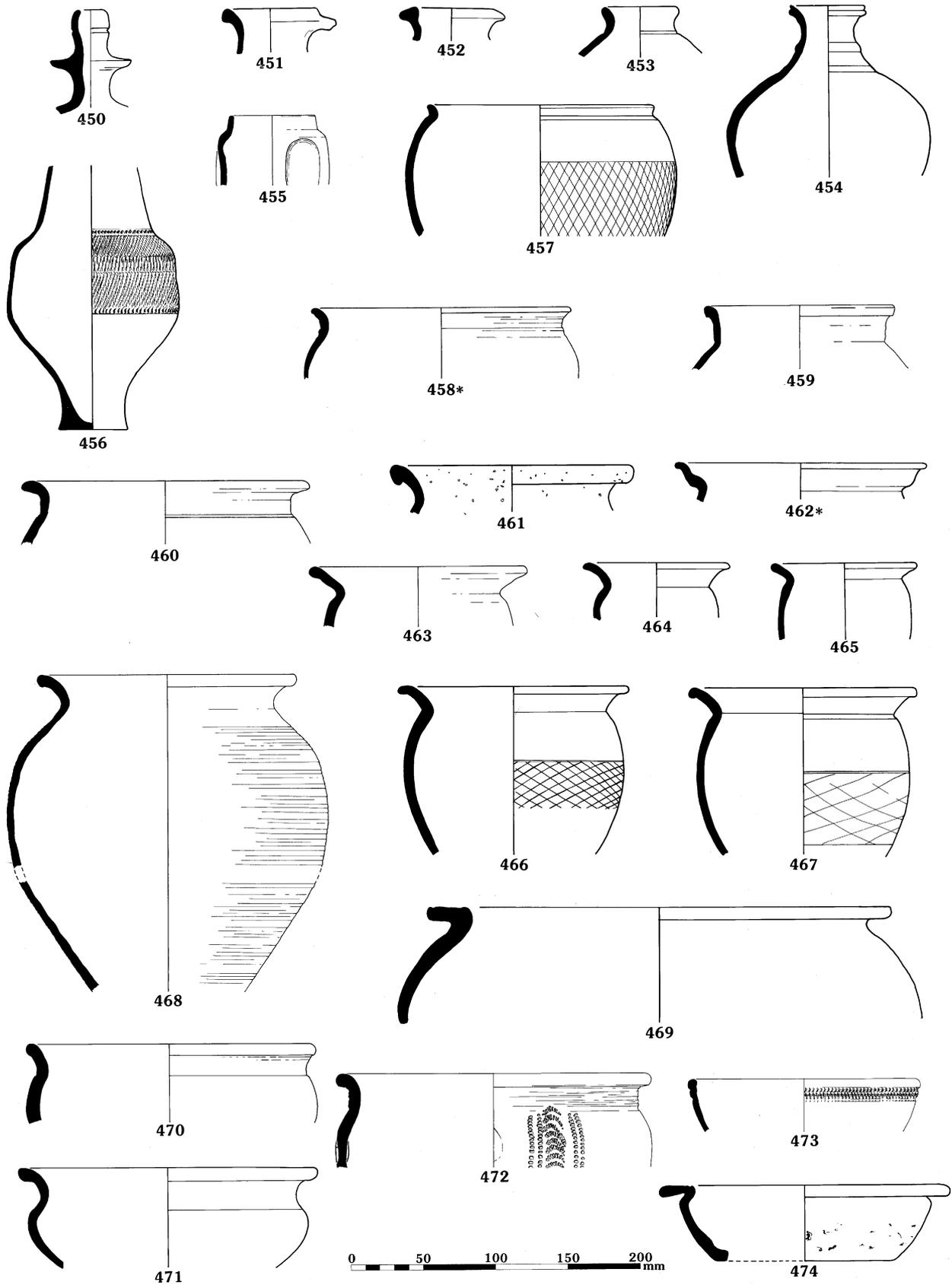


FIG. 97. The coarsewares: Phase 3B. Scale 1:4.

457. Bead-rimmed jar (Davies and Seager Smith 1993, 231, type 8) with burnished acute-angled lattice decoration. Fabric 54: Black Burnished ware. Context *c.* A.D. 325–400. 76C, XXXIX, 76, 14 and 15.
458. Wide-mouthed jar with neck cordon. Fabric 52: Common grey ware. Context *c.* A.D. 360–400. 76C, XXXVIII, 70, 5.
459. Jar. Fabric 52: Common grey ware. Context *c.* A.D. 325–400. 76B, X, 16, 2.
460. Jar. Fabric 52: Common grey ware. Context *c.* A.D. 360–400. 76C, XXXVIII, 70, 13.
461. Jar. Fabric 85: Shell-tempered ware. Context *c.* A.D. 325–400. 76C, XXXIX, 1, 2.
462. Lid-seated jar. Fabric 52: Common grey ware. Context *c.* A.D. 325–400. 76A, IX, 10, 4.
463. Jar (Davies and Seager Smith 1993, 231, type 3). Fabric 54: Black Burnished ware. Context *c.* A.D. 325–400. 69C, IS, 5, 4.
464. Jar (Davies and Seager Smith 1993, 231, type 3). Fabric 54: Black Burnished ware. Context *c.* A.D. 325–400. 76C, XXXIII, 2, 26.
465. Jar (Davies and Seager Smith 1993, 231, type 3) with burnished obtuse-angled lattice decoration. Fabric 54: Black Burnished ware. Context *c.* A.D. 325–400. 76C, XXXIII, 2, 33.
466. Jar (Davies and Seager Smith 1993, 231, type 3) with burnished obtuse-angled lattice decoration. Fabric 54: Black Burnished ware. Context *c.* A.D. 325–400. 76C, XXXIII, 40, 1.
467. Jar (Davies and Seager Smith 1993, 231, type 3) with burnished obtuse-angled lattice decoration. Fabric 54: Black Burnished ware. Context *c.* A.D. 325–400. 76C, XXXIII, 2, 21.
468. Ovoid jar with rilled decoration. Fabric 52: Common grey ware. Context *c.* A.D. 325–400. 69C, IS, 5, 1.
469. Jar. Fabric 1: Savernake ware. Context *c.* A.D. 325–400. 76C, XLVI, 173, 12.
470. Jar. Fabric 52: Sandy grey ware. Context *c.* A.D. 325–400. 76A, XV, 3, 1.
471. S-sided bowl. Fabric 1: Savernake ware. Context *c.* A.D. 325–350. 76B, X, 64, 5.
472. Necked bowl with stamped decoration (Young 1977, fig. 63, type C78). Fabric 68: Oxfordshire red colour-coated ware. *c.* A.D. 340–400. Context *c.* A.D. 325–400. 76A, XIII, 1, 1.
473. Bowl with rouletted and grooved decoration (Hayes 1972, type 9A). *c.* A.D. 100–160. Fabric 124: North African red-slipped ware. Context *c.* A.D. 325–400. 76C, XXXIX, 1, 1.
474. Bowl. Fabric 26: Sandy grey ware. Context *c.* A.D. 350–360. 76C, XXXVIII, 71A, 3.

Figure 98

Phase 3B cont.

475. Hemispherical bowl with beaded rim (Young 1977, fig. 60, type C55). Fabric 68: Oxfordshire red colour-coated ware. *c.* A.D. 240–400. Context *c.* A.D. 360–400. 76C, XXXVIII, 70, 7.
476. Hemispherical bowl with beaded rim (Young 1977, fig. 60, type C55). Fabric 68: Oxfordshire red colour-coated ware. *c.* A.D. 240–400. Context *c.* A.D. 325–400. 76C, XXXI, 118/40, 7.
477. Wall-sided bowl with red painted decoration (Young 1977, fig. 27, type P24). Fabric 70: Oxfordshire parchment ware. *c.* A.D. 240–400. Context *c.* A.D. 325–400. 76C, XXXVIII, 1, 1.
478. Wall-sided bowl (Young 1977, fig. 66, type C91 variant). Fabric 68: Oxfordshire red colour-coated ware. *c.* A.D. 240–400. Context *c.* A.D. 325–360. 76C, XXXI, 112, 3.
479. Straight-sided bowl. Fabric 21: Black-surfaced grey ware. Context *c.* A.D. 325–400. 76C, XXXIII, 22, 2.
480. Bowl with moulded rim (Lyne and Jefferies 1979, fig. 33; Fulford 1975a, fig. 31, 8 and fig. 32, 16). Fabric 100: Alice Holt ware. Context *c.* A.D. 325–400. 76C, XLVI, 160, 3.
481. Straight-sided, dropped flanged bowl (Davies and Seager Smith 1993, 235, type 25). Fabric 54: Black Burnished ware. Context *c.* A.D. 325–400. 76C, XXXI, 118/40, 8.
482. Straight-sided, dropped flanged bowl (Davies and Seager Smith 1993, 235, type 25) with burnished intersecting arc decoration. Fabric 54: Black Burnished ware. Context *c.* A.D. 325–400. 76C, XXXIII, 2, 36.
483. Straight-sided, dropped flanged bowl (Davies and Seager Smith 1993, 235, type 25). Fabric 54: Black Burnished ware. Context *c.* A.D. 325–400. 76B, X, 16, 1.
484. Straight-sided, dropped flanged bowl (Davies and Seager Smith 1993, 235, type 25) with burnished intersecting arc decoration. Fabric 54: Black Burnished ware. Context *c.* A.D. 325–400. 76C, XXXIII, 2, 1.
485. Straight-sided, dropped flanged bowl (Davies and Seager Smith 1993, 235, type 25). Fabric 54: Black Burnished ware. Context *c.* A.D. 325–400. 76C, XXXIII, 2, 2.

486. Straight-sided, dropped flanged bowl (Davies and Seager Smith 1993, 235, type 25) with burnished intersecting arc decoration. Fabric 54: Black Burnished ware. Context *c.* A.D. 360–400. 76C, XXXVIII, 70, 10.
487. Straight-sided dish (Davies and Seager Smith 1993, 233, type 20). Fabric 54: Black Burnished ware. Context *c.* A.D. 360–400. 76C, XXXVIII, 70, 14.
488. Straight-sided dish (Davies and Seager Smith 1993, 233, type 20). Fabric 54: Black Burnished ware. Context *c.* A.D. 325–400. 76C, XXXIII, 2, 32.
489. Straight-sided dish (Davies and Seager Smith 1993, 233, type 20). Fabric 54: Black Burnished ware. Context *c.* A.D. 325–400. 76C, XLVI, 160, 2.

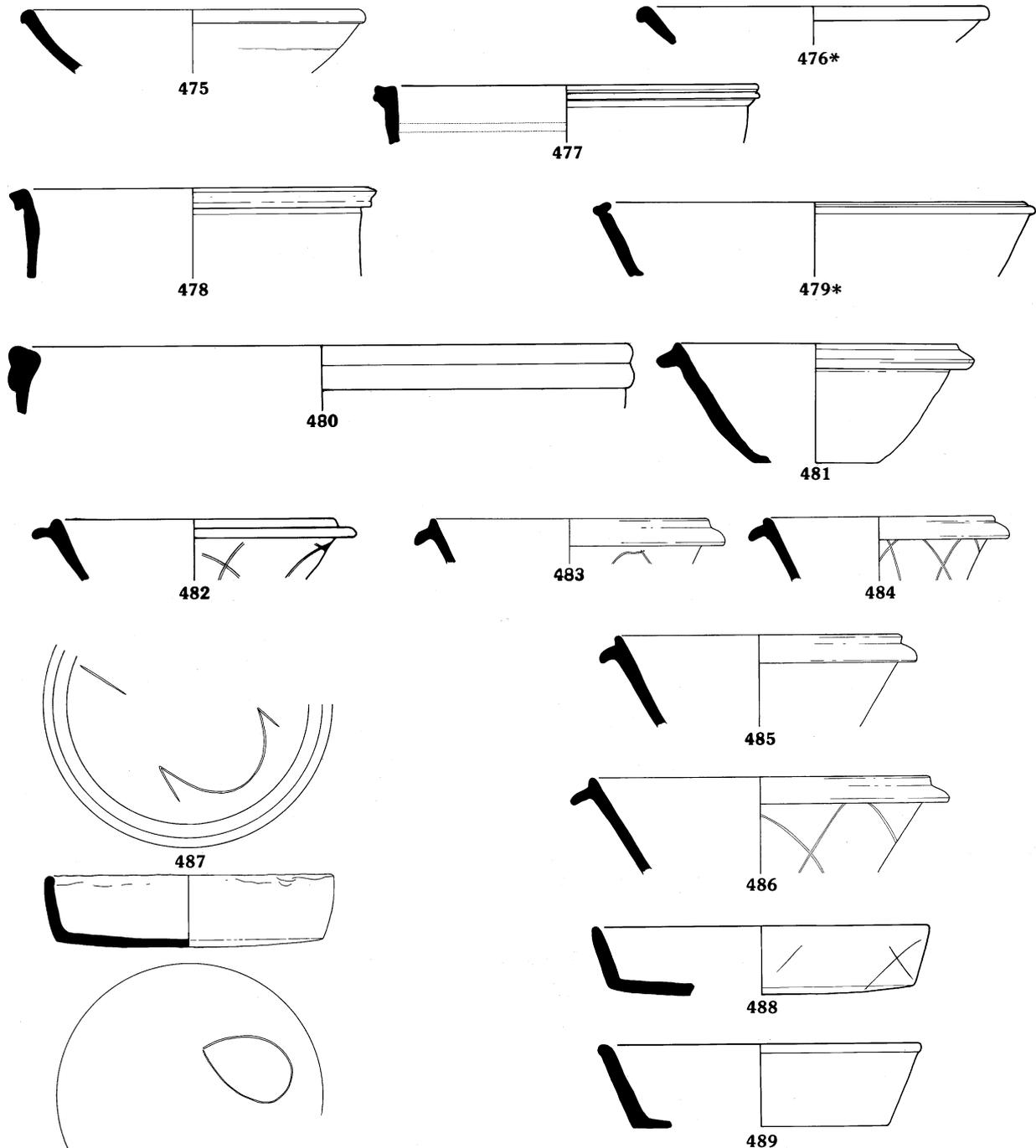


FIG. 98. The coarsewares: Phase 3B. Scale 1:4.

Figure 99*Coarsewares*

1. Flanged bowl. Copy of Dr. 38. Illiterate stamp on interior of base. Fabric 72: Orange sandy ware. 67, 1432.
2. Flanged bowl with white painted decoration on flange. Fabric 88: Hard, colour-coated grey ware. U/S.
3. Cup/tankard with at least one applied handle. Fabric 26: Sandy grey ware. 67, 967.
4. Beaker with diamond-shaped panels of barbotine dots. Fabric 120: Possible poppy-head beaker. 67, 973.
5. Patera handle or possibly a foot from a tripod bowl (although there is no sign of abrasion on the bottom of the 'foot'). Two roughly circular, pre-firing stab marks at the point where the handle/foot joins the main body of the vessel. Oxidised surfaces. Fabric 52: Common grey ware. 67, 5169.
6. Base of small, carinated jar or beaker. Originally with at least one applied handle, although this is now missing. Thick solid base making this a very 'bottom heavy' vessel. Fabric 52: Common grey ware. 68, 992.
7. Very small lid. Fabric 53: Fine grey ware. 70F, I, 4.
8. Incipient flanged bowl/dish (Davies and Seager Smith 1993, 235, type 24 variant) with a roughly semi-circular, short stubby handle as an integral part of the flange. Fabric 54: Black Burnished ware. 67, 4202.

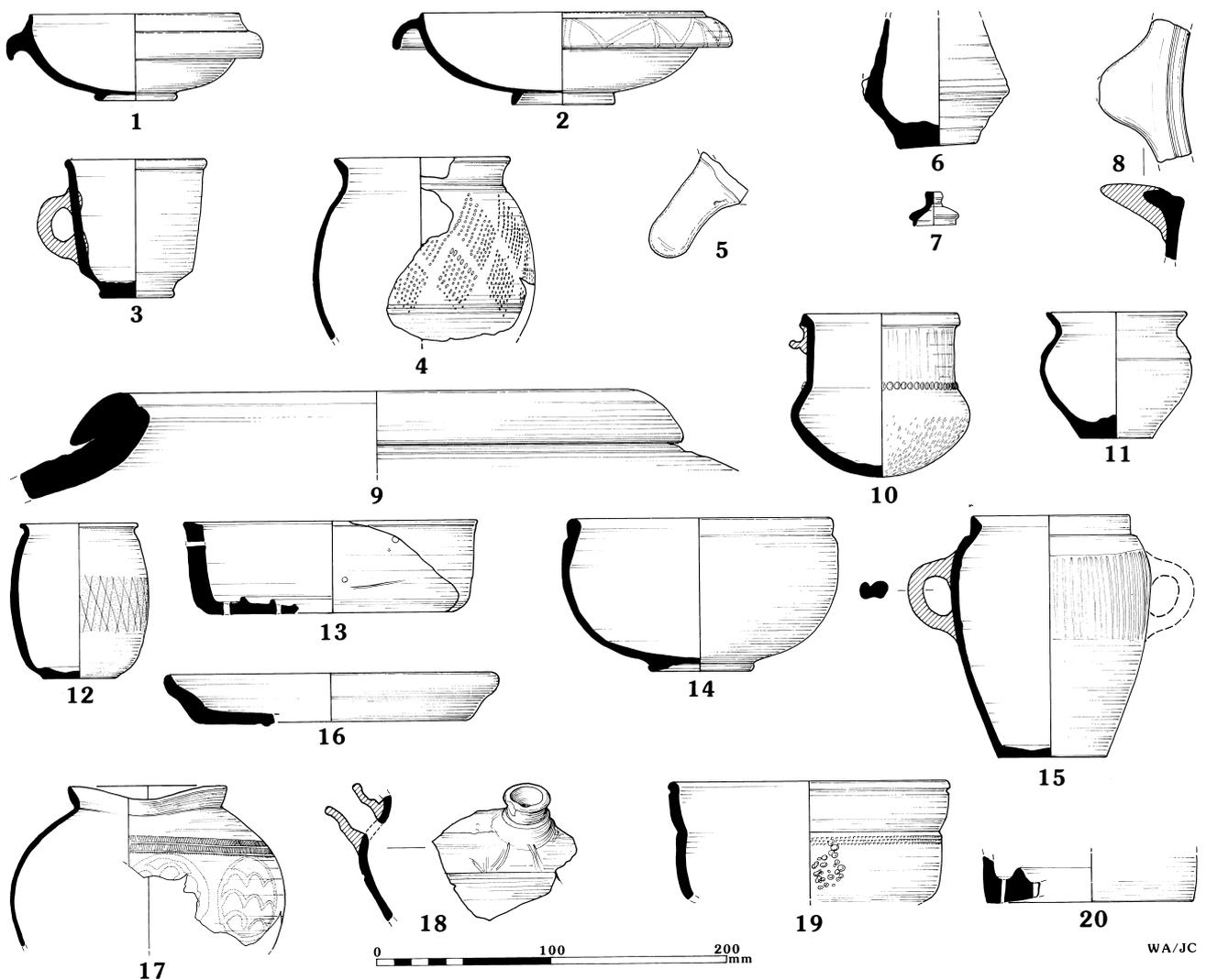


FIG. 99. The coarsewares: complete or unusual vessels. Scale 1:4.

9. Large storage jar with a wedge-shaped, lid-seated rim. Fabric 52: Common grey ware. 67, 1699.
10. Small, round-bottomed miniature cauldron. At least one (probably two originally) applied handle. The applied clay pellet decoration at junction of neck and body imitates rivets; the underside of the base is textured, echoing the beating marks on the metal originals. Fabric 52: Common grey ware. 67, F.2.
11. Small jar with girth groove. Fabric 52: Common grey ware. 67, 973.
12. Small, bead rim jar with burnished, irregular diamond-shaped lattice decoration. Fabric 52: Common grey ware. 67, 607.
13. Cheese-press. Pre-firing perforations in the base and vessel wall. Fabric 97: White-slipped red ware. 69C, IX, 3, 1.
14. Round-bodied open bowl with a bead rim. Fabric 72: Orange sandy ware. 67, 927.
15. Jar/beaker with a pulled bead rim and at least one applied handle. Predominantly oxidised. Fabric 53: Fine grey ware. 67, 627.
16. Platter, copy of Gallo-Belgic forms. Fabric 1: Savernake ware. 76A, U/S, 1.
17. Ovoid beaker/jug with an upright, pulled bead rim and rouletted and white painted decoration. At one point around its surviving circumference, the rim is slightly pinched — it is uncertain whether this is accidental or deliberately formed to produce a pourer. Not included in Young's (1977) type series. Fabric 68: Oxfordshire brown colour-coat. 76C, XXVI, 67, 1.
18. Body sherds from a spouted jar with a horizontal band of burnished line decoration. Paralleled at Cirencester (Rigby 1982a, fig. 51, 71). Fabric 20: Severn Valley ware. 76A, VIII, 41, 13; Phase 2A.
19. Carinated bead rim bowl with barbotine dot decoration. Fabric 52: Common grey ware. 67, 4150.
20. Base of 'cheese press' — pre-firing perforations in base. Fabric 1: Savernake ware. 76B, IV, 2C, 65.

Figure 100

Imported finewares

21. Bag-shaped beaker base with underglaze incised groove and barbotine dot decoration. Greenish-yellow glaze on both surfaces. Fabric 76: Central Gaulish green glazed ware. 76A, XV, U/S. 127.
22. Base, flagon (Greene 1979, fig. 40, 2 and 3) or handled bowl (*ibid.*, fig. 40, 4) form. Greenish-yellow glaze on exterior. Fabric 76: Central Gaulish green glazed ware. 68, 1424.
23. Base, possibly from a handled bowl (Greene 1979, fig. 40, 4). Greenish-yellow glaze on both surfaces. Fabric 76: Central Gaulish green glazed ware. 76A, IX, 18, 1; Phase 2B.
24. Base and rim from a carinated, handled cup (Greene 1979, fig. 41, 10). Possibly from the same vessel, although not joining. Barbotine dot decoration. Greenish-yellow glaze on both surfaces. Fabric 76: Central Gaulish green glazed ware. 76C, XLVI, 173 and U/S. 1; Phase 3B.
25. Hemispherical cup with roughcast decoration (Greene 1979, fig. 5, 1.5). Fabric 49: Lyons ware. 76C, XXVI, U/S. 1.
26. Body sherd with face-mask decoration applied to a closed form, probably Déchelette 74. Broadly similar sherd known from Silchester (Simpson 1957, 39, pl. xiv, 23). Second century A.D. Fabric 132: Black colour-coated ware from Lezoux, Central Gaul. 67, 5312, 760.
27. Small, very fine beaker (Greene 1979, fig. 17, 3) with roughcast clay decoration. Fabric 28: Central Gaulish colour-coated ware. 76A, XV, 20, 28; Phase 3A.
28. Bag-shaped beaker with a corniced rim (A.C. Anderson 1980, fig. 12, 3). Fabric 79: North Gaulish colour-coated ware. Lower Wan, U/S.
29. Bag-shaped beaker with a grooved, corniced rim (A.C. Anderson 1980, fig. 7, 3) and roughcast decoration. Fabric 87: Cologne colour-coated ware. 67, 5617.
30. Bag-shaped beaker with a grooved corniced rim (A.C. Anderson 1980, fig. 8, 1) and barbotine ?tendrils decoration. Fabric 87: Cologne colour-coated ware. Lower Wan, U/S.
31. Body sherd with applied barbotine tendrils decoration from a two-handled cup (Brewster 1972, fig. 1, 7–9; Greene 1978, fig. 2.3, 8). Fabric 82: Central Gaulish Rhenish ware. 70G, I, 1.
32. Rouletted, indented beaker. Fabric 82: Trier type Rhenish ware. 69A, IV, 1.
33. Body sherd probably from a Chenet (1941) type 320 bowl. Stamp no. 304. Similar sherd known from Portchester (Fulford 1975b, fig. 143c). Fabric 116: Argonne ware. 76C, XXXII, 40.
34. Body sherd probably from a Chenet (1941) type 320 bowl. Stamp no. 202 or 247 and unidentified. Fabric 116: Argonne ware. WAN 67, SAS, Ford, U/S.
35. Rim from a Chenet (1941) type 320 bowl. Stamp no. 8 or 191. Body sherd with similar motif known from Portchester (Fulford 1975b, fig. 143, a). Fabric 116: Argonne ware. 76, U/S.

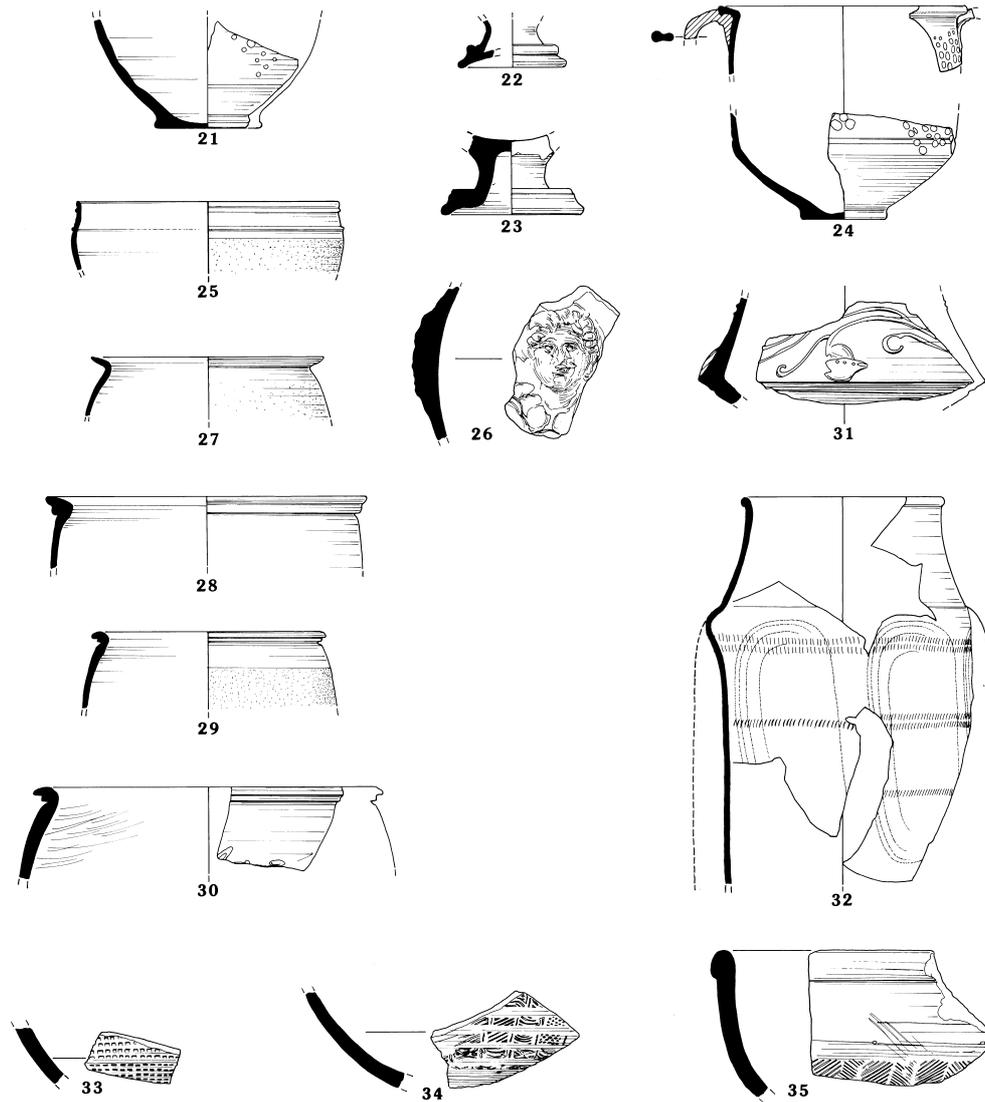


FIG. 100. The imported Continental finewares. Scale 1:4.

Figure 101

Mica-dusted wares

36. Deep bowl with rim turned over to form a vertical flange. Very slight groove just below the rim. Form paralleled in London and a variety of other sites in both Britain and continental Europe (Marsh 1978, 170–2, fig. 6.17, type 37). Fabric 12: Mica-dusted ware A. 66, B84/2.
37. Carinated bowl with outcurving upper wall and an out-turned rim (Marsh 1978, 178, fig. 6.20, type 44). Undecorated and interior is unfinished. Fabric 12: Mica-dusted ware A. 66, B134/3.
38. Sharply carinated, biconical bowl with an in-turned rim. Unusual form. Body shape is similar to the vessels with internal strainers found in London and elsewhere (Marsh 1978, 181–4, figs 6.20 and 6.21, type 46), although these have short everted rims and no evidence for the strainer holes is preserved on the Wanborough example. Fabric 12: Mica-dusted ware A. 67, 973.
39. Platter with a slightly in-turned rim and a rough chamfer on the lower wall (Marsh 1978, 154–6, fig. 6.10, type 24). Fabric 12: Mica-dusted ware A. 66, B74/2.
40. Bulbous beaker with a short, everted rim and decorated with projecting bosses (Marsh 1978, 151, fig. 6.9, type 20). Copy of imported vessels, examples of which also occur at Wanborough (Walters *et al.* 1973, fig. 3, 2). Fabric 12: Mica-dusted ware A. 67, 426.
41. Bulbous beaker with short, everted rim. Incised groove on interior of rim. Decorated with projecting bosses, incised grooves and applied decoration. Possibly part of a face-pot. Fabric 106: Mica-dusted ware C 76A, VIII, 20, 2.

