

Excavations in the
Middle Walbrook Valley



Tony Wilmott
LAMAS Special Paper 13

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MIDDLE WALBROOK VALLEY
CITY OF LONDON, 1927-1960



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London & Middlesex Archaeological Society
Special Paper 13

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site are published here for the first time.**

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INTRODUCTION

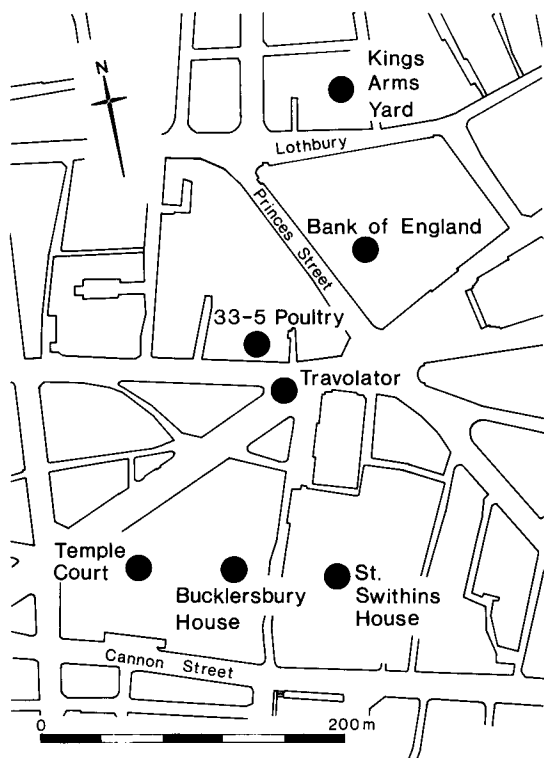
The following report presents the final results of a number of archaeological investigations undertaken along the course of the Walbrook stream and its valley between 1927 and 1960. This period, especially the latter part, which followed the devastation caused by the Second World War, saw the comprehensive redevelopment of the lower part of the valley. The corollary of this redevelopment was the destruction of, and therefore the necessity of recording, the archaeological deposits in the area. The presentation here of the full available evidence for the development of the Middle Walbrook valley in the Roman period provides the background to general conclusions set out in various scholarly and popular syntheses

of the history and archaeology of Roman London (RCHM 1928; Merrifield 1965, 1969, 1983; Grimes 1968; Marsden 1980). In some cases, however, re-examination of the evidence calls for a modification of those conclusions.

Among the archaeological projects undertaken in the valley, perhaps the best known, and in many ways the most important, was that carried out by the Roman and Medieval London Excavation Council (RMLEC) and directed by Grimes. This uncovered the Temple of Mithras and fundamentally altered the received view of the

1. Locations of the main sites; the area represented on Figs 2-3 is outlined. See also Fig 1a overleaf.





1a. Detailed locations of excavations reported upon.

stream itself. The Guildhall Museum undertook further work on the site at Bucklersbury House and also at St Swithin's House, Walbrook, Temple Court and 1 King's Arms Yard. In the 1920s and 1930s the Society of Antiquaries sponsored site watching during the reconstruction of the

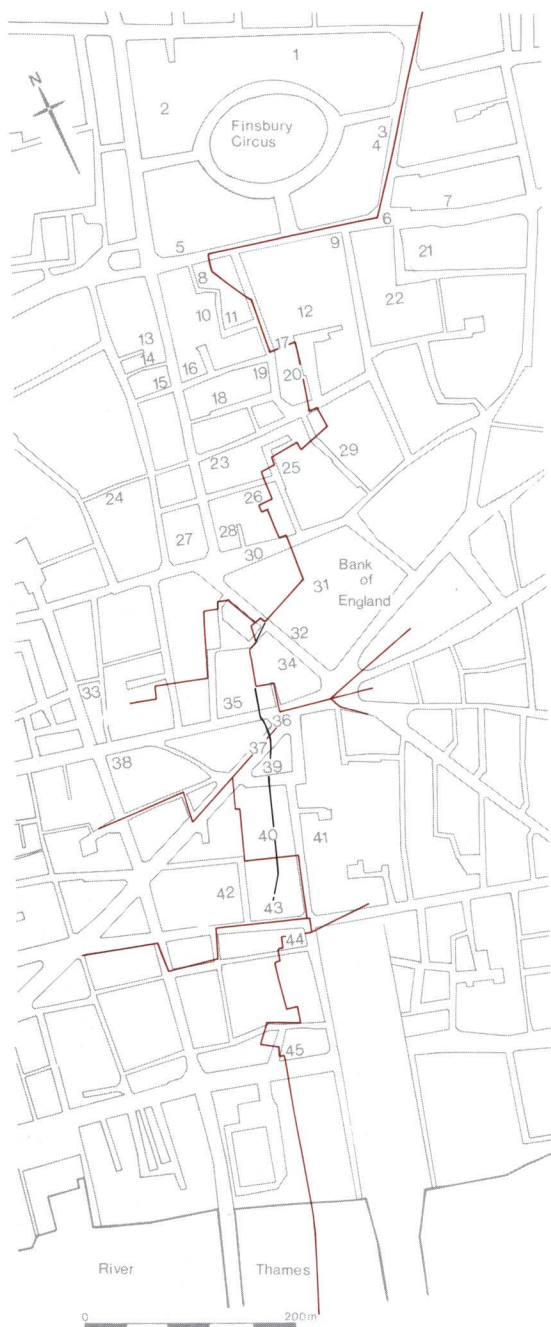
Bank of England, and in 1960 staff of British Railways recorded archaeological features at Bank Tube Station ('Travolator' site). The following reports cover all of these works, except those of RMLEC (Fig 1).

Each site description given here is complete in itself, and within each an internal interpretation of the structures is offered where possible. These descriptions are followed by a single, integrated finds' report (Part Two); broader conclusions based on evidence correlated from all sites and sources are then set out in Part Three to provide as full a picture as possible of settlement patterns and activity in this part of the Roman city.

The sites were recorded using the Excavation Register (ER) system devised by the Guildhall Museum. Site codes or trench codes were not used, and each excavated stratigraphical unit was assigned a number in a single continuous series which embraced all archaeological sites recorded by the Museum. Numbers in the text of this report prefaced by the letters ER are the original designations of those stratigraphical units, as recorded in the Register.

The portable finds together with the site archives, where more detailed information can be consulted, are held by the Department of Urban Archaeology of the Museum of London. Also deposited in the Museum are the original records of the various excavators. All these items may be examined on written application to the Archives Officer, Department of Urban Archaeology, The Museum of London, 150 London Wall, London EC2Y 5HN.

PART ONE: THE ROMAN TOPOGRAPHY AND STRUCTURES



1. M 147 16-18 Finsbury Circus
2. M 146 1-6 Finsbury Circus
3. M 148 23 Blomfield Street
4. FIN 81 23 Blomfield Street
5. M W33 London Wall
6. M W30 W corner Blomfield St/ London Wall
7. M W29 London Wall, All Hallows Church-yard
8. KEY 83 Copthall Avenue/ Cross Keys Court
9. M 143 2 Throgmorton Avenue
10. OPT 81 5-12 Copthall Avenue
11. M 139 Copthall Avenue
12. M 142 20 Copthall Avenue
13. M 134 55-61 Moorgate
14. M 133 Coleman Street
15. M 135 Moorgate Street/Great Swan Alley
16. M 136 30 Moorgate
17. M 140 10-12 Copthall Avenue
18. M 137 20-28 Moorgate Street
19. M 138 5 Copthall Avenue
20. M 141 4-6 Copthall Avenue
21. M 145 Winchester House, Great Winchester Street
22. M 144 22 Great Winchester Street
23. TEL 83 8-10 Telegraph Street
24. MAS 78 1-9 Masons Avenue
25. M 159 Tokenhouse Yard
26. M 158 1 King's Arms Yard
27. M 155 1-5 Moorgate
28. M 156/7/60 Lothbury/Founders Court
29. ACW 74 Angel Court/30-35 Throgmorton Street
30. M 164 Near St Margaret's Church
31. M 167-72 Bank of England
32. M 174 5 Princes Street
33. M 50 110-16 Cheapside
34. M 175 5 Princes Street
35. M 176-7 33-5 Poultry
36. M 190 Bank Tube Station
37. M 194 Bucklersbury Pavement
38. M 60 Cheapside/Bread Street
39. M 195-6 Queen Victoria Street, National Safe Deposit Company
40. M 247 Bucklersbury House, Walbrook
41. M 264 St Swithin's House, Walbrook
42. M 256 Temple Court, Cannon Street
43. M 253 Bucklersbury House south, Budge Row
44. M 258 Cloak Lane
45. M 260 Upper Thames Street sewer

M = Merrifield (1965) Gazetteer numbers; FIN 81 etc.
 = Museum of London (Department of Urban Archaeology) site codes.

2. Evidence for the course of the Walbrook: medieval ward boundaries (brown), medieval property boundaries (black), and numbered excavation sites.

I : ARCHAEOLOGY IN THE WALBROOK VALLEY

The earliest mention of the Walbrook is in a charter of William I dated 1068 (Harben 1908, 602). Ekwall (1960, 193-4) cites references in 1104 and 1114-20. He also gives the derivation of the name as 'Stream of the Britons', an etymology which was supported by Wheeler (1930, 13-15). Perhaps one of the best known of these early references is that of Geoffrey of Monmouth writing c.1136 (*Historia Regnum Britanniae*, v.4). He tells the apocryphal story of the capture of London by Asclepiodotus and the subsequent beheading of its defenders on the banks of a stream, which was then named Gallembourne after Gallus, the defenders' leader. It has been suggested (Marsh & West 1981, 86) that this story was invented to account for skulls having been found in the stream. London's early antiquarian researchers either do not mention the stream or merely follow Geoffrey's etymology of the names (Camden 1607, I, 377). Stukeley (1724) shows the course of the stream on his otherwise imaginary plan of the Roman city.

Archaeological recording of the valley began in the 19th century. The first such work was by Charles Roach Smith (1842, 152), who recorded a culvert carrying a watercourse through the City wall, noting also the marshy nature of the ground to the north. The discovery of human skulls in this area was also noted. A further culvert was recorded by Tite (1848, 31). In 1867 Pitt-Rivers, excavating in Tokenhouse Yard, found a layer of black earth 3ft (0.91m) deep, overlying 5ft (1.52m) of river gravel in association with timber pile structures (Lane-Fox 1867, 71). Throughout the 19th century work on such sites as Cloak Lane (Roach Smith 1847, 341), Dowgate Hill (Roach Smith 1839, 59) and Princes Street (Roach Smith 1839, 141) showed that wooden piles in association with extensive deposits of black mud or silt and with Roman objects were typical of the early Walbrook valley.

The most important 19th-century work on the Walbrook, however, took place in the 1870s. On

the site of the newly constructed Queen Victoria Street, near its junctions with Cheapside and Bucklersbury (Fig 32), the famous mosaic now known as the Bucklersbury Pavement was uncovered. Black silt encountered by Price (1870, 48) near and beneath this pavement was interpreted as that of the river bed. Three years later, on the building of the National Safe Deposit premises (NSDC) nearby he recognised that the clearance of 'a large amount of ancient debris [implied] that a portion of the course once pursued by the stream of Walbrook would be visible and, on completion of the works, every trace of the existence of this particular section of the old watercourse would forever be removed . . .' (Price 1873, 9)

Archaeological examination was undertaken with this in mind. It had already been established during the building of the Mansion House in the 18th century that the area was marshy and that it contained springs which discharged into the Walbrook, the course of which had already run underground for a long time. Large numbers of ancient timber piles were disinterred. The chief result of the NSDC investigation was the discovery of the course which the Roman stream took through the site (Price 1873, 55-6). Price also published a plan of the course of the Walbrook through the City. This was largely based on the medieval ward boundaries, which were thought to represent the course of the Walbrook, and subsequent work has broadly endorsed this assumption (Fig 2). Because of the lack of any work north of the City wall at that time, however, it was impossible to trace the Walbrook upstream of the culvert found by Roach Smith.

During the early 20th century, work concentrated on the northern part of the stream course, especially outside the City wall in the Finsbury Circus area. This was done largely in the hope of recovering material for the purpose of dating the wall itself (Reader 1903; Norman & Reader 1906; Norman & Reader 1912, 311-20;

Lambert 1921, 94-109). The marshy nature of land to the north of the wall was confirmed and several possible 'stream beds' identified. Once more, many human skulls were disinterred. Conclusions drawn from work up to 1927 were summarised by Clapham (RCHM 1928, 15-18) who thought it 'unlikely that any subsequent evidence will throw much fresh light on the subject'. The hypothesis was advanced that the stream consisted of a wide watercourse 150 feet (46m) wide at the northern limit of the city, 250 feet (76m) wide at the Bank of England and 300 feet (91m) or more at Dowgate, where it met the Thames. It was also suggested that skulls in the northern part of the valley were the heads of victims of the Boudiccan massacre of AD 60-1. The natural, wide stream was thought to have been filled quickly with rubbish dumps, forming an area of reclaimed land on each side of a narrow, residual stream channel with later building taking place on the reclaimed bed. The marshy conditions to the north and the functions of the culverts through the City wall were also discussed.

Work in the 1920s and 1930s on Princes Street (Birley 1929) and at the Bank of England (see below) did not appear to contradict this thesis, and as late as 1951 (Guildhall Museum 1951) this remained the 'orthodox' view of the Walbrook valley. Some doubts, however, were expressed by Hume after the 1949 excavation of St Swithin's House (Hume 1956; see also below), and in 1954 Grimes's work at Bucklersbury House showed that the conclusions reached by early researchers were based on a misunderstanding of the deposits. The stream valley, a wide depression, had been confused with the stream bed, which was now shown to be only 12 feet wide (3.98m). The water-logged fill of the valley, largely black in colour, which had been interpreted as river silt, was now identified as stratified dumps and occupation surfaces, and a distinction was made between this and the dark gravelly silt which existed between the timber-revetted banks of the watercourse itself. The timber revetments were used to retain the valley dumps and allow the free flow of the stream. Several structures were recorded, including the Temple of Mithras (Grimes 1968). The work of the Guildhall Museum on the site added further detail to this outline. The large numbers of objects recovered from the site gave rise to discussion of the uses to which the valley was put, while close study of the coins (Merrifield 1962) contributed greatly to the establishment of a basic chronology. Work at Bank Tube Station in 1960

again confirmed the dumped nature of deposits in the stream valley, while in the same year work at King's Arms Yard and on the Upper Thames Street sewer (*Journal of Roman Studies*, 49, 1959, 125) showed the lower part of the valley at its northern and southern extremities.

More recent work has again been concerned with the northern part of the valley, notably at Angel Court (Blurton 1977) and Copthall Avenue (Maloney 1982; 1990). These two sites were important in applying modern techniques to the problematic nature of the upper reaches of the Walbrook, which, apart from the work by Dunning at 55-61 Moorgate in 1929, had not been examined for some 60 years. The Copthall Avenue site produced evidence of timber buildings of mid 2nd-century date following a programme of drainage and land reclamation which indicates that marshy conditions had obtained in the area during the 1st century; some of the structures were associated with industry. At 55-61 Moorgate and Angel Court, timber-revetted water channels and dumping sequences were found to be consistent with the type of reclamation work noted at Copthall Avenue, though subsequent development seems only to have comprised further dumping. Also at Copthall Avenue, a road was found to run north-south across the stream valley. Further work, in 1983, revealed a well-defined stream channel which went through several natural stages of silting and of recutting its bed through the valley (Maloney 1990). This does not seem to follow the line of the channels postulated by the Royal Commission (1928) and Merrifield (1965), based on the position of culverts in the City wall. Some doubt can also be cast on the function of these culverts (Wilmott 1982b), as only one (Merrifield 1965, Gazetteer W30) can be proved to have run southwards. Clearly, much work is required before the character of the upper Walbrook, from Lothbury northwards, can be understood.

A number of conclusions have been drawn on the general character of the Walbrook as a result of the work briefly summarised above. From the initial idea of a broad, navigable stream, the evidence produced by Grimes showed that the main watercourse was narrow and revetted with timber, and that on its banks were many timber structures laid one above the other over a fairly short period from the 1st to 2nd centuries. The discovery of a great many finds led to the idea that the valley was used for a variety of purposes; dumping, trade, industry, and as a site for votive

deposition are some of the activities postulated (see also below, pp. 168-171). Reconsideration of the full evidence in this report will provide for the first time a complete corpus of work undertaken in the valley by the Guildhall Museum, and is used as a basis for a reconsideration of many of these conclusions.

2: GEOLOGY AND TOPOGRAPHY OF THE MIDDLE WALBROOK VALLEY

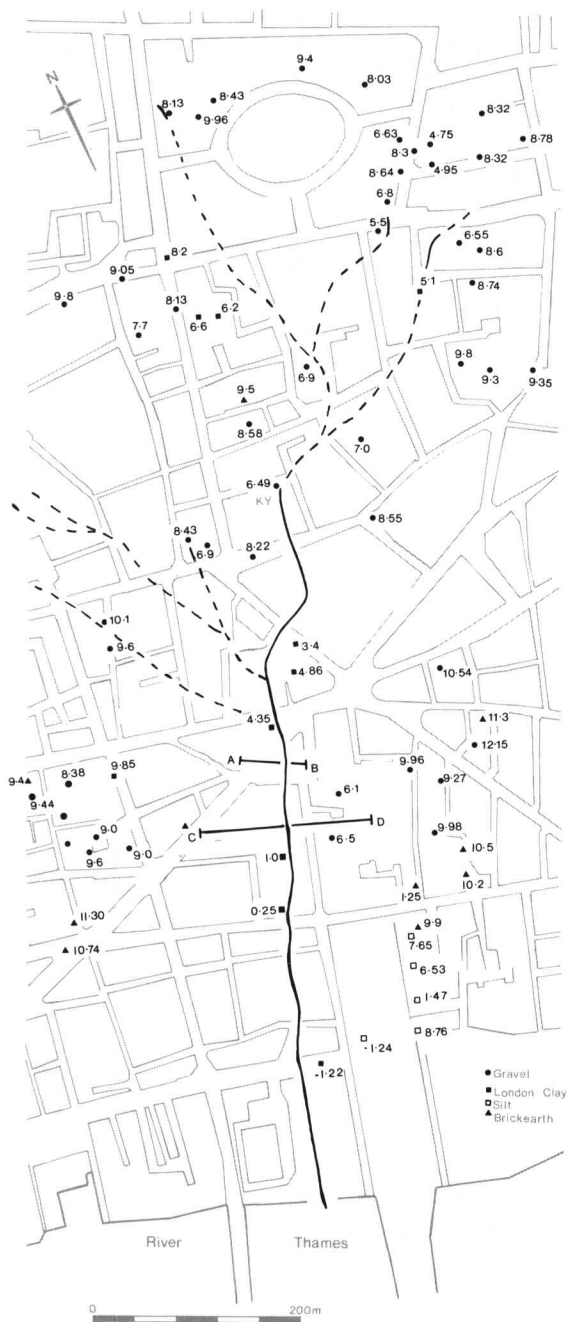
The City of London is built on a water-bearing gravel terrace on the north bank of the River Thames. This terrace overlies the impermeable London Clay, and is dissected by a number of streams including the Fleet and the Walbrook. The Walbrook divides the terrace into two low hills, Cornhill and Ludgate, which are capped with a layer of brickearth up to 1 metre thick (Marsden 1972).

Because of the density of buildings in the City, and because of the Roman, medieval and early modern accumulation which has obscured the natural contours, it is only possible to plot features like the Walbrook from small and infrequent exposures. In the past, many of these observations have been inadequately recorded, so the knowledge of both the course of the Walbrook and of the size and shape of its valley is very limited. Much use has been made of medieval ward boundaries (Fig 2) in plotting the likely course of the stream, and all excavations revealing the main stream concentrate round the north-south line indicated by these boundaries (Fig 2).

It may be noted that within the main north-south line of the ward boundaries, supposed to show the course of the stream, there are a number of inconsistencies where the boundaries take broad steps from their logical north-south course. An intensive study of property boundaries by the Social and Economic Survey of Medieval London (SESML) has shown that on occasion blocks of property were respected by ward boundaries and that in these cases the obvious natural topographical boundary of the Walbrook is ignored. Many property records (eg. Legacy of William Ots, Mercer to the church of St Mildred, Poultry (5 September, 1420), Corporation of London Record Office HR148(39)) give the Walbrook as their boundary, and a correction of the medieval course shown by the wards using property boundaries is now possible (D Crouch and J Stedman, SESML, pers. comm.), as shown in Fig 2. Fig 3 shows the course of the Walbrook as sug-

gested by the Royal Commission (1928) and refined by Merrifield (1965). North of King's Arms Yard (Fig 3; KV), the suggested course of the stream should be regarded with some circumspection, and for this reason dotted lines only are employed. Of the three culverts assumed to carry Walbrook tributaries under the City wall into the City itself, the easternmost (Fig 2.7) was first recorded as draining from south to north into the City ditch (Roach Smith 1842, 152). The westernmost channel (Fig 2.5) was wrongly sited by Merrifield and does not, in fact, pass through the wall, lying a short distance to the south (C Harding, pers. comm.). This, of course, does not preclude the culvert having carried a branch of the stream. Recent work near London Wall (Fig 2.8) has revealed a medieval culvert on the ward boundary, but it does not correspond with the course of a tributary of the Walbrook in the Roman period (Maloney 1990, 80).

Contours suggested by Marsden (1972; 1980, 16) and by Biddle, Hudson and Heighway (1973), analysis of spot heights (Marsden 1980; unpublished records in the Museum of London), and the contour evidence of the 1841 'original contour map of London' (D Bentley, pers. comm.; evidence included in the 2nd edition of the Ordnance Survey Map of Roman London), all suggest that in its natural state the upper part of the valley took the character of a basin funneling southwards between Cornhill and Ludgate Hill in its lower course. The general contours and spot heights (Fig 3) in the valley show this funnel effect forming around King's Arms Yard (Fig 2.26). Below this point, the sides of the valley are infrequently interrupted by small tributaries. The fact that most of these tributaries are situated on the west side may be a distortion, as this is the area where the most archaeological work has taken place. North of King's Arms Yard every site excavated seems to have revealed some kind of channel, natural or man-made. These channels are found over a wide area of the basin noted



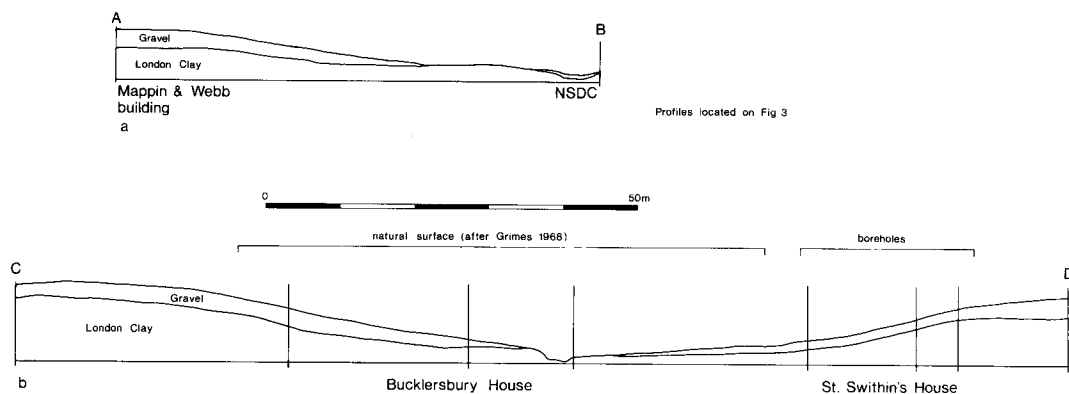
3. The Walbrook valley, showing the course of the stream, spot heights and contours.

above, but none stands out clearly as a main stream, if such existed. Even in the medieval period almost any stream in this area tended to be referred to as 'Walbrook' (cf. Dyson 1977, 15: 'Walbrook [is] a generic term for a network of convergent south-bound streams'). It seems that the point at which the streams converged was that at which an identifiable 'main stream' appears: ie. from the King's Arms Yard area southwards. In conclusion, it seems that the upper Walbrook valley (or Walbrook basin) was a collecting area contributing to the very short run of a single watercourse.

As might be expected, to the south the stream valley cut into lower geological deposits than it did to the north. Thus, at King's Arms Yard the stream bed was on gravel, whereas at Bucklersbury House it was on clay. The natural configuration of the lower valley, together with its levels will now be considered in some detail.

At King's Arms Yard a number of exposures of underlying natural deposits were made. The top of the London Clay was revealed in Boreholes A and B (Figs 39, 40b). It was defined at +6.19m Ordnance Datum (OD) in Borehole B, and was capped by natural gravel, the top of which occurred at +6.49m OD. In Borehole A, no gravel was revealed, and it would appear that the London Clay (top at +6.04m OD) was itself truncated. In trenches 2 and 6 (Fig 39), on the north-south axis of the site, gravel was defined at +5.27m and +5.48m OD approximately. Gravel here was thus below the level of London Clay. Eliminating the unlikely phenomenon of a general but very limited dip in natural strata here, one is left to conclude that this fall in level represented a watercourse eroded into London Clay in which clean gravels were carried by natural processes of water deposition; these would be virtually indistinguishable to the eye from the gravels of the Thames river terrace. West of the site, at Founders Court (Fig 42), natural deposits occurred between approximately +5.68m and +5.00m OD. The deeper level was considered as the bed of a stream, though whether this (RCHM 1928, 131-2) was a continuation of the watercourse at King's Arms Yard, or a separate tributary, remains unknown. Although it is clear that a watercourse ran through Founders Court, the shape and size of the valley cannot readily be deduced.

Between King's Arms Yard and Bucklersbury House most natural levels are approximations based on measurements recorded below modern



4. Reconstructed profiles of the natural Walbrook valley.

pavement level. It has, however, been possible to reconstruct in part the incline of the Walbrook valley in this area. At the Bank of England few observations were made, and some of these are seemingly contradictory. Over most of the site gravel formed the subsoil. To the east, a well is recorded as being sunk into the gravel (Fig 35, Feature 14; Dunning 1937, 414), while to the south (Fig 35, Feature 11; Waddington 1931, 67) a Roman well was apparently sunk up to 2.15m into gravel. A reliable observation in Lothbury, immediately north of the Bank, showed gravel at +8.22m OD. The low level of gravel at King's Arms Yard, compared with that at Lothbury, may indicate that the latter observation was not low in the stream valley, while King's Arms Yard was. Immediately south of the Lothbury site, an early (and probably unreliable) observation shows clay at approximately +7.02m OD as a natural deposit with Roman structures laid directly upon it. It is virtually impossible that this could have been London Clay, though similar anomalies in height do occur, and it is perhaps equally likely that the 'clay' represents a residual lens of brickearth in this area. At an unspecified point on the Lothbury side of the site was a bed of 'black silt' lying at +3.66m OD. This seems very low and must, as suggested by the excavator, constitute an element of stream bed fill. If so, it would lie on the course of the stream as planned by Giuseppe (1936, 282 figure). At the site of Midland Bank, Princes Street (Fig 2.32; Fig 34.2), the top of London Clay can be determined at two levels (Fig 3). The levels are +4.86m OD to the west and +3.40m OD to the east. This reflects an easterly slope down into the Walbrook valley. At

the western limit of the same site, gravel was found to overlie London Clay on the upward slope.

In the area around the Bank Tube Station and National Safe Deposit Company sites (Fig 2.36, 2.39) a profile across the western side of the Walbrook valley can be reconstructed. At the latter site, in the trench for the southern retaining wall of the building, piles were found to be driven into clay which lay at a level of +0.51m OD. Above the clay and post-dating the piles, was a stratum of gravel, whose top lay at +1.02m OD. The surface of London Clay thus lay between these limits. On the Bank Tube Station site, to the west, the edge of the valley was cut obliquely, showing a slope in the clay from +1.35m OD at the north-east end of the tunnel, to +3.67m OD at the south-west end. At the Mappin and Webb site, immediately west of the tunnel, London Clay was again the natural subsoil lying at +6.35m OD (The *Architect* 1871). On the Bank Tube Station site, as at the National Safe Deposit Company site and at King's Arms Yard, a layer of clean gravel c.0.20m thick separated the clay from overlying 'black silt', predating an early natural silting of the stream before any occupation. The level of London Clay at Mappin and Webb's building was consistent with that of +4.86m OD noted at Princes Street, and the base of the gravel must have lain above this level, as was again the case at Princes Street. Slightly further to the west, at 76-80 Cheapside, brickearth overlay gravel at +11.98m OD. The profile of the valley in this area is therefore as given at Fig 4a. It is unfortunate that no record of natural levels to the immediate east of the National Safe Deposit Company site is available.

A complete profile of the Walbrook valley (Fig 4b) can only be drawn as a result of the controlled excavations at St Swithin's House, Bucklersbury

House and the Bank of London and South America (Wilmott 1982a, 8). At Bucklersbury House the RMLEC trenches (Fig 6) provided a profile across the stream itself. The level of the lowest part of the stream bed, both here and where the stream revetment was stepped in, was approximately +0.25m OD, compared with approximately 0.00m OD at the southern end of the site. Though Grimes's published section does not show the character of the natural deposits (Grimes 1968, Fig 23b), these can be reconstructed from archaeological and commercial borehole records. On the eastern side of the valley the level of natural at Section A-B (Fig 7) was at approximately +3.83m OD, and the natural deposits here comprised gravel. The level at this point is consistent with Grimes's section. Boreholes show London Clay at +1.80m OD at the same point. This profile forms the central part of the section shown at Fig 4b. Towards the east, boreholes at St Swithin's House show a gradual rise in the level of London Clay and in the thickness of gravel

towards Cornhill. Archaeological observations at St Swithin's House (Fig 22, plan) also help to define where the eastern edge of the Walbrook valley lay. The section through Feature 72 (Fig 24) shows natural gravel at +5.13m OD. Here there was no sign of the characteristic black valley fill. Only 1 metre to the west, however, the sides of Trench D (Fig 25) showed a discernible slope downwards to the west, and overlying the slope of gravel was a substantial thickness of valley fill. Clearly, the break of slope between the valley and the plateau into which it was cut lay between these sections. To the west, at the Bank of London and South America site, gravel lay between +6.16m and +8.27m OD, and it seems that the edge of the valley on this side lay under the present Queen Victoria Street. (Wilmott 1982a. Here it was stated that at Bucklersbury House the top of London Clay ranged between minus figures OD. In fact the true range is 0.00m to +0.96m OD, though this correction makes no difference to the conclusions reached in that paper.)



3. EXCAVATIONS AT BUCKLESBURY HOUSE (1954-5) AND TEMPLE COURT (1933 & 1960)

Tony Wilmott, with contributions by Peter Marsden

INTRODUCTION AND ACKNOWLEDGEMENTS

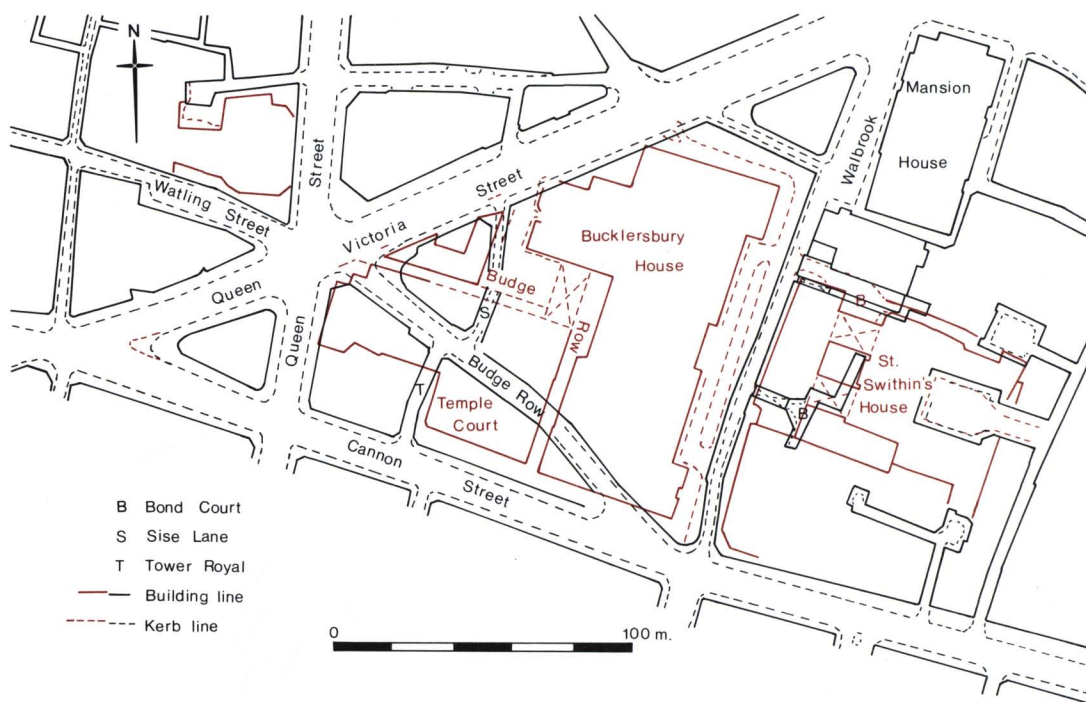
In 1933 a limited amount of archaeological recording was undertaken by Dunning at 69-73 Cannon Street (Fig 6). After the Second World War, however, the site of the modern Bucklersbury House and Temple Court, constituting one of the largest City bomb sites, also underwent large-scale redevelopment. The site gave an important chance to investigate the character of the Walbrook stream and its valley. In 1951, Grimes and the RMLEC initiated excavations which established the nature of the Walbrook and revealed the temple of Mithras (Grimes 1968, 92; for location of RMLEC trenches, see Fig 6).

The following account concerns the work of the

Guildhall Museum on the site, conducted by Ivor Noël Hume (Bucklersbury House) and Eve Harris (Temple Court). The circumstances and difficulties surrounding the excavation have been outlined by Hume (1978, 18-20). Many bodies concerned with the site rendered assistance: Messrs Humphreys and Co (contractors, Bucklersbury House), the Legenland Trust (site owners), Owen Campbell Jones (architects, Bucklersbury House) and Messrs Willements (contractors, Temple Court).

The street plan before and after redevelopment is shown in Fig 5. All site plans are based on the pre-1954 street plan (shown in black), to which the original site records were related. There fol-

5. Bucklersbury House and Temple Court: old (black) and new (brown) street plans.



lows a summary of the principal Roman features excavated. Within the descriptions, divisions are made for the Walbrook stream, its banks, the road, and the stream-side structures of the 1st/2nd and 3rd/4th centuries.

ROMAN FEATURES

The Walbrook stream and bank deposits

Description

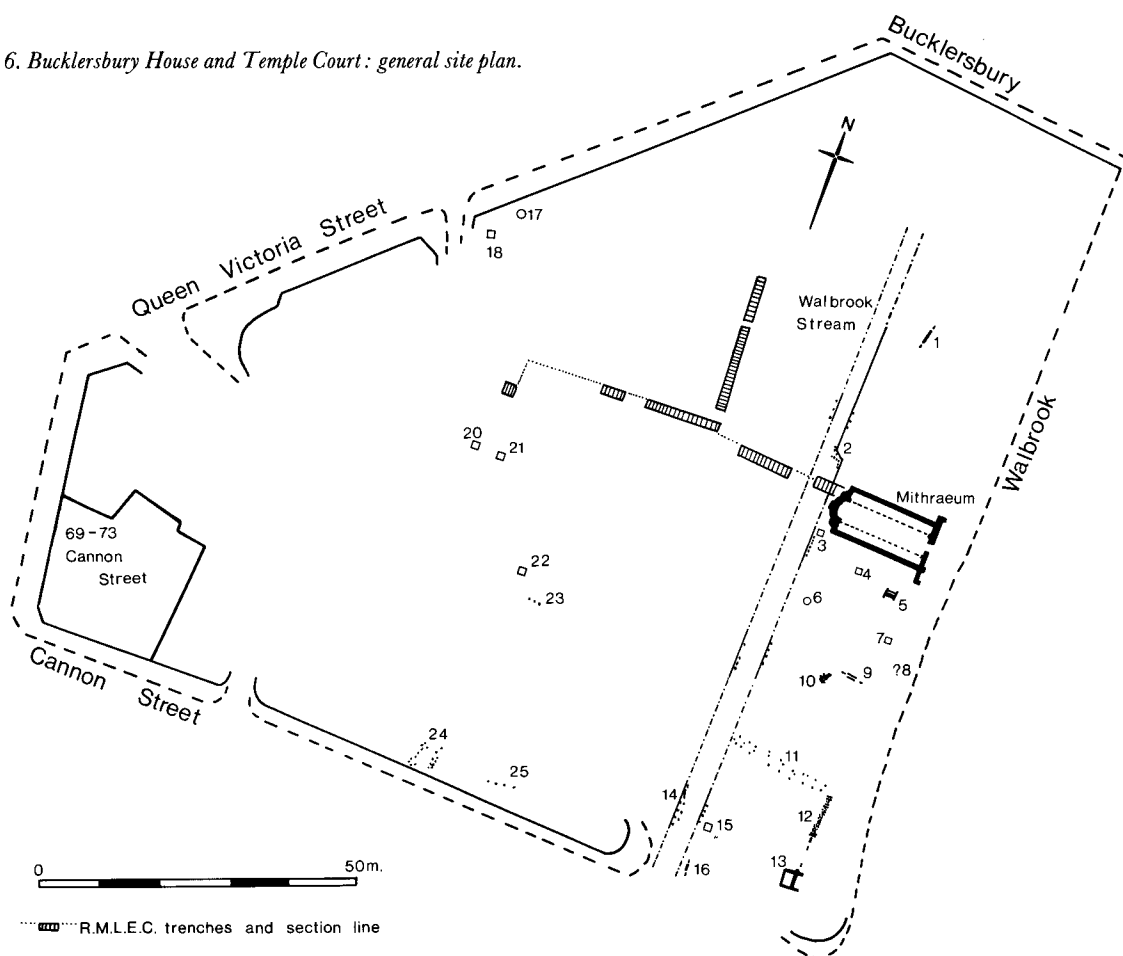
(i) The Walbrook stream

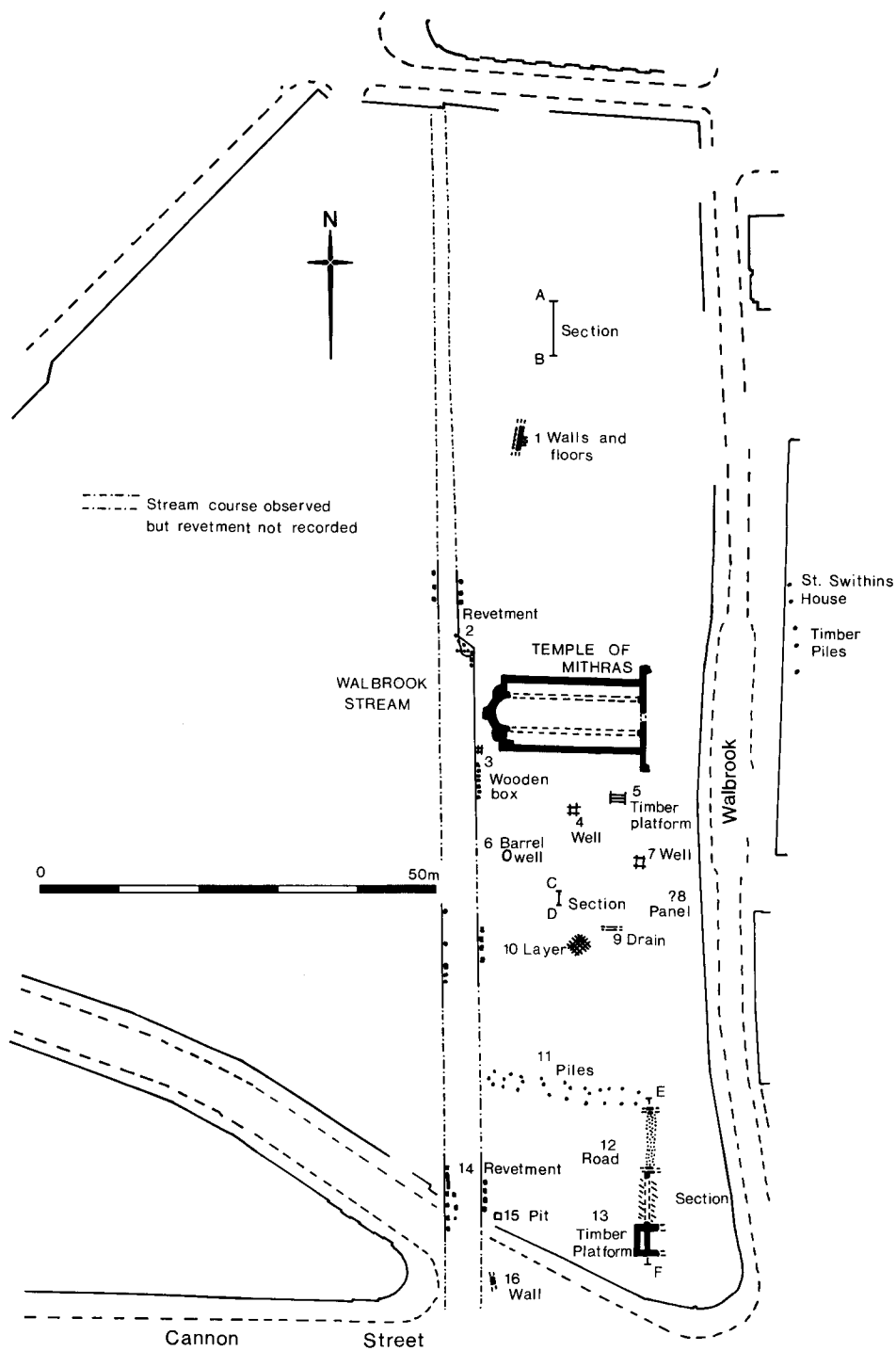
The entire width of the stream was traced from north to south through the Bucklersbury House site (Figs 6-7). Very little trace was found of the earliest (pre-occupation) phases, although there

was some limited indication that the stream was originally somewhat wider than the revetted channel. From the earliest phase of Roman occupation the stream was enclosed or canalised between timber-revetted banks. This revetted channel was 4.26m wide over most of its length, but to the north the eastern revetment was deliberately stepped westwards, reducing the width of the channel to 2.43m (Fig 7). The revetments and their associated stratigraphy were recorded in detail at only two points as follows (Fig 7):

Revetment 2: At the point where the stream course of the Walbrook was narrowed, the revetment consisted of horizontally-laid planks placed on edge and held in place by upright piles driven into the stream bed. They survived to a height of c.1.06m above stream bed level. Though most of the piles were circular in section, that in the angle of the return of the revetment was cut

6. Bucklersbury House and Temple Court: general site plan.



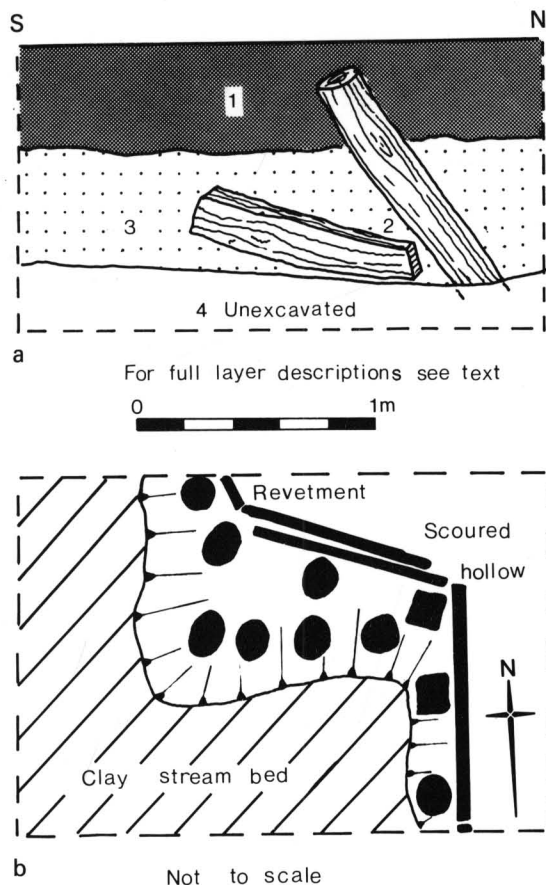


7. Bucklersbury House and Temple Court: plan of the Walbrook stream and adjacent features.

square, as was the one immediately to the south (Fig 8b). A line of four piles formed a row thrust into the stream at right-angles to the bank, but bore no discernible purpose with relation to the revetment itself. The current had created an eddy around these piles, attested by a scoured hollow 0.53m deeper than the bottom of the rest of the stream bed. It is possible that the thrust-out alignment of piles was intended as a breakwater, preventing damage from water pouring from the narrow into the wider part of the stream. As silting progressed, the hollow was filled with water-lain sands and silts which contained a certain amount of Trajanic-Antonine samian ware (now lost).

In the narrow, northern end of the stream it was possible to record a very basic chronological sequence of silting. The first layer, overlying the natural London Clay, consisted of waterborne pebbles and sand 0.10m thick. This layer contained small amounts of Flavian-Trajanic pottery. Workmen's finds from the lowest deposits of the banks outside the revetments were dated to the Claudian-Flavian period (Finds Group ER 268F), as were the lowest finds from the site of the revetted stream itself (Finds Group ER 268E). Above this, the main body of stream silt consisted of a layer of fine, black gravelly silt 2.13m in depth. A brooch (No. 301, below), dated to the mid 2nd century, was found in the lower 0.61m of this material, and there appears to have been no pottery later than this date from the whole deposit. Within this material were dumps, including metalwork, which had been deposited as single, discrete layers, representing individual acts of deposition (see ER 268G, ER 268H, below pp 128-138). Though no pottery was associated with these groups, there were some indications of date. Group ER 268G contained the brooch mentioned above and a clearly residual *as* of Domitian (AD 81-96), while ER 268H produced an *as* of Claudius (AD 40-44) which may have been residual. The final, upper, layers of silt between the revetments were finer and more sandy than the earlier, and a small quantity of late 2nd/early 3rd-century pottery provided dating evidence for this material.

Revetment 14: The second area where close examination of the stream was possible was at the south end of the site (Fig 7). At this point the lower levels of the watercourse (Fig 8a.4) were not excavated. A collapse of the plank and pile revetment (Fig 8a.2) took place during the deposition of a layer of sandy silt (Fig 8a.3) which contained



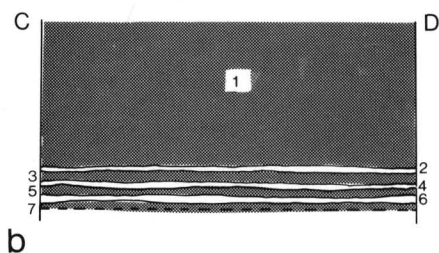
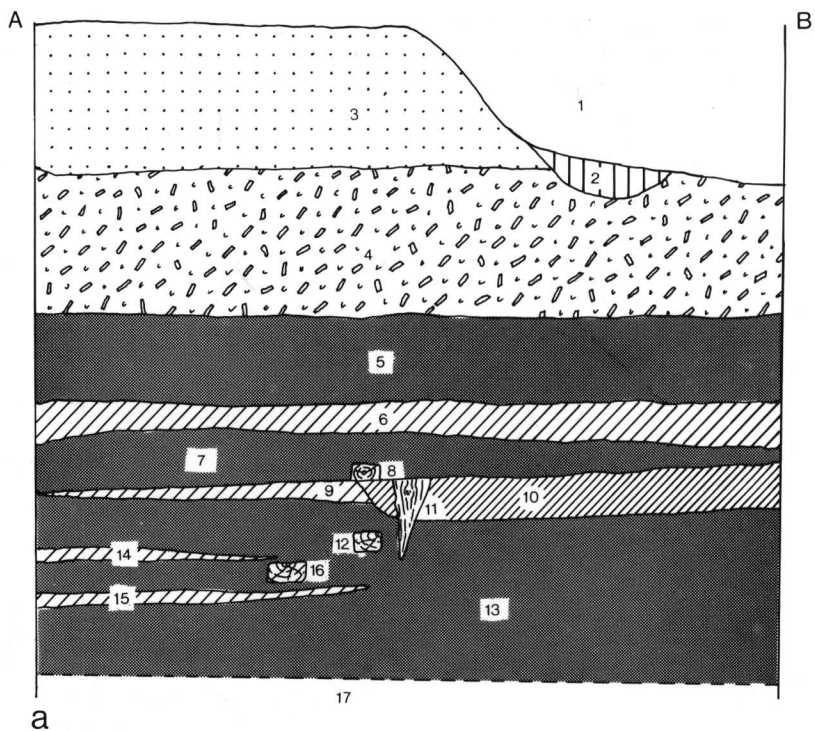
8. Bucklersbury House and Temple Court: (a) south-north section in the west bank of the Walbrook at Revetment 14, (b) sketch plan at Revetment 2.

mid 2nd-century pottery. Sherds recovered from this context and overlying the collapsed revetment were dated to the late 2nd century, possibly as late as *c.*AD 180+ (ER 298). A coin of Marcus Aurelius dated to AD 153-4 (Merrifield 1960, 279-83) was also found. Above this lay an undated deposit of dark organic silt (Fig 8a.1). This dating evidence is discussed further below (p. 179).

(ii) Stream bank deposits

Two sections (Figs 9a, 9b; located on Fig 7), were drawn through these deposits, and several levels were taken on dated layers.

Section A-B (Fig 9a; Nos 1-10 following refer to annotations of this section). Below the base line of this section lay dirty gravel, apparently natural, at approximately +3.83m OD. The main feature of this section was the layering of black



For full layer descriptions, see text.

9. Bucklersbury House and Temple Court: (a) Section A-B, (b) Section C-D. Sections through bank deposits.

silt interleaved with yellow clay. At two, or possibly three, points within this sequence timber beams were laid on clay surfaces. The final timber phase appears to have been part of a definite structure; after the deposition of yellow clay layer (9) it would appear that a wide, shallow cut was made and filled with a more compact and 'dirtier' clay. At the edge of this (10) a stake was driven into the ground and, to the north, a beam aligned east-west was laid. The stake appears subsequently to have been truncated at ground level.

Above the top black silt layer (5) the pattern changed markedly; a layer of builders' debris 0.76m deep (4) was overlain by 0.76m of 3rd/4th-century material (3), and the alternating layers of clay and silt did not recur. The top of the building-debris was defined at approximately +6.53m OD, the same level as the floors of the late building, Feature 1 (see below, p. 32). The sequence was cut by a medieval pit and sealed with post-medieval material which had been removed by machine (1).

Section C-D (Fig 9b). This section shows mixed silts and organic material (1) overlying thin, interleaved deposits of sand (2-8). The dating evidence for layers in this section comprised Flavian pottery from the lower levels (ER 259; Fig 46), and the base lay at approximately +2.42m OD.

Other recorded bank deposits were not drawn in plan or section. Few levels were taken, but these were on deposits so scattered and lacking in stratigraphic relationships that no attempt has been made to correlate heights to give a general succession of bank heights at different dates. It is perhaps worthwhile to note the kind of descriptions given to some of these layers. They are referred to below by the context numbers allocated by the present writer in the course of work on the archive, and, except for the first (Fig 7), appear in no drawing.

Feature 10. Layer of black silt defined at approximately +4.87m OD and dated to the mid-late 2nd century.

ER 245. Flavian to early 2nd-century pottery occurred in a layer consisting of chopped animal bones lying 0.96m above natural London Clay on the east bank of the stream.

ER 250. To the north of this site was a 0.92m-thick layer of burnt tile and daub which produced pottery of the Hadrianic period.

ER 253. Early 2nd-century layer of ash and broken bone at approximately +3.03m OD.

ER 240/1. Layer of black silt producing a remarkably good group of 1st-century samian ware.

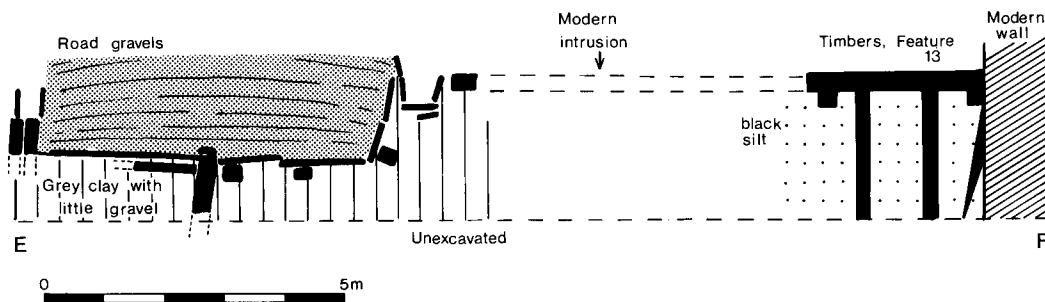
Most bank deposits were recorded simply as 'black silt' varying in date and level. The ER ('context') numbers, for reference to the archive, are: 236, 242, 244, 246, 251, 297, 299, 305.

Comparison with the RMLEC section; discussion

An interim report on the RMLEC excavations has been published by Grimes (1968, 92-117). The published section and account show that the stream banks were composed of artificial dumping which was begun at an early date. Mixed dumps were laid down to dry out waterlogged areas for the preparation of living- and working-surfaces. Often, layers of fresh clay were used to constitute such surfaces. In many cases, timber structures were found associated with clay surfaces or timber floors. Grimes found that these dumps and surfaces were held in place by the timber revetments of the stream, within which silting was rapid. The gradual sequential build-up of these dumps appeared to have been necessitated by the successive waterlogging of earlier surfaces. The revetting was succeeded by a period during which the banks were less stable and well-marked.

These conclusions are compatible with the results described above, which serve to illuminate

10. Bucklersbury House and Temple Court: Section E-F through the road and roadside timber structures.

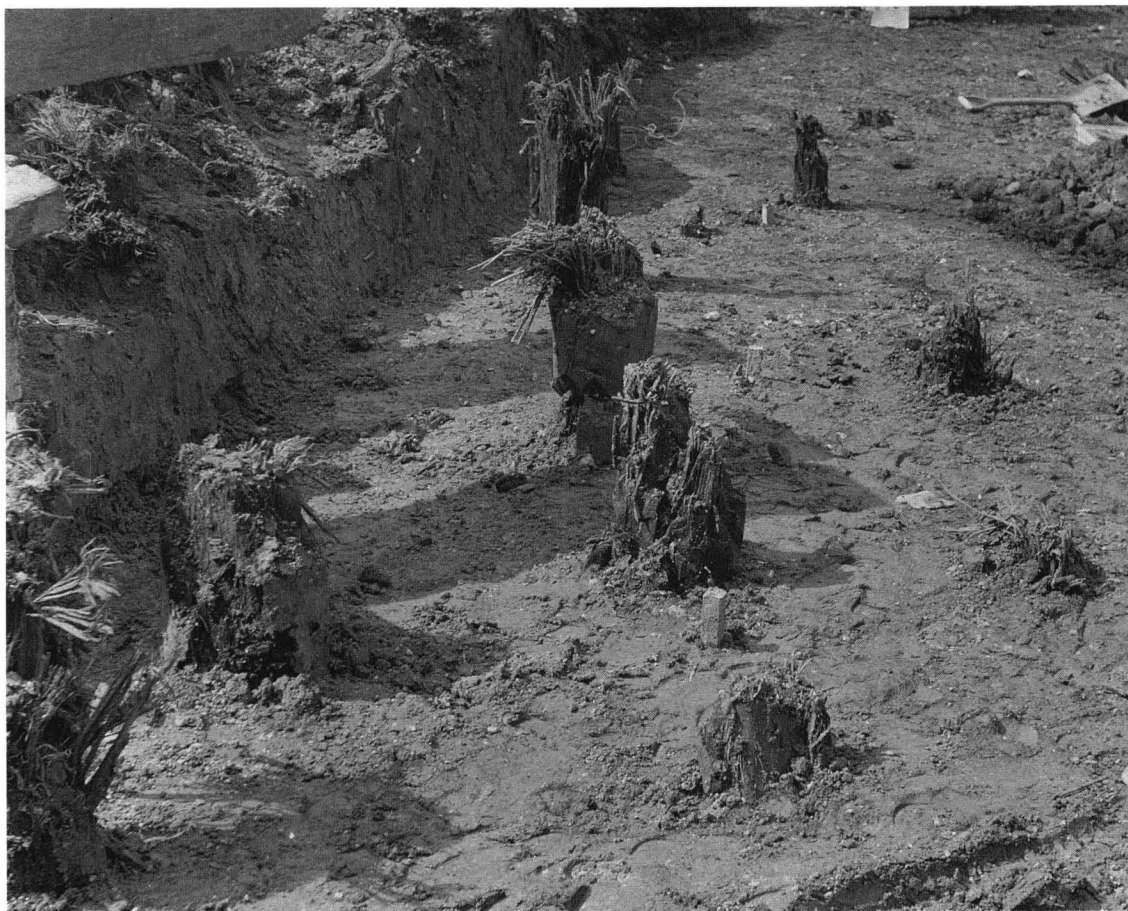




further the RMLEC findings. The rapid silting of the stream can be shown by a comparison of levels. The bottom of the stream bed lay, as already noted, at approximately +0.25m OD to the north and 0.00m OD to the south of the site. There was no trace of excessive pre-Roman silting. By the mid-late 2nd century, however, it would appear that the stream revetments had collapsed. The evidence for this is in the dating of the coin and pottery in silt layers at Revetment 14. Silt above the revetment collapse lay at +2.33m OD in the RMLEC section and at approximately +2.33m OD at the Cannon Street end of the site. This represents an accumulation of almost 2.00m depth of silt between the opening of the Roman period and the third quarter of the 2nd century, a period of 100-125 years. It is, however, clear from the findings at Revetment 2 that natural silting was not the only agency responsible for the rapid accumulation of a huge volume of material.

11. *Bucklersbury House and Temple Court: pile structures beneath the road.*

There is also clear evidence of dumping between the revetments. The two sections through the levels built up on the banks show a very similar pattern to that noted by Grimes. In the case of Section A-B the sequence of dumping is very clear, and includes yellow clay surfaces which are associated with timber structural elements. There appears to have been a distinct change in the 3rd-4th centuries, however, reflected by the deposition of large quantities of builders' debris.



The Road

Description

Section E-F (Figs 7, 10) shows a section through the construction of the Roman road at Bucklersbury House (Feature 12). Associated with this road was a series of piles (Figs 6, 7, 12; Feature 11) which ran from the road, exposed in section, to the stream. On the western side of the stream similar groupings of piles were found (Fig 6; Features 23, 24, 25).

The timber platform to the south of the road is discussed below (Feature 13; p. 30). In section, the road construction appeared as follows. A pile was driven into the natural London Clay where the road was to be built. Butting against this pile, and lying upon the clay surface, were timbers laid north-south and east-west, forming a platform upon which the road gravels could be laid. The gravels which formed the main body of the road

12. Bucklersbury House and Temple Court: alignment of piles, Feature 11.

were 2.13m deep, and the road was 6.10m wide. The *agger* was retained at the sides by at least two courses of planking laid on edge and aligned east-west. Each side of the road was provided with a timber-lined drain, implying the presence of a camber from which rainwater could drain. The northern drain was 0.31m wide and 0.46m deep. The bottom was formed by the tops of the piles which retained the side planking of the road gravels (Fig 11), and the sides of the drain were planked. The southern drain was 0.48m wide and 0.46m deep. In this drain a plank was laid in the bottom with boards retaining the sides.

Feature 11. A series of 25 piles (Figs 7, 12) ran westwards to the stream from the point at which the road was defined in section. It is probable that these represented a westward continuation of the road.

Feature 23. A series of piles ran in a north-westerly direction aligned with Feature 11 above. These were driven into the natural London Clay and also into a layer of blue-black pebbly mud which lay above the clay. This layer was in turn covered with deposits of clean gravel.

Discussion

(i) Road construction

The construction of this road represents one of several methods used in the London area to cross wet or marshy land. These methods vary according to ground conditions and the importance of the thoroughfare. On the major road of Stane Street in Southwark, marshes were crossed by a thick gravel road laid on an extremely substantial raft of clay and logs (Ferretti & Graham 1978, 61; Marsden 1980, 27), an undertaking which, as on roads in similar places on the Continent (Chevallier 1976, 89-91), required extensive engineering work. In the wet land to the north of the city itself, the road gravels were placed on turves which were in turn placed on a brushwood raft (Maloney 1990, 33).

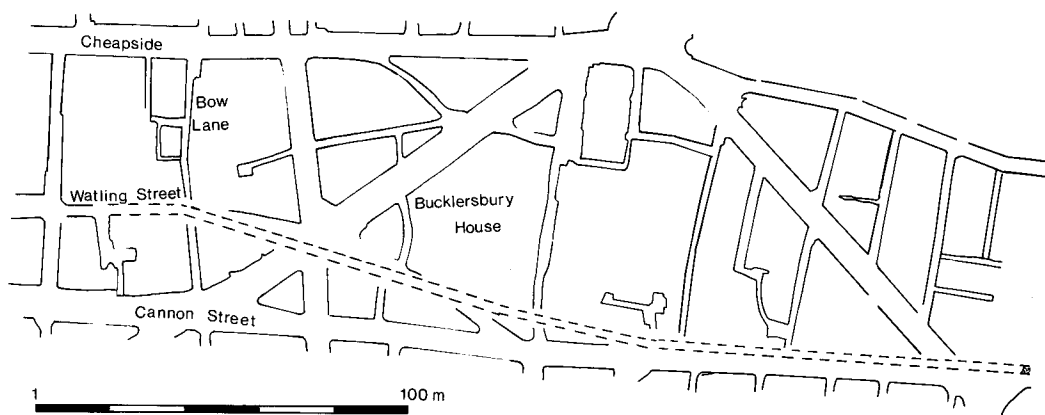
Both these roads crossed widespread and flat areas of marshy ground. The road at the Walbrook crossing at Bucklersbury House, however, was laid across a relatively narrow strip of sloping wet ground. The piles (Feature 11) continued the line of the north side of the road, where more piles were observed in section, underlying the northern drain and acting as supports for the planking which enclosed the *agger*. A further pile was driven into the natural surface preparatory to laying the road itself. It seems likely that the piles were driven into the valley sides, both to reinforce the

planking enclosing the road gravels and to stabilise the land on which it was laid. The use of piles to consolidate sloping ground for construction is well attested in London, particularly at Peter's Hill in the south-west corner of the City (Williams forthcoming). Beams and planks laid under and at the sides of the road would then act as a raft to prevent sinkage and spreading. At least some of the planking laid up the sides of the *agger* is probably secondary, reflecting structural aspects of resurfacing as the surrounding ground level rose.

(ii) The course of the road (Fig 13)

The Feature 23 piles are on the same alignment as the Feature 11 piles, and it is likely that they represent the continuation of the road line across the Walbrook and the consolidation of the slope on the west side of the stream. It has been suggested (Perring & Roskams forthcoming; Ordnance Survey 1981) that the road from the Walbrook crossing ran north-west through the Temple Court site to the south end of Bow Lane, changing alignments to run westwards along Watling Street. The clean gravel around Feature 23 can perhaps be interpreted as road metalling. This would imply a 1st-century date for the road itself, derived from pottery found in the black material beneath the gravel. To the east the road was apparently a continuation of that which ran east-west along Cannon Street (Marsden 1980, Fig 118).

13. Bucklersbury House and Temple Court: projected course of the Roman road through the site.

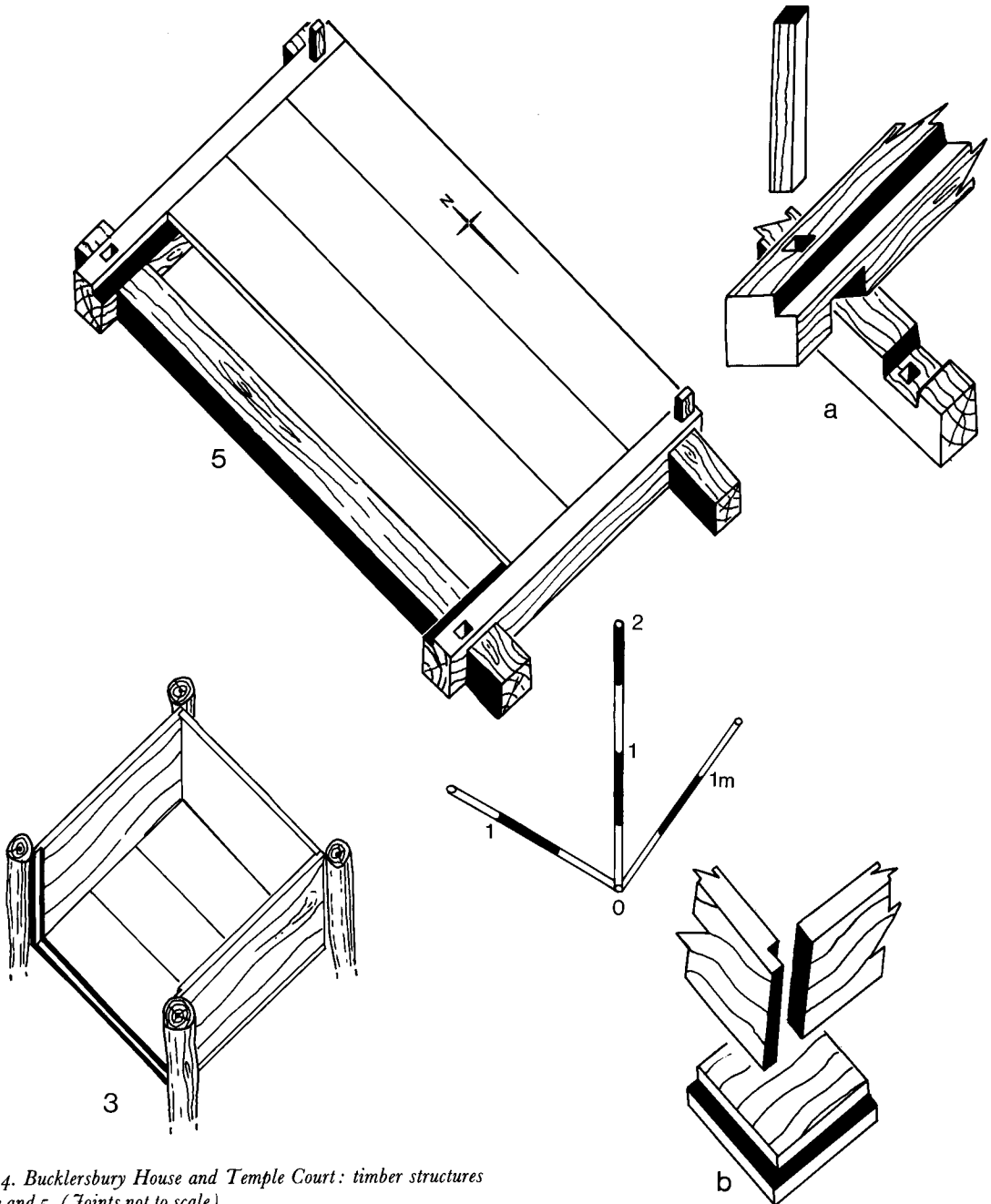


1st/2nd-century structures (Figs 6, 7)

Description

Feature 3. (Fig 14b) An oak box 0.61m square. Though this box was complete in itself there was some evidence to show that a further tier of similar construction had been placed above it. The box

was sunk into the ground and revetted at the corners by means of rounded stakes placed externally. The small quantity of finds in the grey sand fill of the box indicated a date in the Antonine period at the latest (Fig 46). The box was built of four boards 0.22m high and 25mm wide with a base formed of three pieces laid edge-to-edge and rebated all round to accommodate



14. Bucklersbury House and Temple Court: timber structures 3 and 5. (Joints not to scale)

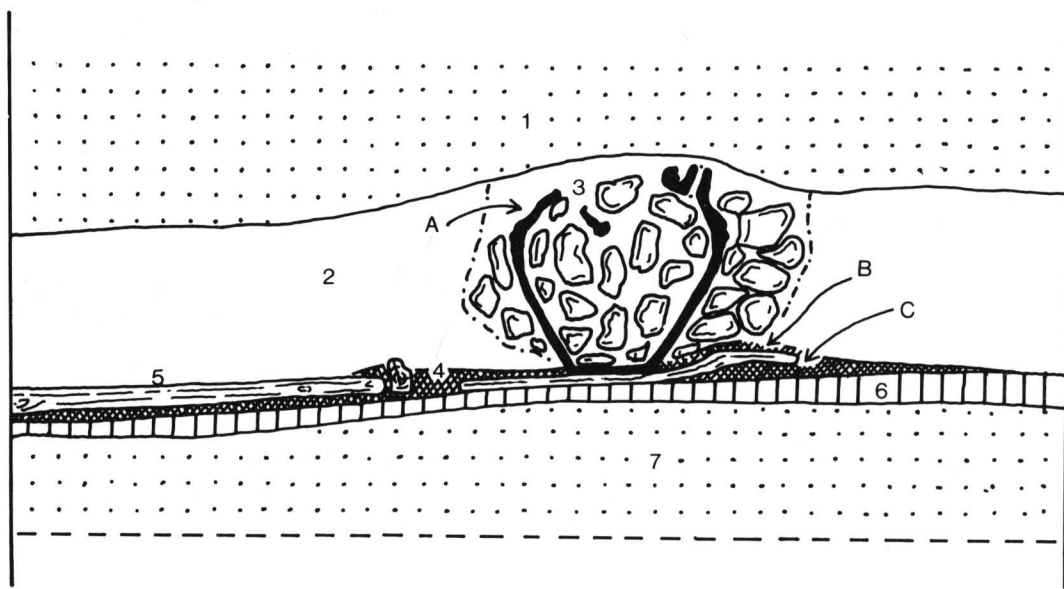


15. Bucklersbury House and Temple Court: timber platform, Feature 5.

the four sides. The two end planks of the base were nailed to the sides from the bottom, indicating that the box had been built complete, before being sunk into the ground. The northern and southern side planks were rebated at the corners and the ends of the eastern and western planks were recessed into them. They were then nailed with five nails at each corner.

Feature 5. (Figs 14, 15) Timber platform lying at +5.77m OD. The panel was closely dated by means of Flavian-Trajanic pottery lying beneath, and by Antonine material in the layers immediately overlying it (ER 235). The platform measured 1.04 × 1.47m. The basic framework consisted of four side beams fixed at the corners with saddle joints. The eastern and western tim-

16. Bucklersbury House and Temple Court: section at Feature 8.



1,7; Gravel.

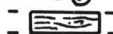
2; Layer not known.

4; Burnt grass.

6; Clay.

108

3; Flint and iron.



5; Wood.

--- Conjectured cut line

A Face pot

B Knife handle

C Ligula

0

1m.



bers were 115mm thick with a 42mm rebate cut on the upper, inside edge. The northern and southern beams were 73mm thick and were so jointed that their top edges were flush with the bottom of the eastern and western rebates. A central brace was also provided. Though the dimensions and jointing of this timber were not recorded, it seems probable that it was treated in an identical fashion with the northern and southern cross-members. Planking was laid on the frame from east to west, resting in the rebates mentioned above and providing a planked surface flush with the tops of the eastern and western timbers, covering in those running north-south. Slots were cut in the saddle joints at the corners of the structure, in which pegs (or possibly the stumps of original uprights) were set. The ground beneath the platform was contaminated with urine (see below, p. 172).

Feature 6. Barrel well, the bottom defined at c. +5.75m OD. Though the feature was not datable, most other barrel wells from the City can be attributed to the 1st or 2nd centuries (Wilmott 1982a, 49). It is probable that this feature belongs to the same period.

Feature 7. Timber-lined well. The construction of this well was not recorded, but the identification of the feature as a well was confirmed by a coopered bucket found in its fill. The fill was dated to the second half of the 2nd century (ER 218; cf. Fig 46).

Feature 8 (by Peter Marsden). A visit to the

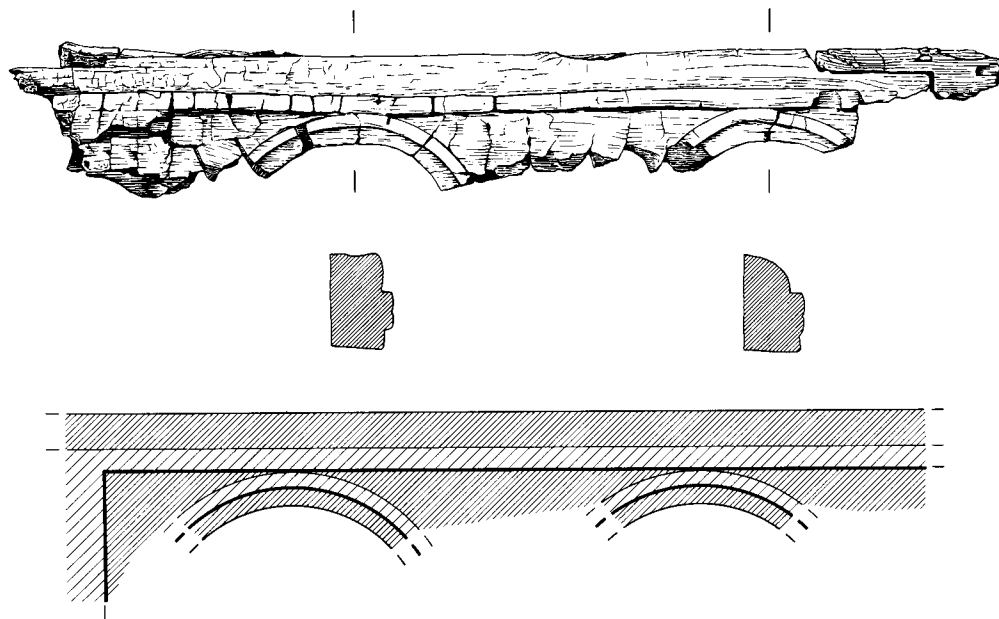
Bucklersbury House site in 1956 disclosed a section (Fig 16) on the east side of the site, close to Walbrook Street and south of the Mithraeum.

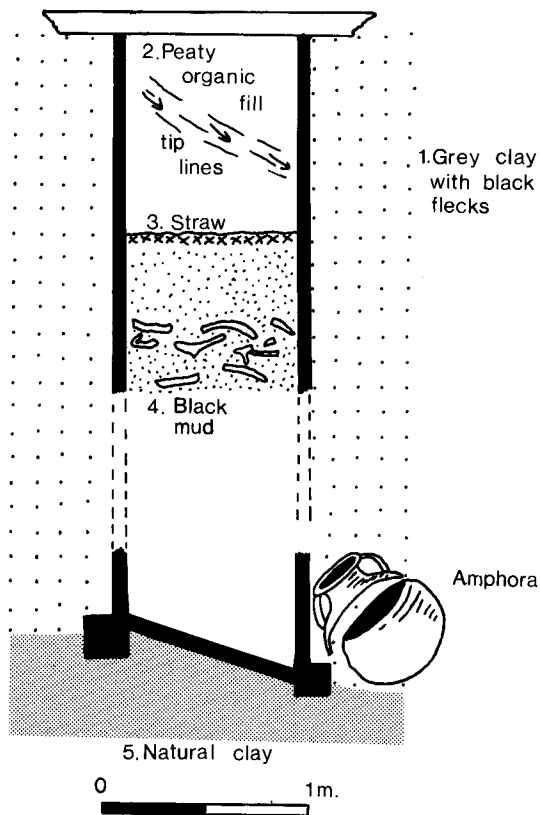
Between two thick gravel layers was a deposit containing a large face urn (Fig 62, no. 156) surrounded by lumps of flint and iron rust, and it is possible that it lay in a small pit, though this was not noted at the time of discovery. The urn, however, lay on a surface of burnt debris that overlay a deposit of clay about 75mm thick, which in turn rested upon a thick deposit of gravel.

The layer of burnt debris was particularly interesting, for lying on the clay surface were portions of wood panelling of three different types: the first was arcaded (Fig 17); the second, at least 0.80m long, had a ribbed surface moulding; and the third had a flat surface (MOL Accession No. 23274). The first and second lay at a right angle to each other. The second had a slot along one side. The urn itself lay on top of a thin sheet of burnt wood. The main pieces of wood panelling had been charred on the decorative front faces, but the flat rear was not burnt, suggesting that originally it was protected by being fixed to a wall.

Also found was a wooden handle, perhaps of a knife (see below, p. 151, no. 601), which was again burnt only on one face; and there was a fine unburnt bone ligula.

17. Bucklersbury House and Temple Court: charred fragments of a timber screen, Feature 8, and reconstruction. (Scale 1/2)





18. Bucklersbury House and Temple Court: section through the well, Feature 22.

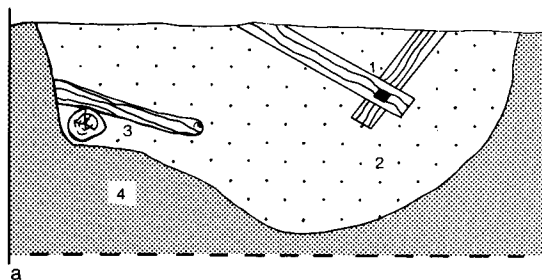
The whole burnt deposit was quite thin but included what seemed to be burnt grass in addition to the wood panelling, suggesting that the fire had occurred close by. The face urn and the rim of a small flanged bowl suggest that the burning occurred during the early 2nd century AD.

Feature 9. Timber-lined drain 0.45m deep and 0.38m wide, running east-west. The drain was lined with timber on the bottom and sides but was not jointed; no stakes to retain the side planks were observed.

Feature 13. Timber platform to the south of the site and adjacent to the road (Section E-F; Fig 10). The platform sealed black organic mud dated to the late 1st century. The top beam was 8.53m long and 0.27m deep. It rested on two piles driven into the ground, and two beams placed laterally, measuring 0.27m square in section.

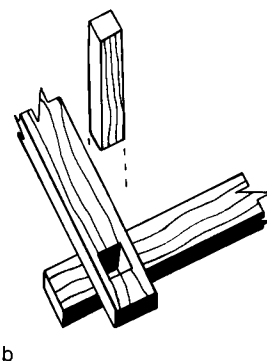
Feature 17. Barrel well filled in the Flavian period (ER 220; Fig 46).

Feature 18. Rubbish pit filled in the 2nd



0 1 2m

For layer descriptions see text



19. Bucklersbury House and Temple Court: section at Feature 28. (Joint not to scale)

century (ER 216; Fig 46).

Feature 20. Pit filled in the Flavian period (ER 243; Fig 46).

Feature 21. Pit. Pottery from the black silt fill was entirely Flavian in date (ER 474; Fig 46).

Feature 22. Timber-lined well (Fig 18). There appears to have been a substantial framework of beams at the base, and the sides were plank-lined, though no further details of construction were recorded. The well was cut into grey clay with flecks of charcoal and daub (1) dated to the early 2nd century (ER 444; Fig 46), which overlay the natural London Clay. The upper fill of the well comprised peaty organic material (2) overlying preserved straw over black mud (3-4). Though pottery from the well was dated to the 1st-2nd centuries, the date of the material into which it was cut might indicate that much of this was residual.

Feature 24. Piles driven into London Clay and overlain with 1st-century material.

Feature 25. Roman piles possibly associated with Feature 24.

Feature 36. First-century well (unplanned).

Feature 28. Though not recorded on plan this feature was found in the vicinity of Well 17. A depression containing organic 'vegetable matter' (Fig 19a.2) was found 2.81m deep and 4.26m wide. It was cut straight at the western edge, which was reinforced with a timber. The feature was cut into natural gravel (Fig 19a.4).

The timber structure within the depression comprised two boards, each 52mm thick, protruding from the section. These were placed at right-angles with the ends overlapping (Fig 19b). At this point a mortice was cut, 139mm square, through both boards. The upright timber which joined the boards did not survive, but cannot have extended further than 0.45m below the mortice, as the side of the depression showed no sign of a stump or a post-hole at this point.

Feature 29. Timber-lined Flavian pit (unplanned; ER 267; Fig 46)

69-73 Cannon Street. In the centre of this area (located on Fig 6), Dunning recorded a section comprising seven superimposed strata which, with some undulation, were horizontally laid as follows:

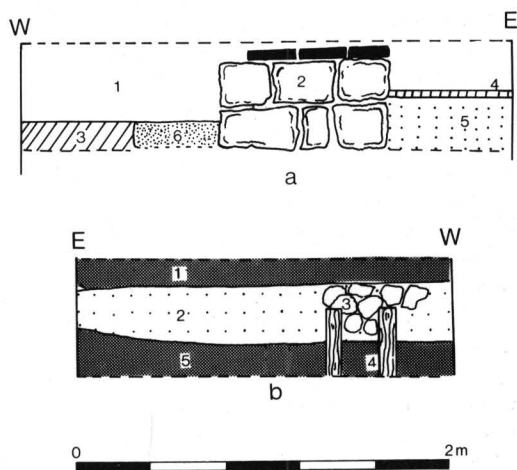
Layer	max depth	approx. level (top)
Red layer with burnt samian	0.28m	+9.02m OD
Mixed clay, charcoal and stone	0.23m	+8.74m OD
Dirty brown clay with charcoal flecks	0.15m	+8.51m OD
Builders' debris	0.18m	+8.36m OD
Dark 'occupation level'	0.88m	+8.18m OD
Natural gravel		+7.30m OD

Discussion: the timber structures

The small group of timber structures of the 1st-2nd centuries is of interest in that hitherto most evidence for Roman carpentry in London has come from the study of waterfronts (eg. Tatton-Brown 1974; Miller 1982; Milne 1985; Miller, Schofield & Rhodes 1986) and wells (Wilmott 1982a). Though the functions of the Bucklersbury House structures are not understood, they show

carpentry applied to other purposes. The construction found in Feature 3 is identical to that of a contemporary well at Milk Street, and demonstrates the simplest form of corner lap joint (Wilmott 1982a, Fig 21). It was nailed together, unlike the Milk Street well, which relied on external pressure to hold it together. This fact may indicate that it was not originally intended to have been sunk into the ground. The rebated base is a logical extension of the technique of corner jointing used. The timber platform (Feature 5) shows a similar simple rebate, though the corner joints are more complex. Saddle joints of the type used in this platform occur frequently in waterfronts (Tatton-Brown 1974, 126, Fig 9; G Milne, pers. comm.) and wells (Donaghey 1978, 15-17; Wilmott 1982a, 20). The pegged version of the joint is less well attested however. The function of the pegs is not clear. They may merely have been intended to give added rigidity, or may have been supports for a superstructure. Grimes (1968, 96) notes that timber buildings and huts were founded directly upon wood floors. At Chigwell, Essex, a well was found whose head had a saddle-jointed base-plate with upright structural members morticed through the saddle joints (P Wilkinson, pers. comm.) to give an assembly similar to Feature 5.

20. Bucklersbury House and Temple Court: sections at (a) Feature 1, (b) Feature 16.



For full layer descriptions see text



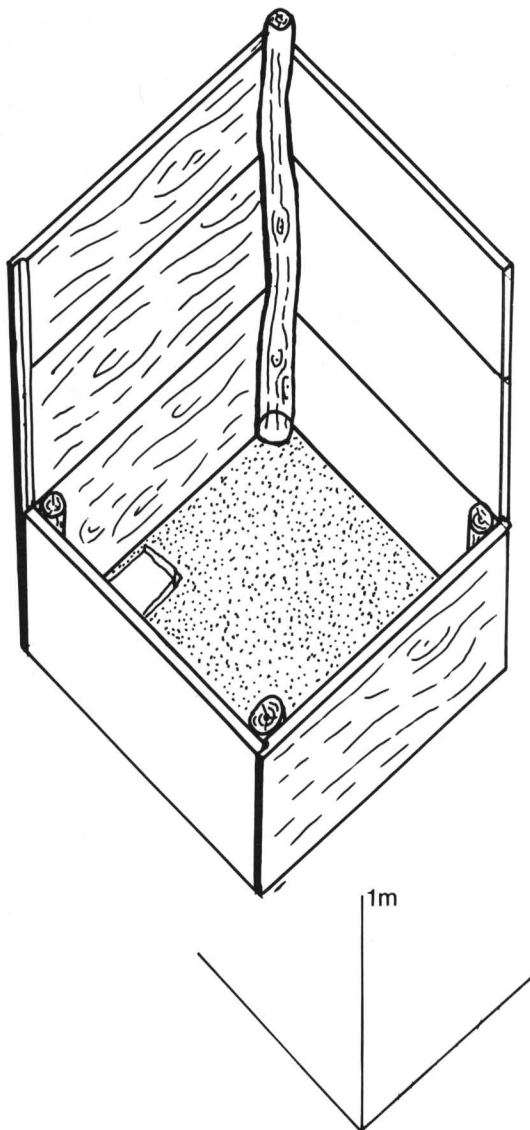
3rd/4th-century features

Description

There were substantially fewer features of this period than of the 1st/2nd centuries, and the period is chiefly characterised by the advent of recognisable stone structures.

Feature 1 (Fig 20a). Fragmentary part of a stone building consisting of a wall footing (2) of ragstone and sandstone, including a single tile course. The construction trench (6) was cut through grey clay-silt (3) and contained gravel and mortar. The trench was 0.46m wide and produced 3rd/4th-century pottery. The wall measured 0.93m wide with a 0.15m offset on the west side. This was at the same level as that from which the construction trench was cut, indicating contemporary ground level. To the east of the wall the remains of an associated red tile mosaic floor were defined at the same level, +6.53m OD. Below the *tesserae* were two phases of beaten earth floor, separated by a stratum of gravel. Black earth overlying the wall and floors (4) contained 3rd/4th-century pottery (ER 214-5; see p. 68).

Feature 4 (by Peter Marsden). The lower part of an oak-lined water tank, internally measuring about 0.76m square and 0.76m deep, was found about 4.80m south of the eastern part of the Mithraeum (Fig 21). It comprised the lowest three



21. Bucklersbury House and Temple Court: view and reconstruction of timber tank, Feature 4. (Joint not to scale)

courses of planking, each about 63mm thick, which had been jointed at the corners. The bottom of the tank was surfaced with a layer of mortar 25mm thick into which an incomplete flanged roof tile and an incomplete brick had been set. It seemed that originally the bottom of the tank may have been tiled over, though there was no trace of the missing portions of this. Beneath the mortar was a thick deposit of irregular lumps of chalk. A post, a rough unshaped small branch

of a tree about 60mm in diameter, had been set into the mortar at each corner, as if to reinforce the corner construction. The general workmanship was fairly rough, and a notch in one of the side planks indicated that it had been reused.

Part of a timber structure, comprising planks laid on edge and a supporting post, existed against the exterior of the east side of the tank, and resembled the side of a wooden drain. Against the outside of the south side of the tank was found a horizontally-laid plank, also on edge, that was somewhat longer than the side of the tank. These external features were level with the lowest part of the tank and indicate that when constructed, the tank did not lie in a pit, but was probably built upwards from the ground surface; hence its interpretation as a water tank rather than as a well.

The excavation of the interior did not disclose any clue to the purpose of the tank, but the pottery, including a beaker, indicates that it was filled in during the late 3rd or early 4th centuries. The tank was thus contemporary with the use of the Mithraeum. The beaker lay on one of the tiles in the bottom of the tank, beneath a filling of black soil.

Feature 16. The wall foundations of a building were revealed to the south of the site (Fig 20b). Squared timber piles (4) were driven into black organic silt (5) containing late 2nd/3rd-century material. Chalk rubble was laid down upon the piles. It seems likely that the foundation was built in a trench and packed round with sandy material (2). Subsequently a stratum of dark silt containing 3rd/4th-century pottery accumulated over the foundation (1).

Feature 30. Unplanned well containing 3rd/4th-century pottery (ER 237; Fig 46).

Feature 31. Unplanned pit close to stream revetment, containing 3rd/4th-century pottery (ER 268x; Fig 46).

Discussion

The stone structures recorded by the Guildhall Museum were not very instructive. The only such fully recorded building on the site was the Temple of Mithras, excavated by Grimes. The temple was built after the revetments of the stream bed had collapsed, c.240-50 (Toynbee 1986, 1). The apse, which lay near to, but above the level of, the silted revetted stream (Grimes 1968, Fig 23b) was heavily buttressed, probably because of the

instability of the underlying ground (*ibid.*, 100). Frequent re-flooring, eventually affecting the door mechanism (*ibid.*, 101), also took place. However, the provisional dates given by Grimes for the floor levels show nothing like the accumulation of material evident in the 1st/2nd centuries. About a century spans the first three floors (*ibid.*, 103), while the final five were laid during the mid 4th century. The stream at this period appears to have been an unrevetted channel, the nature of whose banks are unknown. This phase was not recorded in the Guildhall Museum investigations.

Little could be deduced from the analysis of either timber or stone structures. The well (Feature 4) was identical to Feature 3 apart from the use of corner posts, which occurs much earlier in London (Wilmott 1982a, 25). The pile and chalk foundations of Feature 16 showed a method much used in Roman London especially in the Walbrook valley (see below, pp. 37, 45, 49) and also on the Thames waterfront (Hill, Millett & Blagg 1980, 36). The wall at Feature 1 shows the tile bonding courses common to most stone-built Roman structures in the City.

It is possible that the dark silt observed at the top of Section A-B (Fig 20b) represents the enigmatic 'dark earth' found over much of the City in the late and post-Roman periods (Marsden 1980, 167, 178).

4: EXCAVATIONS AT ST SWITHIN'S HOUSE, WALBROOK, 1949-50

INTRODUCTION

Archaeological work on the large redevelopment site at St Swithin's House, Walbrook was initiated by Ivor Noël Hume of the Guildhall Museum in 1949. The site lies between Walbrook Street and St Swithin's Lane (Fig 1) and formerly housed the hall of the Salters Company, which was destroyed by enemy action in 1940. Thanks are due to Mr R Palumbo, the Worshipful Company of Salters and the contractors, Sir Robert MacAlpine and Sons, for their assistance during the excavations.

Shortly after the completion of the work, the Guildhall Museum published a short, popular account of the results of the excavations (1951), and a specialised report on one of the more important pit-groups was published by Hume (Hume & Hume 1954). More recently an account of the problems which beset the excavator has appeared, in which he summarises the reasons behind his excavation strategy: '... the butchered foundations revealed by fast-moving mechanical excavation could rarely do more than add isolated fragments to the map. As many Roman structures enjoyed extended lives and many changes along the way, rarely was it possible to determine anything more than structural chronologies. In short, the sequential factor became my only reachable goal: I would concentrate on recording archaeological sections and try to study and salvage small units in their entirety, rather than pursue questions I had no hope of answering. For the same reason, rather than devoting my full attention to the artifact-laden, silted east bank of the Walbrook, where well preserved metal and organic artifacts abounded, I spent more of my time excavating wells and rubbish pits whose information was attainable within the limitations of my resources.' (Hume 1978, 14)

There follows a description of the Roman features (Fig 22), including brief discussions of some

structural aspects. All dates are based on pottery analysis (see below, pp. 98-106; Fig 47). Finds groups from which dates are taken are cited as ER numbers.

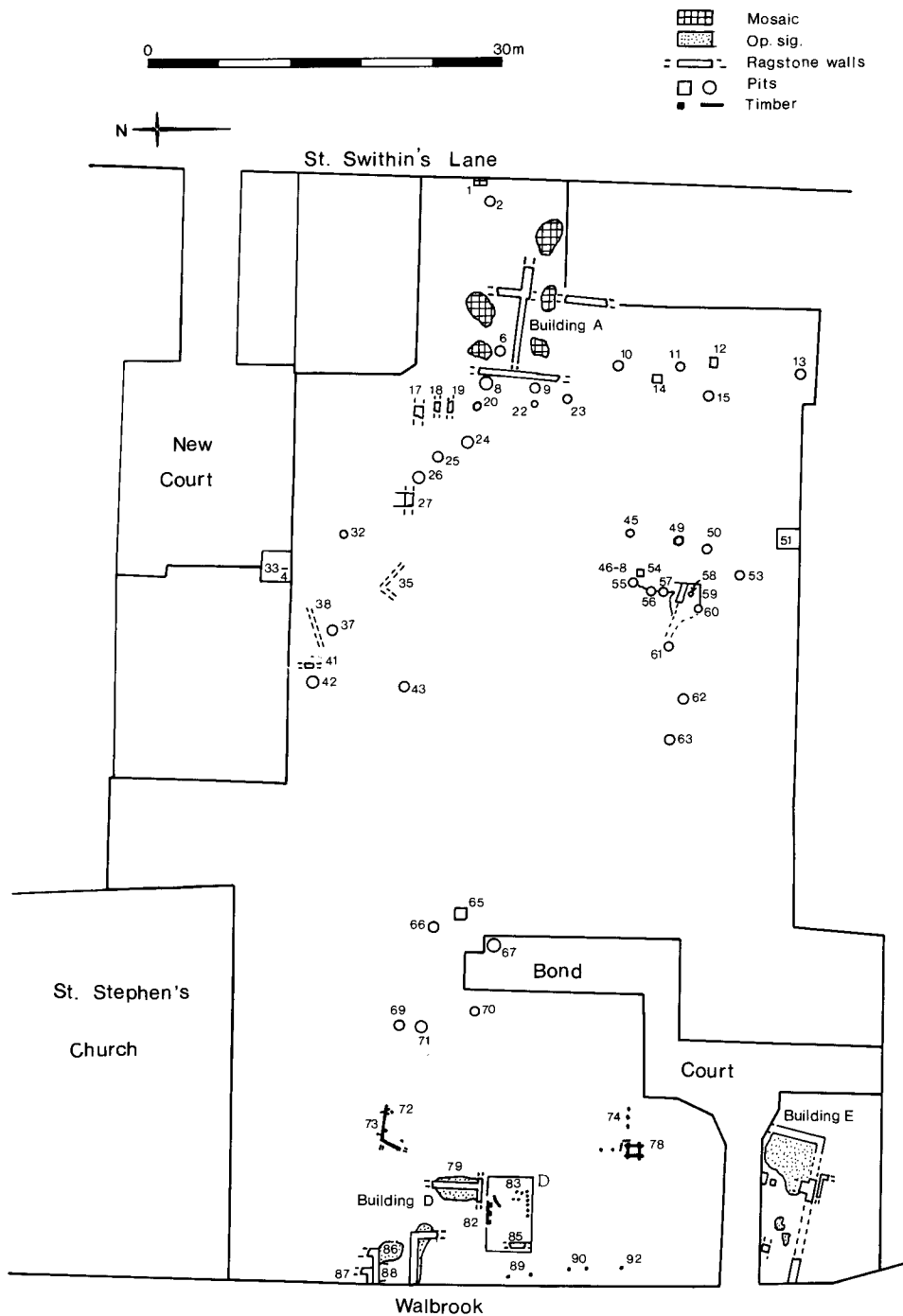
ROMAN FEATURES (Fig 22)

Structures

Timber buildings

Feature 59. This feature consists of the remains of a burnt timber structure recorded in section (Fig 23; Nos 1-11 following refer to annotations of this section). Though no structural elements were found with the lower puddled clay floor (10), it seems that the burnt layer above (9) consisted of the destruction debris of an associated structure. Upon the made ground (8) which overlay this was built a wattle-and-daub wall (7). This wall (see sketch reconstruction, Fig 23) was built on a timber sill beam and was faced on each side with clay rendering. The upper burnt layer (4) appeared to be related to the destruction of this building. The foundation cut through the earlier burnt layer (6). The burnt horizon associated with the wall (4) produced a large amount of pottery including a 'great jar' or *serria* which appears to have been standing on the floor when the fire occurred. All pottery was early Hadrianic in date (Fig 47). Though not shown in section, Pit 60 was excavated through this sequence, and was filled with material dating to the 2nd-3rd centuries. The remaining features shown in section consist of modern make-up and foundations.

Features 72/73. A further burnt timber structure was found to the north-west of the site and recorded in section (Fig 24; Nos 1-9 below refer to the annotations on the section). Overlying natural gravel (9) was a layer of gravel and clay (8) into which piles (7) were driven. A timber



22. St. Swithin's House : plan of Roman features.

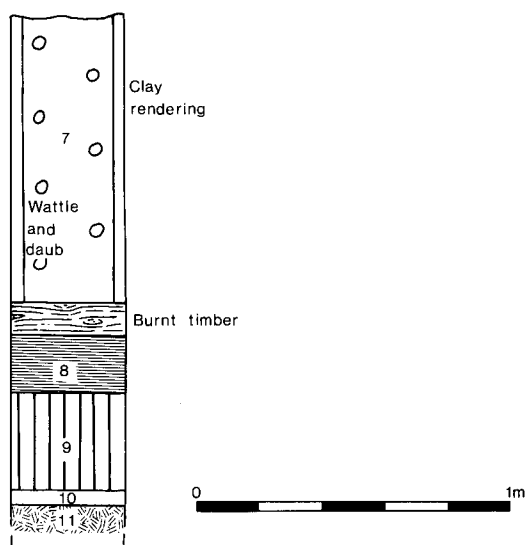
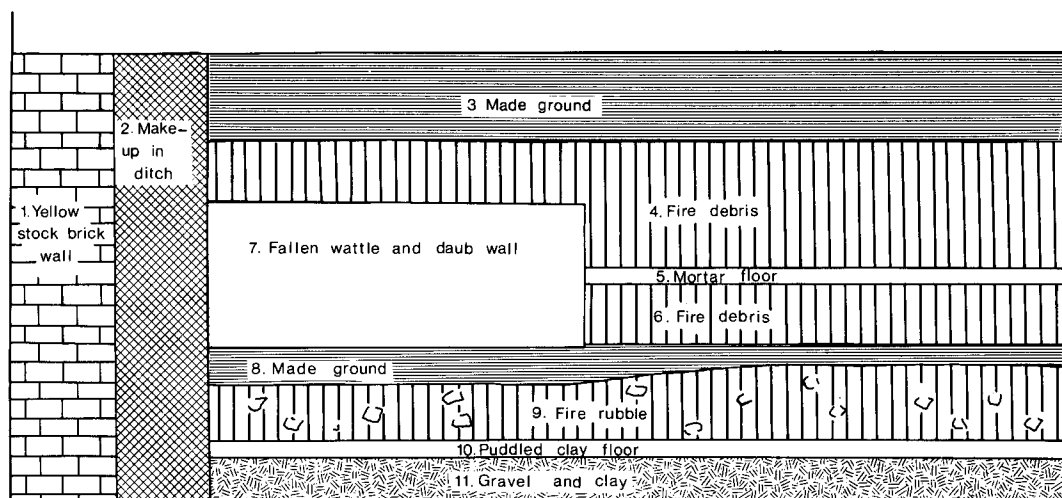
floor surface (6) laid upon these piles supported a substantial beam. Overlying the floor was a panel of fallen wall plaster (Feature 73; see below, p. 141, nos. 531-7; Fig 100) apparently derived from a wall founded on the beam. The structure was overlain by a deposit of burnt debris 0.38m thick, which can be dated to the 1st-2nd century (4), and above this lay modern make-up and foundations.

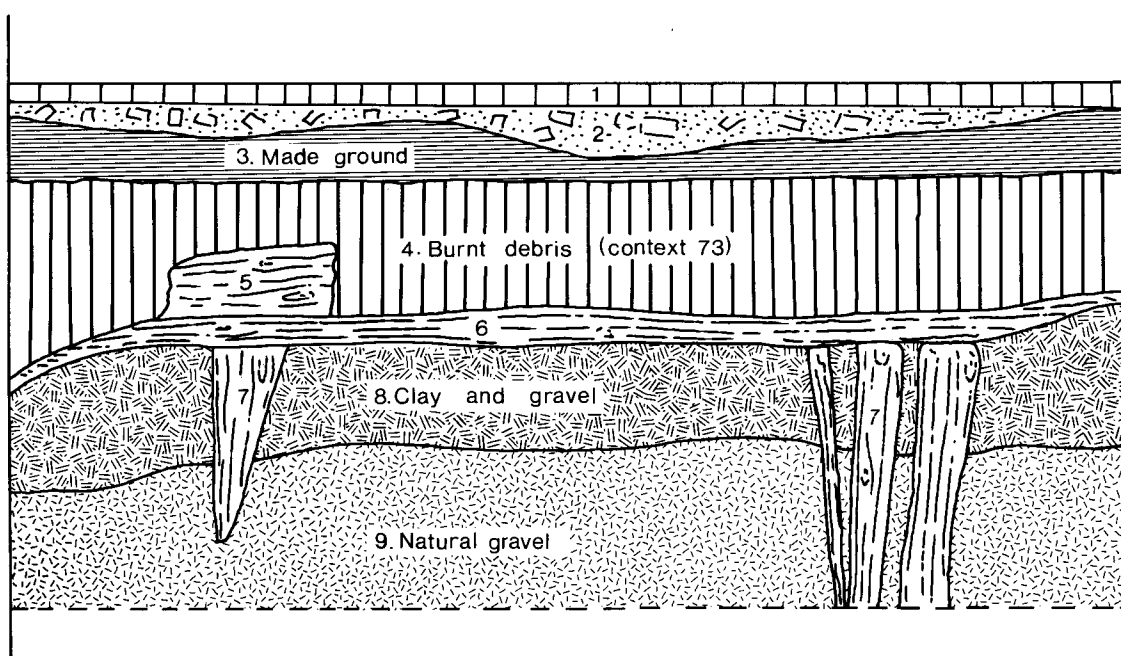
Features 82/83. A number of indeterminate features lay within Trench D (Fig 22). A series of piles (Feature 83) were surrounded with black silt containing 1st-century pottery, while a timber

floor resting on piles or joists (Feature 82; Fig 25.4) overlay burnt debris interpreted by the excavator as Hadrianic in date (Fig 25.7). To the south of Trench D and within the burnt material was found a quantity of painted wall plaster (Feature 85; see below, p. 145, nos. 538-41; Fig 101).

Features 74, 89, 90, 92. Individual piles or groups of piles were sunk into natural gravel to the west of the site and were surrounded by black silt.

23. *St. Swithin's House: section of Feature 59, and sketch reconstruction of wall.*





1. Brick foundation

2. Brick rubble

5. Timber beam

6. Timber floor

7. Timber pile

(context 72)

24. *St. Swithin's House*: north-south section at Feature 72.

Stone-built structures

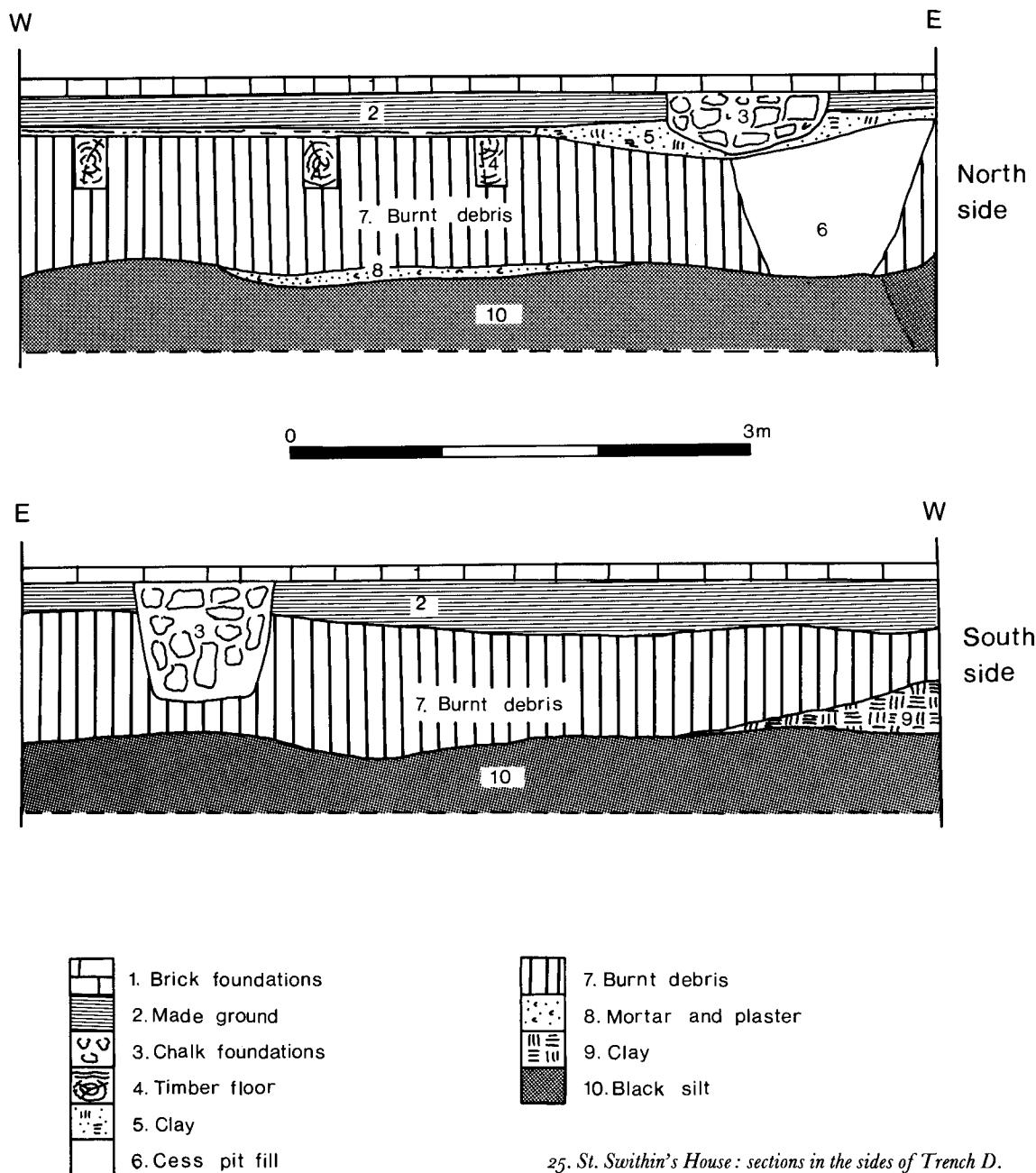
Building A: This structure was represented by ragstone foundations and associated floors of large red-brick tesserae set in an *opus signinum* bedding. The building was destroyed by fire, and burnt debris lying on the floors consisted of wattle and daub. This suggests that the stone walls were only sill foundations and that the building had a timber-framed superstructure. Though no datable finds survive, the excavator attributed the burning to the Hadrianic period.

Feature 1. A piece of red plain mosaic floor, probably associated with this building.

Features 4, 18, 19, 41. Chalk and ragstone walls dated by the excavator to the Roman period.

Feature 27. Sequence of superimposed mortar floors dated by the excavator to the 3rd-4th centuries.

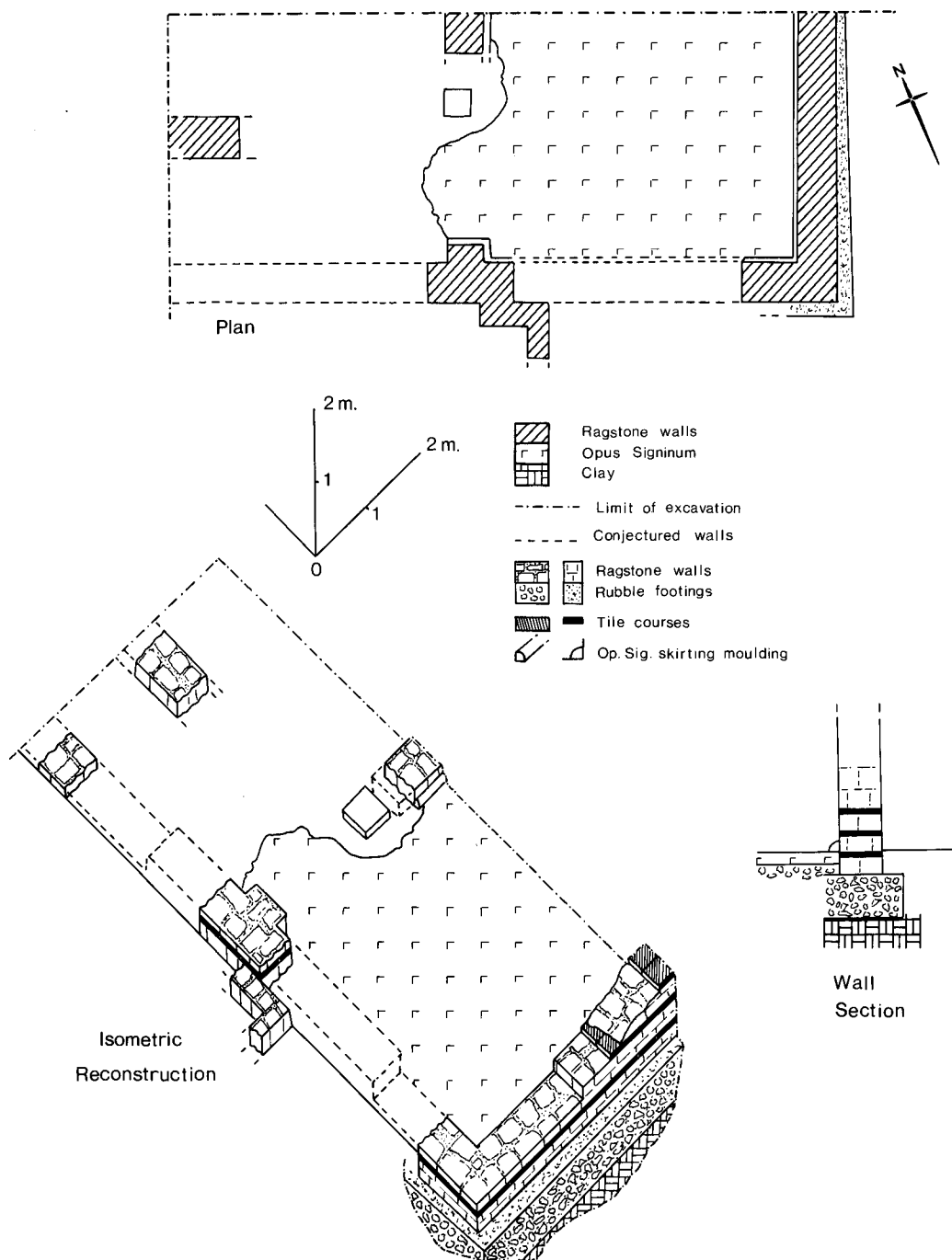
Building D. This structure had two building phases. The first phase was not dated and its plan was not recovered. Wall 87 was almost the only fragment of this building to be recorded. The second structure (walls 86, floor 88, walls and floor 79) was more closely observed. At 79, two adjacent *opus signinum* floors were separated by a timber slot representing a partition wall. The floors were laid on a timber raft which was built on piles in the black silt revealed in Trench D and to the west of the site. A mortar-covered moulding or skirting sealed the gap between walls and floor, and painted plaster from the walls was recovered (see below, p. 145, nos. 542-52; Fig 101). Pottery beneath the floors was Trajanic at the latest, and that above was Hadrianic-Antonine.



25. *St. Swithun's House* : sections in the sides of Trench D.

Building E (Fig 26; plan and reconstruction). The walls of this structure were of coursed rag-stone with tile bonding courses, and survived in places up to a height of 1.02m. The walls were founded on rubble which was laid in trenches dug into natural London Clay. *Opus signinum* floors rested on this rubble, beneath which an Antonine

samian sherd provided the only dating evidence. A door pivot-stone rested near the wall-stub of an inner room. Because of the limited area available for excavation, no complete building plan could be recovered. A square-section, timber-lined drain ran westwards to the Walbrook from the building.



26. *St. Swithin's House: plan, reconstruction and wall section at Building E.*

The well

Feature 78. Timber-lined well. The top frame, which may have constituted the well-head, consisted of planks joined with bridled joints, and each corner of this frame was provided with a corner brace. The lower frames comprised beams fastened together with half-lap corner joints. The frames were not nailed together, being held in place by external pressure only. A coin of Postumus (AD 259-68) built into the steining (lining) gave a date for its construction compatible with that of the late 3rd/4th-century pottery in the well fill (Fig 47). The construction included an outer shoring similar to that observed at Skeldergate, York (Donaghey 1978). For discussion of the well type, and of this particular example, including a reconstruction drawing, see Wilmott 1982a, 28 & Fig 21.

The pits

The Roman pits excavated on this site can be divided chronologically:

1st/2nd century: Features 2, 6, 9, 14, 22, 23, 24, 25, 50, 51, 53, 55, 56, 57, 61, 63, 65, 67, 69 (total number, 19).

3rd/4th century: Features 10, 11, 13, 32, 60 (total number, 5).

Undated Roman: Features 8, 12, 15, 26, 37, 42, 43, 45, 66, 70, 74 (total number, 12).

Details of only two pits were recorded:

Pit 14. Cut to a depth of 5.00m, this penetrated natural gravel and was lined with planks at the base.

Pit 55. This pit, with its associated stratigraphy, is shown in Fig 27 (the numbers following refer to those on the section), and has previously been published (Hume & Hume 1954). The pit (11) was cut into clay and gravel (10) which directly overlay natural gravel (12). Also on the surface of the clay and gravel layer (10) was a tile floor (9 = Feature 54).

Apart from being cut into and laid upon the same level, the association of pit and floor was far from clear. The tile floor was sealed, and the pit both filled and sealed, by a burnt layer containing much pottery and building material. The Boudican date of this has now been long established.

These features were succeeded by horizontal stratigraphy of which the top, burnt layer (2) contained stamps of Domitianic-Antonine potters.

The Walbrook Valley

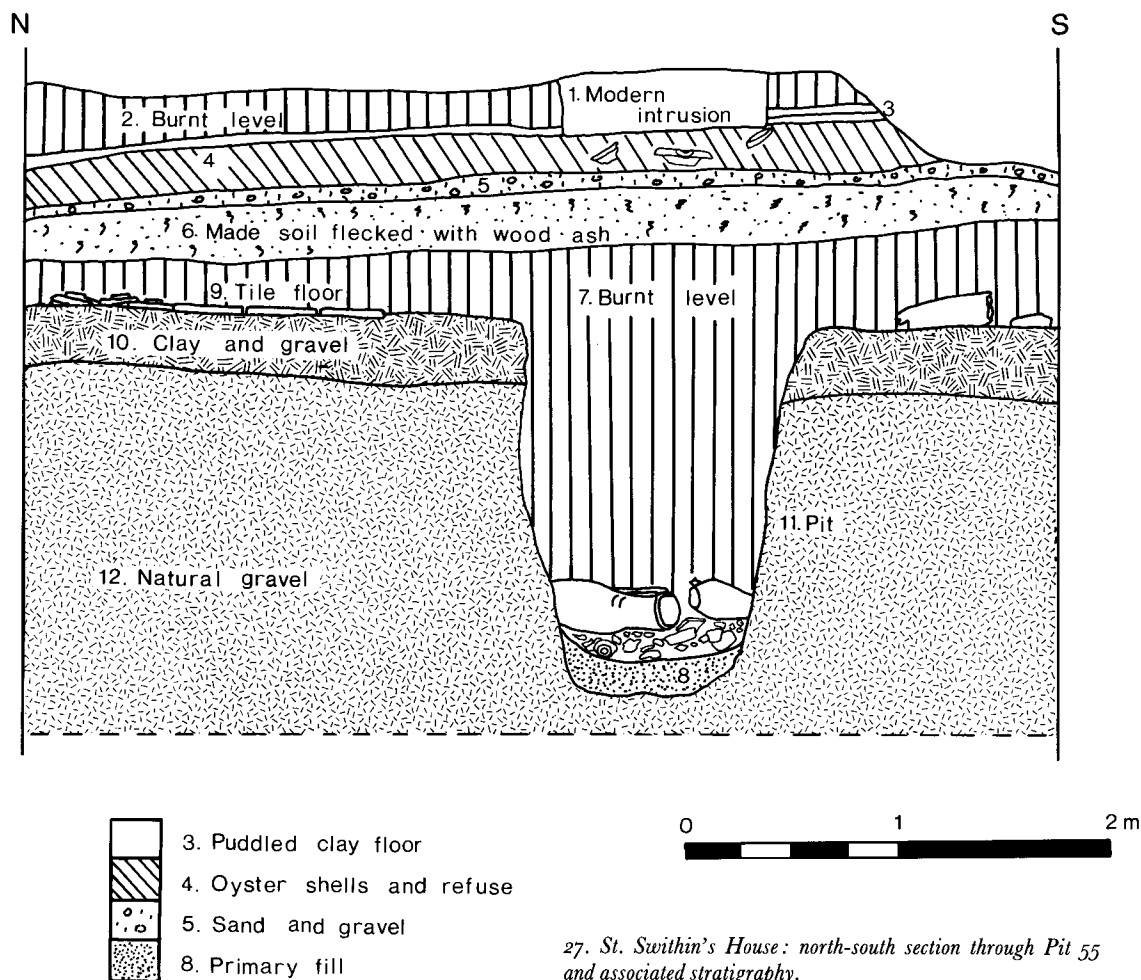
It has already been shown (pp. 17, 34) that the western edge of the site comprised the eastern edge of the valley. Within the dip formed by the valley, the black silty accumulation familiar from Bucklersbury House was found. Hume (1978, 14) points out the 'artifact-laden' quality of this material, which was demonstrated in the excavation of Trench D (see below, pp. 114-118). The clearest indication was the survival of the timber structure. Piles, pile foundations and timber rafts are almost solely situated in the area of black 'Walbrook silt', where timbers have been preserved in waterlogged conditions (cf. Building D, Features 72/73). To the east of the site, particularly in the RMLEC excavation trench (see below), timber structures were identified by post-holes only, suggesting that the area was not sufficiently waterlogged for the preservation of timbers.

Summary of the RMLEC excavation

In 1949 a small cutting was made to the east of the site (Grimes 1968, 127-9). The Roman layers here consisted almost entirely of horizontal strata. A compacted gravel road, flanked by a gully containing a coin of Domitian (AD 81-96) was found, and this was covered by a deep accumulation of mixed dark earth. Deposits indicative of occupation were found to the east of the road, which ran north-south. Black layers alternated with clay and gravel, and at one point a thick deposit of dumped burnt material was found. Post-holes indicating the presence of timber buildings were found, but no complete plans could be recorded.

Discussion

Features 59, 72/73 and structures within Trench D were dated to the 1st/2nd centuries and had been destroyed by fire. The presence of the broken 'great jar' and the burnt sill beam in Feature 59, both of which appear to have been burnt in their original positions, suggest that this was a structure burnt *in situ* and not a random dump of redeposited burnt material. The dating of an



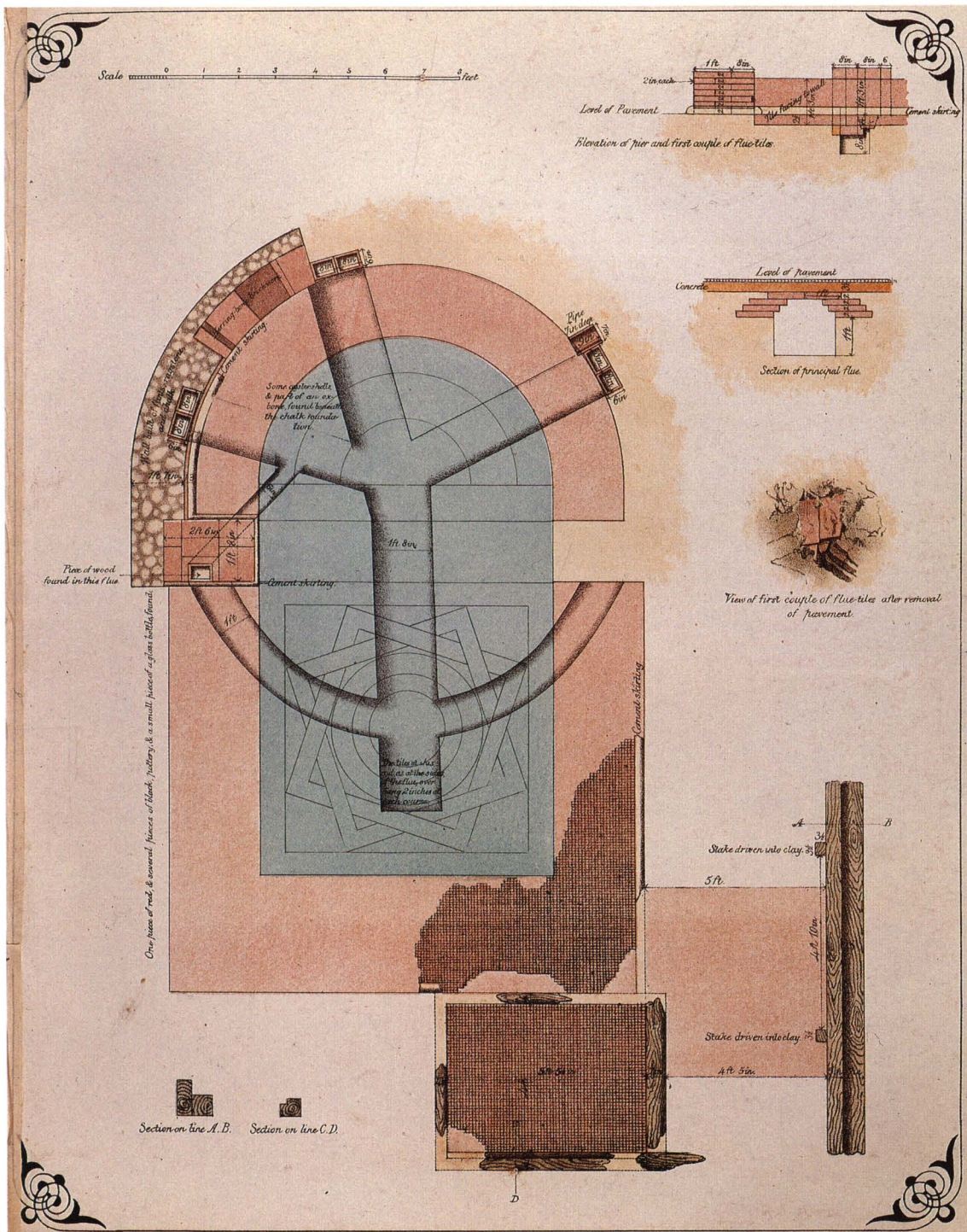
27. *St. Swithun's House: north-south section through Pit 55 and associated stratigraphy.*

exceptionally large group of pottery from the destruction debris (pp. 98-99, nos. 172-252) suggests that this building was destroyed during the Hadrianic fire, as may also have been the case with the other burnt structures of similar date. This adds to the recently published evidence on the fire (Roskams & Watson 1981) a good instance of structures burnt *in situ* to the east of the Walbrook.

Most datable timber structures were of the 1st/2nd centuries, as they were at Bucklersbury House. In the case of Feature 72/73, the beam which lay on the timber floor and supported a wall helps to confirm Grimes's observation that the timber structures in the Walbrook valley were supported upon their wooden floors (Grimes 1968, 98). Building A, which the excavator con-

sidered to have been burnt in the Hadrianic Fire, shares features with the contemporary Building 4 at Watling Court (Perring 1981, 106). This also had a timber and wattle-and-daub superstructure laid on dwarf ragstone walls, and featured *opus signinum* and mosaic floors. Apart from this, most stone-founded structures or isolated walls of stone construction at St Swithun's House dated from the later 2nd century onwards, and were thus also in accord with findings at Bucklersbury House.





28. The Bucklersbury Pavement (after Price).

29. Structure beneath the Bucklersbury Pavement (from Price 1870, facing p. 28).

5: EXCAVATIONS AT BANK TUBE STATION (1959)

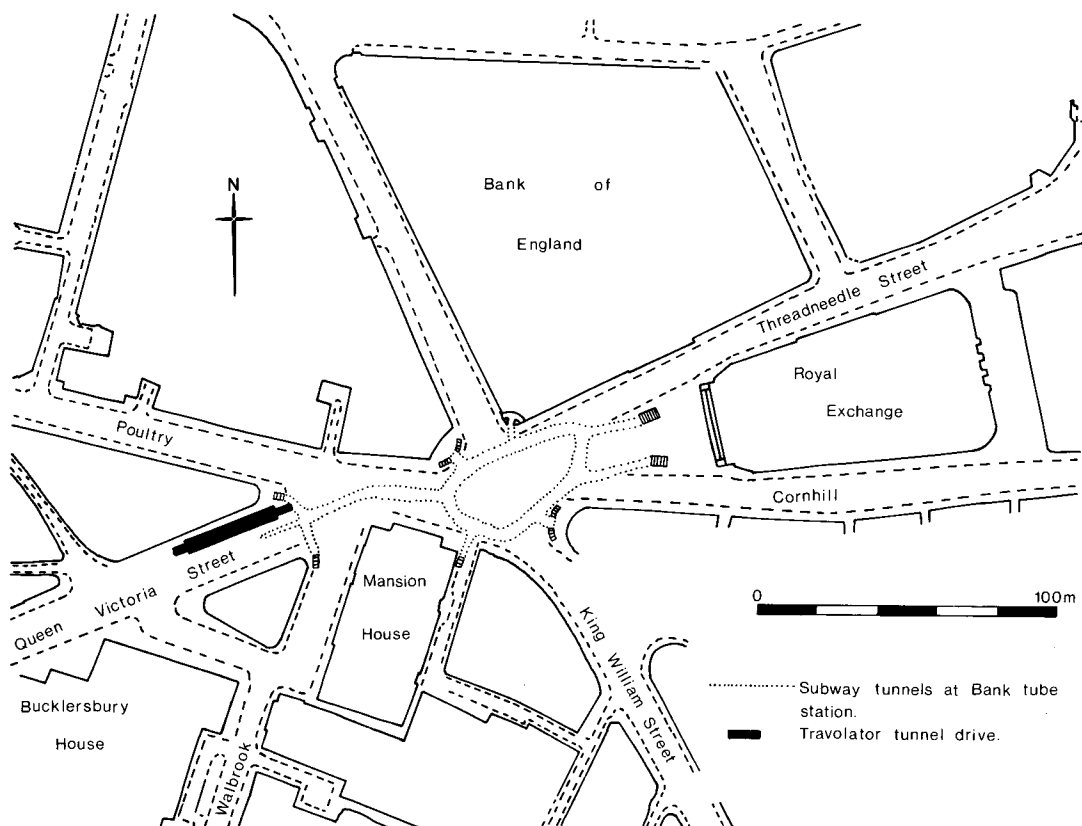
INTRODUCTION

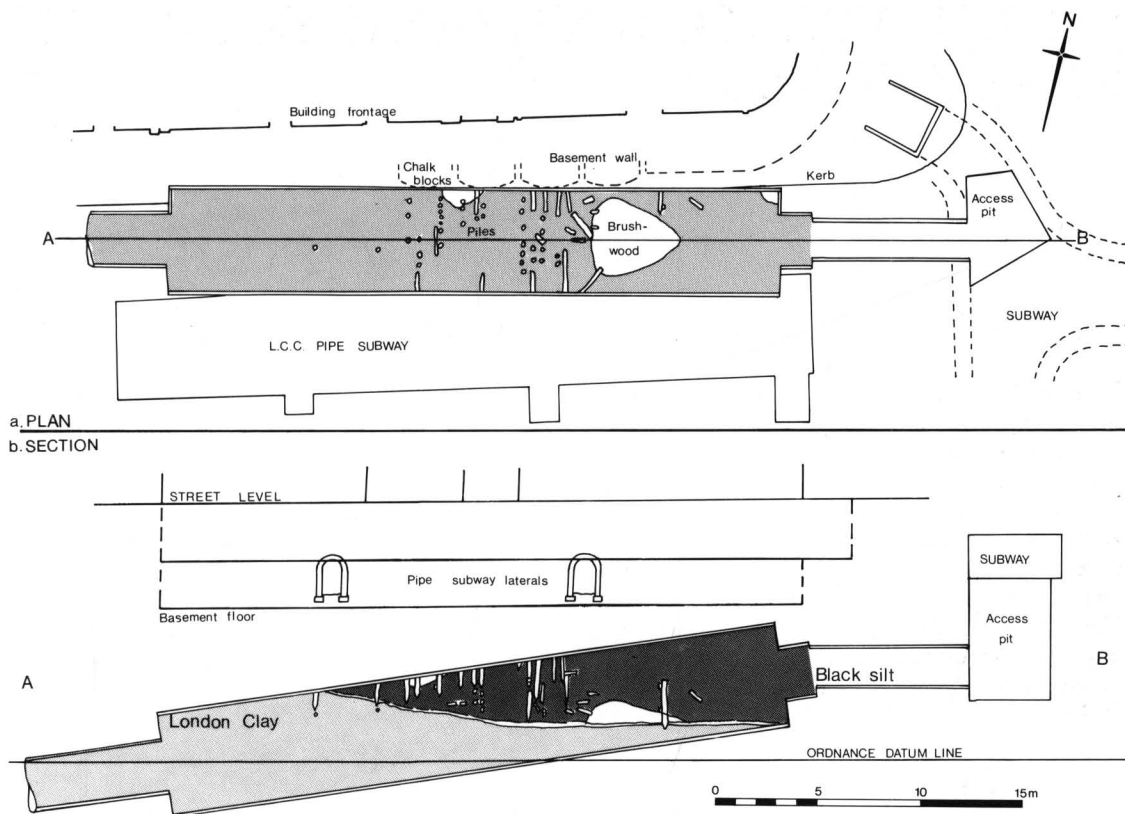
In 1959-60 tunnelling beneath Queen Victoria Street during the construction of the 'Travolator' access tunnel at Bank Tube Station (Fig 30) revealed a number of features which were recorded in plan and section by staff of British Railways (Fig 31). When combined with records of previously published sites, at the National Safe Deposit Company (Price 1873) and on Queen Victoria Street (Price 1870), a limited but useful impression emerges of the nature of the west side of the Walbrook valley just north of Bucklersbury House.

THE 'TRAVOLATOR' SECTION

This section (Fig 31b) revealed London Clay at +3.67m OD to the south-west, from which it sloped to +1.35m OD at the north-eastern end of the tunnel. The level of the clay continued a gentle slope to the east. A thin stratum of gravel (0.20m) separated the clay from an overlying layer of black silt, the top of which was not reached in tunnelling. Small quantities of samian ware from the silt suggested a Roman date for the deposition of this material. The maximum

30. Bank Tube Station: location of the tunnel.





31. Bank Tube Station: (a) plan, (b) section of tunnel drive.

recorded depth of the silt was 5.02m. Driven into the silt and the underlying clay were a large number of piles ranged in lines (Fig 31a). There was no indication of cross-pieces joining these piles, though occasional chalk blocks were found to overlie them. Towards the middle of the trench lay a substantial deposit of brushwood.

NINETEENTH-CENTURY FINDS IN QUEEN VICTORIA STREET

The Bucklersbury Pavement

The Bucklersbury Pavement was found in 1869, and fully published the following year (Price 1870). A brief summary is appropriate here. The pavement (MOL Accession No. 2120; Figs 28-29) measured 6.10 × 4.00m. It was enclosed by brick and tile walls founded on chalk and ragstone. The chalk footings were built on piles which were

driven through an accumulation of black silt into the clay subsoil before the chalk was laid. Beneath the pavement was a channelled hypocaust, the channels leading to flues built into the walls. The junction between the rectangular main portion of the pavement and apsidal northern end was reflected by two wall stubs which projected into the room. It is possible that these supported the responds of an arch, and that the apsidal end of the room was roofed by a semi-dome, as at Littlecote Park and other villas (Smith 1978). To the south of the pavement was a room measuring 1.66 × 1.21m paved with red tesserae surrounded by a wooden sill 0.17m wide, rebated on the inner side. To the east, a red mortar floor 1.52m wide was bounded on its eastern side by a timber beam 0.30m wide and 2.74m long, with a 0.17m rebate on the outer side. This beam was held in position by means of two stakes driven into the subsoil. To the south of this structure lay two parallel chalk-built walls. These were of similar construction to those associated with the pavement, and were similarly founded on chalk and piles. The walls were separated by a drain of flue tiles laid end

to end, which fell eastwards. Over the drain was laid a tile paving with mortar skirtings against each wall (Fig 29).

The National Safe Deposit Company Site

This site was watched during its redevelopment in 1871 and a large number of Roman finds was recovered (Price 1873). On the eastern side of the site, and at intervals over the rest of the area, large numbers of piles were found driven into the subsoil. The course of the Walbrook stream ran southwards through the site, towards Bucklersbury House.

At the southern end of the site a gravel road crossed the stream. This was adjoined by a timber floor supported by oak timbers 0.30×0.30 m in section. The floor lay at $c. +4.06$ m OD.

It has been shown above (p. 16) that in the trench for the external south wall of the National Safe Deposit Company building the surface of London Clay must have lain between $+0.51$ m and $+1.02$ m OD.

Most of the very large numbers of finds were uncovered to the south-west of the site (Fig 32), where traces of buildings were associated with metal and glass objects and 'a large quantity of wheat. This, although retaining the form of grain was blackened and much of it completely carbonised by fire' (Price 1873, 56).

To the west of the site an *opus signinum* floor was found, and, to the south-east, a feature which repays more detailed reconstruction. Below a quantity of timber piling lay '... a wooden framework 3 feet square: it was of oak, and as it lay *in situ* had the appearance of a wooden box or tank. The four sides were of uniform width, viz. 8 ins and the timber of which they were formed $1\frac{1}{2}$ ins thick ... Upon examination of the clay within the frame ... we observed ... that the soil differed from the undisturbed clay outside. [This] extended to a depth of 2 feet and below this appeared a deposit of pottery' (*ibid.*, 33).

Price (*ibid.*, 33) interpreted the pottery as a ritual deposit marked by a wooden frame laid on the ground above. The description of the feature, however, strongly recalls that of a timber-lined well at nearby Queen Street (Wilmott 1982a, 9, Well 22). Here the timber box-frame lining rested on sills of natural clay below which the shaft continued, being backfilled by clay of a different character from that into which the shaft was sunk. Much pottery was also found in this shaft. It seems

likely that Price's so-called *arca* (or 'limitary deposit') is thus the lower frame and unlined bottom of a timber well with dumps of clay and pottery in its fill (1873, 33-9). The presence of Castor and Upchurch ware, recorded by Price, may be a mis-identification and does not provide valid dating evidence.

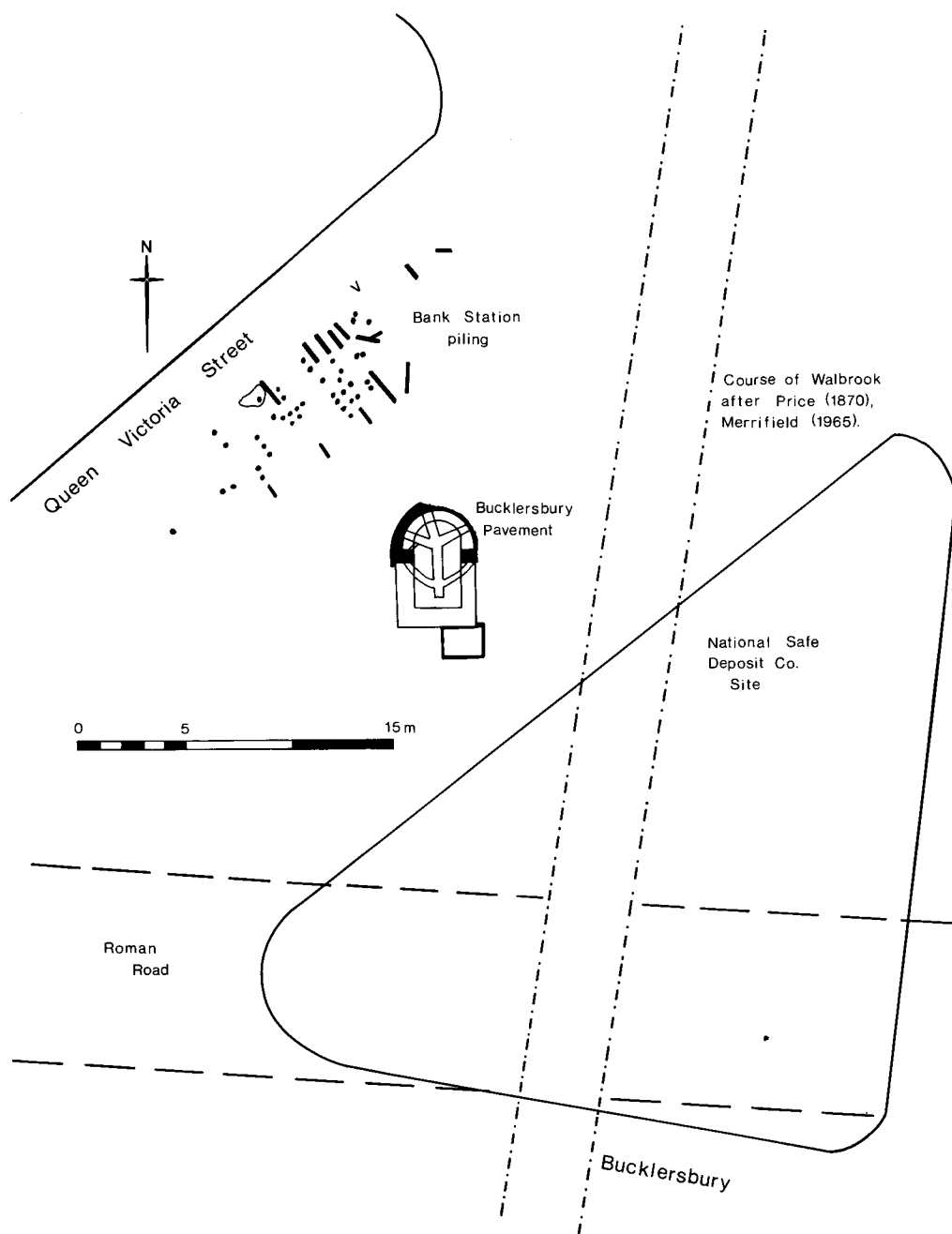
Some 2 m south-west of the well a globular Dressel 20 amphora was found sunk to a depth of 0.90 m into the London Clay. The function of this feature remains unknown, as do its associations.

Discussion

Fig 32 shows the plan of all of the features mentioned above, except those at the National Safe Deposit Company site, whose positions are not exactly known. The course of the stream in this area is plotted by Merrifield (1965) and is based on the depth of natural deposits (see above, pp. 15-17), the interruption in the course of the roadway, and extrapolation from sites to north and south.

Price (1870, 48) suggested that the 'black silt' encountered in the area of the Bucklersbury Pavement was that of a river bed. However, similar layers at Bucklersbury House have been seen to comprise occupation and dumping sequences throughout the Roman period, while others at St Swithin's House were clearly characteristic of the stream valley at large. It is probable that the 'black silt' accumulation in the 'Travolator' section should be interpreted in the same way. The evidence for the oblique cutting-away of the London Clay found in the edge of the valley is cited above (p. 16) and is presented in a reconstructed profile of the valley (Fig 4).

Both at the 'Travolator' and Bucklersbury Pavement sites, chalk and pile foundations were revealed. Though it is uncertain whether these belonged to the same building, their proximity might indicate that this was so. There is an unfortunate paucity of dating evidence for these structures, although the fact that they were built upon a thick deposit of Roman material indicates a later Roman date. The position of these structures is stratigraphically analogous to that of the Temple of Mithras at Bucklersbury House, which was built *c.* AD 240-50 (Toynbee 1986, 1) above thick early deposits. The early 3rd-century date attributed on stylistic grounds by Peter Johnson (see below, p. 146) to the Bucklersbury mosaic is



32. Bank Tube Station : relationship with adjacent sites.

in accord with this. The use of chalk rafts as foundations over piles has been noted at Bucklersbury House, as has the presence of wells near the stream.

The timber platform near the road at the National Safe Deposit Company site seems to have been similar to that in an analogous position at Bucklersbury House. Though the function of these platforms was not determined, it is likely

that they formed foundations and underpinning for roadside timber buildings.

The narrow feature running between two walls in Queen Victoria Street was interpreted by Merrifield (1965, 146) as a storm drain flanking the east-west road traced across the stream at the National Safe Deposit Company site. There is no reason to challenge this interpretation.

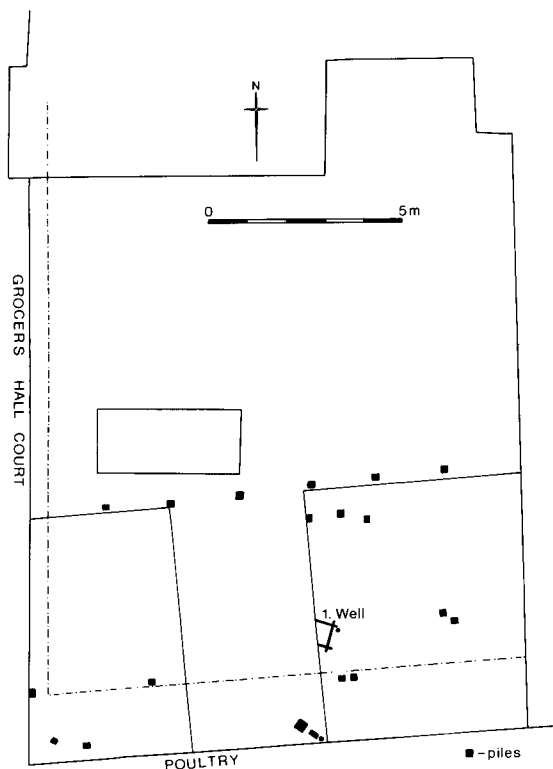
6: EXCAVATIONS AT 33-5 POULTRY, 1936



INTRODUCTION

Archaeological work, in the form of building-site watching, was undertaken by Frank Cottrill on the site of the Midland Bank extension, 33-5 Poultry in 1936. Though very little archaeological evidence was recovered, the results supplemented observations elsewhere in the immediate vicinity (Fig 34), particularly on other parts of the Midland Bank site in Poultry (RCHM 1928, 136) and in Princes Street (Birley 1929).

33. 33-5 Poultry: site plan.



ROMAN FEATURES

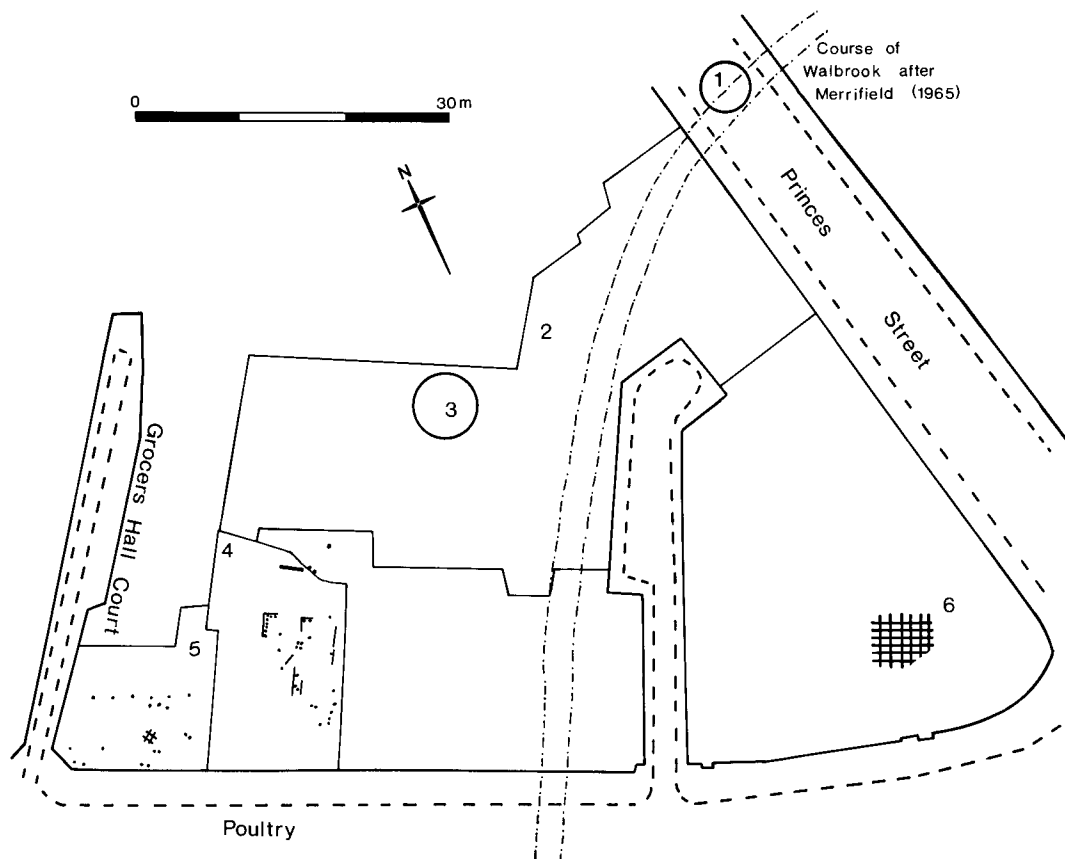
'Black mud' covered the whole of the excavated area. This produced Roman finds, and lay directly upon the surface of the natural gravel. Most features consisted of discontinuous lines of piles driven into the mud (Fig 33). These formed no discernible pattern.

Feature 1: A box-framed well was cut through the gravel into the natural clay. The lining comprised two surviving box-frames with bridled corner joints resting on a half-lap-jointed baseplate of square beams (for reconstruction, see Wilmott 1982a, Fig 21). A coin of Commodus (AD 172-92) was found built into the steining of the well, giving a *terminus post quem* for its construction.

DISCUSSION, AND ADJACENT SITES

The piles and black mud which were the main features of the site paralleled discoveries at Bank Station and elsewhere in the immediate area. In 1834-6, on part of the site of the main Midland Bank building in Princes Street, similar features were found (RCHM 1928, 136; Merrifield 1965, Gazetteer No. 174; Fig 34.1) as also, at a later date, on the adjacent site of 5 Princes Street (Birley 1929; Merrifield 1965, Gazetteer No. 175; Fig 34.2). On this site piles were driven through the black mud into natural London Clay, and one pierced a samian cup of Flavian date. The stratum overlying the piles contained no pottery later than the late 1st century, and the large donkey mill (Birley 1929) lay below the level of the piles.

On the main Midland Bank site (RCHM 1928, 136; Merrifield 1965, Gazetteer No. 176; Fig 34.4) further piles were found. Some of these were associated with timber planking, forming rect-



34. 33-5 Poultry : relationship with adjacent sites.

angular structures filled with brick and tile. The site at the angle of Poultry and Princes Street (RCHM 1928, 135; Merrifield 1965, Gazetteer No. 177; Fig 34.5) produced piles lying at approximately +4.10m OD with baulks of timber 0.30m square in section lying on top. This construction recalls the timber platform (Feature 15) at Bucklersbury House. Above this level, at approximately +9.45m OD, a mosaic pavement was

found above a hypocaust. No accurate account of the details of the decoration of this pavement has survived, though its appearance has been compared with that of the nearby Bucklersbury Pavement (Morgan 1886, 193-4). A further floor, this time of mortar, was also found in the area during the 19th century. This lay at an approximate level of +7.20m OD (RCHM 1928, 121; Merrifield 1965, Gazetteer No. 173; Fig 34.3).

7: EXCAVATIONS ON THE SITE OF THE BANK OF ENGLAND, 1926-36

INTRODUCTION

The Bank of England was redeveloped at a time during which archaeological organisation in the City was more than usually inadequate, and it is clear that the record suffered as a result of this (Marsden 1980, 195). Though many finds remain in the custody of the Bank, records of the site are extremely sparse. When development started in 1926, the Society of Antiquaries began a rota system for site watching. Diaries for 1926 and 1927, recently rediscovered in the Bank's records, show several well-known names of the time who were involved: J P Bushe-Fox, A G K Hayter, P Norman, O F Parker, F Reader, Q Waddington and, on at least one occasion, R E M and Mrs T V Wheeler. The diaries mainly record individual finds out of context, though detailed descriptions of the discovery of the wooden Roman water pipes (Feature 4, below) were written up by Parker and Waddington.

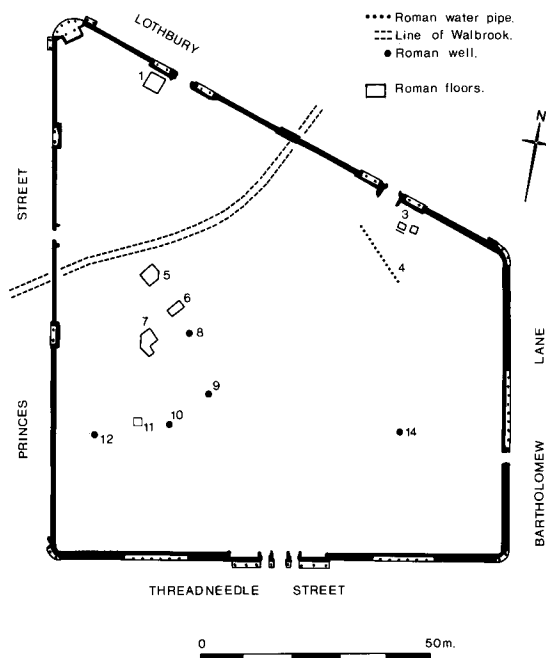
In 1929 Gerald Dunning was appointed by the Society of Antiquaries to watch building-sites in London, and he continued to work throughout the remainder of the Bank redevelopment. A set of site notes by Dunning was recently presented to the Museum of London by Grimes. These notes refer to, but do not include, details of work at the Bank of England. It must be concluded that the original site notes are lost, and the meagre and scattered diaries and published sources are the only available references from which to draw together details of findings on the site. Of considerable value here are the articles in the Bank of England publication, *The Old Lady of Threadneedle Street*.

ROMAN FEATURES

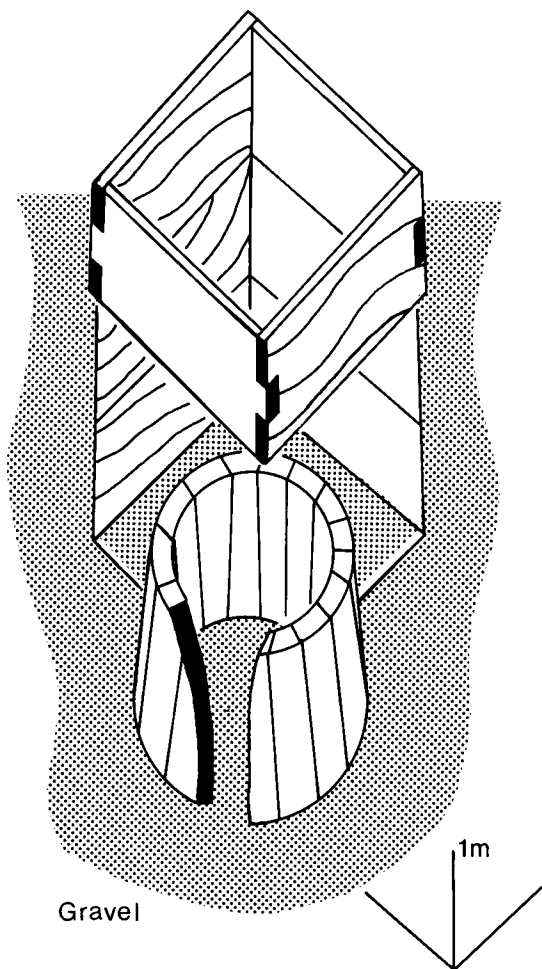
Structural aspects of the features are discussed below. The position of the features, and of the Walbrook as plotted by the excavator, is shown in Fig 35. Not on the plan are the hundreds of wooden piles recorded as being driven into the black mud which covered the site (Troup 1934, 93). It is clear that some of these supported structures and some were Roman in date (Foulkes 1929, 185), though most seem to have been associated with Soane's original 18th-century Bank building.

Wells

Features 8, 9, 10. Barrel wells; in each well a single barrel remained *in situ*.



35. Bank of England: site plan.



36. Bank of England: reconstruction of the well, Feature 12.

Feature 12. This box-framed well was recorded by Waddington (1931, 67, Fig 7; see reconstruction, Fig 36). It was dated by pottery to the 2nd century. The upper 1.53m was built of box-frames 0.51m deep, each built of boards 38mm thick. Each frame had two opposing boards cut to house squared tenons on the ends of the other two boards to create bridled joints. The construction is identical to that of the late 2nd/early 3rd-century wells at 33-5 Poultry, Union Street, Southwark (Wilmott 1982a, 28, Fig 21a) and Mark Lane (Wilmott 1984). The bottom 0.60m was constructed with a truncated barrel of 17 staves.

Feature 14. Barrel well lying at approximately +4.52m OD and dated by pottery to the late 1st/early 2nd century (Page 1925, 152-3).

Fragments of buildings

Feature 1. Mosaic pavement found in 1805 (Tite 1863, 501). No associated walls are recorded, but its level appears to have been approximately +8.54m OD (Fig 103).

Feature 3. A sequence of floors was recorded and published by the Royal Commission (1928, 107). An *opus signinum* floor was found at approximately +9.76m OD, with a second floor below at approximately +7.32m OD. The latter consisted of mortar bedded on natural London Clay. Above it, in a clay layer 0.21m thick, lay timbers interpreted as fallen roofing. It is not certain whether the timber-lined drain on the edge of the lower floor was cut through or associated with the floor, though the former appears more likely from the section.

Feature 5. Mosaic pavements (Figs 37, 106) found at approximately +4.58m OD. No associated walls were recorded.

Feature 6. Mosaic pavement (Fig 104; *The Old Lady of Threadneedle Street*, 9, 1933, 249) lying at approximately +4.58m OD. Later piles had been driven through it.

Feature 7. Plain red mosaic pavement lying at a level of approximately +4.50m OD.