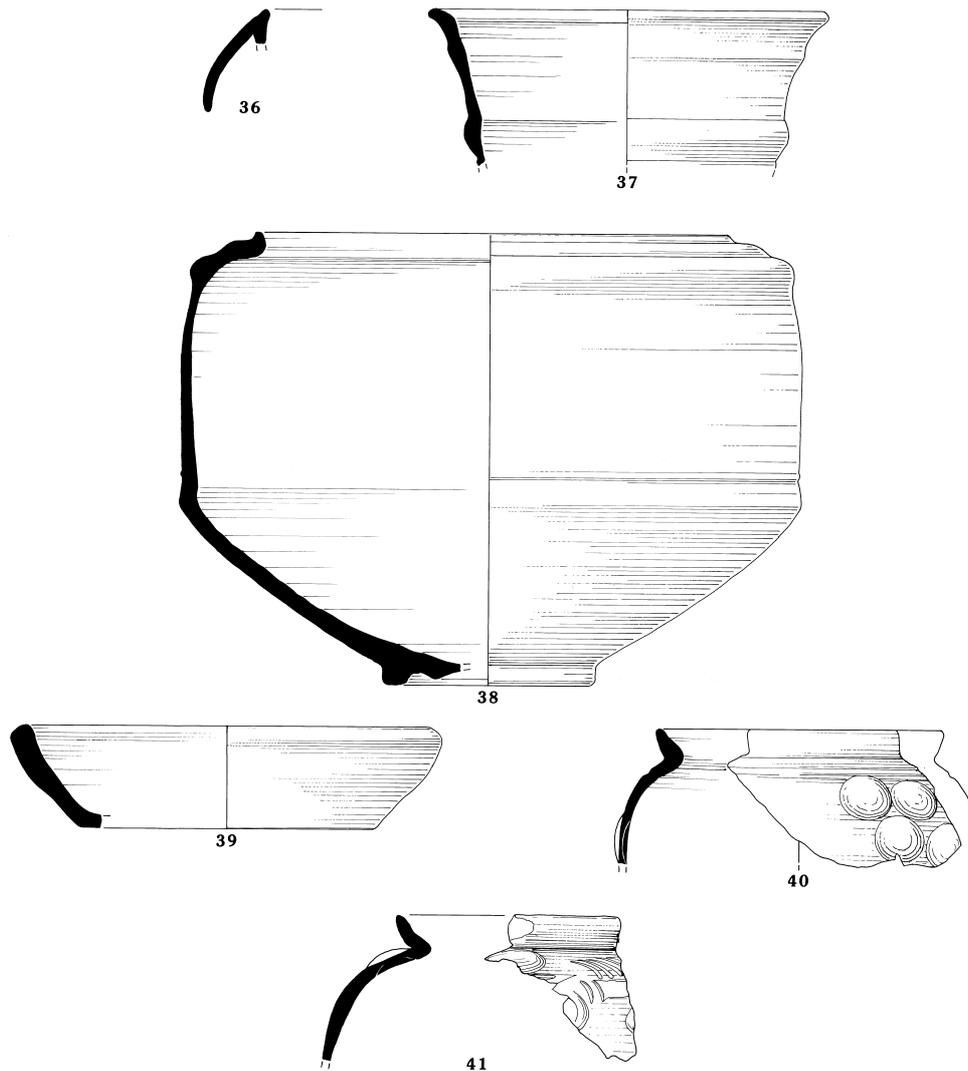


FIG. 101. The mica-dusted wares. Scale 1:4.

Figure 102

Local lead-glazed wares

42. Conical beaker (Arthur 1978, 320, type 5) with underglaze incised groove decoration. Olive green glaze on both surfaces. Fabric 113: Lead-glazed ware — the 'Wanborough group'. 67, 425.
43. Conical beaker (Arthur 1978, 320, fig. 8.8, 5.4) with underglaze incised lattice decoration. Yellowish-brown glaze on both surfaces. Fabric 113: Lead-glazed ware — the 'Wanborough group'. 76, Nythe Farm, U/S.
44. Conical beaker (Arthur 1978, 320, type 5) with underglaze incised horizontal grooves and ring-and-dot decoration comparable to that characteristic of the 'London wares' (Marsh 1978, 123–24). Fabric 113: Lead-glazed ware — the 'Wanborough group'. 66, F2, 12.
45. Globular beaker with a short, slightly everted rim (Arthur 1978, 320, type 3). Very dark olive green glaze on both surfaces and incised ring-and-dot decoration (Marsh 1978, 123–4). Fabric 113: Lead-glazed ware — the 'Wanborough group'. U/S
46. Globular beaker base decorated with underglaze horizontal grooves and impressed dots. Yellowish-green glaze on both surfaces. Fabric 113: Lead-glazed ware — the 'Wanborough group'. 77, U/S, 1.
47. Bowl copying Dr. 37 forms (Arthur 1978, 324, type 9). Stamped decoration. Fabric 114: Medium-grained lead-glazed ware. 68, 1582 and 4301.
48. Two sherds probably from the same vessel — a conical beaker or imitation Dr. 37 bowl with underglaze incised diagonal line decoration. Dark olive green glaze. Fabric 114: Medium-grained lead-glazed ware. 67, 3765 and 4321.

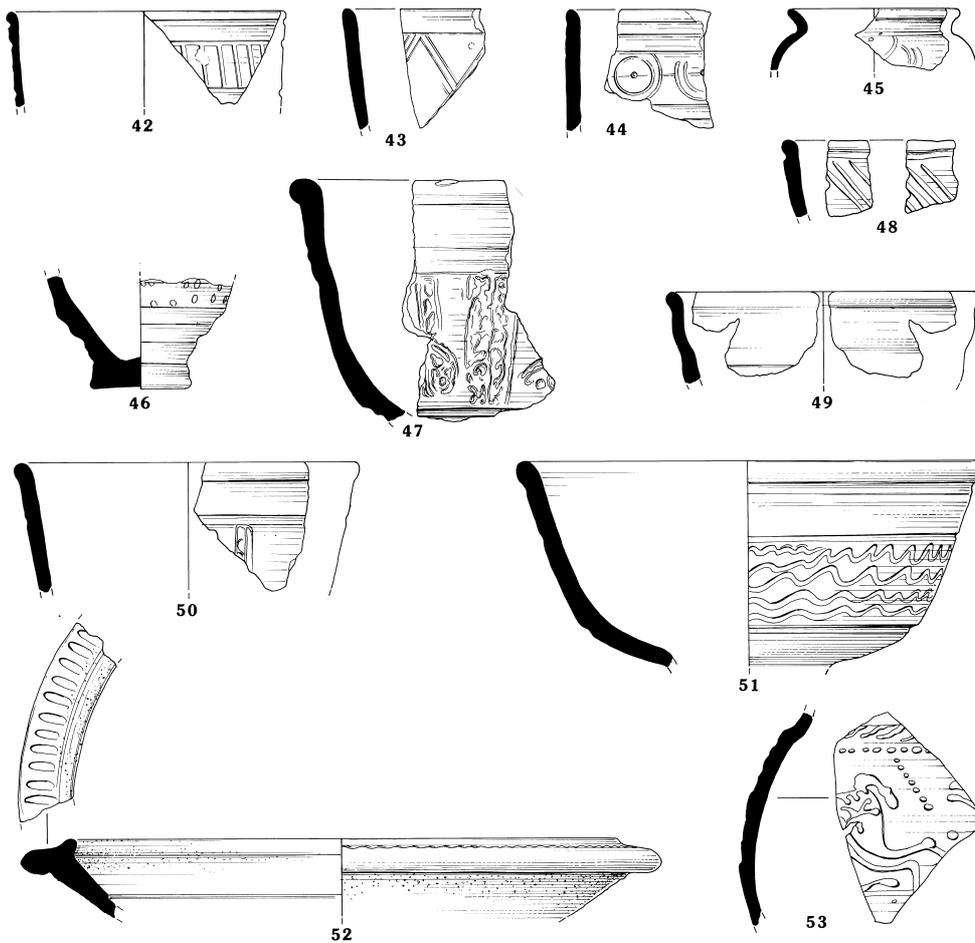


FIG. 102. The lead-glazed wares and imitation samian (53). Scale 1:4.

49. Rim from copy of Dr. 27 cup (P.A. Arthur, note in archive). Light olive green glaze on both surfaces. Fabric 115: Soft, sandy lead-glazed ware. WAN. RB, D1.
50. Bowl copying Dr. 37 forms (Arthur 1978, 324, type 9) with stamped underglaze decoration. Reddish-brown glaze on both surfaces. Fabric 115: Soft, sandy lead-glazed ware. 76C, XXXIX, 2.
51. Bowl, copy of Dr 37 forms. Incised wavy line underglaze decoration. Light, yellow-green glaze on both surfaces, now rather worn. This vessel, or one very similar to it, is illustrated by Arthur (1978, fig. 8.8, 8) but has been repeated here as the distinctive wavy line decoration clearly links this fabric with the north Wiltshire colour-coated wares (Fabric 25) and, therefore, confirms Arthur's suggestion of a local origin for this fabric. Fabric 115: Soft, sandy lead-glazed ware. 76, 115, D1, Covingham.
52. Flanged bowl with incised grooves on flange. Glazed on both surfaces but glaze is badly crazed and bubbled. Possibly burnt after firing. Fabric 115: Soft, sandy lead-glazed ware. 67, 702.

Local imitation samian

53. Body sherd from an imitation Dr. 37 bowl. Fabric 118: Wiltshire imitation samian. 67, 5539.

Figure 103

North Wiltshire colour-coated wares

54. Indented beaker with grooved, corniced rim. Roughcast clay decoration delineated by an incised groove. Fabric 25: north Wiltshire colour-coated ware. 76C, XXVI, 65.
55. Indented beaker with grooved, corniced rim and incised wavy line decoration delineated by an incised groove. Fabric 25: north Wiltshire colour-coated ware. 68, 1133.
56. Bag-shaped beaker with a grooved, corniced rim and roughcast clay decoration delineated by an incised groove. Fabric 25: north Wiltshire colour-coated ware. 76A, II, U/S

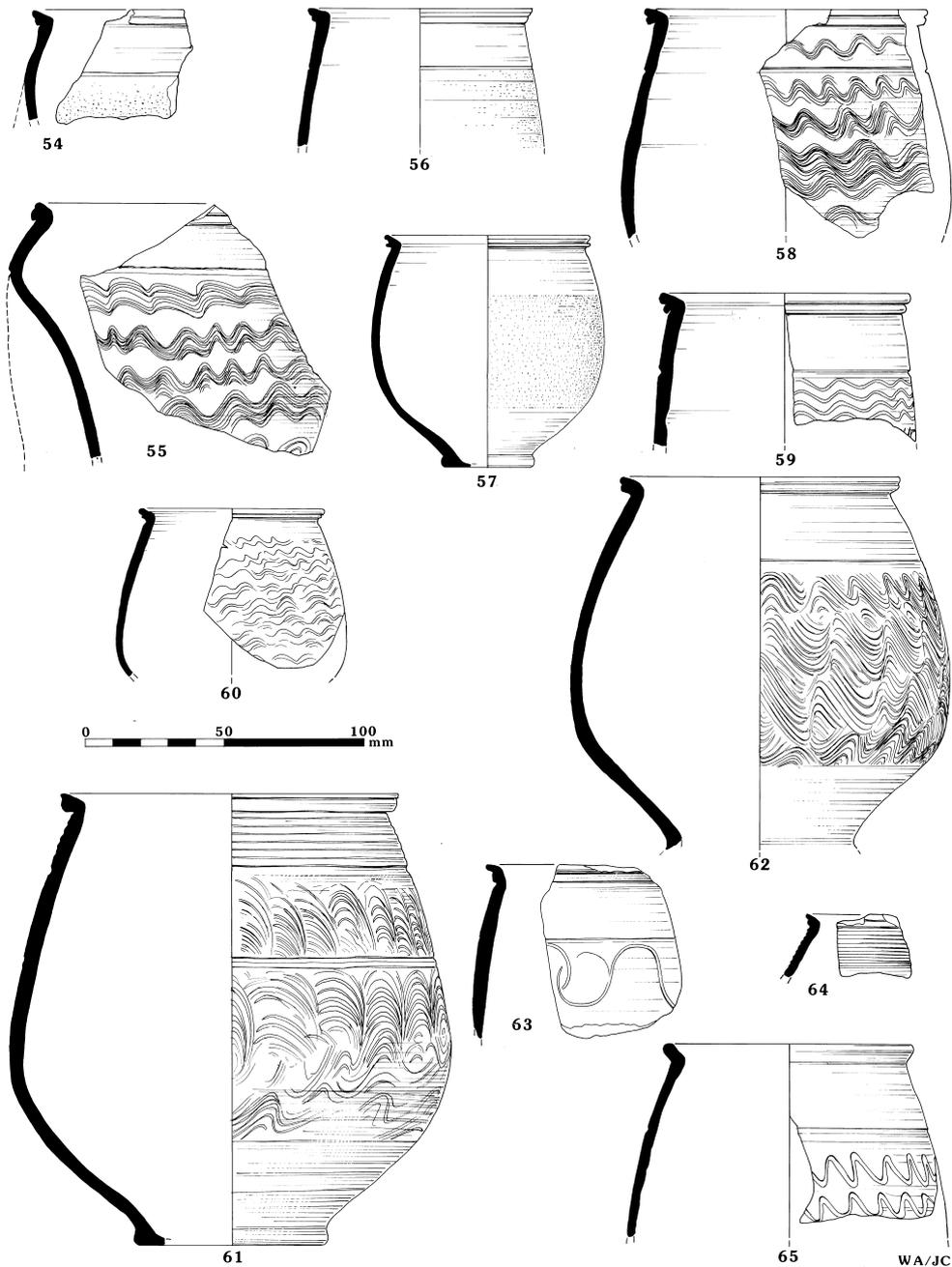


FIG. 103. North Wiltshire colour-coated wares. Scale 1:4.

57. Small, bag-shaped beaker with a grooved, corniced rim and roughcast clay decoration. Fabric 25: north Wiltshire colour-coated ware. 76C, XXXIII, 2, 39.
58. Bag-shaped beaker with a grooved, corniced rim and incised wavy decoration. Fabric 25: north Wiltshire colour-coated ware. 67, 3578 and 4167.
59. Bag-shaped beaker with a grooved, corniced rim and incised wavy decoration delineated by an incised groove. Fabric 25: north Wiltshire colour-coated ware. 68, 1291.
60. Small bag-shaped beaker with a grooved, corniced rim and incised wavy decoration. Fabric 25: north Wiltshire colour-coated ware. 67, 1290.
61. Large bag-shaped beaker with a grooved, corniced rim and incised wavy decoration. Fabric 25: north Wiltshire colour-coated ware. U/S.
62. Large bag-shaped beaker with a grooved, corniced rim and incised wavy decoration delineated by an incised groove. Fabric 25: north Wiltshire colour-coated ware. 67, 1431.
63. Bag-shaped beaker with a grooved, corniced rim and curvilinear barbotine decoration delineated by an incised groove. Fabric 25: north Wiltshire colour-coated ware. 70H, III/V, 1.

64. Very small bag-shaped beaker with a grooved, corniced rim and rilled decoration beneath the rim. Fabric 25: north Wiltshire colour-coated ware. Lower Wan, U/S.
65. Bag-shaped beaker with a beaded rim and incised wavy decoration. Fabric 25: north Wiltshire colour-coated ware. 76C, XXXIII, 41, 1.

Figure 104

North Wiltshire colour-coated wares cont.

66. Beaker with a very slightly beaded rim and a concave neck. Fabric 25: north Wiltshire colour-coated ware. 76A, IX, 2.
67. Bag-shaped beaker with an out-turned, flat-topped rim. Fabric 25: north Wiltshire colour-coated ware. 67, 4280.
68. Bag-shaped beaker with an out-turned, flat-topped rim and roughcast clay decoration. Fabric 25: north Wiltshire colour-coated ware. 76C, XXXIII, 97, 3; Period 3.
69. Bag-shaped beaker with a pointed, out-turned rim. Fabric 25: north Wiltshire colour-coated ware. 68, 5620.
70. Very small bag-shaped beaker with a pointed, out-turned rim, a slight neck cordon and barbotine dot decoration. Fabric 25: north Wiltshire colour-coated ware. Lower Wan, U/S.
71. Shouldered beaker with an upright rim and roughcast clay decoration. Fabric 25: north Wiltshire colour-coated ware. 70F, II, 3.
72. Body sherd from a bowl form, with incised wavy line decoration bordered by shallow incised grooves. Fabric 25: north Wiltshire colour-coated ware. 68, 3356.

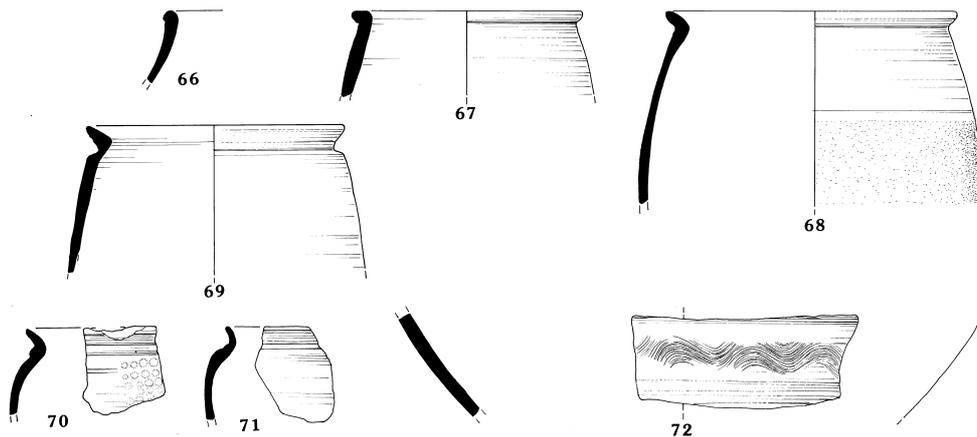


FIG. 104. North Wiltshire colour-coated wares. Scale 1:4.

Commentary

The Wanborough assemblage clearly contains a vast array of products from both local and regional (within *c.* 50km) sources (FIG. 1), as well as from other areas of Britain (including London, the New Forest, and the Nene Valley and Colchester areas) and continental Europe. The ranges of fabrics and vessel forms present at Wanborough are well paralleled at other sites in the area, including Cirencester (Rigby 1982a), Kingsholm (Darling 1985) Mildenhall (Annable 1966) and at a variety of rural sites, such as Cleveland Farm and Rixons Gate near Ashton Keynes, Wiltshire, discovered during gravel extraction (Wessex Archaeology archive information). Although the full discussion of this assemblage is hampered by the variable quality of the original excavation records, the lack of full, reliable quantification and recording of the ceramics to standards considered acceptable today (Fulford and Huddleston 1991) and the limited re-examination possible within the present project, useful observations about the range of products and sources of supply available to the residents of north Wiltshire throughout the Roman period can still be made from this material.

Using the 1976 computerised data, the rate of ceramic deposition clearly fluctuated through time, charting the development of the settlement from its uncertain origin during the mid-first century A.D. to the status of small town in the later Roman period. The rate of deposition shows a steady increase from Phase 1A (*c.* A.D. 50–60), to Phase 2A (*c.* A.D. 80–150), the number of sherds present by phase representing 2% (555 sherds — Phase 1A), 10% (3150 sherds — Phase 1B), 13% (4142 sherds — Phase 1C) and 17% (5512 sherds — Phase 2A) respectively, of the total number (31,751 sherds) recorded. Deposition slows slightly in Phases 2B (15% of the assemblage or 4771 sherds) and 3A (13% or 3902 sherds), possibly at least partly because of the difficulties in recognising late second and third century ceramics in Britain. The number of sherds recovered dramatically increases again in Phase 3B (*c.* A.D. 325–400) contexts (9779 sherds representing 31% of the assemblage), although many of these sherds are likely to be in residual contexts.

The number of fabrics described in this report is probably an over-estimate of the true number of different ‘wares’ from discrete sources present. Even after the fabric amalgamations described above (pp.233–4) had been carried out, 50 of the 88 fabrics (31,751 sherds) originally recorded amongst the 1976 assemblage were each represented by fewer than 50 sherds and only 10 fabrics (Fabrics 1, 2, 15, 21, 26, 29, 52–4, and 65) by more than 400 sherds.

This suggests that a far smaller number of fabrics would have been identified had the original analysts been more experienced, or if the assemblage had been re-examined in greater detail. However, this would not affect the overwhelming dominance of the locally produced grey coarse wares. In total, the Savernake wares (Fabric 1) account for approximately 20% (6316 sherds) of the 1976 phased assemblage and clearly provided competition for kitchen wares from the other local coarseware production centres well into the second century A.D., thereafter occurring in residual contexts. Sandy grey coarsewares are known to have been produced at Whitehill Farm, Toothill Farm, and Purton to the west of Swindon (FIG. 1) (Anderson 1978b; A.S. Anderson 1980). It is likely that the majority of sandy grey wares (Fabrics 21, 29, 52, and 53) are from these sources, many of the fabric variations and characteristic vessel shapes and manufacturing technique observed at the kiln sites also being apparent amongst the Wanborough assemblage. In total, these fabrics represent 44% of the sherds from the 1976 assemblage and predominate in all periods from Phase 1A (*c.* A.D. 50–60) onwards, increasing their share of the market as the importance of the Savernake wares declined. The coarser, more open-textured sandy wares, Fabrics 26, sandy grey ware, and 13 sandy-white/orange wares, may also be part of this group. However, the presence of the sandy grey wares in the Period 1 deposits at Wanborough pre-dates production at the kiln sites to the west of Swindon, which is first dated to the early years of the second century A.D. (Anderson 1979; A.S. Anderson 1980). It is likely, therefore, that other, as yet undiscovered, kilns exist in this area of north Wiltshire, probably starting up at an earlier date.

The presence of possible grey ware wasters amongst the Wanborough assemblage (e.g. FIG. 85, 147, FIG. 92, 334, and FIG. 94, 381) may indicate the possibility of pottery production even closer to the town, although the possibility that ‘seconds’ were being marketed through the normal economic channels cannot be ruled out. However, the identification of glauconite in the fabric of some of the illustrated sherds (FIG. 84, 125, 127–8, 130–2, FIG. 85, 135, FIG. 89, 246, FIG. 90, 251–2, 276–7, 279–81, FIG. 91, 282–8 and FIG. 93, 353–4, 356–7) formerly assigned to Fabrics 26, 52, and 53, indicates the possibility of a production centre situated on or near the Upper Greensand which runs in a diagonal northeast/southwest band immediately southeast of Wanborough and on towards Sandy Lane before turning eastwards, in a tongue, towards Mildenhall and the Savernake Forest. The Broomsgrove kilns lie at the junction between the Upper Greensand and Chalk geologies (Anderson 1979, fig. 2). The importance of the glauconitic sandy wares (Fabric 130) is difficult to estimate without a detailed re-examination of the whole assemblage and can in any case only be easily recognised when the sherds are at least partially oxidised. Given the number identified among the illustrated wares alone, however, it is likely to have formed a significant proportion of the sandy wares present.

The only coarseware fabric produced outside north Wiltshire to form a significant proportion of the Wanborough assemblage is Black Burnished ware (Fabric 54) from the Wareham/Poole Harbour region of Dorset (Farrar 1973). This fabric occurs from the mid-first century A.D., although it is poorly represented in deposits dating to the later years of this century. However, after the expansion of this industry in *c.* A.D. 120, (Gillam 1976, 58) supplies to Wanborough increased, gradually challenging the locally produced coarsewares until, by the fourth century, Black Burnished ware seems to have been the most commonly used coarseware at this site. The range of forms present is largely restricted to the types most commonly produced by this industry — everted rim jars (Davies and Seager Smith 1993, 231, types 2 and 3), flat- and dropped-flanged bowls/dishes (*ibid.*, types 22 and 25) and shallow, straight-sided dishes (*ibid.*, type 20), all dated from the second century A.D. onwards. Three orange/buff ware fabrics also occurred in significant quantities in the assemblage (Fabric 2, powdery orange/buff ware; Fabric 15, fine white-slipped orange ware and Fabric 65, fine cream ware). As might be expected for fabrics of this type, flagons, especially Hofheim and ring-necked varieties, were the commonest forms in Fabrics 2 and 15, while butt and other beaker forms most frequently occurred in Fabric 65. Except for those present in residual contexts, Fabrics 2 and 65 occur in negligible quantities after the end of the first century A.D., while Fabric 15 continue well into the second century A.D. The source of this fabric is uncertain, but it is likely to have been fairly local, possibly from the Purton or Whitehill Farm kilns (Isobel Wild, pers. comm.) and was an important element in the supply of flagons to Wanborough.

The lack of detailed descriptions of vessel forms in the 1976 archive prevents detailed comments about these, although the illustrated sherds and limited re-examination of the material indicate an extensive range of forms, largely conforming to the expected pattern of predominantly jar, bowl, and dish forms with a small range of beaker, jug, flagon, platter and lid types. Occasional more unusual forms, such as candlesticks, the possible tazza or chafing dish (FIG. 95, 393) and the miniature cauldron (FIG. 99, 10), are also present. General trends, such as changes through time in the relative importance of these major vessel classes, and the gradual 'Romanisation' of forms (i.e. the development of straight-sided bowls/dishes during the mid-second century at the expense of the more round-bodied forms characteristic of the first and early second century), following more general changes in fashion and possibly cooking methods identifiable across Roman Britain as a whole, can also be observed by careful examination of the illustrated material. One unusual feature of the locally produced coarseware assemblage is that the majority of bowl and dish forms present, do not conform to the general rule of being carefully finished on the interior surface even though many have been smoothed or burnished on the exterior. With the exception of the Savernake wares (Fabric 1), the locally produced coarsewares present in all periods at Wanborough, are generally wheel-made, indicating the level of technology available.

Although occurring only in comparatively small quantities, the range of finewares present at Wanborough is as extensive as that found at the much larger centres of Cirencester (Rigby 1982a) and Kingsholm (Darling 1985). Unfortunately, the majority of fineware sherds recorded for the 1976 assemblage occur residually in contexts later than their period of currency, although their very presence in the assemblage does indicate the availability of a very wide range of vessels in the market-place of this minor Roman town. Pre-Flavian imported wares consist of Terra Nigra (Fabric 30), Lyons ware (Fabric 49) and Central Gaulish green glazed wares (Fabric 76), while the later first-second century A.D. wares include Central and North Gaulish and Cologne colour-coated wares (Fabrics 28, 79, and 87). One sherd of North African red-slipped ware (Fabric 124) was recognised, its presence interesting in the light of the rarity of these wares in Britain, which possibly travelled to this country with their owners rather than as direct objects of trade (Bird 1977, 272). British finewares at this time include Colchester colour-coated ware (Fabric 128) and the mica-dusted wares (Fabric 12) possibly from London. The first half of the second century A.D. also saw the rise and demise of a unique ceramic venture in north Wiltshire. The production of fine-ware beakers, often directly copied from Continental prototypes and with highly distinctive incised wavy line decoration is more

fully discussed above (pp.240–1, Fabric 25) and the products of this venture are unparalleled elsewhere in Britain. Also at this time, imitation samian (Fabric 118) was being produced in this area (Anderson 1978a, 358) and further evidence of the inventiveness of the local potters during the late Flavian to Trajanic period is witnessed by the development of a local lead-glazed ware industry (Fabrics 112–115), borrowing traits characteristic of 'London ware' and Continental prototypes (Arthur 1978).

After the middle of the second century A.D., almost the only imported finewares to reach Wanborough were the Rhenish wares (Fabric 82) dated from the mid-second until the late third or even fourth century A.D. (Greene 1978, 18 and 19; Millett 1986, 75). Vessels from both the Central Gaulish and Trier centres were received. A few sherds of later third–fourth century A.D. Argonne ware (Fabric 116), have also been identified, another fabric comparatively rare in Britain and outside its normal zone of distribution (Fulford 1975b). In general terms, however, after the mid-second century A.D. the inhabitants of Wanborough turned to British sources to supply their finer tablewares. No further enterprise took the place of the north Wiltshire fineware industry; instead this region relied on the Oxfordshire potteries (Fabric 68 and 70), and to a lesser extent, the more distant New Forest kilns (Fabrics 74 and 131) during the third–fourth centuries A.D., although tiny quantities of Lower Nene Valley colour-coated ware (Fabric 81) were also received.

The significance of the Wanborough assemblage largely lies in the potential contained within it for the further definition of the local north Wiltshire pottery industry, although comments about its chronology would probably be restricted by the limitations of the available excavation records and stratigraphic data. Modern re-examination and quantification of the assemblage in its entirety may shed further light on the development of the settlement, highlighting different deposition zones, activity areas, or function differences across the area of the town. However, even in its present condition, the publication of the Wanborough assemblage will provide some indication of the content of the assemblage from a Roman 'small town', useful in comparative terms with the large urban collections from Cirencester and the material from the growing number of, as yet poorly understood, rural settlements and farmsteads being identified in the area.