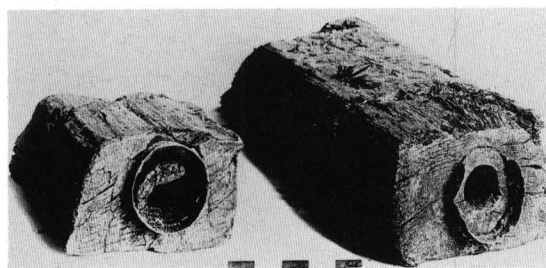
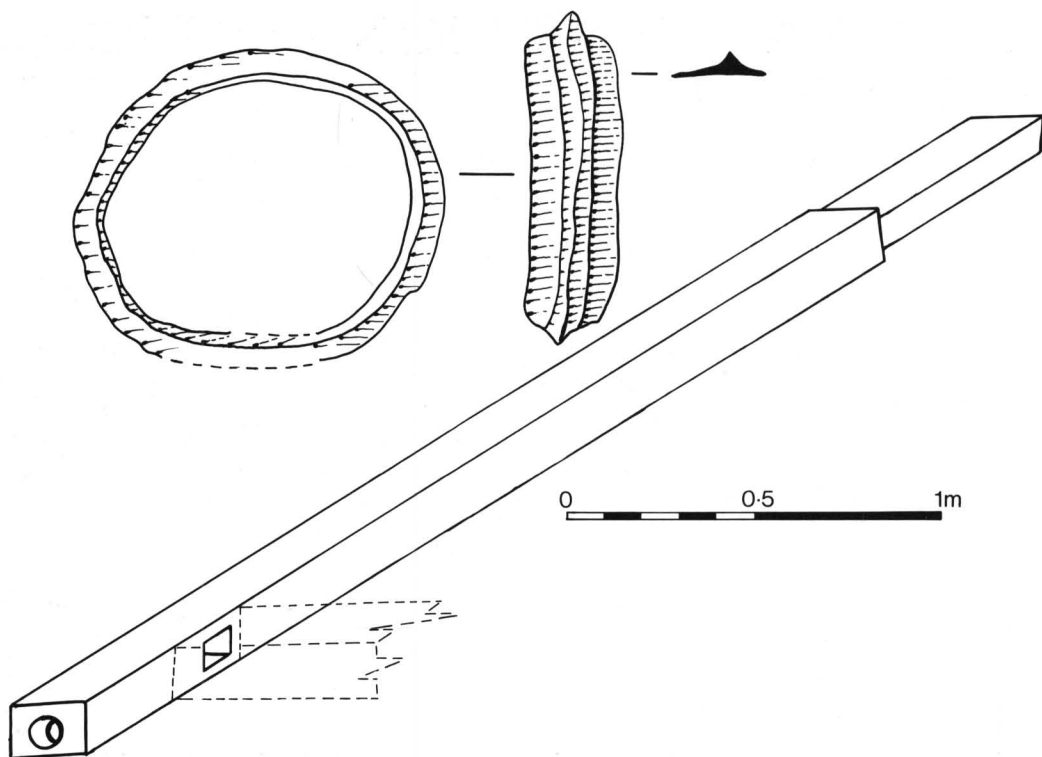
Water pipes

Feature 4. A length of squared timber bored through with a round hole and connected at intervals with iron rings (Wacher 1978, 104-5; Wilmott 1982b; Fig 38) was found on the site. The iron rings were driven in to seal the gaps between lengths of wooden pipe, and it appears that after joining the pipes they were reamed in order to ensure that the boxes were continuous.

The Bank diaries show that there were two phases of pipeline (see Fig 38 for reconstruction). One was sunk '2 feet [0.63m] below the clay surface'. Though this may have been the surface of natural London Clay, it seems that a definite clay surface, possibly a floor, did exist, below which the pipeline ran. The bore was 3 inches (76mm). A second pipeline in the same place ran above the earlier one. The excavated part was 10 feet (3.05m) long, and the timbers from which it was made were 200 x 127mm. One end of the pipe was tapered back for 0.51m, possibly to accommodate a pump. It cannot have been a join, as this pipe too was fastened with iron rings. At 0.76m from the non-tapered end was a square



37. Bank of England: discovery of the mosaic pavement, Feature 5.



38. Bank of England: timber water-pipes, Feature 4; iron collar (MOL Accession No. 13402) and reconstruction of upper run of water pipe. (Scale 1/2)

hole measuring 101mm square. It is possible that this was cut to join a further length of pipe at right-angles.

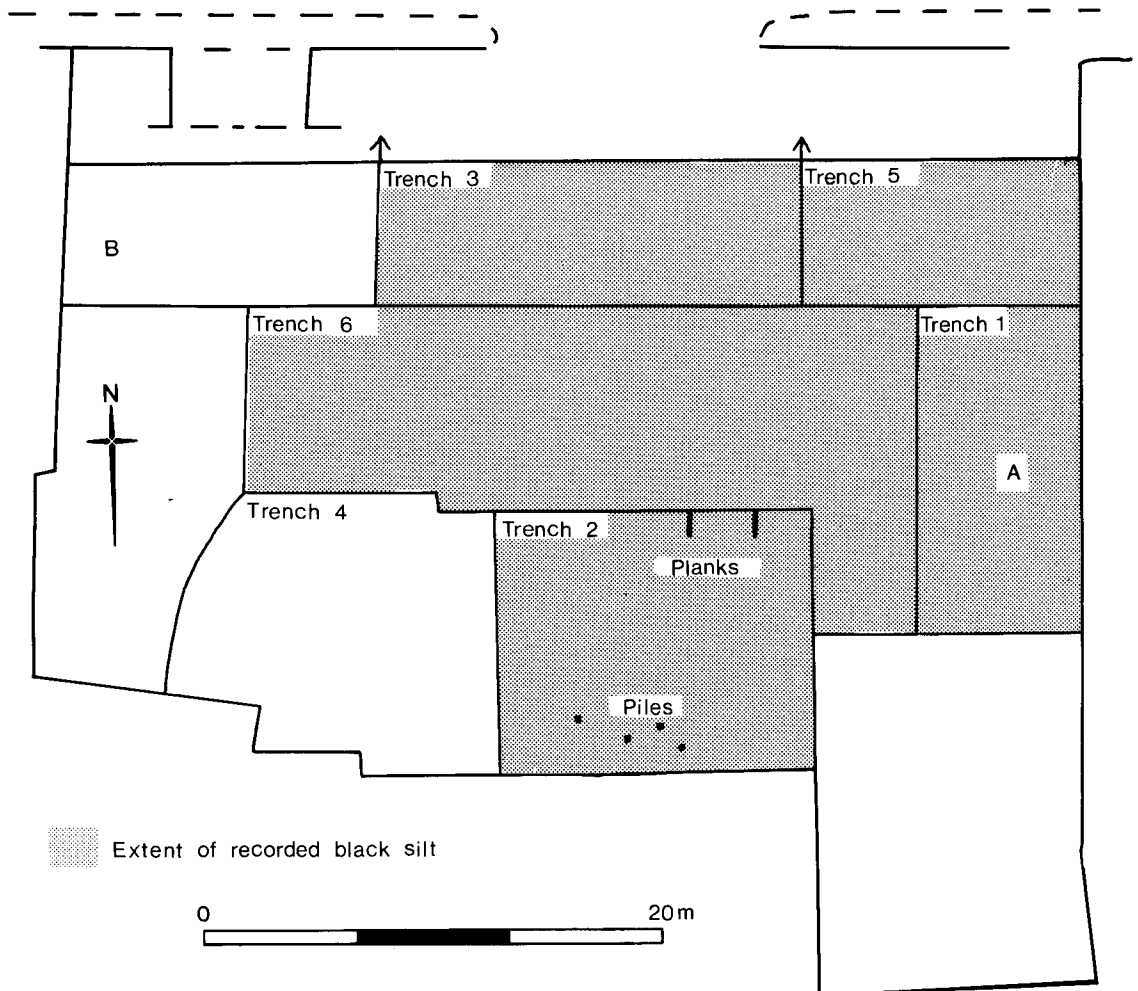
8: EXCAVATIONS AT KING'S ARMS YARD, 1960

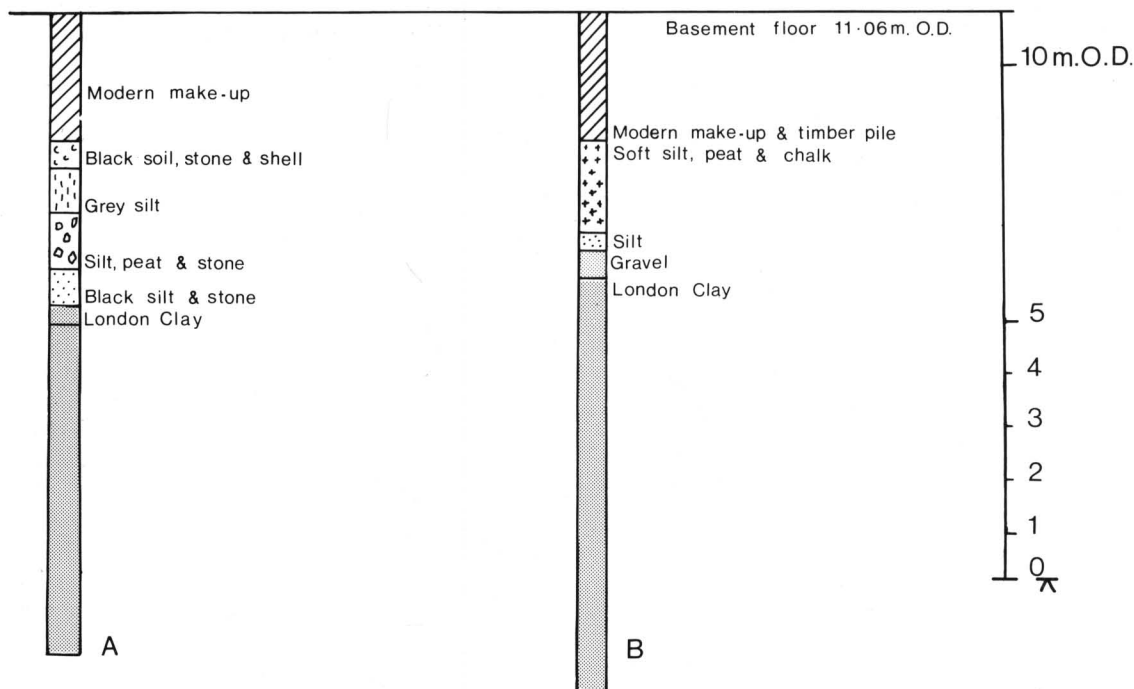
INTRODUCTION

The site of the Bank of England canteen at 1 King's Arms Yard (Fig 1) was watched by Eve Harris of the Guildhall Museum. Owing to the circumstances of the contractors' excavations, only infrequent and unconnected observations

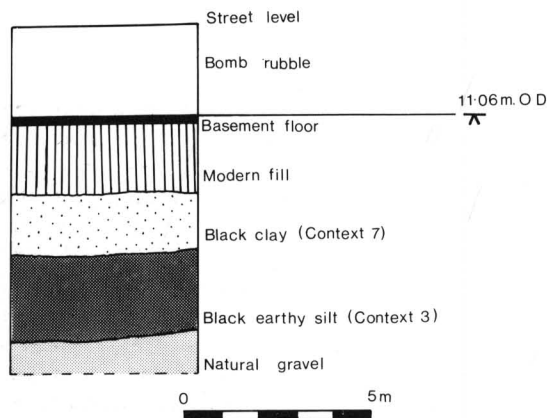
could be made, and Mrs Harris's efforts were primarily directed towards the acquisition of objects for the Guildhall Museum collections. Despite this, several points of interest were established. Thanks are due to Messrs Trollope and Colls Ltd, the contractors, for their assistance.

39. King's Arms Yard: site plan.





40. King's Arms Yard: (a) sections through boreholes; (b) section in Trench 6.



ROMAN FEATURES

Reasons for supposing that a natural stream bed ran through the site (based on the levels of natural deposits) are given above (p. 15). Overlying the natural gravel (Context 2) in Trenches 2 and 6, and also to the east and west of the site, was a layer of black organic silt (3), whose surface was defined at +8.02m OD (for the extent of recorded black silt, see Fig 39). Within this silt in Trench 2 were four timber piles, each 0.31 m square in section (4). East of these piles was a pair of planks 2.97m apart, laid parallel and aligned north-south (5). The planking lay within and parallel with the alignment of the dip in the natural deposits noted above. The black silt layer also contained planks and unworked branches. To the west and east of the site, the silt became less intensely black in colour. The 'silt' as a whole can be dated to the 1st/2nd centuries. In places the stumps of trees were noted, and these appeared to have been growing when swamped.

The contractors' excavations took the form of a series of trenches (Fig 39.1-6; for location relative to modern streets, see Fig 42). Two commercial boreholes were also examined (Fig 40.A-B; located on plan, Fig 39). Most of the contexts recorded, especially those in the boreholes, could not be related between cuttings and so are not extensively discussed below. Significant Roman contexts are included in the table (Fig 41), which gives basic descriptions, levels, trench numbers, finds group designations (ER numbers) and dates. All dates are based on pottery analysis, details of which can be found in the archive, and in Fig 75.

Context No.	Cutting No.	Description	Level of top (m OD)	Plan (Fig)	Section (Fig)	ER No.	Date
1	A	natural London Clay	+6.19				
	B		+6.04				
2	B	natural gravel	+6.49				
	2		+5.48				
	6		+5.58				
	6		+5.27				
3	B	black organic silt	+6.80		40		
	2		+8.02			448	1st-2nd c.
						489	1st-2nd c.
						451	1st-2nd c.
						455	1st-2nd c.
	6		+8.02		40	526	1st-2nd c.
	(east)		+5.48			478/530	
4	2	timber piles	+5.02	39			
5	2	planking & dip in natural	+5.02	39			
6	2	ballast & grey clay					

41. *King's Arms Yard: table of stratigraphy.*

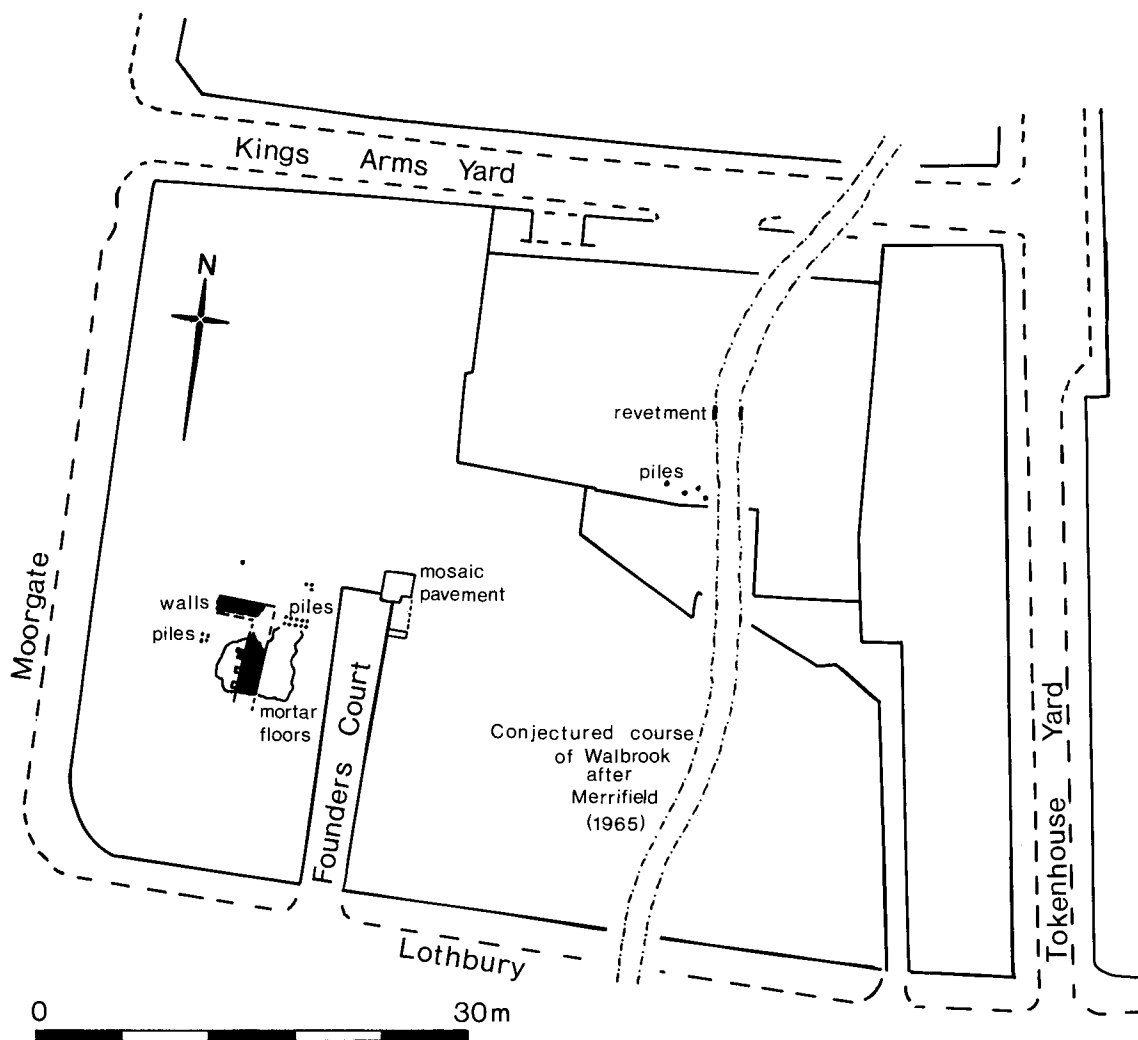
COMPARISON WITH ADJACENT SITES

Excavations were undertaken at Founders Court in 1927, immediately west of the present site (Fig 42; RCHM 1928, 131-2). In summary, the site showed a black 'alluvial deposit' 1.15m in depth containing Roman pottery which pre-dated c.AD 125. Above this material, and extending into the adjacent site of 6 Lothbury, a mosaic pavement was recorded. This was defined at +6.83m OD, which would place the bottom of the 'alluvium' at +5.68m OD approximately. To the west the material was deeper, with an approximate bottom level of +5.00m OD. Also to the west was the corner of a flint and chalk foundation associated with mortar flooring (Fig 42) and lying at approximately +8.40m OD. The wall was constructed on a raft of timber piles, which continued to the east, indicating the continuation of the wall in that direction.

INTERPRETATION

The position of 1 King's Arms Yard in relation to other sites on which the Walbrook has been traced would suggest that the stream ran through

the site, and that its valley was represented by the irregularity of the natural deposits in the centre of the excavated area. Merrifield (1965, 236) proposed this interpretation, suggesting that the planks laid in the dip formed part of the water-course. It may be due to the lack of detailed work both at King's Arms Yard and Founders Court that the black silt was identified as a homogeneous layer. An early medieval bronze bowl indicates that some of this silt was post-Roman in origin. The various timbers found within the silts suggest the presence of timber stream-side structures of the type recorded at Bucklersbury House, but the scanty nature of the archaeological recording renders it impossible to interpret the black silt in terms of similar sequences of silting, dumping and make-up. The changes in depths at Founders Court seem to indicate at least one subsidiary channel within the 'black silt' material. The significance of this is explored above (p. 16). At Founders Court, as elsewhere in the Walbrook valley, stone structures on pile foundations are a later Roman phenomenon, which post-date the frequently observed 'black silt'.



42. King's Arms Yard : relationship with adjacent sites.

PART TWO: THE FINDS

with notes and contributions by Philip Armitage, Geoff Dannell, Brenda Dickinson, Chris Green, Jenny Hall, the late Sir Ian MacLennan, Jennifer Price, Michael Rhodes, Beth Richardson and Paul Tyers

I : INTRODUCTION

When the Roman finds from the Walbrook sites were first examined, conventional finds reports for each site were considered. It soon became evident, however, that the result would be an enormous, confusing, and time-consuming catalogue of some thousands of complete and fragmentary objects which would shed little or no light on the nature of occupation in the stream valley. The need to cite parallels from one site to another would give rise to confusing cross-referencing and to needless duplication. Most important of all, the publication of separate reports would fragment the information to an unacceptable degree, obscuring the similarities between the assemblages on all sites. It was concluded therefore that the most appropriate form of publication was to present an integrated finds report in which only those stratified finds which related to the date and/or use of this part of the City would be considered. This would be based upon the sites whose archaeology is reported on above, but would not exclude other published and unpublished data on finds in the area. In this

way the finds report is relevant to the topographical theme of the report in general. It is suggested that the detailed study of individual finds should await the publication of research on particular aspects of manufacture or trade, of Museum catalogues, or of corpora of specific classes of object.

The finds evidence has in the past been used, largely uncritically, to deduce the character of settlement in the Walbrook valley. Section 2, following, presents a critique of the validity of this evidence, while Section 3 deals with the ceramic and numismatic evidence for dating. Section 4 is concerned with the other finds insofar as they relate to the use of the stream valley and the nature of archaeological deposits in the area.

Each object fully discussed and described is given a catalogue number which is reproduced in the illustration. Descriptions are prefaced where relevant with the ER finds group number (see Introduction, p. 8), while context and date are given at the end of each description. In many cases a Museum of London Accession Number (MOL Accession No.) is included.

2: THE VALIDITY OF THE WALBROOK FINDS' EVIDENCE: AN EVALUATION

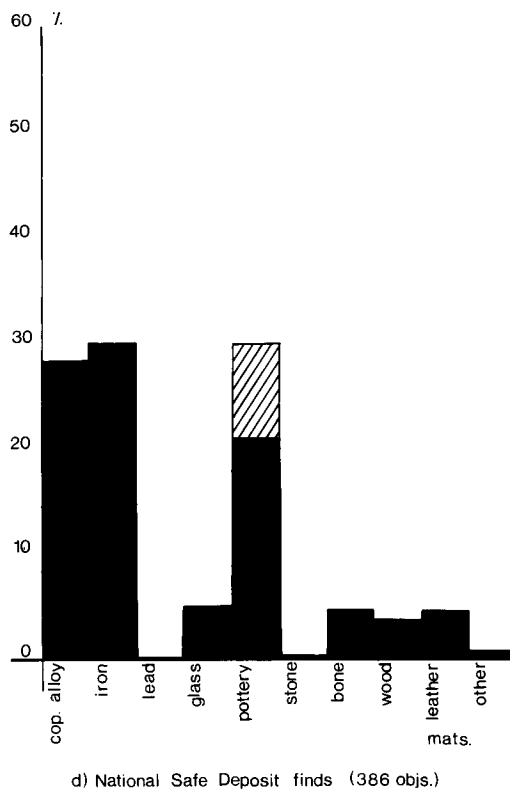
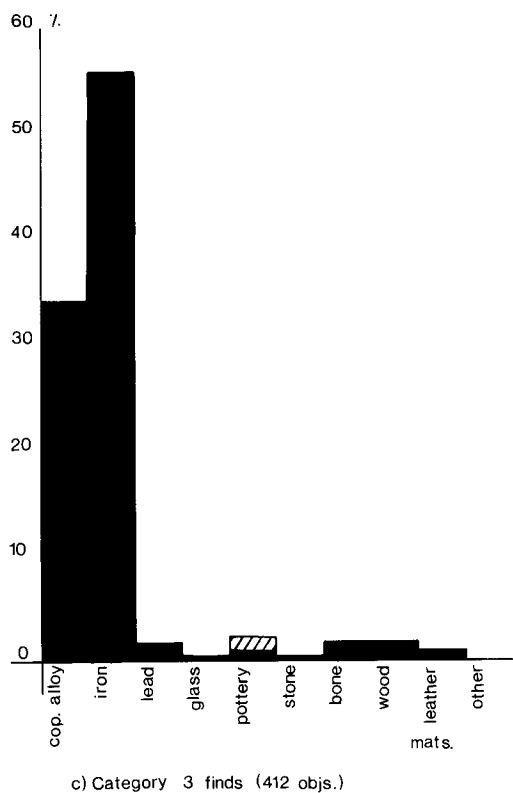
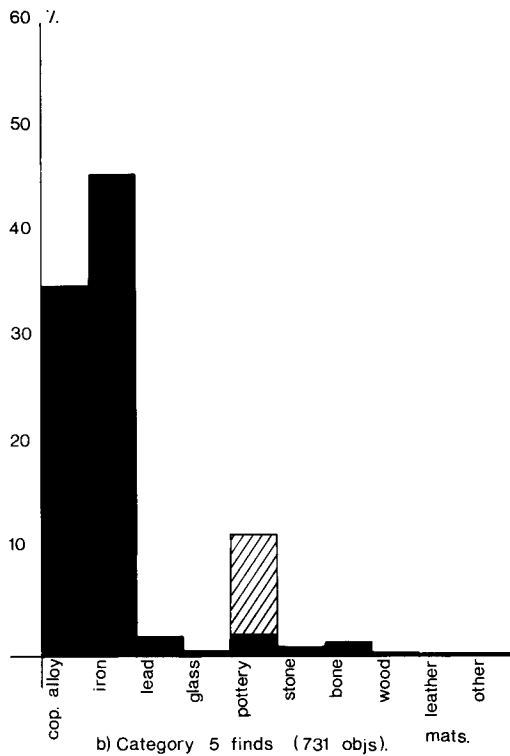
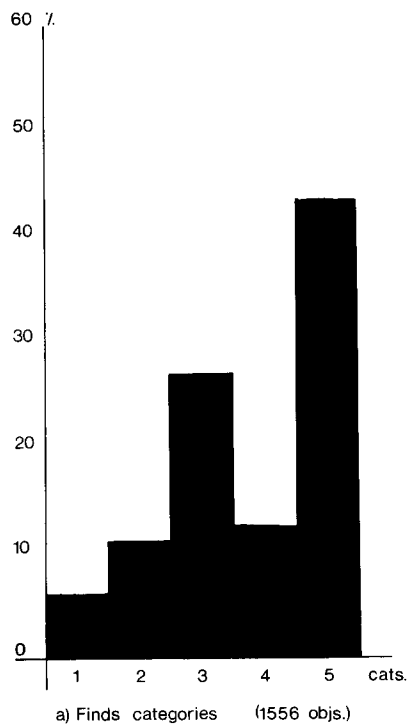
The Walbrook valley has long been recognised as being exceptionally rich in Roman finds, and very large quantities of objects have been found in every excavation along its course. In the absence of an adequate record of structures and stratigraphy, this abundance of finds has tended to serve as the sole basis of conclusions on the use, and character of occupation in the valley in the Roman period. There seems, however, to have been little awareness of the shortcomings of this evidence, and it is now necessary to reassess previous inferences, many of which are still regarded as established fact. It is of use here to trace the development of these ideas during the present century. One of the most important was set out by the Royal Commission report (1928), which gave the standard view, later to be found erroneous, of the nature of the Walbrook valley (cf. above, pp. 11-13). As far as the role of the 'bed' was concerned, the Commissioners noted that '[The 8ft thick deposit, the whole belonging to the Roman period] . . . can only be accounted for by the supposition that the broad depression of the stream was used from the first as a repository for refuse' (RCHM 1928, 16).

Subsequently, the first major investigation undertaken in the area was at the Bank of England, beginning in 1927. Here excavation confirmed the large numbers of finds available for recovery on these sites, but led to no questioning of the Royal Commission's conclusion (*Daily Express*, August, 1927). In 1949, for the first time, doubt was cast on the interpretation of the 'black silts' in the Walbrook valley as representing stream silt (Hume 1956, 60), and the 'silts' which 'abounded in well preserved metal and leather artifacts', (Hume 1978, 14) were interpreted as flooding deposits laid down by the stream whose bank was thought to be under the street called Walbrook.

As mentioned above (p. 12) it was not until 1955 at Bucklersbury House that the discovery of the revetted stream made it possible to distinguish

between the small amount of actual stream silt in the valley (between the revetments), and the valley make-up fill which was formed by dumping and occupation level sequences. Large numbers of finds were recovered from both these environments, and a number of new theories were formulated to explain this, mostly based on the discovery of occupation on the rising stream's banks. Distinctions between bank and stream-bed finds were blurred by the fact that most objects were unstratified, and the theories accordingly took little regard of context. Rubbish disposal was still accepted by Cook as a major characteristic of the deposits (Guildhall Museum 1956, 3). Large metalwork deposits – seemingly representing single acts of deposition (see below, pp. 128-138) – were interpreted by Hume (1956, 67) as debris disposed of in the stream by metalworkers operating on its banks. Hume (*ibid.*, 68-9) also suggested that tanneries were located here, citing large amounts of leather found at St Swithin's House, Bucklersbury House, and other sites such as the Bank of England (Giuseppi 1936, 285) as evidence. Other industries were also postulated as having been located in the area. The large quantities of small personal or decorative objects seemed to indicate loss during trade, and the presence of retail stalls was inferred (Merrifield 1962, 38; 1965, 47). The idea that many perfect objects could have been deposited in the stream as ritual offerings was also tentatively suggested (Merrifield 1962, 38; 1965, 48), an idea which seems to have been given additional weight recently (Marsden 1980, 74-5, 88, 115, and in the Museum of London galleries).

The stratigraphic or archaeological context in which an object is discovered must obviously affect its value as evidence. Though at Bucklersbury House it was possible for the first time to determine whether a find was from the stream bed or from its banks, limitations were unavoidably placed on the evidence by the method of finds' collection. It has now been possible to



divide the Bucklersbury House finds into five basic categories according to the reliability of context and stratigraphy:

1. Well-stratified objects recorded from contexts on the banks and numbered within the ER system then in use.
2. Well-stratified finds recovered from the revetted stream bed phase and numbered within the ER sequence. This category includes only those finds whose position and relative level are known.
3. Objects recovered from the revetted stream bed by staff of the Guildhall Museum, but whose position and/or level within the stream bed silts was not recorded.
4. Objects of similar status to Category 3 but recovered from the banks.
5. Unstratified objects, workmen's finds and objects found by independent collectors. Though the latter were often stated to be from the stream-bed, this provenance is uncertain and the objects should be seen as unstratified, following Merrifield (1962, 45).

Fig 43a shows the percentages of finds from the site which fall into each category. This excludes pottery, nails and coins, which were found in such numbers as to obscure the picture.

In terms of interpretation, Categories 1 and 2 are of considerable importance, while Category 5 is unreliable, being valid only when used in conjunction with the others. Categories 3 and 4 are of some use, especially Category 3, where finds are known to have been deposited in the stream during its relatively well-dated revetted phase (see below, p. 179).

Different conditions apply on the other sites whose archaeology is reported here. The Bank of England site produced only material of an unstratified character, comparable with Category 5. At Temple Court and over most of the St Swithin's House site, objects were found in contexts either on or beyond the stream's banks; in terms of the above these would fall into Category 1. The finds from Bank Tube Station and also from the western part of the St Swithin's House site lie in the stream valley but not in the stream bed. Finds from both sites were recovered from

waterlogged deposits in the valley, though the nature of these deposits was not established. These therefore correspond to Category 4. It seems likely that many of the finds from the National Safe Deposit Company site should be similarly classified, as Price (1873, 53) explicitly locates the find spot of *most* of his discoveries well to the west of the course of the stream as postulated both by Price himself and by Merrifield (1965; see Fig 32). It is not possible, however, to determine which finds originated on what part of the site and so all finds should be regarded as unstratified. At King's Arms Yard no differentiation was made between stream silts and waterlogged bank material. Though these finds should perhaps be seen as unstratified they differ from those of the National Safe Deposit Company and Bank of England sites in that it was possible to identify certain objects which could *not* have come from the stream bed as they were found in areas other than those through which the stream passed.

The interpretative problems connected with the Category 5 finds from Bucklersbury House and comparable assemblages on other sites have been noted by Merrifield in his work on the coins (1962, 45-6). Here he states that it was 'common knowledge among workmen on the site that the greatest number of Roman objects came from the lower levels of the stream bed between the early revetted banks'. This was a useful guideline, but whereas Cook had regarded most of the objects as being derived from the stream bed (Guildhall Museum 1956, 3), Merrifield nevertheless considered that the finds lacked a reliable provenance and should be regarded as unstratified. However, he clearly inclined to the view that most of the coins were derived from the stream bed.

To a great extent these tentative provenances were based on the condition of the objects recovered, which was extremely good. Iron from Walbrook sites is often completely corrosion-free. Where corrosion occurs it is limited to the accumulation of vivianite, a hydrated iron phosphate frequently found in damp conditions, for example, around bog iron ore (Read 1970, 526-7). Copper alloy objects are also corrosion-free, appearing bright and 'new'. These effects are chiefly due to the exclusion of atmospheric oxygen from waterlogged deposits. The logic behind this argument of provenance based on condition seems to have run as follows: as metal objects definitely from the stream bed were found in excellent condition, many, if not most, objects in excellent condition would probably be from the

43a-d. Histograms showing proportions of objects of various materials from Walbrook sites.

stream (Merrifield 1962, 46). This doctrine has now become the accepted orthodoxy, to the extent that objects from Walbrook sites, published separately, or as comparative material, are *assumed* to be from the revetted stream, and therefore attributed to the period before c.AD 155-60, the apparent date of the collapse of Revetment 14 at Bucklersbury House. It has also been applied to those sites where no stream stratigraphy was recorded, for example, at the Bank of England (see, for example, Greep 1982, 91). Thus the tendency is for these objects to be regarded as a dated corpus from which valid comparison can be made.

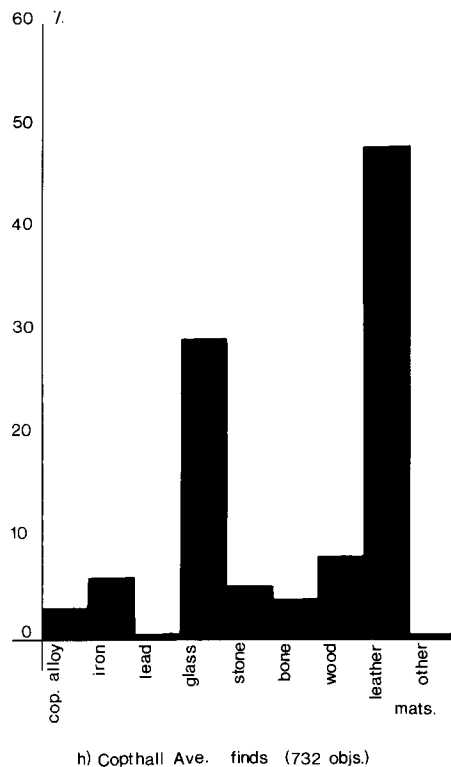
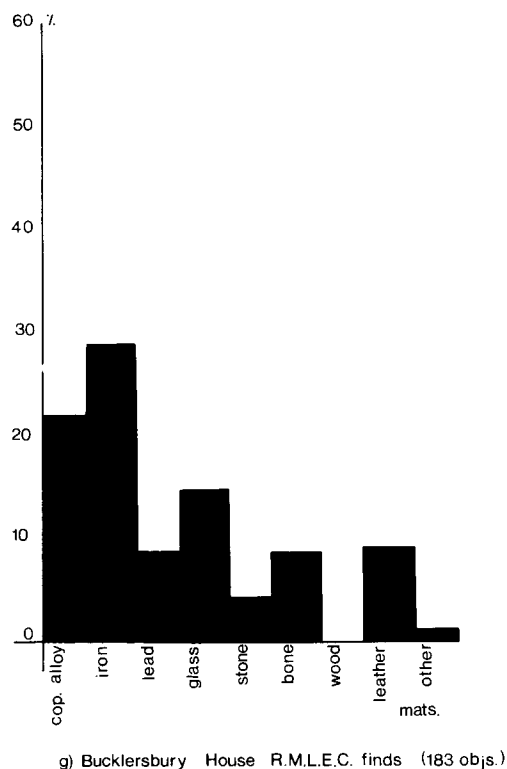
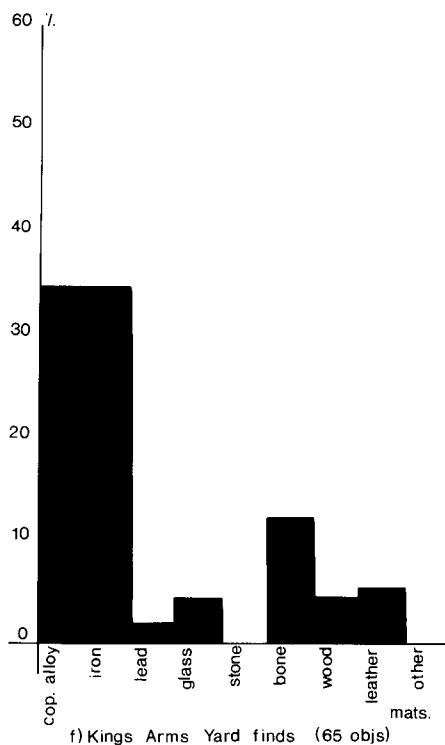
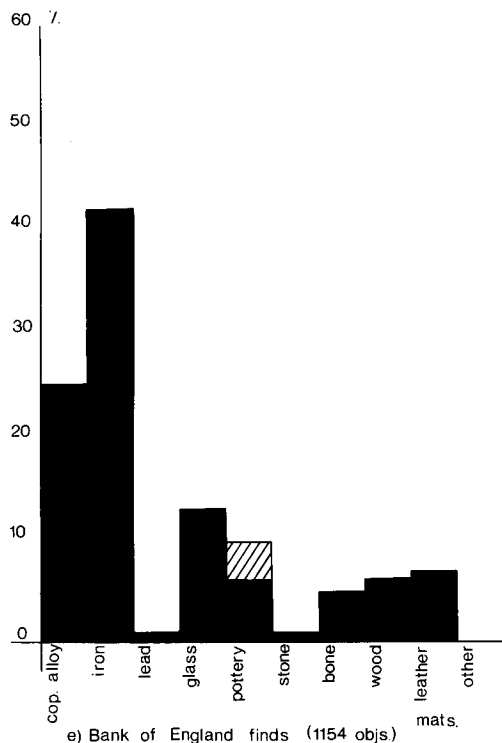
Unfortunately, the deduction can be shown to be fallacious. It has been mentioned above that St Swithin's House yielded a quantity of well-preserved material (see catalogue of Trench D finds, below). This was not a site through which the Walbrook flowed, but it included a narrow strip of the waterlogged material in its valley fill. On this site, as well as at Angel Court (Blurton 1977), Temple Court, Bucklersbury House, Bank Tube Station and King's Arms Yard, objects demonstrably from the dumped valley fill, and *not* from the stream bed, showed a quality of preservation indistinguishable from those objects from the revetted stream channel at Bucklersbury House. Furthermore, the presence of well-preserved copper alloy and vivianite-stained iron is well attested from the London waterfront, in river bank dumps, and was recorded by Conyers in dumps in the Fleet Valley as early as 1675 (Burnby 1984, 78). It is by no means a purely Walbrook phenomenon!

A total of 65 percent of the Category 4 finds from Bucklersbury House were recovered by Francis Greenway-d'Aquila. In an unpublished letter to the Guildhall Museum he makes it clear that his finds' recovery centered on the 'artificial bank': that is, on the stream valley dumps rather than on the stream bed silt itself. Although no further provenance is known for this material, its condition has in the past led to the assumption that it derived from the stream bed. This clearly should not be the case, as Greenway states that most of the stream silts had been machined away before he started work. Among the finds from the bank dumps he numbers keys, shackles, intaglios, hooks, chains, rings, writing tablets and many coins. The Greenway collections in the Museum of London and British Museum also include needles, ligulae, spatulae, handles, strap-ends, brooches and fittings, many styli, knives and other

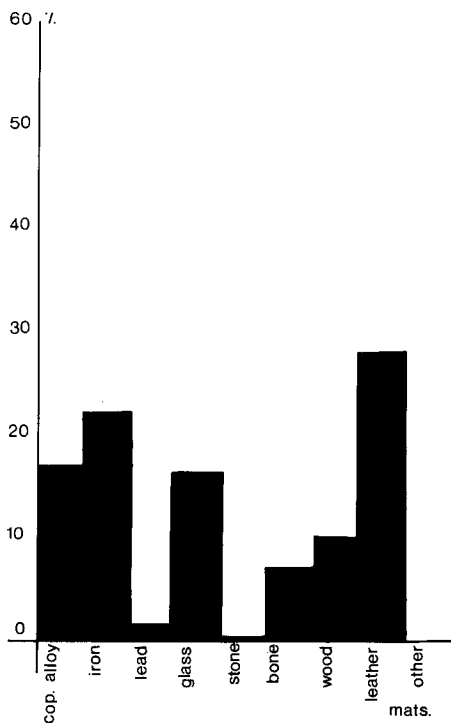
items (MOL Accession Nos 20577-20861), the whole being a typical sample of metalwork and other finds from the Walbrook assemblages at large.

Referring to Hume (1956, 67), Greenway mentions the presence in the stream silt of a larger amount of metalwork. This is also mentioned by Merrifield (1962, 45), and is confirmed by the histogram of Category 3 finds at Bucklersbury House (Fig 43c). It might also be noted here that only 25 percent of the 'small finds' from the RMLEC excavations were from cuttings through which the stream flowed. Within this 25 percent metalwork was also predominant. Greenway's notes distinguish between the banks, where most complete objects were found with little scrap, and the stream silts where much scrap and waste iron were recovered.

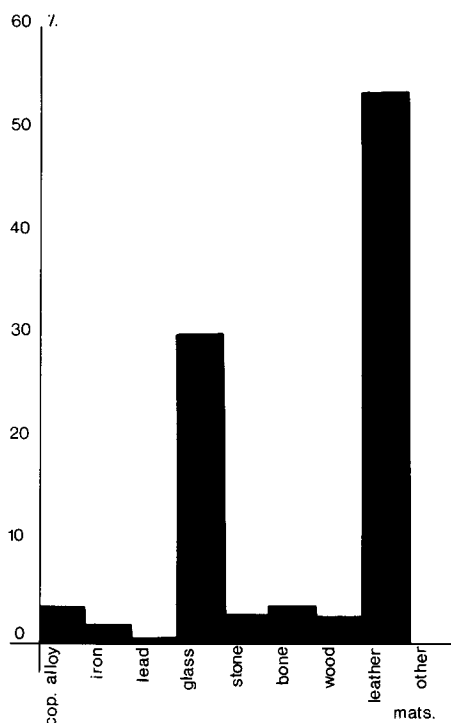
The exact provenance of an object, whether from the bed of the stream or the dumps in its valley, is important because, although closely associated, these two environments could have been used for different purposes. The banks consisted of living and working surfaces, interleaved with dumps of make-up which must have been imported from elsewhere in the City and which, by analogy with similar deposits on the Thames waterfront (Rhodes 1980, 35), may largely have comprised debris and refuse from all parts of the Roman town, including both workshop and domestic waste. It is certain that this dumped material could not all have come from the immediate vicinity of the Walbrook. This casts very considerable doubt on whether any object was either used or deposited on the site as an individual object. On the other hand, it is perhaps more likely that the material in the stream bed was the result of rubbish disposal by those living and working on the banks (cf. Ehrenberg 1980, 7), and this material might, if studied in isolation, give a better idea of the use of the valley. It must be remembered, however, that these objects were dumped into running water. Not only could objects be rolled, washed or floated into positions distant from their point of deposition, but much of the lighter organic material could drift downstream to the Thames (cf. Rhodes 1982, 85). It might be noted here that of the RMLEC stratified finds the majority of organic objects were found in cuttings other than those through which the stream flowed. The action of the water in carrying lighter material away might explain the lack of organic finds, both here and in Category 3 at Bucklersbury House.



44e-h. Histograms showing proportions of objects of various materials from Walbrook sites.



j) Angel Court finds (177 objs.)



k) Billingsgate Buildings finds (506 objs.)

45j-k. Histograms showing proportions of objects of various materials from Walbrook and waterfront sites.

The final problem is that of the validity of the Walbrook assemblages as samples of material, particularly those from Bucklersbury House in Categories 3-5 and similar groups elsewhere. This problem is highlighted by the accompanying histograms (Figs 43-5; samian sherds shown hatched, coarse pottery shown in solid black). A recent article by Ehrenberg (1980, 4-5 & Fig 2) has shown that, in dredging in the Thames, only the more 'visible' ancient objects were recovered by workmen, thus providing a distorted picture of the material available to be discovered. On those sites which chiefly comprised the Walbrook and its banks and which were not stratigraphically excavated, relying on workmen for artifact recovery, this factor is also much in evidence. Hence the sample of material recovered is merely a 'grab sample', defined by Cherry *et al* (1978, 409) as 'a sample selected by haphazard means without the use of probabilistic or purposive criteria'. The sample, however, is not representative of the target population, in this case the population of Roman objects on the site. It is a grab

sample of those objects visible to usually unskilled personnel on a working building-site and deemed 'worth picking up'.

Nowhere is this more evident than in the Category 5 finds at Bucklersbury House (Fig 43b). Here stone, bone, wood, leather, and 'other' materials represent a tiny proportion of the total number of objects recovered. They are also the least likely to catch the eye, and the least prepossessing if seen. Glass would normally be found as fragments and this too would not seem worth recovering, even if recognised as ancient. The greatest peak, quite logically, is the well-preserved metal objects which would be seen and valued. The second peak is represented by pottery, of which 85 percent of that picked up was samian ware. This is directly comparable with Ehrenberg's Thames dredger finds, where only those periods in which pottery was of a distinctly different colour from the soil around are represented in any quantity (Ehrenberg 1980, Fig 2). The same pattern is evident with the Category 3 finds, though here pottery occurs even less frequently (Fig 43c), and at the National Safe Deposit Company, Bank of England and King's Arms Yard sites (Figs 43d, 44e-f). The imbalance

between the materials shown in the histograms becomes even more noticeable when set against the notes of those present on the sites. For example, Fig 44e shows all pottery recorded from the Bank of England, a site conspicuous for a 'pile of pot sherds three feet high, four feet across and eight or nine feet in length' (Giuseppi 1936, 285). The absence of surviving leather among all of these assemblages is demonstrated on the histograms, yet Hume (1956, 68) states that 'one of the most consistent features of any excavation which cuts across the Walbrook is the discovery of great quantities of leather. While shoes, boots, sandals and pieces of garments are represented, the largest number of pieces are trimmings and waste hide'. Similarly Greenway (1957), referring to Bucklersbury House, records the 'Fantastic deposits of leather . . . in the peat [of the artificial bank]'.

Figs 44g-h and 45j-k present results from those Walbrook sites where controlled stratigraphic archaeological excavations have taken place, and where there was total finds' recovery from small areas of excavation. Despite the fact that on such widely spaced sites local differences in the soil conditions would be bound to affect different materials in different ways, in every case the proportions of materials represented even out (g), or, more usually, are reversed so that the organic finds become the largest single group. This is true at Angel Court (Fig 45j; Rhodes 1977a) and 5-12 Copthall Avenue (Fig 44h; Maloney 1987; Groves 1990), and also at the recent Walbrook valley excavation at Telegraph Street (Museum of London (DUA) site code TEL 83; Chitwood 1983), where again only dumping in the vicinity of a stream was found. The vast numbers of metallic finds at Bucklersbury House can be explained partly by the large size of the area (over 10,000 sq m) from which finds were casually recovered, as against the very small area of controlled excavations at Copthall Avenue (75 sq m). However, comparisons of the histograms (b, h) show that despite this huge difference in area, fewer objects were recovered in Category 5 at Bucklersbury House than on the Copthall Avenue excavation. Given the frequency with which leather in large quantities at Bucklersbury House

is mentioned, it seems probable that, had all finds been recovered there, the proportion would have been closer to that at Copthall Avenue than to that in histogram b. The final histogram (k) shows a similar breakdown of finds from the dumped material on the waterfront at Billingsgate Buildings (Jones 1980). This shows a close correlation both with the Copthall Avenue results and with those from Telegraph Street. It is also of considerable interest that these groups were probably of the same random origin, collected from all over the City and then used for land-fill in widely dispersed areas.

A further factor affecting the evidential value of the finds is the acquisition by private collectors of many objects from Bucklersbury House and doubtless from other sites also. Though many of these were donated to museums, it is clear that considerable numbers were not (Rodwell & Rodwell 1976; Merrifield 1983, 101). Even when objects were handed in, their provenances were usually lost.

The matters discussed above resolve into two basic problems:

1. Very few of the Walbrook finds claim even the most basic indication of provenance in terms of context.
2. The sample of finds now available for study is not complete, nor even representative.

From this it is perfectly clear that activity indicated only by unstratified material cannot be assumed to have taken place where the material was located. This must certainly be true of those objects whose sole provenance is the dumps in the stream valley, as these would most probably have been imported to the area in large volumes as refuse. This effectively invalidates all finds from the central part of the Walbrook valley as evidence for the use of that area, with the exception of the stratified groups from Bucklersbury House, Temple Court and St Swithin's House. A high degree of importance therefore attaches to those stratified assemblages, and for this reason they will be considered in detail in the following sections.

3: THE DATING EVIDENCE

This section summarises the ceramic and numismatic dating evidence. First the coin evidence is reconsidered in view of the stratigraphic uncertainty of most coin finds, and then the pottery is studied, purely as a dating tool.

The survival of stratified dating evidence varies considerably between sites. For Bucklersbury House/Temple Court and St Swithin's House the situation is summarised in Figs 46 and 47. Here the site feature number, a description of the layer within each feature, and the ER designation of each group is given, followed by the date allo-

cated to each group in finds analysis. In columns 5 and 6 of each table it is stated whether dating material survives (in which case recent analysis has taken place) or whether it is lost (in which case the excavator's original analysis of date is given). Similar information for King's Arms Yard is recorded in Fig 41; dating evidence survives from all stratified contexts on that site. For Bank Tube Station and the Bank of England, no stratified groups are available, while at 33-5 Poultry only the well is securely dated by numismatic evidence.

Feature No.	Layer in feature	ER No.	Date	Dating material	
				present	lost
1	material overlying wall	214	3rd c.	*	
	strata beneath floors	215			*
2	upper sandy fill of stream bed	268A	Antonine	*	
		268B	late 1st c.	*	
		268C	1st-3rd c.	*	
		268D	mid 2nd c.	*	
		268H(2)	mid 2nd c.	*	
		268(2)	early 2nd c.	*	
	lower, black gravel fill in stream bed	268H(1)			*
		268K			*
		268G			*
	primary silt in revetted stream bed	268E	pre-early Flavian	*	
3	primary bank behind revetment	268F	c.AD 60-80	*	
	finds around box	249A	late Antonine	*	
4	finds inside box	249B	Flavian	*	
	fill	222	3rd-4th c.	*	
5	from beneath platform	235B	Flavian-Trajanic	*	
	immediately over platform	235	late 2nd c.	*	
	'near' platform	235C	Antonine	*	
6	fill	213	1st c.		*
7	fill	218	later 2nd c.	*	
8	burnt layer around structure	11603	Hadrianic	*	
9	fill	261	Flavian		*
10	layer	212	2nd c.	*	

Feature No.	Layer in feature	ER No.	Date	Dating material	
				present	lost
11	piles		1st c.		*
12	road and drain		1st c.		*
13	beneath timber platform	291	late 1st c.	*	
14	top of stream revetment	298	late 2nd c.	*	
15	fill	287	late 2nd c.	*	
16	black silt under chalk	296	late 2nd-3rd c.	*	
	footings	301	1st c.	*	
	directly beneath chalk	302	late 3rd c.	*	
17	fill	220	Flavian-Trajanic	*	
18	fill	216	2nd c.		*
19	chalk walls		post-medieval		*
20	fill	473	Flavian	*	
21	fill	474	Flavian	*	
22	fill	444/5	1st-2nd c.	*	
23	black layer around piles	436	1st c.	*	
24	black layer around piles	485	1st c.		*
25	piles	439	Roman		*
26	well		post-medieval		*
27	fill	440	18th c.	*	
28	fill around timbers		Roman		*
29	fill	267	Hadrianic-Antonine	*	
30	fill	237	late 2nd-3rd c.	*	
31	fill	268x	4th c.	*	
32	fill	238	13th c.		*
33	fill	263	13th c.		*
34	fill	234	17th c.	*	
35	rubble spread	441	post-medieval		*
36	fill	488	Hadrianic-Antonine	*	
	discrete bankside layers	245	mid 2nd c.	*	
		250	Hadrianic	*	
		253	Flavian	*	
		240/1	1st-2nd c.	*	
	other stream-bed layers	11538	late Antonine	*	
		11539	Flavian	*	
		11542	Flavian-Antonine	*	
	layers in section C-D:				
	layer 1	259A	Flavian	*	
	layer 2	259B	late Flavian	*	
	layer 5	259C	Flavian	*	
	layer 7	259D	Flavian	*	

46. Bucklersbury House and Temple Court: summary table of dating.

47. Overleaf, pp. 70-72: St Swithun's House: summary table of dating.

Feature No.	Layer in feature	ER No.	Date	Dating material	
				present	lost
1	mosaic floor				*
2	fill: fire levels	11666	1st half 2nd c.	*	
3	on mortar floor	11520	14th c.	*	
4	unstratified	11524/11583	Roman/medieval	*	
5	fill	11522	c.1300	*	
6	fill		Roman		*
7	fill	11572	late Flavian-Trajanic	*	
8	fill		Roman		*
9	fill		Roman		*
10	fill		3rd-4th c.		*
11	fill		3rd-4th c.		*
12	fill		Roman		*
13	pottery among wall plaster	11599	Flavian-Trajanic	*	
14	fill	11665	mid-Flavian	*	
15	fill		Roman		*
16	wall		15th c.		*
17	wall construction	11585	3rd-4th c.	*	
18	wall construction	11586	3rd-4th c.	*	
19	wall		Roman		*
20	fill	11587	Roman	*	
21	fill		13th c.		*
22	fill		Roman		*
23	fill	11588	Flavian-Trajanic	*	
24	fill	11573	early Flavian	*	
25	fill	11589	1st c.	*	
26	fill				*
27	between gravel floors	11560	c.1150-1200	*	
28	fill	11525	13th c.	*	
29	grave backfill		2nd c.		*
30	unstratified	11596	Roman/medieval	*	
31	fill	11554	c.1300-1400	*	
32	fill	11590	4th c.	*	
33	unstratified	11593	Roman/medieval	*	
34	unstratified	11595	3rd-4th c.	*	
35	fire deposit	11591	Flavian-Trajanic	*	
36	fill		13th c.		*
37	fill		Roman		*
38	fire deposit	11558	Flavian-Trajanic	*	
39	grave backfill	11559	3rd-4th c.	*	
40	wall		medieval		*
41	wall		Roman		*
42	fill		Roman		*
43	fill		Roman		*
44	fill	11527	late 13th c.	*	
45	fill	11521	late 12th c.	*	
46	Fig 27.6				*

Feature No.	Layer in feature	ER No.	Date	Dating material	
				present	lost
47	Fig 27.2				*
48	Fig 27.7	11552	Flavian-Trajanic	*	
49	fill	11571	Roman	*	
50	fill	11597	1st c.	*	
51	fill under tile floor	11598	Roman	*	
52	fill		undated		*
53	fill	11582	Roman	*	
54	tile floor adjacent to 55		Boudican		*
55	fill	11577	Boudican	*	
56	fill		undated		*
57	fill	11602	1st c.	*	
58	fill		Roman		*
59	burnt layer (Fig 23.4)	11556-7	early Hadrianic	*	
60	fill	11562	early-mid Antonine	*	
61	fill		Roman		*
62	fill	11563	late Flavian-Trajanic	*	
63	fill	11565	Flavian-Trajanic	*	
64	fill	11526	medieval	*	
65	fill		Roman		*
66	fill		Roman		*
67	fill		1st c.		*
68	wall construction		medieval		*
69	fill	11569	Trajanic	*	
70	fill		Roman		*
71	fill	11561	1st-2nd c.	*	
72	timber structure (Fig 24.5-7)				*
73	burnt layer (Fig 24.4)	11581	1st-2nd c.	*	
74	piles		Roman		*
75	fill		medieval		*
76	fill		14th c.		*
77	fill		medieval		*
78	construction	11567	AD 259-268 or later	*	
78a	fill	11567	late 3rd-4th c.	*	
79	in flooring	11564	Flavian-Trajanic	*	
79a	below mortar floor	11565	Flavian-Trajanic	*	
80	wall		medieval		*
81	fill	11574	1st c. (Flavian)	*	
82	timbers (Fig 21)		post-Hadrianic		*
83	piles	11592	1st c.	*	
84	unstratified	11594	Roman/medieval	*	
85	wall plaster		Roman		*
86	below later floors	11566	Hadrianic-Antonine	*	
87	wall		Roman		*
88	unstratified		undated		*
89	black silt around piles	11580	2nd c.	*	
90	black silt around piles		2nd c.		*

Feature No.	Layer in feature	ER No.	Date	Dating material	
				present	lost
91	wall		medieval		*
92	black silt around pile	11579	Roman	*	
93	wall		medieval		*
94	fill	11568	Roman	*	
95	fill	11523	13th c.	*	
?	—	11576	Roman	*	
?	—	11578	1st c.	*	
?	—	11584	Roman	*	
?	—	11600	Flavian-Trajanic	*	
?	—	11601	4th c.	*	
?	—	11555	c.1600+	*	
	Building A		Roman		*
	Building B		medieval		*
	Building C		medieval		*
	Building D: 1st phase, see 79	11565	Flavian-Trajanic	*	
	2nd phase, see 86	11566	Hadrianic-Antonine	*	
	Building E		post-Antonine		*

47. pp. 70-72 : *St Swithin's House* : summary table of dating.

THE COINS FROM THE WALBROOK VALLEY

Jenny Hall

The purpose of this report is to examine and compare the Roman coins from sites in the Walbrook stream area. It is also the intention to publish details of all the *stratified* coins from these sites which have not been published previously (Appendix, pp. 181-182). Further information on the *unstratified* coins is available from the site archives in the Museum of London. Where possible, reference to the standard numismatic work is given in the following form:

BMC Mattingley 1923-76
RIC Mattingley *et al* 1923-67
S Sydenham 1952

The Museum of London's coin reference number is given in brackets.

The sites to be discussed fall into two distinct groups: the lower or middle Walbrook area, where the coins are mainly unstratified, and the upper regions of the Walbrook, where more recent excavations have taken place. The sites of the Bank of England (Fig 2.26, 2.31), the

National Safe Deposit Company (Fig 2.39) and Bucklersbury House (Fig 2.40) produced mainly unstratified finds, including coins assumed to come from the silts of the Walbrook stream, as discussed above (p. 63). The other sites, St Swithin's House (Fig 2.41), Angel Court (Fig 2.29) and 5-12 Copthall Avenue (Fig 2.10) in the upper Walbrook area, and the RMLEC excavations at Bucklersbury House, produced coins in stratified contexts. Other Walbrook sites shown on Fig 2 yielded too few coins to aid interpretation of the individual sites but have been added to the final total for statistical purposes.

The coins from Bucklersbury House, published by Merrifield (1962) as coins from the Walbrook, have been divided into the five categories outlined above (pp. 62-63) and are set out in tabular form (Fig 48). As Categories 1 to 4 are stratified to some degree, they are then grouped together for statistical purposes and are compared with the bulk of unstratified coins (Category 5).

The coins in Categories 1 to 4 are classified as follows:

Category 1. From well-stratified contexts on the stream banks, from above collapsed timbers of Revetment 14:

Date (AD)	41	41- 68	68- 96	96- 117	118- 138	139- 161	162- 180	180- 192	193- 222	222- 278	279- 294	294- 330	331- 348	349- 402	TOTAL
Category 1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	1
Category 2	—	1	1	—	—	—	—	—	—	—	—	—	—	—	2
Category 3	—	2	7	—	3	3	—	—	—	—	—	—	—	—	15
Category 4	—	2	3	1	—	2	1	—	1	—	—	1	—	—	11
Total (1-4)	—	5	11	1	3	6	1	—	1	—	—	1	—	—	29
	—	17%	37%	4%	10%	21%	4%	—	4%	—	—	4%	—	—	100%
Category 5	8	32	72	26	16	5	—	—	—	—	—	—	—	—	159
	5%	20%	45%	16%	10%	3%	—	—	—	—	—	—	—	—	100%

48. *Categorisation (see p. 63) of the coins from Bucklersbury House.*

(ER 298) *Dupondius* of Marcus Aurelius as Caesar (MOL Ba15); AE 23 mm; AD 153-4; *RIC Antoninus Pius* 1317 (already included in Merrifield's listing).

Category 2. Well-stratified in the revetted stream bed phase, from black silt in the bottom of the Walbrook channel at Revetment 2:

(ER 268G) *As* of Domitian (now lost; reference from excavator's notes).

(ER 268H) *As* of Claudius (MOL Ah110); AE 23mm; worn; mid 1st century AD; contemporary copy of Minerva type; previously unpublished.

Category 3. Fifteen coins were recovered from the revetted stream bed, but their precise position was not recorded. These were specifically distinguished by Merrifield and their date ranges are summarised in Fig 48.

Category 4. Eleven coins were recovered from the stream banks. These also were specifically indicated by Merrifield and are summarised in Fig 48.

Category 5. The bulk (159) of the coins, which must be regarded as completely unstratified (see Merrifield 1962).

The twenty-eight stratified coins, therefore, give a more certain criterion for dating the Walbrook area. Fig 48 shows that in Categories 1 to 4 the 1st-century coins correlate with the unstratified bulk in Category 5. The main discrepancy is the three coins post AD 153-4, when coin loss in Category 5 stops and when a coin of Marcus Aurelius was deposited above the collapsed stream revet-

ment. These later coins are said to have been found in higher levels away from the stream. Merrifield concludes that the break in the flow of coins is a local phenomenon of the lower part of the Walbrook and must indicate a change in the nature of occupation; he suggests that the lack of coins may be the result of the discontinuation of stream revetting, but need not be a sign of the end of a sequence of occupation, as borne out by later Roman coins being found in higher levels away from the stream.

How do the other sites bear this theory out? Fig 49 includes all the Walbrook sites reviewed here, and the information is given in the following form. Each site is divided into convenient chronological periods (Reece 1972) and the four figures given in each period are: the number of stratified coins; unstratified coins; their combined total (given in **bold**); and the percentage of the total coins from that site. On the same site, Bucklersbury House, but during structured archaeological excavations (RMLEC Walbrook) in 1954, the picture differs. Hitherto unpublished information on these coins is available from the Prehistoric and Roman Department, Museum of London. The early increase in coin loss seen on Noël Hume's Bucklersbury House site is absent. The main periods of activity, during the late 3rd and early 4th centuries, coincide with the period when the Mithraeum was in use and at its busiest. A coin of Constantine overlay the sculptures which the Mithraists had buried as protection against desecration. The later coins, therefore, are clearly associated with buildings away from the stream itself.

The Bucklersbury House site, therefore, yielded a mixture of stratified and unstratified finds. Unfortunately, other sites in the lower Walbrook

Date (AD)	41	41-68	68-96	96-117	118-138	139-161	162-180	180-192	193-222	222-278	279-294	294-330	331-348	349-402	TOTAL
Bucklersbury House:															
stratified	—	5	10	1	3	6	1	—	1	—	—	1	—	—	28
unstratified	8	32	72	26	16	5	—	—	—	—	—	—	—	—	159
TOTAL	8	37	82	27	19	11	1	—	1	—	—	1	—	—	187
	4%	20%	44%	14%	10%	6%	0.5%	—	0.5%	—	—	0.5%	—	—	
Roman & Medieval London Excavation Committee (RMLEC) Walbrook:															
stratified	—	2	2	2	2	—	—	—	—	4	12	5	10	—	39
unstratified	—	1	—	1	—	—	—	—	—	—	—	—	—	—	2
TOTAL	—	3	2	3	2	—	—	—	—	4	12	5	10	—	41
	—	7%	5%	7%	5%	—	—	—	—	10%	29%	12%	24%	—	
National Safe Deposit Company site:															
stratified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
unstratified	—	15	6	—	6	—	—	—	—	—	—	—	—	—	27
TOTAL	—	15	6	—	6	—	—	—	—	—	—	—	—	—	27
	—	56%	22%	—	22%	—	—	—	—	—	—	—	—	—	
St Swithin's House:															
stratified	—	—	—	—	—	—	—	—	—	1	1	—	—	—	2
unstratified	3	6	4	—	—	2	—	—	—	—	2	—	2	2	21
TOTAL	3	6	4	—	—	2	—	—	—	1	3	—	2	2	23
	13%	26%	17%	—	—	9%	—	—	—	4%	13%	—	9%	9%	
Bank of England:															
stratified	—	—	1	—	—	1	—	—	—	—	1	1	—	—	3
unstratified	1	4	21	1	3	3	—	—	1	2	—	—	1	—	38
TOTAL	1	4	22	1	3	4	—	—	1	2	1	1	1	—	41
	2%	10%	54%	2%	7%	10%	—	—	2%	5%	2%	2%	2%	—	
Angel Court:															
stratified	—	1	1	1	1	2	—	—	—	—	1	—	1	4	12
unstratified	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
TOTAL	—	1	1	1	1	2	—	1	—	—	1	—	1	4	13
	—	8%	8%	8%	8%	15%	—	8%	—	—	8%	—	8%	31%	
5-12 Cophall Avenue:															
stratified	—	—	—	—	—	1	—	—	—	2	3	—	—	—	6
unstratified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	—	—	—	—	—	1	—	—	—	2	3	—	—	—	6
	—	—	—	—	—	17%	—	—	—	33%	50%	—	—	—	
Other Walbrook sites:															
stratified	1	—	3	—	—	—	—	1	—	—	—	—	—	1	6
unstratified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL	1	—	3	—	—	—	—	1	—	—	—	—	—	1	6
	17%	—	50%	—	—	—	—	17%	—	—	—	—	—	17%	

49. Comparative summary of coins from Walbrook sites.

Valley produced only unstratified coins. The report on the National Safe Deposit Company site (NSDC; Price 1873) mentions that some 70 coins were found, of which only a representative sample was published. However, they were recorded as dating from Claudius in an unbroken sequence up to and including Antoninus Pius. The Museum of London now holds 27 coins attributable to this site. The coins are confined to the 1st and early 2nd centuries, similar to those from Bucklersbury House, but with an earlier cut-off date. The preponderance of Claudian and Neronian coins (56 percent) is unusual. It would seem, therefore, from the present coin evidence that there was only a short period of activity during the Roman period. To state that categorically would be a mistake without the evidence from a stratified site. However, taken in conjunction with the coin evidence from Bucklersbury House the short period for NSDC is less surprising.

The final site in the Lower Walbrook area, St Swithin's House, Walbrook (Fig 2.41), was excavated in 1949-50. Of the twenty-six coins from the site only two come from stratified contexts:

(ER 1567) *Sestertius* of Postumus (MOL Cy 29); AE 33 mm; some wear; AD 259-268; reverse uncertain, ?Victory. Built into the steining of a well, Feature 78.

Radiate copy (MOL X592); AE 17mm; worn; late 3rd century AD. From the bottom fill of the same well, Feature 78.

Also recorded as coming from a pit at St Swithin's House (British Museum file 1956, 12-1), the finds from which are now part of the Greenway Collection in the British Museum, are four coins which were recorded but do not survive. These have been included in the figures in Fig 49.

Denarius of Marcus Aquilius; c.68 BC; S 798

Denarius of Julius Caesar; c.50 BC; S 1069

Denarius of Augustus; moneyer Q. Rusticus; 19 BC; BMC I *Augustus* 2

Denarius of Titus, issued in reign of Vespasian AD 75-9; BMC II *Vespasian* 305ff.

Both stratified coins from the well are considerably later than the 'Walbrook' sequence of coins and indeed they fill a gap in the unstratified sequence of coins from the site. Of the unstratified coins (see Fig 49), three are Republican, c.68-19 BC, and ten are from the 1st century AD. It is accepted that Republican *denarii* could remain in circulation until the late 1st century AD, and the

Claudian and Neronian coins – which are very worn – were also in circulation for some time and are unlikely to have been deposited before the late 1st or early 2nd century. As can happen, there is a hiatus in the coin pattern in the 2nd and 3rd centuries but there are then four coins of 4th-century date, the last coin dating to AD 364-371. It appears, therefore, that the 1st-century coins denote some activity such as reclamation or building-works, and that the late 3rd and 4th-century activity is in accordance with buildings found on other Walbrook sites.

The three unstratified sites in the lower Walbrook, therefore, seem to have been active in the 1st and 2nd centuries and would bear Merrifield's theory out. However, it must be re-emphasised that the coins from these sites were all recovered without systematic archaeological recording and, with the exception of Bucklersbury House, it is unknown whether they come from stream silts. Many of the coins, especially at Bucklersbury House, were workmen's finds, and many of the coins listed by Merrifield were retained by the workmen. Because of their 'golden' colour, coins of the 1st and 2nd centuries were recognised as valuable. It is quite feasible that the workmen did not notice the smaller copper alloy and debased coins of the 3rd and 4th centuries.

Due north of the lower Walbrook sites lies the Bank of England site. For the purpose of this report, the coins from the Bank of England and King's Arms Yard (Fig 2.26, 2.31) have been studied together, since King's Arms Yard yielded only seven coins and these are too few to be able to form a conclusive picture. Those coins from these sites which have not been published previously are listed in the Appendix.

The following three coins from King's Arms Yard come from stratified contexts, though there is no evidence as to whether the 'silts' mentioned in the Accessions Register are stream-bed or bank deposits:

(ER 489) *As* or *dupondius* of Vespasian or Titus (MOL U19); AE 27mm; worn; AD 69-79; reverse uncertain, ?Securitas. From black organic silt.

(ER 455) *As* of Marcus Aurelius as Caesar (MOL Ba16); AE 24mm; worn; AD 154-5; RIC *Antoninus Pius* 132. Workman's find from retaining wall trench.

(ER 530) Radiate copy (MOL X577); AE 16mm; corroded; late 3rd century AD. Also from black organic silt.

These and the remaining unstratified coins are

summarised for comparison in Fig 49. There were 38 unstratified coins from the site, the bulk (54 percent) of which were of Flavian date. However, the coin sequence continues in a standard way throughout the Roman period, the final coin being of the House of Constantine (AD 330-335). If the higher periods of coin loss indicate activity, it could be that again there was intensive reclamation in the earlier periods, with a similar cut-off point to the lower Walbrook sites, but also some later building and habitation.

Of the thirteen identifiable coins from Angel Court twelve came from stratified dumped deposits and the stream fill (Merrifield 1977, 57-8). Here the coins from the dumped deposits (*ibid.*, Nos 416-423) date from a very worn coin of Trajan (AD 107-117) to coins of Valens dating to AD 364-378. Only five coins (Nos 411-415) came from the fill of the stream bed: two are worn 1st-century coins of Claudius and Vespasian which, as Merrifield points out, would hardly have been deposited in the silt of the stream before the 2nd century, and the remainder are 2nd-century (of Hadrian, Antoninus Pius and Faustina I). Merrifield suspected that the occupation of the banks of this tributary began later than along the main stream since there was a higher proportion of 1st-century coins at Bucklersbury House. This theory is supported by evidence from recent excavations in the upper Walbrook valley, where it appears that canalisation of the streams and habitation did not commence until the very end of the 1st century (Maloney 1990; see below, pp. 175-178).

Although rich in pottery, these recent sites yielded very few coins. The excavation at 5-12 Copthall Avenue in 1981 revealed only six identifiable stratified coins (Maloney 1990, Figs 103, 114). As at King's Arms Yard, these are too few to form a coherent picture of activity, except to

say that the sequence begins shortly before the Bucklersbury House sequence ends, with a coin of Antoninus Pius, AD 143-4. The other coins date to the late 3rd century and seem to come from dumped deposits, or silts and buildings, at a time of stable but sparse habitation.

A single stratified coin from 33-5 Poultry (Fig 2.35) has hitherto remained unpublished and is included here and in the analyses of Fig 49:

As of Commodus (MOL Be34); AE 27mm; worn; AD 179-192; reverse uncertain, ?Roma. Built into the steining of a box-framed well, Feature 1, the coin gives a *terminus post quem* for the well's construction.

Since the Walbrook valley formed one of the earliest areas of occupation of Roman London, it is of interest to compare coins from the Walbrook area with a group of sites to the west of this main area of occupation, along Cheapside (Perring & Roskams forthcoming). Fig 50 gives the analyses for both these areas. The Walbrook sites, when amalgamated, form a more coherent picture of this area. The peaks in coin loss still lie in the 1st century AD but there is a steady flow of coins throughout the Roman period. The sites west of the Walbrook show a different set of figures. While the coin losses increase in the Flavian period (16 percent), at the time when the Walbrook sites peak, the coins from the mid 3rd to the 5th centuries continue in greater numbers, especially in the late 3rd century, with a considerable number of radiate copies. Even when allowance is made for the different methods of excavation, recording and retrieval of finds, it would seem that the occupation of these sites was different. A further point worthy of note here is the condition of the coins. Most of the Walbrook area coins, especially those from Bucklersbury House, were in a very good state of preservation. The nature of their burial had preserved them well. By comparison, the coins from the west of the Walbrook sites were in a very poor condition and much corroded owing to drier conditions.

50. Coins from Walbrook valley sites compared with those from sites to the west of the Walbrook.

Date (AD)	41	41-68	68-96	96-117	118-138	139-161	162-180	180-192	193-222	222-278	279-294	294-330	331-348	349-402	TOTAL
All Walbrook sites	13 4%	66 19%	120 35%	32 9%	31 9%	20 6%	1 0.3%	1 0.3%	2 0.6%	9 3%	20 6%	7 2%	14 4%	7 2%	343
Sites W of the Walbrook	1 0.3%	31 10%	51 16%	8 2%	6 2%	6 2%	4 1%	—	3 1%	28 9%	106 33%	5 2%	62 19%	13 4%	324

From other evidence it is possible to show that the lower Walbrook valley was not much built up, with only timber buildings of a chiefly industrial nature. Well-constructed buildings were built beyond the banks on the dry slopes. If one accepts the argument of Reece (1971, 98-9) that activity such as building or, as is the case here, dumping is attested by heavy coin loss followed by occupation periods when coin loss is limited, then the coin losses of the lower Walbrook sites during the reigns of Vespasian and Domitian give a probable date at which the sequence of dumping and revetting was begun. The break in the coin sequence, therefore, could be due to the completion of reclamation work with the nature of occupation then changing. It would seem, therefore, that the cessation of coins from the Walbrook was due to physical changes in the Walbrook valley, when the stream, no longer being revetted, silted up and that, as a consequence of this, the settlement pattern changed with the erection of substantial 3rd and 4th-century buildings.

THE POTTERY

With notes and contributions by Geoff Dannell, Brenda Dickinson, Chris Green, Beth Richardson and Paul Tyers.

Introduction

There follows a summary of the archival pottery report, which can be consulted with the sherds themselves at the Museum of London, Department of Urban Archaeology. All the pottery has been studied in accordance with methods used in the DUA, details of which are published elsewhere (Orton 1978; 1979). Pottery names in which each word begins with a capital letter (eg. 'Pompeian Red Ware') are the Common Names (Orton 1977). The report which follows is presented in the form of tables and an index, with certain groups and vessels illustrated and described. These are either groups which are particularly significant in dating or in indicating the character of the sites; or they are groups which are important as assemblages. Individual vessels illustrated are additional vessels which supplement earlier corpora of London pottery, particularly those by Green (1979; 1980).

Tables showing the content of groups by ware ('Common Name') are given in Figs 52, 57, 66, 73, 74 and 75. These include the dates allocated by the specialists listed above on the grounds of the proportions of forms and wares present in each group. A mark against a group's ER number indicates the presence of a given ware in that group; a number represents the catalogue number of an illustrated sherd. Each table is followed by additional notes on illustrated material. Before the tables, a list is given of references to publications where full Common Name fabric descriptions can be found; the three or four-letter codes ('LYON', 'PRW' etc.) are those used in the DUA's archival catalogues.

'Common Name' references

Terra Nigra (Wilmott 1982a, No. 6)
 Gallo-Belgic Eggshell Ware (Green 1980, No. 315)
 Lyon Ware (LYON; Greene 1972, 1-2; Green 1980, Nos 304, 304a)
 Pompeian Red Ware (PRW; Peacock 1977; Green 1980, No. 303)
 Imported Mica-Dusted Wares (Green 1980, Nos 318-23)

Ring-and-Dot Beakers (RDBK; Green 1978; 1980, 72)
 Fine Black Micaceous Wares (FMIC; Green 1979, Nos 45-6)
 Hoo Ware (HOO; *ibid.*, No. 38)
 Highgate 'B' Ware (HWB; Brown & Sheldon 1974; Green 1980, Nos 161-7b)
 Gillam 238 mortaria (G238; Hartley 1977; Green 1980, Nos 46-52)
 North Kent Shell-Tempered Wares (NKSH; Green 1980; Nos 295-8)
 Highgate 'C' Ware (HWC; Brown & Sheldon 1974; Green 1980, Nos 115-60)
 Verulamium Region Whitewares (VRW; Green 1980, Nos 53-114)
 Local Mica-Dusted Wares (LOMI; *ibid.*, Nos 325-53)
 London/Upchurch finewares (LONW; *ibid.*, Nos 354-365)
 Verulamium Coarse White-Slipped Ware (VCWS; *ibid.*, Nos 258-64)
 Local Eggshell Wares (LOEG; *ibid.*, Nos 366-9; Marsh 1978)
 'Cologne' roughcast beakers (Green 1980, No. 316)
 'Cologne' colour-coated ware (Greene 1978, 2-3)
 Colchester roughcast beakers (Green 1980, 72)
 Colchester finewares (*ibid.*)
 Colchester mortaria (COMO; *ibid.*, Nos 377-9)
 Rhône Valley mortaria (RVMO; Davies & Richardson forthcoming)
 Verulamium White-Slipped mortaria (*ibid.*)
 Moselkeramik (MOSL; Greene 1978, 18-9)
 Soller mortaria (SOLL; Green 1980, Nos 390-1)
 Black-Burnished Ware 1 (BB1; Williams 1977; Green 1980, Nos 277-84)
 Black-Burnished Ware 2 (BB2; Green 1980, Nos 251-7)
 Nene Valley Colour-Coated Wares (NVCC; Howe, Perrin & Mackreth 1980)
 Oxfordshire White Colour-Coated mortaria (OXMO; Young 1977, 117-22)
 Oxfordshire Red Colour-Coated Wares (OXRC; *ibid.*, 123-84)
 Alice Holt/Farnham greywares (Lyne & Jeffries 1979; Orton 1977, 32)
 Porchester 'D' Ware (PORD; Orton 1977, 35)
 Late Roman Calcite-Gritted Ware (CALC; Orton 1977, 37-9; Green 1979, 18)
 Rhodian amphorae (RHOD; Green 1980, Nos 30-3)
 Italian amphorae (*ibid.*, 42)
 Camolodunum 189 amphorae (C189; *ibid.*, Nos 34-5)
 Camolodunum 186 amphorae (C186; *ibid.*, Nos 6-11)
 Dressel 20 amphorae (DR20; *ibid.*, Nos 1-3)
 Pelichet 47 amphorae (PE47; formerly often identified as DR30; *ibid.*, Nos 21-8)
 Hadham Ware (MHAD; Orton 1977, 37; Harden & Green 1978)
 Red-painted fineware (Green 1980, No. 372)

Abbreviations and conventions used in the samian reports

<i>Asciburgium</i>	Vanderhoeven 1978
<i>CGP</i>	Stanfield & Simpson 1958
<i>D</i>	Déchelette 1904
<i>La Nautique</i>	Fiches, Guy & Poncin 1978
<i>H</i>	Hermet 1934
<i>K19</i>	Knorr 1919
<i>K52</i>	Knorr 1952
<i>Neuss</i>	Schönberger & Simon 1966
<i>O</i>	Oswald 1937
<i>Ri-Lu</i>	Ricken & Ludowici 1948
<i>Rogers</i>	Rogers 1974

Stamps are listed as follows:

potter; die; form; reading; source

Superscript a, b or c indicate:

a: stamp recorded at the pottery itself;

b: not recorded at the pottery, but other stamps of the same potter known from there;

c: assigned to the pottery on the evidence of fabric, distribution etc.

For decorated sherds, the form number (Dr unless stated otherwise) is given first, immediately after the ER code.

Roman pottery from stratified groups in the Walbrook stream-bed at Bucklersbury House

(Summary table, Fig 52; Figs 51, 53-6)

Apart from the as yet unpublished pottery found in Grimes's RMLE excavations, and groups from the upper reaches of the Walbrook valley at Angel Court and Copthall Avenue, these are the only stratified pottery groups from the Walbrook stream. For this reason the diagnostic sherds are illustrated and described.

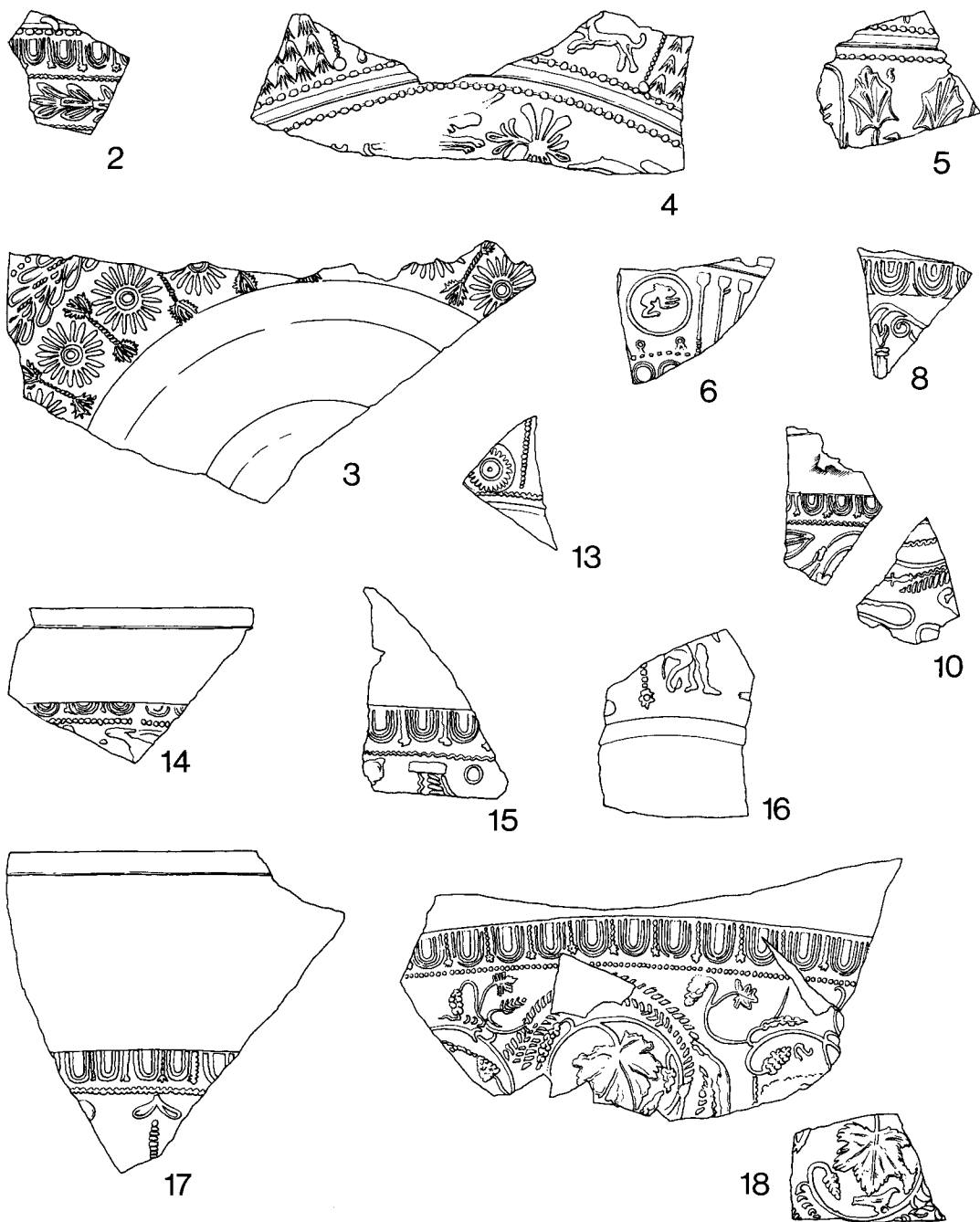
Samian ware

(Nos 1-36; Figs 51, 53; stamps not illustrated)

Edited from reports and comments by Geoff Dannell and Brenda Dickinson

The stream deposits contained both South and Central Gaulish wares in most common forms, with some East Gaulish material.

The earliest two groups, ER 268E and ER 268F, contained purely 1st-century South Gaulish



51. Decorated samian from the stream bed at Bucklersbury House, Nos 2-18. (Scale 1/2)

Fabric/source	ER 268F	ER 268E	ER 268A	ER 268B	ER 268C	ER 268D	ER 268H(2)
South Gaulish samian ware	1	2-6	*	9-10	11	18-19	
Central Gaulish samian ware			7	*	12-16	*	*
East Gaulish samian ware			8	*	17		
Ring-and-Dot Beakers		*		*			
Hoo Ware							
Highgate sandy greywares					*	*	*
Gillam 238 mortaria		38					
North Kent Shell-Tempered Wares	*						
Verulamium Region Whitewares		39-41		*	*	*	42
Local Mica-Dusted Wares							*
London/Upchurch finewares							*
Local Eggshell Wares						*	
Verulamium Coarse White-Slipped Ware		*		74	45	46-7	*
'Cologne' roughcast beakers							
'Cologne' colour-coated ware		*					
Imported flagons							
Colchester finewares							
Colchester mortaria	*						
Rhône valley mortaria	49						
Miscellaneous imported mortaria						50	
Verulamium White-Slipped mortaria						51	
Black-Burnished Ware 1					*		
Black-Burnished Ware 2					*	*	*
Oxfordshire Red Colour-Coated Wares							
Italian amphorae		56					
Dressel 20 amphorae		*		*		57	*
Pelichet 47 amphorae							*
Red micaceous amphorae	*						
Miscellaneous amphorae		*		*		*	
Miscellaneous imported finewares		*					
Miscellaneous colour-coated wares							
Rusticated beaker		*					
Face urns		*					
Lamps							
Miscellaneous tazzae						58	59-60
Miscellaneous flagons		*		*		*	
Splash-glazed ware							
Miscellaneous flagons							
Hand-made grog-tempered wares	*	62-3					
Hand-made shell-tempered wares		*					
Hand-made grey sandy wares		64					
Wheel-made grey sandy wares	65-7	68-72			73	*	*
Crucibles							
Miscellaneous coarsewares							
Date of groups	c.60-80	pre-E Flavian	Antonine	L 1st c.	1st- 3rd c.	M 2nd c.	M 2nd c.

52. *Summary of the Roman pottery from stratified groups in the Walbrook stream bed at Bucklersbury House.*

Fabric/source	ER 268F	ER 268E	ER 268A	ER 268B	ER 268C	ER 268D	ER 268H(2)	ER 11540	ER 268(2)	ER 11539	ER 11538	ER 11542	ER 298
South Gaulish samian ware	1	2-6	*	9-10	11	18-19		21-6,28	33	*		*	
Central Gaulish samian ware			7	*	12-16	*	*	20,27,29	30-2	*	34-6	*	
East Gaulish samian ware			8	*	17				*		*	*	
Ring-and-Dot Beakers		*		*									
Hoo Ware											*		
Highgate sandy greywares					*	*	*		*	37		*	*
Gillam 238 mortaria		38											
North Kent Shell-Tempered Wares	*												
Verulamium Region Whitewares		39-41		*	*	*	42	43	44	*	*		*
Local Mica-Dusted Wares							*					*	
London/Upchurch finewares							*						
Local Eggshell Wares						*							
Verulamium Coarse White-Slipped Ware		*		74	45	46-7	*		*				
'Cologne' roughcast beakers									*				
'Cologne' colour-coated ware		*											
Imported flagons									48				
Colchester finewares									*				
Colchester mortaria	*												
Rhône valley mortaria	49												
Miscellaneous imported mortaria							50						
Verulamium White-Slipped mortaria							51						
Black-Burnished Ware 1					*				*	*	52		*
Black-Burnished Ware 2					*	*	*		*	53-5	*	*	
Oxfordshire Red Colour-Coated Wares												*	
Italian amphorae		56											
Dressel 20 amphorae		*		*		57	*					*	
Pelichet 47 amphorae							*						
Red micaceous amphorae	*												
Miscellaneous amphorae		*		*		*							
Miscellaneous imported finewares		*							*				
Miscellaneous colour-coated wares												*	
Rusticated beaker		*											
Face urns		*											
Lamps								*					
Miscellaneous tazzae						58	59-60	*					
Miscellaneous flagons		*		*		*				*	*	*	
Splash-glazed ware								61					
Miscellaneous flagons													
Hand-made grog-tempered wares	*	62-3											
Hand-made shell-tempered wares		*											
Hand-made grey sandy wares		64											
Wheel-made grey sandy wares	65-7	68-72			73	*	*	*	*	*	*	*	
Crucibles													
Miscellaneous coarsewares									75				
Date of groups	c.60-80	pre-E Flavian	Antonine	L 1st c.	1st- 3rd c.	M 2nd c.	M 2nd c.	E 2nd c.	E 2nd c.	Flavian	Nero-L Antonine	Flavian- Antonine	L 2nd c.

52. Summary of the Roman pottery from stratified groups in the Walbrook stream bed at Bucklersbury House.

material. None of this was post-Flavian, and there was a considerable number of pre-Flavian sherds. These deposits (see above, p.19) comprised the very earliest material both within the stream revetments and in dumps behind those revetments.

- (ER 268F) Aper i; 4a; 18; OFAPRI [s.]; La Graufesenque^a. The stamps recorded for Aper i, though numerous, provide very little dating evidence. This particular one occurs at Hofheim and on form 29 (without significant decoration). Others are known from Aislingen and the pre-Flavian cemeteries at Nijmegen. His forms include Dr 24 and Rt 8. There are no stamps known from Flavian foundations. His range is therefore likely to be c.AD 45-65.
- (ER 268E) 37; CALVUS style; his ovolo, with trifid leaf wreath (York fortress, B. Dickinson pers. comm.). South Gaulish, c.AD 65-80.
- (ER 268E) 29; chaotic style of BASSUS and COELUS; for the leaf wreath cf. *K19*, detail 21; the rosette is 6, and the serrated leaf is on *K52*, Taf 10. South Gaulish. c.AD 60-75.
- (ER 268E) 29; untidy dog, *O* 2035 used by SEVERUS and PATRICIUS, and, in lower zone, a frond cross made from *H* Pl 14.29 and *H* Pl 89.25. The frond was used by CALVUS; cf. *K19* Taf 17B. South Gaulish, c.AD 65-80?
- (ER 268E) 29; palm leaves very similar to those of the OFFICINA LICINIANA; cf. *K19* Taf 47F, and *K52* Taf 34A. South Gaulish, c.AD 45-60.
- (ER 268E) 29; possibly a later bowl from the FELIX workshop. The hare, *O* 2042, is on a form 29 from Colchester (cf. Hull 1958, Fig 101.4), and the palisade, cut off by the central moulding, is used as a pendant at *La Nautique* (Fig. 77). South Gaulish, c.AD 60-75.
- (ER 268A) Beliniccus i; 9a; 33; BELINICCI.M. Stamps from this die occur in the fabrics of both Les Martres de Veyre and Lezoux. The site record includes Corbridge, South Shields and the forts in the Rhineland. This particular vessel seems to have been made at Les Martres de Veyre and should be dated c.AD 100-120.
- (ER 268A) 37; tongueless ovolo used at Trier (cf. Folzer 1913, detail 958); the scroll is shown there also (cf. Taf XIX.15/16, & Hulde-Zetsche 1972, Taf 2.A16). Trier, c.AD 190-250.
- (ER 268B) Modestus i; 2b; 15/17 or 18; OFMODESTI; La Graufesenque^b. A stamp used almost exclusively on dishes, but recorded twice on form 29. It occurs at Chesterfield. c.AD 50-65.
- (ER 268) 37; M.CRESTIO ovolo, with his leaf (cf. MOL Accession No. 4304G). South Gaulish, c.AD 75-90.
- (ER 268c) Vitalis ii; 8i; 27; OFVITA; La Graufesenque^a. A stamp in common use in the Flavian period. The site record includes Newstead (two

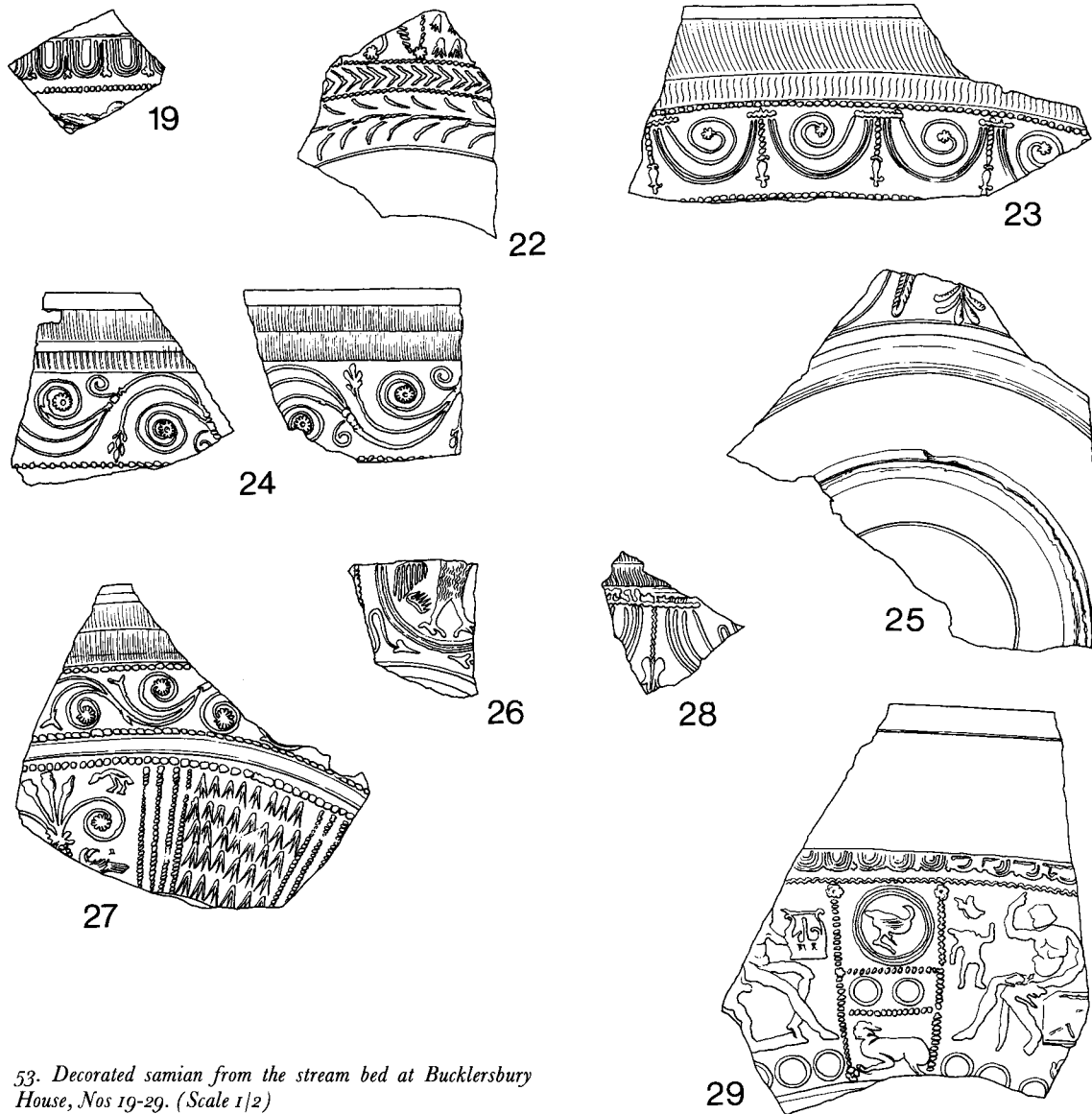
ER 11540	ER 268(2)	ER 11539	ER 11538	ER 11542	ER 298
21-6,28	33	*		*	
20,27,29	30-2	*	34-6	*	
	*		*	*	
			*		
	*	37		*	*
43	44	*	*		*
				*	
	*				
	*				
	48				
	*				
	*	*	52		*
	*	53-5	*	*	
				*	
				*	
	*			*	
*					
*					
		*	*	*	
61					
*	*	*	*	*	
	75				
E	E	Flavian	Nero-L	Flavian-	L
2nd c.	2nd c.		Antonine	Antonine	2nd c.

material. None of this was post-Flavian, and there was a considerable number of pre-Flavian sherds. These deposits (see above, p.19) comprised the very earliest material both within the stream revetments and in dumps behind those revetments.

1. (ER 268F) Aper i; 4a; 18; OFAPRI [s.]; La Graufesenque^a.

The stamps recorded for Aper i, though numerous, provide very little dating evidence. This particular one occurs at Hofheim and on form 29 (without significant decoration). Others are known from Aislingen and the pre-Flavian cemeteries at Nijmegen. His forms include Dr 24 and Rt 8. There are no stamps known from Flavian foundations. His range is therefore likely to be *c.*AD 45-65.

2. (ER 268E) 37; CALVUS style; his ovolo, with trifid leaf wreath (York fortress, B. Dickinson pers. comm.). South Gaulish, *c.*AD 65-80.
3. (ER 268E) 29; chaotic style of BASSUS and COELUS; for the leaf wreath cf. *K19*, detail 21; the rosette is 6, and the serrated leaf is on *K52*, Taf 10. South Gaulish. *c.*AD 60-75.
4. (ER 268E) 29; untidy dog, *O* 2035 used by SEVERUS and PATRICIUS, and, in lower zone, a frond cross made from *H* Pl 14.29 and *H* Pl 89.25. The frond was used by CALVUS; cf. *K19* Taf 17B. South Gaulish, *c.*AD 65-80?
5. (ER 268E) 29; palm leaves very similar to those of the OFFICINA LICINIANA; cf. *K19* Taf 47F, and *K52* Taf 34A. South Gaulish, *c.*AD 45-60.
6. (ER 268E) 29; possibly a later bowl from the FELIX workshop. The hare, *O* 2042, is on a form 29 from Colchester (cf. Hull 1958, Fig 101.4), and the palisade, cut off by the central moulding, is used as a pendant at *La Nautique* (Fig. 77). South Gaulish, *c.*AD 60-75.
7. (ER 268A) Beliniccus i; 9a; 33; BELINICCI.M. Stamps from this die occur in the fabrics of both Les Martres de Veyre and Lezoux. The site record includes Corbridge, South Shields and the forts in the Rhineland. This particular vessel seems to have been made at Les Martres de Veyre and should be dated *c.*AD 100-120.
8. (ER 268A) 37; tongueless ovolo used at Trier (cf. Folzer 1913, detail 958); the scroll is shown there also (cf. Taf XIX.15/16, & Hulde-Zetsche 1972, Taf 2.A16). Trier, *c.*AD 190-250.
9. (ER 268B) Modestus i; 2b; 15/17 or 18; OFMODESTI; La Graufesenque^b. A stamp used almost exclusively on dishes, but recorded twice on form 29. It occurs at Chesterfield. *c.*AD 50-65.
10. (ER 268) 37; M.CRESTIO ovolo, with his leaf (cf. MOL Accession No. 4304G). South Gaulish, *c.*AD 75-90.
11. (ER 268C) Vitalis ii; 8i; 27; OFVITA; La Graufesenque^a. A stamp in common use in the Flavian period. The site record includes Newstead (two



53. Decorated samian from the stream bed at Bucklersbury House, Nos 19-29. (Scale 1/2)

examples), Canstatt and the Saalburg (four). c.AD 75-90.


12. (ER 268c) Elvillus 1a; 33; ELVILLI; Lezoux^a. Most of the stamps noted for Elvillus (all from this one die) are from the Wroxeter gutter (27 examples). The forms include 31R, 79 and 80. c.AD 160-90.
13. (ER 268c) 37; Rogers's rosette c304, attributed to CATUSSA. Central Gaulish, c.AD 150-80.
14. (ER 268c) 37; Rogers's ovolo B217? Central Gaulish, c.AD 125-45.
15. (ER 268c) 37; Rogers's ovolo B38, with demi-

medallion F70 (cf. CGP, Pl 29.348/350). Les Martres de Veyre, c.AD 100-20.

16. (ER 268c) 37; very reduced type; probably D 528. Central Gaulish, c.AD 150-80?
17. (ER 268c) 37. This single-bordered ovolo does not seem to have been recorded before. The tongue has affinities with the Cerialis potters at Rheinabern (cf. *Ri-Lu* VI, Taf 263/38). Brenda Dickinson and Brian Hartley both thought the fabric was similar to Blickweiler, though a positive identification is lacking. East Gaulish.
18. (ER 268D) 37. The vine scroll is Rogers's M2 and the

- ovolo is his B16, attributed to ATTIANUS and SACER. Lezoux, c.AD 125-45.
19. (ER 268D) 37; *Rogers's* ovolo B17, attributed to ATTIANUS and CINNAMUS. The figure below is indistinct. Lezoux, c.AD 135-65?
 20. (ER 11540) PRI[on form 18/21. Central Gaulish, Hadrianic or early Antonine.
 21. (ER 11540) II A H on form 27g. South Gaulish, late Neronian or early Flavian.
 22. (ER 11540) 37; too small for ascription. The basal wreath is badly impressed, but cf. May 1930, Pl XXIII.141 in the style of MASCVVVS. South Gaulish, c.AD 80-95.
 23. (ER 11540) 29; banal frieze; for similar decoration, cf. *K19* Taf 67K, by PRIMUS, and *Asciburgium* Taf 40.282. South Gaulish, c.AD 55-70.
 24. (ER 11540) 29; upper zone wreath terminating in ten-petalled rosettes and berry clusters; the bindings are astragali. These elements were extremely common in the Neronian period (cf. *K19* Taf 54.29 & *K52* Taf 36D). South Gaulish, c.AD 50-65.
 25. (ER 11540) 37; frond used by CALVUS (*Neuss*, 3328). South Gaulish, c.AD 65-80.
 26. (ER 11540) 29; eagle, O 2181, used by MEDILUS, who also employed the small lanceolate leaves (*Rodez*, unpublished). South Gaulish, c.AD 65-80.
 27. (ER 11540) 29. The upper zone terminates in a small bifid leaf, similar to one on a bowl from York stamped by CALVUS (B Dickinson, pers. comm.). The poppy head and spirals are close to those on a form 30 from London (MOL Accession No. 12230L; cf. *Frere* 1984, D72). South Gaulish, c.AD 65-80.
 28. (ER 11540) 29; cordate bud in festoon; cf. *K19* Taf 87E. South Gaulish, c.AD 60-80?
 29. (ER 11540) 37; *Rogers's* ovolo B217 (possibly the same vessel as No.14 above); the figures are Jupiter (*D* 4), Apollo (*D* 52), putto (*D* 249), hare (*D* 950A and bird (*D* 1019). The ovolo was used by the SACER, ATTIANUS, CINNAMUS group (cf. *CGP* Pl 84.17). Central Gaulish, c.AD 135-60?
 30. (ER 268) Felix i; 26a; 29; [FELIC]ISM; La Graufesenque^a.
The decorated bowls with this stamp are all Neronian. His plain forms include Rt 8 and 9. c.AD 50-70.
 31. (ER 268) Senicio; 6a; 27g(2); <S>ENICI<O>; La Graufesenque^b.
Both the complete and reduced versions of this die were used on form 24. The complete stamp occurs on forms Rt 8 and 9, and is represented in the Cirencester fort ditch (c.AD 55-65) and in Period 1 at Fishbourne. c.AD 55-65.
 32. (ER 268) Locco; 2b; 33; LOCCOF; Sinzig^b.
The four other recorded examples of this stamp are all on form 33. His range also includes forms 18/31 and 18/31R. Production at Sinzig seems to have been mainly early Antonine.
 33. (ER 268) Malluro i; 5c; 31; MALLURO; Lezoux^a.

Malluro's stamps have been noted at Bar Hill and on Hadrian's Wall. His forms include 27 and, occasionally, 79, 80 and Lud Tg. This particular stamp, which occurs in the Rhineland and on form 18/31, will be one of his earlier ones. c.AD 140-60.

34. (ER 11538) Buturo; 1a; 33; .BVTURO. ; Les Martres de Veyre^c.

A stamp used mostly on form 33, but noted twice on form 18/31 and once on form 18/31R. Buturo was presumably one of the later potters at Les Martres, since this stamp occurs burnt in the Verulamium second fire deposit. c.AD 130-60.

35. (ER 11538) Pass(i)enus; 60a; 27; P A S[SIEN]; La Graufesenque^b.

A stamp recorded from Aislingen (two examples) and the Gloucester Kingsholm site. c.AD 55-70.

36. (ER 11538)]AU N or]MI M on form 18/31R. Central Gaulish, Hadrianic.

Coarse wares

(Nos 37-75; Figs. 54-6, 63; for ER group numbers, see Fig 52)

Highgate 'C' sandy greywares

37. Poppy-head beaker (cf. *Green* 1980, No. 153)

Gillam 238 mortaria

38. (Fig 63) Mortarium with the stamp FECIT on one side of the spout. The complete vessel would have had the maker's name on the other side.

Verulamium Region Whitewares

- 39-40. Ring-neck flagons; cf. *Green* 1980, No. 63.
41. Early mortarium type. This sherd represents the only example of this early type yet recognised in London.
42. Double-handled flagon. For a large example of the type, cf. *Green* 1980, No.100.
43. Reeded-rim bowl; cf. *ibid.*, No. 98.
44. Tazza foot; cf. *ibid.*, No.88.

Verulamium Coarse White-Slipped Ware

45. Jar, featuring a prominent spout on one side. The spout is reminiscent of those on some face-jugs (eg. No. 156 below).
- 46-47. Tazae with decorated, frilled rims.

Imported wares

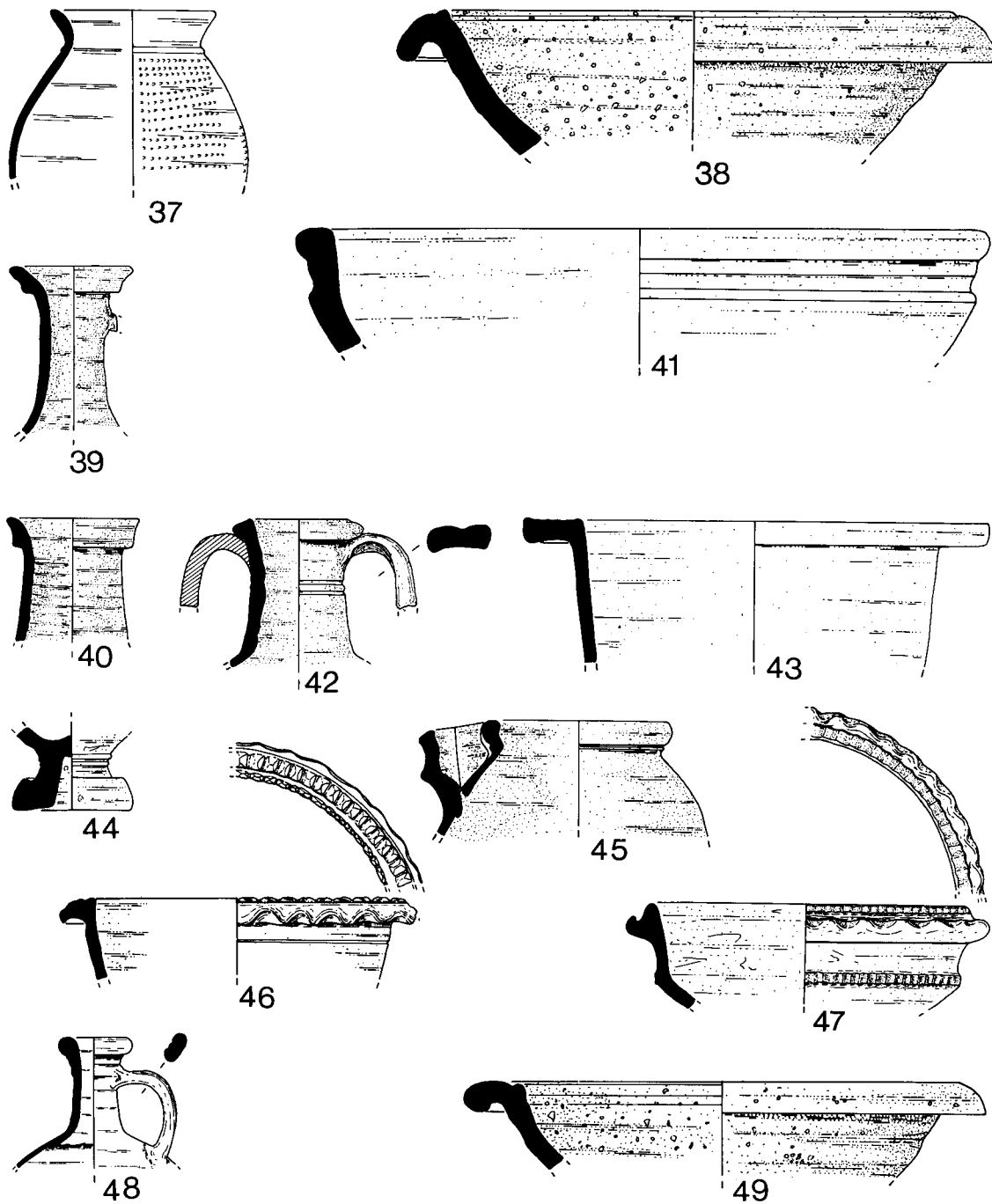
48. Small, fine flagon; probably an import, but source uncertain.
49. Mortarium, with origin in the Rhône valley (*Davies & Richardson* forthcoming).
50. Mortarium, source uncertain.

Verulamium White-Slipped mortarium

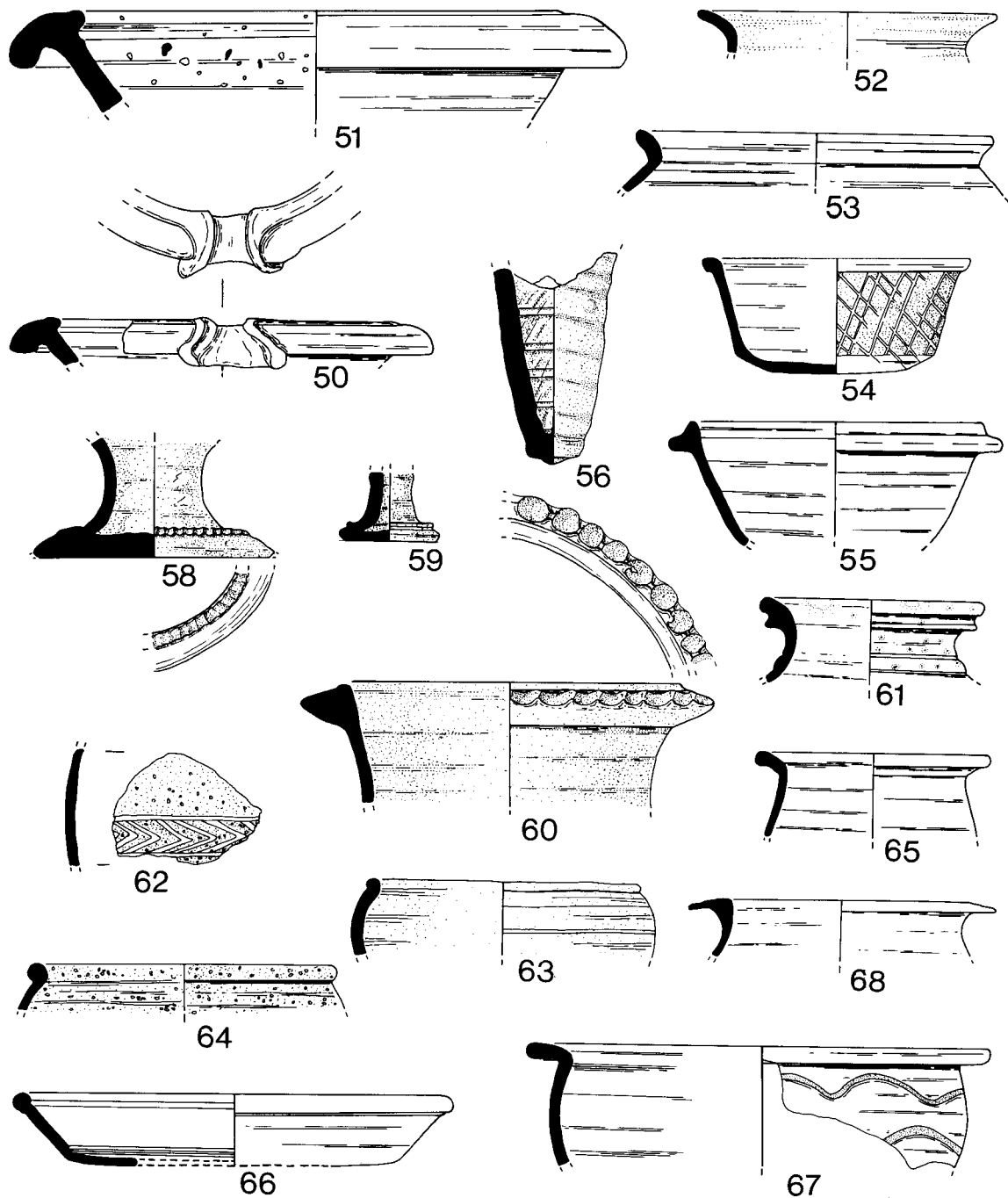
51. Identified by Beth Richardson (see *Davies & Richardson* forthcoming).

Black-Burnished Ware 1

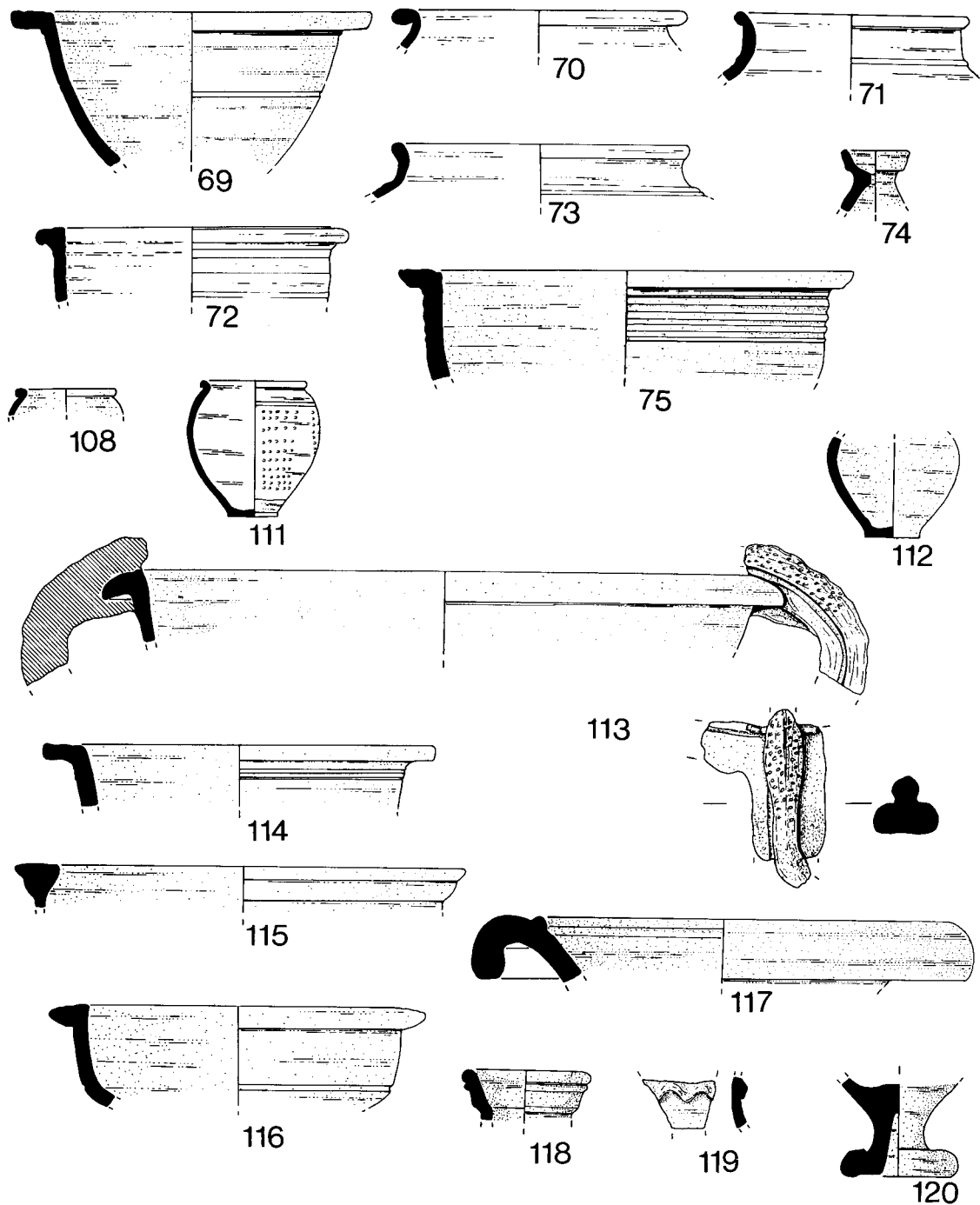
52. Small, everted-rim cooking pot.



54. Roman pottery from the stream bed at Bucklersbury House, Nos 37-49. (Scale 1/4)



55. Roman pottery from the stream bed at Bucklersbury House,
Nos 50-68. (Scale 1/4)



56. Roman pottery from the stream bed at Bucklersbury House, Nos 69-75; 1st/2nd-century pottery from Bucklersbury House and Temple Court, Nos 108-20. (Scale 1/4)

Black-Burnished Ware 2

- 53. Jar or cooking pot with everted rim.
- 54. Bowl with acute-angled lattice decoration on the exterior surfaces.
- 55. Carinated bowl.

Italian amphorae

- 56. Pointed foot only.

Dressel 20 amphora

- 57. (Fig 63) Barely legible stamp on handle.

Miscellaneous tazzae

- 58-60. Various fabrics, sources uncertain.

Splash-glazed ware

- 61. Rim sherd of bowl; smooth micaceous vessel with scattered and uneven green lead glaze on external surfaces.

Hand-made grog-tempered wares

- 62. Body fragment of storage jar, with a zone of chevron decoration.
- 63. Bead-rim jar.

Miscellaneous

- 64-75. There are a variety of jars, bowls and dishes, in hand- or wheel-made sandy greywares, for which further ascription or discussion is not possible.

1st/2nd-century groups from Bucklersbury House

(Summary table, Fig 57; Figs 56, 58-64)

These were mostly unremarkable, and the summary tables are adequate to show the contents and dates of what are primarily well- and pit-groups. Most of the illustrated vessels belong to the specific stratified assemblages which are reported here in full.

Samian ware

(Nos 76-107; Figs 58-9; stamps not illustrated)

Edited from reports and identifications by Geoff Dannell and Brenda Dickinson

- 76. (ER 253) 37; the four-pronged ovolo was used by CRVCVRO and M.CRESTIO on stamped vessels. South Gaulish, c.AD 75-90.
- 77. (ER 259D) 37; the ovolo is similar to that of MOMMO and VITALIS II; the lion is O 1394 (cf. MOL Box 50.66906). South Gaulish, c.AD 70-85.
- 78. (ER 220) 37; figure D 442 on a later Antonine bowl, perhaps by DIVIXTVS. Central Gaulish, c.AD 160-90.
- 79. (ER 220) 30; probably by MASCLUS; his striated rods (cf. Van Giffen 1940-44, Abb.59.2) and com-

pound bud, which appears unsigned in the style at *Asciburgium* 572. South Gaulish, c.AD 50-65.

- 80. (ER 220) 37; SEVERUS style; his leaf cluster and ivy leaf, as on a stamped bowl elsewhere from London (MOL Accession No. s496L). South Gaulish, c.AD 70-85.
- 81. (ER 220) Pass(i)enus; 13a; 27; OPASSIINIS retrograde; La Graufesenque.
This was used on form 24 and has been recorded from Caerleon. Pass(i)enus's stamps occur in the Boudiccan burning at Colchester, in the Cirencester fort ditch (c.AD 55-65) and in Periods I and IB at Zwammerdam and Fishbourne respectively. c.AD 55-75.
- 82. (ER 220) (2) Severus i; 7i; 18; [OFS]EVERI; La Graufesenque^b.
Severus i's record is basically Flavian, and his stamps turn up at Domitianic foundations, but he occasionally made forms Rt 8 and 9. There is no dating evidence for this particular stamp. c.AD 65-95.
- 83. (ER 235) (3) Calendio; 4a; 33; KAL.ĀENDIO; Lezoux^a.
One of Calendio's stamps appears on the rims of decorated bowls in the styles of Cinnamus ii and Lactucissa. His repertoire includes forms 79 and 80. This particular stamp occurs in the Rhineland and on forms 18/31, 18/31R, 27 and 81, and is therefore likely to have been in use in the period c.AD 140-60.
- 84. (ER 235) (7) Amabilis ii; 2b; 27; AMĀBILISF; La Madeleine^b.
More than half the examples noted are from Britain. The forms include 18/31, 27 and (once) 32. Some of his other stamps (from several different dies) occur at the Saalburg Erdkastell (before AD 139), and there is one from Period II at Zwammerdam. c.AD 130-60.
- 85. (ER 235) (2) Andegenus; 1a; 33; ANDEGENIM; Lezoux^c.
One of his earlier stamps, noted in an early Antonine pit at Alcester, in the Verulamium Second Fire and on forms 18/31, 18/31R and 27. His later work includes form 79 and a stamped vessel in a group of burnt samian of c.AD 170 from Tac, Hungary. c.AD 140-60.
- 86. (ER 235) (11) Quintus iv; 2a; 33; QVINTI; Lezoux^a.
A stamp of the earlier Lezoux Quintus, used on form 27. His range also includes form 18/31. One of his stamps occurs at Camelton. c.AD 140-60.
- 87. (ER 235) 37; dog, O 2004, used by PVDENS, M.CRESTIO, FL.GERMANUS, C.I.S.A. and MASCLUS at the right date (cf. K52 Taf 24). South Gaulish, c.AD 80-100.
- 88. (ER 235B) 37; double-bordered ovolo with bifid tongue to the left, overlapping the egg to the right. There is a similar ovolo elsewhere from London (MOL Box 58). Possibly a version of the SEVERVS

Fabric/source	ER 253	ER 259A	ER 259C	ER 259D	ER 473	ER 474	ER 220	ER 235B/C	ER 259B
South Gaulish samian ware	76	*		77	*	*	79-82,108	88,109	
Central Gaulish samian ware	*			*			78	89	
Imported Mica Dusted Wares									*
Ring-and-Dot Beakers									
Fine Black Micaceous Wares							*		
Hoo Ware	*						*		
Highgate sandy greywares			*			*	*		
North Kent Shell-Tempered Wares		*							
Verulamium Region Whitewares	*	*	*	*	*		*		*
Verulamium Coarse White-Slipped Ware									
Roughcast beakers									
Colchester finewares									
Verulamium White-Slipped mortaria									
Black-Burnished Ware 2			*						
Oxon White Colour-Coated mortaria									
Italian amphorae							*		
Camulodunum 186 amphorae							*		
Dressel 20 amphorae							*		
Pelichet 47 amphorae					*		*		
Miscellaneous amphorae							*		
Hadham Ware									
Face urns									
Lamps									
Miscellaneous grey slipped wares				160					
Miscellaneous flagons						*	*		
Hand-made grog-tempered wares	*				*				
Hand-made shell-tempered wares	161-2								
Hand-made grey sandy wares							*		
Wheel-made grey sandy wares	163	*	164	165	*	*	*		*
Date of groups	Flavian	Flavian	Flavian	Flavian	Flavian	Flavian	Flavian-Trajanic	Flavian-Trajanic	L. Flavian

57. Summary of 1st/2nd-century pottery from non-stream bed contexts at Bucklersbury House and Temple Court.

ovolo. South Gaulish, c.AD 75-90.

89. (ER 235C) 37. This bowl shares a number of poinçons used by both SACER and CINNAMVS. The figures are Amazon? (*D* 153), lion (*D* 795), panthers (*D* 798-9), and dog (*D* 934). The ovolo is *Rogers* B144, and CINNAMVS is the likely workshop. Lezoux, c.AD 145-75.
90. (ER 291) 37. The two straight wreaths appear on bowls with the MEMOR ovolo (MOL Accession No. 3175G), but the loop-frilled leaf is unknown to the writer at this period. South Gaulish, c.AD 70-85.
91. (ER 298) 29. This nicked ivy leaf was used from the Claudian to the Flavian period. It was most clearly associated with the GALLICANVS workshop at La Graufesenque, and particularly with a

mould maker who signs N.FE (Fosse Malaval, publication forthcoming, cited here with kind permission of Colette Bémont and Alain Vernhet). It was also used later by NIGER (cf. *Asciburgium* Taf 44.326), and in the Flavian period there is a form 30 from Wroxeter (Atkinson 1942, Pl 66.s28). The present example has the bead row of the GALLICANVS group. South Gaulish, c.AD 50-65.

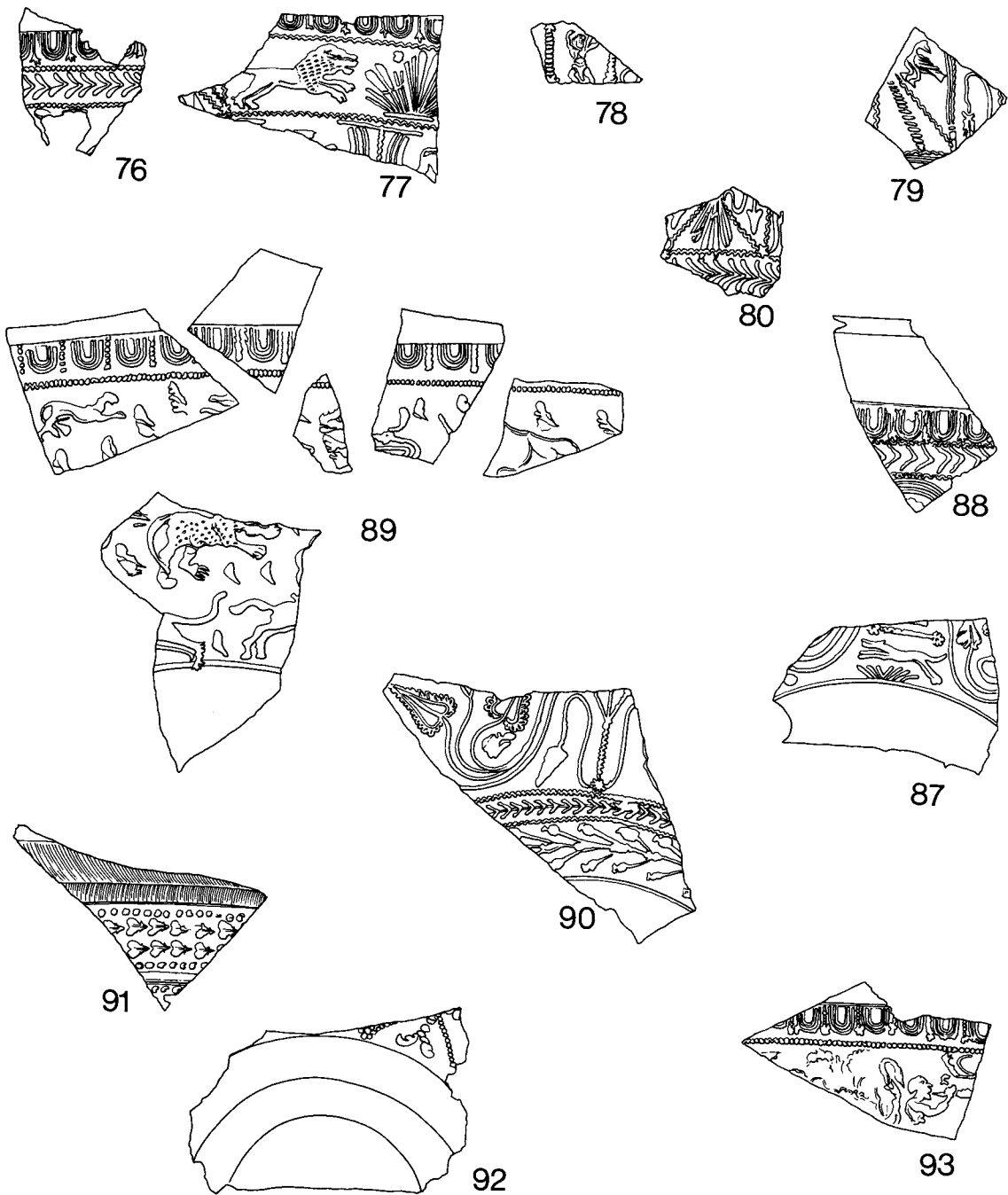
92. (ER 250) 37; probably *Rogers*'s leaf motif *K*30, used by DOCILIS and SECVNDINVS among others. Central Gaulish, c.AD 125-145.
93. (ER 250) 37; by the QVINTILIANVS group; the ovolo is *Rogers* B28, and the Silenus is *D* 311 (cf. *CGP* Pl 73.47 for a signed vine scroll). Central Gaulish,

ER 239	ER 291	ER 436	ER 250	ER 1603	ER 240	ER 241	ER 444	ER 485	ER 267	ER 235	ER 245
	90-1		*		94-102, 104			*	*	85-6, 89	
			92-3		103				104-7	83-4, 87-8	
	*				*						
					*			*			
					*	*		*		108	*
*											
*	*	*			109-13			*	*	114-21	*
					*	137				122-9	
										133-5	
										136	
										138	
					*					139-52	
										155	
			*		*		*	*			
	*						*				
										*	
				156						157-9	
							*			*	
*	*				*	166-70	*	*	*	171	*
1st c.	L 1st c.	1st c.	Hadrianic	Hadrianic	1st- 2nd c.	1st- 2nd c.	1st- 2nd c.	1st- 2nd c.	Hadrianic Antonine	M 2nd c.	M 2nd c.

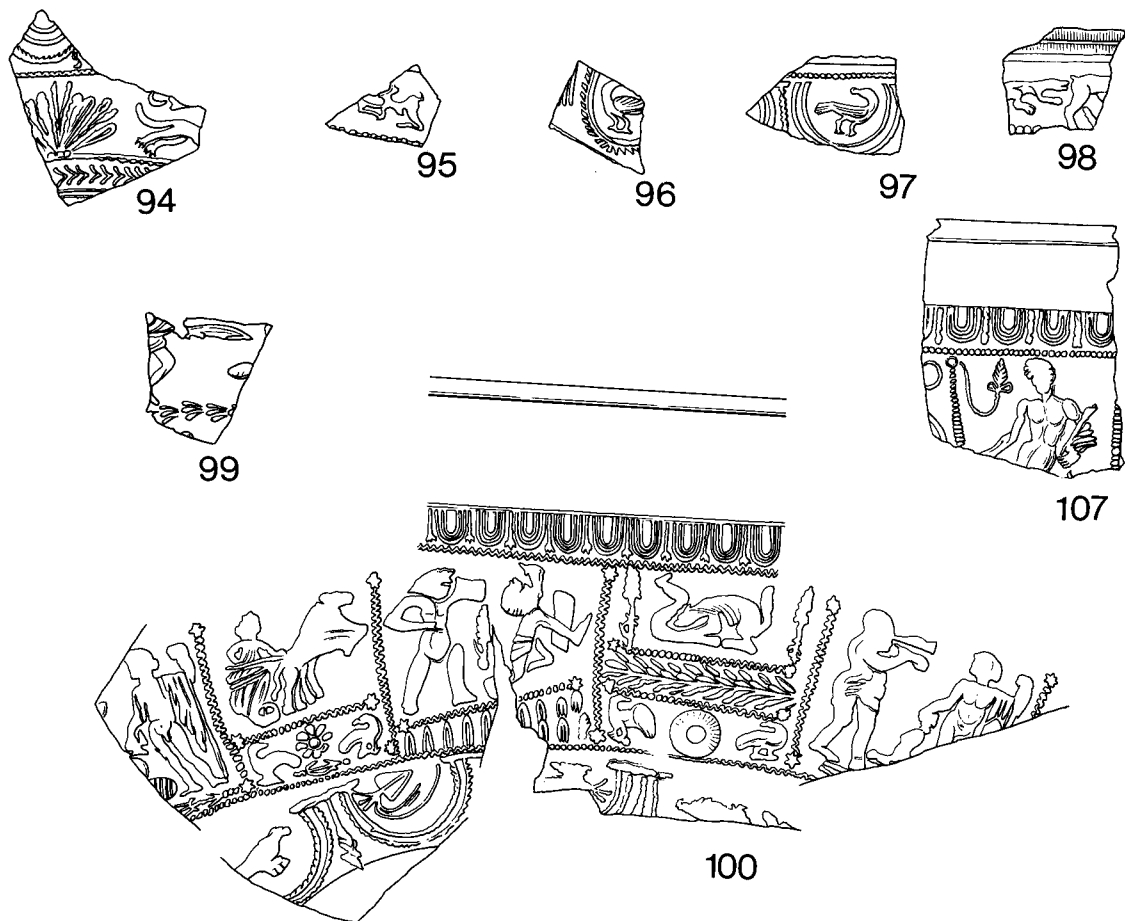
c.AD 125-50.

94. (ER 240) 37; the dog is *O* 1936 (type), which appears on bowls in the FRONTINVS style (Richborough, Pit 87, Ancient Monuments Lab 78303615); the grass-tuft or bush has a very mixed pedigree, used by CRVCVRO, PATRICIVS, PONTVS, PVDENS and SEVERVS among others; the wreath was used by CALVVS (form 30, MOL Accession No. 5916). South Gaulish, c.AD 75-90?
95. (ER 240) 29; hare, *O* 2101A (type). South Gaulish, c.AD 60-80?
96. (ER 240) 29; bird, similar to *O* 2293; the frond may be that used by MEDDILLVS (cf. *K19* Taf 54/55), or that used by COSIVS and RVFINVS (*ibid.*, Taf 24B). South Gaulish, c.AD 65-80.

97. (ER 240) 29; bird, *O* 2247 (type), used by many Flavian potters including CALVVS, who also used the demi-medallion (Rodez, unpublished). South Gaulish, c.AD 70-90?
98. (ER 240) 29; dog, *O* 1968 (type), with bear, *O* 1586, used by DAMONVS, LICINVS, and SVRIVS. The large beads suggest a Claudian-Neronian date (cf. *Asciburgium* 183). South Gaulish, c.AD 50-65.
99. (ER 240) 30; bestiarius, *O* 1078, in the CRVCVRO style (cf. Bushe-Fox 1932, Pl XXXI.4); the small wreath occurs in the work of his associate, M.CRESTIO. South Gaulish, c.AD 75-90?
100. (ER 240) 37. The ovolo is similar to that used by FLORVS, and appears with the small, upright leaf ornament elsewhere from London (MOL Accession



58. Decorated samian from Bucklersbury House and Temple Court, Nos 76-93. (Scale 1/2)



59. Decorated samian from Bucklersbury House and Temple Court, Nos 94-107. (Scale 1/2)

Nos 4629G & 81411/5). The figures are Apollo, O 118, Bacchus, O 564 & 609, gladiators, O 1020-1 (reduced), lion devouring man, O 1493, and birds, O 2248 & 2293. The rosette is also on a form 37 elsewhere from London (MOL Accession No. 5107G). The basal festoon was used by MERCATOR, and the leaf wreath is on a free-style bowl in the GERMANVS style from Richborough (Ancient Monuments Lab 78305086). The figures belong to the penultimate group of South Gaulish potters, including BIRAGILLVS, CORNVTVS, MERCATOR and SABINVS ii. South Gaulish, c.AD 85-100.

101. (ER 240) Vitalis ii; 24a; 27g; [V]ITALISF; La Graufesenque^a.

Stamps from both the complete and the broken versions of the die occur in Flavian contexts, and there is no evidence that the full die (24a) was used in the pre-Flavian period. c.AD 70-90.

102. (ER 240) mv[on form 29. South Gaulish,

Neronian or early Flavian.

103. (ER 240) Graffito] under the base, outside the footring.

Form 18/31 or 31, slightly burnt. Central Gaulish, Hadrianic or Antonine.

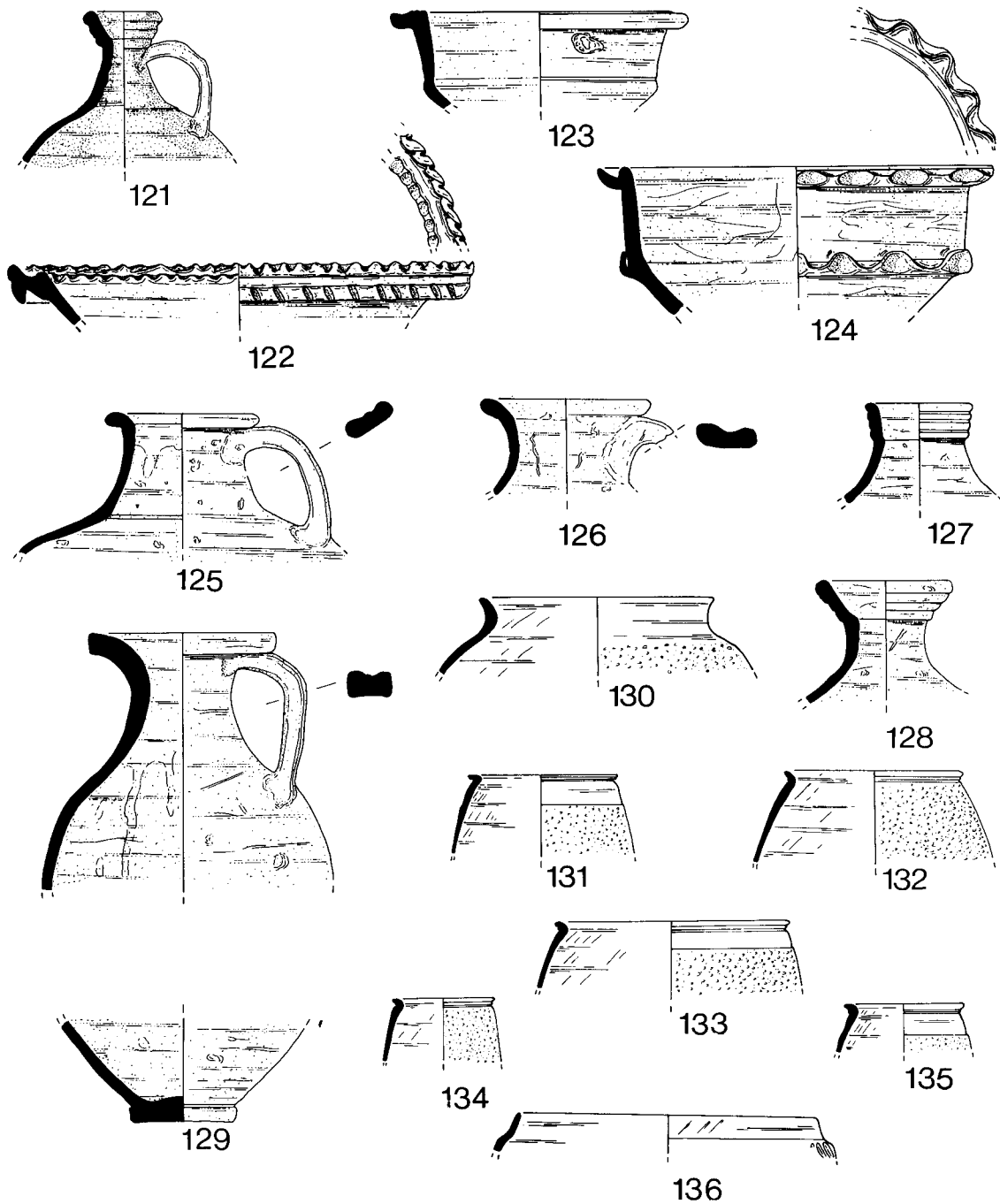
104. (ER 240) Graffito [under the base, inside the footring. Form 18. South Gaulish, Neronian or early Flavian.

105. (ER 267) Ovidius; ia; 27; OVI.D.I.M; Les Martres de Veyre^a.

A stamp known from the London Second Fire deposits and in Period IV at Valkenburg ZH. c.AD 100-20.

106. (ER 267) Gnatiuss ii; 4a; 27; GNAIV(s); Lezoux. Many of the stamps recorded from this die come from a group of burnt samian of c.AD 140-60 at Castleford. They are also known from Corbridge and the Rhineland. Gnatiuss's other common stamp occurs in Scotland. c.AD 130-155.

107. (ER 267) 37; CINNAMUS style; Rogers's ovolo B143, with defective core, and leaf J153; the figure is D 338. Lezoux, c.AD 145-75



60. 1st/2nd-century pottery from Bucklersbury House and Temple Court, Nos 121-36. (Scale 1/4)

Coarse wares from beneath Feature 5

(ER 235)

(Nos 108, 113-36, 138-59, 171; Figs 56, 60-4)

Beth Richardson and Tony Wilmott

This group has been examined in some detail because it is in good condition, comparatively well stratified, and very homogeneous. It contains a narrow range of wares and forms which may be the result of a single deposition. There are no coins, but it can be dated by samian (Nos 83-9 above) to the early Antonine period *c.*AD 140-160/70, and comparison of the coarse pottery with other London assemblages (eg. Green 1980) supports this. It is a small group, with a weight of 6 kg and vessel equivalents of 12 EVES. Wares/Common Name types have been quantified by EVE: over half the group consists of Black-Burnished Ware 2 (52 percent), a quarter of white-slipped oxidised wares from the Verulamium area (24 percent). Fifteen percent consists of imported roughcast beakers, and the remaining 9 percent of Verulamium white wares, Colchester finewares, Oxfordshire whiteware, and other local wares from unknown sources.

Highgate 'C' sandy greywares

108. Small model vessel in the form of a poppy-head beaker.

Verulamium Region Whitewares (Nos 113-21) & Verulamium Coarse White-Slipped Ware (Nos 122-9)

Verulamium Coarse White-Slipped Ware (Green 1980, 258-64) is common in mid 2nd-century contexts in London. It was obviously locally made. Green (1980) suggested a west London source on the grounds of distribution, but recently close parallels have been noted between London examples and kiln material from Verulam Hills Fields, and it may be that this ware was one of the many products of the Verulamium region pottery industries. The group contains bowls (Nos 122-3), a tazza (No. 124) and flagons (Nos 125-9).

The smaller quantity of Verulamium Region Whiteware in the group has the same range of forms: bowls (Nos 114-6), a mortarium (No. 117), a tazza (No. 119) and flagons (Nos 118, 120-1). An interesting anomaly is No. 113, a possibly zoomorphic handle. This is comparable to a snake-handled jar from Cirencester, (Corinium Museum No. B2134) and others from Lullingstone and Richborough (Cunliffe 1968, 107, Pl 50). The same designs, with punched decoration representing snake-scales, is repeated on so-called cult vessels found among legionary pottery from Vindonissa (Ettlinger 1951, 110-11) and Augst (Stachelin 1948, 548, Abb 161). These are deep bowls with

three handles, around each of which a snake is entwined. Some also feature frogs and other reptiles on vessel walls. This pottery is considered in Germany to be connected with the worship of the Phrygian god Sabazios (Stachelin 1948, 551) and is dated to the 1st century AD, after *c.*AD 70. These parallels all show snakes, but the Bucklersbury House example shows an animal with a distinct body and tail. The high-crested body suggests a newt as a possible identification.

Roughcast beakers (Nos 130-5)

These are the only finewares in the group, except for a small sherd from a 'Castor box' (No. 136). Nearly all the beakers are clay roughcast in a white 'Cologne' fabric (Anderson 1980, Lower Rhineland Fabric 1; for description, see Green 1980, 67). The majority are bag-shaped with cornice rims. No. 130 is the only example of a globular beaker with everted neck. No. 134 probably originates from another kiln source or production centre: its fabric is sandier and more buff-coloured than the Cologne vessels, and it had sand roughcasting. Roughcast beakers with cornice rims have a broad date range of *c.*AD 70-200 but are most common in London in the Hadrianic-Antonine period, when the white 'Cologne' fabric is predominant.

Colchester fineware

136. Rim fragment from the lower half of a 'Castor box'.

Verulamium White-Slipped mortaria

138. (Figs 56, 63) Stamped ALBIN[vs] on the rim.

Black Burnished Ware 2 (Nos 139-54)

Over 90 percent of the BB2 is in the 'Colchester' fabric (Williams 1977, 195-9), which appears to have dominated the London BB2 market in the early/mid 2nd century. The fabric is characterised by well-rounded quartz inclusions, a dark grey or black matrix with brown margins, and jet black highly burnished surfaces (Green 1980, Nos 251-7). The forms are nearly all versions of Southwark forms IVH1-4 (Marsh & Tyers 1978): bowls and dishes with pie-dish rims and chamfered bases. Rimless bowls (No. 140) and jars (Nos 139, 142, 147) are less common in this assemblage. It is a typical mid 2nd-century group, very different in fabric and composition from the greyer, silkier, unhatched BB2 bowls and dishes of the late 2nd and early/mid 3rd centuries.

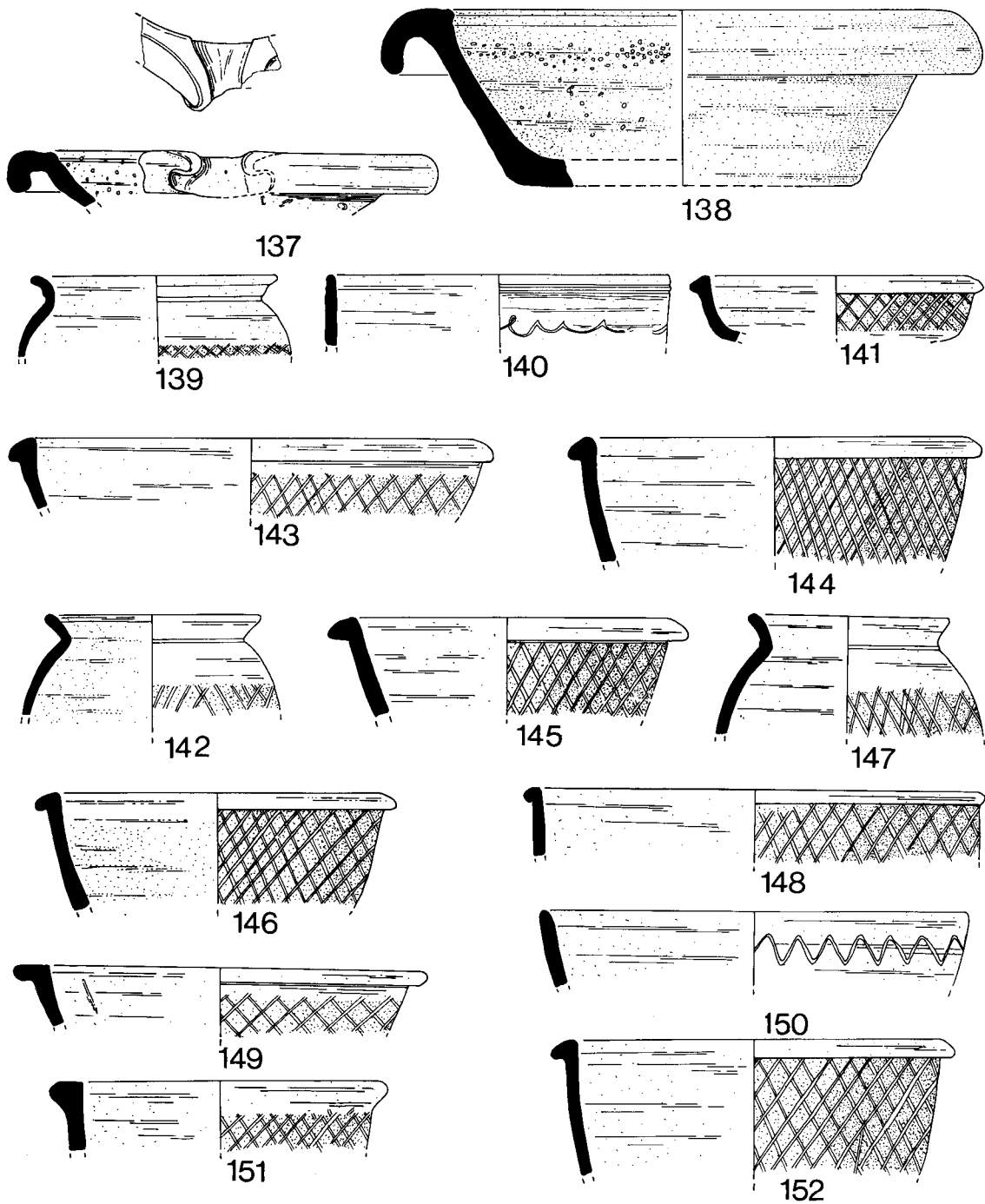
Oxfordshire White Colour-Coated mortaria

155. A single example of Young (1977, 70) type M6, dated *c.*AD 100-70.

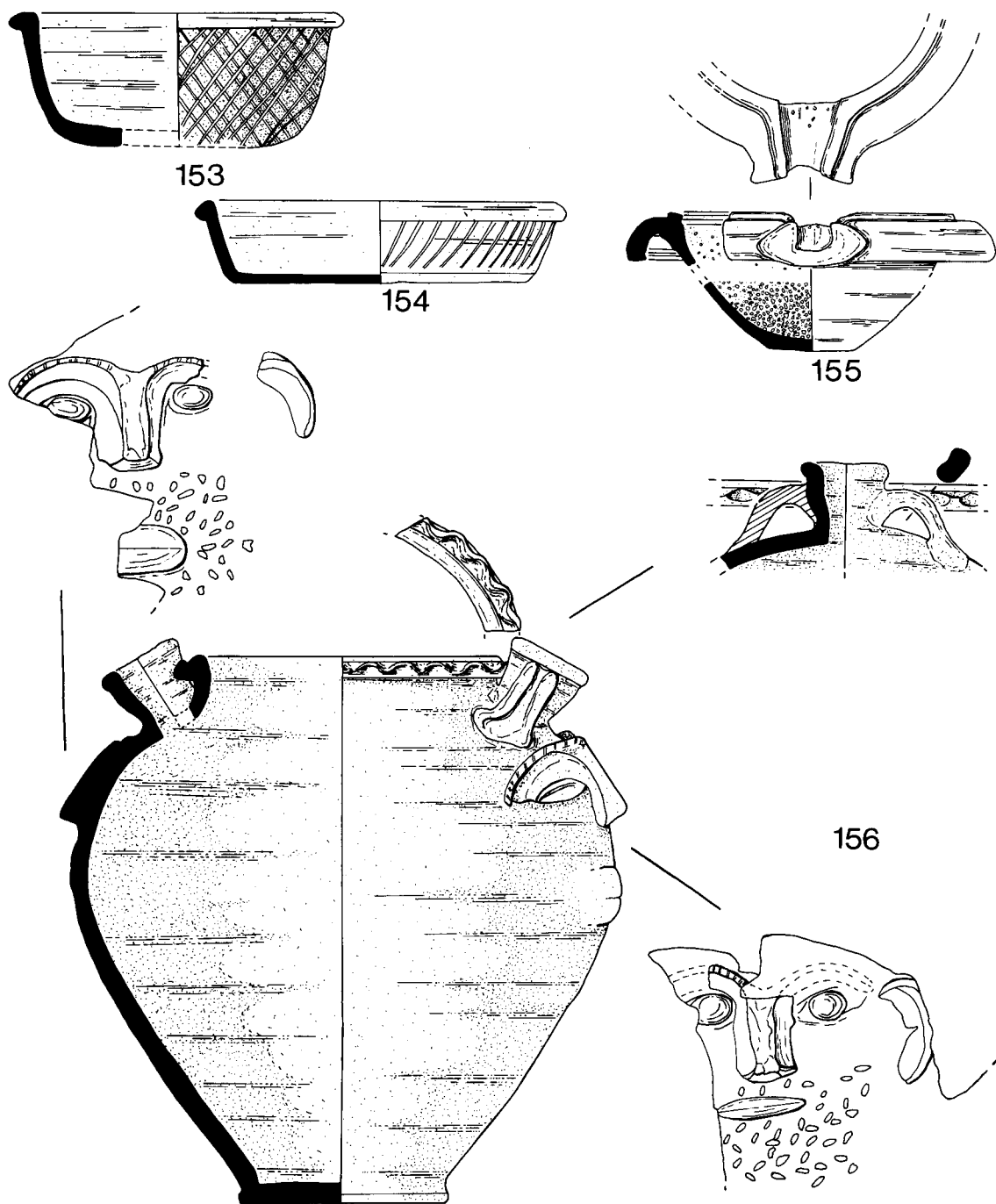
Lamps (Fig 63)

Fragments of three lamps were found:

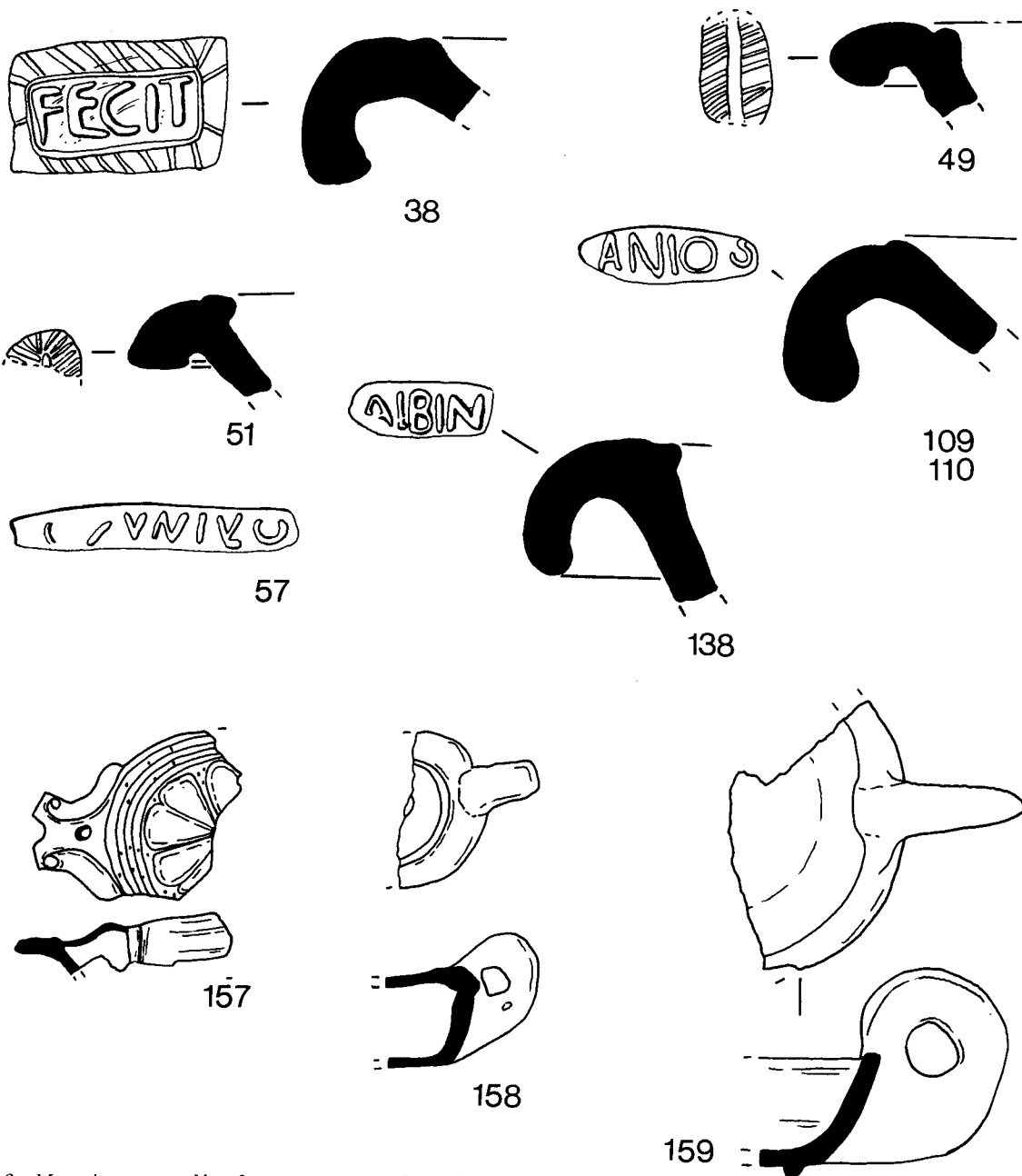
157. Fragments of nozzle and discus. The shoulder has a slightly sloping top edge and there are three concentric ribs around the discus (similar to Loesch-



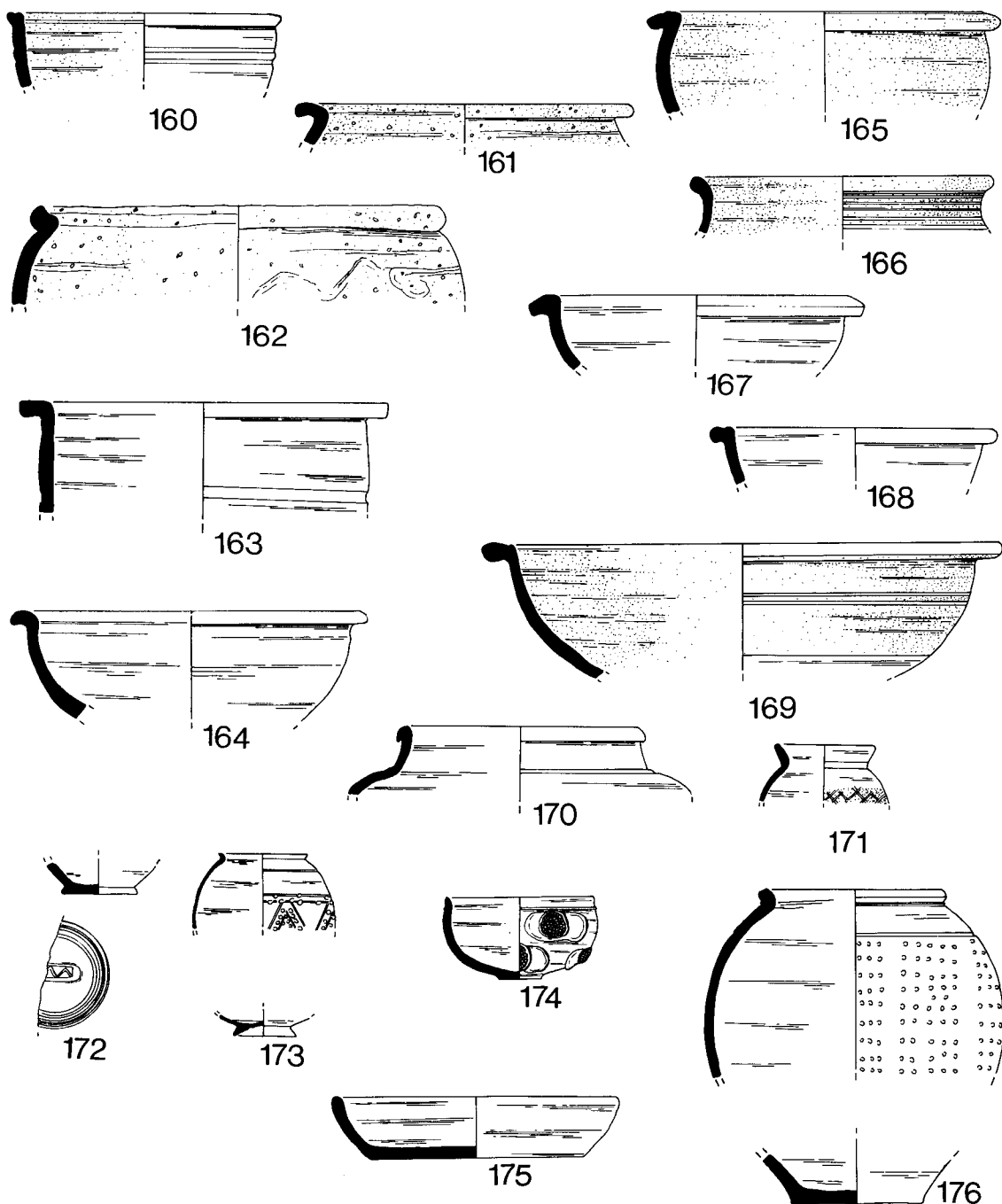
61. 1st/2nd-century pottery from Bucklersbury House and Temple Court, Nos 137-52. (Scale 1/4)



62. 1st/2nd-century pottery from Bucklersbury House and Temple Court, Nos. 153-6. (Scale 1/4)



63. Mortarium stamps, Nos 38, 49, 51, 109-10, 138; amphora stamp, No. 57; lamps, Nos 157-9. (Scale 1/2)



64. 1st/2nd-century pottery from Bucklersbury House and Temple Court, Nos 160-71, and St Swithun's House, Nos 172-76. (Scale 1/4, except No 172, 1/2)

cke shoulder-type IIIa, but not identical); in the centre is a floret, probably with eight lobes originally, arranged in pairs. The filling-hole is slightly off-centre and there is an additional perforation between the volutes. Slight sooting at the nozzle. Moulding of good quality, although slightly spoilt by clay 'pellets' in the grooves and on the discus. MOL Accession No. 18796.