24. STAMPS ON COARSEWARES AND OXFORDSHIRE COLOUR-COATED WARE (FIG. 105)

By A.S. Anderson

The following report was submitted in 1985 and describes twenty-two potters' marks, all produced by stamping. Only two of the stamps are from the same die. On the basis of fabric comparability, and the similarity of stamp motifs and die-cutting techniques, the collection has been divided into eight groups. The largest group contains six examples and the three smallest groups one stamp each. Although these divisions are based upon characteristics apparently unique within each group, this does not preclude closer connections between individual categories. For example, many of the stamps show close relationships in their motifs and in certain cases separate groups could represent different potters working on the same site. Certainly, several of the Wanborough stamps, along with some of those found at Cirencester, only 12km away to the northwest (Rigby 1982b, 150–2, fig. 49) are from a common local source south of Cirencester. The number recorded suggests that the practice of stamping cups, bowls and platters was not particularly unusual in the area of known potteries in north Wiltshire (Anderson 1979; A.S. Anderson 1980) in the late first–early second century. Not all the stamps, however, are either local or early. The second largest group of stamps, five in all, occur on Oxfordshire red colour-coated ware bowls and are late Roman in date.

Group 1

1. An illiterate potter's mark on a large die, placed centrally on a platter copying the Gallo-Belgic import for Cam. 16. Fabric 52 — Common grey ware, with dark blue-grey smoothly polished upper surface. The overall appearance of this platter makes it unlikely to be of local manufacture. It is dated securely to Phase 1A which equates well with the period of its prototype. 76B, IV, 29.

Group 2

The three stamps included in this group appear to be the work of a single potter with two of the three examples (Nos 2 and 3) coming from the same die. The third stamp closely resembles the first two in the techniques used to produce the die and has an overall similarity in the motifs used for the stamp design. Number 2 is dated to Periods 1/2 although a date range of *c.* A.D. 50–120 seems more likely for this group (see comments concerning the dating of similar stamps at Cirencester: Rigby 1982b, 151).

2. An illiterate potter's mark placed centrally on the base of a cup or small bowl with a functional footring. Fabric 91 — pale orange ware with grey core. The mark is made up of a central group of joined V motifs bordered at each end by a different distinctive terminal character. The condition of the mark suggests that the original die was finely cut. The mark is not deeply impressed and is worn along the lower edge. Period 1/2. 67, 1708.
3. An illiterate potter's mark placed centrally on a vessel base. Fabric 91 — orange ware with grey core; polished upper surface. This mark is from the same die as No. 2 above, but is better preserved. 70 RC, U/S.
4. An illiterate potter's mark placed centrally on the base of a bowl with a functional footring. Fabric 91 — orange ware with buff surfaces. The overall similarity of the die-cutting techniques as seen on this mark with that illustrated by Nos 2 and 3 above suggest that all three represent the work of either one potter or a single die-cutter who supplied two potters working in the same locality. Residual in a Phase 3B context. 76C, XXVI, 65, 371.

Group 3

This group of six marks is connected by shared characteristics of stamp design, fabric and finishing techniques used in the manufacture of the vessels. With the exception of one badly fired example, all the pots in this group are in a very hard fabric with smoothed or polished surfaces. Although No. 5 can be assigned stratigraphically to Periods 1/2, once again a date range of *c.* A.D. 50–120 seems more appropriate for the group as a whole. Probably of local origin.

5. An illiterate potter's mark placed centrally on the base of a bowl or platter. Fabric 60 — fine grey ware with polished surfaces. A well-cut die utilising V and I motifs is represented by this mark. Periods 1/2. 67, 988.

6. An illiterate potter's mark placed centrally on the base of a bowl or platter. Fabric 60 — fine grey ware with smoothed surfaces. This mark is deeply impressed and on its lower edge displays a series of uneven lines or striations running at right angles to the plane of the vessel base. These features are characteristic of the grain lines in wood or bone and suggest possible materials from which the die-face was made. 76C, XXXIII, U/S, 284.
7. An illiterate potter's mark placed centrally on the base of a platter with a deep functional footring. Fabric 60 — fine grey ware; rather badly fired. The vessel form and character of the footring suggest a first century date for this vessel. Residual in a Phase 3B context. 69C, II/III, 3.
8. End fragment of an illiterate potter's mark placed centrally on the base of a platter with a functional footring. Fabric 60 — fine grey ware with smoothed upper surface. 70 RC, U/S.
9. An illiterate potter's mark placed centrally on the base of a hemispherical bowl with a functional footring. Fabric 60 — fine grey ware with polished surfaces. This mark is somewhat larger and cruder than others in Group 3 but the similar fabric and finish of the vessel suggests the same source. 70 RC, U/S.
10. An illiterate potter's mark placed centrally on the base of a platter or bowl with a well-defined footring. Fabric ?60 — fine light orange ware with polished upper surface. Presumably an oxidised variant of this usually grey ware. This stamp is from a rather finely-cut die and is made up of repeated X and I motifs similar to those found on Nos 8 and 9. U/S.

Group 4

11. A potter's mark placed centrally on the base of a cup or small bowl with a functional footring. Fabric 26 — sandy light grey ware with darker grey surfaces. The unusual motif which begins this mark is not found on any of the other stamps found at Wanborough although the vessel appears to be a local product. This pot is rather coarse when compared with those in Groups 1–3 which are of similar date.

Group 5

The two stamped vessels in this group have been assigned solely on the basis of fabric comparability. Presumably of local origin.

12. A potter's name stamp placed centrally on the base of a cup with a deep functional footring. Fabric 52 — pale grey ware with darker grey surfaces. This stamp, which begins with a retrograde N, can be read as NOMICO = Nomicos. Another stamp recording this potter, though not necessarily from the same die, has been found at Cirencester (Rigby 1982b, 150, fig. 49, Cl, where the name was read as Nomitos). Found as two separate but joining pieces, both Phase 2A and within this range to c. A.D. 80–125.
13. An illiterate potter's mark placed centrally on the base of a small carinated bowl with a functional footring. Fabric 52 — pale grey ware with light brown core. The stamp is made of I and V motifs but is terminated by a single dot at one end and by two at the other. 70 RC, U/S.

Group 6

This group of five stamps occurs on Oxfordshire red colour-coated ware bowls. Such stamps were sometimes used on the centre of the base of bowls which copy samian originals, including Dr. 31 and Dr. 36, and seem to date to the late third century (Young 1977, 128). The three stratified examples from Wanborough were all found in Phase 3B contexts and are presumably residual. Of the five stamps, only two are recorded by Young (*ibid.*, figs 68–9). The discovery of these vessels illustrates the importance of Wanborough as a market for the Oxfordshire potters from the earliest days of their colour-coated ware production.

14. A semi-literate potter's name stamp placed centrally on the base of a bowl with a functional footring. Fabric 68 — pale orange ware with darker orange colour coat. This rather elaborate stamp has three separate design panels; the first utilises a cross and dot motif, the second an omega placed on its side with central dot and the third, the letters SEO, with the last letter once again containing a central dot. This latter feature is found on several other Oxfordshire colour-coat ware stamps and the use of dots either individually, in groups or associated with crosses is common. Whether or not the three letters ending the stamp were connected with the potter's name must remain a matter for conjecture. Two other examples of this stamp are known: one a surface find from Kenchester, Herefordshire (Young pers. comm.) and the other from Titsey, Surrey (Gower 1869, pl. iii, xi). Phase 3B. 76C, XXXIII, 2, 104.

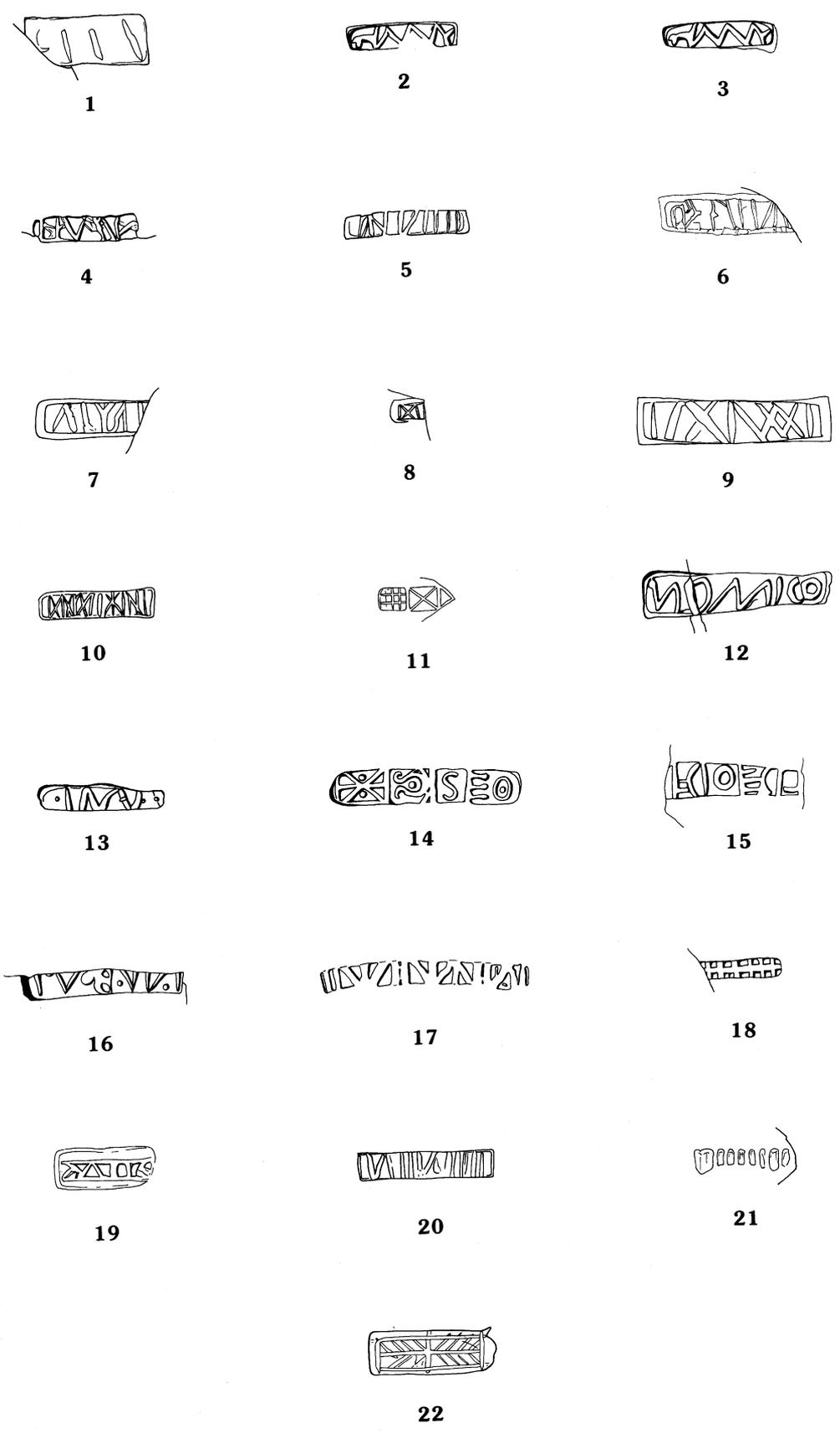


FIG. 105. The stamps on coarsewares and Oxfordshire colour-coated ware. Scale 1:1.

15. A retrograde stamp placed centrally on a vessel base. Fabric 68 — orange ware with a darker orange coat. K. Hartley comments: 'The stamp appears to end in FECIT, the name may be AFICIO or AIFICIO although there is no record of these names'. The stamp is known on Oxfordshire colour-coated wares from Wittenham Clumps, Oxfordshire (Young 1977, fig. 69, 64) (where it is upside down) and Dorchester, Dorset, on an imitation Dr. 31R. The stamp also occurs on the flange, each side of the spout, on a mortarium, probably of Young's Type M17, at *Verulamium*. Young dates the form c. A.D. 240–300. 70 RC, U/S.
16. An illiterate potter's mark placed centrally on a vessel base. Fabric 68 — pale orange ware with a darker orange colour coat. 70 RC, U/S.
17. An illiterate potter's mark placed centrally on the base of a bowl with a functional footring. Fabric 68 — pale orange ware with darker orange/brown colour coat. Residual in Phase 3B deposits. 69D, VII, 1.
18. A potter's mark placed centrally on the base of a bowl with a functional footring. Fabric 68 — orange ware with darker orange colour coat. This stamp is geometric in design and little or no attempt has been made to reproduce letter forms. Presumably residual in Phase 3B deposits.

Group 7

The three stamps in this group have been assigned to it on the basis of similarity in fabric and vessel finishing techniques. One stamp is unstratified and the other two were found in Phase 3B deposits. It seems likely that this reflects their real period of usage and once again a late first–early second century date is suggested for the group as a whole. Probably of local origin.

19. An illiterate potter's mark placed centrally on the base of a bowl with a rudimentary footring. Fabric 72 — sandy orange ware. Although the stamp is deeply impressed, the design is rather ill-defined owing to the sandy fabric of the vessel. Phase 3B. 69E, I, 2.
20. An illiterate potter's mark placed centrally on the base of a bowl with a rudimentary footring similar to that of No. 19. Fabric 72 — sandy pale orange ware with worn polished upper surface. This stamp utilises a series of V and I motifs in its design. It is deeply impressed but ill-defined. 70 RC, U/S.
21. An illiterate potter's mark placed centrally on a vessel base with a functional footring. Fabric 72 — sandy pale orange ware with smoothed surfaces. The unevenness of this mark suggests that it may have been produced by impressing the clay with the end of some form of combing tool, rather than with a properly cut die. Phase 3B. 76C, XXXIX, 73a, 288.

Group 8

22. A potter's mark placed centrally on the base of a platter or bowl with a functional footring. Fabric 72 — sandy orange ware with a grey core. No date is available for this stamp but the character of the vessel suggests a date range of c. A.D. 80–125.

25. THE FACE MASKS (FIG. 106)

By L. Mepham

The pottery face masks from Wanborough fall into two groups: masks from face pots, which are generally found on the shoulder of the vessel; and masks from face-neck flacons. The face masks from the north Wiltshire colour-coated vessels fall into a different category, and have been discussed elsewhere (Anderson 1979, 12); this report was submitted in 1995.

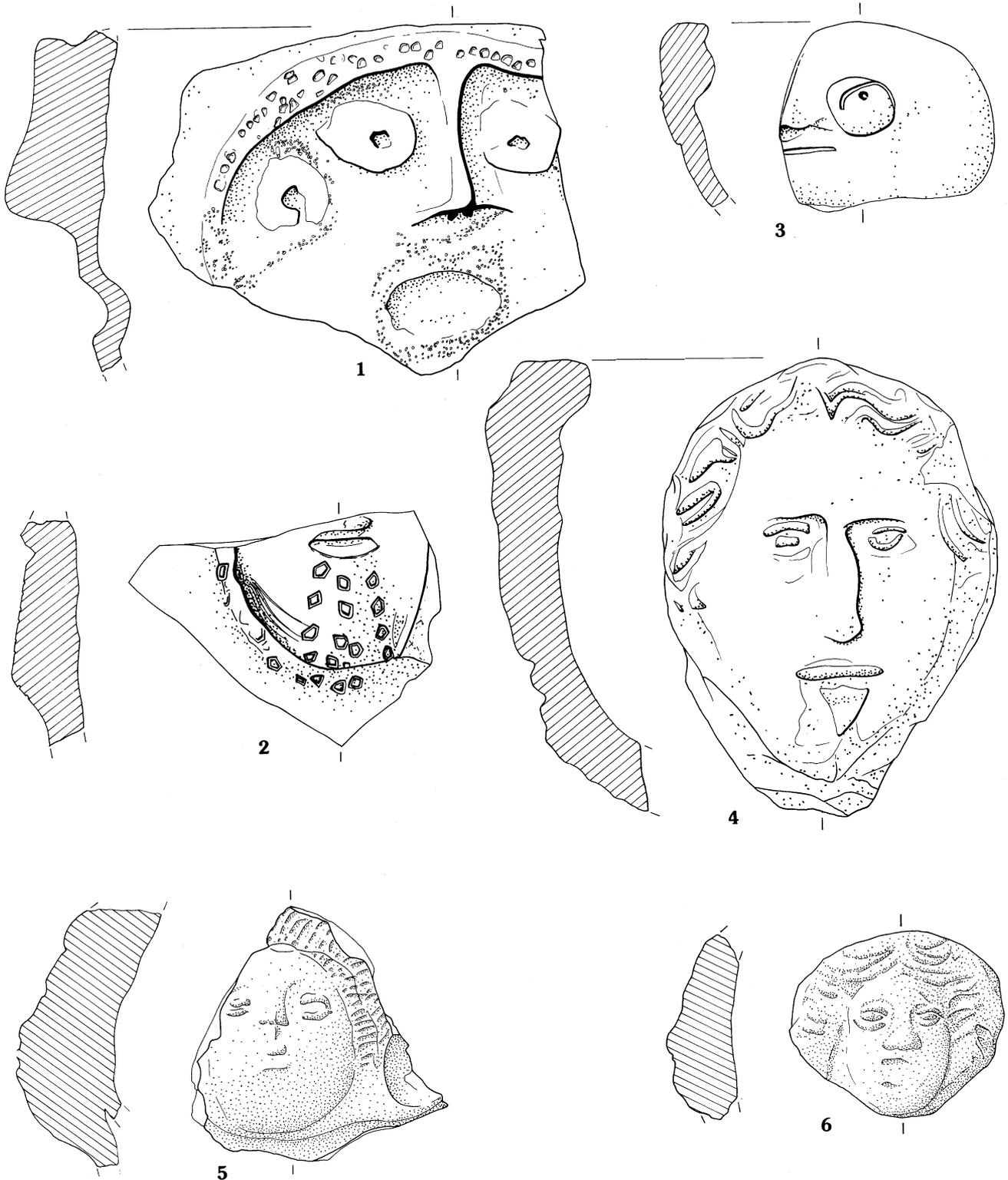


FIG. 106. The face masks. Scale 1:1.

The three examples of face pots (1–3, below) are all within the published range of such vessels from this country, although the known distribution of these vessels is largely confined to the eastern half of the country; examples from the western half of the country seem to occur almost exclusively on military sites (Braithwaite 1984).

The four fragments from face-neck flagons (4–7) range from the highly stylised No. 4 to the carefully executed No. 7. Face-neck flagons were manufactured at several centres in Britain, notably Oxfordshire, the Nene Valley and Colchester. The faces are generally female, fairly carefully executed, with ‘classical’ features. Numbers 5–7 certainly fit this type, and No. 6 in particular can be compared with examples from the Oxfordshire kilns (Young 1977, type C11). Number 4, however, is more akin to the face pots described above, with its crudely stylistic features. It does not quite fit this category, since it comes from the rim rather than the neck of a flagon, as does No. 5.

The fabric of No. 5 can be compared with known Oxfordshire colour-coated fabrics (Young 1977), and there are traces of red slip on the hair. If this is an Oxfordshire product, it is unusual, both in its larger size and in its position at the rim of the vessel rather than on the neck. No similar examples are as yet known from the Oxfordshire production centre.

1. Stylised male face in fabric 52. Applied features; mouth formed by pushing in vessel wall; facial hair represented by ‘stippling’, perhaps with a comb-like instrument. 67, 527.
2. Bottom half of a bearded male face in fabric 52; applied features, ‘beard’ represented by crudely incised circles. Lower Wanborough, Lyncroft Estate.
3. Stylised face from rim of flagon in fine buff fabric, with applied eye and moulded nose. 70, RC, U/S.
4. Carefully moulded, large female face in classical style from the rim of a flagon, in a fine, buff/pink fabric. Traces of red slip on the hair. 69D, VII, 1, 239.
5. Female face from the neck of a flagon; stylised features and hair. 69C, XII, 1, 142.
6. Carefully moulded female face, probably from the neck of a flagon, in fine pale buff/orange fabric. Face is formed on an applied pad; classical hairstyle. 76A, U/S, 43.
7. Part of a bearded male face in fabric 52; applied features, beard treated in a similar way to No 2. (Not illustrated) 76C, XXXIX, 76.

26. THE GRAFFITI (FIG. 107)

By A.S. Anderson

Graffiti preserving at least three letters have been published in *Britannia* (see references below). All graffiti on pottery, unless stated otherwise, are scratched after firing. Graffiti on worked bone counters are discussed elsewhere (Vaughan, p.326), as are stamped tiles (pp.313–16); the following report was submitted in 1986.

On pottery

1. SIIC [... on the wall of a Drag. 33 cup. Sec[und ...], either masculine or feminine of secundus, or a longer name formed of the same stem (Wright and Hassall 1971, 302, no. 83). 70, Nine Acre Field.
2. TAMM[... on rim of a coarse pottery vessel (Wright 1970, 314, no. 46). 69 U/S.
3. ...]TIA on wall of Ludowici T^f cup. Stamped C[... (not included in samian stamp list) (Wright and Hassall 1971, 302, no. 84). 70, Nine Acre Field.
4. ...]R(CI cut before firing on the shoulder of an amphora (Wright and Hassall 1971, 302, no. 85). 70, RC, Nine Acre Field. (FIG. 107)
5. BELIATVS, cut neatly on the flange of a mortarium (Hassall and Tomlin 1985, 330, no. 39). Presumably a latinized Celtic name, though precise parallels are as yet unknown (M. Hassall pers. comm.). 76, phase 3B. (FIG. 107)

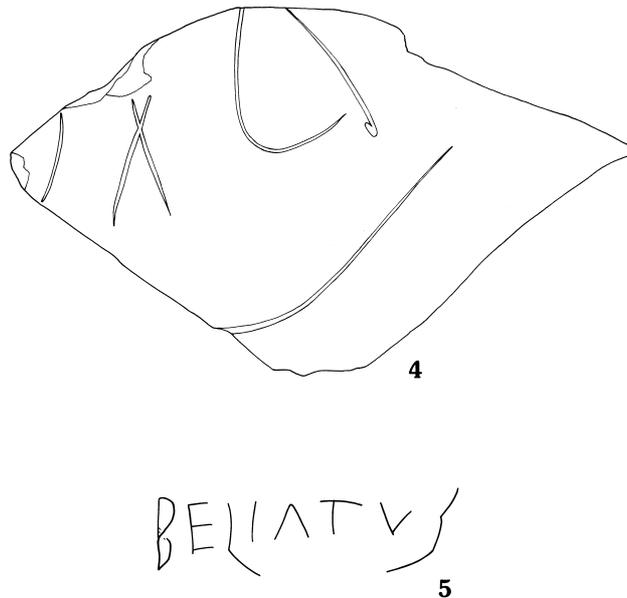


FIG. 107. Graffiti on pottery. Scale 1:2.

On copper alloy

6. MANE (inverted) | TERMO | VENI, incised on the face and both long sides of the bezel of a copper alloy ring. 'T(h)ermo(don), come (and) stay (with me)' (Wright and Hassall 1971, 302, no. 82). 70, RC, Nine Acre Field.

Other graffiti

All are on pottery sherds.

7. Cross scratched on the base of a small coarseware vessel. 69, Nine Acre Field.
8. Cross made from two intersecting strokes of unequal length, scratched on the base of a Black Burnished ware jar. 76, Stratton St Margaret, A, 1.
9. Star made of three intersecting strokes on the base of a small coarseware vessel. Six-pointed stars of this type have also been noted on some of the worked bone counters from Wanborough; their possible significance is discussed by Vaughan below (p.326). U/S.

10. Small star made from three intersecting strokes, scratched off-centre on the underside of an Oxfordshire colour-coated vessel. 76B, IV, 3, 40.
11. V with a central stroke scratched before firing on a coarseware vessel flange. U/S.
12. Three vertical strokes with superimposed cross, crudely scratched on a Black Burnished ware rim. SAS 67.
13.] I X I I I I I X I I I X I [carefully scratched around the outside of the base of an Oxfordshire oxidised ware vessel. Similar designs occur on potters' stamps used on Oxfordshire colour-coated ware (Young 1977, fig. 68). U/S.

27. THE DECORATED WALLPLASTER (FIG. 108, PL. X)

By Bryn Walters

Introduction

Surface stripping for the realignment of the A419 north of the Covingham overpass exposed part of the original Roman Ermin Street and a depression on its west side, presumably the road ditch. A spread of crushed mortar-plaster lay over the road surface. Several large sections of wallplaster had been thrown into the upper layers of the ditch late in the Roman period. Though shattered, the pieces were recovered by lifting *en bloc* on to trays for cleaning off site, and the report which follows was submitted in 1986.

The plaster was removed in three large sections (1, 2 and 6), and three smaller ones (3, 4 and 5) (FIG. 108). A large number of plain red fragments were abandoned on site. The drawings were prepared from the surviving painted surfaces only, the fragments of the large panels joining on the base mortars, which were approximately 50mm thick. Restoration was facilitated by matching the roller-stamped impressions on the underside of the base mortar which indicate that the original building had been constructed in timber and daub. The restored panels were reinforced with expanded wire and builders' plaster on the rear surface.

A notable feature was part of the junction between the wall and the lower ceiling mortars. Part of the lower curve of the vault had been skimmed with fine plaster and painted prior to the wall being rendered. The base mortar for the wall had covered this painted ceiling surface which necessitated a repainting of the lower ceiling section to blend with the wall. This would suggest that the whole of the vaulted ceiling was completed by the decorator before the walls were coated with base plaster.

The left hand side of sections 1 and 2, coloured with an ochre stripe, form the end of the wall; the edge of the plaster curves forward slightly indicating the corner of the room. It is suggested here that the plaster originated from the upper left-hand corner of a wall within a timber-framed vaulted room, evidenced by regular chevron patterns preserved on the reverse of the base plaster (PL. X) and the curve of sealed plasters in the upper register. The chevron marks survived as negative relief moulding, created by contact with the keying impressions stamped into the clay daub infilling of the wall. Impressions of timber wall framing were also noted.



PLATE X. Reverse of wall plaster showing chevron pattern. Width of fragment: 220mm.
Photograph: Roman Research Trust

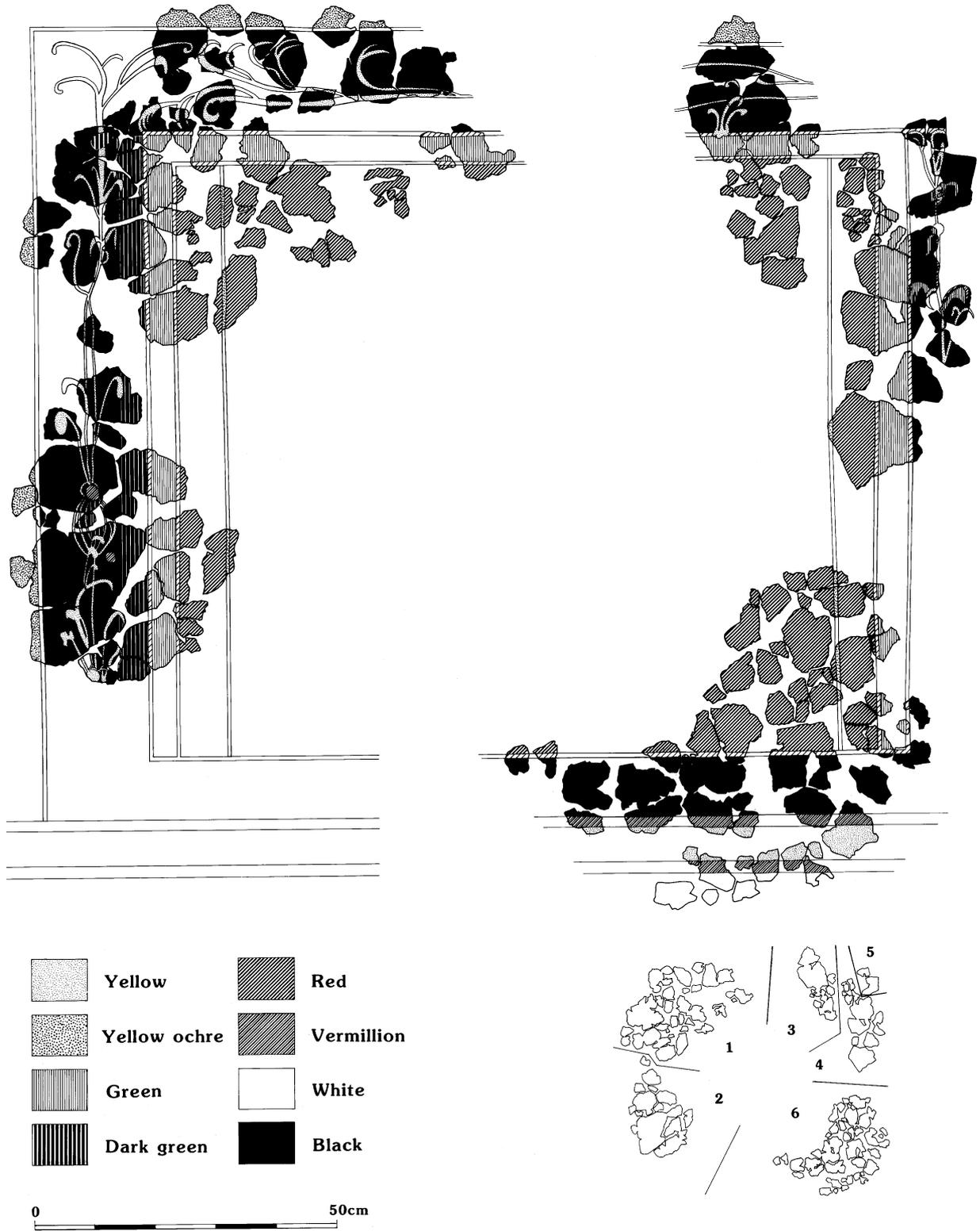


FIG. 108. The wall plaster: type of decoration and key.