158. Plain loop handle and fragment of body. The moulding is of poor quality, but two concentric grooves are visible on the base. MOL Accession No. 18870.
159. Loeschcke XI. Plain loop handle and fragment of body with base ring. MOL Accession No. 18603.

Miscellaneous

171. Small jar or beaker, source unknown.

Coarse wares from other groups

(Nos 109-12, 137, 156, 160-70; Figs 56, 61-4; for ER group numbers, see Fig 57)

Verulamium Region Whitewares

- 109-10. Mortaria, each with the stamp ANIOS on the rim. For form of vessel cf. Green 1980, Fig 23.M7.
- 111-12. Small model vessels, one of them (No. 111) in the form of a ring-and-dot beaker.

Verulamium Coarse White-Slipped Ware

137. Mortarium.

Face urn

156. Large and ornate face urn found in association with the timber panel, Feature 8 (see pp. 28-29). The source of the vessel is unknown. MOL Accession No. 26607.

Miscellaneous

- 160-70. These groups contained a number of jars, bowls, and dishes in a variety of hand- or wheel-made fabrics which could not be attributed to known sources.

1st/2nd century-groups at St Swithin's House

(Summary table, Fig 66; Figs 65, 67-71)

Feature 59 (ER 11556/7)

(Nos 172, 175, 188-200, 205-10, 218, 220, 224-30, 232-3, 243-52; Figs 64, 65, 67-71)

This group was recovered from a context which forms the destruction layer of a building (see above, p. 34; Fig 23, layer 4). As the debris overlaid the floor of the structure, it may be concluded

that it was not redeposited or the result of cleaning, and that the finds' group is associated with the period during which the building was in use. The group consists entirely of pottery. Because of the large quantity recovered, the early Hadrianic date is secure. The probability that this was a deposit associated with the Hadrianic fire of London is noted above (p. 41). The presence of a 'great jar' for the storage of dry goods (eg. grain) is unusual in London (No. 252; Green in prep). The jar appears to have been destroyed *in situ* and may, together with the large number of other complete vessels present, indicate that the building was a shop, or that the room excavated was a kitchen or store.

Terra Nigra

172. Base of small jar or bowl with fragmentary illiterate stamp.

Local Mica-Dusted Ware

175. Small dish.

Highgate 'C' sandy greywares

188. Poppy-head beaker; cf. Green 1980, No. 153. MOL Accession No. 18613.
189. Narrow-necked jar; cf. Marsh & Tyers 1978, Southwark type IIA14. MOL Accession No. 18617A.
190. Jar; cf. Marsh & Tyers 1978, Southwark type IIE. MOL Accession No. 18619.
191. Large jar.
- 192-200. Bowls; various forms and sizes as illustrated. For parallels to most vessels, see Green 1980, Nos 140-8; Brown & Sheldon 1974, Nos 42-46, 55-59.

Verulamium Region Whitewares

205. Double-handled bowl; as Marsh & Tyers 1978, Southwark type IVAf. MOL Accession No. 18623.

London/Upchurch finewares

- 206-10. Bowls; various types.

Black-Burnished Ware 1

218. Small jar.

Black-Burnished Ware 2

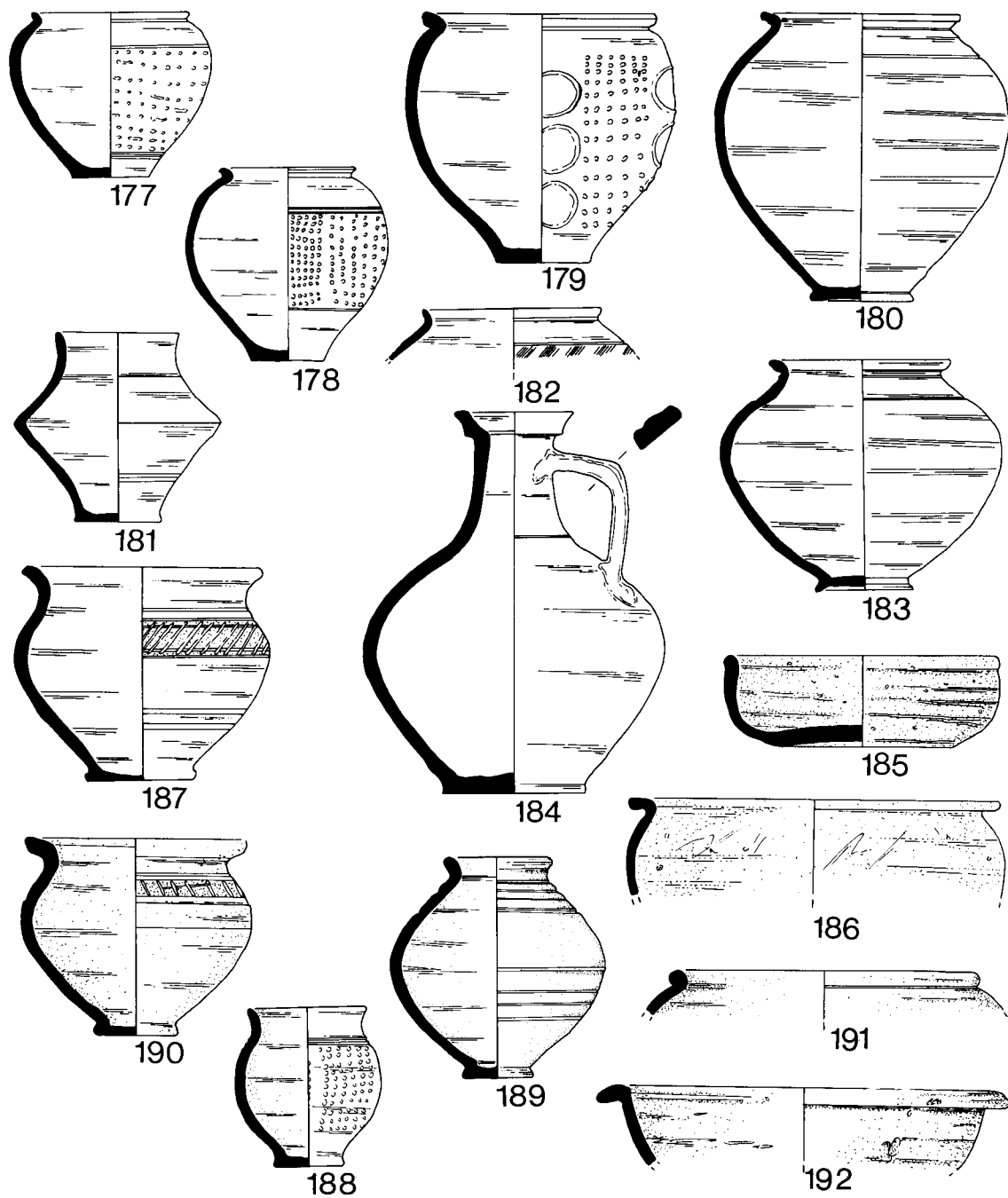
220. Small jar, with acute-lattice burnishing.

Alice Holt/Farnham greywares

- 224-30. Jars; mostly of Lyne & Jeffries 1979 class 1 (Nos 224-6, 228, 230), but classes 3A (No. 229) and 3B (No. 227) are also represented.

Miscellaneous

- 232-3. Pinched and ring-neck flagons of uncertain origin. MOL Accession No. 18616 (No. 232).



65. 1st/2nd-century pottery from St Swithin's House, Nos 177-92. (Scale 1/4).

Fabric/source	ER 1573	ER 1665	ER 1600	ER 1552	ER 1565	ER 1558	ER 1563	ER 1564	ER 1572	ER 1588	ER 1569
South Gaulish samian ware		*			*			*			
Central Gaulish samian ware					*					*	
Central Gaulish Colour-Coated Ware	*										
Terra Nigra								*			
Gallo-Belgic Eggshell Ware		173									
Lyon Ware		174									
Local Mica-Dusted Wares			*								
Ring-and-Dot Beakers		176-9									
Fine Black Micaceous Wares		180-3					*		*		
Hoo Ware		184									
Highgate 'B' Ware		185-6							*		*
North Kent Shell-Tempered Wares				*							
Highgate 'C' Ware		187				*	*	*			*
Verulamium Region Whitewares	*	202-4	*		*	*	*	*		*	
Imported Mica-Dusted Wares							*				
London/Upchurch finewares					*			*	*	*	
Verulamium Coarse White-Slipped Ware								*			
Colchester roughcast beakers											
Colchester mortaria											
Miscellaneous wall-sided mortaria							211				
Miscellaneous imported mortaria					215				216		
Black-Burnished Ware 1		217									
Black-Burnished Ware 2											
Alice Holt/Farnham greywares		221-3									*
Camulodunum 189 amphorae											
Camulodunum 186 amphorae					*				*	*	
Dressel 20 amphorae											
Miscellaneous amphorae											
Miscellaneous colour-coated wares							*				
Miscellaneous finewares									*		
Miscellaneous flagons									*		
Wheel-made grey sandy wares	*	235-42	*	*	*		*	*	*	*	*
Other coarsewares			*	*			*	*	*	*	*
Date of groups	E Flavian	M Flavian	Flavian- Trajanic	Flavian- Trajanic	Flavian- Trajanic	L Flavian -Trajanic	L Flavian -Trajanic	L Flavian -Trajanic	L Flavian -Trajanic	L Flavian -Trajanic	Trajanic

66. Summary of 1st/2nd-century pottery from St Swithin's House.

Fabric/source	ER 1573	ER 1665	ER 1600	ER 1552	ER 1565	ER 1558	ER 1563	ER 1564	ER 1572	ER 1588	ER 1569	ER 1598	ER 1561	ER 1578	ER 1589	ER 1591	ER 1592	ER 1593	ER 1597	ER 1602	ER 1556/7	ER 1666	ER 1553	ER 1566	ER 1562	ER 1580	ER 1599
South Gaulish samian ware		*			*			*						*							*				*		
Central Gaulish samian ware					*					*				*					*		*				*		
Central Gaulish Colour-Coated Ware	*																										
Terra Nigra								*													172						
Gallo-Belgic Eggshell Ware		173																									
Lyon Ware		174																									
Local Mica-Dusted Wares			*																		175	*					
Ring-and-Dot Beakers		176-9																									
Fine Black Micaceous Wares		180-3					*		*			*				*				*		*					
Hoo Ware		184																									
Highgate 'B' Ware		185-6							*		*												*		*		
North Kent Shell-Tempered Wares				*																		*			*		
Highgate 'C' Ware		187				*	*	*			*			*							188-200	*		*		201	
Verulamium Region Whitewares	*	202-4	*		*	*	*	*		*		*				*	*	*			205	*		*	*	*	
Imported Mica-Dusted Wares							*															*					
London/Upchurch finewares					*			*	*	*											206-10						
Verulamium Coarse White-Slipped Ware								*																			
Colchester roughcast beakers																									*		
Colchester mortaria																											214
Miscellaneous wall-sided mortaria							211										212			213							
Miscellaneous imported mortaria					215				216																		
Black-Burnished Ware 1		217																			218		*	*	*	219	
Black-Burnished Ware 2																					220						
Alice Holt/Farnham greywares		221-3									*										224-30	*		*	*		
Camulodunum 189 amphorae														*													
Camulodunum 186 amphorae					*				*	*																	
Dressel 20 amphorae																					*	*					
Miscellaneous amphorae													*														
Miscellaneous colour-coated wares							*										*										
Miscellaneous finewares									*							*										231	
Miscellaneous flagons									*																	234	
Wheel-made grey sandy wares	*	235-42	*	*	*		*	*	*	*	*	*		*		*		*			232-3				*	*	*
Other coarsewares			*	*			*	*	*	*	*		*	*	*						243-51	*	*	*	*	*	*
																				252			*	*	*	*	*
Date of groups	E Flavian	M Flavian	Flavian- Trajanic	Flavian- Trajanic	Flavian- Trajanic	L Flavian -Trajanic	L Flavian -Trajanic	L Flavian -Trajanic	L Flavian -Trajanic	L Flavian -Trajanic	Trajanic	Trajanic	L 1st- E 2nd c.	1st c.	1st c.	1st c.	1st c.	1st c.	1st c.	1st c.	E Hadrianic	1st half 2nd c.	Hadrian- Antonine	Hadrian- Antonine	E-M Antonine	2nd c.	2nd c.

66. Summary of 1st/2nd-century pottery from St Swithin's House.

ER 1598	ER 1561	ER 1578	ER 1589	ER 1591	ER 1592	ER 1593	ER 1597	ER 1602	ER 1556/7	ER 1666	ER 1553	ER 1566	ER 1562	ER 1580	ER 1599
		*							*				*		
		*					*		*				*		
									172						
									175	*					
*							*			*					
										*			*		
										*			*		
		*							188-200	*		*	201		
*				*	*	*			205	*		*	*		
										*					
									206-10						
													*		
														214	
					212			213							
									218		*	*	*	219	
									220						
									224-30	*		*	*		
		*													
	*								*	*					
						*									
													231		
*			*	*			*		232-3				234		
	*	*		*					243-51	*	*	*	*	*	*
	*	*		*					252			*	*	*	*
Trajanic	L 1st- E 2nd c.	1st c.	1st c.	1st c.	1st c.	1st c.	1st c.	1st c.	E Hadrianic	1st half 2nd c.	Hadrian- Antonine	Hadrian- Antonine	E-M Antonine	2nd c.	2nd c.

- 243-51. Jars and bowls in wheel-thrown sandy greywares; source uncertain.
 252. Great jar, possibly of the type known as *serria*.

Feature 14 (ER 11665)

(Nos 173-4, 176-87, 202-4, 217, 221-3, 235-42;
 Figs 64-5, 67-70)

This group is illustrated to place in its context the remarkable group of mid Flavian glass with which it was associated (see below, Nos 610-17; for the context, see p. 40).

Gallo-Belgic Eggshell Ware

173. Cornice-rimmed beaker, decorated with chevrons around the girth. The chevrons contain small pellets applied *en barbotine*.

Lyon Ware

174. Small cup with plain rim, decorated with applied 'raspberries'.

Ring-and-Dot Beakers

- 176-9. Beakers with rings and dots applied *en barbotine*.
 Three vessels have no rings but, despite the name, lack of any ring decoration is not unusual in this ware (Green 1978, 112).

Fine Black Micaceous Wares

- 180-1. Bulbous beakers with cavetto rims and more or less pronounced shoulders.
 182. Rim of bulbous beaker with cornice rim and burnished decoration around the shoulder.
 183. Plain-rimmed, biconical beaker, reminiscent of Marsh & Tyers 1978, Southwark type III.

Hoo Ware

184. Flagon.

Highgate 'b' sandy greywares

185. Bead-rim bowl.
 186. Bowl; cf. Green 1980, No. 149.

Highgate 'c' sandy greywares

187. Jar; cf. Marsh & Tyers 1978, Southwark type III.

Verulamium Region Whitewares

202. Large bulbous jar with double handle on neck; cf. Marsh & Tyers 1978, Southwark type III.
 203. Single-handled, ring-necked flagon.
 204. Tazza with thumbled decoration.

Black-Burnished Ware 1

217. Small dish with incised graffito, made after firing. The graffito reads MANT, with a ligature between the n and t.

Alice Holt/Farnham greywares

- 221-2. Bowls; Lyne & Jeffries 1979, class 3.
 223. Jar; *ibid.*, class 1.

Wheel-made sandy greywares

- 235-41. Jars in various forms, mostly with beaded or cavetto rims, and with a variety of decoration. Nos 235 and 238 have burnished strakes, whereas No. 239 has coarse, sharply-pointed pellets applied *en barbotine*.

Feature 55 (ER 11577)

(Not illustrated)

The contents of this pit (see above, Fig. 27, layer 7) have already been fully published (Hume & Hume 1954), and have long been seen as constituting primary evidence for the Boudican fire of London.

Coarse wares from other groups

(Nos 201, 211-16, 219, 231, 234; Figs 67-70; for ER group numbers, see Fig 66)

Highgate 'c' Ware

201. Narrow-necked jar with cordons and burnished-line decoration on the shoulder.

Miscellaneous wall-sided mortaria

- 211-3. Various fabrics; identifications not possible.

Colchester mortaria

214. Wall-sided mortarium; cf. Orton 1977, Fig 6 no. 143.

Imported mortaria

- 215-6. From unidentified Continental sources.

Black-Burnished Ware 1

219. Flanged bowl, with slightly upturned flange.

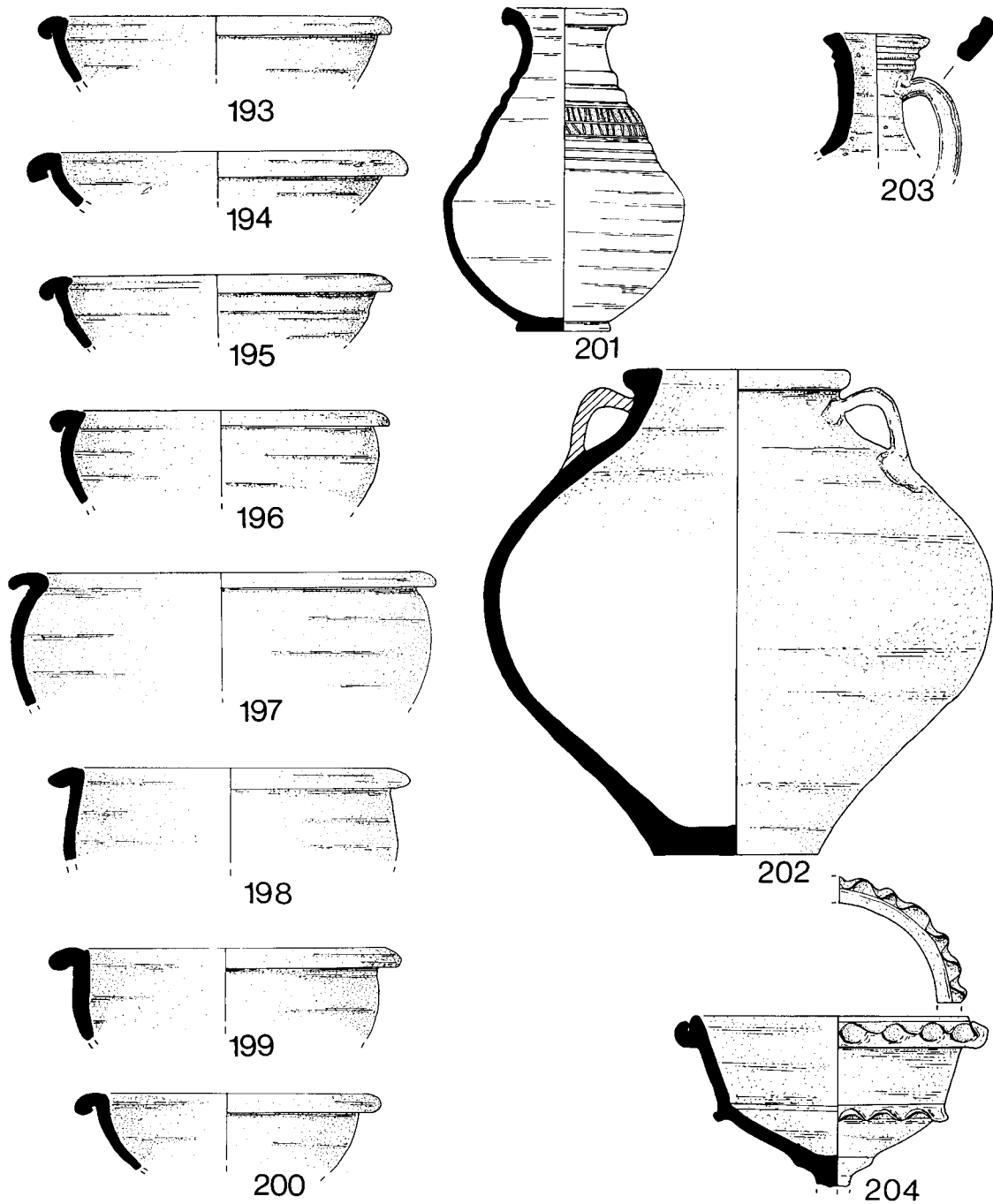
Miscellaneous

- 231, 234. The groups also included unattributable finewares and flagons.

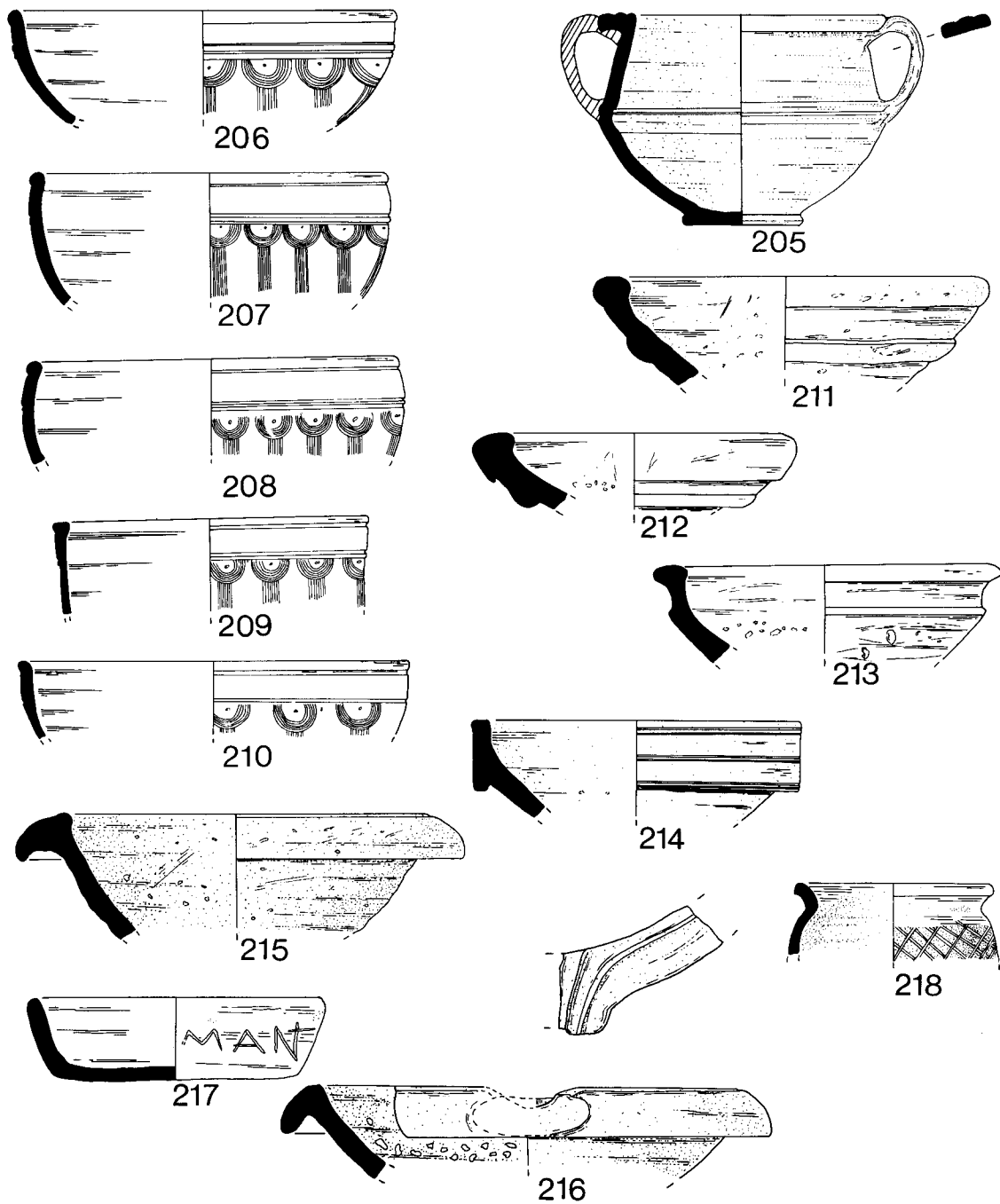
2nd/4th-century pottery

(No. 253; summary tables, Figs 73, 74; Fig 72)

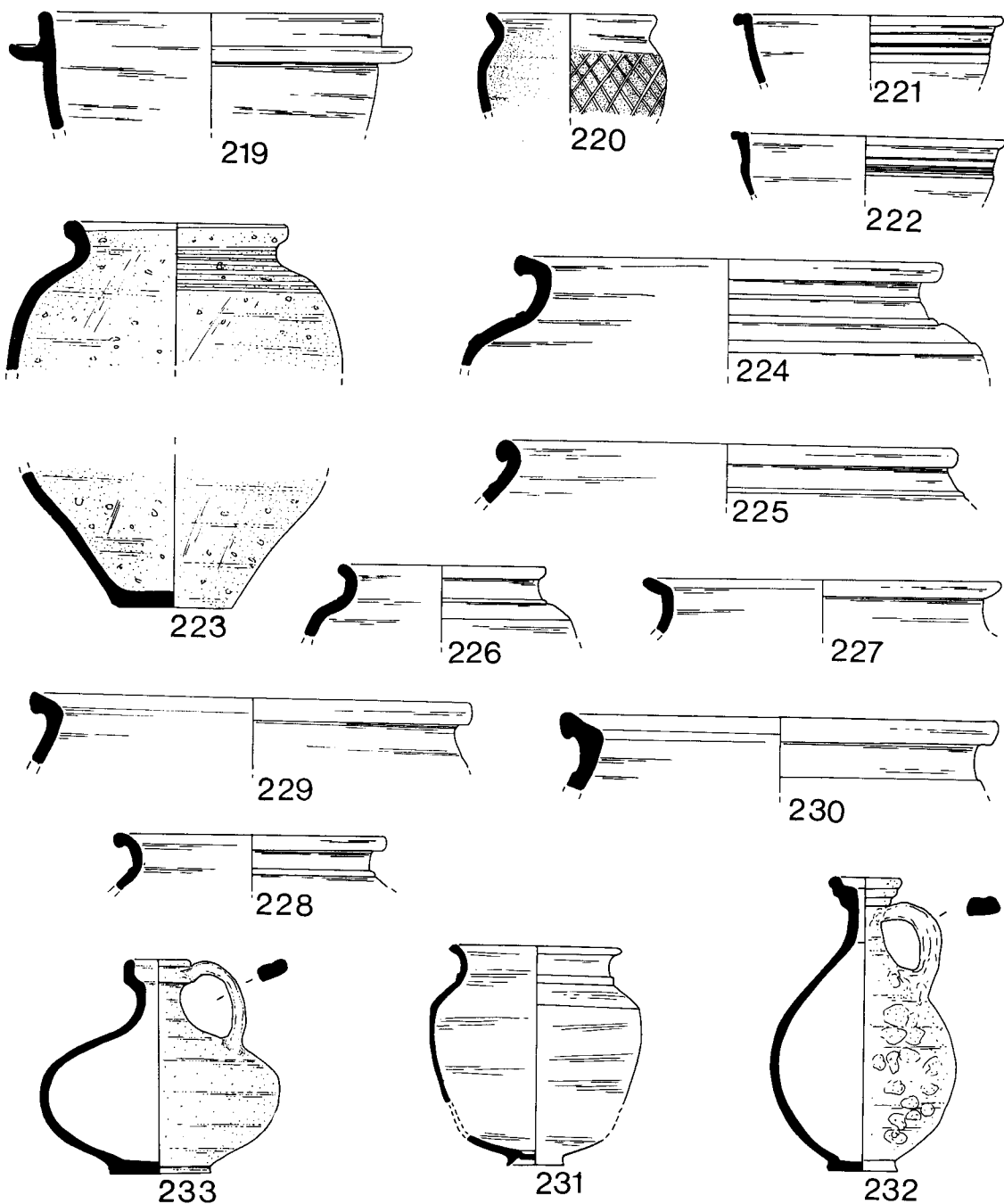
Like most of the earlier material, pottery of this date largely constitutes unexceptional pit- and well-groups. One vessel is of some intrinsic interest.



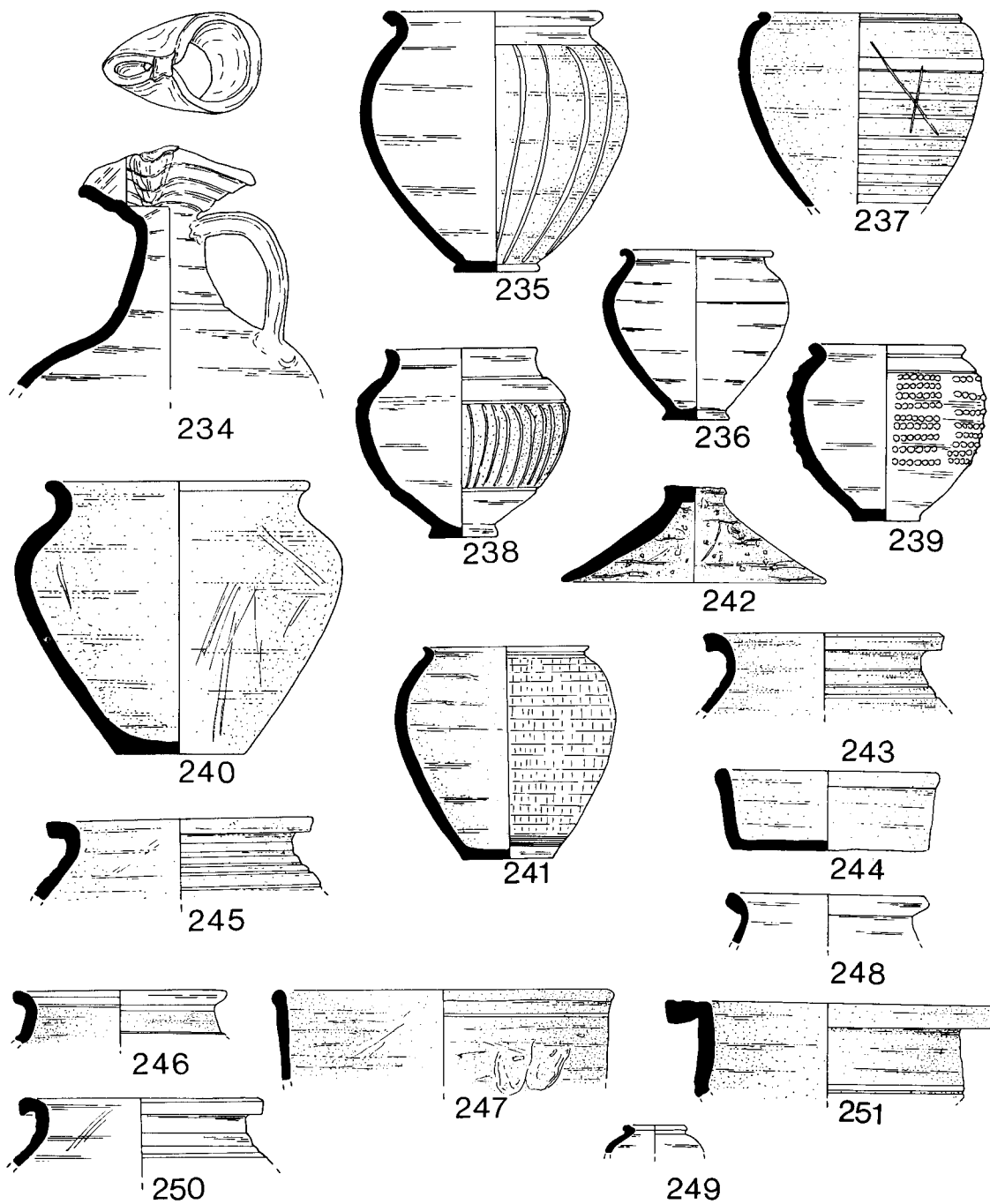
67. 1st/2nd-century pottery from St Swithin's House, Nos 193-204. (Scale 1/4)



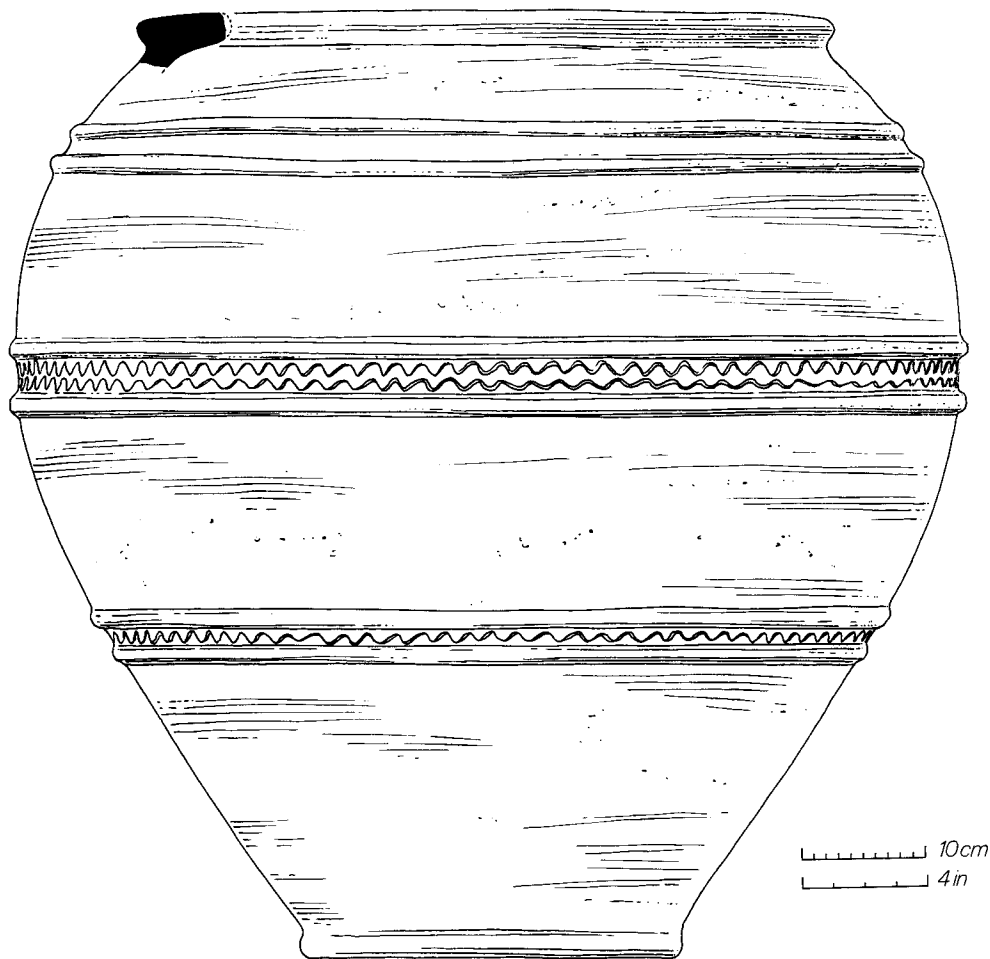
68. 1st/2nd-century pottery from St Swithin's House, Nos 205-18. (Scale 1/4)



69. 1st/2nd-century pottery from St Swithin's House, Nos 219-33. (Scale 1/4)



70. 1st/2nd-century pottery from St. Swithin's House Nos 234-51. (Scale 1/4)



252

71. *Great Jar from St Swithin's House, No. 252.*

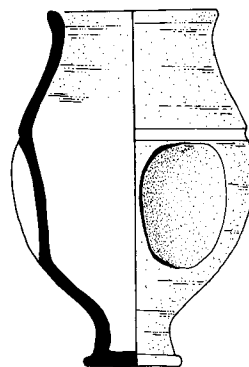
72. *2nd-4th-century pottery from Bucklersbury House, No. 253.*
(Scale 1/4)

253. (ER 218; see above, p. 32). Local folded beaker.
The only known parallel was found recently at
Pudding Lane (MOL excavations, site code PDN81;
P Tyers, pers. comm.). It is a locally-made
imitation of similar imported beakers.

Pottery from King's Arms Yard

(Not illustrated; summary table, Fig 75)

The layers of black silt representing the Walbrook stream yielded several small groups of pottery. All are of late 1st- or early 2nd-century date, but none of the vessels merit illustration or further description.



253

Fabric/source	ER 249B	ER 235C	ER 219A	ER 237	ER 296	ER 302	ER 222	ER 214	ER 218
South Gaulish samian ware	*								*
Central Gaulish samian ware			*					*	
East Gaulish samian ware		*						*	
Highgate Wood sandy greywares							*	*	
Verulamium Region Whitewares							*		
Verulamium Coarse White-Slipped Ware								*	
Colchester bowls						*			
Moselkeramik								*	
Soller mortaria	*							*	
Nene Valley Colour-Coated Wares					*	*		*	*
'Cologne' finewares				*					
Black-Burnished Ware 1				*		*		*	*
Black-Burnished Ware 2						*			
Local folded beaker									253
Oxon White Colour-Coated mortaria								*	*
Alice Holt/Farnham greywares								*	*
Porchester 'D' Ware								*	*
Late Roman Calcite-Gritted Ware									*
Dressel 20 amphorae				*					
Miscellaneous amphorae	*								*
Miscellaneous finewares				*					
Hand-made shell-tempered wares								*	
Hand-made grey sandy wares									*
Wheel-made grey sandy wares	*			*		*		*	*
Miscellaneous coarse wares				*				*	*
Date of groups	Flavian -3rd c.	L Anto- nine-3rd c.	L Anto- nine	L 2nd -3rd c.	L 2nd -3rd c.	L 3rd c.	L 3rd -4th c.	AD 350+	AD 350+

73. *Summary of 2nd-4th-century pottery from Bucklersbury House and Temple Court.*

Fabric/source	ER 1593	ER 1586	ER 1567	ER 1585	ER 1590	ER 1601	ER 1559
South Gaulish samian ware							
Central Gaulish samian ware							
East Gaulish samian ware							
Lyon Ware				*			
Pompeian Red Ware				*			
Hoo Ware						*	
Highgate 'B' Ware				*			
Gillam 238 mortaria				*			
Verulamium Region Whitewares	*			*			*
Highgate 'C' Ware				*			
Black-Burnished Ware 1			*				
Nene Valley Colour-Coated Wares				*			
Oxon White Colour-Coated mortaria	*			*			*
Oxon Red Colour-Coated Wares		*		*	*	*	*
Porchester 'D' Ware							*
Miscellaneous imported mortaria		*					
Miscellaneous amphorae			*	*			
Red-painted fineware			*	*			
Miscellaneous finewares				*			
Miscellaneous flagons				*			
Barbotine-decorated coarseware				*			
Hand-made grog-tempered wares				*			
Wheel-made grey sandy wares			*		*	*	*
Hand-made shell-tempered wares				*			
Miscellaneous coarsewares		*				*	*
Date of groups	3rd c.	L 3rd- 4th c.	3rd- 4th c.	3rd- 4th c.	3rd- 4th c.	4th c.	AD 350+

74. *Summary of 2nd-4th-century pottery from St Swithin's House.*

Fabric/source	ER 448	ER 455	ER 478	ER 511
South Gaulish samian ware	*	*		*
Central Gaulish samian ware	*	*	*	*
East Gaulish samian ware				
Imported Mica-Dusted Wares	*	*		
London/Upchurch finewares	*	*	*	
Gillam 238 mortaria		*		
Verulamium Region Whitewares	*	*	*	*
Highgate 'C' Ware	*	*	*	*
Local Mica-Dusted wares	*			
White slipped oxidised coarsewares	*			*
'Cologne' roughcast beakers	*			
Imported mortaria	*			
Black-Burnished Ware 1				
Black-Burnished Ware 2	*	*	*	*
Nene Valley Ware		*		
Rhodian amphorae	*	*		
Dressel 20 amphorae	*	*		
Pelichet 47 amphorae		*		
Miscellaneous flagons	*	*	*	
Hand-made grog-tempered wares	*			
Hand-made grey sandy wares	*	*	*	
Wheel-made grey sandy wares	*	*	*	*
Miscellaneous coarsewares		*		
Date of groups	1st-2nd c.	1st-2nd c.	1st-2nd c.	Flavian-2nd c.

75. *Summary of the Roman pottery from King's Arms Yard.*

4: THE STRATIFIED FINDS

Stratified finds form the only group of material admissible as primary evidence from which deductions on the use of the Walbrook valley can be made. Because there are so few stratified finds relative to the vast numbers of Walbrook finds in general, these are catalogued fully, though only representative, selected items are illustrated. The catalogue is not presented by material of manufacture in the usual way. Instead, stratigraphically discrete groups are considered within a framework of commentary.

SAMPLES OF METALWORK AND OTHER FINDS FROM THE WALBROOK STREAM AND ITS BANKS

There follows a series of selective illustrations and summary catalogues of a number of finds' groups from St Swithin's House, Bank Tube Station and Bucklersbury House. The purpose of this catalogue is to make possible a comparison between the condition and range of objects from the silt of the revetted stream and the dumped material on its banks. Two groups from the dumps are listed first. The first group, from Bank Tube Station, was recovered from the 'black silt' surrounding the pile structures on that site (see above, p. 44). The second group is from Trench D at St Swithin's House (Fig 22). This trench measured 6 x 4m and finds were originally taken from it as a sample of material from the 'artifact laden' eastern part of the Walbrook. The deposits produced 'Hundreds of Roman potsherds, boxes, pieces of glass, and even jewellery'; also 'bronze that emerged from the silt shining like gold' (Hume 1956, 64). This group is of particular importance as a complete group from a limited sondage into a productive area, which may constitute a typical, if small, sample of the type of material in such contexts.

The final group to be catalogued in this section is ER 268K, a group derived from the main body of the gravel stream silt between the revetments

at Revetment 2 (Bucklersbury House). Dating is dependent upon the excavator's analysis of a few samian sherds, which appeared to be Antonine. Most of the surviving pottery from the same context (ER 268(2); Fig 52) is dated no later than the mid 2nd century.

Most of the following catalogue entries include published parallels or references to previous publications of the objects themselves. All relevant Museum of London accession numbers are given.

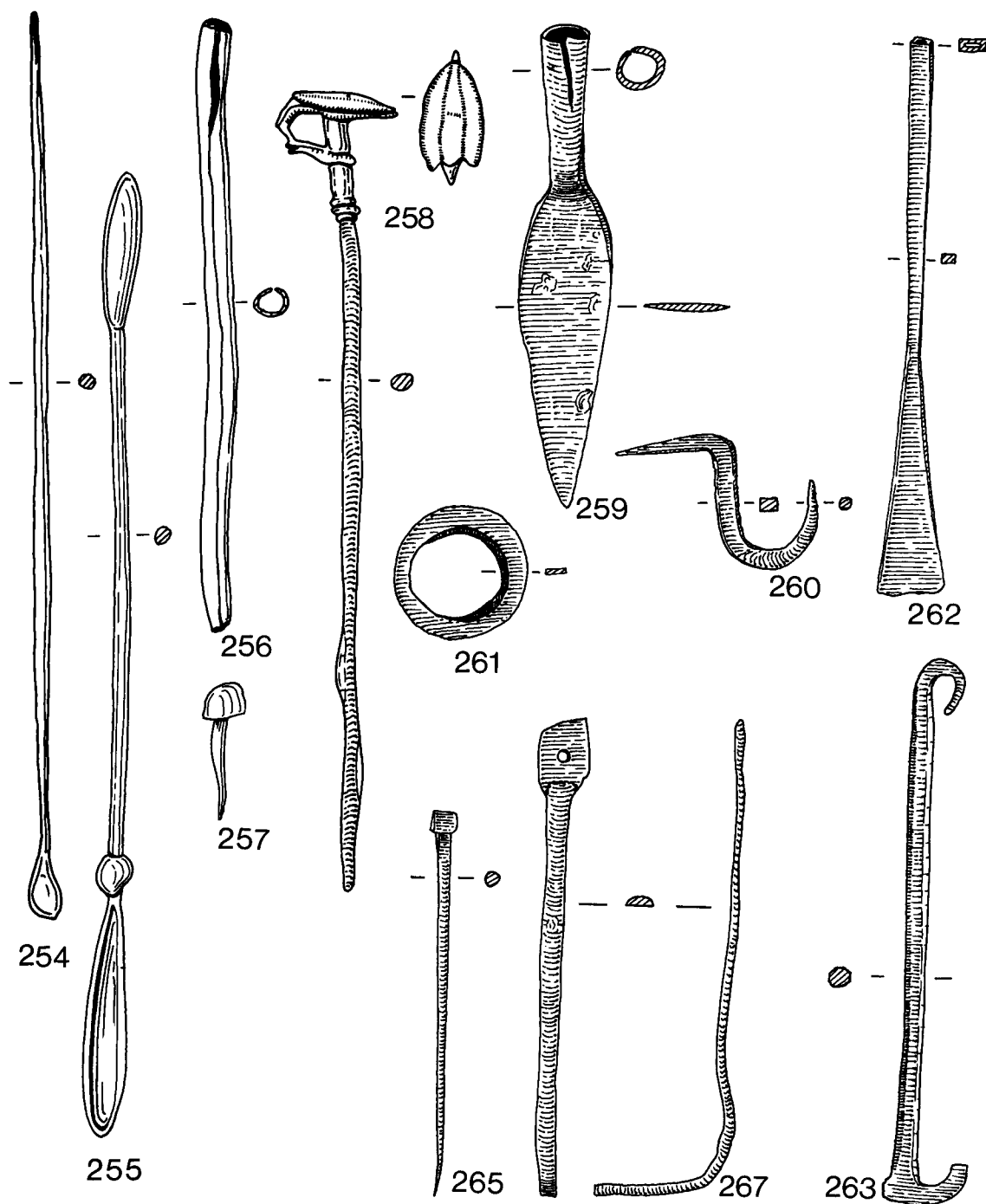
The Bank Tube Station Tunnel

Copper alloy (Fig 76)

- 254. Ligula with flattened end and octagonal-sectioned shank; cf. Chapman 1980a, 88. MOL Accession No. 22061.
- 255. Instrument with probe terminal and a spoon bowl below a moulding; cf. Wilmott 1982a, No. 72. MOL Accession No. 22060.
- 256. Tubing made of sheet metal rolled and soldered. MOL Accession No. 22052.
- 257. Small dome-headed tack or pin. MOL Accession No. 22058.
- 258. Pin with iron shank. The head and eye are in the shape of a stylised eagle's head. An exact parallel was found in London Wall (MOL Accession No. 432). The function of these iron and bronze pins, another of which was found stratified at Bucklersbury House (No. 477), is not fully understood. MOL Accession No. 22057

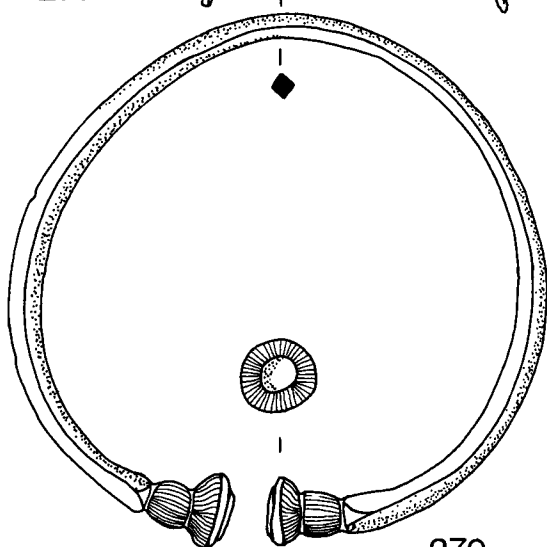
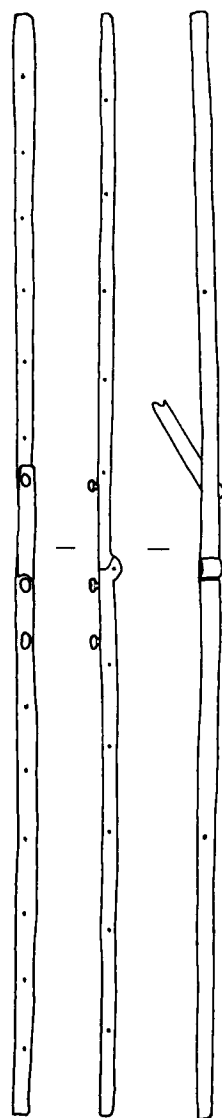
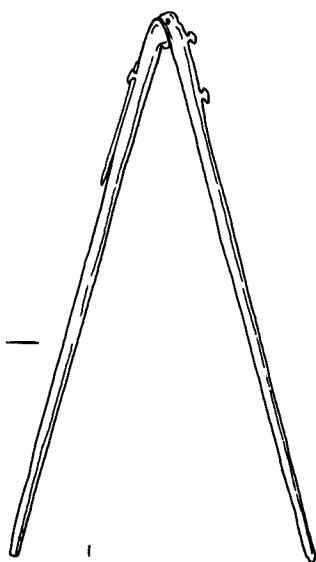
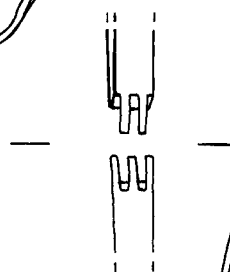
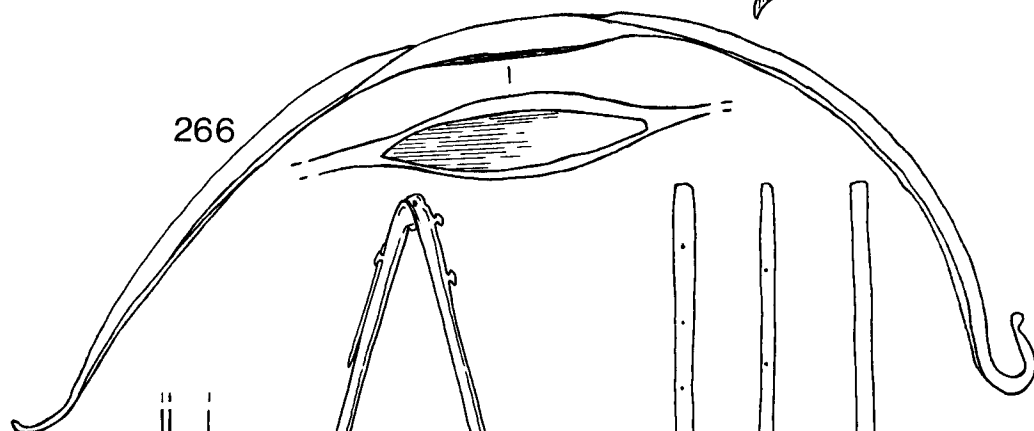
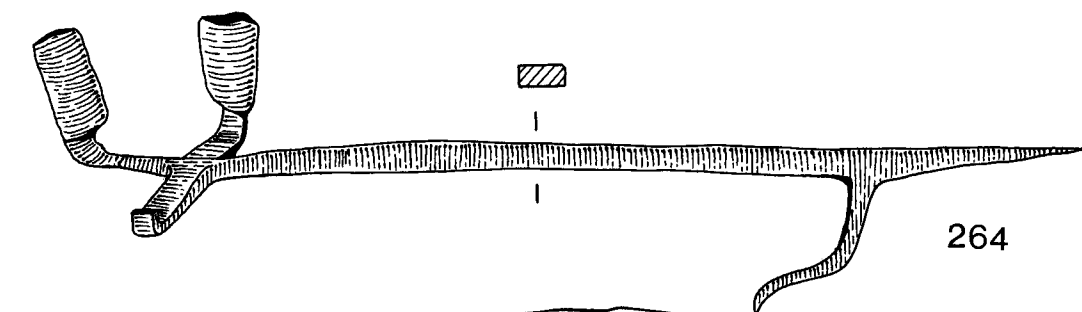
Iron (Figs 76-7)

- 259. Spearhead. The blade is leaf-shaped and the socket has become split. MOL Accession No. 22064.
- 260. Hook made from a square-sectioned iron bar. One end is pointed for fixing to a wall. MOL Accession No. 22053.
- 261. Plain iron ring of rectangular section. MOL Accession No. 22051.



76. Bank Tube Station: objects of copper alloy, Nos 254-58 (Scale 1/1), and iron, Nos 259-63, 265, 267 (Scale 1/2).

77. Bank Tube Station: objects of iron, Nos 264 (Scale 1/2) and 266 (Scale 1/3); St Swithin's House, Pit D: objects of copper alloy, Nos 270-1 (Scale 1/2).



262. Thin, triangular-bladed boring chisel on a long, square-sectioned, socketed handle; cf. Manning 1974, 158. MOL Accession No. 22062.
263. Latch lifter, the main bar octagonal in section. MOL Accession No. 22056.
264. Candle holder. The end of the square-sectioned bar is pointed for fixing into a wall, and the hook beneath the spike serves to brace the horizontal bar, to counteract the weight at the other end. There were originally three sockets for candles, arranged in a cruciform pattern. MOL Accession No. 22063.
265. Stylus; Manning 1976, type 1. MOL Accession No. 22059.
266. Bucket handle made of a rectangular-sectioned iron bar, which has been widened, flattened and bowed in the centre for ease of grip; cf. No. 514. MOL Accession No. 22066.
267. Iron corner binding with flat back and rivet holes for attachment to a wooden surface. MOL Accession No. 22054.

St Swithin's House Trench D

Copper alloy (Figs 77-9, 81)

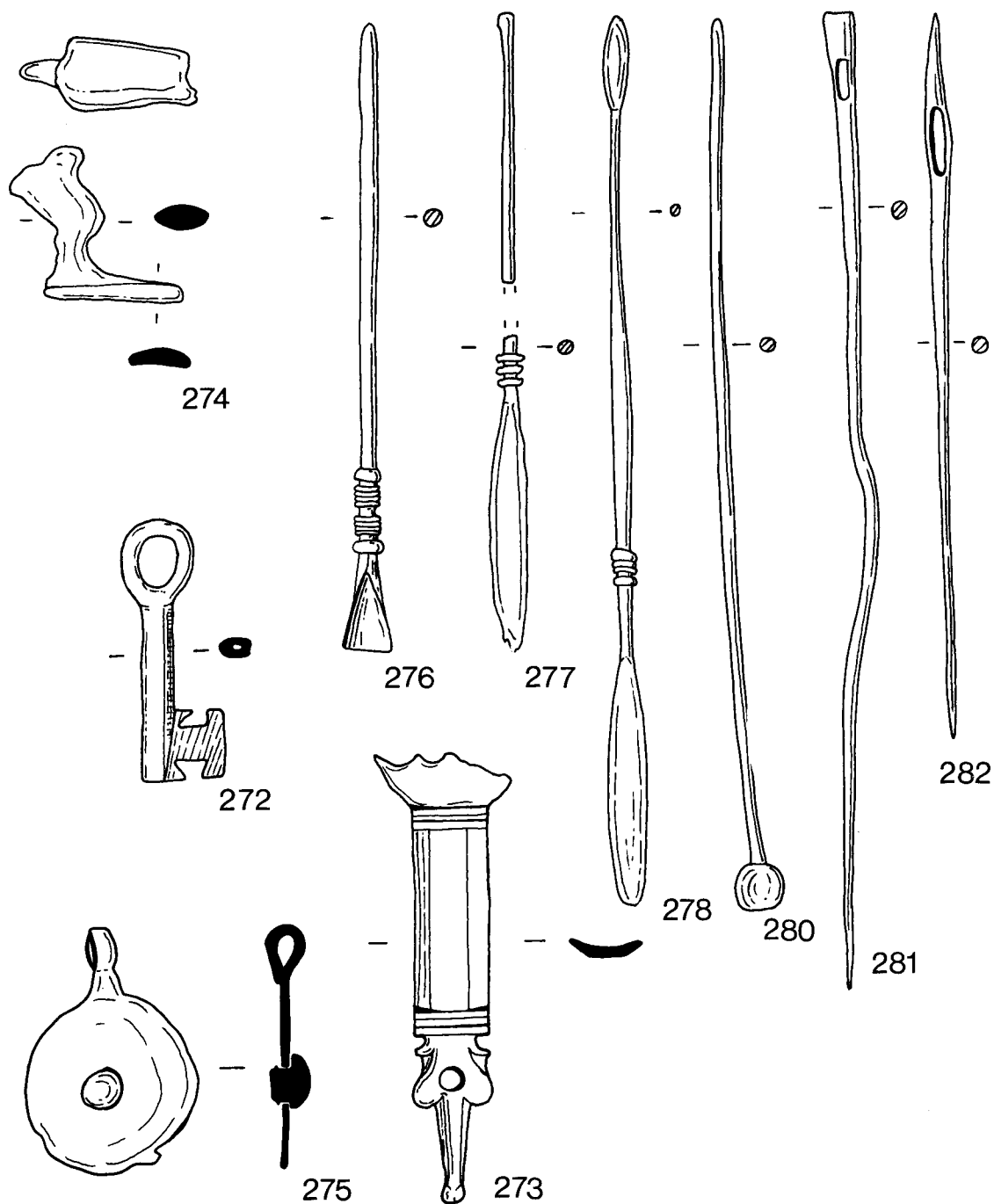
268. (Fig 81) Brooch, Collingwood Group R(ii). Spring-pin with 6 turns and internal chord; loop for chain, with collar; plain trumpet head covering the spring. There are acanthus leaves on either side of a central disc on the bow, beyond which the bow continues sharply ridged; a solid catch-plate below, terminating in a circular tooled pedestal. MOL Accession No. 18448.
269. (Fig 81) Brooch, Collingwood Group H. Spring-pin with external chord; plain spring covers; some tacking on top third of upper surface of bow. The catch-plate (intact) has a triangular perforation. MOL Accession No. 18649.
270. Torque or necklet, 140mm in diameter, cast in bronze; lozenge-shaped section. The two terminals are identical, comprising a melon-shaped back surrounded by a half-round moulding with a slightly raised, concave centre. Both parts of each terminal are ribbed. MOL Accession No. 18661.
271. Folding foot rule, hinged in the centre to form two half-foot arms. The hinge is double-toothed and was originally fixed by a pin, which is now lost. A flat bar is attached to a stud on one arm, and two studs appear on the other. The bar, now broken, would originally have clipped onto these studs to hold the rule rigid in its open position. Three faces of the rule are graduated. The inner side is divided into 4, the upper face into 12, and one side face into 16, representing the 4 *palmi*, 12 *unciae* and 16 *digiti* into which a foot was divided (Goodman 1964, 190). This type of rule, though not a common find, does occur elsewhere, for

- instance, at Caerleon (*ibid.*) and in Gaul (De Villafosse 1903, 219); there is also a second example from London (MOL Accession No. 20347). MOL Accession No. 18667.
272. Key to small rotary lock; cf. Chapman 1977a, 431. MOL Accession No. 18674.
273. Small mount. The stem is slightly rounded on the back, and the front has the corners chamfered to form three sides of equal width. The terminal, which is pierced by a rivet hole, is of somewhat stylised phallic form. At the foot the mount terminates in a circular or semi-circular plate pierced with at least one rivet hole, across which it is broken. MOL Accession No. 18676.
274. Complete object with flat foot and moulded projection of uneven shape. The object is cast, and may be the lid of a small bronze jug or flagon (cf. Crummy 1983, 82). MOL Accession No. 18676.
275. Pendant consisting of a circular plate with a loop for suspension. A rivet pierces the centre of the plate. MOL Accession No. 18665.
- 276-9. (No. 279 not illustrated) Instruments of various forms, with spoon bowls and moulded or pointed terminals; cf. Chapman 1980a, 88. The spoon bowl of No. 276 has been cut across. MOL Accession Nos 18638, 18654, 18632, 18660; also MOL Accession No. 18653 (not catalogued).
280. Ligula; cf. Chapman 1980a, 88 and Nos 299-302 below. MOL Accession No. 18669.
- 281-8. (Nos 283-8 not illustrated) Needles; various types. MOL Accession Nos 18636, 18658, 18635, 18634, 18659, 18633, 18639.
289. Stud with bowl-shaped top filled with red enamel. The enamel is burnt on the outer edges. MOL Accession No. 18666.
290. Small piece of tubing; part of a larger iron object, as it terminates in a lump of ferrous corrosion. MOL Accession No. 18662.
291. Hook made of strip metal twisted at the top to form a loop. MOL Accession No. 18641.
292. Two rivetted strips of scrap bronze. MOL Accession No. 18632.
293. Scrap fragment of thin sheet bronze with decorative punching. MOL Accession No. 18664.
294. Two small bronze strips, rivetted together with two rivets but set apart, which suggests that some material (eg. leather) was placed between them. The upper strip is decorated with incised hatching. MOL Accession No. 18670.

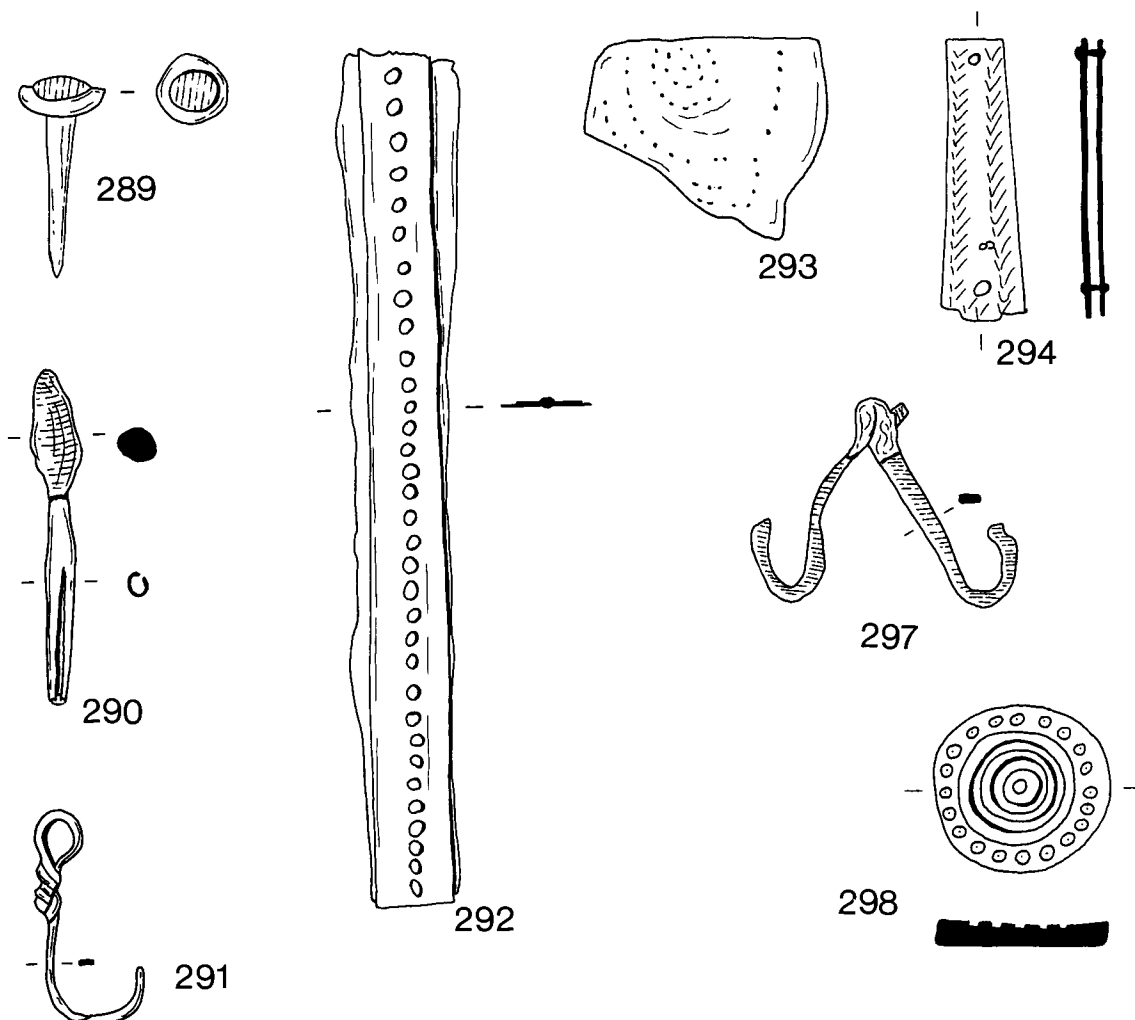
Also in this group, but not catalogued, are two small bronze 'curtain-type' rings. MOL Accession Nos 18672, 18673.

Iron (Figs 79-80)

295. Strigil with curved and hollowed blade of semi-circular section. The handle is circular-sectioned,



78. *St Swithin's House, Pit D: objects of copper alloy, Nos 272-82. (Scale 1/1, except No 273, Scale 1/2)*



79. *St Swithin's House, Pit D: objects of copper alloy, Nos 289-93 (Scale 1/2) & 294 (Scale 1/1), iron, No. 297 (Scale 1/2), and bone, No. 298 (Scale 1/2).*

80. *St Swithin's House, Pit D: objects of iron, Nos 295-6, and wood, Nos 299-300. (Scale 1/2)*

but hollow and slotted in the sides for lightness; cf. an example found in London Wall (British Museum 1964, 13). MOL Accession No. 18650.

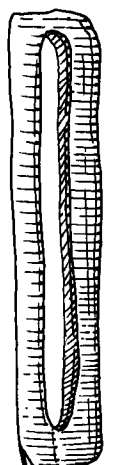
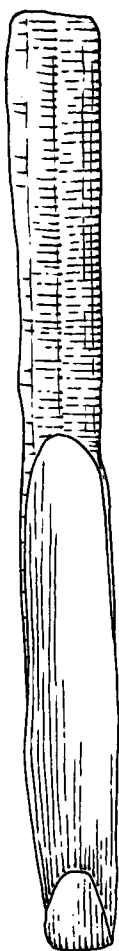
296. Object in the form of a coiled strip terminating in a point. Though conventionally interpreted as ox-goads, examples have been found at Vindolanda in association with writing-tablets; they have hollow wooden handles, which could act as a reservoir for ink, and accordingly have been identified as pens. Cf. Nos 405-6. MOL Accession No. 19043.

297. Pair of small hooks linked at the top. MOL Accession No. 18647.

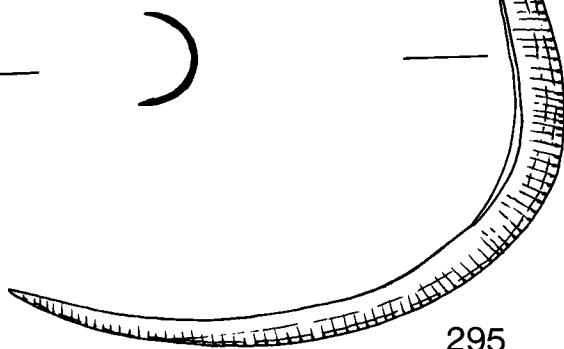
Bone (Fig 79)

298. Large turned counter decorated with a series of concentric circles. Round the edge are 20 dots enclosed by circles. MOL Accession No. 18652.

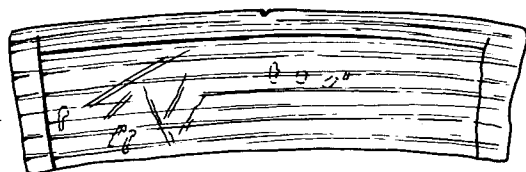
Other plain bone counters are also recorded from this context.



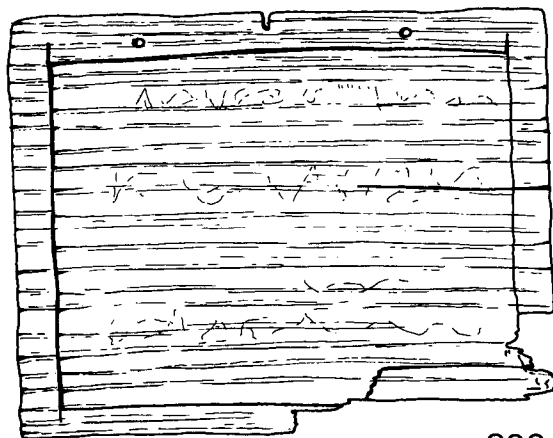
296



295



299



300

Wood (Fig 80)

- 299-300. Silver fir (*Albies Alba*; species identified by Vanessa Straker) writing-tablets, on neither of which any writing is decipherable. Both are recessed for wax on only one side; therefore, as they are also hinged, both must be the first or last pages of a triptych or diptych document. No. 299 is pierced by two hinge holes, and both show slots on the edges where the binding cord has bitten into the wood. Compare with numerous similar examples from London published by Chapman (1977b; 1980b). MOL Accession Nos 18630, 18631.

Bucklersbury House, ER 268K

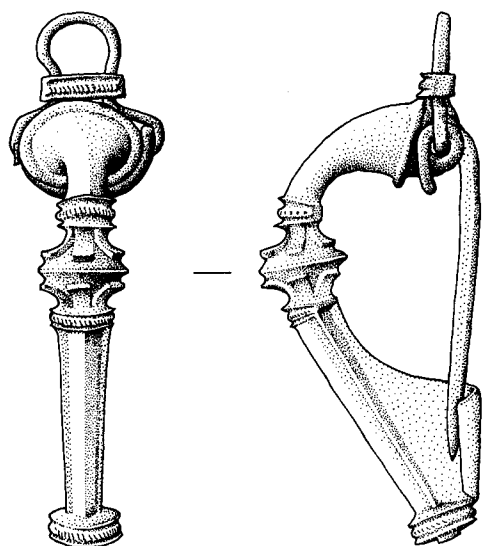
Brooches (Figs 81-2; all copper alloy, except No. 301)

Identified by Sir Ian MacLennan

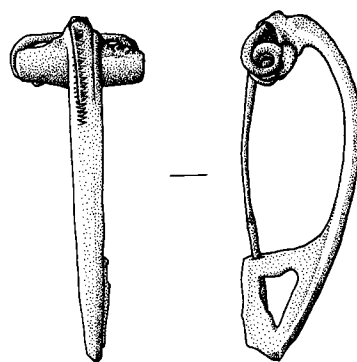
301. One-piece iron bow brooch, Collingwood Group A. Bow much corroded, as is pin. Catch-plate missing. MOL Accession No. 19597.
302. 'Dolphin' brooch, Collingwood Group H. Eight-turn spring with external chord and grooved spring-covers. Tapering bow with prominent ridge down the middle and lesser ridges on each side. Catch-plate unpierced. MOL Accession No. 19228.
303. Trumpet brooch, Collingwood Group s(ii). Hinged pin. Trumpet head with cast loop at the end; small knobs (?stones) inset on each side of the trumpet. The middle of the bow has a pelta-shaped plate with a socket in the centre for another knob; below the pelta is a transverse moulding. The remainder of the bow is tooled, terminating in a projection which houses another small knob. (Illustrated in Guildhall Museum 1956, Pl 4.) MOL Accession No. 19227.
304. Trumpet brooch, Collingwood Group s(ii). Trumpet head with loop covering the spring-pin. A knurled triple ridge runs down the bow, which has, half-way down, a circular plate with four projections; the bow terminates in a knurled ring. Catch-plate unperforated. (Illustrated in Guildhall Museum 1956, Pl 4.) MOL Accession No. 19226.
305. Plate brooch. Hexagonal; the four lateral sides are 25mm long, the sides at top and bottom 13mm. Possibly intended to represent a shield. In the centre is a raised boss. Hinged pin missing, but catch-plate intact. MOL Accession No. 19108.
306. Plate brooch. Shoulders bent up and over to hold a hinged pin, which is now missing. Three transverse mouldings above a plate of elongated lozenge shape. Pedestal foot. Unperforated catch-plate intact. MOL Accession No 19176.
307. Plate brooch in the shape of a bird. The wings, body and tail form the bow. The neck and head project at right angles above the catch-plate. Hinged pin, missing. Traces of enamel survive on the wings. MOL Accession No. 19230.
- On stylistic grounds these brooches may be dated to the late 1st/early 2nd century. No. 304 has a latest terminal date in the mid 2nd century.