The scheme of decoration consists of the traditional sequence of red panels above a dado, surrounded on all four sides by a broad black division, the sides and upper frieze of which contained foliate decoration.

The panels

Section 1

The upper left-hand side of the wall survives as the corner of a red panel with a green border edged with a blue-white line on both sides. A vertical black division to the left continues into the upper frieze. A central yellow stem from which branch leaves and tendrils overlies this black surface. At the extreme edges on the left and top a band of yellow-ochre separated from the black dividing panel by a white line completes the design into the end of the wall. This section of the plaster had suffered a period of weathering, probably while still attached to the original wall, and much of the surface decoration had eroded. The illustration is therefore a restoration of what had originally been a most unusual corner frieze.

The black ground had faded and most of the yellow tendrils had come away from the base paint surface. Careful cleaning and repiecing revealed traces of the yellow tendril overpaint suggesting that the border foliage had, unusually, repeated into the upper frieze. Where these tendrils had protected the black base paint from weathering, a silhouette of the original design was outlined on the faded black ground, allowing the present reconstruction. The tendrils of the upper frieze curve back on themselves above the red border, at a point where they meet what must have been the crown of the adjacent plant rising from the left side.

Section 2

A continuation of the extreme left-hand border decoration a little way below that described in Section 1. Here the yellow foliage is more striking and the surface was much better preserved. Described by Ling as a candelabrum (Davey and Ling 1982, 191), the piece is in fact part of a continuous vegetation with occasional yellow, red and green spots, no doubt intended to simulate flowers. In Sections 1 and 2 there is a greenish band beneath the black division on its right side (indicated on the illustration by thin white lines). It is suggested that this represents a broader green edge to the red panel, applied to the plaster before the black and prior to the finishing blue-white lines.

Section 3

An upper portion of the red panel with a fragment of black frieze containing tendrils and a triple cluster of leaves overlying the top blue-white line of the green border. There is also an upper portion of yellow-ochre bleeding into the ceiling vault.

Section 4

The upper right-hand corner of a red panel with a green border. To the right a section of black division with yellow, green and red vegetation sprouting from a narrow yellow stem leading into traces of a red-coloured stem.

Section 5

The upper portion of the black division overpainted with a crown of yellow leaves which overlie a horizontal blue-white line, possibly a smaller version of what had originally formed the crown of Section 1. Sprouting from a yellow bud on a thin red stem are traces of green leaves. The blue-white horizontal line suggests that the foliage at this point in the frieze was separated from the plant forms in the vertical black divisions.

Section 6

The lower right-hand corner of a red inner panel, its green border contained by a blue-white line above the black dividing panel. The upper section of the dado is represented by a horizontal ochre band 60mm wide edged with vermilion stripes 20mm wide at top and bottom. A section of white of undetermined size extends downwards at the base.

Discussion

The overall impression for the design of the room is that of a vaulted ceiling which was yellow, at least in its lower register, above walls in a black ground, upon which float red panels framed with green borders. A similar but less ornate example comes from a timber-built shop in Insula V at Cirencester (Davey and Ling 1982, pl. cxxii). The yellow ochre of the ceiling apparently continued down the corners of the room. Between the red panels vertical black divisions were decorated with an ornate and free-flowing scheme of yellow foliage and tendrils, interspersed with green, yellow and red buds and leaves, lightening an otherwise oppressive decoration. A bold series of yellow tendrils filled the upper frieze, apparently independent of the vertical foliage. Although Ling has suggested that the reconstruction is not everywhere certain (1981, 191), only Section 2 is faded and the design is certain. The irregularities of the reconstruction mentioned by Ling are actually those of the original.

A similar scheme might have occurred again at Cirencester. In Corinium Museum are unpublished fragments from the Buckman collection which are provenanced to the 'Dyer Street House' (Corinium Mus. Reg. B1665). Four pieces are strikingly similar to details in the Wanborough fragments.

- (a) a yellow tendril scroll on black ground (as Section 2 here).
- (b) green stems and buds with yellow stalk on black ground (as Sections 4 and 5).
- (c) yellow ochre edging with white line between black field (as Sections 1 and 2).
- (d) yellow stalks splashed red and yellow buds on a black field (as Section 2).

Ling has shown that the simple red and black scheme, originating in the Flavian period, continued through the Trajanic (Davey and Ling 1982, 33). No dates are available for the Dyer Street fragments, if indeed they were recovered from the palatial mansion in Insula XVII (McWhirr 1986, 249, 254). The timber-built shop in Insula V has been dated to the Flavian period. The Wanborough fragments appeared to be demolition material, dumped into the upper levels of the Ermin Street ditch late in the Roman period. However, the plaster has a very durable structure and could have been quite old when discarded from a decaying timber building. This suggestion may be supported by the amount of surface weathering on the upper register of Section 1, if it occurred *in situ*. It is suggested that the decoration probably belonged to the first half of the second century. Whatever the date, we may see here evidence of an itinerant painter or team of decorators, possibly based at Cirencester, obtaining commissions within the southern part of the *Dobunnic Civitas*.

28. THE MARKED TILES (FIGS 109–10)

By L. Mephram

Detailed quantitative analysis of the marked tiles from Wanborough is not possible, as the relevant data were not available when this report was being prepared; submission being in 1995. Likewise, the proportion of marked to plain tiles is unknown. Consequently, it has only been feasible to note the types of marking present, and to discuss some of the more interesting types generally.

Combed and scored tiles

Flue tiles with both combed and scored keying are present. Combing, generally multi-directional, can be observed, for example, on one of the stamped tiles (FIG. 110, 23). Curvilinear combing was also noted amongst the unillustrated material. Scored designs consist of lattices, with intersecting lines either at right angles or at oblique angles.

1. Box tile with diagonal lattice scoring. 76A, IX, 11.
2. Box tile with diagonal lattice scoring. 76B, X, 4.
3. Box tile with close-spaced diagonal lattice scoring. 76A, IX, 5.
4. Box tile with diagonal lattice scoring. 76A, VIII, 1.

Roller-stamped tiles

All roller-stamped designs from Wanborough are found on flue tiles. At least seven different dies are represented, and these are described below using the classification of Lowther (1948) and the reappraisal by Johnston and Williams (1979), which divide the dies into nine groups.

Lowther concluded that rollers were carried about the country by itinerant craftsmen, but lack of evidence has led to this view being challenged and the alternative hypothesis of the existence of major building contractors, perhaps employed on official contracts, has been advanced (Wickenden and Drury 1988, 83). Both hypotheses are based on the premise that it was the dies themselves that were moving, rather than the tiles, and this is borne out by the evidence from Wanborough. Petrological analysis of roller-stamped tiles by Darvill (pp.317–19) has shown that the tiles sampled fall into two fabric groups (B and F), both of which have a probable source within Wiltshire, although parallels for the Wanborough die types are found from a number of sites across the south of England, including Cirencester, Shakenoak, St Albans and Chelmsford (Johnston and Williams 1979; Viner and Stone 1986; Wilson 1984; Wickenden and Drury 1988). The only one of these sites which is likely to have shared a tile source with Wanborough is Cirencester, where the fabric of tiles stamped with Die 52/53 was found to be macroscopically very similar to examples of the same die from Wanborough, and tiles from both sites were comparable with products of the tile kilns at Minety in north Wiltshire (Viner and Stone 1986), although as yet no examples of Die 52/53 stamps have been found at Minety. This is complemented by the evidence of the tiles stamped TFP and LHS (see below).

Lowther (1948) suggested a date range of A.D. 80–150 for the practice of roller-stamping, and recent evidence would seem to confirm this.

5. Group 1, Die 3 variant. U/S.
6. Group 5, Die 13 variant? WAN 1766.
7. Group 5, Die 16 variant? 132.76.6
8. Group 5, Die 22? WAN 1859
9. Group 6, Die 52/53. 76A, XIV, 33.
10. Group 6, Die 52/53. 76C, XXXVII, 112a.
11. Group 6, Die 52/53, Lower Wanborough U/S.
12. Group 9, Die 44? U/S.
13. Group 9, Die 54. U/S.

Stamped tiles

A series of discrete groups of stamped tiles has been recognised in the Cotswold region, and these seem to come from civilian production centres. The main phase of tile-stamping is dated *c.* A.D. 100–250.

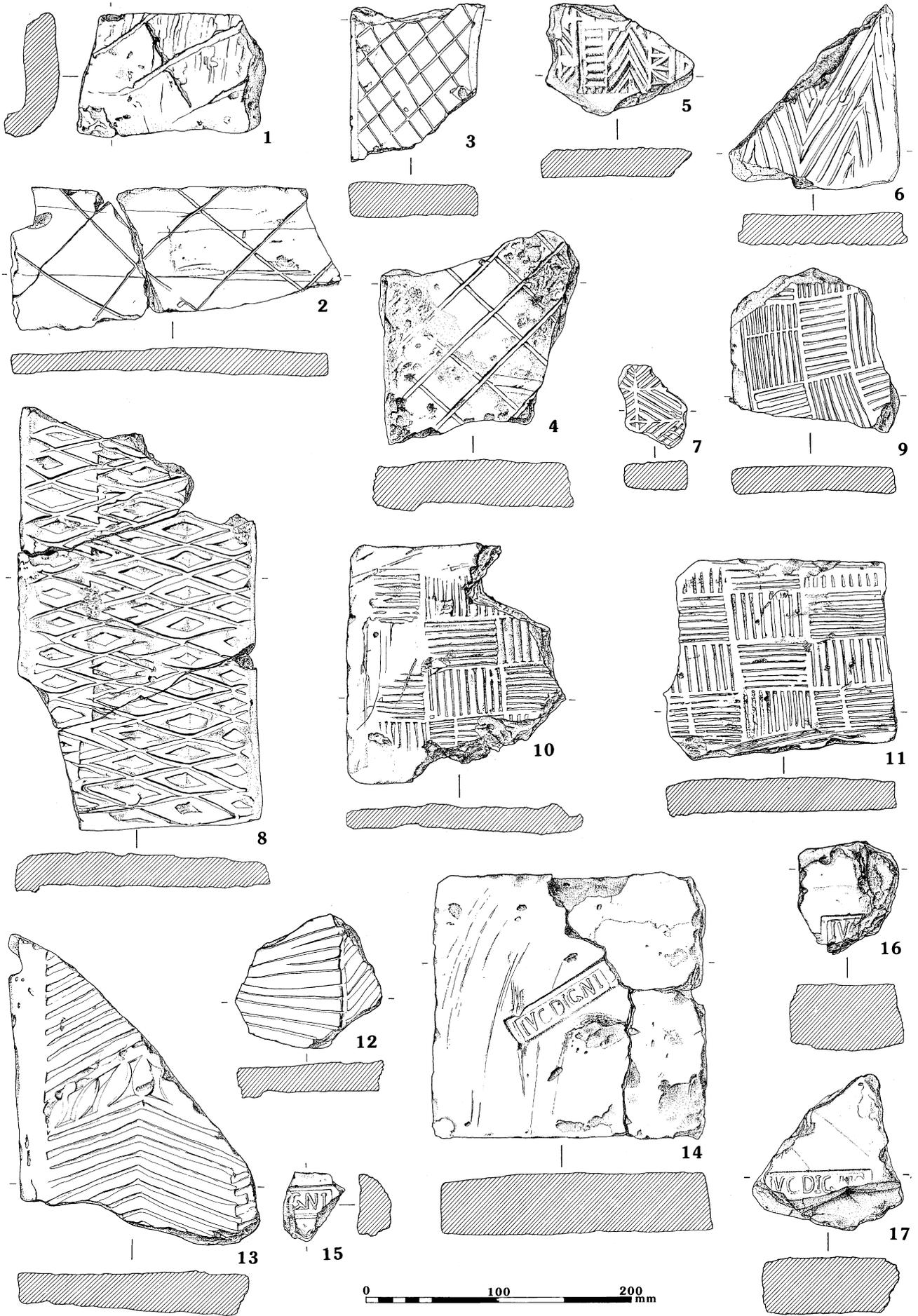


FIG. 109. The marked tiles. Scale 1:4.

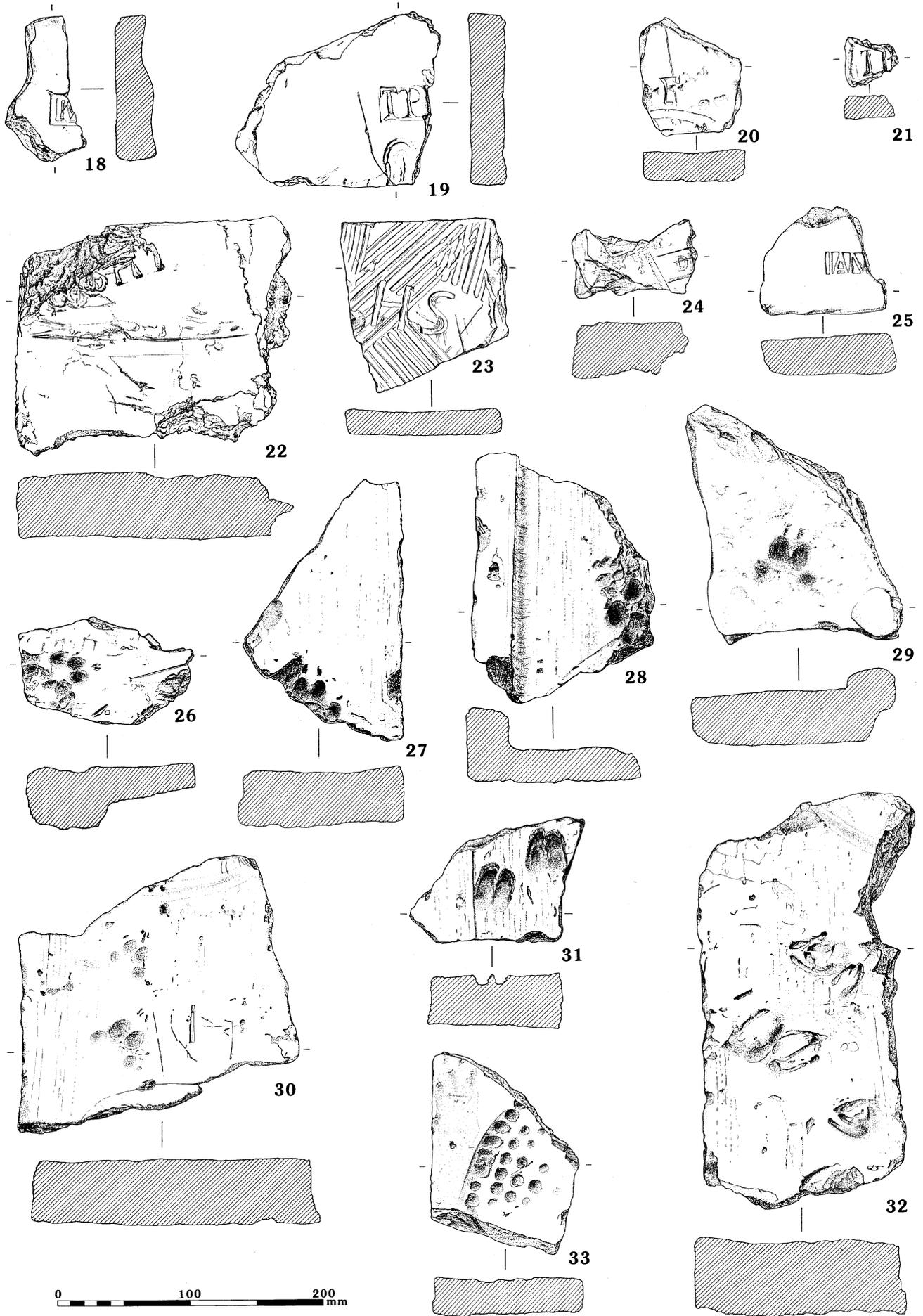


FIG. 110. The marked tiles. Scale 1:4.

Three of these groups are represented at Wanborough. The most commonly occurring is that of IVC DIGNI; there are seven examples known from Wanborough (FIG. 109, 14–17, FIG. 110, 18; see also Wright 1970, 312, no. 31a and n. 40). These may all have been made from the same die. Other tiles with this stamp are known from Calne in north Wiltshire (Wright 1970, 312, n. 40), and the connection with Calne is supported by the petrological analysis of two of these tiles (see Darvill, below, tile fabric Group A). Examples are also known from the area immediately around Wanborough, at Barbury Castle, Burderop Down and Badbury, and an outlying example has been found at Silchester (McWhirr and Viner 1978).

The other two stamps (TPF and its variant TPFb (FIG. 110, 19–21; see also Wright 1970, 313, no. 32); and LHS (FIG. 110, 22–3)) are also known from Cirencester, and both have been found loosely associated with the tile kilns at Minety (Darvill 1979; McWhirr 1979, 181). The link with Minety is again supported by petrological analysis (see tile fabric Group C), although examples of both stamps from Cirencester can be attributed to at least two other sources within a 10 mile radius of the town (Darvill 1986).

The tile production centre at Minety, which is of some size and complexity, would seem to be the major supplier of stamped, and probably also plain, tiles to Cirencester, which undoubtedly acted as a stimulus to the growth and output of this centre. Wanborough was well placed to take advantage of the movement of tiles from Minety along Ermin Street.

14. IVC DIGNI in a panel. 76A, IX, I, 24.
15. [IVC DI]GNI in a panel. 76C XXXII, 2, 117 (Hassall and Tomlin 1985, 330, no. 38).
16. IV[C DIGNI]. U/S.
17. IVC DIGNI in a panel. 69A, I, 9.
18. IV[C DIGNI]. 69A, U/S (Wright 1970, 313, no. 31b).
19. TP[F]. 76A, VIII, 20, 300
20. [T·P·]·F·. 69D, IV, 14A.
21. TP[... on small fragment. U/S
22. LHS. 76A, IX, 5, 371.
23. [L]HS over combing on box-tile. WAN 3423.
24. DI[... 75 U/S
25. IAN[. WAN X 27.

Signatures

Semi-circular, concentric grooves, made with the fingertips, are commonly found on *tegulae* in particular. Examples from Wanborough can be seen on one stamped tile (FIG. 110, 20), and two tiles with animal prints (FIG. 110, 30, 32).

Incidental marks

There were several examples of animal prints, including both dog paws and ungulate hoofs, and one hobnailed boot print.

26. Dog paw print. 76B, XVI, 13, 164.
27. Dog paw print, probably on hypocaust tile (*pila*). 76A, IX, 1
28. Dog paw print on *tegula*. 76A, II, 126/136.
29. Dog paw print on *tegula mammata*. 69D, IV, 1.
30. Dog paw prints, probably on hypocaust tile (*pila*). 76A, VIII, 555
31. Ungulate hoof prints. WAN 1077
32. Ungulate hoof prints, probably on hypocaust tile (*pila*). 76A, IX, 11, 504.
33. Hobnailed boot print. U/S.

29. THE ROMAN CERAMIC TILE FABRICS

By T.C. Darvill

The report which follows was submitted in 1986. Twenty-three samples taken to represent the range of fabrics among stamped, unstamped, and decorated ceramic tiles from the site were studied with a view to determining the range and approximate position of sources providing tiles to Wanborough (see TABLE 15). A thin section was prepared from each sample following procedures outlined elsewhere (Darvill 1979, 315), and studied under a conventional petrological microscope. Source groups were established on the basis of recurrent mineral and textural similarities. All the Wanborough fabrics were compared with samples from known tile sources (Darvill 1979; 1980; 1982), and also with samples of fired clay from surface outcrops or recent brickworks in north Wiltshire. The following source groups were defined.

Group A (Samples 1, 2, 4, 6, 9, 17, 20, 22, 23)

Tiles in this small group represent *c.* 4% of the assemblage and include a variety of unstamped types and both the specimens stamped IVCDIGNI. In thin section the fabric is characterised by a fine-grained, slightly micaceous semi-isotropic groundmass containing a light scatter (*c.* 10%, *cf.* Terry and Chillingar 1955) of angular quartz grains ranging in size from 0.03–0.2mm across. Also present are fragments of non-translucent iron ore up to 0.25mm across and flecks of mica up to 0.05mm long. Occasional flecks of plagioclase feldspar were noted in some slides, and small fragments of chert or flint, less than 0.1mm across, were present in all slides. Sample 1 contained several pieces of grog. All samples examined showed that the clay had been well mixed before use, and evenly fired. The closest parallel for the fabrics in this group is a sample of bricks from the kiln site at Mother Anthony's Well (near Calne) although other sources along the Kimmeridge clay in the vicinity of this site are equally possible.

TABLE 15: SUMMARY OF TILE SAMPLES STUDIED

Sample no.	Description	Source group	Slide no.*
1	Fabric 2	A	—
2	Fabric 3	A	—
3	Fabric 4	B	—
4	Fabric 5	A	—
5	Fabric 6	C	—
6	Fabric 7	A	—
7	Fabric 8	B	—
8	Fabric 9	B	—
9	Fabric 10	A	—
10	Fabric 11	B	—
11	Fabric 12	B	—
12	Fabric 13	Da	—
13	Fabric 14	E	—
14	Fabric 15	Da	—
15	Fabric 16	B	—
16	Fabric 17	Db	—
17	Fabric 19	A	—
18	Fabric 20	B	—
19	Fabric 21	F	—
20	Fabric 22	A	—
21	Tile stamped TPF	C	R 675
22	Tile stamped IVCDIGNI	A	R 676
23	Tile stamped IVCDIGNI	A	R 677

* R 000 = catalogue number in the Department of Archaeology, University of Southampton, Thin section Library.

Note: Fabric 1 belongs to source group C on the basis of macroscopic characteristics. Fabric 18 not sampled.

Group B (Samples 3, 7, 8, 10, 11, 15, 18)

Tiles in this group, *c.* 22% of the assemblage, include both plain and roller-stamp patterned examples. Petrologically, all samples are similar to Group A, having a fine-grained, slightly micaceous, semi-isotropic groundmass, but the quartz grains within the groundmass differentiate the two fabric groups. In Group B the quartz naturally divides into two fractions, the first a fine component of grains less than 0.05mm across with an estimated density of *c.* 3% and a coarser density of *c.* 10%. Subangular fragments of non-translucent iron ore up to 0.1mm across, occasional flecks of plagioclase feldspar and mica in flecks up to 0.05mm were noted. Sample 3 contained one piece of fine-grained sandstone or siltstone and in Sample 11 a fragment of crazed flint was recorded. No specific source can be suggested, although the Kimmeridge clays provide the best match and an origin somewhere along this outcrop can be postulated.

Group C (Samples 5, 21)

Tiles in this large group, *c.* 70% of the assemblage, include a variety of unstamped types and also the example stamped TPF. In thin section the fabric has a fine-grained, non-micaceous anisotropic groundmass containing a light scatter of mica flecks up to 0.04mm long and subangular-angular quartz grains which range in size from 0.03–0.3mm across. One or two rounded dry clay pellets/grog are present, well mixed into the matrix, and fine fragments of non-translucent iron ore are also present and visible in the hand specimen. This group is distinctive in its microscopic and macroscopic characteristics and can be attributed to the Oxford clay available around the well-known kiln site at Minety (Darvill 1979; McWhirr 1979, 181).

Group D (Samples 12, 14, 16)

Tiles in this small group, *c.* 1% of the assemblage, are plain, and two subdivisions can be made. Sub-group Da (Samples 12 and 14) has a semi-isotropic groundmass comprising fine quartz and mica. All the mica is in flecks less than 0.04mm long, and the quartz falls within the size range 0.04–0.1mm across. Non-translucent iron ore is present, and in Sample 12 a fragment of quartzite was recorded. The clay is generally banded and streaky through poor mixing. Sub-group Db (Sample 16) is identical to Da except that it contains a scatter of very large rounded quartz grains up to 2.5mm across although mostly in the range 1–1.5mm across. As a whole the clay appears to be more thoroughly mixed than in Da and it can be suggested that sand has been added to the raw clay. No specific source can be identified. Samples of Gault clay from outcrops to the south and southwest of Wanborough provide the best parallels and indicate the most likely source area.

Group E (Sample 13)

Tiles in this small group, *c.* 1% of the assemblage, are plain, characteristically light in colour and soft. In thin section the semi-isotropic groundmass can be seen to contain a large amount of finely comminuted calcareous rock, mostly angular and less than 0.75mm across. No microfossils could be seen. Some angular quartz grains (density estimate = 2%) ranging in size from 0.04–0.1mm across were present and one piece of grog was noted. The matrix has been well mixed. No tiles in a similar fabric are known to the author, but a sample of clayey weathered chalk mark from south of Blackland, Wiltshire, is rather similar and suggests that tiles in this group were manufactured from superficial clay derived from weathering of the chalk within or adjacent to the chalklands east and southeast of Wanborough.

Group F (Sample 19)

Tiles in this small group, *c.* 1% of the assemblage, include roller-stamped flue tiles and plain tiles. In thin section the groundmass is slightly micaceous and semi-anisotropic. The most dominant feature is a heavy scatter (*c.* 30%) of angular crazed quartz grains which range in size from 0.2–0.5mm across. Non-translucent iron ore in fragments up to 0.6mm across and

occasional grains of plagioclase feldspar were noted. The fabric is generally laminated and streaky. A tile from Cirencester stamped TCM, and defined elsewhere as fabric TCM.4 (Darvill 1980, 56) is very similar to this fabric group, which is also matched by a modern brick from Station Road, Highworth, Wiltshire. It is not clear however whether the latter was produced from Highworth clay or whether it was imported, and until comparable *in situ* clay can be sampled, the source of fabric Group F must therefore remain open.

Discussion

The fabric sources represented by the tiles at Wanborough indicate that tiles were mostly brought in from the north, west and south where good clays were variously exploited by brickmakers and the products transported along principal roadways. Such a pattern is consistent with assemblages from other small towns (Darvill and McWhirr 1984). Overall, the greater part of the assemblage derives from the major production centre at Minety. Changes through time in production and also the aesthetic and technical merits of products from different sources may contribute to the development of multi-source tile assemblages.

30. THE COUNTERS (FIG. 111)

By L. Mepham

A total of 19 stone and 133 ceramic discs and five ceramic rectangles has been examined and this report was submitted in 1995. The possible uses of these objects have been discussed by Crummy (1983, 93–4), and a function as counters for board games seems most likely. Worked bone counters are discussed elsewhere (Vaughan, pp.322–6).

Stone counters (FIG. 111, 1–2)

The 19 stone counters consist largely of smooth, water-worn pebbles, fairly flat and approximately circular or, more often, ovoid in shape. It seems likely that these were deliberately collected with regard to their shape. Maximum diameters range from 9mm to 30mm (mean diameter 17.9mm). There are also four discs made from fragments of limestone, with edges ground to a roughly circular shape; diameters range from 14mm to 19mm.

Ceramic counters (FIG. 111, 3–6)

These can be divided into discs and rectangles made from potsherds, and discs fashioned from tile fragments. The counters made from potsherds show the greatest range of variation. Approximately one-third have ground edges, some very well-finished. They are rarely of true circular shape, but more often slightly ovoid. The remaining counters have been chipped or clipped into a roughly circular or ovoid shape, or rectangles; four are trimmed base sherds. These clipped counters are described by Crummy as rough-outs, although there seems no reason why they should not also have been used as crude counters, perhaps on an *ad hoc* basis.