Copper alloy (Figs 83-4)

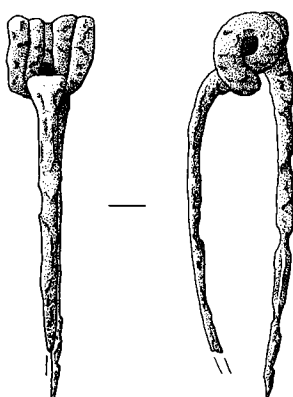
- 308-11. (Nos 309-11 not illustrated) Ligulae with rounded or polygonal shanks and spatulate ends; cf. Chapman 1980a, 88. MOL Accession Nos 19416, 19117-8, 19121.
- 312-4. (Nos 313-4 not illustrated) Spatulae or instruments with a spoon bowl at one end and a probe handle terminal; cf. Wilmott 1982a, 55. MOL Accession Nos 19106, 19119, 19122.
315. (Not illustrated) Conventional single-eyed needle. MOL Accession No. 19132.
316. Needle or pin with a single eye near the point and a hooked, knobbed terminal. Probably used as a bodkin; cf. Curle 1911, Pl 73. MOL Accession No. 19218.
317. (Not illustrated) Small pendant similar to No. 462 below. Published previously, Guildhall Museum 1956, 8; Webster 1958, 85. MOL Accession No. 19223.
- 318-21. (Not illustrated) Pins of various shapes and sizes. MOL Accession Nos 19123-5, 19180.
- 322-4. (Not illustrated) Small decorative brooch chains. MOL Accession Nos 19265, 19267, 19269.
- 325-7 (Nos 326-7 not illustrated) Box fittings cut from strip metal, with tack holes for attachment. MOL Accession Nos 19219-21.
328. (Not illustrated) Box or casket handle. Published previously, Guildhall Museum 1956, 8. MOL Accession No. 19181.
- 329-32. (Nos 329-31 not illustrated) Box fittings of various forms. No. 332 may be based on the shape of a Roman standard. MOL Accession Nos 19182-4, 19238.
- 333-6. (Not illustrated) Small finger-rings of twisted copper wire. MOL Accession Nos 19151-3, 19232.
337. (Not illustrated) Ornate ring with a male head on the bezel and the letters AMICA spaced around the hoop. Published previously, Guildhall Museum 1956, 6. MOL Accession No. 19231.
338. Bar from a small balance, looped at each end and in the centre. A small spring is coiled around one arm. MOL Accession No. 19107.
339. Mount consisting of a kidney-shaped loop attached to a ridged bar. It is now clear that such mounts were affixed to military dagger scabbards (Schimmer 1979, 113-4; Constandse-Westermann 1982). Four identical objects exist among Category 5 finds (MOL Accession Nos 20946-9), and a further



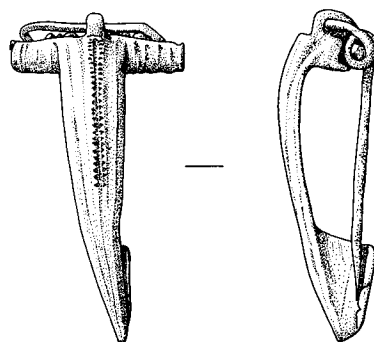
268



269



301



302

81. *St Swithin's House, Pit D*: brooches, Nos 268-9; ER268K: brooches, Nos 301-2. (Scale 1/1)

unstratified example from the site occurs in the British Museum Greenway Collection (1956). Also published as Grew & Griffiths forthcoming, No. 158. MOL Accession No. 19274.

340-2. (Not illustrated) Small dress hooks, as Nos 494-5 below. MOL Accession Nos 19154-6.

343. Small fish hook with loop for attachment to a line, and a barbed point. MOL Accession No. 19176.

344. (Not illustrated) Combined tweezers and ligula. Published previously, Guildhall Museum 1956, 12. MOL Accession No. 19220.

345-6. Fragments of manicure sets. MOL Accession Nos 19133, 19178.

347-9. (No. 349 not illustrated) Clamps, or letters from inscriptions. One is 'v'-shaped, the other 'i' or 'hyphen'-shaped. MOL Accession Nos 19235-6.

350. Small clamp or decorative mount. Shaped like a brooch, and phallic in intention. Similar mounts have been found in military contexts on Hadrian's Wall (Bidwell 1985, 122 no. 125; Allason-Jones 1989, 179 no. 168). MOL Accession No. 19237.

351-2. (No. 352 not illustrated) Small handles, possibly for carrying glass bath-flasks (Crummy 1983, 72). MOL Accession Nos 19149-50.

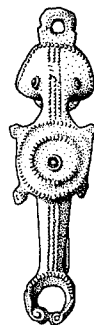
353-62. (Nos 354-62 not illustrated) Tacks with flat, round heads; various sizes. The heads are filled



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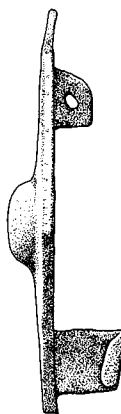
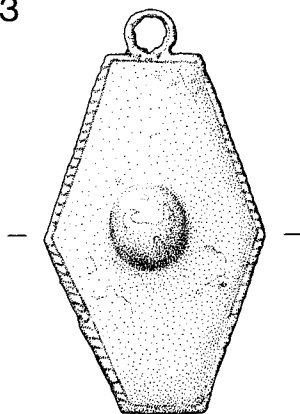
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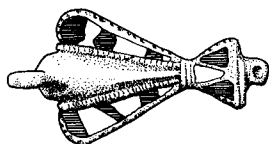
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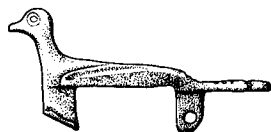
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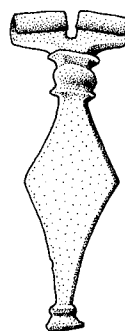
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307

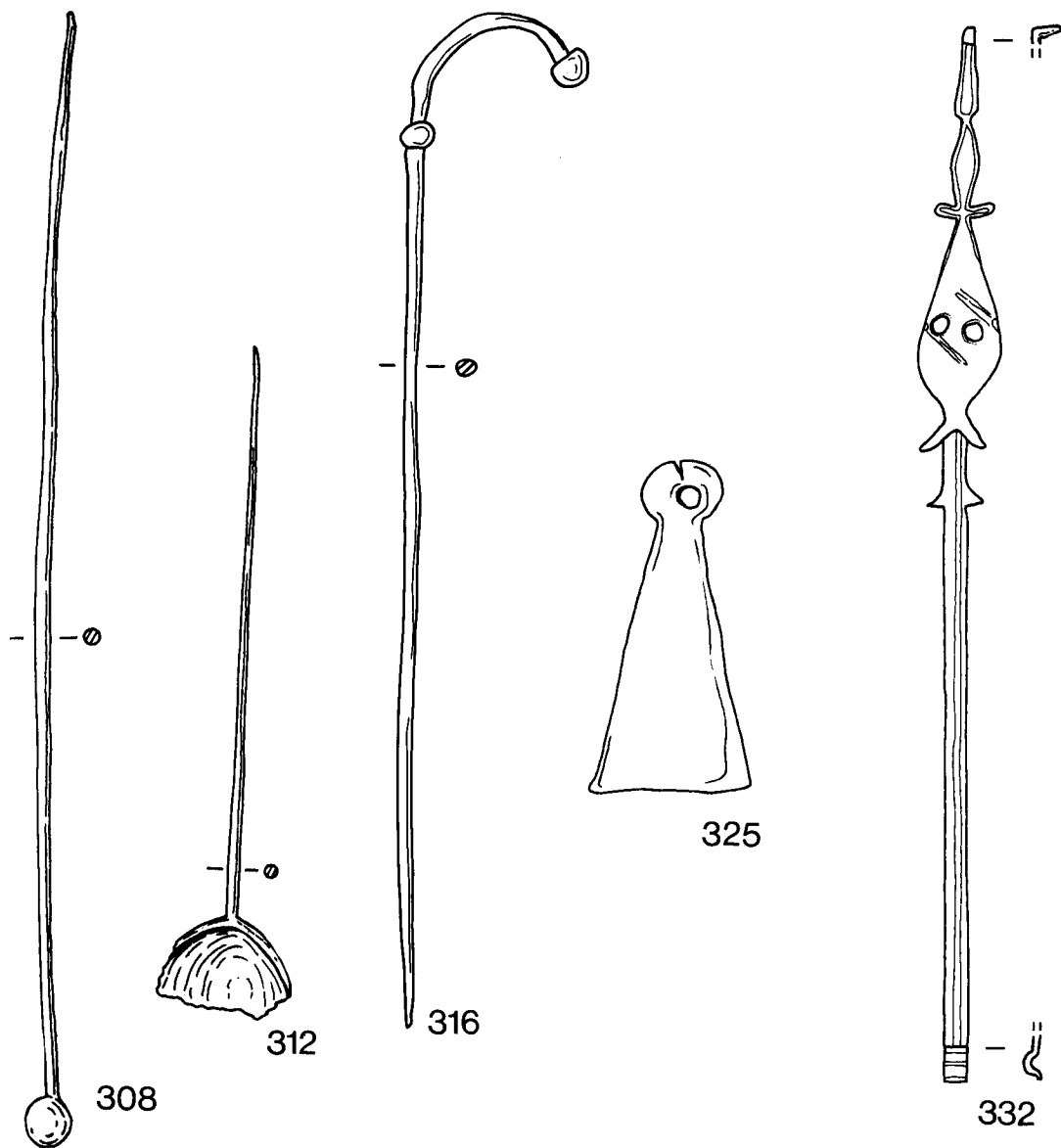


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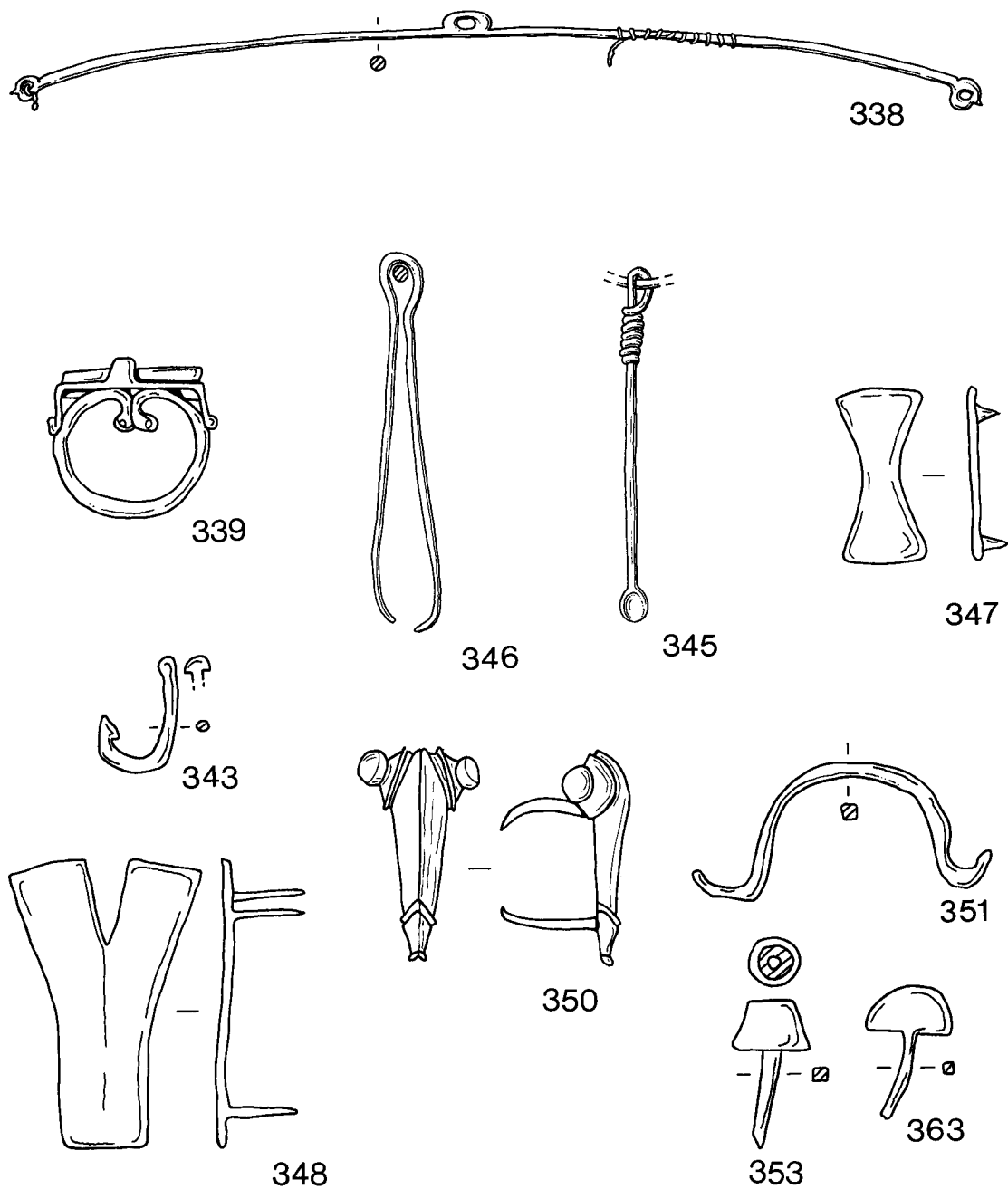
306

82. ER268K : brooches Nos 303-7. (Scale 1/1)



83. ER268K : objects of copper alloy, Nos 308-32. (Scale 1/1)





84. ER268K: objects of copper alloy, Nos 338-63. (Scale 1/1)

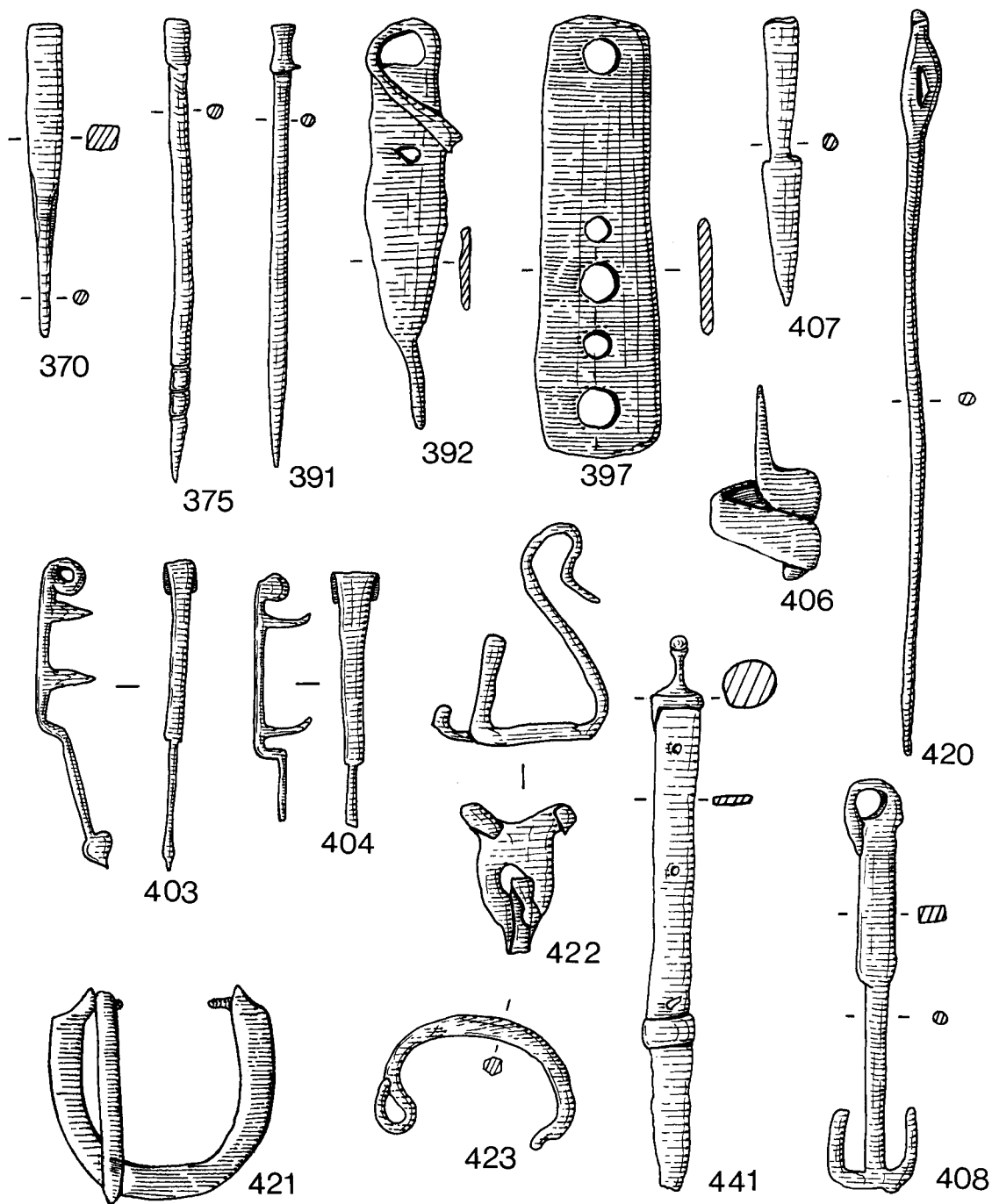
with enamel which appears to have been red originally. MOL Accession Nos 19134-43.

- 363-7. (Nos 364-7 not illustrated) Small dome-headed tacks. MOL Accession Nos 19144-8.
- 368. (Not illustrated) Dome-headed enamelled pin, identical to No. 289. MOL Accession No. 19126.
- 369. (Not illustrated) Decorated stud with niello decoration, identical to No. 468. MOL Accession No. 19226.

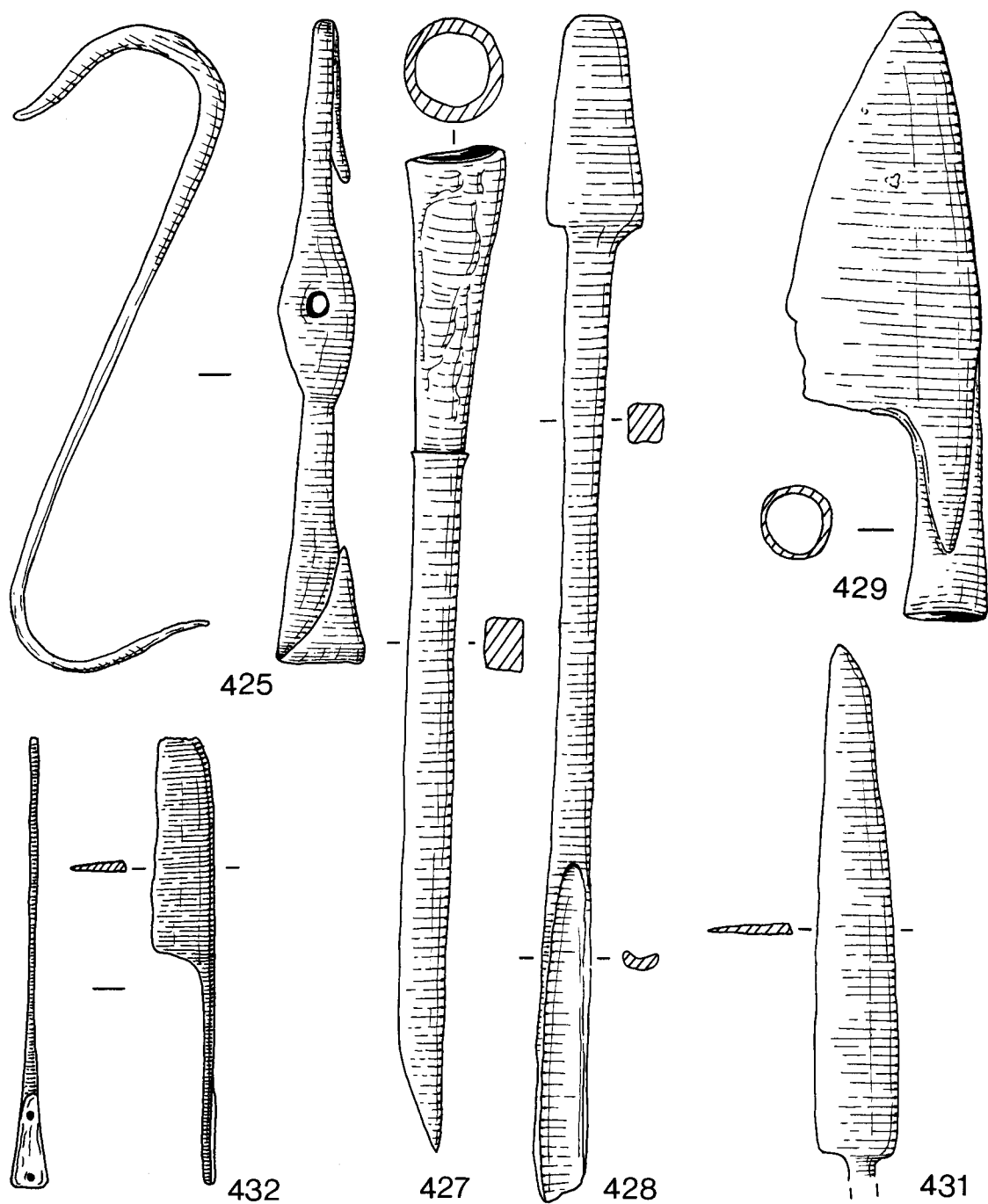
Iron (Figs 85-8)

- 370-4. (Nos 371-4 not illustrated) Punches of two types. Four are square in section, tapering to a point, as No. 370; the fifth is similar to Nos 478-9 below. MOL Accession Nos 19213-5, 19889, 19217.
- 375-91. (Nos 376-90 not illustrated) Styli; Manning (1976) types I (cf. No. 375) and II (cf. No. 391) are both represented. MOL Accession Nos 19171, 19185-7, 19521-2.
- 392-5. (Nos 393-5 not illustrated) Bucket-handle loops with rivet holes in side-supports. MOL Accession Nos 19213-5, 19889.
- 396-7. (No. 396 not illustrated) Bucket-mounts consisting of plates with rivet holes. MOL Accession Nos 19693-4.
- 398-402. (Not illustrated) Small rings. These could have a large number of uses. MOL Accession Nos 19200-3, 19205.
- 403-4. Military scabbard mounts of a well-known type. Examples from German sites – for instance, Zugmantel and Saalburg – have been drawn together by Hundt (1960) and Oldenstein (1976, Taf 15-17). There are many from sites in Britain, eg. Cambridge, Silchester, Caerleon (Nick Griffiths, pers. comm.) and Newstead, where an example similar to No. 403 was found (Curle 1911, Pl 77). A further mount was found at the Bank of England (Webster 1958, 83). MOL Accession Nos 19501-2.
- 405-6. (No. 405 not illustrated) Pens or ox-goads similar to No. 296. MOL Accession Nos 19242, 19645-6.
- 407. Ballista bolt; cf. Manning 1976, Fig 13 and many other examples from military sites. MOL Accession No. 19173.
- 408-12. (Nos 409-12 not illustrated) Latchlifters. Various shapes and sizes but mostly 'T'-shaped lift keys; cf. Manning 1974, No. 586. MOL Accession Nos 19166, 19174, 19220-1, 19270.
- 413-5. (Not illustrated) Tumbler lock keys; cf. No. 485 (illustrated). MOL Accession Nos 19128, 19207, 19281.
- 416-20. (Nos 416-9 not illustrated) Needles; all single-eyed sewing types, various sizes. MOL Accession Nos 19164, 19209-11, 19626.
- 421. Small buckle. MOL Accession No. 19516.
- 422. Lamp-bracket. MOL Accession No. 19028.

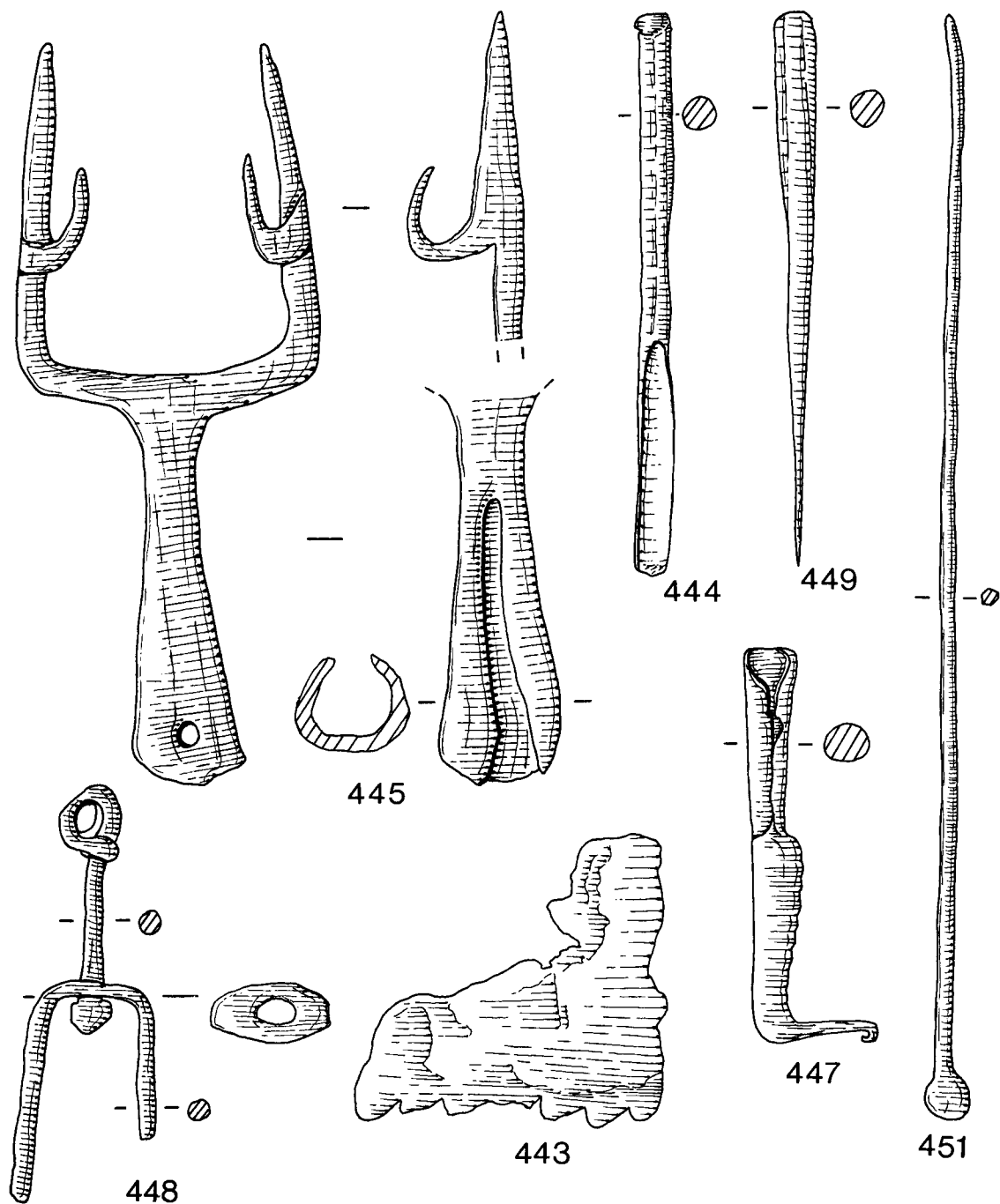
- 423-4. (No. 424 not illustrated) Fragments of small handles. MOL Accession Nos 19204-5.
- 425-6. (No. 426 not illustrated). Double hooks with central square hole. MOL Accession Nos 19248, 19258.
- 427. Socketed chisel; cf. Curle 1911, Pl 59. MOL Accession No. 19159.
- 428. Gouge or spindle. Similar objects have been interpreted as bits from mason's drills by Curle (1911, 383) and Cunliffe (1971, 138).
- 429-30. (No. 430 not illustrated) Socketed knives or cleavers with straight back and curving blade; cf. Manning (1976, 37), type IIa. MOL Accession Nos 19257-8.
- 431. Knife blade with broken tang. MOL Accession No. 19162.
- 432-9. (Not illustrated) Small, broken, knife or shear blades. MOL Accession Nos 19636, 19586-9, 19591, 19593-4.
- 440-2. (Nos 440 & 442 not illustrated) Broken knife blades with handle plates intact. No. 441 also has a knobbed handle terminal. MOL Accession Nos 19636, 19588.
- 443. Fragment from the blade of a bow- or hand-saw. For discussion, see Manning 1974, 162. MOL Accession No. 19280.
- 444. Chisel made of an octagonal-sectioned bar with a flattened blade. There is a slight mushrooming of the head where it has been struck, and the blade shows signs of re-sharpening in antiquity. MOL Accession No. 19245.
- 445. Pitchfork or baling fork. Socketed, with a nail hole for securing a haft. Each prong is hooked. Two similar forks were found unstratified at Bucklersbury House (MOL Accession Nos 19866-7). This hooked type does not appear to occur elsewhere. The more usual pitchfork is a two-pronged socketed object, as found at Lydney (Wheeler & Wheeler 1932, 92) and Silchester (Boon 1974b, 234). The extra prongs on the London examples would provide a better grip on the object being lifted. MOL Accession No. 19260.
- 446. Socketed, two-pronged hoe. The tines are set at right-angles to the haft, which was secured by means of a nail which passed through a hole in the socket. This type of hoe is not a common find, though there is a group from London (for references and parallels, see Manning 1970, 20). MOL Accession No. 19259.
- 447. Socketed pruning hook with serrated blade and hooked end returning slightly on itself. A similar hook with a straight metal handle and a curved blade was found at the Bank of England. MOL Accession No. 19170.
- 448. Iron swivel, comprising a looped rod passing through a hole in a forked attachment in which it is retained by a knob. An identical swivel was recovered on the Bank of England site.
- 449. Metalworker's scribe. MOL Accession No. 19171.



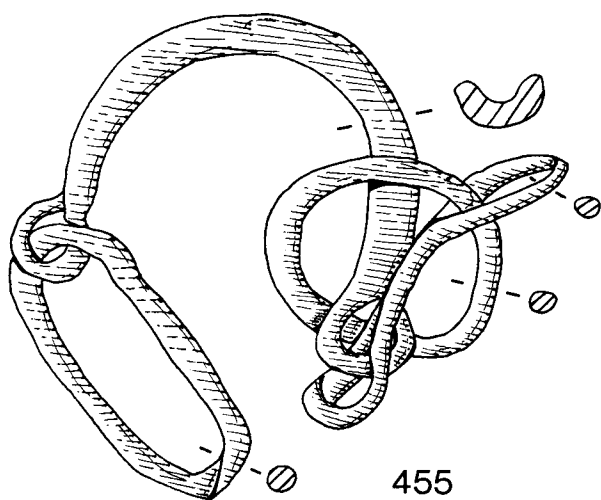
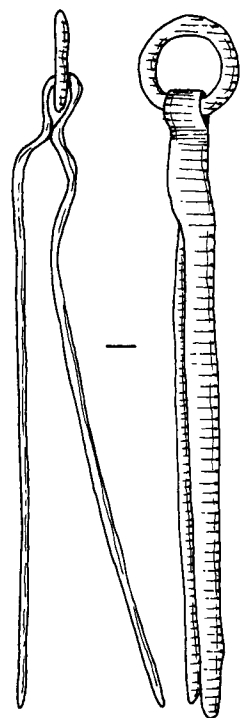
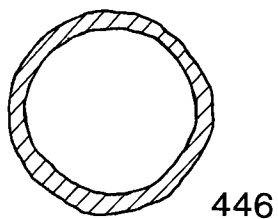
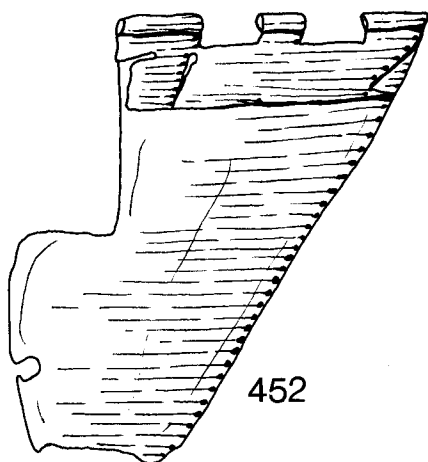
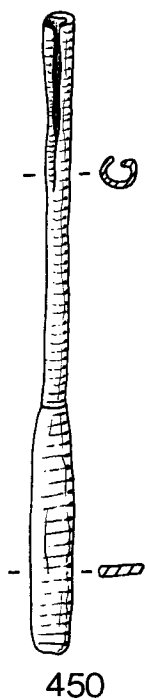
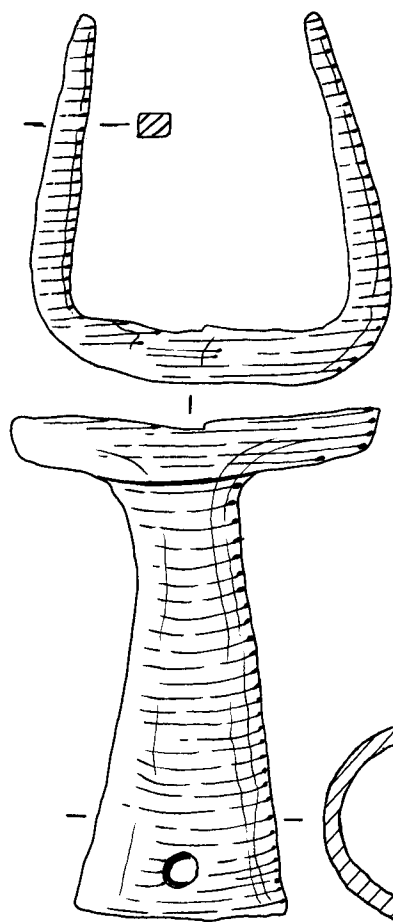
85. ER268K: objects of iron, Nos 370-441. (Scale 1/1)



86. ER268K: objects of iron, Nos 425-32. (Scale 1/1, except No. 432, 1/1)



87. ER268K : objects of iron, Nos 443-451. (Scale 1/2)



88. ER268K : objects of iron, Nos 446-55. (Scale 1/2)

450. Socketed spatula or small chisel. MOL Accession No. 19250.
451. Long rod with rounded spatulate end. MOL Accession No. 19498.
452. Plate, much cut and mutilated. The edge is folded and notched to form one half of a hinge. MOL Accession No. 19543.
- 453-4. (No. 453 not illustrated) Small pairs of iron-worker's tongs. These are made from a thick strip of iron folded and looped at the top for the accommodation of a ring. MOL Accession Nos 19168-9.
455. Shackle, with a part of the attached chain. MOL Accession No. 19163.

Several pieces of unidentifiable iron were also recovered from this context. MOL Accession Nos 19243-4, 19246-7, 19249, 19273.

Pewter and lead (Fig 89)

456. (Not illustrated) Cylindrical pewter box. Published previously, Guildhall Museum 1956, 18; Jones 1983, 54, Fig 5. MOL Accession No. 19279.
457. (Not illustrated) Plain, undecorated pewter ring. MOL Accession No. 19268.
458. Spoon with rat-tail handle and shallow, angled bowl. The bowl is decorated with a border of raised dots around three fishes. MOL Accession No. 19110.

Bone (Fig 89)

459. (Not illustrated) Plain counter with chamfered edge. MOL Accession No. 19115.
- 460-3. (Nos 461-3 not illustrated) Single-eyed sewing needles in various sizes. MOL Accession Nos 19113-4, 19219, 19240.
- 464-6. (Nos 464 & 466 not illustrated) Pins of similar form, with a single turned ring on the head. MOL Accession Nos 19112, 19157-8.
467. Pin with head crudely decorated in the form of a female bust. It seems to have been modelled on a series of very much finer pins known from London and elsewhere. One is in the Bank of England collection, and there are others in the British Museum (1964, 28) and the Museum of London (MOL No. 559). MOL Accession No. 19127.

SAMPLES OF FINDS OCCASIONED BY SINGLE DUMPS IN THE WALBROOK STREAM-BED

The following two assemblages from Bucklersbury House, ER 268G and 268H, comprise groups of material deposited together in the stream bed of the Walbrook as deliberate, single acts. Both groups were recovered from the black gravelly stream silt at Revetment 2. The only dating evidence for ER 268G consists of the brooch (No. 301 above; possibly from this context) and an *as* of Domitian, which was probably residual in this context. For ER 268H there is a coin of Claudius, also clearly residual. In effect, both dumps are dated by the pottery found in comparable stream silt contexts at ER 268(2). This includes types which persisted into the early 2nd century. The material was sealed by a deposit containing pottery of the 2nd-early 3rd centuries.

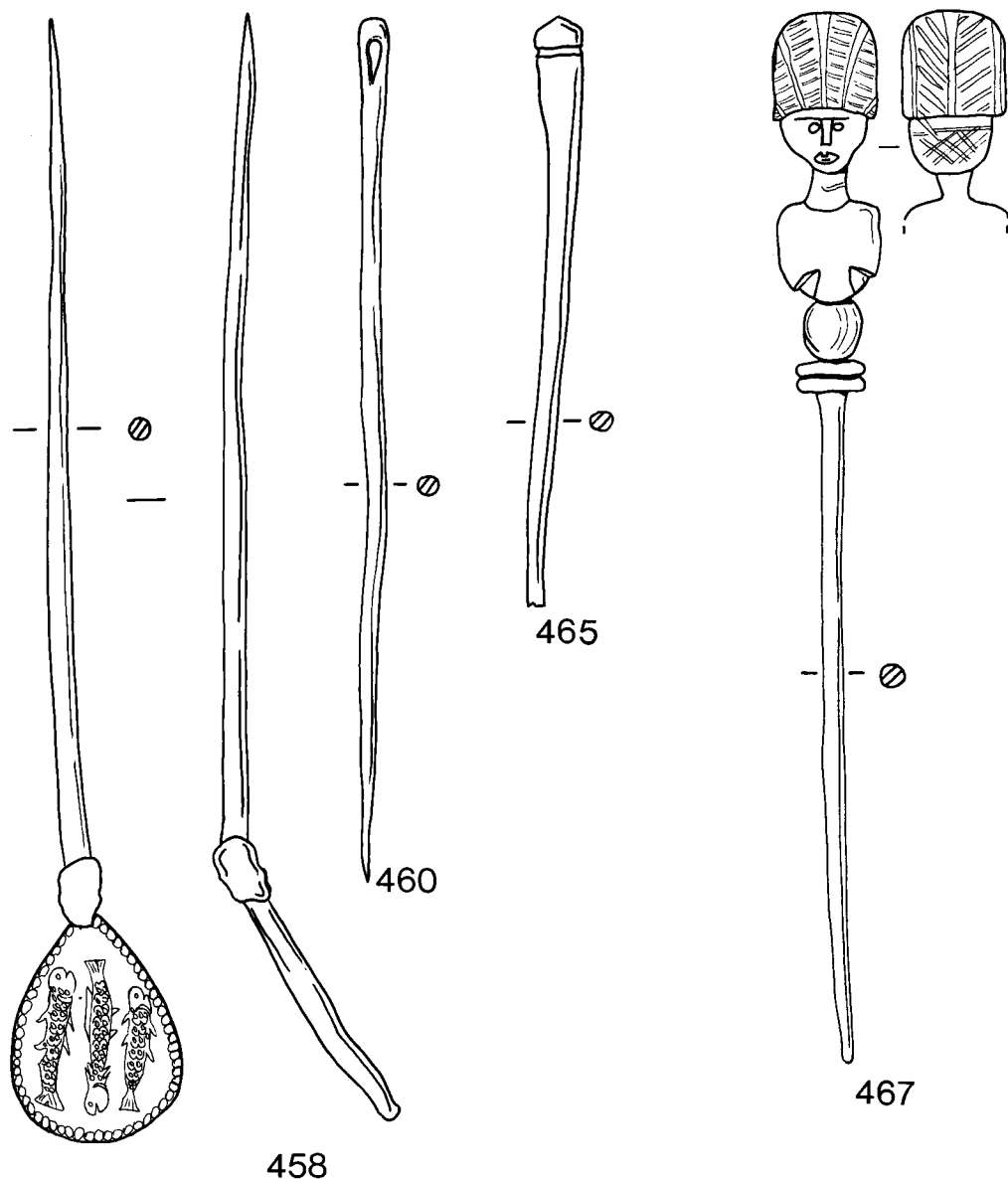
Bucklersbury House, ER 268G

Copper alloy (Fig 90)

Note: The provenance of the brooch, No. 301, is doubtful. Although listed above under ER 268K, it may in fact have originated in this context.

- 468-70. Studs. No. 468 exhibits traces of niello inlay. A total of ten such studs have been recovered from Bucklersbury House, the other seven being unstratified. Three of the unstratified examples are like No. 468, and four are variants on Nos 469-70. At the Bank of England an example identical to No. 468 (BOE No. 239) was found. These studs and their parallels have been cited by Webster (1958, 85) and are a common decorative feature of military belts or aprons. MOL Accession Nos 19141, 19226.
471. Bronze pendant with two lunate perforations and a terminal knob. An example in better condition but unstratified from Bucklersbury House (MOL Accession No. 19436) has been published by Webster (1958, 86). The pendant is of the type used as terminals on legionary apron straps. The coincidence of context between this and Nos 468-70 may indicate their derivation from a single, discarded strap of the type found at Mainz (Lindenschmit 1870, Taf. iv. 2). MOL Accession No. 19650.
472. Large stud in poor condition. MOL Accession No. 19653.
473. Scale with raised rib and edge, and three holes at the top. This may have been a piece of scale armour (*lorica squamata*); cf. Curle 1911.

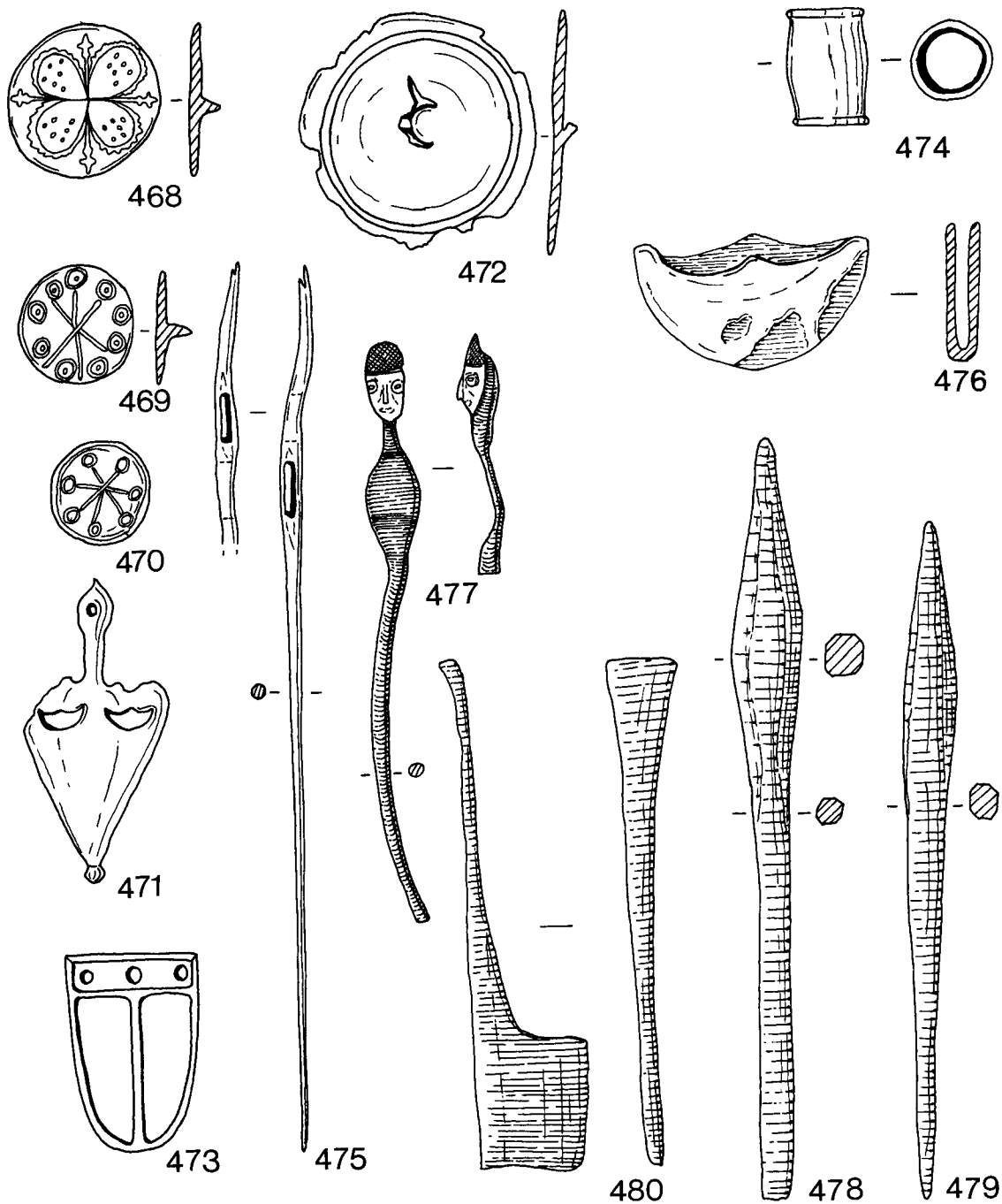
MOL Acc. 19651



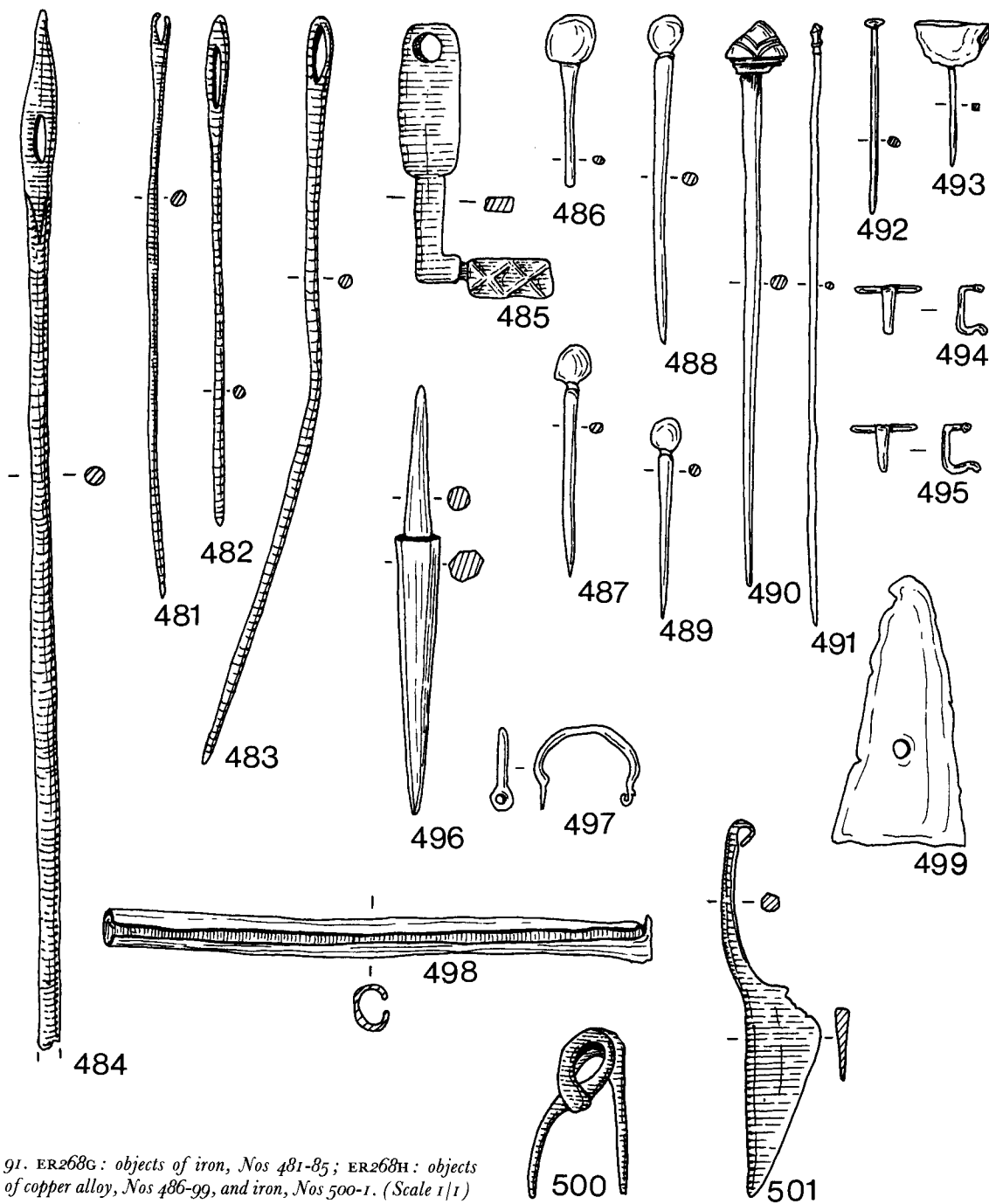
89. ER268K: objects of pewter, No. 458, and bone, Nos 460-467. (Scale 1/1)

- 474. Small, barrel-shaped cylinder, possibly a mount for a rod or piece of furniture. MOL Accession No. 19622.
- 475. Needle with two eyes one above the other, each facing in a different direction.
- 476. Scabbard chape, basically iron, but with copper alloy applied to the surface. It is 65mm wide, too wide to have been part of a legionary *gladius* scabbard, and must therefore have belonged to a *spatha*, the type of sword used by auxiliary cavalry until the mid 2nd century, when it became more

generally used. The chape is of a simple, undecorated type similar to some from Newstead (Curle 1911, Pl XXXV) and Lyons. A recent find of two *spathae* from Canterbury (Tatton-Brown 1977, 361-3; Webster 1982) includes an iron chape of identical shape and size to the present example. Given the early 2nd-century date indicated for the black silt in other parts of the stream bed on the site, it is probable that the chape was the property of an auxiliary cavalryman. Such troops appear to be attested as *singulares* stationed in London by a tombstone erected to one of them (Davies 1976, 141; Marsden 1980, 83). MOL Accession No. 19732.



90. ER268G: objects of copper alloy, Nos 468-476, and iron, Nos 477-80. (Scale 1/1).



91. ER268G: objects of iron, Nos 481-85; ER268H: objects of copper alloy, Nos 486-99, and iron, Nos 500-1. (Scale 1/1)

477. Iron pin with flattened bulge towards the head. A copper alloy mask is applied to the head. Similar pins with copper alloy decorative heads have been found at the Bank Tube Station site, for example (No. 258). MOL Accession No. 19224.

Iron (Figs 90-1)

- 478-9. Small punches. The biconical heads are octagonal in section and probably were housed in a wooden handle. MOL Accession Nos 19631-2.
480. Blade of a small pair of shears; cf. Neal & Butcher 1974, 149. MOL Accession No. 19595.
481-3. Single-eyed iron needles, various sizes. MOL Accession Nos 19209-11.
484. Large needle with spatulate head and oval eye, probably used in butchery or netting. MOL Accession No. 19489.
485. Slide lock key.

In addition to the above, a small fragment of whetstone was included. The excavator's notes also refer to a hook, a pin, a stylus, shears, a joiner's dog (all iron), a brooch chain, other chains and several needles (all copper alloy). The group also included 'miscellaneous bronze washers, studs and waste fragments', as well as 'innumerable iron nails of all sizes'.

Bucklersbury House, ER 268H

Copper alloy (Fig 91)

- 486-9. Globular-headed pins, various shapes and sizes.
490-2. Pins with decorative heads, various sizes.
493. Pin with hollow, thin foil top.
494-5. Small dress hooks. A further eleven of these objects were found at Bucklersbury House, and they constitute the only known examples from London. Three were from stream-bed group ER 268K (see above, Nos 340-2), four were recorded from the stream bed (MOL Accession Nos 19370-4) and three were unstratified (MOL Accession Nos 19321-3). Published previously, Guildhall Museum 1956, 8.
496. Punch for very fine work, possibly for goldsmithing.
497. Loop for suspension of a knife or manicure set.
498. Strip of edge-binding pierced with tack holes.
499. Flat triangular plate pierced with a hole.
500. Head and spring of a brooch of indeterminate type.

Iron (Figs 91-2)

501. Miniature, perfectly shaped knife, possibly a toy or an *ex voto*.

- 502-3. (No. 502 not illustrated) Staples; the pins have been clenched back.
504. Square 'ring'.
505-6. Spoon-shaped mounts; one has a circular projection on the back of the bowl.
507. Stylus; Manning (1976), type I.
508. Long, rectangular-sectioned rake tine.
509. Flat hinge plate pierced with two holes.
510. (Not illustrated) Lock spring and ring.
511. Spike with ridged tang.

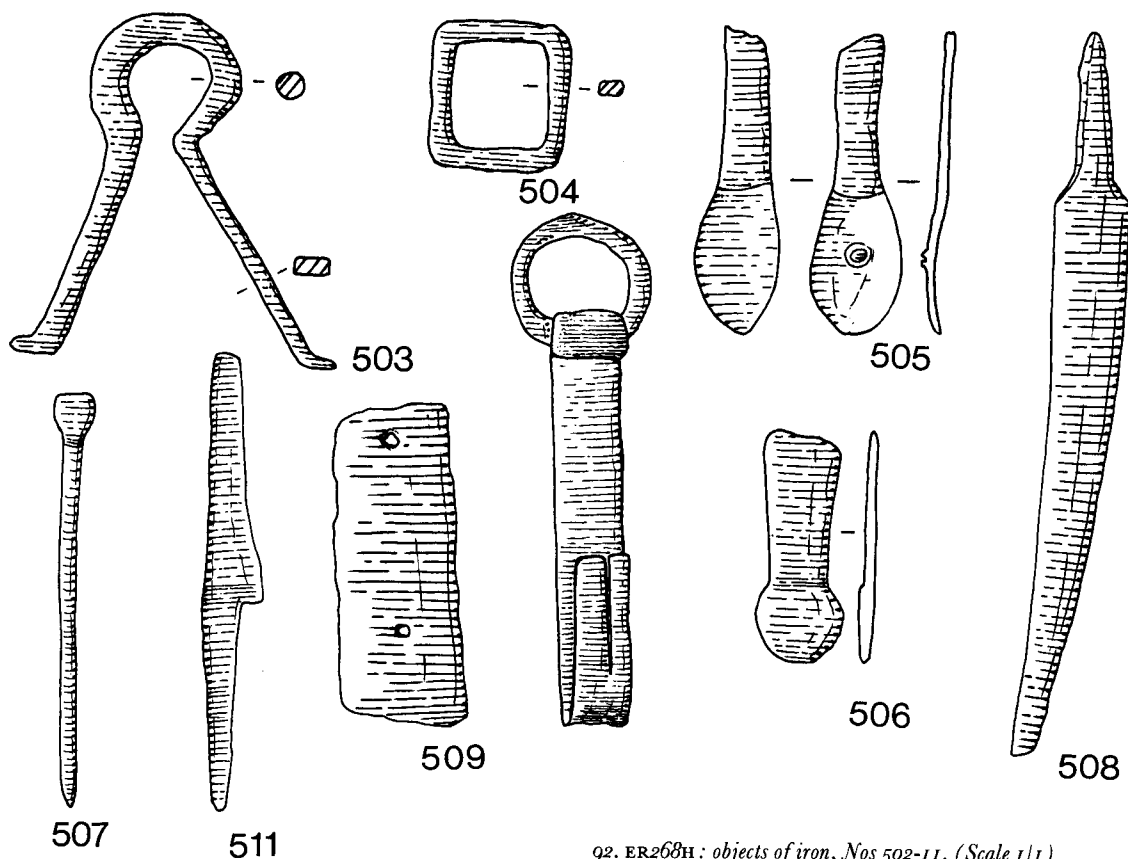
The hoard of iron nails (Figs 93-6)

Michael Rhodes

Among the surviving finds from ER 268H is a collection of 2456 nails and hobnails, most of which were damaged prior to burial. They must be the remnant of what Noël Hume described as 'vast quantities of iron nails which, if my memory is correct, filled three hundredweight sacks' (1978, 20). The nails are interpreted as blacksmiths' scrap, and as such represent a highly unusual find, without close parallel in this country. Thus, as well as extending the range of Roman nail types from London, the nails provide an important insight into the recycling of ironwork.

The nails were clearly recovered from anaerobic conditions and are coated with a thin layer of corrosion products. This often obscures hammer marks and other evidence of manufacture. However, the general shape of the nails remains clear, and in many cases it is possible to tell the nature and extent of any damage which the nails suffered before burial (see below). Some of the nails were unused and others were accidentally damaged in the process of being hammered, but the majority were damaged when they were withdrawn.

It seems that the nails had been stashed for recycling by a blacksmith. Nails of quite different varieties were discarded together and in some cases are still held together by corrosion products. Such nails would have been used by different groups of craftsmen, and it follows that the nails must have been gathered together from a variety of sources. Unidentified and broken iron objects were found with them (Nos 486-511). Three slag samples, again from the same deposit, were submitted to John Evans of the North East London Polytechnic. He considers that two of these are typical of the furnace base slags associated with iron smithing. This might have occurred in a smithy on the banks of the stream. The third



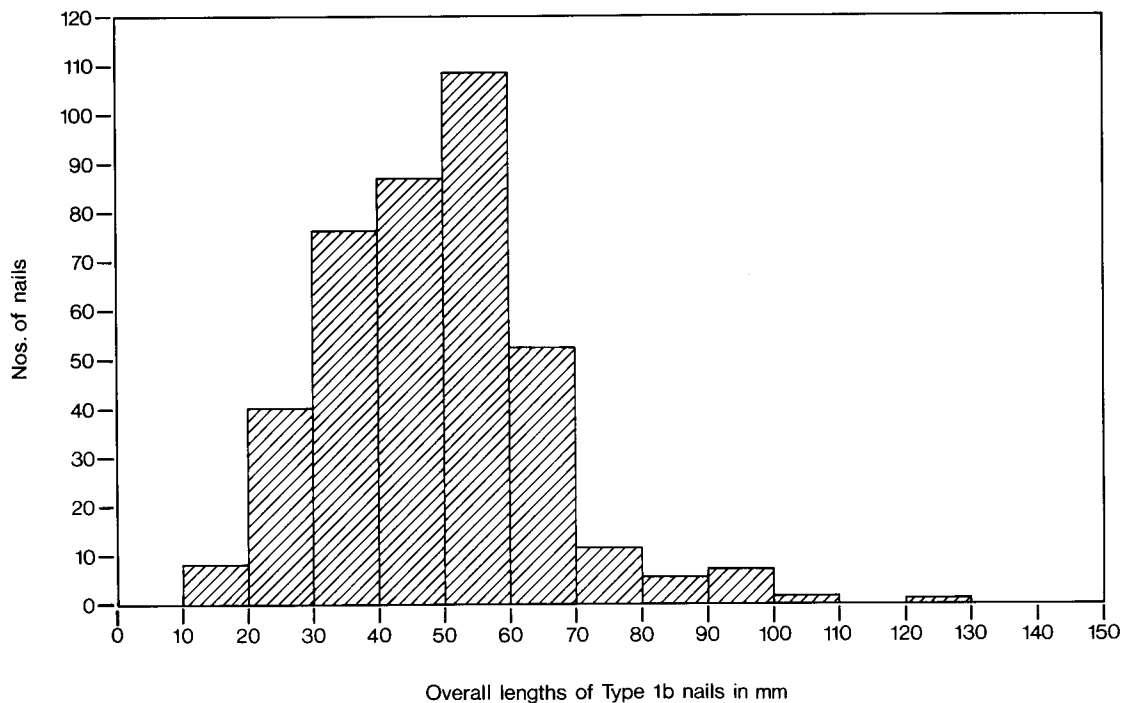
92. ER268H: objects of iron, Nos 502-11. (Scale 1/1)

sample is described as 'a complex mixture of ash slag, iron nails and associated rust'. John Evans comments that ash slags often have no industrial significance. They may simply be the product of the fluxing of clay and/or sand, which can occur, for instance, in the accidental burning down of a daub or thatched building. Thus this third sample might have been produced when the smithy caught fire, after which the debris, including the nails, was discarded into the Walbrook.

Whereas it would have been possible to weld the nails into bars from which new artifacts could be shaped, this would probably have been too time-consuming to be economic, bearing in mind the paltry size of many of the nails. It is more likely that the smith intended to straighten, or refashion them. Although there is no associated evidence of nail-making to support this interpretation, there are signs that some form of selection may have taken place before disposal. In comparison with the nails of Manning type 1b from three other sites for which statistics are available, the assemblage

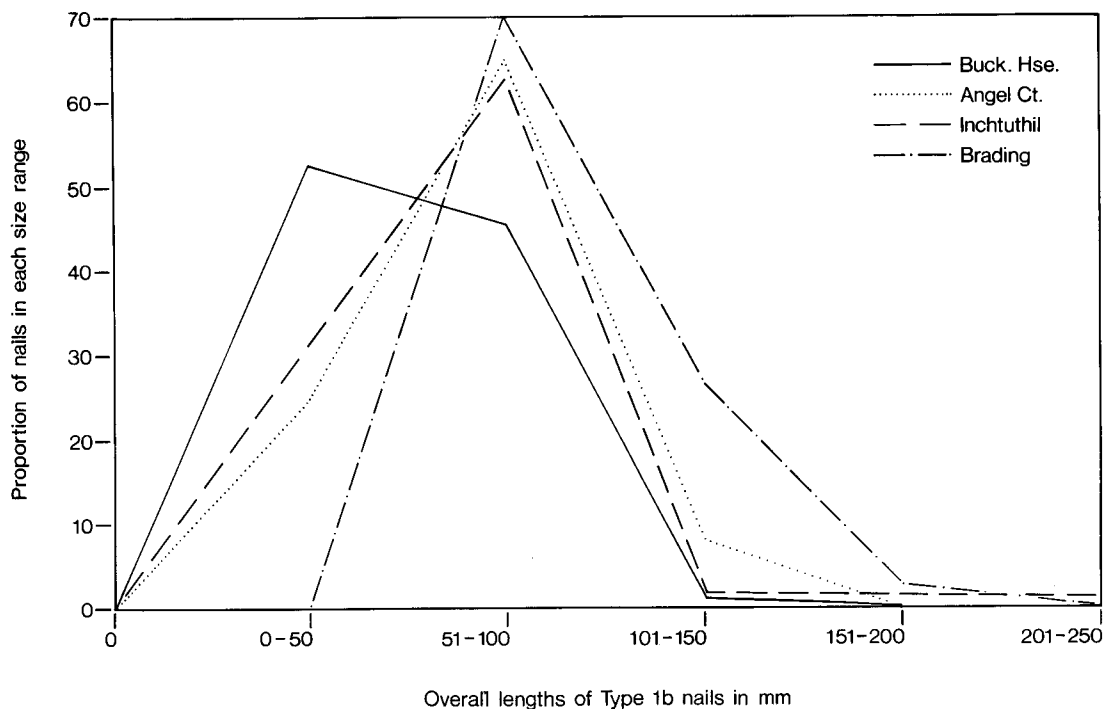
contains a relatively high proportion of short nails (Fig 94). The comparable figures have been extrapolated from reports on nails from the Brading villa (Cleere 1958), the Inchtuthil ironwork hoard (Angus, Brown & Cleere 1962; Manning 1985b) and Angel Court, another Walbrook site (Rhodes 1977b, Fig 19). The Bucklersbury House assemblage is also entirely devoid of the large structural nails of Manning type 1a, found at Inchtuthil (Group A), Brading (type I) and elsewhere (Manning 1985a, 135-6). The selection is unlikely to have taken place in recent times when part of the original assemblage was discarded, since museum staff would have tended to retain the very items which are here absent or relatively less common. However, if the nails had originally been gathered for reforging, there might well have been a tendency to use the large ones first, it being been more economic to rework them. This seems to confirm that we have here the residue of a stockpile.

It is generally assumed that iron was very cheap



93. Histogram showing overall lengths of Manning Type 1b nails.

94. Comparison of lengths of nails in the Bucklersbury House hoard with nails from Inchtuthil, the Brading villa and Angel Court, London. The Y-axis shows the proportion of each assemblage which falls within a given size range.



in the Roman period. This is on account of its widespread use, the wide availability of ores, and the many smelting furnaces which have been recovered (Manning 1972, 239; Tylecote 1986, 155 and 172). Its cheapness may, however, have been somewhat exaggerated. The presence at Bucklersbury House of nails damaged or extracted by different groups of craftsmen, then collected for return to the blacksmith, shows that old ironwork must have had some scrap value in London. The presence of used nails in the hoards from Corbridge (Daniels 1968, 115-6; Allason-Jones & Bishop 1988, 61-9), Inchtuthil (Manning 1985b and pers. comm.) and elsewhere (see Allason-Jones & Bishop 1988, 109-10) confirms that the extraction and collection of nails was a normal practice during demolition. If iron was cheap, then the hoard of nails from Bucklersbury House demonstrates that labour, including slave labour, was even cheaper.

Typology

Although certain nail types have been identified, the limits of variability within each class have yet to be defined, and many nails, here and elsewhere, fall outside or fit uneasily into the established categories. Only a broad survey of Romano-British nails can solve this problem. Meanwhile, use has been made of the typology of nails in the British Museum devised by Manning (1985a). Cross references are given to an earlier typology of nails from the 1974 excavation of a tributary of the Walbrook at Angel Court (Rhodes 1977b).

A particular point of interest is that the unused hobnails are of two distinct forms. The shape of hobnails is often obscured by wear in excavated examples, although both shapes are matched in unpublished shoes from Castleford, West Yorkshire (Carol van Driel-Murray, pers. comm.).

Four of the remaining nail varieties are entirely new to London. In addition, the site produced six conical or domed-headed nails of Angel Court type 3; two correspond with Manning type 8. As they are poorly stratified they will receive no further consideration.

(a) Manning type 1b (Fig 95a)

Nails with flat, sub-rectangular or rounded heads, length <150mm; equivalent to Angel Court type 1. These are the most common variety of Roman nail and were by far the most numerous on this site, which produced 1306 definite examples. A further 211 shanks,

with broken off or missing heads, were also probably from nails of this variety. They are general-purpose nails which, depending on size, might be used for all manner of woodwork, from building work to the attachment of fittings. Most were broken or damaged prior to burial.

The overall lengths of 408 nails which were sufficiently complete to permit measurement are given in Fig 93. Their head widths mostly lie in the range 9-16mm. In considering nail-size statistics it should be borne in mind that nails of medium length are more prone to breakage than larger or smaller nails (W H Manning, pers. comm.). This of course does not affect the validity of comparing assemblages which were buried in equivalent soil conditions (see above).

(b) Wide-headed nails (Fig 95b)

Similar to Manning type 1b, but with wider heads in relation to width and length of stem. Ten examples, head widths 17-29mm, lengths 30-80mm, maximum shaft widths 4-6mm. Perhaps used for fixing items of thin metalwork or upholstery to wood. All bent or damaged.

(c) Manning type 5 (Fig 95c)

Spikes, lacking any definite head, but usually slightly rounded and widened at the end by hammering. Equivalent to Angel Court type 2. There are 33 examples, lengths c.35-120mm, maximum shaft widths 3-7mm. All bent or broken. Some bent in the process of insertion, others extracted, one or two still clenched as if gathered from the embers of a wood fire (see below).

(d) Manning type 8 (Fig 95d)

The commonest variety of iron upholstery stud, having a hollow hemispherical head and square shank. One example, head diameter 12mm, original length 41mm, shank bent and broken.

(e) Copper alloy studs with hollow hemispherical heads (Fig 95e)

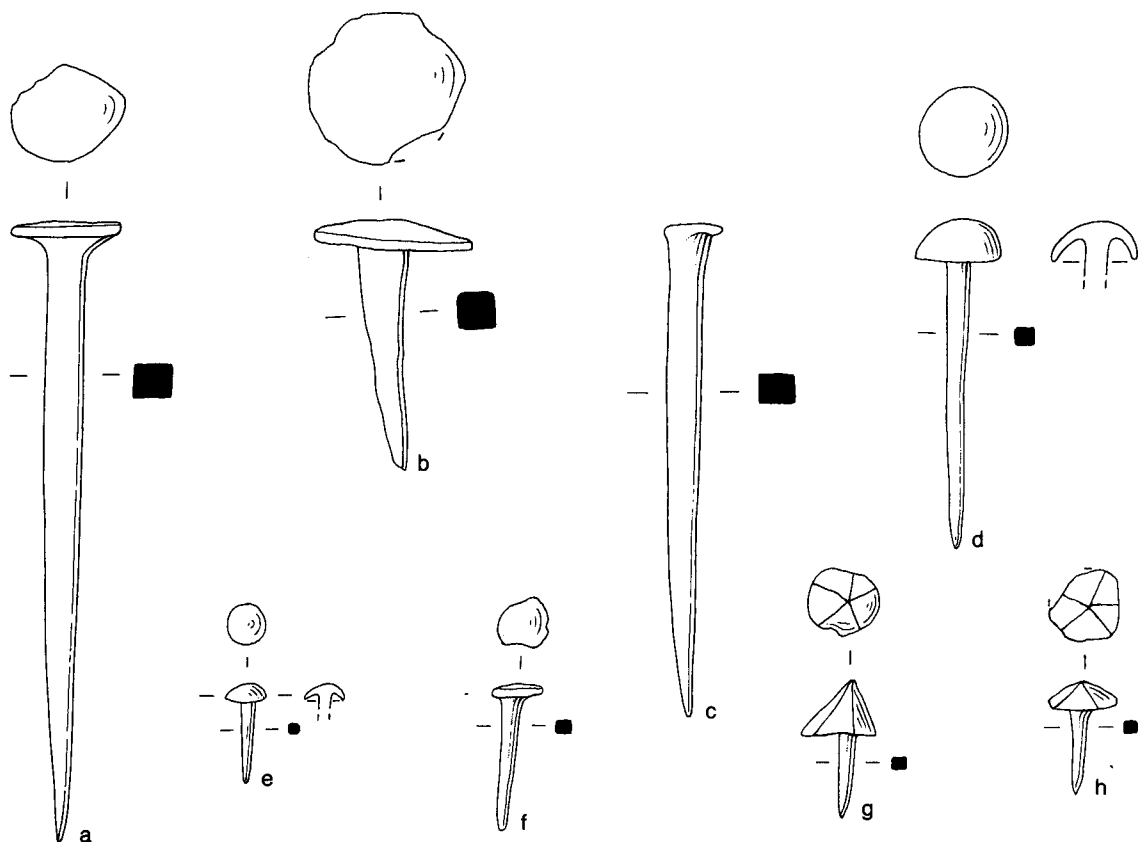
Head diameters 5-6mm, square-sectioned, tapering stems 12-18mm long. Four examples. Best interpreted as small upholstery studs. Three bent prior to burial; one apparently unused.

(f) Tacks (Fig 95f)

Small flat-headed tacks with square-sectioned shanks (like Manning type 1b but much smaller). Lengths mostly in the range 17-21mm, heads 5-8mm wide, maximum widths of stems c.2-2.5mm. There are 179 examples of which 43 are straight enough to have been used. The remainder were bent, in some cases during use, in others during extraction which, in one case at least, was effected with a nail claw (see below).

(g) Cone headed hobnails (Fig 95g)

Hobnails with tall, pointed conical heads, which often



95. Nail types present in the Bucklersbury House hoard.

display faceting caused by hammering during manufacture. 192 examples, of which 111 were apparently damaged during insertion by a shoemaker since the stems are bent, or curled in an inappropriate direction, while the heads show no wear. Eight seem to have been inserted correctly because they display the characteristic return curve produced when the point hit the shoemaker's anvil; they could have been removed for other reasons. The remaining 73 are apparently unused. Of these, the smallest has an overall length of 9mm, with a head diameter of 6mm. The largest is 23mm long, and has a head diameter of 10mm. The majority are *c.*17mm long, with head diameters of *c.*8mm.

(h) Hobnails or tacks with rounded heads
(Fig 95h)

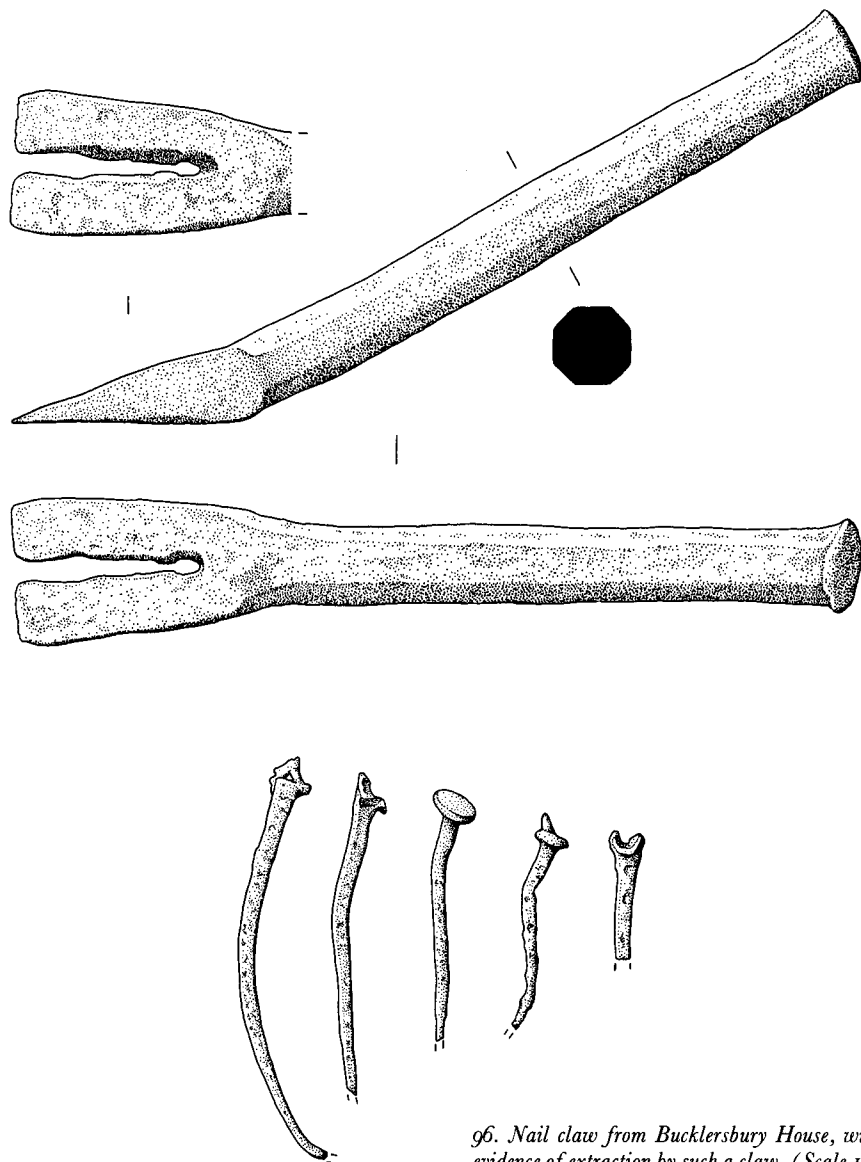
Most of this group are hobnails, but because of the degree of variation in shape and size, it is impossible to be sure that some were not used for other purposes, such as fixing upholstery to wooden furniture. There are 520 examples. Of those that are complete, the smallest has an overall length of 9mm and a 6mm-wide head, although many of the shortest examples have

wider heads. The largest is 21mm long, with a 13mm-wide head. The average length is *c.*12mm. 90 are apparently unused. Most of the remainder are damaged, some during insertion, to judge from their sharp points and a lack of obvious wear. Others were damaged during extraction, when they often lost their points. 38 seem to have been inserted correctly and extracted without further damage; most show signs of wear.

Cause of damage to Manning type 1b nails

Of the many type 1b nails, only 152 are straight enough to have been used in antiquity; the remainder were bent or otherwise damaged prior to burial. In order to assess how the damage might have occurred, a classification of bends was attempted. Although this proved a fairly promising line of enquiry, there is space here only for a summary of the findings, which in any case need to be endorsed by scientific examination.

Some of the type 1b nails appear to have



96. Nail claw from Bucklersbury House, with nails showing evidence of extraction by such a claw. (Scale 1/2)

buckled or bent too much during the process of insertion, and so were withdrawn and discarded. Sometimes, however, when a nail became bent, the workman hammered the head over on its side. This resulted in a right-angle bend and damage to the side of the head where it was hit by the hammer. When nails of this sort were extracted, the heads sometimes broke away at the bend. Other nail heads seem to have been deliberately broken off by hammering in one direction, then another.