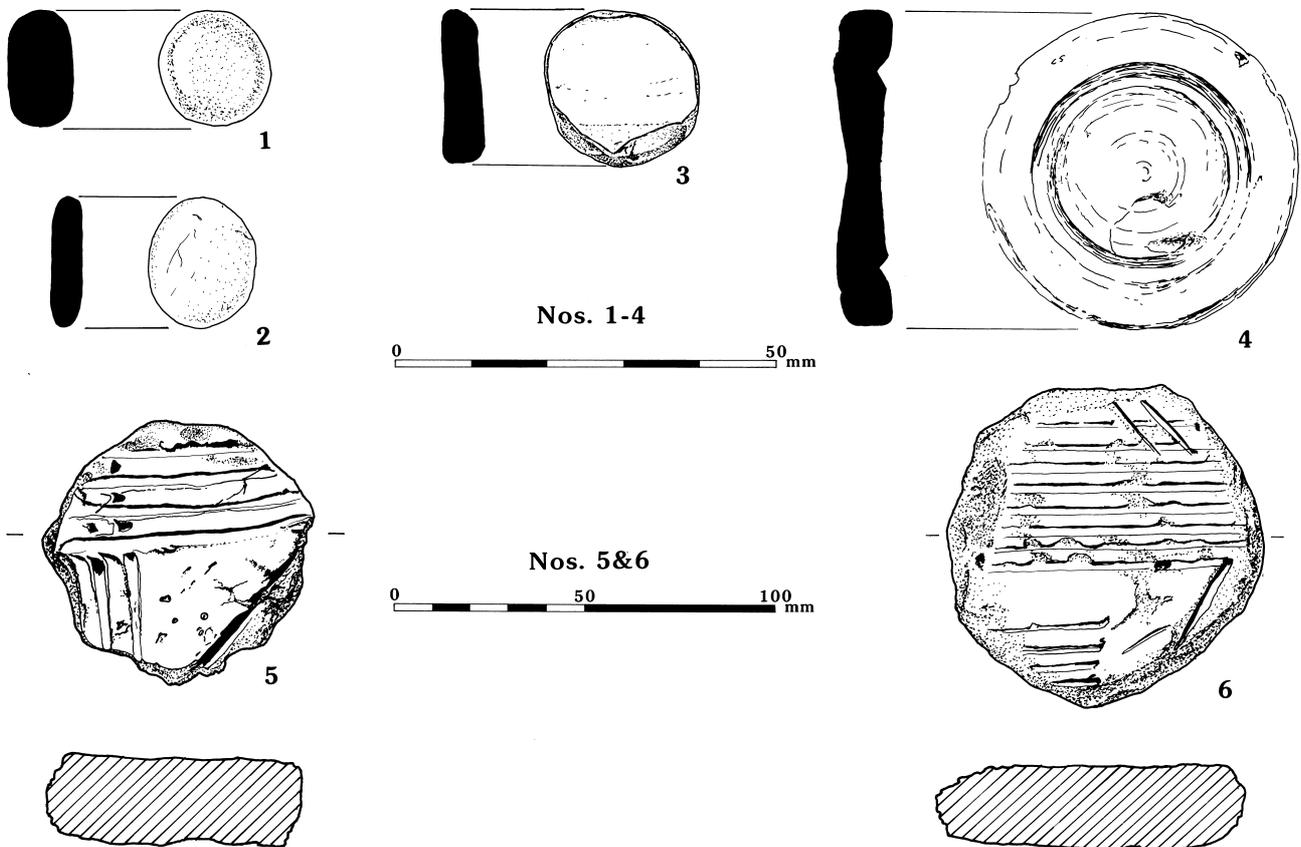


FIG. 111. The stone (1–2) and ceramic (3–6) counters.

Evidence of wear on any of the counters is scarce, and is confined to surface abrasion on two examples; another example has both surfaces very well smoothed. One counter has a possible scratched cross on one surface, although this could have been executed prior to the manufacture of the counter.

The majority of the counters are made from coarseware body sherds, but there are a few, including a fairly well-finished square example, in samian and other fine wares. One example is in a flint-gritted fabric, probably of later prehistoric date. Diameters of the discs range from 8mm to 70mm, with a mean diameter of 26.1mm, and there appears to be little correlation between size and finish, although it can be noted that ground discs have a smaller mean diameter (22.6mm) than chipped discs (28mm). The rectangular counters, almost square, have sides of length 18–28mm.

The tile discs are all fairly similar in size and form. All except one have roughly trimmed edges, and diameters of 55–80mm (mean diameter 68.5mm). One disc, noticeably smaller than the others (diameter 40mm), has ground edges and one smoothed face.

1. Smooth, water-worn pebble, roughly circular. 76A, 296.
2. Smooth, water-worn pebble, slightly ovoid. 76A, 254.
3. Roughly circular disc made from a potsherd, ground edges. 76C, 230.
4. Disc made from base of pottery vessel. 76A, 558.
5. Roughly circular disc crudely made from ceramic tile; edges chipped. Combing survives on one face. WAN 5102.
6. Roughly circular disc made from ceramic tile; edges chipped and abraded. 76C, U/S, 261.

31. OBJECTS OF BONE AND RELATED MATERIALS (FIGS 112–18)

By Susan Vaughan

Bone

Wanborough has produced a large quantity of worked bone, some 330 pieces. The material considered in this report (submitted in 1986) includes the excavated material and various fieldwalking finds that have been donated to Swindon Museum. The objects are discussed by type: pins, needles and counters accounting for the majority. Handles, spoons, beads and bone inlay fragments, together with a number of miscellaneous pieces, make up the rest of the collection. A complete catalogue of the bone finds can be found in the archive.

Pins

Pins are the most common worked bone artefacts from Wanborough, 137 in all; the differences in form and size suggest a variety of functions. The usual Roman types are present including the six head types identified in Crummy's classification (1979, 157; FIG. 112, 1, 18, 47, 57, 64, 66, 68, 103, 106, 115, 117). Of these six types, Type 2 is by far the most common. In addition there are several pins with more unusual heads (FIG. 112, 97–8, 111, 114; FIG. 113, 118–21, 123–32, 135, 137).

Although it must be stressed that very few pins come from firmly dated contexts, the date-ranges put forward by Crummy for the different pin types are in part supported by the Wanborough evidence. Types 1 and 2 are, however, at variance with Crummy's dating. There are three dated examples of Type 1 pins, all from fourth-century contexts rather than within Crummy's postulated life-span of A.D. 70–200/50. Three of the twelve dated examples of Type 2 fall within the proposed dates of A.D. 50–200/50, and a further three have dates of A.D. 230–325. The remaining seven of Type 2 come from late third- and fourth-century contexts. Dated examples of Types 3 and 5 (twelve and three pins respectively) all agree with the proposed dating, while no examples of Types 4 and 6 were found in datable contexts.

Needles

In total, seventeen needles were recovered. Two main forms are present: (i) those with circular eyes, and (ii) those with oblong eyes (FIG. 114, 160, 166). These correspond broadly with types A and B in Kenyon's classification of needle types (1948, 266). There is one example of a Kenyon type E (FIG. 114, 170), having a wedge-shaped, square-cut head and an oblong eye. Needle No. 174 is different in having what appears to be a double perforation. It is noteworthy that seven of the needles are green in colour. Although this colouration can be caused by chance burial close to an object of copper alloy, it seems unlikely that only needles would be affected in this way. The only other green bone objects from Wanborough are one pin (No. 53) and two fragments of needle/pin (Nos 202, 208). It seems probable that the colour is the result of deliberate staining, a view supported by evidence from York (MacGregor 1978, 35). Experiment by the author has demonstrated that bone can be easily stained to the same shade as the Roman examples by steeping in a solution of copper lactate. The reason for this practice is probably decorative. It has been suggested by Harrison (1972, 155) that this was an attempt to imitate bronze, but this is unlikely as in its original state bronze would not have been green.

Counters

Bone gaming counters are numerous and there are three basic types, corresponding to Kenyon's classification (1948, 266). Type A are those with a concave obverse (FIG. 114, 235, 239). Type B have incised concentric ring decoration (FIG. 114, 254–5, 257) and Type C are flat on both obverse and reverse (FIG. 114, 272, 277, 282, 285). In addition there are three examples that fall outside this basic classification (FIG. 114, 289–91). All except two of the counters date to the fourth century, the exceptions, both Type C, being of first- and third-century date.

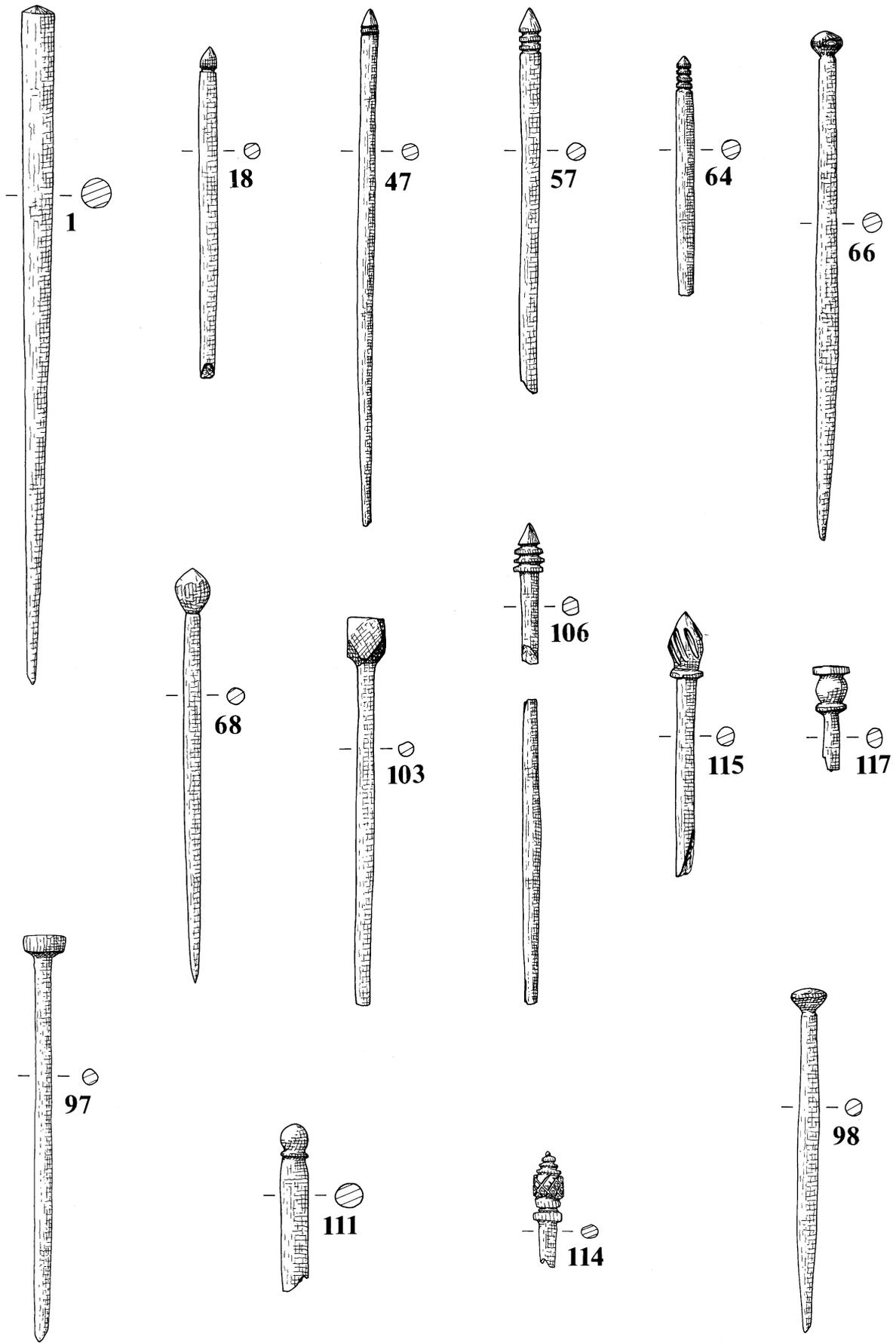


FIG. 112. The worked bone: pins. Scale 1:1.

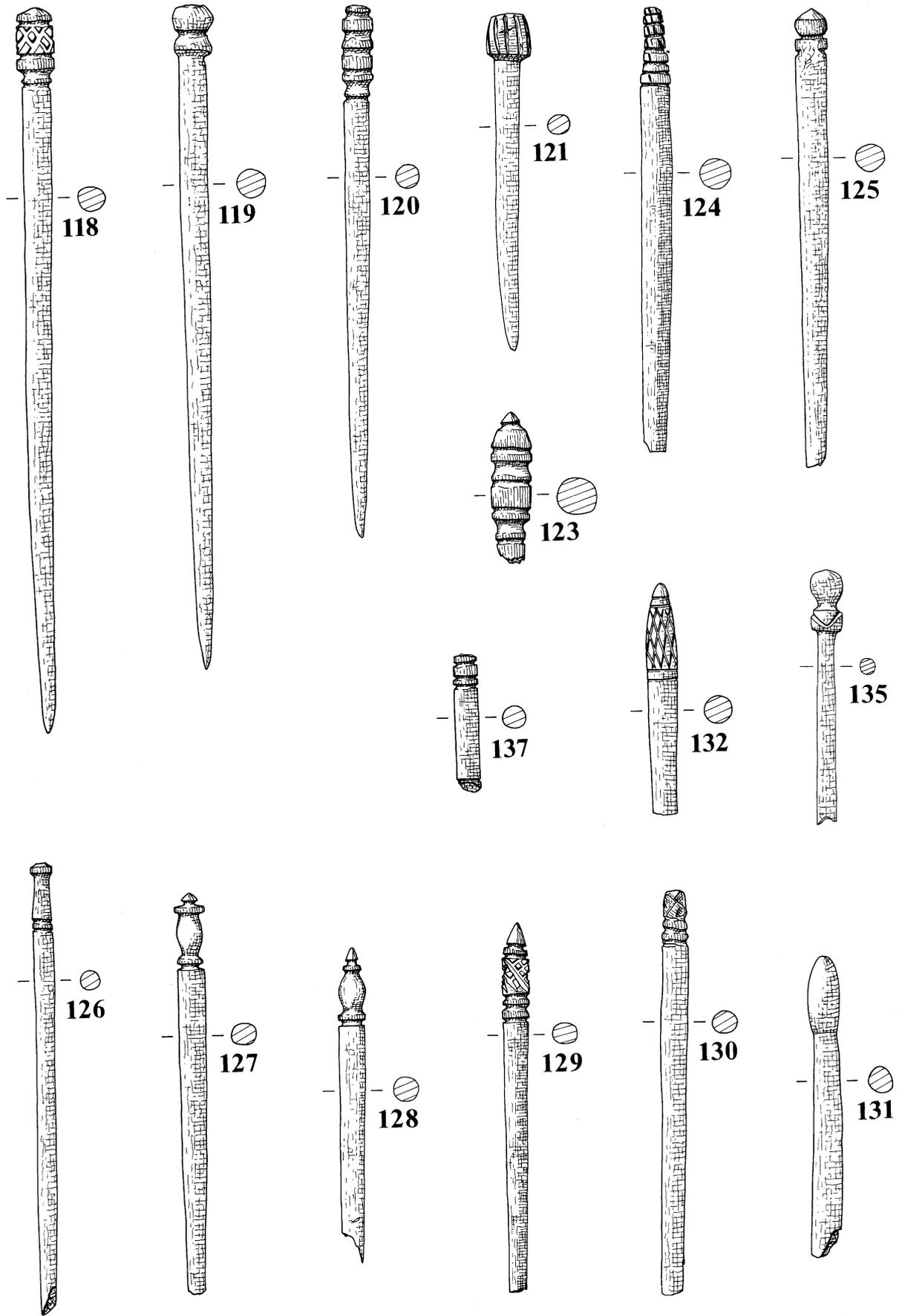


FIG. 113. The worked bone: pins. Scale 1:1.

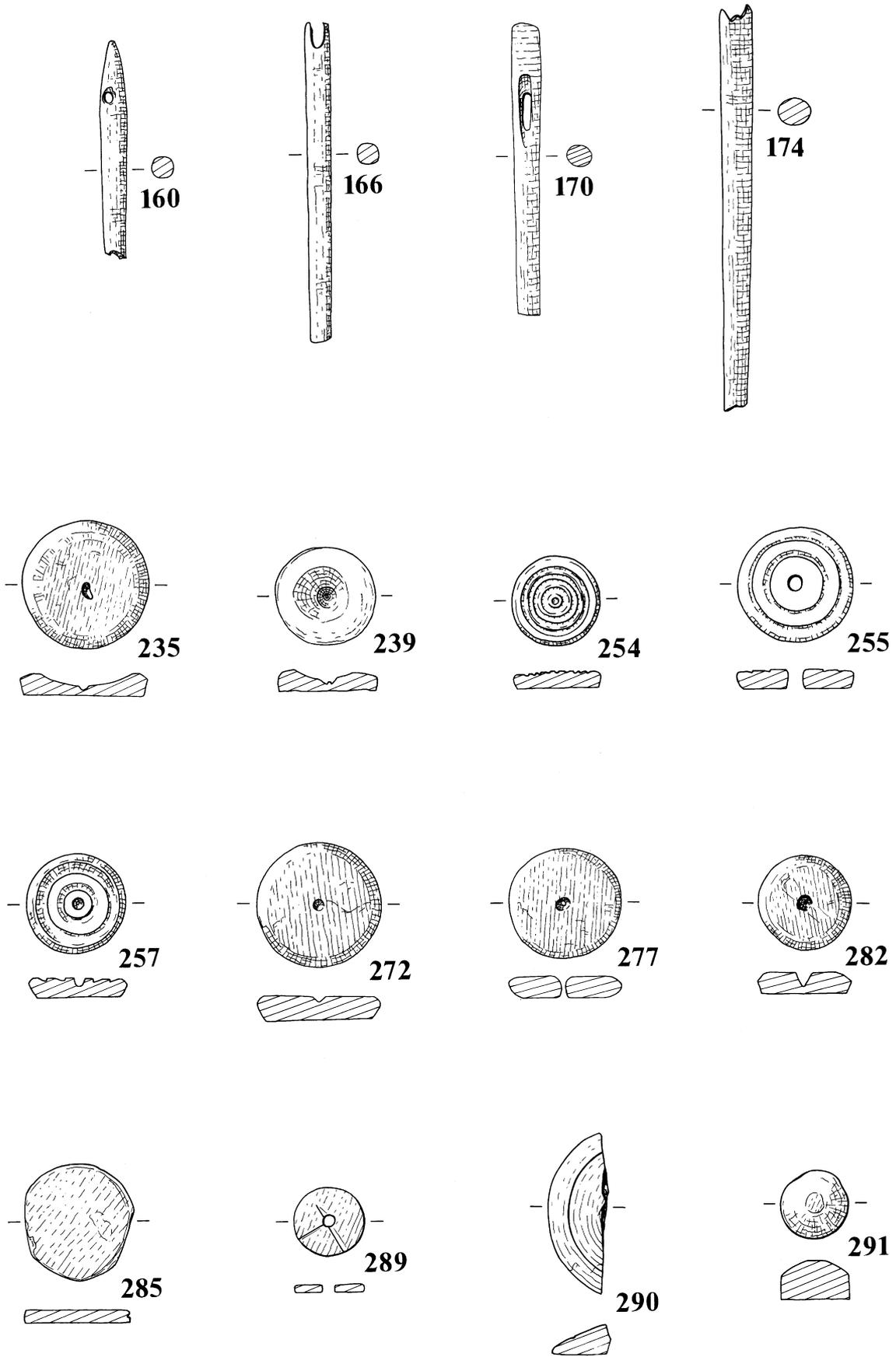


FIG. 114. The worked bone: needles and counters. Scale 1:1.

Several of the counters have graffiti in the form of numbers and letters on the edges or reverse (FIG. 115, 234, 236, 244, 252, 258, 274), some of which are legible and some not. Another common feature is an incised six-pointed star on the reverse (e.g. FIG. 115, 258). This occurs on five of the Wanborough counters and can be paralleled at other sites, for example Chichester (Down and Rule 1971, 84) and Ewell in Surrey (Hassall and Tomlin 1977, 447). It has been suggested by Hassall and Tomlin that this should be interpreted as the symbol for *denarius* and that the counters may have been used as gambling tokens. Other features of the Wanborough counters would seem to support this view. Two of the Type A examples have small holes bored into the obverse and reverse respectively (FIG. 115, 236, 244), a practice noted at Chichester where it has been suggested that this may denote the value of the piece (Down and Rule 1971, 83). Also, three counters have an incised cross on the reverse (e.g. FIG. 115, 275) which may reflect the value ten (*cf.* finds from York: A. MacGregor 1976, 3). Board games were popular in the Roman Empire and it seems likely that counters were used for this purpose at Wanborough as well as for gambling. As no gaming boards have been found, there is no direct evidence of particular games being played. However, the occurrence of three dice (FIG. 115, 292–4) would seem to indicate the popular game of *Ludus Duodecim Scripta*. This was similar to backgammon, and involved both counters and dice.

Dice

Die 292 is a standard Roman type and similar examples can be found on many other sites, for example Gadebridge (Neal 1974, 154) and Fishbourne (Cunliffe 1971, 146). Die 293 is unusual in that it is made from a longbone and is thus perforated. It is very worn and the values are difficult to read. The third example, 294, is similar to 292 but has an interesting feature. On one face one of the dots has been scratched off in order to reduce the face-value from four to three, and on the opposing face an extra dot has been added to raise the value from three to four.

Handles

Ten handles were found (nine illustrated: FIG. 116, 295–303), several of which are decorated with incised geometric designs, a practice common in the Roman period (*cf.* finds from Portchester: Cunliffe 1975, 221). Examples identical to No. 302 have been found at Richborough (Bushe-Fox 1949, 148) and *Verulamium* (Frere 1972, 152). It is possible that No. 301 is a scabbard chape rather than a handle.

Among the handles is a zoomorphic example from a clasp knife (No. 303), on which Dr G. Lloyd-Morgan comments: 'Although not common, clasp knives with an iron blade which folds back against a decorative handle are well known both for the interest of the carving and the range of materials — bronze, bone, ivory with the occasional use of amber and semi-precious stones — that were used by Roman craftspersons.'

This handle, which is a less elaborate example than most other finds, was discovered during road construction work in 1970. It was unstratified. It consists of a plain tapering shaft terminating in a greyhound-like dog's head with a plain rounded collar to mark the transition between the two sections. The iron blade has disappeared but part of a bronze pin, probably the remnant of the swivel or the fitting for the blade attachment, is still *in situ*. A bronze collar probably held the complete mechanism on to the end of the handle in the prepared recess. A groove running the length of the handle and under the dog's chin suggests that the blade may have been a little over 70mm long.

Although human figures are sometimes found as part of the carved decoration for handles, as for example the well-known gladiator in ivory from South Shields dated to the late second or early third century (Allason-Jones and Miket 1984, 300, pl. ix, 6.2), animals, especially dogs and beasts of the chase, were the most popular. The best known design from British sites is a dog chasing a hare, with its mouth just about to close over the scut. Some of the earliest recorded examples in bronze come from Kent. A find from Reculver was noted by Battely (1711, 84, fig. 3, tab. 3; 1745, 126–7, tab. 11) and another from Chatham was documented by

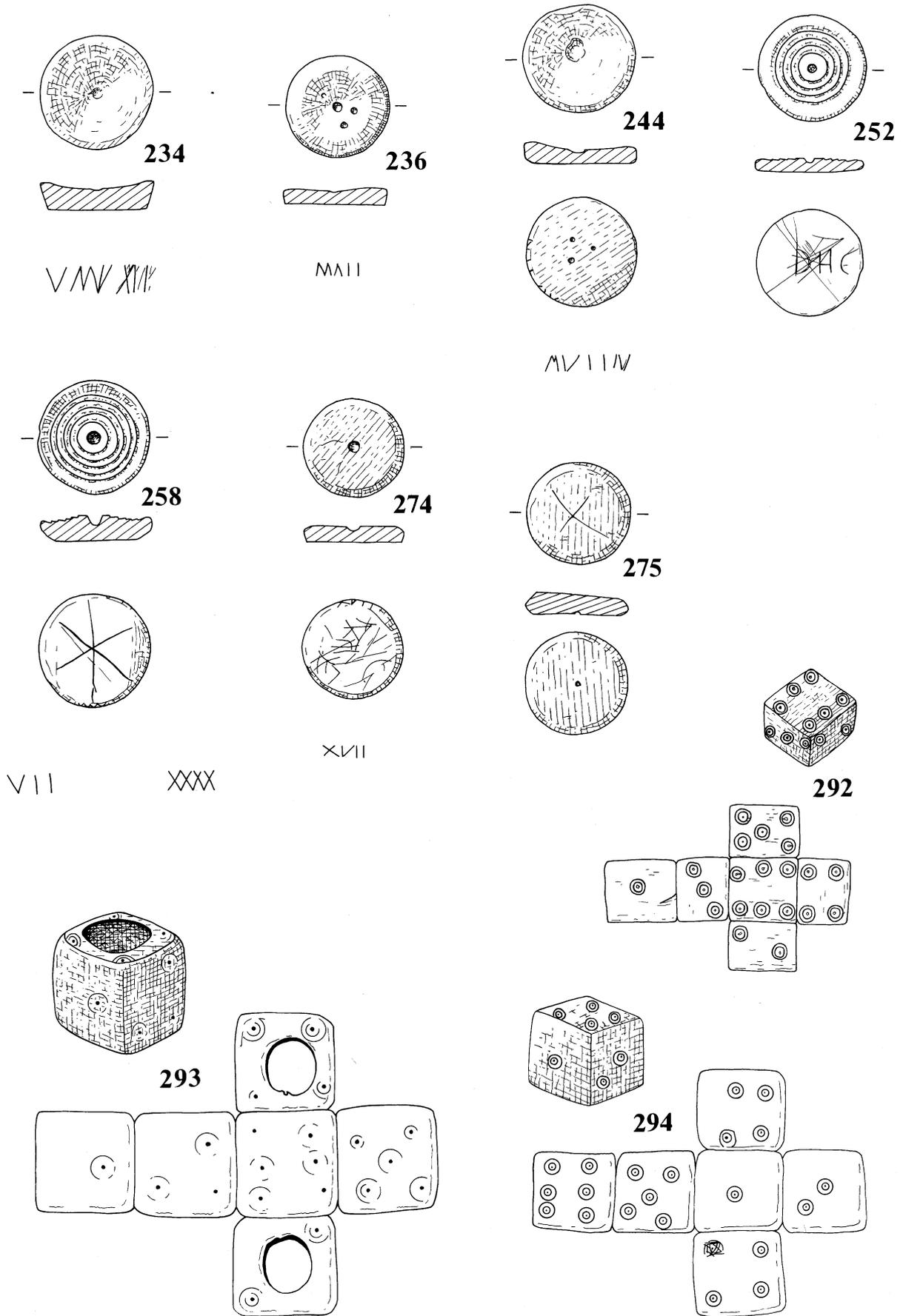


FIG. 115. The worked bone: counters and dice. Scale 1:1.

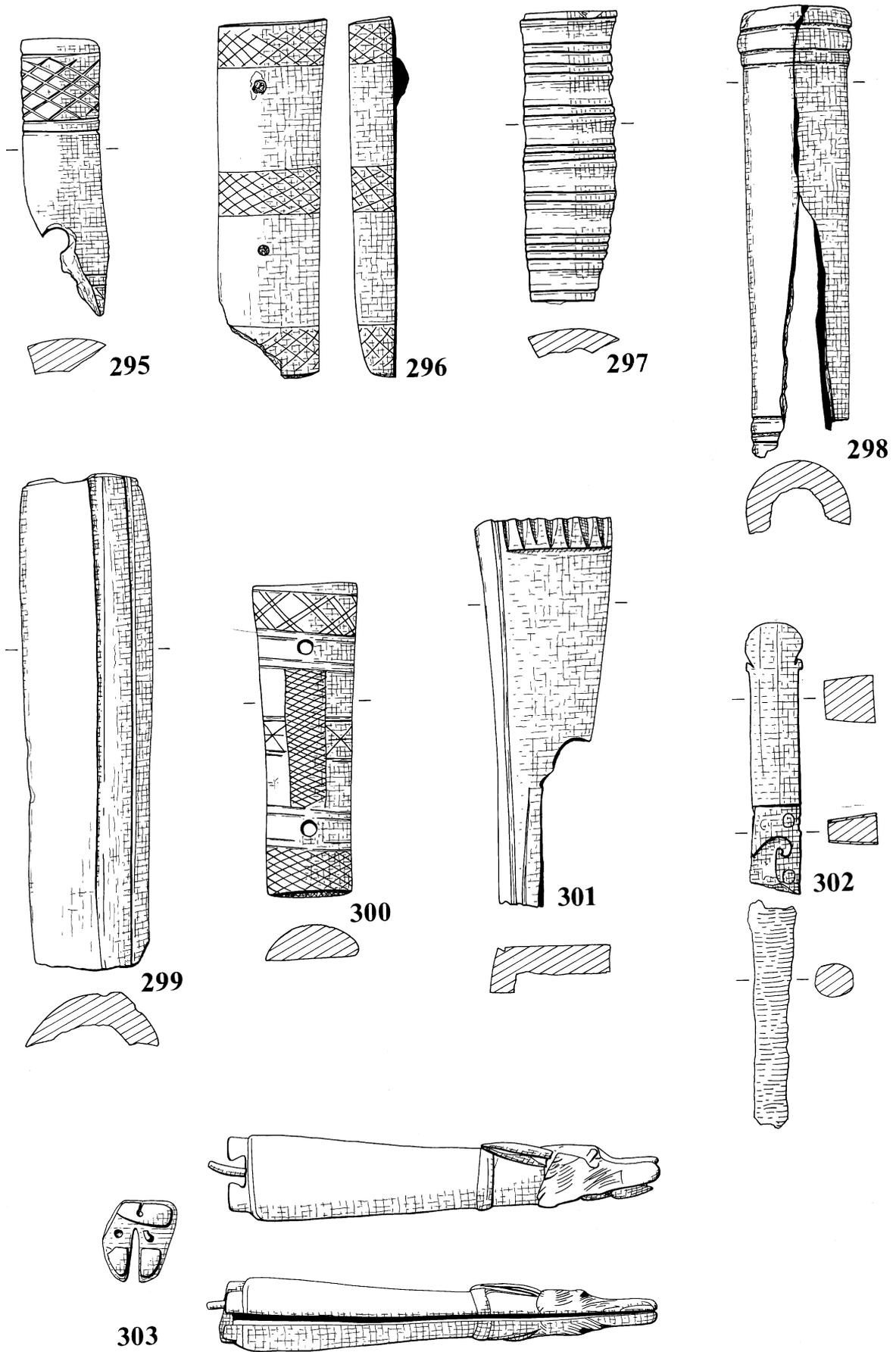


FIG. 116. The worked bone: handles. Scale 1:1.

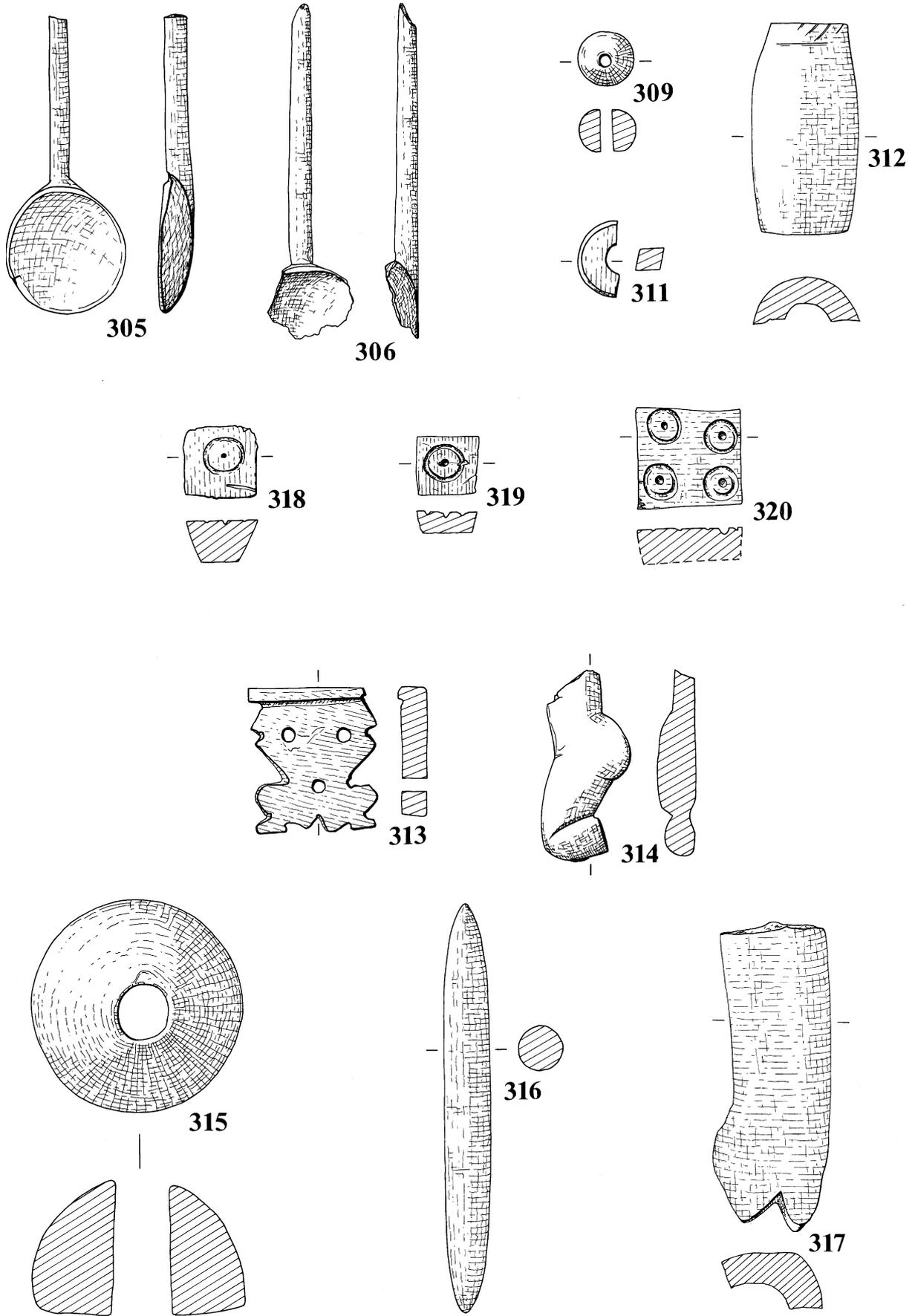


FIG. 117. The worked bone: spoons, beads, bone inlay pieces and miscellaneous objects. Scale 1:1.

Douglas (1793, 82, fig. 7, pl. xx) during the eighteenth century. Several versions in bone have been found, including one from Great Chesterford (Liversidge 1968, 157, fig. 66c). Another is said to have been found in Cologne (La Baume 1964, 308, Taf. 293; this find is probably the same as that noted by von Mercklin (1940, 341, Taf. xxxv, 3)), and others are reported from Zugmantel (*Saalburg Jahrb.* 5, 1913 II (1924), 146, fig. 16), Avignon (Roach Smith 1861, 38) and Aquileia (Brusin 1929, 176, fig. 121). Dogs by themselves have been found on bone handles in various stances. One example from Great Chesterford is depicted standing on a table (Liversidge 1968, fig. 66d) and can be paralleled by another from Vertault (Lebel 1953, 334–40, *cf.* fig. 80). A running dog has been reported from Zugmantel (Jacobi 1909, 181, no. 8, Taf. xx, fig. 40) and another, lying down but with a head raised and eyes alert, comes from the source of the Seine (Lebel 1953, no. 1, 335–6, fig. 80). One of the rarest pieces, carved in amber with iron blade still intact, was found in Nijmegen in 1907 (van Buchem 1975, 212, afb. 4). It shows the dog, its coat indicated with light slashes, curled up but still observant. Another in ivory, possibly from Rome, is in the British Museum (Acc. No. 1873, 8–20, 681). Handles showing only the front portions of the dog are much less common. One in bone from the source of the Seine rests its head on its front paws and has been identified as a Great Dane (Lebel 1953, no. 2, 335–6, fig. 80).

The Wanborough handle is unusual in the simplicity of its design and for the use of the dog's head alone as the decorative motif. Although it has no precise parallels from the western provinces, it is an interesting variant amongst the range of dogs and other animals which were used to decorate these knives. Few examples have come from dated contexts but a date around the third century would not seem inappropriate.'

Spoons

Four small spoons were found (FIG. 117, 305–6), all of similar size and usual Roman type. Similar examples have been found on many sites, for example the Jewry Wall (Kenyon 1948, 268) and Chichester (Down and Rule 1971, 85).

Beads

There are four objects that come under this heading. Two are small perforated spherical beads of identical type (*cf.* FIG. 117, 309). The interpretation of the other two examples as beads is open to question. One (No. 311) is rectangular-sectioned with a central perforation, and No. 312 is highly polished and barrel-shaped with a vertical perforation.

Bone inlay pieces

These are a group of finds that can be loosely termed 'inlay pieces', probably from furniture. The practice of decorating furniture with veneers and inlay was common in the Roman Empire (Liversidge 1968, 151). Three of these are decorated with ring and dot impressions (FIG. 117, 318–20). Number 320 is similar to an example from *Verulamium* (Frere 1972, 150).

Miscellaneous

Wanborough has produced two carved figures in bone (FIG. 117, 313–14). The first of these (No. 313) from a fourth-century layer, is an unusual piece, possibly zoomorphic, for which no parallel has been noted. At first sight it looks like a charm, but it lacks a loop for stringing purposes. It may perhaps be a hinge. The second is a fragment of a female figure, naturalistic in style, which seems to have had some form of fitting on the reverse side. It is possible that this is a decorative piece from an item of furniture or large box.

The manufacture of textiles is reflected by a spindle whorl (FIG. 117, 315) dated A.D. 80–150, and a pin beater from a fourth-century context (FIG. 117, 316, *cf.* an example from Shakenoak: Brodrigg *et al.* 1972, 126). A fragment of notched bone (FIG. 117, 317) is similar to examples found at York that are thought to be netting tools (A. MacGregor 1976, 13).

One example of a bone *stylus* was found in an early layer dated A.D. 60–65 (FIG. 118, 323). It is incomplete and only the wedge-shaped eraser end remains. Bone *styli* are often mentioned

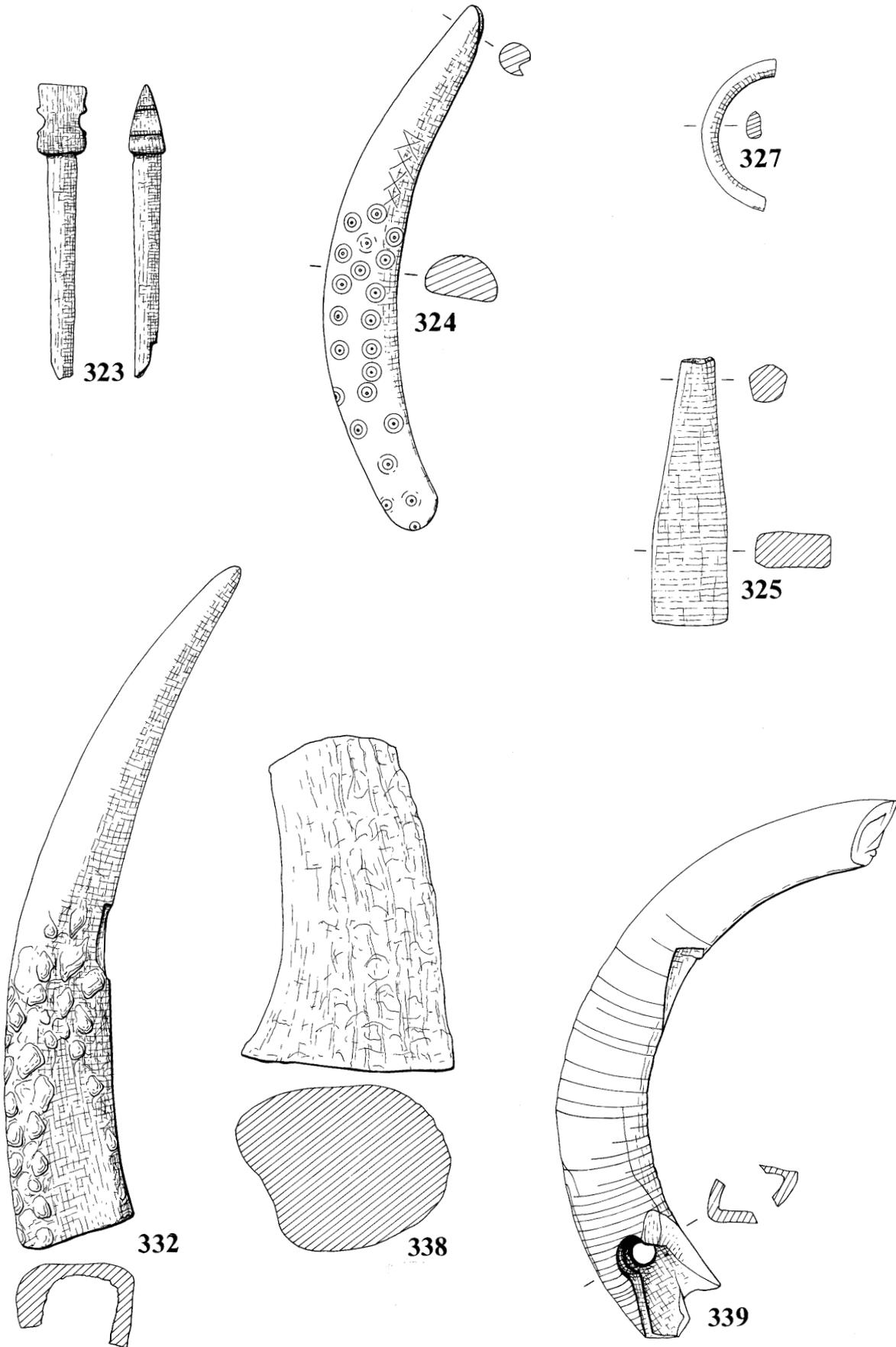


FIG. 118. The worked bone: miscellaneous objects. Scale 1:1.

in general descriptions of Roman writing equipment (e.g. Collingwood and Richmond 1969, 316), but it is difficult to find specific examples. Those from London published by Wheeler (1930, 56) are of a very different type from the Wanborough example, having spherical heads rather than the usual wedge-shaped eraser.

Object 324 (FIG. 118) is an extremely strange piece for which no parallel can be found. It shows signs of considerable wear at the flat end but its function is unknown. It is unlikely to be a weaving sword because the blade is curved rather than straight (Wild, pers. comm.). It may have been used in leather working. The remainder of the bone finds include half a ring (FIG. 118, 327), a peg (FIG. 118, 325) and a few other small fragments, the form and function of which cannot be determined.

Antler

The excavations of 1969 and 1970 produced eight pieces of antler, all showing signs of working (FIG. 118, 332, 338). None of these was recognisable as a finished artefact.

Tusk

One perforated pig's tusk has been found at Wanborough (FIG. 118, 339).

32. LEATHER OBJECTS (FIGS 119–22)

By David Hooley

The damp conditions in much of the excavated area allowed the survival of a large amount of leather, mostly shoe parts (38 of the 56 larger and identifiable pieces recovered). Apart from two sole pieces (FIG. 120, 4–5) from a Phase 2B/3A context, context dates were insufficient to date this material independently. The layer for these two soles, *c.* A.D. 200–250, appears to coincide with a general rise in the water-table on the site and it is possible that much of the leatherwork owes its survival to this. The report which follows was submitted in 1985.

Footwear

The shoes are represented largely by sole parts: sole-laminae, packing-pieces and thong-lacing, with the uppers surviving only as their lasting margins (FIG. 121, 33, 36; FIG. 122, 38), or small wall fragments (FIG. 121, 37), together with two other possible wall fragments (FIG. 122, 44; No. 45 not illustrated) though this latter pair lack sufficient features to make a definite interpretation. The widespread impressions of lasting margins, and of slits marking their securement by thong-lacing, testify to the former existence of the uppers on other sole parts.

A lack of uppers has been noted elsewhere among assemblages of Roman nailed shoes, for example at Balmuildy (Miller 1922) and among the numerous finds from London (Ross 1971). At Billingsgate Buildings, several possible reasons, based on an assumption of differential preservation, were suggested (Jones 1980, 100–1). While various factors given in the latter report undoubtedly played a major role at certain sites, material from other sites (including Wanborough) suggests other considerations should be taken into account.

Shoe uppers have been found on a number of sites, and both these and the finds from Wanborough indicate that uppers can survive as well as any other part where shoes are present at all. This hints at differential deposition. The most obvious process would be the recycling of less-worn parts once the shoe had been discarded. This was common in the later medieval period (Thomas 1980, 9), and is noted among the first- to second-century A.D. ‘one-piece’ shoes from Billingsgate (Jones 1980, 126). At Hardknott, leather was also suggested to have been saved for re-use (Charlesworth and Thornton 1973, 152), although the military situation may have differed from the civilian one. The soles are unlikely to be suitable for recycling from heavily worn nailed shoes and they might be expected, together with lasting margins, to be relatively over-represented. This may be the case at Portchester (Ambrose 1975, nos 265, 268–9 all retain lasting margins with their soles). The extent of re-use, varied ground conditions, and the diversity of known Roman shoe-types could easily produce the range of completeness seen in assemblages of Roman date.

Sizes

Most of the Wanborough soles are too fragmentary to calculate their size. Only two pieces are complete enough for this: 4 (FIG. 120), overall length *c.* 275mm (UK adult size 11), and 38 (FIG. 122), overall length *c.* 180mm (UK child size 11). (Lengths given are the actual lengths plus ten per cent, following the evidence for leather shrinkage given and used in the Bar Hill (Robertson *et al.* 1975, 78) and Billingsgate (Jones 1980, 101–2) reports.) Of particular interest is the insole (Nos 4–5) (FIG. 120, 5), which shows that it was cut 5–7mm within the outer-sole, allowing the uppers’ sides to rise without curling the insole edges. This variation in measurement should be allowed for if sizing shoes from insoles only.

Construction types

Many of the pieces are informative about types of shoe-construction and fall into two categories: (i) multi-layer hobnail shoe, and (ii) a stitched shoe lacking nails. The assemblage is too small, and most pieces are too fragmentary, to permit any reliable matching together to allow quantification. An additional point is that while nail-perforated sole fragments are usually readily identifiable as such, similar fragments from shoes without hobnails may lack characteristic features and only be recorded with unclassifiable pieces (FIG. 122, 44).

There are so few surviving fragments of the uppers that little can be said about their features above sole-level. The largest fragment (FIG. 121, 35) retains a portion of lasting margin opposite which there is a straight-cut edge with fine stitch-holes along it, almost certainly from a vamp seam running down the toe-end midline. Behind the seam-line there are traces of a decorative line of triangular cut-outs, giving an effect similar to that of a vamp-seam fragment from York (MacGregor 1978, fig. 27, 351). Number 37 (FIG. 121) has a remnant of rouletted radial-line decoration but is too small to determine its original position. Several pieces indicate the position of the principal seam-line by which the ends of the lasted uppers were joined. The *in situ* lasting margin on the stitched shoe 38 (FIG. 122) shows it was side-seamed up the waist inner side, as do the overlapped stitch-holes for the lasting margin on the nailed sole 1 (FIG. 119), and possibly also on 4–5 (FIG. 120), although the tunnel-stitches beneath this example are ambiguous. Such side-seamed uppers form the great majority of examples from the Skeldergate Well (MacGregor 1978, 50) and are also well-represented at Portchester (Ambrose 1975, 247–62), but appear to be absent or scarce from many first- and second-century footwear assemblages (e.g. Balmuildy, Bar Hill, Billingsgate, Hardknott and Newstead, with a possible exception in Curle 1911, pl. xx, 4).

Nailed shoes

Most of the sole fragments are from multi-layer soles held together by hobnails and internal lacing, a type well-known from a wide range of Roman sites in northwest Europe.

The Billingsgate finds give evidence from late first- to early second-century nailed soles for the use of two basic types of upper: firstly one with lasted margins secured to the insole by tunnel-stitched thong-lacing and nailed together with the other sole layers, often with a reduced-size middle sole to present a smooth base for the insole; secondly a form with a moccasin-type upper covering the entire sole area and projecting beyond to form the uppers' walls, held in place initially by a midline thong, and subsequently by the sole-nailing. The Wanborough assemblage displays less standardised methods of construction, based largely on the first type.

Of the 16 nailed-sole parts with evidence for their uppers' type, 13 have at least one of the following features indicating uppers with lasting margins:

1. Presence or impressions of lasting margin around sole perimeter.
2. Presence of thong-slits around perimeter of sole.
3. Presence or impressions of a central packing layer to fill the gap between the lasting margins.

The other three sole fragments bear slits for a midline thong-lace and come from shoes with moccasin type uppers. Three seat curve fragments are omitted as, despite their perimeter thong-slits, this may reflect only the securement of heel-stiffeners which occur with both upper types (*cf.* Billingsgate; Jones 1980, figs 62–4).

The soles of the shoes with lasting margins vary considerably in the layout of their internal lacing. For the lacing securing the upper lasting margins to the sole, five pieces have slits for a thong running parallel to the sole edge in a simple stitch, while four have slits for thongs laced at right angles to the edge. This second pattern suggests a running looped stitch. A second stitching method is also evident on insole 5 (FIG. 120) and involves the passing from the lasting margin, through a tunnel stitch in the insole, then crossing the width of the sole before penetrating another tunnel-stitch and the opposite lasting margin. When repeated this gives a criss-crossed thong impression on the insole undersurface. This method only occurred beneath the insole waist, and may have retained the lasting margins in position over this stressed area during manufacture and reinforced them during wear. This variety in securement-stitches contrasts with the Billingsgate finds (Jones 1980, 109) where the margins were retained by thongs laced parallel to the sole perimeter and tunnel-stitched to the insole. On Nos 1–2 (FIG. 119), 3 and 9, the lacing slits perforate these middle soles, with impressions of the lasting margins and packing layer that lay above their upper, grain-side, surface.

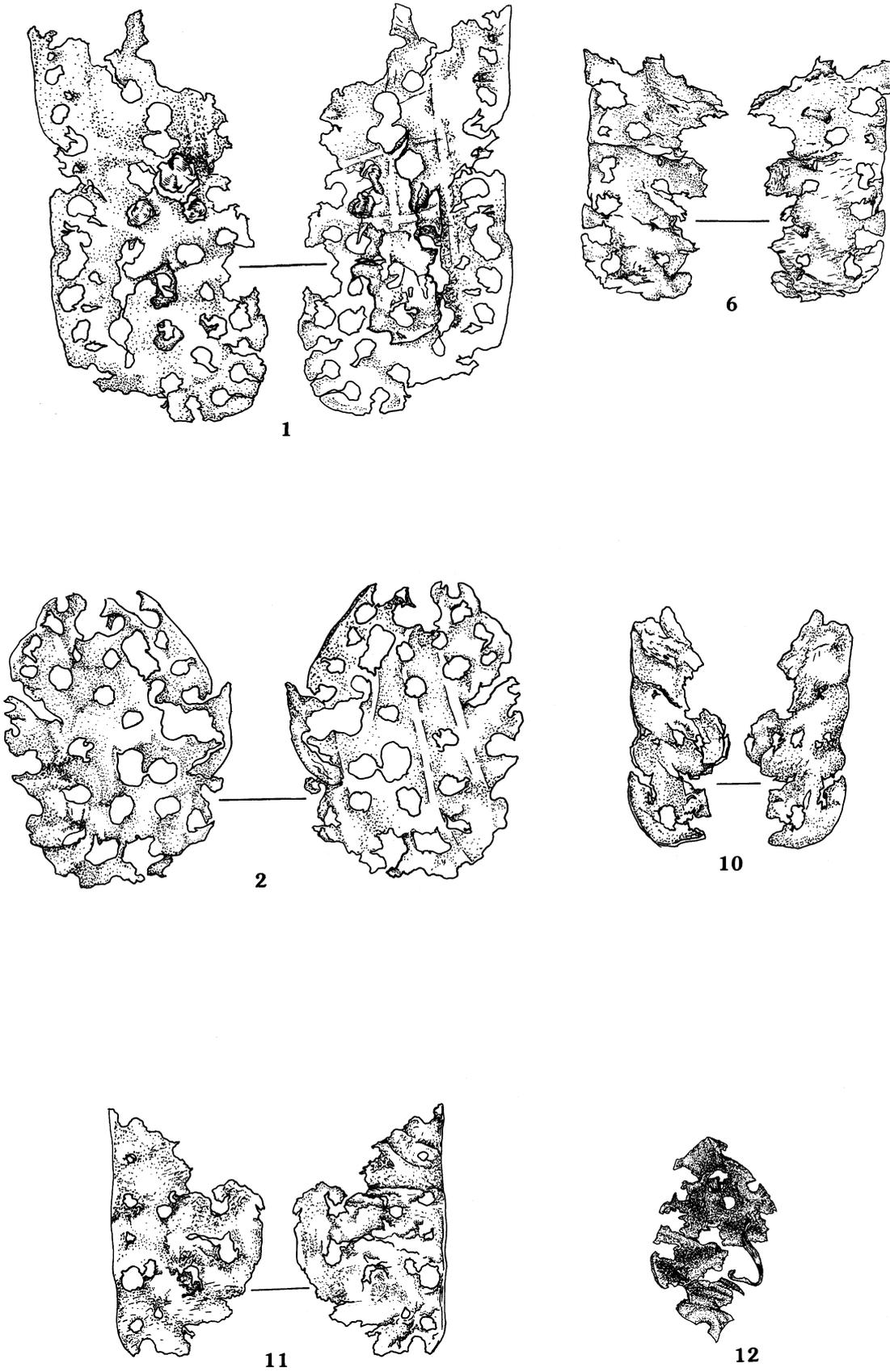


FIG. 119. The leather: footwear. Scale 1:2.

The presence of a packing layer to give an even base for the insole on soles with lasting margins is shown by impressions of them and their securing thongs and by fragments of the packing pieces themselves. The surviving packing pieces indicate the use of a narrow strip along the midline, rather roughly cut to shape with an angular seat curve (FIG. 119, 1; FIG. 121, 31), and with the toe formed as a tapered, truncated point in the four examples (FIG. 121, 28–30). They were secured by nailing to the rest of the sole after initial retention by thong-lacing. The lacing pattern was fairly consistent, impressions indicating securement of the toe to the insole by a longitudinal midline thong in sole 2 (FIG. 119) and 3, and packing-pieces 28 and 30 (FIG. 121). Middle sole 2 also shows thongs running from each side of the ball of the foot meeting the central one at the fore-end. This occurs on a shoe from Hardknott (Charlesworth and Thornton 1973, shoe no. 2). The extension of the midline thong to the rear of the packing layer is confirmed by slits and/or impressions on Nos 1, 3, 6 and 31–2 (FIG. 119, 1, 6; FIG. 121, 31–2). This thong was reinforced over the rear half by transverse lacing, at widely spaced intervals in 1 and 3 and by many short transverse stitches on 31. On 6, a possible insole fragment, a central row of short stitches is the only visible means by which the packing layer was secured. The form and securement of these packing pieces is similar to those from Bar Hill (Robertson *et al.* 1975, 68), and Hardknott (Charlesworth and Thornton 1973, figs 1d, 2e) and some from Portchester (Ambrose 1975, fig. 133, 266, fig. 134, 270), but contrasts with the Billingsgate material whose packing layers appear as well-shaped, reduced-size ‘insole’ layers, neatly laced in position by their edges (Jones 1980, 109, fig. 61, 570). Portchester shoe 264 (Ambrose 1975, fig. 132) is both edge- and centrally-laced and approximates to a sole-shape showing the variety possible among later Roman footwear.

The three fragments tentatively attributed to nailed shoes with moccasin-type uppers (FIG. 119, 10–11 and possibly 12) preserve thong-slits for a longitudinal midline thong only, with no evidence for any cross-lacing or for lasting margins or their securing thongs. The Billingsgate finds (Rhodes 1980, 107–9) imply that certain attribution to this form relies on the survival of a relatively complete sole unit. The identification of the fragments discussed here depends on the assumption that the missing bottom parts had features similar to those from Billingsgate, i.e. the Wanborough pieces are not the top layer of a double-layer insole, or that the reduced size of the insole has not excluded traces of a lasting margin that may have been stitched to a middle-sole layer (*cf.* FIG. 119, 1–2, FIG. 120, 4–5). The uncertainty is greater for 12 (FIG. 119) (despite the survival of part of its central thong) because it has delaminated, probably removing any tunnel-stitch holes once present on the undersurface and, as it is a fore-end fragment, cross-lacing on a central thong to secure a packing layer should not be expected.

Where the original orientation of the pieces can be ascertained, the insole and middle sole laminae were all laid grain-side up (e.g. FIG. 119, 1–2; FIG. 120, 4). The outer sole on 3 was laid flesh-side up, agreeing with the pattern at Billingsgate.

Where well-reported, the nailing patterns beneath such soles have provided evidence for economic, constructional and even medical hypotheses, but the full potential cannot be explored until a more detailed corpus is compiled. All pieces retaining sole-edge portions have a closely spaced perimeter row except for 3 where closely spaced rows run to the edge at shallow angles from the inner area. The spacing of these perimeter rows — in the 8–15mm range — varies on individual soles. Most have a 2mm range between their maximum and minimum spacing but on two (FIG. 121, 36) the range is 5mm, which may reflect on the expertise and/or tastes of the shoemaker. Besides small irregularities, two bear distinctive features. Number 12 (FIG. 119) has large nail-rim holes *c.* 9–12mm apart along the left-hand edge, and small shank holes *c.* 15mm apart along the right-hand edge. This may result from the cut-down insole margin missing the right-hand perimeter row, the small holes being from an internal row, or it may be a less-accentuated version of a pattern found at Billingsgate (Rhodes 1980, fig. 59, 564) where the inner edge of the sole was more sparsely nailed because of the lighter pressure on it. A related feature is much clearer on sole 4–5 where the very neat double perimeter row has a 58mm gap in the outer row, and the inner row has a 75mm gap, both on the inner edge of the waist where there was least pressure. This miscalculated the stresses on the shoe, producing fatigue-cracking across this portion.