A majority of the nails seem to have been bent

when they were extracted with a nail claw; there is no firm evidence for the use of claw hammers in Roman Britain (Manning 1969, 169). In view of the unusually large number of nails from Bucklersbury House, it is perhaps no coincidence that the only Roman nail claw from London comes from the same site (see below and Fig 96). To extract a nail, the two halves of the wedge end of the claw were hammered underneath the nail head, the nail shank being accommodated in the slot. The act of hammering the wedge in place would itself have begun to extract the nail. Once

the claw was positioned, the nail was levered out. The removal of a long nail would have been assisted by placing blocks of wood between the wedge and whatever the nail was embedded in. Some types of damage are clearly associated with the use of a nail claw (Fig 96):

- (i) The upward strain on the head sometimes caused its sides to be raised.
- (ii) A sideways kink might be formed a little below the nail head when the claw was hammered into position.
- (iii) The process of levering out a nail creates what might be termed an 'extraction curve'.

To facilitate extraction by this method, at least three clenched nails appear to have been straightened out first, perhaps with a chisel.

A number of nails seem not to have been removed with a nail claw, because they retain the bends which they would have acquired on being hammered in place. Some completely pierced the wood, and had their points hammered flat. A number remain fully clenched. Others clearly hit an obstruction, causing their points to curl back or around in a spiral. Such nails might have been removed by splitting the timber (not difficult if the timber was rotten). Alternatively, they may have been raked from the embers of wood fires, or have come from the structure of the smithy, which may itself have been destroyed by fire (see above).

Nail claw (Fig 96)

Nail claw, comprising an octagonal iron rod, c. 180mm long, flattened at one end to form a chisel-like wedge. The blade of the wedge is divided by an irregular tapering slot, and is bent at an obtuse angle to provide a fulcrum between the blade end and the rod handle. This enabled the handle to be used as a lever.

The other end has been slightly widened and rounded by hammer blows during use.

The slot seems to have been created by splitting the wedge with a hammer and chisel. The split was then widened by hammering a chisel into the end of the blade. The end of the slot is rounded, suggesting that it was shaped with a circular punch. Nail claws with similar key-hole-shaped slots are known from a number of Continental sites (Gaitzsch 1980, 177, fn. 386). An example from Kastell Feldberg also has the octagonal shaft, but is somewhat longer (Jacobi 1930, 87-88 & Taf. 26, 7). The key-hole shape seems to have offered specific advantages, to judge by a nail claw from Strassburg, which has a key-hole slot at one end of its shaft and a V-shaped slot at the other. It has been suggested that the key-hole shape held the nail more firmly (Manning 1969, 170).

Nail claws from Britain and the Continent fall into four groups by size: 70-80mm; 120-190mm; 240-320mm; and 340-850mm (for references, see Manning 1969, 169-70 & 665-7, Nos B170-8; Gaitzsch 1980, 317-8). The Bucklersbury House nail claw falls into the third size group, with parallels at Caerwent, Hofheim, Mainz, Silchester and Zugmantel. Claws in the two shorter groups were operated only by hammering; they provided little grip and were too short to permit the nail to be levered out by hand. By contrast, the longer implements were clearly designed to lever out the nails. The chisel ends may also have been used to wrench open packing cases, or to prise apart nailed timbers so as to raise the nail heads.

From the Bucklersbury House site. Unstratified, but described in the Guildhall Museum Excavation Register as from the 'stream bed close to [the] eastern edge'. MOL No. 19160.

Unpublished and unillustrated from this group are large numbers of unidentified fragments of iron, including broken styli and needles. ER 268H appears to have been a deliberate disposal of scrap iron, probably debris from ironworking. The small proportion of very small copper alloy objects was probably included accidentally.

In several features on the stream banks finds were recovered which reflected some adjacent activity. These are clearly of considerable significance and are therefore published in some detail.

Greenway collection (British Museum), Group 10

Unlocated pit on the St Swithin's House site excavated by Greenway. Dating evidence included Claudian-Domitianic samian, three Republican coins, coins of Vespasian and Titus, and one sherd of Antonine samian (Ms notes, Francis Greenway).

The preservation of wooden objects and fragments of cloth would seem to indicate that the pit was situated on the waterlogged east bank of the Walbrook noted on the western side of the St Swithin's House site, and this would accord with Greenway's approximate location of the find-spot.

Of particular importance among this material were fragments of woollen cloth. These have been published in full by Wild (1975), who concludes that the cloth was of northern European origin (*ibid.*, 143). The other finds were as follows:

Iron (Fig 97)

512. Disc, 33mm in diameter, flat and pierced with a small central hole. BM No. DR. 1, 70.

Lead (Fig 97)

513. (Not illustrated) Disc, 14mm in diameter, flat and pierced with a small central hole. BM No. DR. 1, 70.
 514. Disc, 33mm in diameter, flat and pierced with a central hole which is large, square and has bevelled edges. BM No. DR. 1, 70.
 515. Disc, 38mm in diameter, flat and pierced with a central hole. BM No. DR. 1, 70.
 516. Disc, 34mm in diameter, concave on both sides and pierced with a squared central hole. BM No. DR. 1, 70.
 517. Disc, 51mm in diameter, flat and pierced with a small central hole. A small copper alloy rivet has been applied to one edge. BM No. DR. 1, 70.
 518. Disc, 63mm in diameter, with a large central hole, bevelled sharply on one side. The underside is flat but the top is ridged. BM No. DR. 1, 70.

Wood (Figs 97-8)

519. Disc, 64mm in diameter, with an offset around the edge and a central bevelled hole. A small piece of flint is enclosed in the edge, and two iron pins pass through the disc near the central hole. BM No. DR. 1, 67.
 520. Tapered peg, circular in section with pointed end. BM No. DR. 1, 69.
 521. Lathe-turned peg with pointed end and two grooves down each side. BM No. DR. 1, 68.
 522. Complete biconical spindle. BM No. DR. 1, 65.

Bone (Fig 98)

523. Incomplete, slender, biconical spindle. BM No. DR. 1, 66.

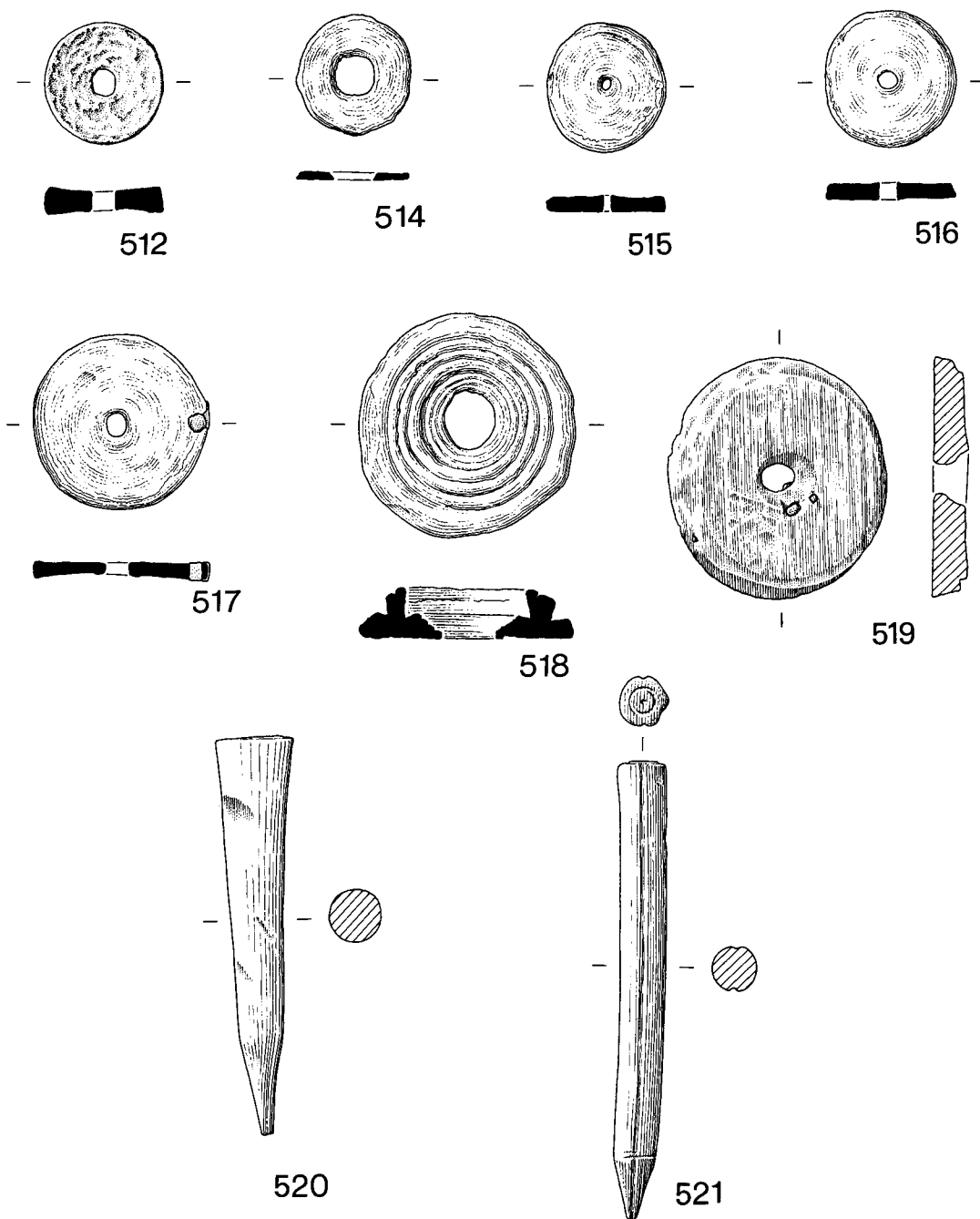
Though the presence of both cloth and spindles would seem at first sight to be significant, it is unlikely that the group represents clothworker's waste. Wild states that the presence of tapestry bands in the cloth fragments would preclude identification of these as a manufacturer's offcuts, as such bands would not be sacrificed. Though Nos 513, 515 and 518 would seem to be possible spindle whorls, the central holes in the other discs are either too large or too small for ordinary spindles. The likelihood remains, however, that the discs are a group with a common function. The lathe-turned wooden pegs, Nos 520-1, are paralleled by six identical objects at the Bank of England site (BOE Nos 255-60) and by two from the wells at the Bank of London and South America (Wilmott 1982a, Nos 99-100), but their function cannot be readily determined.

The well at St Swithin's House (Feature 78; ER 11567; see above, p. 40)

Many of the finds from the fill of this feature were iron bucket fittings, which must have been parts of vessels used to raise water from the well. (For other finds in this group, see Nos 576-7; 589-90; 594-5.) Date: c.AD 260 or later.

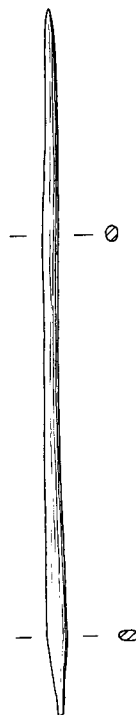
Iron (Fig 99)

524. Handle of a bucket approximately 0.28m in diameter. It is made of a rectangular bar beaten into an arc with hooks at each end. The centre of the arc is flattened and bowed for ease of grip. MOL Accession No. 81.604/1.

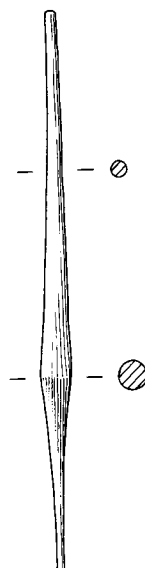


97. Objects from a pit (Greenway, Group 10) at St Swithin's House: iron, No. 512, lead Nos 513-18, and wood, Nos 519-521. (Scale 1/1)

525. Half of a bucket handle made from bar-iron of circular section. MOL Accession No. 81.604/2.
 526. Half of a bucket handle; as No. 266 above. MOL Accession No. 81.604/3.
 527. Loop from the side of a bucket; cf. Nos 392-5. MOL Accession No. 81.604/7.
 528-30. Bucket fittings of identical type, consisting of a thin strip through which nails are passed. The end of the strip has been bent at a right-angle and beaten into a rectangular-sectioned bar with a pointed projection at the terminal. The use of iron straps for the reinforcement of bucket sides is well known (eg. Manning 1974, 189i; Curle 1911, Pl LXIX). At Newstead the side straps are turned under the buckets as reinforcement. In the present case it seems likely that the thin, nailed strips ran up the sides of the bucket, and that the rectangular-sectioned piece reinforced the bottom; the projection on the end would be hammered into the wooden base plate. As the bucket could clearly not stand on the base reinforcement, it must have been made solely for use in a well. MOL Accession No. 81.604/4-6.



522



523

THE FINDS' EVIDENCE FOR BUILDINGS

Two main types of building-material were found *in situ* and recovered from definite structural contexts: painted wall plaster and mosaic pavements.

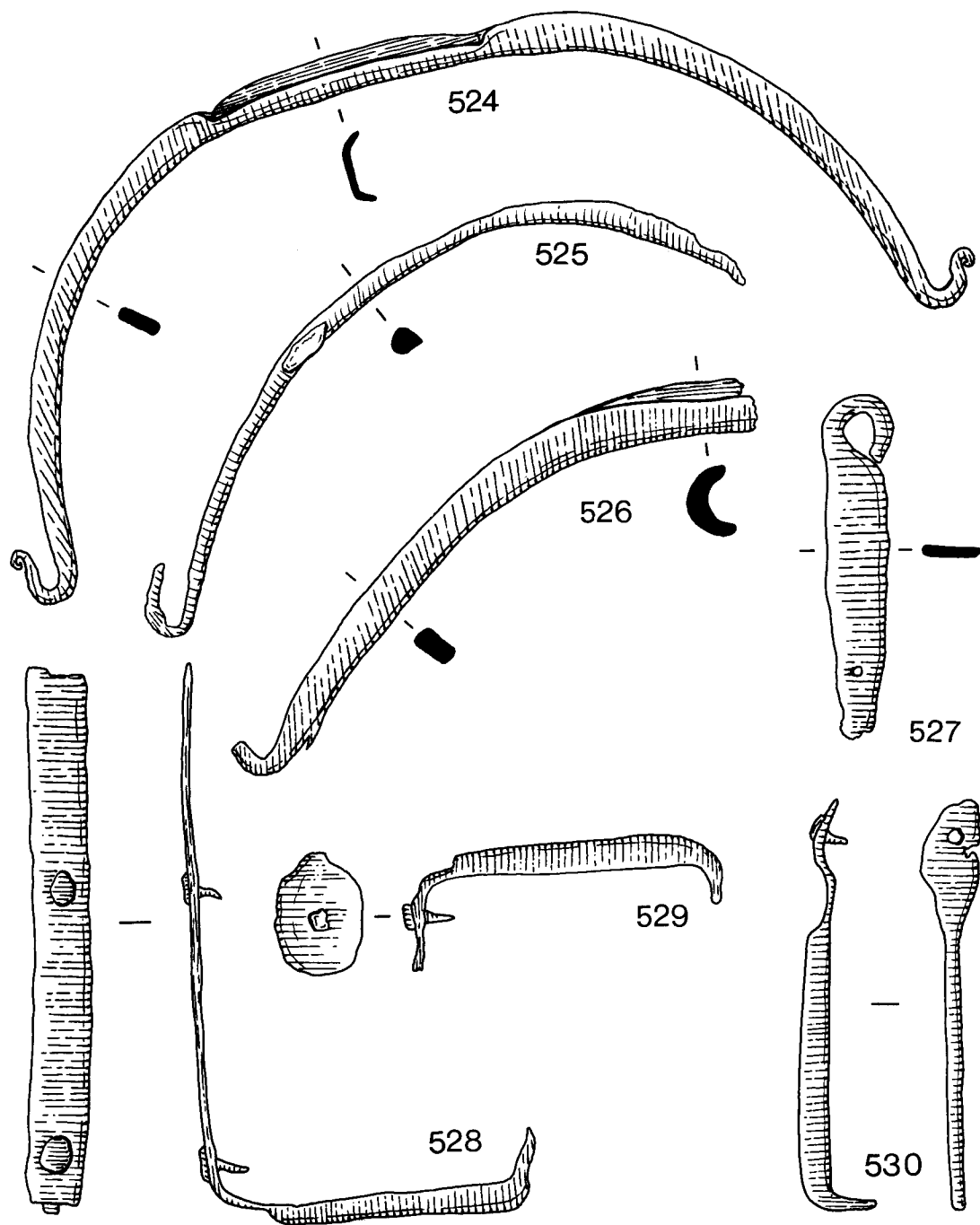
The Painted Wall Plaster (Figs 100-101)

Painted plaster was recovered only from the St Swithin's House site. All the groups containing this material are dated to the Hadrianic period or earlier and occur within fire destruction debris. It is suggested above (p. 41) that this debris was the result of the Hadrianic Fire of London; thus the plaster gives some impression of the types of decoration in use in London during the earlier part of the 2nd century.

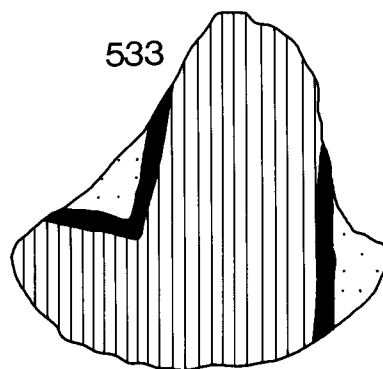
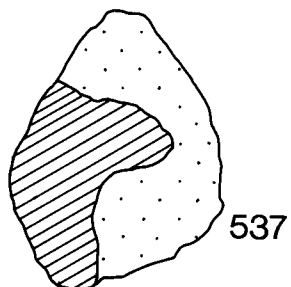
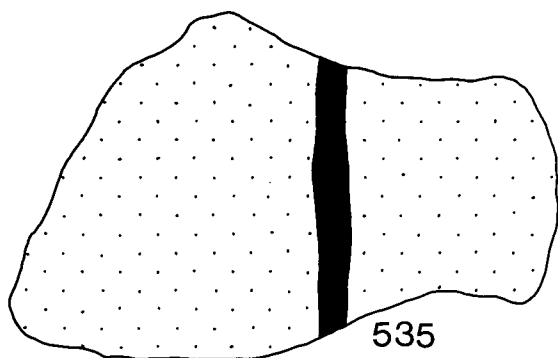
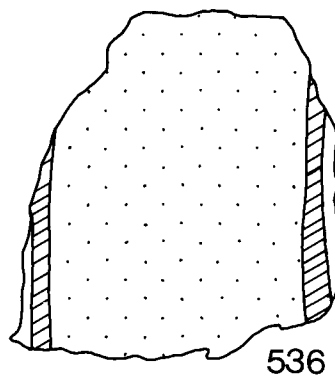
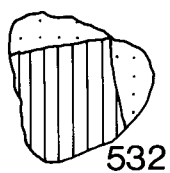
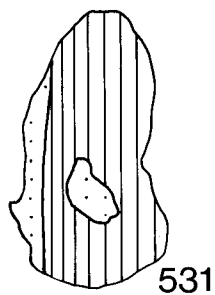
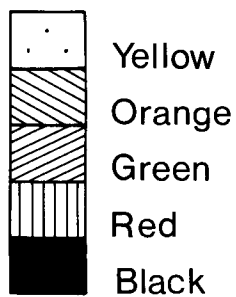
Because of conservation treatment the original colours have been obscured, and so Munsell equivalents are not provided. Only representative fragments, or fragments specifically mentioned in the text, are illustrated.

- 531-7. (ER 11581) This group constitutes Feature 73 (Fig 22), and was recovered from burnt debris associated with the destruction of a timber build-

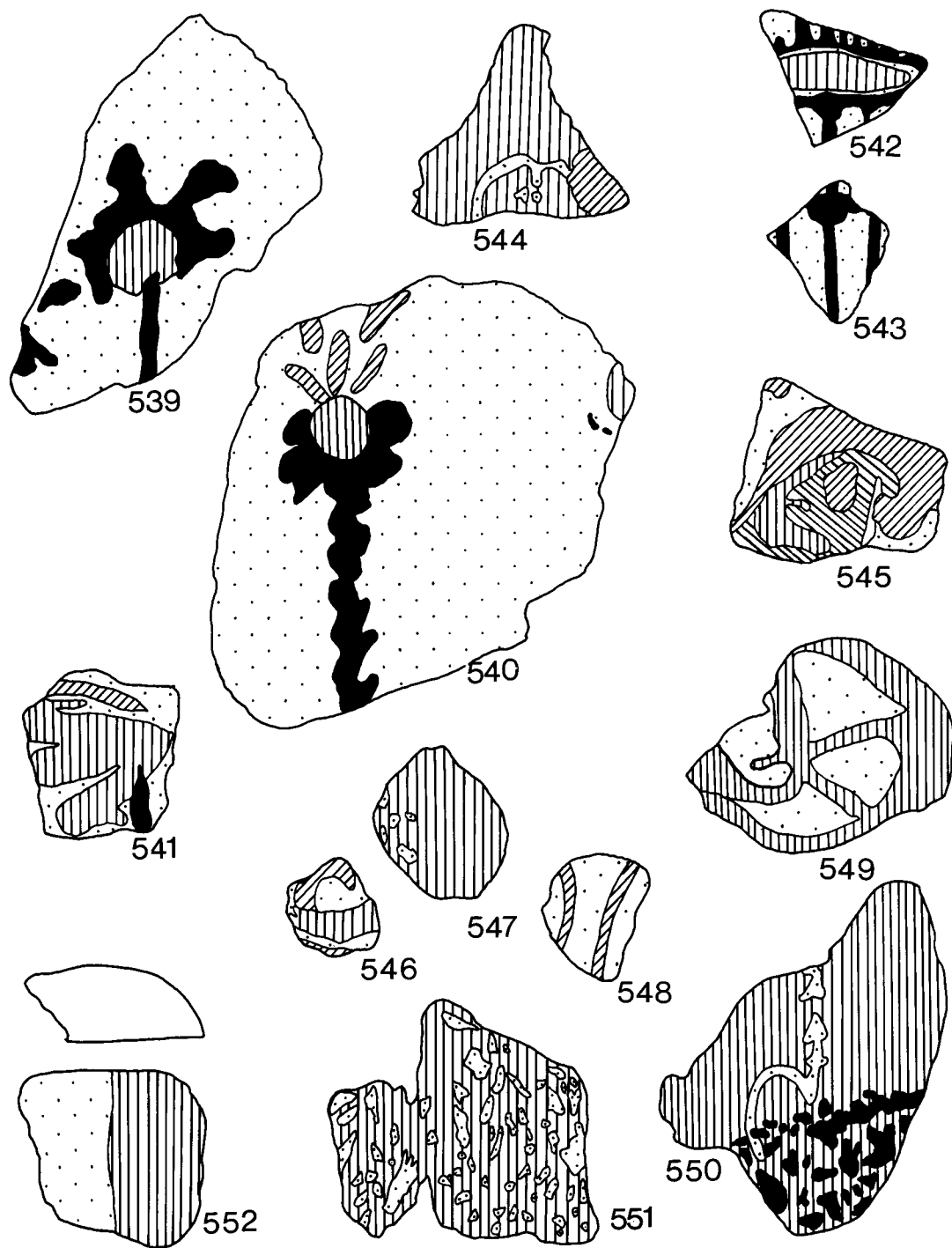
98. Objects from a pit (Greenway, Group 10) at St Swithin's House: wood, No. 522, and bone, No. 523. (Scale 1/1)



99. Bucket fittings from the well, Feature 78, at St Swithin's House, Nos 524-30. (Scale 1/2)



100. Painted wall plaster from St Swithun's House, Nos 531-7.
(Scale 1/2)



101. Painted wall plaster from St Swithin's House, Nos 539-52.
(Scale 1/2)

ing, Feature 72 (Figs 22, 24). The backing layers of the plaster are of interest. An original layer of mortar, 12mm thick and of coarse composition, was applied to a daub wall and surfaced with white plaster 2mm thick. It was not clear whether or not this was decorated, as a resurfacing occurred. A further 7mm thickness of mortar was applied to the wall and again surfaced with 2mm of fine white plaster which was painted. An insufficient thickness of clay wall adhered to the back of the mortar to show wattle traces, though fragments of charcoal retained by the daub may have represented burnt wattle.

Though originally found articulated, the plaster is now fragmented into more than 60 pieces, and much seems to be missing. Although the overall decorative plan did not survive, it is possible to summarise the basic elements of the pattern. Over most of the plaster yellow forms the background colour. Red is also strongly represented and occurs in bands or panels at least 60mm in width (Nos 531-2). In some cases yellow and red are separated by a black stripe (No. 533), or red and black by a yellow stripe (No. 534; not illustrated). Narrow black (No. 535) and green (No. 536) stripes are found on yellow panels, and there is some evidence also for a green leaf design (No. 537).

538-41. (ER 11584) Though found articulated in a single context associated with the destruction of a building during the Hadrianic period, it is not now possible to state from which structure the plaster derived. The backing comprises 18mm of mortar applied to a daub wall showing some signs of wattling. To this, a layer of plaster 1mm thick was added. Like the group above, the wall had been replastered and there was no sign of paint on the earliest surfaces. A further 4mm of coarse mortar preceded the application of the plaster whose decoration is visible. The major background colour is yellow, divided into panels (No. 538; not illustrated) by means of horizontal and vertical red stripes. Possibly within these panels were at least two different flowers in red and black (Nos 539, 540), with green designs representing leaves and tendrils (No. 541).

542-52. (ER 11564) This group was found in destruction debris associated with the first phase of Building D (Fig 22). The walling was again daub, to which was applied a 20mm thickness of mortar. This was coarse white mortar containing chalk lumps. A 2mm skim of plaster was then applied and painted. Several motifs are present. Most diagnostic is the elliptical top of a candelabrum in red on a yellow ground, with black flames and a black stem (Nos 542-3). The candelabrum is a commonly occurring motif in Romano-British wall painting, being found for example at Verulamium, Leicester, Winchester and Colches-

ter (Davey & Ling 1981, Nos 10, 22B, 44B, 47A), and in London at Angel Court (Liversidge 1977) and Queen Street (Wilmott 1982a, 61-5). Red, light green and light red patterns of leaves are also present (Nos 544-8), as is a wheel pattern in red, where the curvilinear spokes give a 'catherine wheel' effect (No. 549). No. 550 seems to employ the garland pattern often used to link candelabra and found for example at Sparsholt and Verulamium (Davey & Ling 1981, Nos 37E, 41A), as well as in London at the Custom House site (Henig 1975, 130) and at Queen Street (Wilmott 1982a, 61-5). The red background colour on this fragment may indicate that it is from a different panel from the main body of decoration. A large amount of the plaster from this group had simple spotted decoration in red on yellow, possibly serving as a marbled-effect dado below a main panel of candelabrum designs (No. 551).

The Walbrook Mosaics (Figs 102; 28, 103-6)

There have been several finds of mosaics in the Walbrook valley, which are catalogued below. Most of these have already been published, especially by Merrifield (1965), although subsequent study has enhanced their interpretation (Johnson in prep). Fig 102 shows the distribution of the mosaics against their catalogue numbers as given below; the mosaics themselves are illustrated in Figs 28 and 103-6.

553. 2 Moorgate/6 Lothbury (Merrifield 1965, *Gazetteer* Nos 157, 160; *RCHM* 1928, 130-1; *J Roman Stud*, 21, 1931, 239; for summary of excavation, see above, p. 57). A red tessellated border 1.03m in width, with a fragment of the edge of a pattern in black tesserae on the inner edge, was found on the Moorgate side of the site. On the Lothbury side were a piece of a plain border in red and another piece of guilloche. The mosaic sealed black 'stream-bed' material, containing pottery up to the mid 2nd century, which provides a *terminus post quem*.
554. Lothbury, opposite Founders Court (Merrifield 1965, *Gazetteer* No. 162; *RCHM* 1928, 130; Morgan 1886, 181). Early (1834-6) find of a tessellated pavement. No record of any decoration.
555. Lothbury (Merrifield 1965, *Gazetteer* No. 163; *RCHM* 1928, 130). Mosaic for which no details exist.
556. Bank of England (now in the British Museum; Merrifield 1965, *Gazetteer* No. 167; *RCHM* 1928, 106-7; Tite 1863, 501; see above, p. 52, Feature 1; Fig 103). This mosaic has a cruciform pattern of acanthus leaves within a circle. The spandrels

contain four buds, and the whole is enclosed within a square of guilloche bounded by narrow white and broad red bands. This pavement, along with the Bucklersbury Pavement (No. 560), are considered by Johnson (pers. comm. and in prep) to have been produced by a single *officina* – his *London Acanthus Officina* – which appears to have operated in *Londinium* during the first third of the 3rd century.

557. Bank of England (now in the Bank of England; Merrifield 1965, Gazetteer No. 171; *J Roman Stud.* 24, 1934, 211; see above, p. 52, Feature 6; Fig 104). Very damaged pavement with a decorated panel in the centre of a red tessellated border. The outer border was a square of swastika meander with a square of guilloche within it. This enclosed a circle of guilloche; the central medallion was destroyed. Of particular interest are the spandrels, which feature alternate single and double heart-shaped leaves. Comparison between Figs 104 and 105 demonstrates that this is identical with the treatment of the spandrels of the mosaic found at 1-6 Milk Street in 1977 (Roskams 1978; Perring & Roskams forthcoming). Here the back-

ground was white, and a cantharus enclosed within a guilloche circle formed the central medallion. This was enclosed by a guilloche square, and the spandrels contained the same leaves as the Bank mosaic. It is clear that these pavements are contemporary, and probably by the same hand. Fortunately, the Milk Street mosaic is very well dated; it was laid soon after the Hadrianic Fire (c.125-30) and was abandoned c.170 (*ibid.*; Merrifield 1983, 143). It is evident that an Antonine date should be deduced for the Bank pavement.

558. Bank of England (now in the Bank of England; Merrifield 1965, Gazetteer No. 171; *J Roman Stud.* 25, 1935, 216; see above, p. 52, Feature 5; Figs 37, 106). A second mosaic was found near No. 557. This had a very wide red border with four floral panels set in a square. It has been tentatively dated to the late 2nd/early 3rd century (Merrifield 1965, 240).

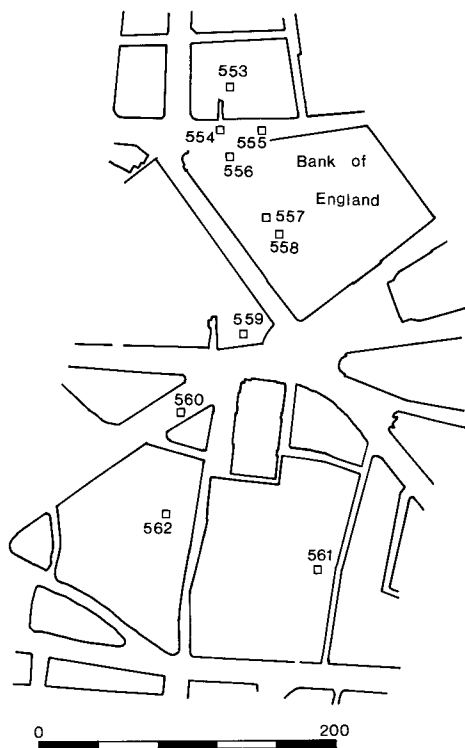
559. Midland Bank, Poultry/Princes Street (Merrifield 1965, Gazetteer No. 178; RCHM 1928, 135; Morgan 1886, 193-4; see above, p. 49 and Fig 34.5). Mosaic of which no representation survives. Morgan (*loc. cit.*) compares it with the Bucklersbury Pavement and gives a brief description. The design was a square in a circle with a vase, foliage and an object resembling an arch with human figures in the centre. The circle was enclosed with two black bands of tesserae, separating it from a scroll with foliage and flowers. The design was bordered with guilloche.

560. Queen Victoria Street (now in the Museum of London; Merrifield 1965, Gazetteer No. 194; Price 1870; see above, p. 45; Fig 28 & front cover). The well-known Bucklersbury Pavement is divided into two sections: an apse, decorated with a scallop and scale pattern surrounded by guilloche, and a rectangular main panel. The main panel is separated from the apse by a threshold strip decorated with a characteristic acanthus scroll. The rectangle has a guilloche border and features two interlaced guilloche squares. In the corners are alternate foliate designs, two corners featuring acanthus buds. In the centre of the interlaced squares is a flower surrounded by zones of stepped wedges and guilloche. The acanthus scroll and buds mark the mosaic as a product of the London *officina* identified by Johnson (in prep), which operated during the first third of the 3rd century.

561. St Swithin's House (Building A, Feature 1; see above, p. 37). Plain, red tessellated floor dated by the fact that it was sealed by Hadrianic Fire debris.

562. Bucklersbury House (Feature 1; see above, p. 32). Fragment of plain red tessellated floor, sealed by a layer containing 3rd/4th-century pottery.

102. Finds of mosaics, Nos 553-62, in the Walbrook valley.



Ceramic (Fig 107)

563. (ER 268D) Leg of a pipeclay figurine. There are traces of a greave, and so the figurine may represent Mars. From the upper sandy fill of the Walbrook stream at Bucklersbury House; Antonine or earlier.
564. (ER 268C) Fragment of the connecting flange of a waterpipe of gomm bore. It shows signs of heavy burning. Provenance as No. 563.
- 565-6. (ER 218) Bases of Nene Valley Colour-Coated beakers (Howe, Perrin & Mackreth 1980). They are trimmed flat and pierced, presumably to act as spindle whorls. From the fill of a well at Bucklersbury House (Feature 7); 2nd half of the 2nd century or earlier.

Copper alloy (Fig 108)

567. (ER 259B) (Not illustrated) Thin, sheet metal ornament or mount in the shape of two fishes, possibly representing the zodiacal sign of Pisces. Some lead solder, applied for attachment, is traceable on the back. Published previously, Guildhall Museum 1956, 8-9. From bank dumps at Section c-d, Bucklersbury House; late Flavian or earlier. MOL Accession No. 1970.
568. (ER 218) Knife handle, rectangular in section and undecorated. It has a looped head terminating in a moulded knob, and is angled at the point where the blade originally joined. A very similar handle, on a complete blade, was recovered unstratified from King's Arms Yard (No. 568a; ER 487; MOL Accession No. 21815); it is decorated with dots and a scale pattern, and the loop is of a similar shape to that on the present example, but the angle with the blade is considerably sharper. Knives of identical shape have been found in military contexts at Richborough (Bushe-Fox 1949, Pl XXXVI), Nanstallon, Cornwall (Fox & Ravenhill 1972, 95), Newstead (Curle 1911, 282), Vindonissa and Hofheim (*ibid.*); also at Verulamium (Waugh & Goodburn 1972, 124). The Richborough knife is the closest parallel to that from King's Arms Yard. From the fill of a well (Feature 7) at Bucklersbury House; 2nd half of the 2nd century or earlier. MOL Accession No. 19703.
- 569-70. (ER 235C, ER 236) Bronze needles with single eyes, various lengths. From Bucklersbury House: No. 569 from beneath timber platform, Feature 5, Antonine; No. 570 from Feature 30, 1st century. No. 569 = MOL Accession No. 19050.

571. (ER 259C) Bronze pin with moulded head. From bank deposits at Section c-d, layer 5 at Bucklersbury House; Flavian or earlier. MOL Accession No. 19072.
572. (ER 233) Stud with globular head. From 1st-century banks at Bucklersbury House.
573. (ER 305) Stud with foil head and narrow, square-sectioned shank. Provenance as No. 572.
574. (ER 246) Scrap bronze pierced with holes. Provenance as No. 572.
575. (ER 259B) Pieces of cut bronze scrap. From bank deposits at Section c-d, layer 2 at Bucklersbury House; late Flavian or earlier. MOL Accession No. 19071.
576. (ER 11567) (Not illustrated) Small penannular wire bracelet. MOL Accession No. 81.607.
577. (ER 11567) Head of large mount or pin. MOL Accession No. 82.6.
Nos 576-7, together with two small finger rings (MOL Accession Nos 81.606/1-2; not illustrated), are from the fill of the well (Feature 78) at St Swithin's House; c.AD 260 or later.

Iron (Figs 109-110)

578. (ER 220) Socketed spearhead with a medial ridge, and with ridges around the edges of the blade towards the point. Published previously, Webster 1958, 86, Pl XIX. A punched inscription on the blade reads $\text{C} \cdot \text{VER} \cdot \text{VICT} \cdot$, usually expanded to *c[enturia] ver[i] vict[oris]* (cf, for example, *RIB*, 149), referring to the century of Verus Victor (Merrifield 1965, Pl 98). There are several reasons to believe this interpretation correct. The use of the letter 'C' reversed to represent *centuria* is well attested on building-stones on Hadrian's Wall (*RIB* 1345-7, 1354, 1386-7, 1400, 1402, 1515 etc.). One close parallel is the centurial stone from Cawfields (*RIB* 1671), which reads $\text{C} \cdot \text{VICTORINI}$. *Cohors* is always represented as *coh.* and both formulae appear on some stones (eg. *RIB* 1400, 1674). A spearhead treated in an identical manner, inscribed $\text{C} \cdot \text{VET} \cdot \text{CATS} \cdot$, was found at Urmitz in the Rhineland (Joachim 1969, 101-2) and is now in the Ashmolean Museum. From the fill of a well (Feature 17) at Bucklersbury House; Flavian-Trajanic. MOL Accession No. 19223.
579. (ER 240) Long, square-sectioned flesh-hook with suspension loop at the end. From a 1st/early 2nd-century bank dump at Bucklersbury House. MOL Accession No. 18826.
580. (ER 305) (Not illustrated) Stylus; Manning 1976, type 1. From a 1st-century bank deposit at Bucklersbury House.
581. (ER 439) Stylus; Manning 1976, type 1. From silt around piles (Feature 25) at Temple Court.

19233/

582. (ER 267) Stylus; Manning 1976, type 2. From the fill of Feature 29 at Bucklersbury House; Antonine.
583. (ER 235c) Lock fragment. From the bank of the stream near Feature 5 at Bucklersbury House; Antonine or later.
584. (ER 302) Three pieces of bars or spikes (only one illustrated); all rectangular in section, but of different dimensions. From the footings of Feature 16 at Bucklersbury House; Antonine or earlier.
585. (ER 302) Bar, flat in section, with the beginning of a tang at one end. Possibly an unfinished tool or blade. Provenance as No. 584.
586. (ER 259A) Small spatula. From bank deposits at Section C-D, layer 5 at Bucklersbury House; Flavian or earlier.
587. (ER 1538) Four chain links of figure-of-eight shape. From a late Antonine or earlier deposit in the Walbrook stream at Bucklersbury House.
588. (ER 287) Plate with a nail hammered through it. From the fill of Feature 15 at Bucklersbury House; late 2nd century or earlier.
589. (ER 11567) Lock plate, in poor condition. From the fill of the well (Feature 78) at St Swithin's House; c.AD 260 or later. MOL Accession No. 81.605.
590. (ER 11567) Hinge loop affixed to a length of binding, probably from a wooden box. Provenance as No. 589. MOL Accession No. 81.608.

In addition to these objects, nails and identifiable fragments were found in most contexts (see Archive Report catalogue).

Lead and lead alloy (Fig 110)

591. (ER 11538) Lead sheet, once fixed with iron nails or rivets. Purpose unknown. From an Antonine deposit in the stream-bed at Bucklersbury House.

Many other lead fragments, both scrap and undiagnostic parts of objects, were recovered from contexts both in the stream and on its banks (see Archive Report catalogue).

Bone objects (Figs 110-11)

592. (ER 444) Round-bowled spoon with straight handle; cf. Cunliffe 1971, 146. From the fill of Well 22 at Temple Court; 1st/2nd century.
593. (ER 1595) Part of the handle and spur of a spoon made in imitation of metal folding spoons. (Sherlock 1976, Fig 1). From a 3rd/4th-century group (Feature 34) at St Swithin's House.
- 594-5. (ER 11567) Heads of pins, various types. Found with pin shafts in the well (Feature 78) at St Swithin's House; c.AD 260 or later. MOL Accession Nos 81.609/1-3.

596. (ER 243) Small counter, flat on both sides, with bevelled edges. MOL Accession No. 18832.
597. (ER 240) End fragment of a comb made of horn (material identified by Philip Armitage). From 1st/2nd-century bank deposits at Bucklersbury House. MOL Accession No. 18891.
598. (ER 240) Half of a disc; flat with a raised central feature surrounded by a groove. Provenance as No. 597. MOL Accession No. 18832.

In addition to the above, fragments of worked bone, and bone pin or needle shafts, were found in many contexts.

Wood (Figs 111-12)

599. (ER 444) (Not illustrated) Writing-tablet bearing carbon ink. Published in full, Turner & Skutsch 1960. From the fill of a well (Feature 22) at Temple Court; 1st/2nd century.
600. (ER 218) Almost complete stave-built tub or bucket; fragmentary, though most of the pieces survived. The base consists of a circular oak plate 160mm in diameter. This plate, which is 9mm thick and cut from a radially split piece of timber, is chamfered on the edges to fit into a 3mm rebate positioned 15mm from the bottom of the staves. The staves too were cut from radially split timber. Those that are complete are 235mm long, giving an overall height for the vessel. Most of the staves are of similar sizes, but all taper towards the bottom so that the vessel itself would have been narrower at the base than at the top. They range from 50 to 57mm wide at the top and 45 to 53mm wide at the bottom, except for one which is 8mm wide at the top and bottom. The top edges are chamfered.

The vessel was bound with two iron hoops which survived in fragmentary condition. The lower hoop was 215mm in diameter, the upper 287mm. They were placed 30mm from the top and 40mm from the bottom of the bucket, and were 30mm wide. There were no surviving handles or handle mounts, though the discovery of the bucket in a well suggests that it was of a type that would have had handles originally.

Though no evidence of handle fixing was found, it is probable that handle plates were rivetted to the sides. An arrangement like that at Gadebridge (Neal 1974, 187), where the handle plates were fastened to the lower hoops, is impossible as this would entail the hoop being placed round the base of the vessel. Remains of the metal parts of a bucket from Woodcuts (Pitt-Rivers 1887, 85), and a complete bucket from Stone (Akerman 1852, 25), show that sometimes the handle plate could be bent round the upper hoop, and it is probable that this occurred on the present example. There was no sign of wooden pegs such



103. Walbrook mosaic No. 4: acanthus pavement from the Bank of England (Feature 1). (From RCHM 1928, Pl 47)



104. Walbrook mosaic No. 5: geometric pavement from the Bank of England (Feature 6). (Copyright: The Governor and Company of the Bank of England)



as were used to join the staves of the Stone bucket edge to edge. From the fill of a well at Bucklersbury House (Feature 7); 2nd half of the 2nd century or earlier.

601. (ER 235) Knife handle of oval section. It seems to have been lathe-turned, with a domed head and rings at intervals for decoration. There is no surviving trace of the means by which the blade was attached. Heavily burnt. Associated with the burnt panel (Feature 8) at Bucklersbury House; 1st/2nd century. Marsden Collection.
602. (ER 220) Fragments of a small, cylindrical, lathe-turned box, with a flanged and rebated top to take the lid. The lid is slightly domed; the lathe centre-hole and two decorative rings around the top are mirrored in the shaping of the underside. Box (*Buxus* sp; identified by Vanessa Straker). From the fill of Feature 17 at Bucklersbury House; Flavian-Hadrianic. MOL Accession No. 19022.
603. (ER 240) Thick, biconical spindle similar to No. 522. It has been conserved in alum and species identification is impossible. From 1st/2nd-century

105. *Geometric mosaic pavement from Milk Street.*

bank deposits at Bucklersbury House. MOL Accession No. 19022.

604. (ER 214) Tapered barrel-bung of oak (*Quercus* sp; identified by Vanessa Straker). Provenance as No. 603. MOL Accession No. 18894.

Leather (Fig 111)

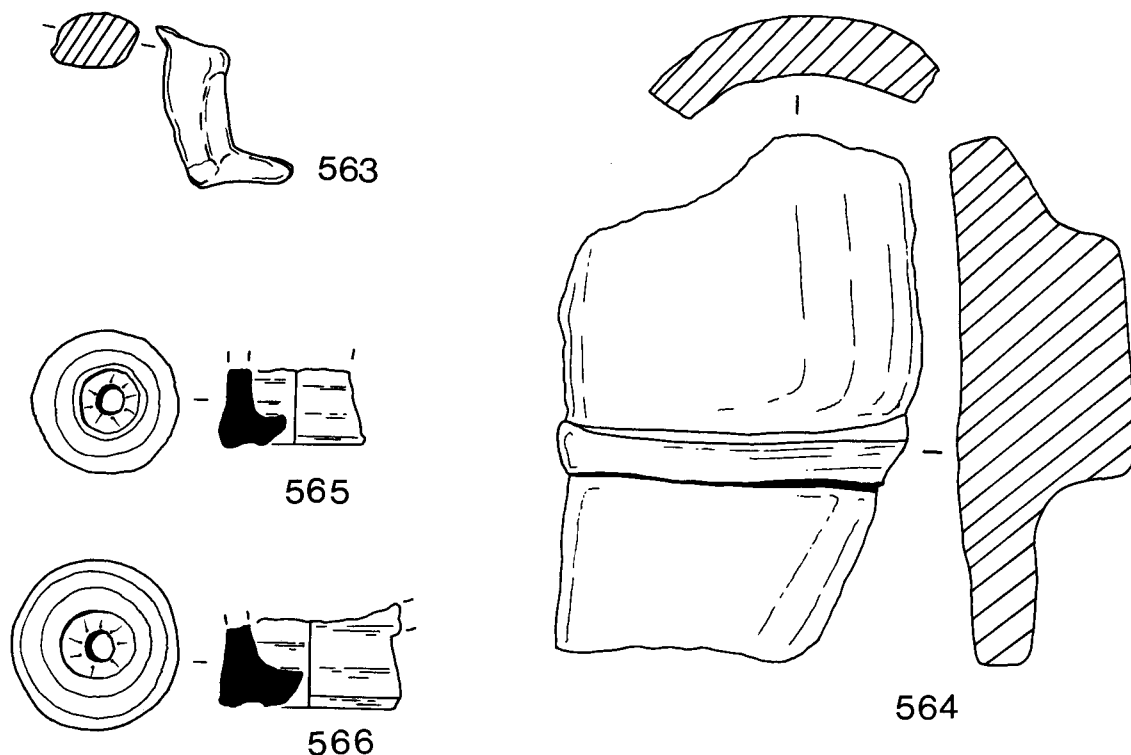
605. (ER 436) Knotted strap. From silt round piles (Feature 23) at Temple Court; 1st/2nd century.

Stone (Fig 111)

- 606-7. (ER 11591, ER 11542) (No. 607 not illustrated) Hone stones pierced with holes to take a thong for attachment. No. 606 is from the fire deposit (Feature 35) at St Swithin's House, Flavian-Trajanic; No. 607 is from a stream-bed layer at Bucklersbury House, Flavian-Antonine.



106. Walbrook mosaic No. 6: floral pavement from the Bank of England (Feature 5). (Copyright: The Governor and Company of the Bank of England)



608. (ER 240) (Not illustrated) Fragment of a Kimmeridge shale bracelet. From the 1st/2nd-century stream bank at Bucklersbury House.

609. (ER 220) (Not illustrated) Square tile or palette of Purbeck marble, measuring $750 \times 790 \times 250$ mm deep. The upper surface is polished and incised with a line which runs all round, approximately 1.5mm from the edges. Probably a piece of wall decoration. From the fill of Feature 17 at Bucklersbury House; Flavian-Trajanic.

Other hone stones and small fragments of worked stone, including marble, were found in diverse contexts of all dates.

Glass

Jennifer Price

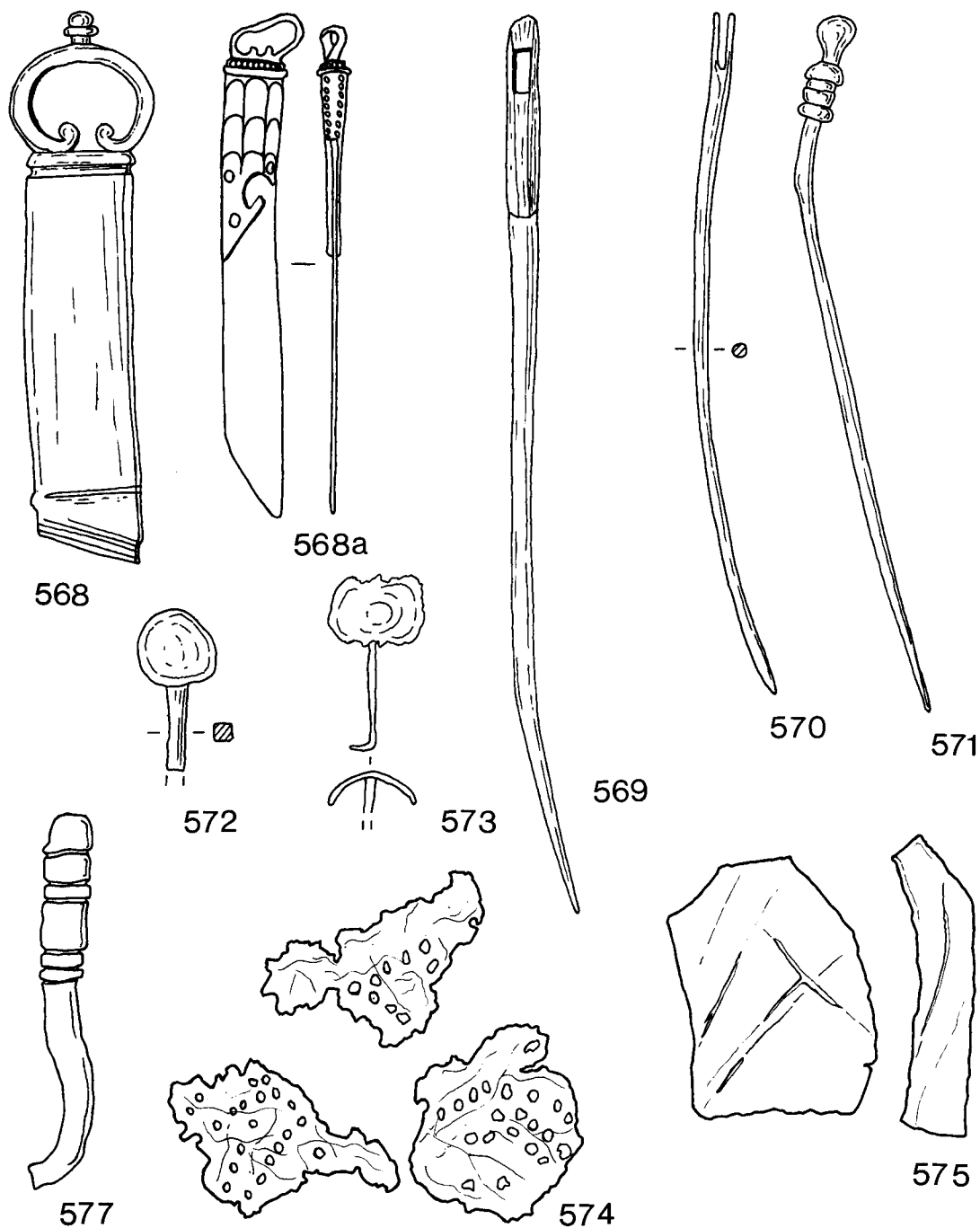
Most of the glass from the sites was unstratified. The small quantity from Bucklersbury House, for example, mostly falls into Category 5 as defined above (p. 63 & Fig 43b-c). A notable exception was a cache of eight glasses from a mid Flavian pit (Feature 14) at St Swithin's House; of the greatest importance, both individually and as a

107. *Stratified ceramic objects Nos 563-66. (Scale 1/2, except No. 563, Scale 1/1)*

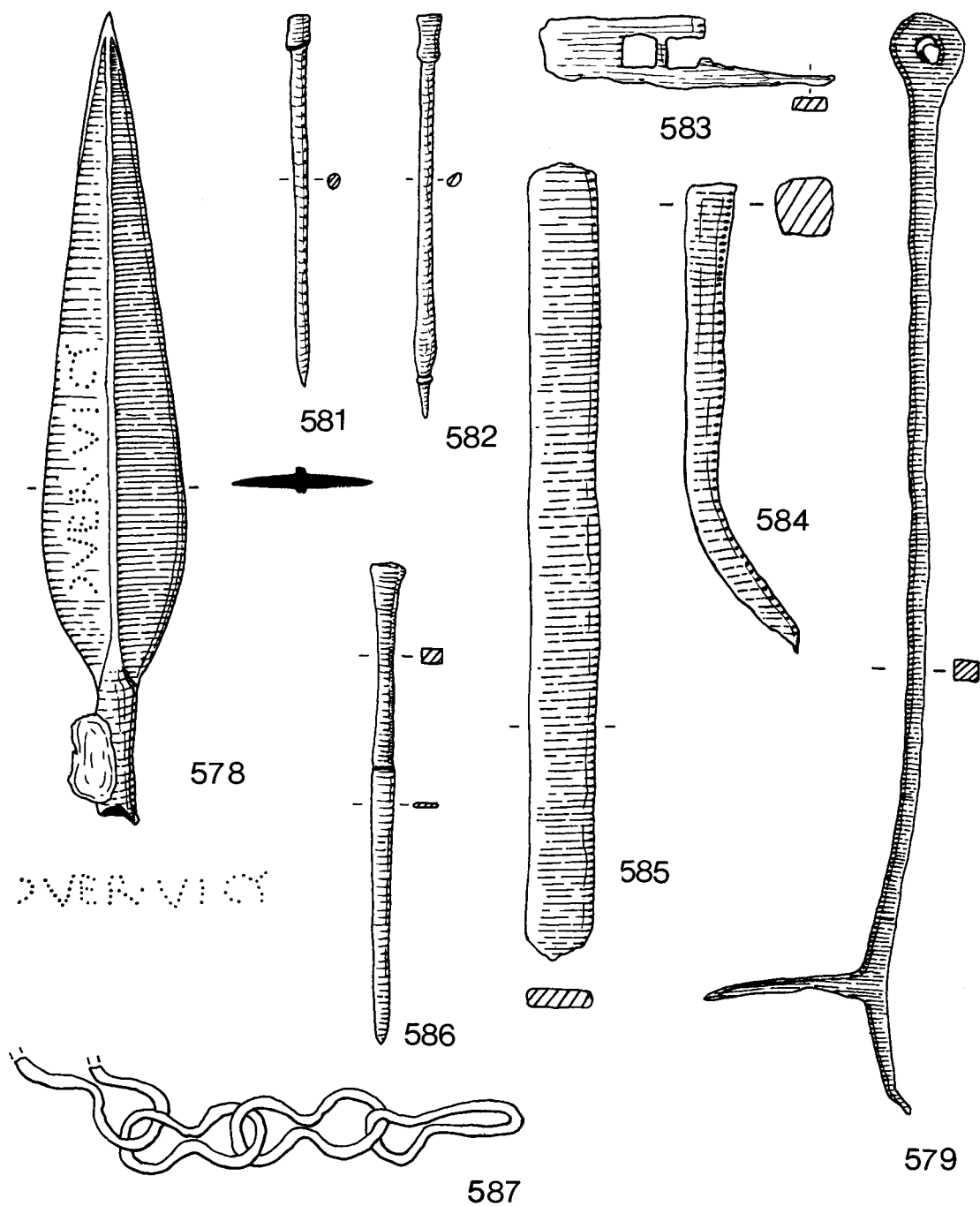
group, these vessels are described and analysed in full below. A second pit on the site also yielded a glass of intrinsic importance (Feature 61); though less securely dated, it too is catalogued below.

St Swithin's House, Feature 14
(ER 11665; Nos 610-17; Figs 113-5)

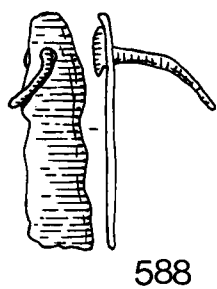
This feature, together with Pit 55 (sealed by Boudiccan Fire debris), were identified by Noël Hume, the excavator, as holding the most important finds' assemblages from St Swithin's House; Pit 55 was fully published by him (Hume & Hume 1954), but he was directed onto other tasks before he could submit for publication his draft report on Pit 14 (Hume 1978, 14-15). In addition to fragments from eight glass vessels, the pit contained a large group of pottery which can be dated to the mid Flavian period (see above, p. 40; summary table, Fig 66).



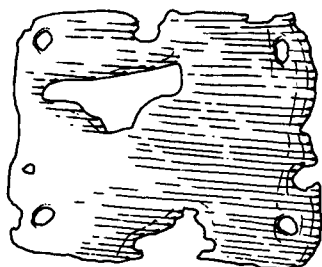
108. Stratified objects of copper alloy, Nos 568-77. (Scale 1/1, except Nos 568a, 574-5, 1/2)



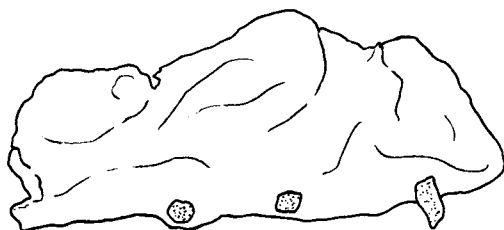
109. Stratified objects of iron, Nos 578-87. (Scale 1/2)



588



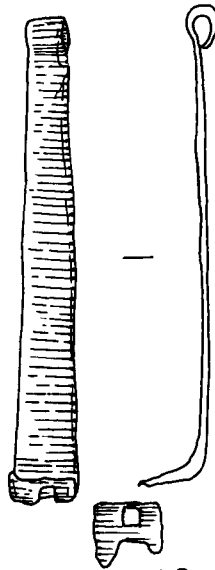
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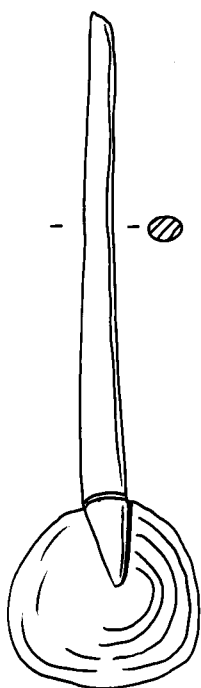
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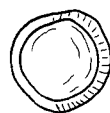
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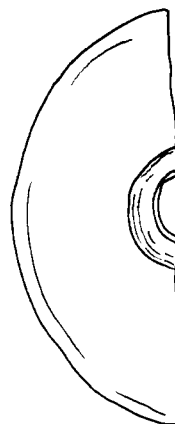
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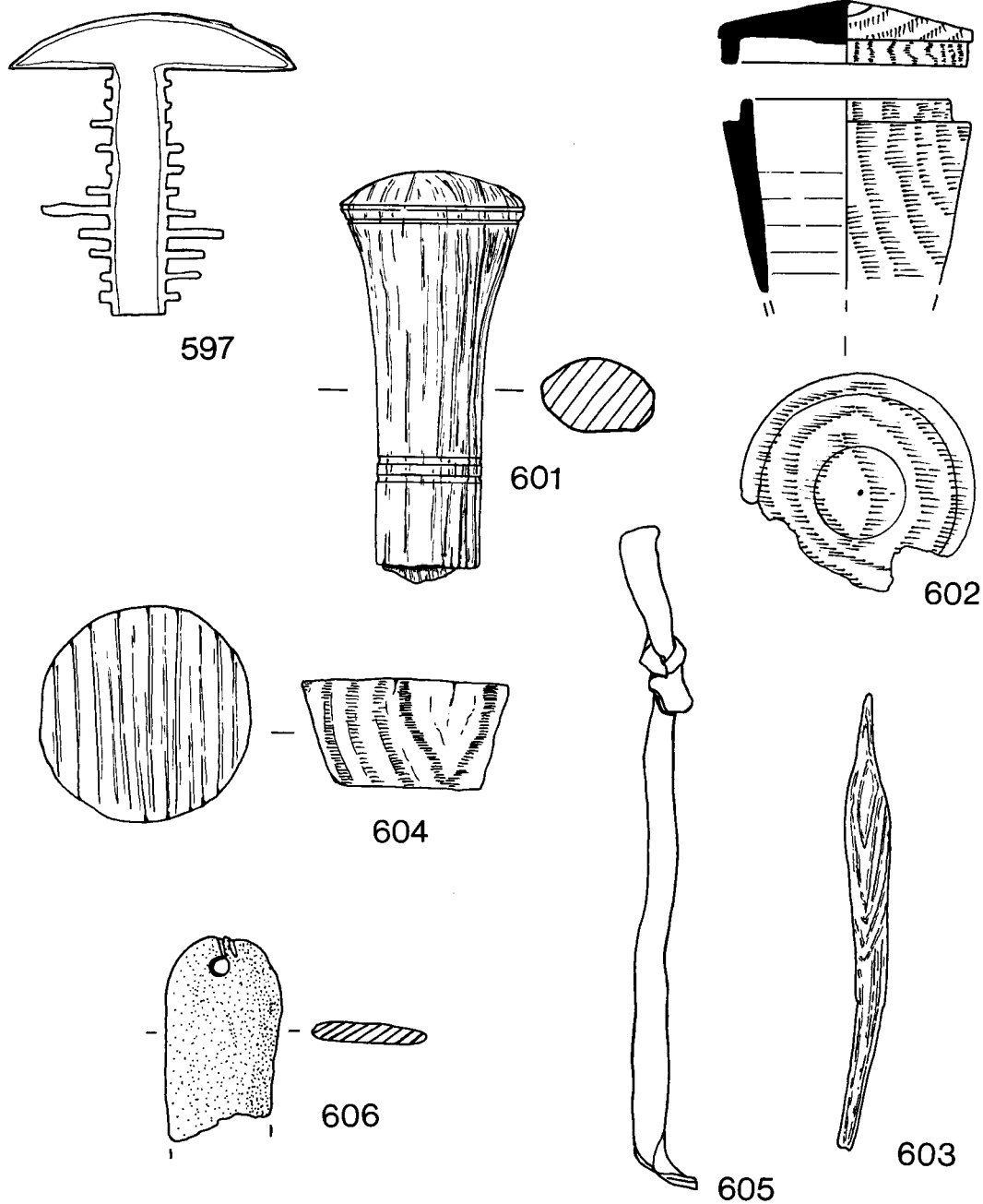
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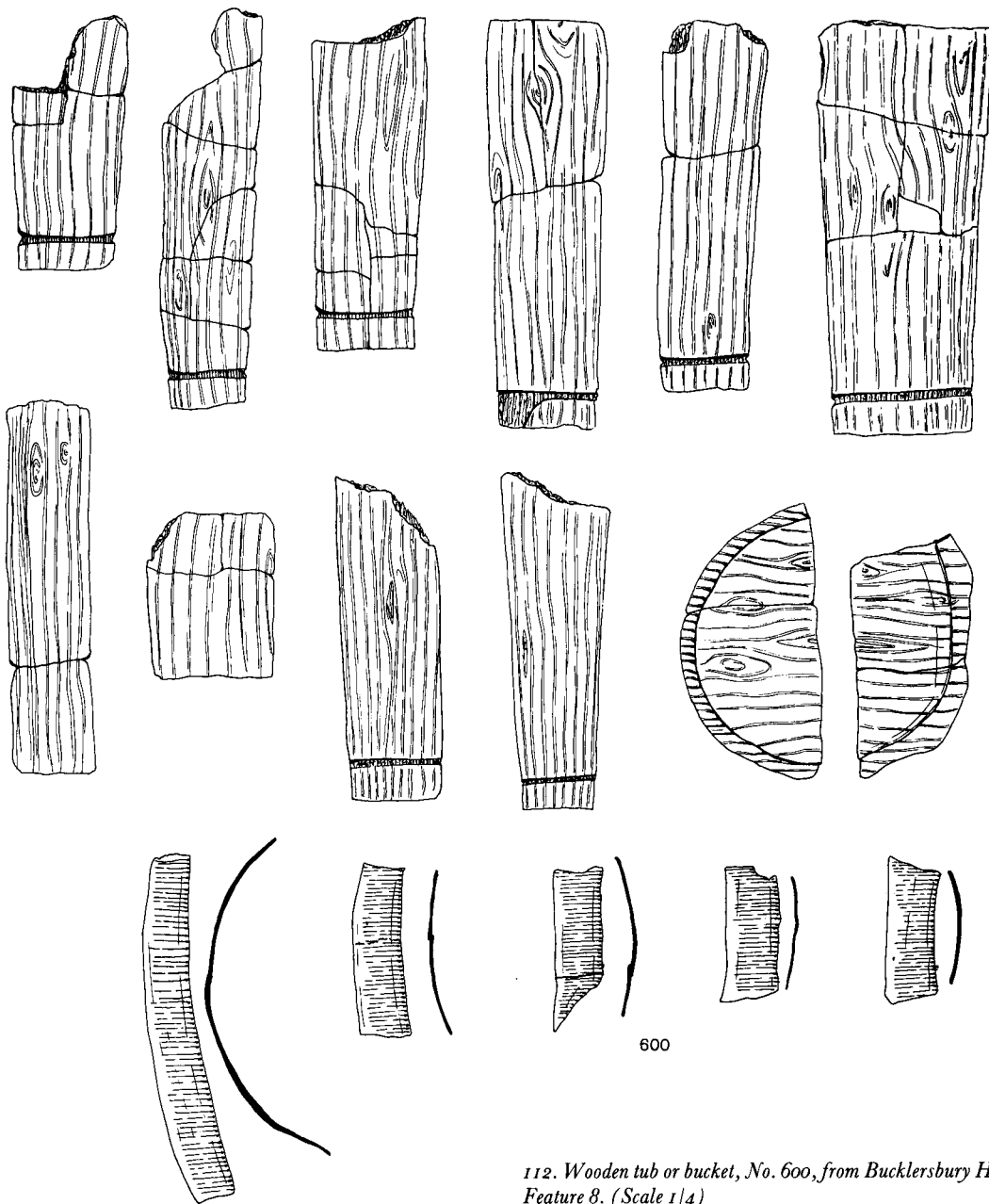
598



110. Stratified objects of iron, Nos 588-90, lead alloy, No. 591, and bone, Nos 592-8. (Scale 1/2, except No. 591, 1/1)



111. Stratified objects of bone, No. 597, wood, Nos 601-4, leather, No. 605, and stone, No. 606. (Scale 1/1, except No. 606, 1/2)



112. Wooden tub or bucket, No. 600, from Bucklersbury House, Feature 8. (Scale 1/4)

Description

610. Fragmentary cylindrical bowl with handles. Very pale greenish colourless. Dull, slightly roughened surface; some weathering deposits, little pitting; weathering varies on different fragments, one perhaps affected by heat; strain crack. Very few bubbles. Vertical rim, edge ground; thin-walled straight side tapering in slightly; sharp change of angle to flat lower body and base; vertical base ring. At rim edge, carved mouldings at sides of two curved ribbon handles, which each have nearly horizontal upper projections with concave sides and narrow diagonal lower projections. Below rim, between handles, horizontal raised band with narrow wheel-cut groove near lower edge; narrow wheel-cut grooves across centre and on inside edge of ribbon handles; raised triangular lower attachment points for handles; raised concentric circle and central disc on underside of base. Cast; surfaces ground and polished; grinding marks visible.

Height (body) 67mm; (including handles) 69mm; rim diameter 119mm; base diameter 70mm; thickness 0.5-1.5mm. MOL Accession No. 18542.

611. Fragmentary shallow dish or plate. Very pale greenish colourless. Dull; some weathering deposits, very little pitting; strain cracks. Quality of glass not visible. Vertical rim, edge ground; low convex side; low vertical base ring; flat base (centre missing). Cast, surfaces ground and polished; grinding marks visible.

Height 21mm; rim diameter 128mm; base diameter 100mm; thickness 1.5-2.5mm. MOL Accession No. 18544.

612. Fragment, rim and body, probably from a hemispherical bowl. Colourless. Dull; weathering deposits, very little pitting; one strain crack. Quality of glass not visible. Vertical rim, rounded edge probably cracked off and ground; convex side, two deep oval indents. Raised moulding at rim, narrow wheel-cut groove inside rim, raised ridges surrounding indents. Mould blown; outside surface ground.

Present height 45mm; rim diameter c.130mm; thickness 1.25-1.75mm. MOL Accession No. 18555.

613. Fragmentary horn-shaped vessel. Colourless. Dull; weathering deposits, very little pitting. Slightly elongated small bubbles throughout. Vertical rim, edge cracked off and ground; straight side tapering in, lower body bent through approximately 90 degrees. Wheel-cut grooves on body: one below rim, four and one on upper body, two above bend in vessel. Blown.

Present height c.160mm; rim diameter c.65mm; thickness 1mm. MOL Accession No. 18543.

614. Four fragments, lower body and base, probably

from a conical jug. Pale bluish green. Dull, some weathering deposits. A few small bubbles. Slightly convex lower body expanding out to concave base (centre missing). Thin-walled body. Vertical raised ribs on body (six surviving). Blown.

Present height c.40mm; base diameter c.140mm; thickness 1.0-1.5mm. MOL Accession No. 18553.

615. Two fragments, body, of globular vessel, perhaps a jar or jug. Pale bluish green. Dull. Bubbly throughout. Part of open convex body. Vertical raised ribs on widest part of body (three surviving). Blown.

Present height c.72mm; thickness 1-2.5mm. MOL Accession No. 18554.

616. Fragmentary discoid jug. Pale bluish green. Dull; weathering deposits. Small bubbles and black specks, particularly in handle and neck. Folded rim; edge bent out, up and in diagonally and flattened; cylindrical neck expanding out; slight constriction above wide convex upper body; slightly convex lower body tapering in to concave base (centre missing). Very thin-walled body. Angular handle with edge ribs applied to upper body and attached to neck below rim. Blown.

Height c.160mm; rim diameter 28mm; base diameter 60mm; max diameter 120mm; thickness 0.5-1.0mm. MOL Accession No. 18541.

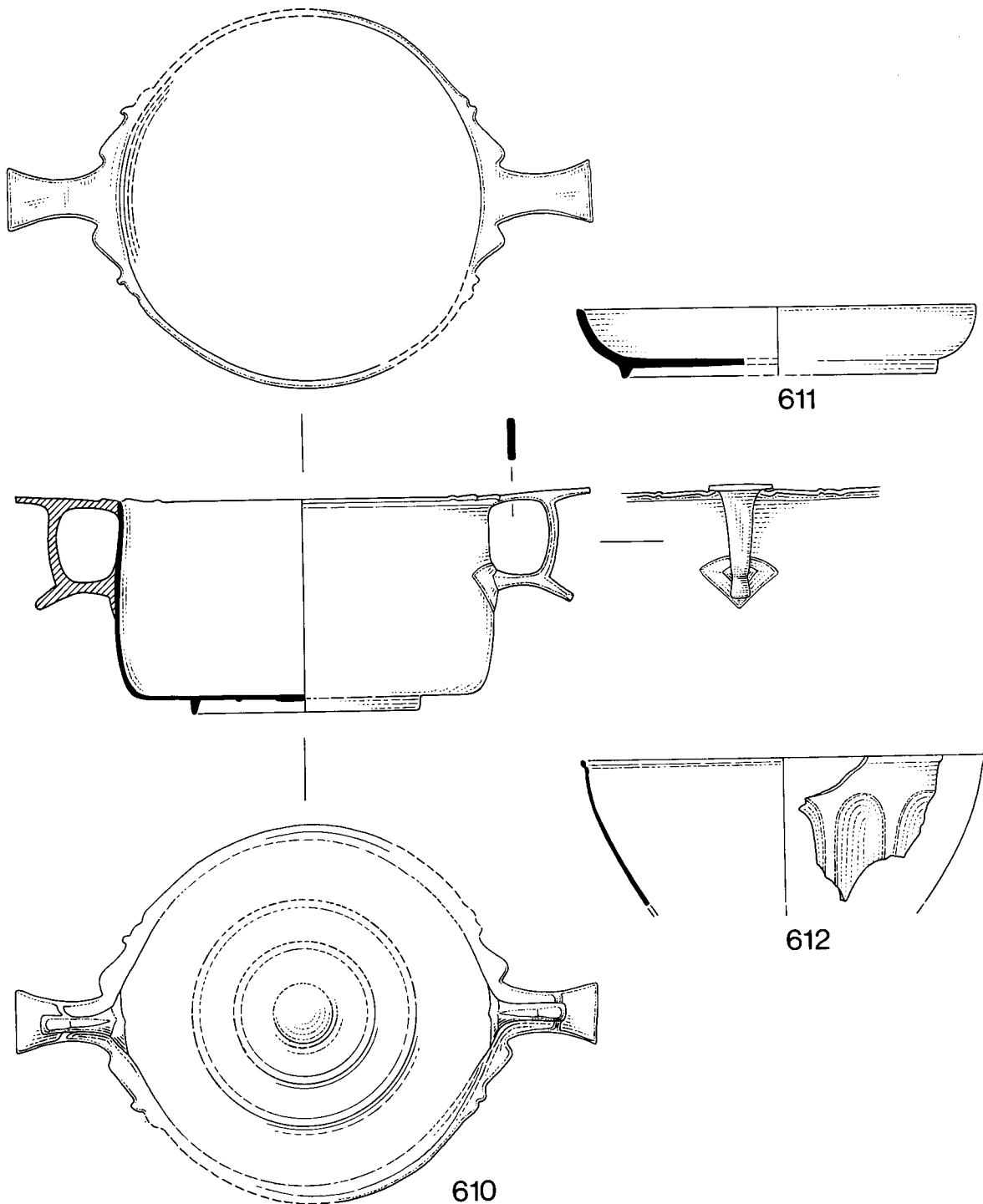
617. Fragmentary square bottle. Bluish green. Dull; weathering deposits. Bubbly; black specks. Folded rim; edge bent out, up and in diagonally and flattened; cylindrical neck, constriction at junction with wide flat shoulder; thick vertical sides with faint oval impressions; square-sectioned body, slight indents in centre of sides near base; concave base. Basal design: central pellet and ten concentric rings in raised relief. Broad angular ribbon handle with two wide ridges, applied to shoulder and attached to neck. Mould blown. Wear marks at corners of base and on outside ring.

Height c.227mm; rim diameter 60mm; base width 105 x 105mm; thickness 2-9mm. MOL Accession No. 18540.

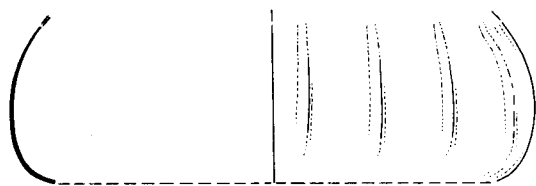
Discussion

The range of forms is considerable, comprising drinking cups, bowls, jugs, a dish or plate, a square bottle and perhaps a jar. The group contains four colourless vessels (Nos 610-13) which are very high-quality tablewares of types rarely found in Britain or the north-west provinces, and four bluish green vessels; one of these is unusual (No. 616), while the others are tableware (Nos 614-15) and container (No. 617) forms which occur frequently in Britain.

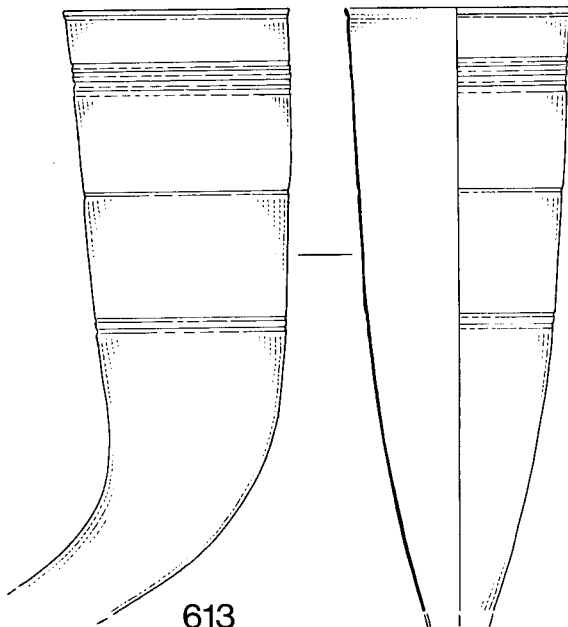
The vessels were produced by several manufac-



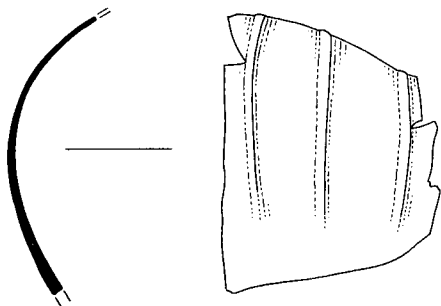
113. Roman glass from St Swithin's House, Feature 14, Nos 610-12. (Scale 1/2)



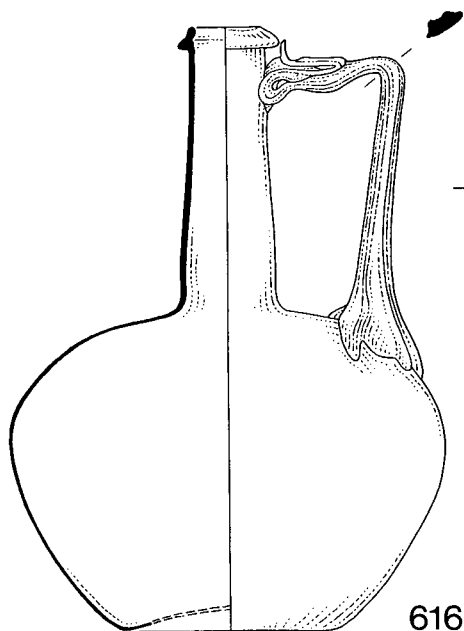
614



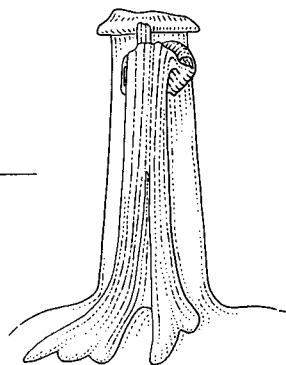
613



615



616



114. Roman glass from St. Swithin's House, Feature 14, Nos 613-15. (Scale 1/2)

turing techniques. Nos 610-11 are cast and ground, Nos 612 and 617 are mould-blown, and the others are free blown, with wheel-cut (No. 613), ribbed (Nos 614-15) or no (No. 616) decoration. The state of their preservation varies considerably. Three of the colourless vessels (Nos 610-11, 613), and the bluish green discoid jug and square bottle (Nos 616-17), are substantially complete or reconstructible, whereas the other three are represented by a few small pieces. The importance of these vessels has been recognised for a long time, and some of them have been noted in previous publications (eg. Guildhall Museum 1951, 11 & Pl VII; *J Roman Stud.* 41, 1951, 135; Cook 1953, 3-4 & Pls II-IV; Smith 1964, 350 figure; Merrifield 1965, 185 & Pls 121-2; Charlesworth 1966, 30 & Fig 8; Harden 1969, 61 & Pl XB; London Museum 1970, 8 nos. 12-17; Harden & Price 1971, 330-1; Marsden 1980, 70-71 plate), but they have not previously been studied as a group.