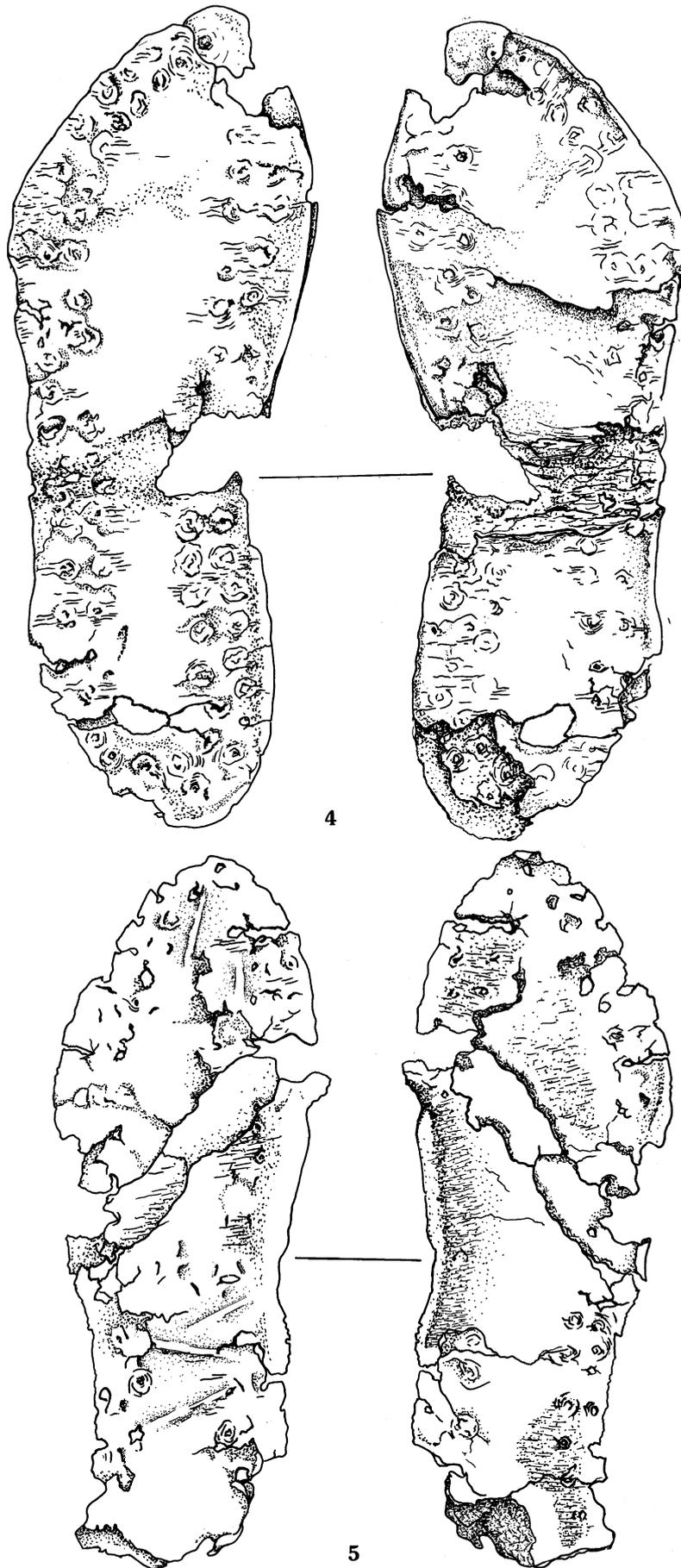


FIG. 120. The leather: shoe sole 4-5. Scale 1:2.



FIG. 121. The leather: fragments of footwear. Scale 1:2.

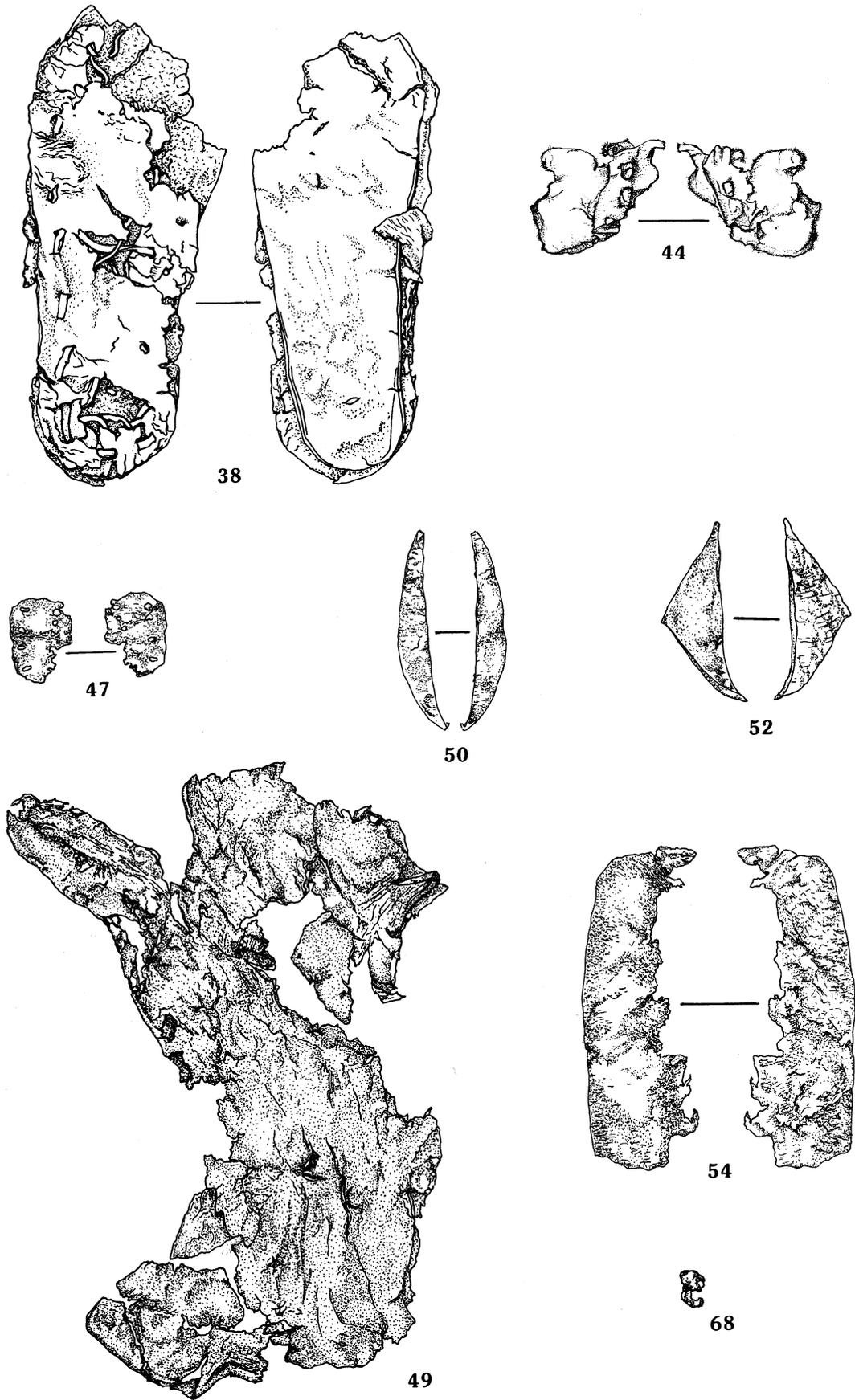


FIG. 122. The leather: offcuts and other leatherwork. Scale 1:2.

Within the perimeter row, the nailing patterns vary considerably but most pieces preserve too little to determine the original pattern. Four items are informative; 1 and 2 (FIG. 119) have a high density in the seat and tread respectively, the hobnails mirror the shape of the seat and fore-tread regions. On 1 this tapers to a single nail row beneath the outer-side waist. A variant on this pattern is shown by No. 3, where the rings of nails continue to meet the outer edge, replacing the perimeter row. Sole 4–5 (FIG. 120) totally lacks nails within its double perimeter rows, a feature noted among some soles with a more widely spaced perimeter row from Billingsgate (Rhodes 1980, 107). It does not appear to have been a common practice to omit tread-nailing — it would produce distortion and a worn central region in a moderately pliable sole, especially on a large shoe as is evident in this Wanborough example. Of the more fragmentary soles, seven have two or more rows of closely spaced nail holes within their area, as do two packing-layer fragments. Four pieces have a much sparser nail distribution with no patterning evident. Of these four, three are seat remnants and one is a fore-end fragment so the sparse nailing cannot be attributed to dealing with less heavily nailed waist portions (*cf.* FIG. 121, 30).

Stitched shoe

One sole (FIG. 122, 38) totally lacks nails in its construction, relying on thong-laced securement for the components and conforming to the class of stitched shoes defined at Billingsgate (Rhodes 1980, 115).

This sole is the most complete example in the assemblage, and its construction technique imitates that of the nailed shoes with lasted uppers. The insole has a light marking-out line scored 0.5–1mm within the upper (grain-side) surface edge and is cut with almost straight sides converging from the front tread to the seat curve. The lasting margin is tunnel-stitched to the insole undersurface by a running-looped thong, forwards from where the waist should be located. Three laces cross the insole at the ‘waist’, linking the opposite lasting-margins though failing to penetrate the insole — clearly a coarser version of the tunnel-stitched cross-lacing noted in insole 5 (FIG. 120) in the same position. The lasting margin is not secured to the insole at all, but the running-looped lacing continues, tightly sewn to the uppers’ margin, drawing it into shape and preventing it from slipping over the rear edge of the insole. Provided the sole was not subjected to strenuous use, further securement would not be required at the seat since the pressure of the foot would keep the insole in place. The cut-ends of the lasting-margin indicate the upper had a 12mm overlapped seam centred on the waist on the inner (left-hand) side.

The single outer sole has delaminated, but survives sufficiently to show its securement by a single thong lace running round the perimeter in a single stitch, fastening it to the lasting-margin only. If only the insole had survived, no means of sole-lamina securement would be evident, as was the case with most of the Billingsgate stitched-shoe insoles (Rhodes 1980, 116). This perimeter thong-lace must have been tunnel-stitched to the outer sole upper-surface as there are no signs of wear on the exposed thong portions, nor any traces of attachment for another sole layer that would have protected them. No packing-layer can have been included in the construction as the clear, worn impressions of the lasting-margin stitches rise around marked central hollows on the insole’s upper-surface.

Small slivers of the uppers survive around the seat curve and on the outer-edge central portion, but they are too small to provide any useful details. Their survival at all when the outer sole has delaminated supports the view that factors other than decay alone are responsible for the scarcity of Roman shoe uppers.

The small size of this shoe, complete enough to allow a fairly reliable reconstruction as a contemporary child size 11, suggests it to be a child’s or woman’s shoe, in common with all the Billingsgate examples.

Wear and repairs

The two most complete soles, hobnail shoe 4–5 (FIG. 120) and stitched shoe 38 (FIG. 122) both have wear-holes in the centre of their seats. Sole 3 has also lost the outer half of its seat curve, taking the outer row of hobnails with it, probably also the result of wear since both layers are

highly compressed around the edge rather than bearing the more usual cracks and tears resulting from post-depositional damage. Across the waist of sole 3 both layers show evidence of fatigue resulting from the gap in nailing. In the outer sole, a large piece has cracked away beneath the arch of the foot, with incipient cracking visible across the remaining width, while the layer immediately above has disintegrated and peeled back across this region, widest beneath the inner side and narrowing to the opposite edge.

Evidence of wear implied by repairs also comes from sole 3, in the form of replaced hobnails. Though the nails are missing, their clear shank-holes and rim impressions indicate that both rows were replaced over a length of 65mm along the outer side of the waist on the same lines as the original, but were slightly transposed either forwards or backwards. The abundant traces of wear-damage on sole 3 might not be expected on most nailed shoes with their more evenly distributed nailing pattern in which the nail-heads take all the impact with the ground.

Concerning repairs, two pieces appear best interpreted as inserts to replace damaged shoe portions. Number 34 (FIG. 121) is a fragment of two-layer broad strip whose curved end and one long side are slightly skived, while the opposite long edge has a row of hobnail holes running onto it. No lacing slits or impressions are present, which makes it unlikely that this was a packing layer insert, and it is probable that this was an edge-repair insert held in place by the nail row — the skived inner edges producing a less-ridged effect beneath the foot. Number 14 has similar features on a tapered thick offcut, where one edge is cut as if to conform to one side of a seat curve with a line of nail-shank holes behind it. The other edges are skived, the short edge markedly so. Attached to the flesh side of the insert by thong-lacing is a fragment of lasting-margin, whose close-spaced edge-thong holes do not match any on the insert and contrast with the broad spacing of the lace holes by which it is attached to it. The insertion of repair wedges in a similar manner is paralleled at Billingsgate (Rhodes 1980, 103–5, 110), though the skiving on both of Wanborough's repair inserts occurs on the grain-surface and not the flesh-surface as at Billingsgate.

Other leatherwork

Besides the undoubted shoe fragments, a quantity of other pieces were recovered, including a large amount of unidentifiable flakes and small torn fragments, many of which may be from shoe soles. Several other pieces may also be from shoes but are too ambiguous for certain interpretation. In this latter category there are a group of five small fragments, two with squared corners and three with broad points on their edges, all bearing pulled thong slits in their corners (FIG. 121, 39–40). Such pieces could be sole packing-layer fragments, although none have any holes from hobnails and the squared pieces appear rather too broad for this interpretation, so the possibility remains that they are the remnants of patches.

Equally uncertain is the origin of three items lacking hobnail holes but with thong-lacing along cut edges. Number 44 (FIG. 122) has the squared ends of two fragments neatly laced together by a simple running stitch, while 46 has a thin lace fell-stitched along its cut edge. Number 47 (FIG. 122) is an irregularly torn fragment with thong slits near one side indicating two sets of tunnel stitching, possibly cross-laced, but it has no more diagnostic features.

Number 54 (FIG. 122) strongly resembles the seat half of a sole layer torn along the midline, with a compressed appearance to both surfaces but in the absence of any lacing marks, impressions or nail holes it cannot be classified.

Four offcuts (FIG. 122, 49–50, 52; No. 51 is not illustrated) are present. Although Number 49 has the appearance of being folded, this is caused by the delaminating flesh and grain surfaces. The distended form of a pre-tanning cut edge of the flayed skin may be distinguished from the angular section of a post-tanning cut edge. The post-tanning cut probably removed a limb projection from the skin edge. Number 50 is cut as a narrow, slightly asymmetrical arc with a straight edge along the opposite side, while 51 resembles half of this crescent with a low curved expansion before the cut-off end of the straight side. Number 52 is a triangular thick hide offcut. None of these pieces show any signs of attachment or use after their shaping, but the slender curves of Nos 50–1 are probably trimmings from the shaping of shoe sole layers.

33. THE HUMAN BONES

By Alison Cameron, Justine Bayley and Carole Keepax

Introduction

During construction work at the southern end of the Romano-British settlement between 1965 and 1973, a Romano-British cemetery was discovered, west of Ermin Street, to the north of the Dorcan Stream in Insula IV (FIG. 123). The cemetery contained seven urned cremation burials, six being in vessels dated to the second quarter of the second century A.D. There were also 23 inhumations, most of which comprised two overlapping groups. One group, possibly earlier, was aligned north–south and included a grave containing an Antoninianus of Salonia dated *c.* A.D. 260–268. The second group was aligned east–west, and included a grave containing a silver *siliqua* of Magnus Maximus (A.D. 380–383). Unfortunately, it has not been possible to include details of the excavations or of the burials, but the information on the bones has been considered to be of sufficient interest for it to be published here. In addition two infant burials were found within the settlement, one in the Phase 2B oven in Insula IV, and one in the Phase 3A Building 6A in Insula VI. The report which follows was submitted in 1986.

The cremations

Six cremations were examined in the laboratory. Each was medium-sized, well fragmented and cremated; none contained more than one individual and five were weighed. Cremation 7 was mainly animal bone but the human bone in it probably represented one individual.

The human bones were examined for demography (age, sex and stature), anthropology (metrical and morphological variables) and for pathology. The results by individual for bone preservation, sex, age, stature, pathology and weight are given in the archive, together with the methods which produced these results. The results are summarised in TABLE 16.

Demographic results

There were three adults and one young adult. None of the individuals could be sexed or the statures estimated.

Pathology results

Slight porotic hyperostosis was present on four skull fragments from Cremation 6 (adult). No further comments were possible and no other pathology was noted.

The inhumations

Twenty-two inhumations were examined in the laboratory. Burials 35 and 36 were non-human, and bone from two contexts represented the same individual, so the minimum number of individuals was estimated at nineteen.

Observations were made for demography (age, sex and stature), anthropology (metrical and morphological variables) and pathology. The details by individual for bone preservation, sex, age, stature and pathology are given in the archive together with the methods which produced

TABLE 16: CREMATIONS: DEMOGRAPHY, ANTHROPOLOGY AND PATHOLOGY

Burial No	Sex	Age	Pathology	Weight (g)
3	–	Young adult	–	601
4	–	Adult	–	164
5	–	–	–	375
6	–	Adult	–	454
7	–	–	–	–
	–	Adult	–	580

TABLE 17: INHUMATIONS: DEMOGRAPHY, ANTHROPOLOGY AND PATHOLOGY

Burial No.	Sex	Age (years)	Stature metric (m)	Stature imperial	Pathology
8	?male	17–25	–	–	×
11	?male	20–25	–	–	×
12	?female	25–35	–	–	×
13	–	under 20	–	–	×
14	–	under 16	–	–	–
15	male	35–45	–	–	×
16	?male	45+	–	–	×
17	–	over 25–30	–	–	×
18	male	35–45	–	–	×
19	–	8–10	–	–	–
20	–	birth±	–	–	–
21	–	birth±	–	–	–
22	?male	45+	–	–	×
24	–	adult	–	–	×
30	–	birth±	–	–	–
31	–	birth±	–	–	–
45	–	birth±	–	–	–
156	female	c. 20	1.55	5' 1"	–
174	male	17–25	1.71	5' 7½"	×
	–	birth±	–	–	–

TABLE 18: INHUMATIONS: AGE DISTRIBUTION

Age	Number
Birth±	5
8–10 years	1
Under 16 years	1
Under 20 years	1
17–25 years	4
25–35 years	1
35–45 years	2
45+ years	2
Adult	2

these results (Brothwell 1981; Trotter 1970). The information on the anthropology is kept in the archive as it was not considered justifiable to comment on the small number of observations made. The results are summarised in TABLE 17.

Demographic results

The ages of each individual could be determined, and the results can be found in TABLE 18. As the number of individuals was small it was not considered justifiable to comment further about these.

Nine of the individuals could be sexed. There was one female, one probable female, three males and four probable males.

The stature of only two individuals could be determined. 1.55m (5'1") for Context 156 (female, about 20 years) and 1.71m (5'7½") for Context 174 (male, 17–25 years).

Pathology results

Dental

Two of the individuals had slight periodontal disease, two medium and two considerable. There were six cases of slight deposition of calculus and one of medium, mainly on the molar teeth. Enamel hypoplasia was present in three cases.

There were two abscesses on the buccal surfaces of the left maxillary first molar socket and the right maxillary first molar socket in Burial 18 (male, 35–45 years).

There was a medium-sized caries cavity on the mesial and occlusal surfaces on the right mandibular first molar (Burial; 12, ?female, 25–35 years) and on the mesial interstitial margin of the right maxillary second molar (Burial 18, male, 35–45). Context 174 (male, 17–25 years) had a small caries cavity on the occlusal surface of the left mandibular first molar, and also on the mesial surface of the left maxillary first molar.

There was slight pitting around the unerupted maxillary second and third molars in Burial 19 (8–10 years).

Skeletal

Much skeletal pathology was noted and is described below. In most cases no further comments were possible.

There was one case of slight porotic hyperostosis on the skull of Burial 15 (male, 35–45 years) and three of slight cribra orbitalia (Burial 16, ?male, 45+ years; Burial 18, 35–45 years; Burial 156, female, about 20 years).

There were two cases of periosteal new bone formation on the skull. Burial 8 (?male, 17–25 years) had sub-periosteal new bone on the endocranial surface of the occipital bone mainly following the sagittal sinus. Burial 156 has widespread closely adhering endocranial new bone formation.

Some long bones also showed signs of sub-periosteal new bone. Burial 19 (8–10 years) had new bone formation on the shafts of the right and left fibulae, both ulnae and radii and on the medial aspects of the left and right calcanei. Burial 20 (birth±) had new bone growth on many of the bones, particularly on one tibia where it encapsulated the shaft and had the appearance of an involucrum. It was suggested that this was the result of an infection, the precise cause of which could not be specified. There was also slight periostitis on the lateral, medial and anterior surfaces of the right tibia, and on the medial aspect of the right calcaneum (Burial 24, adult) and on both femora and humeri of Burial 156 (female, about 20 years).

There was the development of osteophytes on two cervical vertebral bodies and on the intervertebral facets of two separate cervical vertebrae (Burial 12, ?female, 25–35 years) and on the articular margins of the right distal humerus, the right distal femur and on the left mandibular condyles of Burial 15 (Male, 35–45 years). There were also osteophytes on Burial 22 (?male, 25+ years) on all the vertebrae, on the left and right clavicles, the head of the left humerus and on the facet of one rib, and Burial 174 (male, 17–25 years) on the margins of the cervical and thoracic bodies and intervertebral facets, and on the articular surfaces of the long bones at the shoulder, elbow, wrist and hip joints.

The development of osteophytes with porosity on the intervertebral facets was seen on virtually all the vertebrae of Burial 15. Gross osteophytes and porosity of the right inferior facet of the atlas and the left superior facet of the axis (Burial 22, male, 45+ years) was probably due to arthritis.

Large Schmorl's nodes were present on the superior bodies of two separate thoracic vertebrae (Burial 17, adult).

There were two cases of osteochondritis dissecans; Burial 11 had this lesion on the proximal articular surface of the first right metatarsal, and Context 156 on the proximal end of the first proximal foot phalanx.

Context 174 (male, 17–25 years) had a femur whose head was flattened and lipped at the margins. It had large pits and irregularities on the surface of the head and was mushroom-shaped. There was some slight shortening of the neck but no misalignment of the head or neck. The right innominate of this individual had a shallowed and enlarged acetabulum, but this was not out of position and the acetabular rim was still present. It was lipped very slightly in one small area. It was suggested that the most likely cause was Perthes disease rather than any other infection of the hip.

PART THREE

DISCUSSION

PERIOD 1

There is scattered evidence for Neolithic and Bronze Age activity on the site of what became the Romano-British settlement but there is little evidence for a Late Iron Age predecessor. The earliest feature of the Romano-British settlement was Ermin Street and its accompanying ditches. The road appears to have been built in the Neronian period, when it consisted of a metallised surface set between ditches about 23m apart and which do not, in every instance, appear to have been continuous. Little dating evidence has come from the road itself, but the examination of its western ditch in 1976, a short distance north of the bridge or ford, produced large quantities of pottery, including butt-beakers and locally produced Savernake-ware jars, Claudio-Neronian samian, and several examples of other early fine-ware imports, notably Central Gaulish green-glazed wares. This evidence suggests that the ditches were cut in the Neronian date and they seem to have been infilled by *c.* A.D. 80 when large quantities of pottery were deposited.

Several sequences of stake-holes were observed at various points along the bottom of the ditch; one group was certainly associated with a side channel set at right-angles to the road (FIG. 3, Ditch 125). These stake-holes seem to mark the line of a wooden drain and they presumably supported planking. A short distance to the north, a similar ditch, running parallel to Ditch 125, also joined the ditch of the main road. In the area bounded by these three ditches evidence for a large, rectangular, wooden building (FIG. 3, Building 23) was discovered. This building seems to be contemporary, or possibly a little earlier, and was represented by four large post-pits, presumably for corner posts, each with a short wooden plank set in the bottom but nothing of its superstructure survived to indicate its purpose or structural details. Large quantities of iron slag were found in the Ermin Street ditch and on occupation surfaces, suggesting industrial activity in or near the building.

The character of this earliest phase in the excavated area is not yet clear. A high proportion of the copper alloy finds of this date can be paralleled on military sites (p.76) and at least some weaponry (pp.137–8) is of this date also. The exotic character of some of the pottery, and that from other work (Greene 1974) and the entirely Roman character of the assemblage as a whole, together with the samian and coinage, may be interpreted as suggesting a military presence in the Neronian–Vespasianic period. The deposition of large quantities of pottery, including some complete vessels, may be paralleled at several forts. However, no definite structural evidence for a fort is yet known, and a fort (or forts) seems more likely to have stood on slightly higher ground to the north towards Stratton St Margaret. Although the excavated area could be in the vicinity of a fort, for example an annexe, it is equally likely that was part of a *vicus*. If this association of fort and *vicus* is correct, then the end of the phase, and the possible abandonment of the site, may mark the evacuation of a fort at about the same time, probably in the mid to late 70s, as Cirencester (Wacher and McWhirr 1982). Some of the cremation burials discovered by the Swindon Archaeological Society during road widening may also have been associated with this early occupation but much remains to be learnt of the character of the early Roman phase at Wanborough.

PERIOD 2

There appears to have been a gap in the occupation of the site for 20 or more years before the next building took place in the late first to early second century. The area immediately to the west of Ermin Street seems to have been the scene of intense building during the second and

third centuries. Several timber buildings of this date are likely to be represented by a series of foundation trenches and what are now unassociated lines of post-holes; but enough remained to suggest a number of superimposed rectangular wooden buildings (FIG. 5, Buildings 25, 26; FIG. 6, Buildings 28, 29). Unfortunately, immediately to the north of these buildings and between them and Ermin Street, the archaeological layers had been removed by previous excavations, making it difficult to identify structures. Similar problems beset the excavation and interpretation of a circular wooden building (FIG. 5, Building 24) with a cobble-and-plaster floor, found adjacent to the rectangular buildings mentioned above. Towards the northern end of the site, one building (FIG. 6, Building 5) with partial sarsen-stone foundations and clay-daub walls, and containing a stone built oven, was built over the now-filled road-ditch. Once again, the presence of quantities of slag indicated metalworking, and the structures may have been the workshops associated with small-scale metalworking. Two other features identified as ovens suggest the presence of industrial activity. Their precise function could not be determined, but lead-working or lime production for mortar are possibilities, perhaps relating to the new building techniques.

The *mansio* at Wanborough (PL. XI) is known only from air photography and parch marks (Phillips and Walters 1977; Burnham and Wachter 1990, fig. 47), but most examples in Britain appear to have been built in the early second century and would appear to be linked with a formalisation of the provincial *cursus publicus*. If this association is correct, then the *mansio* may have provided some of the stimulus to this second phase of activity at Wanborough.

At a slightly later date within the excavated area and further away from the river-crossing, the land on the west side of Ermin Street, stretching towards a wide, shallow ditch (FIG. 6), seems to have been almost devoid of buildings, with the possible exceptions of Buildings 28 and 29, in the second and early third centuries. Only one small area of rubble-spread remained to indicate structural activity during this period. The ditch was at right-angles to and west of Ermin Street, and dated to the late second or early third century. Although it was initially

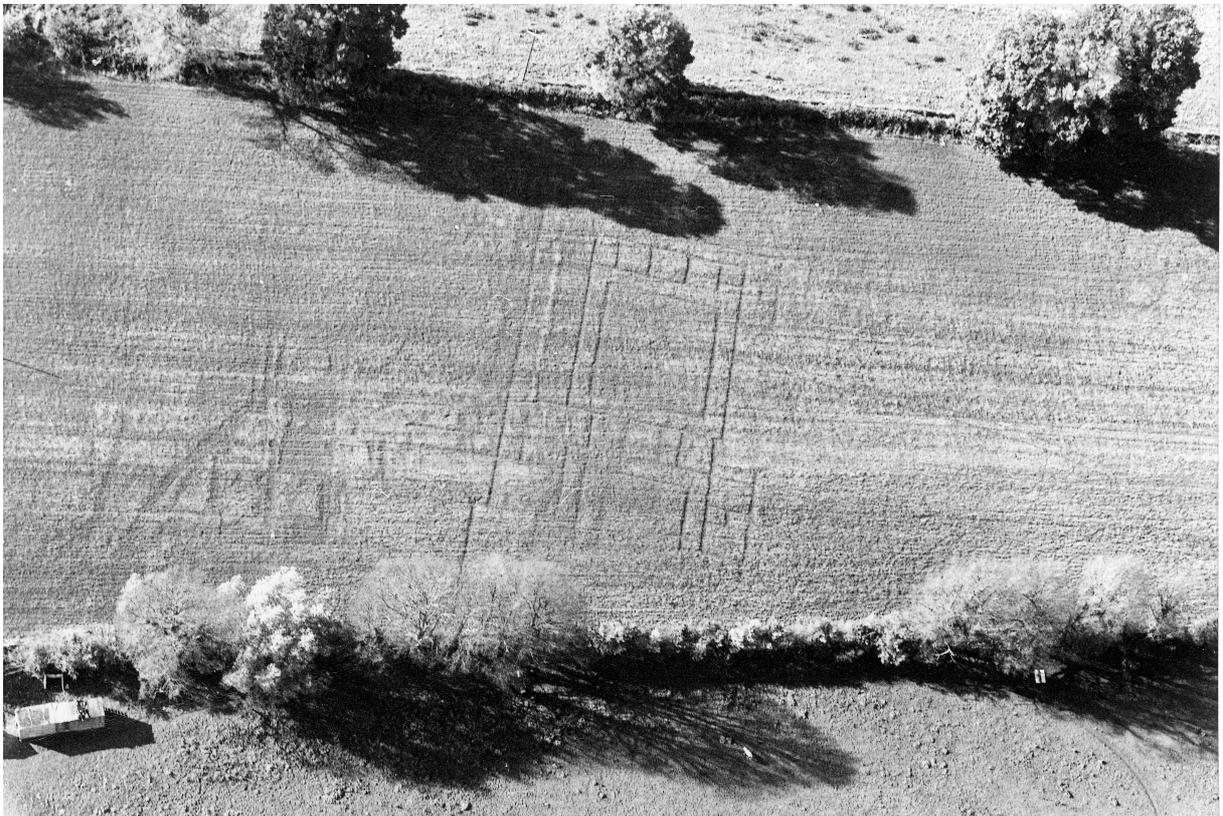


PLATE XI. Air photograph of *mansio* (Cambridge University Collection: copyright reserved).