The colourless cast two-handled cup or *scyphos* (No. 610) is an excellent piece of 1st-century luxury glassware. It has a thin-walled cylindrical body, and the low base ring, the curved ring handles with projecting thumb-rests at the top and bottom, and the horizontal carved decorative supports projecting from the rim at the sides of the handles, have been cut and ground from a cast blank. The details of shaping, cutting and finishing are very fine and the glass is of very good quality. Spectroscopic analysis at the Brookhaven National Laboratory, Long Island, New York has shown a high antimony content.

Although colourless cast *scyphoi* (Isings 1957, form 39) are known in the Mediterranean region during the Hellenistic period (Oliver 1967, 30-3), they do not often occur in the later 1st century BC and early 1st century AD. The main period of production of early Roman imperial cast and blown colourless tablewares commences after the middle of the 1st century, probably around AD 65-70. Very few *scyphoi* similar to the St Swithin's House example have been recorded; an intact example with a cylindrical upper and truncated conical lower body was found with other 1st-century glass in a tomb at Mérida, Spain (Price 1974, 75-6 & Fig 2.2) but no other closely dated parallels are known to the writer, except a melted fragment from the Schutthügel, Vindonissa (Berger 1960, 83 & Pl 14.215), a largely Flavian deposit, and a small piece of an upper thumb-rest in a 1st-century context at the Unexplored Mansion site at Knossos, Crete (unpublished).

A fragment from the body and ring-handle of

a cylindrical *scyphos* is known from Caernarvon (Boon 1974a, 5-6 figure). This is comparable with the St Swithin's House *scyphos* in form and in the details of surface working, but the handle lacks a lower thumb-rest. On both vessels the carved lower handle supports on the body are lozenge-shaped, and the ring handles have been decorated with narrow wheel-cut lines. Fragments from colourless cast *scyphoi* have been found elsewhere in Britain, at Fishbourne (Harden & Price 1971, 336 & Fig 138.32), Lion Street, London, Richborough, Wroxeter (all unpublished) and York (Harden 1962, 136 & Fig 88 nos. H.G. 222-3), but these are either very different from the St Swithin's House example or the pieces are too small to be closely identified.

Colourless cast cylindrical *scyphoi* found in the catacombs in Rome (Fremersdorf 1975, 82 no. 800 & Pl 42), and in Köln (Fremersdorf 1967, 62 & Pl 21) are also comparable with the St Swithin's House *scyphos*, although their bodies are shallower in proportion to the rim diameters, and the Köln *scyphos* has a higher outplayed base ring. It is probable, however, that these vessels were manufactured at a much later period, probably in the 3rd century; several other shallow specimens with high outplayed base rings and cut decoration in relief on the bodies have been found in later 3rd or early 4th-century burials at Köln-Lindenthal (La Baume & Nübel 1971, 80 & Fig 4.16; Harden et al 1987, 189 no. 99), Zülpich-Enzen (Heimberg 1980, 35-6 figure) and Rheinbach-Flerzheim (Follmann-Schulz 1986, 23-4 figure).

The small colourless cast dish (No. 611) also appears to be made in good quality glass. Rather similar shallow convex vessels were produced in polychrome mosaic and brightly coloured monochrome glass in the early to mid 1st century AD (Isings 1957, forms 1, 18), and pieces are frequently found in Italy and the western Mediterranean, as at Cosa (Grose 1973-76, 178 & Fig 189.6), Tarragona (Price 1987, 65-7, 71; Figs 2.2 & 3.15), Vindonissa (Berger 1960, Pls 1.6 & 17.4-5, 10) and elsewhere. Most of these, however, have trailed base rings or concave bases without base rings. A few monochrome dishes with vertical ground rims and low convex sides have base rings ground from the blank (Isings 1957, form 47), such as an opaque red example from Cyprus, now in the British Museum (Harden 1969, 48 & Pl IE) and a dark green one in the Victoria & Albert Museum (Honey 1946, 22 & Pl 2B), but the form is not very common.

A smaller colourless dish with low convex sides decorated with facet cutting is known from Baden-Aquae Helveticae (Funfschilling 1985, 98, 144 & Pl 21.398), and more angular vessels have come from the fort at Watercrook, Cumbria (Charlesworth 1979a, 230-2 & Fig 93.165) and Caerleon (unpublished). Further colourless parallels for the St Swithin's House dish have been difficult to find, though it is probable that this vessel belongs to the same tradition of manufacture as the colourless cast bowls, dishes and plates with wide, sometimes overhanging, rims which are frequently found in Britain and in many other parts of the Roman world in Flavian to early 2nd-century contexts.

The rim and body fragment (No. 612) comes from a colourless mould-blown bowl with indents, raised ridges and a ground and polished outside surface. Decorated mould-blown tablewares and unguent containers were produced in the second and third quarters of the 1st century AD (Price forthcoming), and some groups have received a great deal of attention in print. Most of the Tiberian, Claudian and Neronian decorated mould-blown vessels were either brightly coloured or bluish green, and colourless glass does not occur among the early groups, though it is sometimes found among late Neronian and Flavian mould-blown forms, especially truncated conical beakers with foliage, meander and scroll designs which were probably produced in Italy. Colourless and nearly colourless pieces have been found at Oberwinterthur (Rütti 1988, 37 no. 667 & Pls 8.33), Augst and cemetery E, Nijmegen (Isings 1975, 354-5 & Fig 2), and among the glass deposited in four pits in the *canabae legionis* at Nijmegen (Isings 1980, Figs 2.1, 3.1, 5.7, 7.12, 8.3, 37.1, 3-4). Similar fragments have also been noted at several sites in Britain, including Verulamium (Charlesworth 1984, 150 & Fig 61.15), Caerleon, Binchester, London (Bucklersbury House; an unstratified, Category 5, find), Usk, Winchester, Wroxeter and the Minster site in York (all unpublished).

Indented vessels differ from other mould-blown vessels in that they were generally not otherwise decorated, and only a very few colourless examples have been recognised. Three or four truncated conical beakers with long shallow indents outlined by raised ridges are known in Spain, at Sanlúcar de Barrameda, Cadiz (Esteve Guerrero 1947, 193 & Pl 77) and Ampurias, Gerona (Price 1981, 290-1 & Fig 110.40), and small fragments of similar vessels have been noted

in Britain, at Colchester (Cool & Price forthcoming, No. 250), and in London (MOL Accession No. 23.122) and Verulamium (both decorated with facet-cutting; unpublished). In addition, a large mould-blown cylindrical or conical beaker with four oval indents from Sidi Khrebish, Benghazi (unpublished) has been finished in a similar fashion to the St Swithin's House bowl, the outside surface having been ground away to leave raised ridges surrounding the indents.

The last colourless piece (No. 613) is a curved conical drinking horn or *rhyton* with a cracked off and ground vertical rim. The basal extremity is now broken and it is not clear whether this was originally closed or open-ended, though the terminals of intact examples suggest it was probably open-ended. Glass *rhyta* are not common in the Roman world. Isings (1957, 91) lists two 1st-century forms: form 73a with a wide rim and curved conical body tapering to a narrow terminal shaped like an animal head, sometimes with a ribbed body and sometimes supported on an applied conical stand; form 73b with a folded edge to the wide rim, a strong constriction below the rim and an undecorated curved conical body tapering to a narrow terminal.

A number of form 73a *rhyta* are known (see list in Auth 1975, 94 no. 100). Very few come from closely dated contexts, except for the bluish fragments found with a *denarius* of Vespasian in Grave 14 on Siphnos (Young 1949, 89 & Pl 32 no. 2.14(12)) and a brownish example from the largely 1st-century deposit of luxury glassware in Room 10 at the Royal Residence at Begram, Afghanistan (Hackin 1939, 28-9; Pl IV; Fig 7; Hamelin 1954, Pl XIc). Similarly, examples of form 73b are not uncommon (see list in Fremersdorf 1958, 56 & Pl 130), though only the pieces from Pompeii, Aramon and Nîmes listed by Isings are at all closely dated.

Various types of decoration have been noted. Both forms were sometimes decorated with unmarvered polychrome or white speckles, which occur on several other vessel types produced in the middle of the 1st century. Stern (1976, 532-3) lists finds from Italy and Germany, and a fragmentary yellowish brown example with white speckles and a form 73a rim is known from Cadiz (Vives y Escudero 1917, 93 no 557 & Pl XXXIII.5). In addition, at least one decorated mould-blown example has been noted; this unprovenanced yellowish brown vessel with almond-shaped bosses in lattice and a form 73b rim, now in the British Museum (Harden *et al*

1968, 55 no 66), was probably produced in the late Neronian or early Flavian period.

The examples listed above were made in brightly coloured or bluish green glass rather than the colourless glass of the St Swithin's House vessel, and apart from the Begram rhyton, which has two horizontal lines on the upper body, none has any wheel-cut decoration. The St Swithin's House vessel is closely related to the Isings form 73a, and another example which is similar in form, colour and decoration is known from Zara, Dalmatia (Mariacher 1966, 27, Vetrina IIIa 18 & Fig 14). These colourless *rhyta* with cracked-off and ground rims and horizontal bands of cut decoration may not in fact have been as rare as they now appear; it is likely that only substantially complete examples have been recognised, since the rims and upper bodies are indistinguishable from colourless conical drinking cups.

No 614 comes from the lower body and base edge of a bluish green conical vessel, almost certainly a jug with a folded rim, long narrow neck, conical body with vertical ribs, concave base and angular ribbon handle with central ridge applied to the upper body and attached to the neck below the rim (Isings 1957, form 55). This and several other jug and jar forms were widely distributed north of the Alps, in north Switzerland, central and northern France, the Rhineland and Britain, in the later 1st and early 2nd centuries, and were almost certainly manufactured at one or more centres in the region. Conical jugs with concave bases and vertical, spiral or more complex patterns of ribs have frequently been found on Romano-British sites. Some intact or substantially complete examples have come from burials, as at Barnwell, Cambridgeshire (Harden *et al* 1968, 59 no 73), Faversham, Kent (Thorpe 1935, 27 & Pl IVf), Radnage, Buckinghamshire (Harden *et al* 1987, 140 no. 68), and Grange Road, Winchester (Harden 1967), and small fragments are known from many other sites. The majority date from around AD 65 to the early 2nd century, though some continued in use until after the mid 2nd century.

The form of No. 615 is uncertain. The fragments clearly come from a bluish green wide convex vessel with vertical ribs, probably either a long-necked jug (Isings 1957, form 52) or a jar with a collar rim (Isings 1957, form 67c). Both forms have distributions and chronological ranges very similar to the conical jugs discussed in connection with No. 614, and were also almost certainly manufactured in the north-west provinces.

Globular and discoid jugs generally have rims and necks which are identical with those of conical jugs. They may also have similar handles, though broad angular handles with several vertical ribs were frequently used instead, and the lower bodies are always constricted above open base rings with concave bases. Globular jars have short necks and vertical collar rims formed by rolling the rim edge inwards and then bending it out and down, but the bodies, base rings and bases are indistinguishable from those on convex-bodied jugs.

Globular and discoid jugs have been found on many sites in Britain. Nearly all those that are substantially complete have come from burials in the south-east counties and East Anglia, as at Baldock, Hertfordshire (Price 1986, 61-3 & Fig 27.3), near Canterbury (Goldney 1901, 280 figure), Litlington, Cambridgeshire (*Fitzwilliam* 1978, 36-7 no. 65a), Old Newton, Suffolk (Low 1907-9, 256 & Pl C) and Shefford, Bedfordshire (*Fitzwilliam* 1978, 37 no 66a); the last of these has a rim with pouring spout and curved ribbon handle. A fragmentary discoid jug is known from a 2nd-century pit at Enfield (Price 1977, 155-8; Fig 27.2; Pl 7), and smaller pieces have been found on many sites throughout Britain.

Globular jars also occur in Romano-British burials, as at Colchester (Thorpe 1935, 28 & Pl IIIb), Shefford (*Fitzwilliam* 1978, 37 & Fig 66b), Thornborough, Buckinghamshire (Price 1975, 21-2 & Fig 10.3) and Wroxeter (Haverfield & Taylor 1908, 240 & Fig 32), but they are more common on settlement sites. Reconstructable vessels have been noted at Exeter (Charlesworth 1979c, 227 & Fig 70.23), Richborough (Bushe-Fox 1932, 84 & Pl XV), Silchester (Boon 1974, 230-1 & Fig 36), Verulamium (Charlesworth 1972b, 204-5 & Fig 76.25-6) and elsewhere, and fragments are widely distributed throughout the province.

The fragmentary small bluish green jug with an undecorated discoid body, concave base and angular ribbon handle with two vertical ribs at the edges (No. 616) is rather different from the other jug(s) in this group, and no other examples from Britain are known to the writer. It is comparable with numerous free blown undecorated discoid and globular jugs found in 1st-century burials in southern Switzerland and north Italy (Isings 1957, form 14), and may perhaps have originated in this region. Examples have been noted at several Roman cemeteries in Ticino, at Ascona, Papöгна, Arcegno, Solduno, Muralto,

Minusio and Tenero (Biaggio-Simona 1987, 55 & Fig 60), and others are known in museums at Pavia (Maccabruni 1983, 56-7, 62-3 no. 33 & figure), Genova (Laguzzi 1981-3, 112 & Fig 2) and Bologna (Meconcelli 1979, 56-7 no. 40). Nearly all of them are pale bluish green, though one with a discoid body similar to the St Swithin's House jug, from the Liverpool unten necropolis at Muralto, has a brown and opaque white handle (Simonett 1941, 78; Fig 62.4; Pl 9.2).

The last vessel in the group, a large square bottle (No. 617), was not primarily intended as an item of tableware. These bottles were very robust, usually being blown into a body-mould with separate base piece, and were produced for the containment and transport of liquid and semi-liquid substances. They are found in very large numbers throughout the western provinces and in most other parts of the Roman world in the 1st and 2nd centuries AD (Isings 1957, form 50; Charlesworth 1966). Early examples occur in Italy and France during the second quarter of the 1st century AD, and some are known on Claudian and Neronian sites in Britain, as at Camulodunum (Harden 1947, 306 & Pl LXXXVIII. 58), though the vast majority have come from later 1st and 2nd-century contexts.

These bottles all have folded rims, cylindrical necks, sloping shoulders, square-sectioned and vertical-sided bodies, concave bases (usually with raised patterns) and angular ribbon handles applied to the shoulders and attached to the necks. Their proportions vary considerably, and they were made in a wide range of sizes. There is frequently some variation in the manufacturing details of bottles made at different periods and in different parts of the Roman world. For example, pre-Flavian and early Flavian square bottles are often quite small in size, and tend to have infolded narrow rims, as at Fishbourne (Harden & Price 1971, 361 & Fig 143.94) and Usk (unpublished). These early bottles often have handles with two broad ribs, comparable with the handle on the St Swithin's House bottle, rather than handles with multiple reeding, which were in common use from the late 1st century onwards.

A very wide range of basal designs has been noted. Many are geometric and figured patterns, sometimes with initials or abbreviated names, and these often have a quite limited geographical distribution and are distinctly different from designs in other parts of the Roman empire. The commonest basal designs are series of concentric rings, sometimes with motifs at the centre and corners.

These occur in many parts of the Roman world and it is not usually possible to recognise examples which are characteristic of one particular region. Although the St Swithin's House base is broadly comparable with many designs from smaller bottles, it has a large central boss and ten closely set concentric rings, and is not identical to any other bases found in Britain.

The importance of this group for the study of 1st-century glass in Britain is considerable. It contains seven pieces of high-quality imported tableware, including some quite remarkable specimens. The colourless vessels and the discoid jug were probably imported from Italy or elsewhere in the western Mediterranean region, and the other two almost certainly came from glass production centres in the Rhineland or central or northern Gaul.

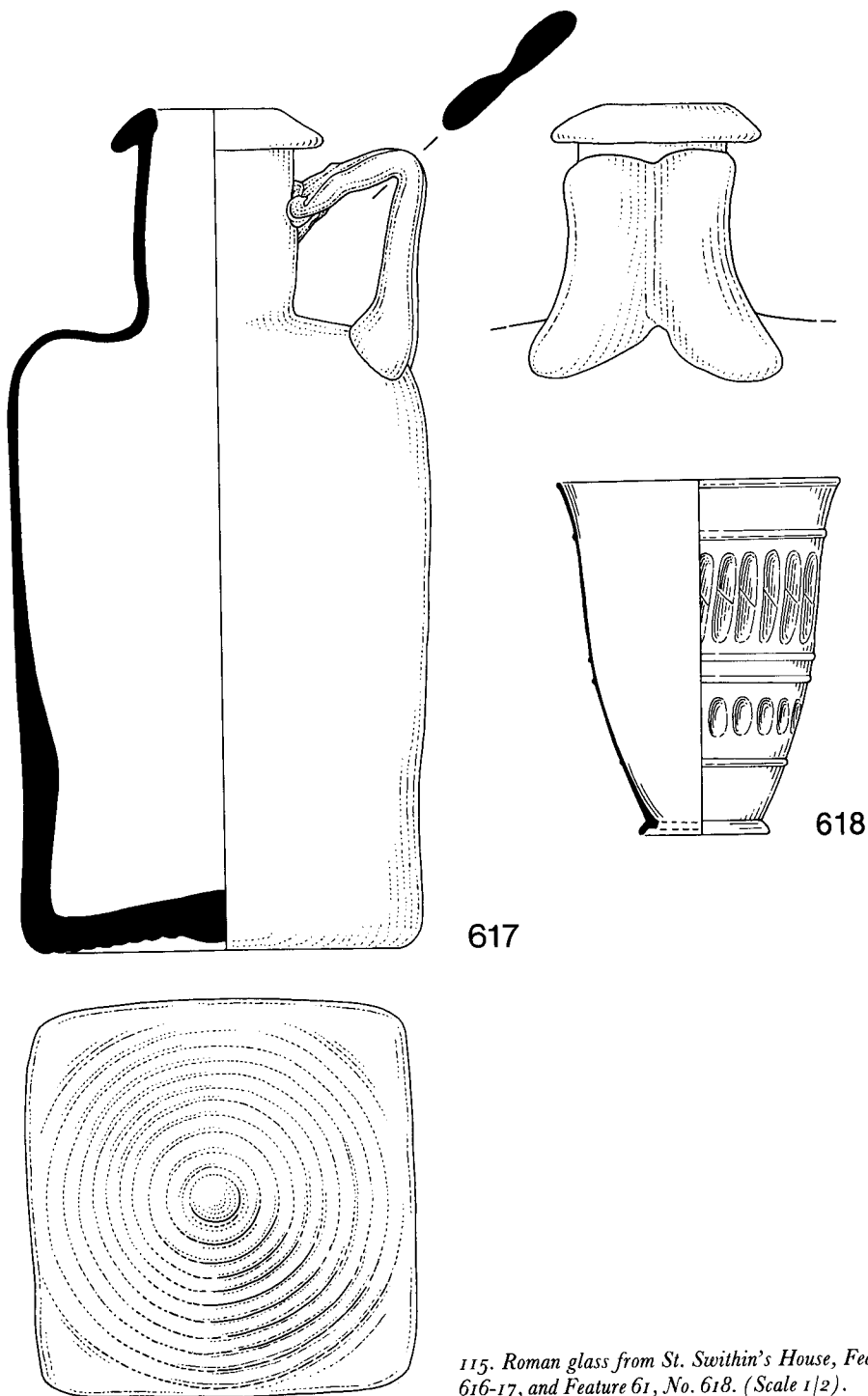
The assemblage provides evidence, moreover, for the contemporaneous use of several vessel forms. Some of these, such as the colourless cast *scyphos* and dish, the colourless mould-blown vessel linked with facet-cut beakers, and the colourless *rhyton*, are very unusual, while others are fairly common. They were deposited in the mid Flavian period, and were probably all in circulation in London during the decade c.AD 70-80.

St Swithin's House, Feature 61
(No. 618; Fig 115)

The beaker described below, together with a large group of pottery (not published here), was recovered from a pit which is believed to have been sealed by Hadrianic Fire debris (MOL Accession Register).

618. Fragmentary truncated conical beaker. Colourless. Dull; weathering deposits on surfaces; pitted. Rim edge cracked off and ground smooth; slightly convex side tapering inwards; small outspayed base ring; flat base (mostly missing). Outside surface ground away to leave six horizontal raised ridges – two at rim, one on upper, two at centre and one on lower body – and the base ring. Two zones of facet-cutting – the upper consisting of two interlocking rows of large vertical oval cuts, the lower of a single row of large vertical oval cuts – are separated by the horizontal ridges on the centre body.

Height 102mm; rim diameter 78mm; base diameter 38mm; thickness 1.5-2.5mm. MOL Accession No. 18552.



115. Roman glass from St. Swithin's House, Feature 14, Nos 616-17, and Feature 61, No. 618. (Scale 1|2).

This free-blown drinking cup, a colourless truncated conical beaker with facet-cut decoration, is substantially complete. It has already been mentioned in print on several occasions (eg. Charlesworth 1959, 42 & Pl I.3; *London Museum* 1970, 8 no. 19; Oliver 1984, 41 & 57 no. 91, figure).

Beakers with facet-cut decoration are found throughout the Roman world in contexts dating from the later 1st and early 2nd centuries AD (Isings 1957, form 21), and a considerable range of patterns is known. Oliver (1984) has recently examined them in some detail, and has shown that there are two principal forms of truncated conical beakers – tall and short – and that both forms divide into two groups: those with a facet-cut zone which is raised above the undecorated areas, and those with ridges above and below the facet-cut zone, which is usually flush with the surface.

The St Swithin's House beaker is a short form of Oliver's Group 2, although the presence of two zones of facet-cutting is rather unusual. A similar vessel exists in the Department of Egyptian and Classical Art, Brooklyn Museum (Oliver 1984, 36, 57 no.9 & Fig 8), although the two cut zones on that vessel each contain two rows of interlocking circular facets; another, found in the necropolis at Carmona in southern Spain and stolen from the museum there some years ago (Trillmich 1980, Fig 12), is a barrel-shaped beaker with two zones of circular facets, the upper

consisting of five rows set in a quincunx to form hexagons and the lower consisting of four or five rows cut away to form a jigsaw pattern (Bonsor 1931, 146 & Fig 85.132; Price 1981, 415, 826 & Fig 90.15).

Other examples, from Conimbriga (Alarcão & Alarcão 1965, 67 & Pl 3.83; Alarcão *et al* 1976, 183 & Pl 40.154), Vindonissa (Berger 1960, 72 & Pl 10.178), the Unexplored Mansion site, Knossos in Crete (unpublished) and elsewhere, are very fragmentary, and may come from beakers with more than two zones of facet-cutting, as tall conical beakers with three zones have been found at Nijmegen (Isings 1966, 237-9, Fig 1) and at Aislingen (Ulbert 1959, 59-60, Pl 13.14). The Aislingen beaker and the Vindonissa piece have bottom zones with cutting similar to that on the St Swithin's House vessel.

No other vessels with similar cutting have been recorded in Britain, though three fragments from a conical beaker with large oval facets were found at Strageath (Price 1989, 194, 197-8 & Fig 100.2-4) and a small fragment with similar large oval facets was found at Red House, Corbridge (Charlesworth 1979b, 58 & Fig 20.1). It is noteworthy that the Red House and one of the Strageath fragments came from Flavian contexts, and that the Nijmegen, Aislingen and Vindonissa pieces were also found in Flavian deposits; it is possible, therefore, that the St Swithin's House beaker is a later 1st-century vessel.

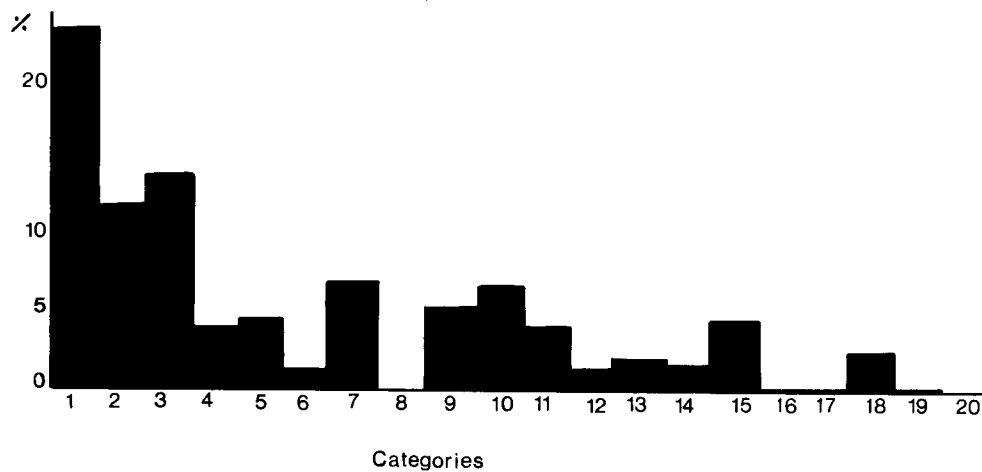
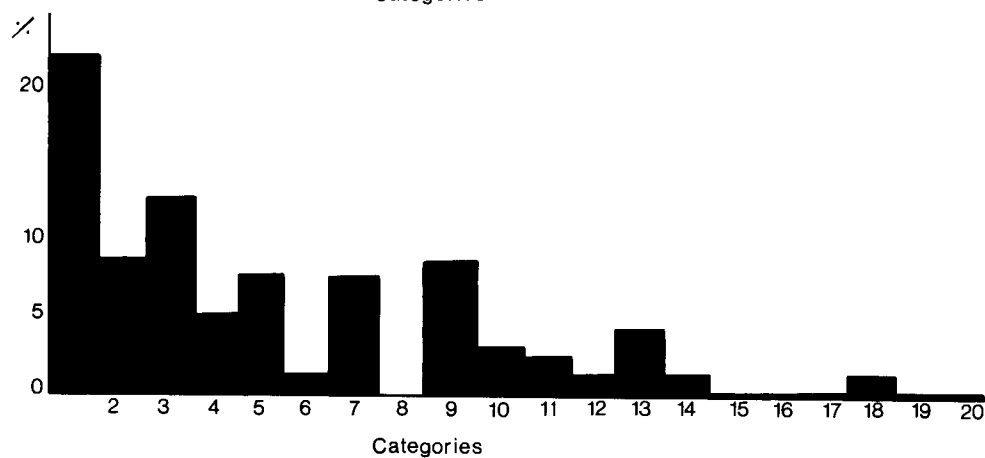
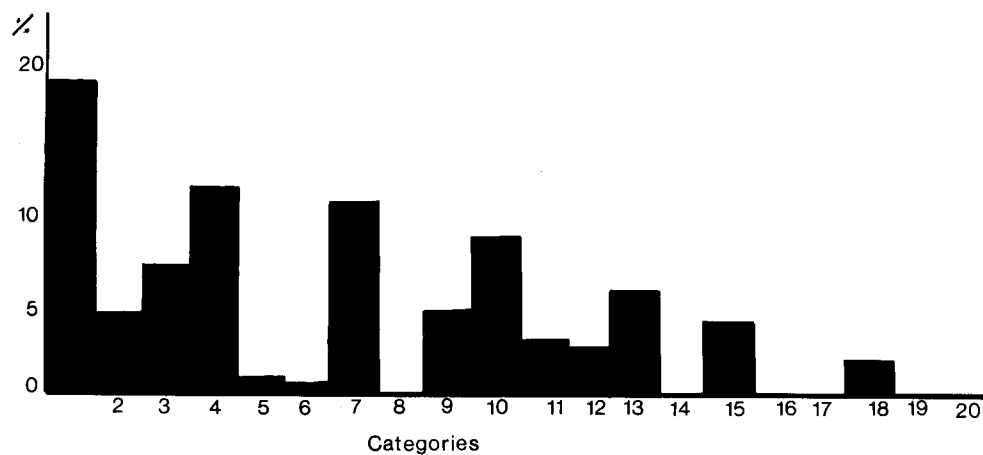
5: DISCUSSION OF THE STRATIFIED FINDS

It will be noted from the finds' catalogues that the stream-bed groups are larger than those from the bank-side dumps. The stream-bed at Bucklersbury House, however, was intensively worked upon while, apart from the unpublished work of Grimes, no comparable exercise in finds' recovery has ever been undertaken for the banks. Despite this, it is still possible to draw comparisons between the two corpora. First, as indicated above, no difference existed between the states of preservation of objects from the two groups. Apart from the question of quantity, which may be explained by the size of the various samples, there seems to have been little difference in quality of material between the two deposits. It is noticeable, and was remarked upon by Hume (1956, 67) and Greenway, that the stream-bed deposits contained more scrap iron and slag than did the banks. Otherwise the range of finds is very similar. Clearly it is impossible to quantify leather, as it has not survived to be worked on, and no documentation of leather finds was undertaken during the excavation.

Discussion of the finds from stratified groups must centre around their use in suggesting the type of activity practised in the Walbrook valley. This task is frustrated by a number of problems. The presence of unstratified objects relating to a particular activity is not valid evidence for that activity having taken place on site. It is necessary to establish the probability of on-site activity, preferably associated with structures, before seeking to enhance the theory by cautious use of the unstratified material. The presence of complete, usable objects does not help here; complete finds are often recovered from rubbish dumps of the Roman and medieval periods (Rhodes 1980b; 1982). It may also be possible to find evidence for industry, using the presence of waste as a starting point, but without associated industrial structures, or a significant stratigraphic association, it is rash to suggest even that the activity occurred on the site, let alone what the method of manu-

facture was or what the products were. For example, the presence of ironworkers' tools and slag suggest on-site blacksmithing; it could be that the tools relating to agriculture or carpentry that were found were being made for sale by those blacksmiths, but it is equally possible that they are evidence for woodworking or farming in the area, or merely that all these objects were deposited as rubbish. This sort of difficulty is compounded when more general or abstract activities like 'domestic' or 'military' occupation or 'commerce' and 'religious observance' are considered. The various activities suggested for the Walbrook valley in the past have been very diverse and make strange bedfellows. For example, if tanning and ironworking were being undertaken on the banks, the stream would soon resemble an open sewer, and it is unlikely that such a watercourse would be deemed a suitable place for votive deposition.

It has been suggested above (p. 64) that finds from the stream itself should be of more use than those from the bank dumps in showing activity actually practised in the area. This is because the banks seem to have been deliberately raised by the dumping of material, including refuse, which would have been confined to the banks. But those living and working on the surfaces laid over the dumps would in all probability have used the stream for their own refuse-disposal. It is necessary, therefore, to compare and contrast the functions displayed by finds from both environments. This is best done in the form of histograms (Fig 116a-b). Fig 116a shows a functional analysis of the 199 identifiable finds from the stratified stream-bed groups listed above, and Fig 116b is a combination of the 90 identifiable objects from stratified dump contexts at Bucklersbury House, Bank Tube Station and St Swithin's House (excluded are unidentifiable objects: 30 from Fig 116a, 33 from Fig 116b). The numbers of objects have been reduced to percentages of function in order to clarify the comparison. Functions are



116. Functional analyses of finds from (a) stratified stream-bed groups, (b) stratified bank dumps, (c) Bucklersbury House (see text, p. 170 for key).

broadly those used by Crummy (1983, 56) in her catalogue of Roman small finds from Colchester (see also, *loc. cit.*, 4). Crummy's Category 18 (unidentifiable) is not included here, and the nature of the material has required the addition of extra categories. The functional categories used in the histograms are as follows:

1. Objects of personal adornment or dress.
2. Toilet, surgical or pharmaceutical instruments.
3. Objects used in the manufacture or working of textiles.
4. Household utensils and furniture.
5. Objects used for recreational purposes.
6. Objects employed in weighing and measuring.
7. Objects used for, or associated with, written communication.
8. Objects associated with transport.
9. Buildings and services.
10. Tools.
11. Fasteners and fittings.
12. Objects associated with agriculture, horticulture and animal husbandry.
13. Military equipment.
14. Objects associated with religious beliefs and practices.
15. Objects and waste associated with metalworking.
16. Objects and waste associated with antler, horn and tooth-working.
17. Objects and waste associated with the manufacture of pottery vessels or pipeclay objects.
18. Objects and waste associated with woodworking.
19. Objects and waste associated with leatherworking.
20. Objects and waste associated with the glass industry.

As in the previous histograms (Figs 43-5), bulk finds are not included, and only 'small finds' have been used. Nails, slag, leather and pottery have to be considered, however, within the general analysis.

It can be seen that there is a very marked correspondence between finds from both groups. In most areas of function there is a maximum of 2.3 percent difference between the two environments. This similarity is sufficient for any deviation from the pattern to be considered significant. Category 15, objects definitely associated with metalworking, comprises 4.52 percent of finds from the

stream-bed, and is not represented in the bank dumps. Bulk finds from the stream-bed include scrap iron, such as used nails in large numbers, and slag (see above, pp. 131-139), and this sort of material is not present on the bank. This evidence backs up the contention of the excavators, Hume (1956, 67) and Greenway, that metalworking premises may have been sited on the made-up bank, scrap from which was disposed of in the stream. Category 10, tools, is represented by 3.3 percent of the finds from the banks and 10.05 percent of those from the stream-bed. Most of the tools from the stream-bed are broken knives; all of this group is in comparatively poor condition, and it may be that the disparity here results from the inclusion of broken tools in the dumps of scrap metal noted above. The difference between the two groups in Categories 7 (written communication) and 3 (textile-working) can also be accounted for by the inclusion of broken styli and needles in the stream-bed metalwork dumps.

The remainder of the finds show a range of activities covering the whole field of occupations practised in the Roman city. Heavily emphasised are dress or personal adornment (Category 1), and household goods (Category 4). This would appear to indicate a large element of domestic rubbish-dumping both in the stream and on its banks.

In view of the frequent interpretation of Walbrook stream-bed finds as votive deposits (Merrifield 1965, 143; Marsden 1980, 74-5), it is of considerable interest to note that *no* 'small find' of definite religious significance appears either in stream-bed or in bank groups. Tazzae and face-pots appear in both, and only a very few more were derived from the stream-bed than from its banks. The only stratified fragment of pipeclay figurine was found in the stream-bed. The significance of such finds as indicating the religious importance of the Walbrook is greatly reduced, however, by the fact that tazzae, face-pots and pipeclay figurines were found in quantity in rubbish dumps at Billingsgate Buildings (Green 1980, 51; 61), where they would appear to have represented debris from domestic shrines, disposed of with other domestic refuse. The same interpretation was made for similar finds from Angel Court (Rhodes 1977a). Analysis of stratified finds in the lower Walbrook does not, therefore, support a special votive significance for finds from the stream-bed.

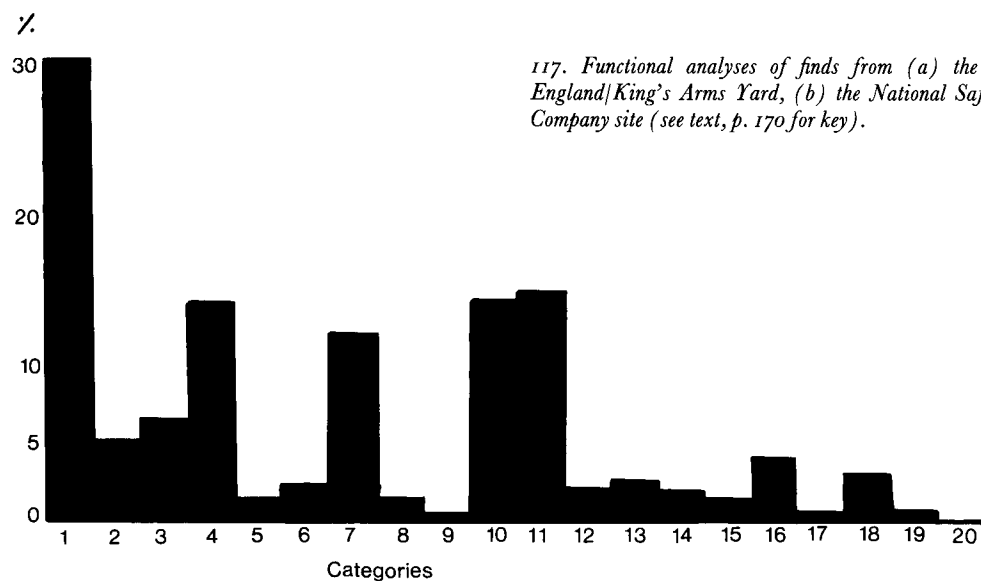
This may not be true of the upper Walbrook, where finds of many human skulls have been iden-

tified with a votive tradition associated with the Celtic cult of the head (Marsh & West 1981, 97). Nine such skulls were found at the Bank of England, and one at the National Safe Deposit Company site. None were found elsewhere in the lower Walbrook. Skull deposition seems to have been mainly limited to the upper part of the stream valley, between Finsbury Circus and London Wall, where literally hundreds have been unearthed (*loc. cit.*, 89). The comparatively small number from the lower Walbrook may have been carried from the upper region by the stream, and it is possible that the upper area was that connected with votive activity.

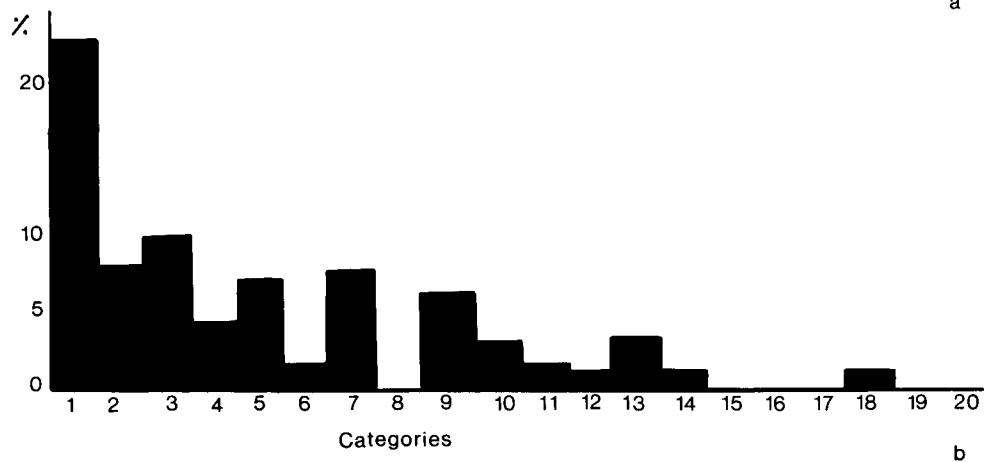
This case apart, the range of finds from the stream-bed is exactly similar to that from the banks; furthermore, it has been demonstrated that there is no evidence that more coins come

from one place than another (see above, pp. 63-64). The deposits on the bank are known to have been the product of rubbish disposal. It is necessary to conclude that the dumping of refuse, and not votive deposition, was the principal source of the Walbrook valley finds. Surviving evidence shows only one significant difference between bank and stream-bed finds, the presence of large amounts of scrap iron in the stream, which indicates that ironworking may have occurred on its banks.

It is an interesting question how far the histograms showing the functional analysis of well-stratified finds from the stream-bed and the banks reflect a pattern typical of Roman rubbish dumps in London generally. In order to make such a comparison, similar histograms have been drawn up from other groups. Fig 116c is an



117. Functional analyses of finds from (a) the Bank of England/King's Arms Yard, (b) the National Safe Deposit Company site (see text, p. 170 for key).



analysis of unstratified and identifiable objects from Bucklersbury House (Fig 43b; finds' collection Category 5), Fig 117a shows results from King's Arms Yard and the Bank of England (521 identifiable objects; 134 unidentifiable), and Fig 117b demonstrates the functions of finds from the National Safe Deposit Company site (365 identifiable objects). Not only are all these sites in the Walbrook valley, but they were also all subjected to the same methods of finds' recovery. It is remarkable how similar these histograms are. It is only Category 1 (dress) at the Bank of England which shows a significant difference from the other results. This is entirely due to the fact that leather shoes from this site have survived, whereas they have not from any of the others. If shoes are not counted, the percentage of objects related to dress drops from 33.4 to 22.7 percent, a figure identical, within 2 percent, to that obtained from the other histograms.

There is little point in comparing like with unlike, and so no histograms have been drawn up for recent sites, which have been scientifically excavated and where all finds have been recovered from small areas. At 5-12 Copthall Avenue 517 identifiable objects were recovered, of which 389 were of leather and 33 were of wood (Groves 1990). Eighty leather pieces and all the wood represented the working of organic materials, evidence for which, though noted on other sites, has not survived. Here and at Angel Court there were so few non-organic objects that no comparison can be made with the range of such material recovered from the huge open sites in the lower/middle Walbrook. For the same reason, no comparison has been made with Thames rubbish dumps such as those at Billingsgate Buildings (Jones 1980). These small sites are, however, of great use in confirming that large quantities of leather were present in the Walbrook originally. Waste from 5-12 Copthall Avenue and from Founders Court (Merrifield 1983, 104), together with Grimes's discovery of pegged-out hides which were undergoing processes associated with tanning (Grimes 1968, 97; Merrifield 1983, 104), seem to support the contention made by Hume (1956, 67) that tanneries were sited in the Walbrook valley. Further indicative evidence here is the fact that the soil beneath Feature 5 at Bucklersbury House was sufficiently highly impregnated with urine as to provide conditions in which latrine flies (*fannia* and *teichomyza fusca*) could breed (H Oldroyd, Commonwealth Institute, pers. comm.). The use of urine in the

tanning process is well known.

In conclusion, the finds sheds very little light on the specific uses of the Walbrook valley. Perhaps the main value of this work has been to demonstrate that the idea of votive deposition as a major contributory factor in the aggregation of Walbrook finds' assemblages must remain unproven and, on balance, seems highly unlikely. This study has shown that industry, particularly ironworking and tanning, was of as much importance in the lower/middle Walbrook as in the upper Walbrook, and that the area was of considerable importance for the disposal of refuse.

In the past too much emphasis has been laid on the 'near perfect' state of preservation of Walbrook finds. Many may have been accidentally lost, particularly the smaller articles, but many must have been discarded in antiquity because of superficial damage which is no longer apparent. Roman, and to some extent medieval rubbish disposal (Rhodes 1982, 90-2), especially in London, is an aspect of a well-organised society within which replacement possessions were easily obtained. As today, disposal and renewal would often be easier than repair, and one might expect rather more profligacy in this respect in a mercantile centre like 1st/2nd-century London than in a rural villa. It is for this reason that the Walbrook finds are exceptional. It is unfortunate that Roman criteria for assessing utility or lack of utility are not recoverable.

A brief comparison of these results with those from medieval rubbish dumps at Trig Lane (Rhodes 1982) has shown elements of similarity. In every case, for example, personal accessories and dress are the largest group. The results of a study of the rubbish-disposal patterns of Roman and medieval societies in London would be of considerable interest.

PART THREE: DISCUSSION AND SYNTHESIS

DISCUSSION AND SYNTHESIS

GENERAL TOPOGRAPHICAL FACTORS

It is clear from the foregoing reports that the recording on the lower and middle Walbrook sites was entirely inadequate. In fairness it should be stressed that this was not the fault of the archaeologists who worked on them, and it should be recognised that in most cases individuals were working in nearly impossible conditions. The poor quality of the evidence, however, makes the task of synthesis very difficult. Most of the sites lack valid, stratified dating evidence, and the vast majority of finds are unstratified or of uncertain provenance. The records of structures and stratigraphy are sketchy where they exist at all, and structures tend to have been recorded in total isolation from the material around them. Such stratigraphic information as was recorded is only meaningful in demonstrating broad trends and does not illuminate the detailed history of the sites.

The lacunae in our knowledge of the archaeology mean that comparisons between sites are possible only in the very broadest terms. This is particularly well demonstrated by the detailed material currently emerging from work in the upper Walbrook, which is raising points of comparison that cannot adequately be met by the middle Walbrook evidence (see Maloney 1990). The various ambiguities in the status of the finds, which are discussed above (pp. 61-67), are particularly important for the purpose of synthesis. They necessitate revised interpretations of the uses to which the valley was put in the earlier Roman period. Though the validity of previous ideas may be questioned, however, it is not always possible to replace them with firm conclusions. The overall significance of the material can only be considered if these limitations are borne in mind.

It was not uncommon for a major Roman town to be situated beside an important waterway – as London was sited upon the Thames. In no other major town in Britain, however, was there a

watercourse running through the centre of an urban area (in Canterbury the original line of the Great Stour was on the west side of the Roman town (Canterbury Archaeological Trust 1982), though in the mid 2nd century part of the street grid (Wacher 1974, 188) did cross the river). Continental parallels have also been sought without success. We have, therefore, no comparative material to help in understanding the role of such an element in Roman urban topography or the way in which the inhabitants of a town might make use of it.

The Walbrook valley would have caused considerable inconvenience in the laying out of the city had it been part of the original planned area. It has often been asserted (Merrifield 1983, 51) that the Walbrook was the original western edge of the city. The planned area between the bridge and later forum on Cornhill was certainly the early town centre (Marsden 1980, 47), and was the focus of burning in the Boudiccan fire of AD 60-1. Burning relating to this conflagration has, however, also been found to the west of the Walbrook (Merrifield 1983, 21 & Fig 4), and it may be that any original boundary on the Walbrook was not long-lived.

There is no evidence of pre-Boudiccan work or occupation within the valley, and it seems that up to this time the stream was left in its natural state. There is as yet insufficient evidence to indicate the nature of the lower/middle Walbrook during the period before the establishment of the Roman city. It is, however, possible to suggest its general character by means of evidence from the upper Walbrook, where a series of convergent streams have been found cutting through natural strata. One of these was sufficiently wide to have been a main stream into which the others ran. Though this stream recut its course several times in prehistory, it remained a well-defined watercourse running roughly east-west for a short distance immediately north of the City and then turning sharply to the south in the London Wall

area (Fig 2.8; Maloney 1990, Figs 25-7). There was no evidence at this point for the presence of either a marsh or flooding. It would thus appear that the stream was a clear and established southward-flowing brook with a number of smaller tributaries; it had gradually formed its valley and 'flood plain' by means of moderate changes in course and the consequent creation of new stream-beds over a long period. As demonstrated above (p. 16), the gradient of the stream valley was not steep, and so one cannot visualise a fast-flowing body of water: a torrent would tend to cut a much steeper profile.

Evidence for the earliest canalisation of the stream can only tentatively be related to the earliest layout of the City. The most important element in this was the crossing of the stream by the main east-west roads along Cheapside and Cannon Street (Fig 13). The date of the southern, Cannon Street, road is not well established, and was not noted at Bucklersbury House. The road whose line is followed by Cheapside, however, dates to *c.*AD 50 (Marsden 1980, 21-2). It is one of the earliest features of Roman London, running westwards and northwards towards Verulamium. The crossing of the Walbrook must have predated the Boudiccan Fire, and therefore predated all activity within the valley. The area of Revetment 2 at Bucklersbury House is sufficiently close to the line of the road to demonstrate the date of the earliest revetting near the crossing. The most important dating evidence is the samian ware, which is reinforced by the coarse pottery. Group ER 268E (Fig 46), the earliest Roman deposit in the stream-bed, is dated to the Claudian to early Flavian period. The earliest deposit on the bank, associated with the first stream revetment and directly overlying natural strata (ER 268F), gave a similar date (Fig 46), which could, however, be further narrowed down to *c.*AD 60-80. There is a possibility that the earlier material from the stream-bed was composed of pre-Flavian refuse, but it seems that the earliest revetment of the stream bank here, and therefore the earliest occupation, was in fact Flavian. Evidence for a Flavian date from the earliest revetment is not confined to these sites, for at Midland Bank, Poultry (Birley 1929, 37) and in the Upper Thames Street sewer (Fig 2.45), at the southern limit of the stream valley, samian of early Flavian date (ER 421; Geoff Dannell, pers. comm.) has been found underlying, or even pierced by, the earliest stakes of the stream revetment (Birley 1929, 38). At Angel Court in the upper Walbrook

there was no evidence for any activity before the later 1st century (Blurton 1977, 18), and this was also true at Cophall Avenue (Maloney 1990).

On the sites under consideration here pre-Boudiccan occupation was recorded only on the east side of the Walbrook at St Swithin's House, where the pit assemblage ER 1577 (Hume & Hume 1954) resulted from the destruction of a building with a tiled floor (Fig 27). This occupation, however, lay beyond the eastern lip of the Walbrook valley, and it appears to demonstrate the westernmost extent of domestic occupation at the nucleus of the emerging city on Cornhill.

The question of the use to which the revetted stream was put largely depends upon the interpretation of the finds' evidence. There are, in effect, two questions to be answered. First, what was the topographical significance of the stream? How was it used in drainage and water supply, and how was it controlled? Secondly, what type of occupation existed on its banks, and what activities took place in the valley at large? So different are the answers to these questions in the 1st/2nd centuries from those in the mid 2nd to 4th that it is appropriate to divide the discussion chronologically.

1ST TO MID 2ND CENTURIES

As suggested above, the 1st to mid 2nd centuries were characterised by an attempt gradually to raise the ground level in the stream valley, and to drain the upper Walbrook basin. The revetting of the small tributary channel at Angel Court, the systems of channels noted by Dunning in Moorgate, and the drainage systems found at Cophall Avenue, reveal the latter part of this operation (Blurton 1977, 21; Maloney 1990). The excavations at Cophall Avenue in 1981 and 1983 have revealed how sophisticated were the means used to organise water flow in the upper Walbrook. Here the land was cleared of vegetation and the ground level was artificially raised by the deposition of clay and, later, organic dumps, which consisted of refuse from leather and bone-working industries as well as many objects redolent of domestic occupation. The dumps were intersected by gullies provided to channel water from the network of tributaries and also, presumably, to carry run-off water from rain and flooding.

The large scale of this operation is demonstrated by the frequency with which timber-lined channels have been found in the upper Walbrook basin (see above, p. 14; Fig 2.1-30). This widespread programme of drainage had only one outlet to the Thames, in the form of the revetted main stream as recorded at Bucklersbury House. It seems likely that the drainage system, or canalisation of many small streams, in the upper Walbrook was carefully engineered to form a large-scale network of channels converging and flowing into a single watercourse which ran between the two low 'hills' of Roman London. The point (or points) at which this convergence might have been planned has not been identified, but there is some indication of its possible location. At King's Arms Yard (p. 56) a revetted channel was identified, but a further tributary channel was also present on the adjacent site of Founders Court (p. 57). This was indicated by a drop in the level of the natural gravel. To the south of this, apart from other major naturally-occurring tributaries, there was only one watercourse. There is no evidence to suggest that these tributaries were the outlets of other major drainage systems. As the single watercourse is first noted at the Bank of England, it seems reasonable to suggest that it began somewhere in the area of Lothbury. It is probable that the revetted stream was deliberately planned as an aspect of the upstream reclamation scheme. The innovations to the north would be reliant upon an effective and satisfactory outlet to the Thames.

At Copthall Avenue it was noted that no flooding occurred before the advent of the Roman settlement; by the 1st century, however, flooding had begun to occur. The flooding was localised, however, and may have taken place simply because there was inadequate provision of channels. In the 3rd century more flooding occurred. This may have had a variety of causes.

A rise in the water-table, consequent on a rise in the level of the River Thames, has often been suggested as a reason for flooding in the Walbrook valley (Merrifield 1983, 146-7). The level of the Thames in the Roman period is still problematic, despite increasing work on the waterfront. In the most recent summary (Milne et al 1983), it is made clear that the Thames was tidal during the mid 1st century, the highest flood tide reaching +1.5-1.6m OD. It is concluded that the water level varied in normal tides between +1.25m OD and Ordnance Datum. It should be remembered that the low level of the Walbrook bed to the south

of Bucklersbury House was on the surface of the solid London Clay, and natural silt accumulations are not taken into account; however, the lower range of the above figure is consistent with the level of the unsilted stream-bed to the south of Bucklersbury House, and, even if tidal backing-up took place, it is doubtful that this would have reached the higher reaches of the stream.

Another possible explanation of flooding in the Walbrook valley is that it was caused by human activity. Possibly the flow of the stream was hampered, and the deliberate channelling of water to the main stream created a volume greater than the revetments could cope with. Flooding was countered at Copthall Avenue by the continuation and sophistication of the drainage programme. Larger drainage ditches were dug, and make-up dumps of clay were laid down up to the edges of the ditches. Organic dumps occurred as make-up after this preliminary drainage period. The latter must have been imported from elsewhere in the city, as no occupation had yet occurred in the area.

Simultaneously with the make-up activity at Copthall Avenue, there occurred the dumping and occupation in the lower and middle Walbrook which resulted in the rapid rise in ground level and the deposition of the large numbers of Walbrook finds. The best statement of the nature of the bank deposits remains that of Grimes (1968, 93-4). Material recorded from the excavations described above can only support his conclusions. There was, he writes, a '... succession of artificial deposits with their associated timber elements ... The deposits consisted of layers of mixed and variable material, often containing much clay, put down to provide fresh living surfaces. The timber structures were mainly related to the floors themselves, or to the various devices used for dealing with the wet conditions on the site'. Elsewhere Noël Hume recorded timber-lined channels which occurred quite frequently and all discharged into the stream. These were probably provided to drain the area of subsequent surface water, either occasioned by flooding or by run-off from the hills on either side of the valley.

It was not only for the disposal of water that timber structures were used on the sites, but also for its supply. Twelve wells have so far been found in the Walbrook valley, as have both timber and ceramic water-pipes (Wilmott 1982b, 241). Bored wooden pipes with iron collars or connecting joints have been found at the Bank of England and at Bucklersbury House (Grimes 1968, 96).

The dimensions and the work involved in the manufacture of these pipes make it unlikely that they were used for anything other than the supply of fresh water. It is probable that they functioned with the wells in exploiting the high water-table (Wilmott 1982b, 241).

As such great efforts were being made to dispose of water, it seems curious to suggest that water was being dug for or piped into the valley. If, however, the Walbrook was heavily polluted, the supply of fresh water would have been a necessity. One element causing pollution was undoubtedly the upstream reclamation work. Seepage from make-up dumps would inevitably find its way down the main stream. Silt from these operations may well have been partially responsible for the rapid silting of the stream, and the slow rate of flow of the stream would also contribute to this. It has long been recognised (eg. Merrifield 1983, 104) that much of the material dumped in the Walbrook valley to raise the banks was organic in character, and like the Thames waterfront dumps, contained domestic refuse. Run-off water from these deposits and erosion of the banks by the stream would contribute considerably to pollution by leaching decomposition products out of the organic material. The most serious pollutants, however, must have been the by-products of industry practised on the banks. Reasons for the belief that industry was located in the Walbrook valley have been cited above (p. 168-171). Particularly convincing is the evidence for iron- and leatherworking, as shown by the quantity of iron slag and waste found in the stream-bed and the discovery by Grimes of tanning processes being carried out *in situ*. At Cophall Avenue and Founders Court enormous amounts of leather off-cuts and waste were found. At Cophall Avenue furnaces and glass slag were recorded within industrial structures. It seems certain that many of the water-using, dirty industries of Roman London were sited in the valley of the Walbrook, and that the discharge from these industries caused river pollution. The leather industry appears to have been one of the foremost activities, and its noxious by-products would be a particularly effective pollutant.

One interesting aspect of the use of the stream is the probable presence of watermills. These are well-known in the Roman world (Moritz 1958) and are becoming better attested in Britain (Young 1975; Wilmott & Rahtz 1985). Three mill stones of Mayen lava have been found at Bucklersbury House (MOL Accession Nos 20637-

9). All of these are very large, ranging from 0.80 to 1.00m in diameter. All are lower stones, except for No 20637, which features the dovetail-shaped notch which accommodated the end of the drive-shaft of a mechanical mill. Hand-operated querns have been found in the Walbrook valley at Tokenhouse Yard and the Bank of England (MOL collection), and an animal-powered mill was found in the valley at Princes Street (Birley 1929), but the millstones from Bucklersbury House are the only powered examples to have survived. This suggests that a watermill must have been sited near Bucklersbury House, as it is very unlikely that such stones would have been moved far from their parent structure. Large quantities of burnt and carbonised wheat were found at the National Safe Deposit Company site (Price 1873, 66), and it is not impossible that this was in store at a mill when burned. Marsden (1980, 72) has suggested that the stepping-in of the bank at Revetment 2 at Bucklersbury House represents a mill site. This seems plausible, since the stream would need to be narrowed to accommodate a wheel. Such narrowing would have the additional advantage of speeding the water flow. No evidence, however, was found for a by-pass channel which would have been an essential feature of such a mill.

The lower Walbrook valley was not built up much. Such buildings as were constructed were of timber and would probably have been no more than sheds based on pile and beam foundations, as described by Grimes (1968, 99). These would have been chiefly industrial premises. The existence of some dwellings of pretension is shown by the painted plaster associated with Feature 72/3 at St Swithin's House. Here, beyond the banks to the east, on the dry lower slopes of Cornhill, the evidence shows a higher-quality structure, also timber-built, but with similarities to the buildings found at Watling Court (Perring 1981, 103-5; Perring & Roskams forthcoming). Unlike those in the valley, these will have comprised solid, well-constructed and comfortable domestic quarters.

Despite the frequently repeated assertions that the Walbrook valley was sacred, evidence in the lower part of the stream is very slight. It has been shown above (p. 171) that finds from the stream-bed and banks are almost identical in every respect. The evidence, when studied closely, fails to support the idea of a strong votive tradition. The possibility remains that the decorated wood panel associated with a face pot (Feature 8 at Bucklersbury House) represents a shrine. How-

ever, such a shrine need not have been connected with the sanctity of the stream, but more probably represented a guild shrine operated by the artisans at work in the valley. It does not seem very likely that the sort of functional, polluted watercourse postulated above would have been the focus of religious devotion.

Excavation has not produced much reliable evidence to show the timescale within which the build-up of the banks of the lower Walbrook and its associated occupation patterns might have taken place. The numismatic evidence (pp. 72-77), however, gives scope for a number of valid general inferences. At the Bank of England and Bucklersbury House, coin loss comes to a peak during the early Flavian period. This is noted above as the probable date at which the sequence of dumping and revetting was begun. The 'Fishbourne effect', noted by Reece (1971, 99; Mann & Reece 1983, 70) both at Fishbourne and at Lincoln, suggests that peaks of coin loss often represent phases of construction or dumping, and that ensuing efforts to keep surfaces clean may be represented by a fall in the number of coins deposited. This being so, it may be that a period of extensive dumping is represented by this peak in coin loss. It is of interest that patterns of coin loss in the valley are different from those in other areas. The pattern at St Swithin's House is similar to that on the western side of the Walbrook, where domestic building of a markedly similar character took place.

Evidence for the Hadrianic Fire was plentiful at St Swithin's House, and it is possible that the valley of the Walbrook was also affected. Certainly the nature of some of the valley dumps (ER Nos 250-3) suggests that Hadrianic Fire debris was used to consolidate further the stream banks.

By the third quarter of the 2nd century the silt between the stream revetments at Bucklersbury House was 2.50m deep, an accumulation which was the result of 100-125 years' deposition and which clearly shows a rapid rise in the level of the Walbrook. The banks had perforce risen to the same level. It was at this stage that a change in the occupation pattern in the valley emerged.

For many years the collapse of the Walbrook Revetment 14 at Bucklersbury House has been seen as symptomatic of a change in the nature of the Walbrook valley at large. The revetments, according to the received theory, collapsed; activity in the valley, attested by massive coin loss, also ceased; and the stream began to pursue its own course between undefined and unmaintained banks. The accepted date for this is c.AD 155, when coin loss stopped, and when a coin of Marcus Aurelius was deposited above the collapsed stream revetment (see, most recently, Merrifield 1983, 146).

Work in the upper Walbrook, and reassessment of the lower and middle Walbrook, however, complicate this simple picture, which postulates a deserted valley, reverting to marshland in the later 2nd to mid 3rd centuries (*ibid.*). The observation on which the received theory is based was made by Merrifield (1962, 47): 'It is . . . reasonable to assume that coins and other metal objects were dropped into the stream in considerable quantities until a date when coins of Antoninus Pius were in circulation in London, but that the process had stopped before coins of the reign of Marcus Aurelius were in general use here.' The only alteration one might make is to substitute 'into the stream' with 'in the valley', an important change of emphasis based on the present analyses of the finds. In his comparison of Walbrook with Thames coin finds, Merrifield (1962, 48) concludes that: 'The break in the flow of coins in the reign of Antoninus Pius appears . . . to be a purely local phenomenon of the lower part of the Walbrook stream and must indicate a *change in the nature of occupation* in this part of Roman London. It seems likely that this change can be dated closely to the years immediately following AD 155 when coins . . . ceased to be dropped in any quantity.' (my italics).

Stressing the industrial function of the Walbrook, Merrifield suggested that the commercial centre had moved elsewhere because of a rise in the level of the Thames, which had caused the Walbrook valley to become uninhabitable. This idea has been somewhat overshadowed in recent years because of the tendency to give undue emphasis to a 'votive' tradition. It has been revived, however, in the most recent synthesis of Roman London, where Merrifield attributes the cessation of occupation in the Walbrook valley to

flooding after a failure to maintain the stream revetments and a rise in the level of the Thames. This failure he sees as consequent upon a decline in later 2nd-century London (Merrifield 1983, 147). A collapse in industry is consistent with the general trend of evidence which indicates a post-Hadrianic decline, and it is no longer necessary to postulate a shift in the focus of industrial activity to some other unspecified area.

At Revetment 14 the collapsed revetment was directly sealed by a context which produced a coin of Marcus Aurelius, but the context also contained pottery dated to *c.*AD 180+, and the group might be dated as late as the early 3rd century. The coin of Aurelius is thus residual by at least 30 years. This being the case, the coin does not date the collapse of the revetment, and the possibility clearly exists that occupation in the area before the collapse continued for a long time after the usually quoted date. This is in accord with developments further to the north, at Angel Court and Copthall Avenue. At Angel Court coin loss actually increased between AD 139 and 161, and a flurry of activity in the late 2nd and 3rd centuries is represented by the constant renewal of buildings at Copthall Avenue and the construction of new buildings on sites such as Telegraph Street (Maloney 1990). This presents a picture which is in strong contrast to the idea of a deserted lower Walbrook. In the upper Walbrook this period marked the end of the process of land reclamation, though it would appear that drainage channels remained in operation. Dumping was no longer necessary to raise the ground level. It is likely that the same was true of the area towards the outlet of the same drainage system. If one accepts the arguments of Reece (1971), then one could suggest that the break in the coin sequence is at least partially due to the completion of a long-term reclamation or drainage project in the middle Walbrook. This would fit well with the results for the upper valley.

A further reason for the sudden drop in coin loss could be the cessation or collapse of industry in the Walbrook area. Marsden has suggested (1980, 110) that the general decline of *Londinium* was partially due to its growing irrelevance as a centre for the distribution of goods, as the internal economy of Britain developed. The early, rapid appearance of the Walbrook industries is consistent with an exploitation of the trading routes which resulted from an early, flourishing entrepôt trade in London. During the later 1st and 2nd centuries most of southern and midland Britain

would have been within the trading hinterland of *Londinium*. As the commercial life of Britain as a whole grew in importance, so London would have become less vital (*ibid.*). As trading contacts were lost, the lack of customers in the immediate London area would in itself be an adequate reason for the decline of industries which might thus have been denied a market.

Three factors have been suggested as affecting the Walbrook valley in the early to mid 2nd centuries: the Hadrianic Fire (*c.*AD 125-130), economic collapse, and a rise in the Thames – or at least a failure to maintain revetments – forcing a reversion to marsh. The first two of these are linked. Marsden (1980, 108) shows that economic decline must have begun before the fire because, depending on the area, recovery was either slow or non-existent. For the third suggestion there is little evidence other than the cessation of coin deposition. Other indicators suggest that the area did not revert to marshland. Particularly important is the date of the buildings in the upper Walbrook and their maintenance for a considerable period. This suggests a continuation in stream management and considerable advances in reclamation during the proposed period of reversion. At the Bank of England there are still clearer signs that the banks had reached a stable condition by the mid 2nd century. It has been suggested above (p. 146) that the two mosaics found in the 1930s date to the Antonine period. The mosaic with the missing central panel is dated by comparison with the almost identical Milk Street pavement; this was laid immediately after the Hadrianic Fire, in a building which fell into disuse by *c.*AD 170 (Merrifield 1983, 126). The Bank mosaic lay very close to the stream; we can be certain that if there was danger of flooding and silt deposition, fine floors like this one simply would not have been laid where they were.

That the later 2nd-century and subsequent occupation of the lower valley was wholly different from that in the 1st and early 2nd centuries cannot be doubted. Widely-spaced stone buildings were constructed at Bucklersbury House, St Swithin's House, the Bank of England, Founders Court and around the Bucklersbury Pavement. Many of these were founded on piles driven deep into the made ground formed by the 1st/2nd-century accumulations. Many were adorned with fine mosaics which can be broadly dated stylistically to the later 2nd and early 3rd centuries. Building D at St Swithin's House is dated to the same period by a samian sherd beneath its floor,

and the most recently published date for the Mithraeum is c.AD 240-50 (Toynbee 1986, 1). Section A-B at Bucklersbury House (Fig 9) shows a 0.98m depth of building-debris overlying the earlier organic dumps. This raised the ground to a level similar to that at which the nearby stone building, Feature 1, was constructed. This seems typical of the preparations made for many 3rd-century buildings.

CONCLUSIONS

A model can therefore be suggested for the development of the Walbrook valley during the Roman period. Over a 50-year period the lower Walbrook was transformed. During the 1st/2nd-century drainage programme the area was devoted to industry and dumping. The main stream acted as an outlet of a major scheme of drainage to the north. On completion of this programme, building took place in the upper Walbrook; the continued use of this area implies continued maintenance of a main stream outlet from c.160 well into the 3rd century. This period, however, saw the cessation of industrial activity in the lower Walbrook. Though the mechanics of this change cannot be suggested with confidence, it seems likely that this was symptomatic of a more general decline in Roman London noted by Marsden (1980) and Merrifield (1983).

The argument that this change was due to the reversion of the valley to marsh is far from proven, however. Though Revetment 14 did collapse at some time between AD 160/180 and the mid 3rd century, the limited observation here is a highly uncertain guide to more general conditions, especially given the complexity of revetment sequences in the upper Walbrook. It is clear from Grimes's Walbrook section that at a late date there were no revetments to the Walbrook banks. This phase was not recorded by the Guildhall Museum. At what date these conditions supervened was not established, but it seemed contemporary with the use of the Mithraeum, which stood on the very edge of the stream. The floors of the Mithraeum have been thoroughly excavated and show nothing of the rapid raising of ground level typical of the 1st and 2nd centuries. During a period of over a century it received only eight new floor surfaces. This is no

more than one might expect for any Roman building over a comparable period, and less than appears in some structures. It is certainly unnecessary to invoke waterlogging as a reason for the renewal of floors.

The recent recognition of widespread layers of 'dark earth' over much of Roman London (Merrifield 1983, 140-4) is of importance here, as it demonstrates that there was no shortage of free land during the later 2nd and 3rd centuries. On the contrary, large areas of the city were free of building. This means that there would be no pressure on land, forcing people to occupy more undesirable sites. The lower Walbrook valley was, by this time, a place consciously chosen in which to build fine town houses with every display of opulence, as well as a temple to the highly influential cult of Mithras. It is inconceivable that such structures would have been erected here if there was any danger of flooding. It seems probable that by this time the banks were consolidated to such a degree that no revetments were any longer necessary. Once again the stream may have found its own way to the Thames, without the volume of drainage water of earlier centuries. A renewed 'natural' stream valley would probably have been a pleasant place in which to settle.

It is unfortunate that no terminal date can be given for Roman occupation on any lower or middle Walbrook site. Grimes (1968, 98) suggests that some kind of stream control existed into the early post-Roman period. The work at Copthall Avenue provides evidence that systematic maintenance broke down in the late 3rd or 4th century (Maloney 1982; 1990) when the upper Walbrook began to revert to marsh. It is very probable that a similar reversion did, in fact, now begin in the lower valley also.

APPENDIX: SUPPLEMENTARY COIN LISTS FOR THE BANK OF ENGLAND AND KING'S ARMS YARD SITES

This Appendix is included to complete publication of the Walbrook coins, supplementing Merrifield (1960; 1962)

COINS FROM THE BANK OF ENGLAND SITE

Coins held by the Bank of England

359. Tiberius
As, AD 10-21. AE, 24mm.
Worn.
o. Inscription illegible.
Laureate head r.
R. ROM ET AUG Altar of
Lugdunum.
360. Nero
As, AD 63-8. AE, 26mm.
Worn. *RIC* 329.
361. Nero
As, AD 63-8. AE, 26mm.
Worn. *RIC* 329.
362. Vespasian
As, AD 71. AE, 28mm.
Worn. *RIC* 500.
363. Vespasian
As, AD 71-3. AE, 27mm.
Worn. *RIC* 497, 528 or 747.
364. Vespasian
Dupondius, AD 72-3.
Orichalcum, 27mm.
Good condition. *RIC* 740.
365. Vespasian
Sestertius, AD 77-8.
Orichalcum, 35mm.
Good condition. *RIC* 752.
366. Vespasian
Sestertius, AD 77-8.
Orichalcum, 35mm.
Worn. ?*RIC* 752.
367. Vespasian
As, AD 77-8. AE, 25mm.
Worn. *RIC* 763.
368. Vespasian
As, AD 77-8. AE, 27mm.
Worn. *RIC* 595/6 or 762.
369. Vespasian
Dupondius, AD 77-8.
Orichalcum, 27mm.
Worn. *RIC* 753.
370. Vespasian
As, AD 77-8. AE, 27mm.
Worn. *RIC* 758.
371. Vespasian
Dupondius, AD 77-8.
Orichalcum, 27mm.
Worn. *BMC* 833.
372. Vespasian
Dupondius, AD 71-8.
Orichalcum, 27mm.
Very worn.
o. [I]M[P C]AES VESPASIAN
AUG [. . .]
Radiate head, r.
R. sc Winged Victory
advancing l., holding shield.
373. Domitian
As, AD 86. AE, 29mm.
Worn. *RIC* 335.
374. Domitian
As, AD 86. AE, 28mm.
Worn. *RIC* 335.
375. Domitian
As, AD 87. AE, 26mm.
Very worn.
o. [. . .] cos XIII [. . .]
Laureate head, r.
R. Female figure standing l.,
holding cornucopiae.
376. Domitian
As, AD 87. AE, 26mm.
Good condition/worn. *RIC*
354a.
377. Domitian
As, AD 86. AE, 25mm.
Worn. *RIC* 333.
378. Trajan
As, AD 98-9. AE, 26mm.
Worn. *RIC* 402.
379. Hadrian
Sestertius, AD 117-38.
Orichalcum, 32mm.
Very worn.
o. [. . .] vs [. . .] Laureate
head, r.
R. Illegible.
380. Hadrian
As, AD 117-38. AE, 26mm.
Worn and corroded.
o. IMP CAESAR TRAIANVS
HADRIANVS [. . .]
Laureate head, r.
R. sc Inscription illegible.
Female figure standing l.,
holding cornucopiae.
381. Antoninus Pius
As, AD 138-61. AE, 26mm.
Worn and corroded.
o. [. . .] vs PP TRP [. . .]
Laureate head, r.
R. Inscription illegible.
Seated figure, l.

382. Antoninus Pius
As, AD 138-61. AE, 24mm.
Corroded.
o. Inscription illegible.
Head, r.
r. Inscription illegible.
Female figure seated l. on throne.
383. Unidentifiable
Sestertius, 2nd-early 3rd century AD. AE, 32mm.
Very corroded.
o. Head, r.
r. Standing female figure.
384. Elagabalus
Denarius, AD 218-22. AR, 18mm.
Good condition. *RIC* 106-9.
385. House of Constantine
AD 330-35. AE, 15mm.
Worn. Contemporary copy.
o. Inscription illegible.
?Diademed head, r.
r. *Gloria Exercitus* type. Two soldiers with two standards between them.
386. Constantine I
AD 307-9. AE, 25mm.
Corroded.
o. IMP CONSTANTINVS PF AVG
Laureate head, r.
r. [. . .] PATR[. . .] Mars
r., holding spear and shield.
Mint: Trier.
387. ?Claudius
As, ?mid 1st century AD. AE, 22mm.
Very corroded.
?Contemporary copy.
o. Head, l.
r. sc Female figure, ?Spes.
388. ?Domitian
As, late 1st century AD. AE, 25mm.
Worn and corroded.
o. Head, r.
r. [. . .] RP[. . .] Female figure with shield,
?Minerva.

Coins held by the Museum of London

(First column: MOL Accession No.; 2nd column: MOL coin reference number)

11825. (Ao24)
Vespasian
As, AD 71. AE, 27mm.
Worn. *RIC* 494.
11828. (Au22)
Hadrian
Sestertius, AD 117-38.
Orichalcum, 34mm.
Worn and corroded.
o. [IMP CAESAR TRAIANVS HA]DRIA[NVS AVG]
r. Illegible.
11826. (Ba5)
M Aurelius
Sestertius, AD 170-1. AE, 30mm.
Worn and corroded. *RIC* 1001.
11827. (Bx23)
Severus Alexander
Denarius, AD 231-5. AR, 19mm.
Corroded. *RIC* 250.
11828. (U1)
Unidentifiable
As, 2nd century AD. AE, 25mm.
Worn.
o. Head, r.
11829. (U2)
?Vespasian
Dupondius, ?AD 69-79. AE, 27mm.
Worn and corroded.
o. Head, r.
r. [s]c. Victory advancing l., with shield.

Coins from King's Arms Yard in the Museum of London

(Second column: MOL coin reference number)

- ER 489. (Ai51)
Nero
As, AD 64-6. AE, 30mm.
Corroded. *RIC* 329
- ER 489. (Ao101)
Vespasian
As, AD 77-8. AE, 28mm.
Corroded. *RIC* 764b.
- ER 487. (Aq53)
Domitian
As, AD 84-96. AE, 29mm.
Corroded.
o. IMP CAES DOMIT AVG
[. . .] Laureate head, r.
r. Standing figure, l.
- ER 455. (Ba16)
M Aurelius
As, AD 154-5. AE, 24mm.
Worn. *RIC* Antoninus Pius 1322.
(Bx32)
Severus Alexander
Colonial coinage of
?Sidon, AD 222-35.
Orichalcum, 28mm.
Worn and corroded.
o. Inscription illegible.
Laureate bust, r.
r. Ship.
- ER 489. (U19)
Vespasian/Titus
As, AD 69-81. AE, 27mm.
Worn.
o. Inscription illegible.
Bust, r.
r. Illegible. Seated figure r., ?Securitas.
- ER 530. (X577)
Radiate copy
Late 3rd century AD. AE, 16mm.
Corroded.
o. Radiate head, r.
r. ?Standing figure.

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Among the towns of Roman Britain, London is unusual in having a substantial water-course, the Walbrook stream, running through its centre. Despite the virtually complete destruction of the archaeology of the Middle Walbrook by building and post-war reconstruction between 1933 and 1960, a series of important archaeological investigations were made in the area by the Guildhall Museum.

This volume is the first full synthesis of these operations. The structures and stratigraphy of the seven sites reported on are reconsidered, and a model for the development of the area is suggested. The Middle Walbrook sites are noted for the huge volume of Roman finds recovered, and for many years these have been thought of as votive deposits. The evidence for this is reconsidered, and serious doubt cast on this interpretation.



Wilmott, T
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