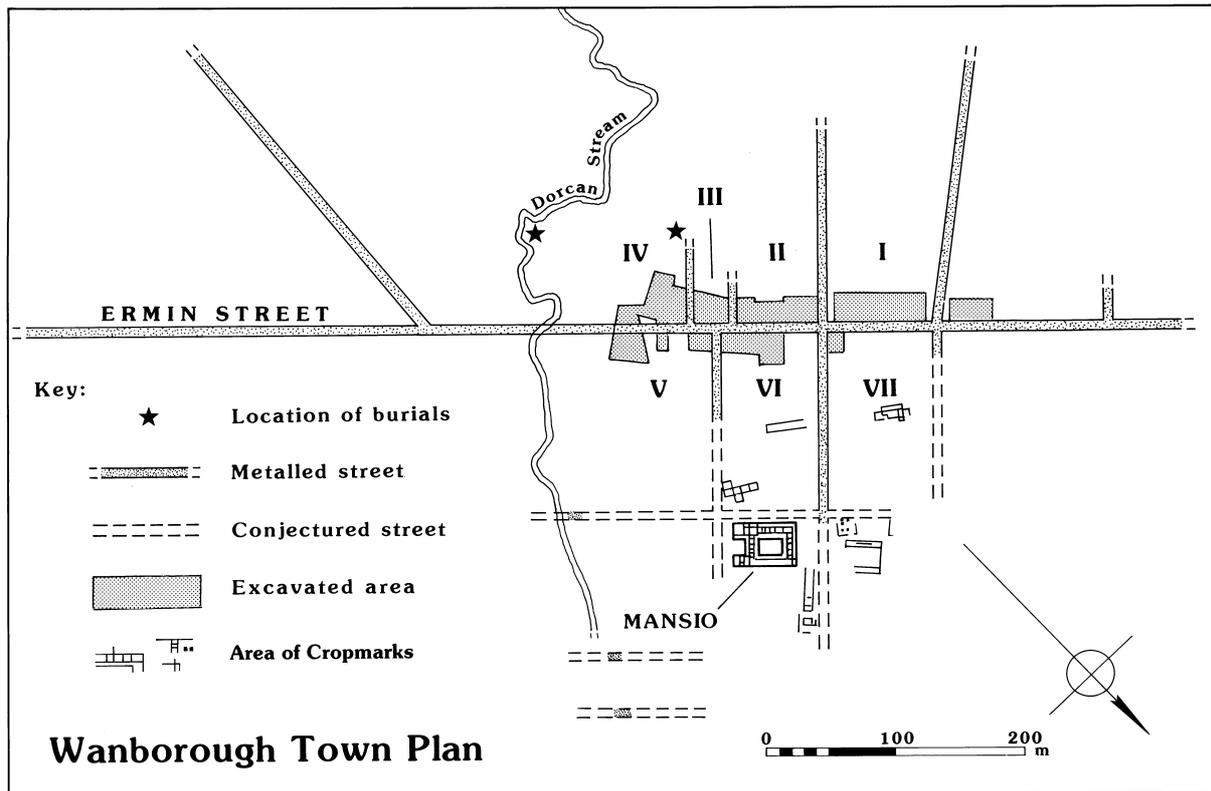


FIG. 123. Generalised plan of Wanborough.

thought that the feature could represent part of a defensive circuit to fortify the centre of the settlement, it was not identified on the other side of Ermin Street. This may suggest that any defences were not completed or that, alternatively, the feature may actually have been a side road worn to the extent that it became a hollow-way.

PERIOD 3

The later settlement at Wanborough seems to have covered a considerable area, with the main concentration of substantial buildings with stone foundations fronting onto Ermin Street, but with others, less densely packed, at some distance from the main road. It is likely that the area occupied by buildings was much larger to the east of Ermin Street than to the west as is shown by the *mansio* and several other buildings in that area of the settlement (FIG. 123; Phillips and Walters 1977). The limits of the settlement, on at least one side, are suggested by the discovery of cremation and inhumation burials west of the town during construction work in the early 1970s on the Lyncroft housing estate (FIG. 123). If, as seems likely, this was a roadside cemetery, it suggests that in the areas adjacent to the excavations, domestic or commercial building was probably limited to a narrow zone along the west side of Ermin Street with the greater part of the settlement lying to the east, perhaps focused around the *mansio*.

The 1969–70 excavations were extremely informative about the late third and fourth century occupation of the site. Only a few places on either side of the road appeared to be entirely devoid of structures during this period. Ermin Street was widened and resurfaced and four side streets, dating to this period and running at right-angles to Ermin Street, were also discovered. Cobbling was inserted at this time into the ditch or hollow-way to the west of Ermin Street at this time, perhaps to ease access. It would seem that the formal system which we have described as *insulae* was set out in the excavated areas or at least extended into them at this time. If, however, the *mansio*, which lies to the north, is integral to this system, it may be that the origins of the system lie in the second century.

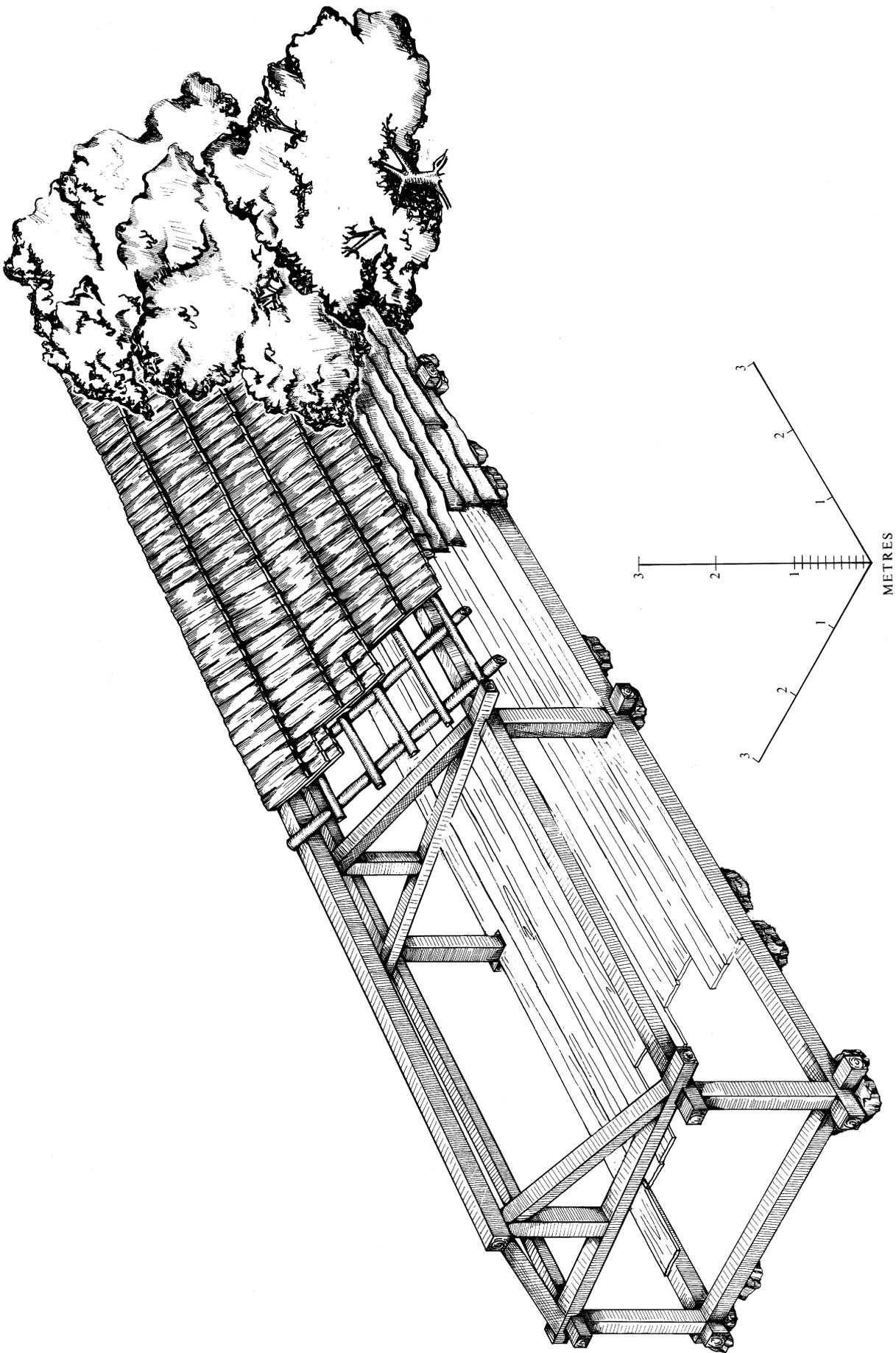


FIG. 124. Artist's isometric impression of Building 13, Period 3B.

The damage caused by ploughing made the interpretation of structural remains difficult in some places. However, in one small building to the east of Ermin Street (Building 1), two ovens were found. Part of a very large quern or millstone of Midland Millstone Grit (No. 59, FIG. 62, 16), which may have come from a mechanically-driven mill, was found in Building 6A. The stone had broken whilst in use and there had been an attempt at repair using iron cramps kept in position by lead jointing. This may suggest that Building 6A was a mill and/or bakery.

Stone does not appear to have been used as a building material until the later second or early third centuries. Phase 3A is characterised by a series of square or rectangular buildings with stone foundations. Even then, few buildings seem to have been constructed throughout in masonry. Apart from the *mansio*, which is presumed to have been built at least in part in stone, masonry foundations are reputed to have been found in a field south of Lotmead Farm. These may have been from a temple, a type of site whose presence is also suggested by the discovery of a lead *defixio* or curse (Rea 1972; Burnham and Wachter 1990, 164). Otherwise, a variety of other building techniques were employed. Most buildings had stone foundations, often of sarsen blocks, which presumably supported a timber superstructure. Some roofs were tiled but it is likely that the majority were thatched. Burnt clay daub also provided evidence for timber-framed buildings, some of which had sleeper-beams placed, not in trenches, but on the ground. This technique may have been a response to the dampness of the site and this is reflected in a rare type of building which was timber framed, resting on sarsen stones which raised it from the ground (PLS VI and VII; FIGS 12 and 124). The joists of the building would have rested on the stones. This type was recognised for the first time during the 1970 excavations (Anderson and Wachter 1980; 120–1), although similar examples have been identified subsequently at Oundle, Northamptonshire (Wachter 1985, 146–50). Whether the type was widespread or merely a local response to the threat of flooding remains unknown. The implications of the recognition of this type of building have been set out elsewhere (Anderson and Wachter 1980, 120–1). For present purposes they help to explain why such a large range of small finds were recovered; presumably they had fallen between the floor-boards or were swept underneath the buildings.

The recognition of these buildings suggests the existence of a densely packed, built-up, area in the late Roman period at Wanborough. It is noticeable that the timber-framed buildings are concentrated on the lower ground towards the Dorcan Stream. They are slightly later than the masonry buildings, although in some cases they may be later additions to the masonry buildings, for example Building 7A may have been added to Building 7. It may be that the timber-framed buildings had a different purpose, perhaps being solely domestic in their use but it is perhaps more likely that the use of stone reflects the wealth and status of the people who owned or used the buildings, although the wallplaster found during a watching brief also indicates that timber buildings could be substantial and elaborately decorated.

The greater part of the settlement seems to have lain towards the east, away from Ermin Street and, as the excavated area represents only a small part of a settlement which probably extended over *c.* 25 ha, it is unknown how much variety in building style there was within the small town. However, the evidence of air photographs suggests that at least some more substantial and sophisticated buildings lay to the north close to the *mansio* (FIG. 123).

The finds from excavations inform us principally of the activities around Ermin Street. The rarity of agricultural tools is particularly noteworthy. Only nine were found, including two which may be associated with the processing of wool; a pair of shears and a flax heckle. This would suggest that agriculture was not important at least in that area of the settlement. Instead the tools point to craft activity, but the scale of this is difficult to determine. For example, the 16 woodworking tools may have been used in the construction or repair of buildings as well as other tasks and be associated with the many other iron objects which are fixtures and fittings from buildings such as locks and keys, and wall hooks. The eight metalworking tools provide rather more direct evidence for iron working and complement the evidence of the slag in suggesting that smithing was a relatively important activity. This is also supported by the relatively wide appreciation and use of hardening techniques indicated by the analyses of the objects. The numerous iron knives, many of which may have had bone handles, could have been used for many purposes, both craft and domestic.

The importance of Ermin Street to the economic life of the community may be reflected in the evidence for transport in the form of horseshoes, hipposandals, bridle-bits, and lynch pins from the excavations. The *mansio*, set to the east of Ermin Street, acted as a rest house and posting station and the administrative activities connected with government that this will have brought to the settlement may be reflected in the relatively high number of *styli* identified in the excavations, some 36. It may also have some bearing on the discovery of a few pieces of the characteristic late Roman belt fittings, while the presence of a copper alloy traction hook suggests that a doctor at least practised in the settlement, even if we cannot say if he was resident.

The steelyards of copper alloy and iron hint at the role of the settlement as a market but most finds are of personal belongings such as brooches, bracelets of copper alloy, jet and shale, cosmetic sets, glass bottles and jugs, hair-pins, pots, rings, and tweezers, whose ownership is difficult to identify. The number of late Roman coins does not in itself indicate a market rather than the extensive use of low value coinage. When considered with the number of querns, all these personal belongings suggest that the bulk of later Roman buildings identified were houses or buildings which may have been both residential and 'commercial'. Bone counters and dice suggest some of the recreations of the inhabitants, but smithing is one of the few activities to which we can point.

The excavations at Wanborough provide an insight into what is, in many ways, an ordinary small town. There are threads which link it with the grand history of Roman Britain; possible military origins and the administrative roles of the *mansio*, but the great majority of the evidence points to the everyday life and the crafts of the inhabitants of a roadside settlement in southern England which flourished as *civitas capitals* and towns declined.

APPENDIX 1

A ROMAN COIN HOARD FROM WANBOROUGH

By T.S.N. Moorhead

In the 1982 publication of John Aubrey's *Monumenta Britannica* there appears some correspondence concerning a hoard of 1600 to 2000 Roman *denarii* found at Wanborough in 1688 (Aubrey 1982, 964–72). Until this edition of *Monumenta Britannica* appeared in 1982, there was only a brief mention of the find in Jackson's edition of *Wiltshire. The Topographical Collections of John Aubrey* (Jackson 1862, 195) which was subsequently referred to in *VHC Wiltshire I* (i), 117. *Monumenta Britannica* provides more information about the discovery of the hoard and also furnishes details of varying complexity and accuracy about at least 202 coins from the find, possibly 208. Nearly all of the coins described were in the possession of Sir James Long of Wraxhall and are now not traceable.

The hoard was discovered on common ground 'in an earthen vessel totally close, save a slit to put in the coins' by two men digging a ditch' (Aubrey 1982, 1014). Wanborough is known to have been the site of *Durocornovium*, the major Roman settlement discussed in this report. The cache was apparently concealed during the reign of Commodus (A.D. 180–193). Although there is only a small and partially documented sample of the hoard, the record of such a substantial silver hoard should not be overlooked and it was thought appropriate to document it here.

The catalogue

A general outline of the sample appears in *Monumenta Britannica* (Aubrey 1982, 964) and it is essential for ascertaining the composition of the sample by reign. The outline is called 'Catalogue I' in the notes to the catalogue published below. A more detailed listing of *denarii* of empresses only is given by Aubrey slightly later (*ibid.*, 966, 968) and is called 'Catalogue II' in the notes to the catalogue. Such is the competence of this work, that one can often assign *RIC* references with confidence. Aubrey also gives other information concerning the coins (*ibid.*, 970–2, 1014).

There are several problems surrounding the exact number of coins that can be included in a catalogue. The existence of a coin of Julius Caesar (No. 1) in the hoard seems unlikely, and may possibly have been found separately at Heddington and there is uncertainty about the existence of one coin of Galba (No. 4) and four pieces of Faustina I and II (Nos 196–9). So as not to overlook any coin that may have come from the hoard, all the coins that are mentioned in association with the Wanborough find are included in the catalogue. This makes a total of 208 pieces but, because the existence of six coins can be questioned, only 202 pieces have been used in the summary of the sample by reign (TABLE 19). (These six coins are indicated in the catalogue and summary.)

Although one would have hoped for more information, the entries in *Monumenta Britannica* are nevertheless of great value. Many coins can be identified accurately but some are not described at all. All inferred details are bracketed and footnotes are used to clarify the text. *RIC* numbers are often assigned to aid general reference more than to provide an exact identification. There seems to be no reasons to suspect that Aubrey's records do not document a representative sample of the hoard.

TABLE 19: SUMMARY OF THE SAMPLE OF COINS BY REIGN

Emperor/Issuer	Number of coins	%
*(Julius Caesar)	(1)	0
Nero	1	0.5
Galba, Otho & Vitellius; *(Galba)	5 (1)	2.5
Vespasian & Titus	26	12.9
Domitian	10	4.9
Nerva	8	3.9
Trajan	35	17.3
Hadrian	41	20.3
Sabina	5	2.4
Antoninus Pius	43	21.2
Faustina I	9	4.5
Marcus Aurelius or Lucius Verus	1	0.5
Faustina II	9	4.5
*(Faustina I or II)	(4)	0
Lucilla	4	2.0
Commodus	3	1.5
Crispina	1	0.5
Divus Aurelius	1	0.5
	202 (6)	100.00

*These coins are excluded from this analysis.

Commentary

There are some interesting features in the catalogue and the summary by reign. Some pieces of Sabina (Nos 129–32) and of Faustina II (Nos 182 and 189), may offer new varieties. Certain details on some other coins (Nos 172, 187–8 and 192) may be significant and should not be overlooked. The dearth of coins for Marcus Aurelius and Lucius Verus is surprising, especially as Faustina II and Lucilla are well represented.

With only a small sample (*c.* 10–15%) of the original find available for research, there is not enough evidence to determine the exact nature of the entire hoard. However, one can be sure that the Wanborough hoard is one of the many predominantly silver hoards in Britain, during the Antonine period (Sutherland 1937, 30–8; *idem*, 1939; Casey 1980, 34, 54; Reece 1973; Robertson 1956 269–70, 284–5; *idem*, 1974). Furthermore, the dating of the deposit to the reign of Commodus, by using the terminal issues in the sample (Nos 207–8), and by using the unbroken chronological sequence of the sample coins, is supported by Long's comments in a letter which suggests that there were no later coins in the entire hoard (Aubrey 1982, 1014). The summary of the sample by reign, the presence of worn first century coins (nos 2, 5/6), and the apparent lack of preference for particular types of *denarii* are all characteristics which the sample shares with numerous other hoards from the same period. In conclusion, it seems that the Wanborough hoard was very similar to other hoards buried in Antonine Britain, with the notable exception of its comparative magnitude as most Antonine hoards contain only a few hundred coins, or less. The nature of the container and the possible implications of such a 'piggy-bank' style receptacle should not be overlooked (Robertson 1974).

Finally, it should also be mentioned that there were political upheavals and subsequent military actions in the north of the Province, in the late 170s and early 180s A.D. Such unrest may be reflected in the concealment of such hoards as this one at Wanborough and it is possible that the Wanborough cache was buried before the period of insecurity surrounding the departure of Clodius Albinus from Britain in 193 A.D.

The catalogue

No.	Date	Obverse /Reverse	RIC	Freq.
1	(JULIUS CAESAR) ?		–	(1)
2	NERO 50–68	Obv. As a ‘young’ man; ‘worn’	–	1
3, 4*	GALBA 69	Obv. (bare hd) Rev. –	–	1 (1)
	OTHO 69	Ob. (IMP M OTHO CAESAR AVG TR P bare hd) Rev. –	–	1
	69	Obv. (bare hd) Rev. –	–	1
7	VITELLIUS 69	Obv. (A VITELLIVS GERMANICVS IMP bare hd) Ref. XV VIR SACR FAC Tripod: above, dolphin; below, raven	24	1
8	69	Obv. (bare hd) Rev. –	–	1
9, 10	VESPASIAN 69–70	Obv. (IMP CAESAR VESPASIANVS [AVG] Laur. hd) Rev. IVDAEA Judaea std. by trophy	254/266	2
11–34	VESPASIAN and TITUS 69–81	Obv. – Rev. ‘Various reverses’	–	24
35–44	DOMITIAN 81–96	Obv. – Rev. ‘Various reverses’	–	10
45–52	NERVA 96–98	Obv. – Rev. ‘Various reverses’	–	8
53–87	TRAJAN 98–117	Obv. – Rev. ‘Various reverses, very fair’	–	35
88–128	HADRIAN 117–38	Obv. – Rev. ‘Various reverses and cast in all his ages’	–	41
129–32	138/9	Obv. SABINA AVGVSTA HADRIANI (AVG PP) Rev. CONCORDIA AVGVSTA Concordia std., hdg (patra and leaning on elbow)	<i>cf.</i> 391–3/ 398–9	4
133		Obv. SABINA AVGVSTA HADRIANI (AVG PP) Rev. PVDICITIA Pudicitia stg.	406–7	1
134	ANTONINUS PIUS 139/40	Obv. (ANTONINVS AVG PIVG PP) Rev. (AVRELIVS CAES[AR] AVG PII F COS [DES]) portrait of Marcus Aurelius	411–21	1
135/76	138–61	Obv. – Rev. –	–	42

No.	Date	Obverse /Reverse	RIC	Freq.
FAUSTINA I				
177	141–	Obv. DIVA FAVSTINA ‘Head finely dressed without rays’ Rev. AETERNITAS Juno (?) stg, hdg, sceptre in l hand and hdg r hand up	344	1
178		Obv. DIVA FAVSTINA Rev. AETERNITAS Juno (?) stg as no 175	344	1
179		Obv. DIVA FAVSTINA ‘A large wreath on her forehead; rays from her head’ Rev. AETERNITAS Female stg	344–51	1
180		Obv. DIVA FAVSTINA Rev. AETERNITAS (Fortuna or Providentia stg)	348–50	1
181		Obv. DIVA FAVSTINA ‘Small wreath on her head’ Rev. AETERNITAS Providentia(?) std with blown-out veil and hdg globe	351	1
182		Obv. DIVA FAVSTINA Rev. AVGSTA Juno stg, hdg sceptre in r hand	364v	1
183		Obv. DIVA FAVSTINA ‘Finely dressed, a flat round on her head’ Rev. CONCORDIAE Antoninus stg (r, hdg roll) clasping r hands with Faustina who holds a sceptre in her l hand	381a	1
184		Obv. DIVA FAVSTINA ‘Without rays’ Rev. CONSECRATIO Peacock	384–6	1
185		Obv. DIVA FAVSTINA ‘Curiously dressed rays from her head’ Rev. IVNO Juno (veiled) stg, hdg (patera and sceptre)	391	1
MARCUS AURELIUS or LUCIUS VERUS				
186	161–80	Obv. – Rev. –	–	
FAUSTINA II (struck under Antoninus Pius)				
187	145–60	Obv. on all her pieces, FAVSTINA AVGVSTA Rev. AVGVSTI (PII FIL) Concordia stg, hdg (cornucopiae and pateria)	496	
188		– Rev. AVGVSTI (PII FIL) Concordia stg, but ‘herself far different in reverse’	496	
189		– Rev. CONCORDIA Concordia std, hdg (flower)	<i>cf.</i> 502a	
FAUSTINA II (struck under Marcus Aurelius)				
190	161–76	Obv. on all her pieces, FAVSTINA AVGVSTA Rev. FECVNDITAS Fecunditas stg, hdg, child and staff	677	1
191		Rev. FECVNDITAS Fecunditas ‘in another posture’	677	1
192		Rev. FORTVNA (E MVLIEBRI) Fortuna std	<i>cf.</i> 683	
193		Rev. IVNO Juno (veiled) stg, hdg (patera) and sceptre; at her feet, a peacock	687	1
194		Rev. LAETITIA Laetitia stg, hdg wreath and sceptre	700–2	
195		Rev. MATRI MAGNAE Cybele std	705–6	1
FAUSTINA I or II				
196–9*	141–76	Obv. – Rev. –	–	(4)
LUCILLA				
200	161–9	Obv. LVCILLA AVG ANTONINI (AVG F) Rev. DIANA LVCIFERA Diana stg	762–3	1
201		Obv. LVCILLA AVG ANTONINI (AVG F)		

No.	Date	Obverse /Reverse	RIC	Freq.
202		Rev. PIETAS Pietas stg at an altar	775	1
		Obv. LVCILLA AVG ANTONINI (AVG F)		
203		Rev. VENVS Venus stg, (hdg apple and sceptre)	784	1
		Obv. LVCILLA AVGVSTA		
		Rev. PVDICITIA Pudicitia (veiled) stg	780	1
COMMODUS				
204-6	178	Obv. (L AVREL COMMODVS AVG)		
		Rev. (TR P III IMP II COS P P)	cf. 649-50	3
CRISPINA				
207	176-83	Obv. CRISPINA AVGVSTA		
		Rev. CONCORDIA Two clasped r hands	279	1
DIVUS AURELIUS				
208	181	Obv. (DIVVS M ANTONINVS PIVS)		
		Rev. CONSECRATIO Funeral pyre	275	1

NOTES

- 1* The existence of such a piece in the hoard is doubtful. The coin of Julius Caesar mentioned by Aubrey (1982, 972) is possibly a coin found separately at Heddington and acquired by Long. He describes it at the end of the catalogue on p. 964. It could be a denarius of Augustus with IMP CAESAR and a naval trophy on the reverse (*RIC* 33/4), therefore explaining the incorrect identification of the coin. As this piece seems to have become attached to Long's sample, it is unlikely that there was a coin of Julius Caesar from the Wanborough hoard. Long writes that he had 'one or two' coins of Galba on p.964. There appear to be four extra coins for Faustina I and II because Long mentions that he has 22 in Catalogue II (*ibid.*, 966-8).
- 2-8 Catalogue I 'The Neroes I have are without wreaths of laurel' (*ibid.*, 964).
- 3, 4* Catalogue I 'one or two' pieces of Galba (*ibid.*); see n. 1.
- 5,6 Catalogue I one of these pieces is worn (*ibid.*).
- 7 Catalogue I incorrectly attributes this reverse to a coin of Otho (*ibid.*).
- 129-32 Catalogue I and II give the reverse legend CONCORDIA AVGVSTA (*ibid.*, 964 and 968), which is only listed for aurei in *RIC*; it is difficult to identify the exact types, but a letter (*ibid.*, 970) suggests that three of the pieces are similar. More information is required to confirm the existence of any new varieties.
- 177-85 Catalogue II gives some vivid descriptions of hairstyle; the 'rays' on Nos 179 and 185 are mysterious (*ibid.*, 968).
- 179 Catalogue II gives no more details for the reverse (*ibid.*).
- 180 Catalogue II seems to mistake Fortuna's rudder for an inverted trident (*ibid.*).
- 182 Juno holds sceptre in left hand in *RIC*.
- 185 A patera seems to have been mistaken for a wreath on several pieces, see Nos 129-32, 187.
- 186 Catalogue I gives this ruler the title 'Marcus Aurelius Verus' (Aubrey 1982, 964).
- 187 Catalogue II 'Reverse herself holding a long vessel in her left hand, a wreath in her right. Inscription: "Augusti Pietati"' (*ibid.*, 966).
- 189 This obverse legend is not common to the reverse type in *RIC*. Catalogue II seems to mistake the flower as 'a branch of olive' (Aubrey 1982, 966).
- 192 Catalogue II 'The reverse herself in a chair sacrificing. The inscription: "Fortuna"' (*ibid.*).
- 194 Catalogue II mistakes the wreath as a 'napkin or linen-cloth' (*ibid.*).
- 196-9* These four pieces may not have existed, see n. 1.
- 200 Catalogue II gives no more details for the reverse (*ibid.*, 968).
- 204-6 Catalogue I 'very young . . . Inscription: third (?year) of his empire, second time "Cons et Cae"' (*ibid.*, 964). I am grateful to Andrew Burnett for suggesting that TR P III IMP II COS P P is the most feasible interpretation.
- 207-8 For dating, see *RIC* Vol. III, 356.
- 208 This piece was apparently not in Long's selection (Aubrey 1982, 1014).

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ABBREVIATIONS

- BAR British Archaeological Reports
CBA Council for British Archaeology
HBMCE Historic Buildings and Monuments Commission for England
ORL *Der obergermanisch-raetische Limes des Römerreiches*
RIC Mattingly, H., Sydenham, E.A., Sutherland, C.H.V., and Carson, R.A., *Roman Imperial Coinage* (10 vols) (London, 1923–84)
GMC: *Catalogue of the Collection of London Antiquities in the Guildhall Museum*, 2nd edn, 1908, London
VCH: *Victoria County History of Wiltshire I, 1*, 1957, Oxford

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