EARLY ROMAN DEVELOPMENT AT LEADENHALL COURT, LONDON AND RELATED RESEARCH

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SUMMARY

The Leadenhall Court programme of rescue excavations which took place between 1984 and 1986 was primarily designed to record the remains of the 2nd-century Basilica. However, sealed beneath that structure were the remains of 23 earlier buildings, built between AD 70 and AD 100. Initially, the site lay just beyond the main focus of the settlement, since a cremation cemetery dated to c.AD 60 was recorded on the excavation. However, by AD 75 an insula of closely-spaced brickearth and timber strip buildings had been laid out as the town expanded northwards. Each building had a yard at the rear, with outhouses, wells, latrine pits and middens, from which artefacts and animal bones were recovered. The entire area was sealed beneath the construction levels for the next major development phase, that of the 2nd-century Basilica and its associated roads. The huts, stores and offices of that construction site were also represented on the excavation. It is the last three contrasting developments: the suburban farm, the urban insula and the construction site which are studied in detail in this report.

In total, the remains of the 23 vernacular buildings and the associated assemblages were therefore part of a completely sealed group, representing activity in the 30-year period which marked the elevation of the town from a trading settlement to the provincial capital. The material clearly merited a detailed and integrated study, and the results of that research are represented in this report.

The background to the project is discussed in Part 1; the development of the site in the 1st century is summarised in Part 2, together with an illustrated description and discussion of the buildings and building materials utilised in their construction. The environmental evidence is considered in Part 3. The botanical and faunal remains are discussed and the interpretations are used to support the suggestion that an agricultural phase preceded the urban expansion in the c.AD 80s. The accessioned finds described in Part 4 include a large glass assemblage. The finds studies facilitated the identification of the relative status of the buildings.

The detailed description of the ceramic material in Part 5 made it possible to refine the pottery dating used hitherto on London sites with the identification of at least two subdivisions of Roman Ceramic Phase 2. Part 6 attempts to establish the comparative status and degree of 'Romanisation' of the households represented. This research programme shows the considerable interpretative value of the combined study of structures, associated artefacts and environmental evidence, the first time such an exercise has been conducted on this scale in a London excavation project. The concluding Part 7 provides an evaluation, in which the developments are set in perspective by comparison with other work in the City.

1. INTRODUCTION (Figs 1–2)

The new building called Leadenhall Court lies at the junction of Gracechurch Street and Leadenhall Street, between the late 19th-century Leadenhall Market and the late 20th-century Lloyds building. It occupies part of the summit of the Cornhill, the eastern of the two gentle hills that lie within the walled area of the Roman town of *Londinium* . The rescue excavations which took place on the Leadenhall Court site between 1984 and 1986 were initially designed to record the remains of the Roman Basilica, built there in the 2nd century and rediscovered in the 1880s beneath the market building to the south (RCHM 1928; Marsden 1987; Milne 1992). Negotiations between the developers, Legal and General Assurance Company, and the Museum began in 1983, but the first excavations did not take place until January 1985. These were confined to five small trenches cut in the basement of a standing building at 91-2 Gracechurch Street (Fig 2 Area D). The work took less than two months, using a team of six experienced archaeologists.

The results revealed the richness of the site, for they proved to the satisfaction of the Museum, English Heritage and the developers that, in addition to the substantial remains of the Basilica (Brigham 1990) and the 15th-century medieval market (Samuel 1989), earlier Roman buildings had also survived. It is with these particular vernacular buildings and associated material that this report is concerned. A major archaeological investigation was clearly needed to record the ancient levels before their destruction in the proposed development. Through the good offices of their director, Jeremy Edwards, Legal and General agreed to give generous support in cash and kind to the project, to which English Heritage also promised major contributions. Armed with this information, the next phase of excavations was planned around the developers' demolition programme, which was in turn determined by the speed with which tenants moved out, a factor beyond the control of both the Museum and the developers.

Three large open areas were ultimately excavated after some of the properties were cleared and demolished: Area N from November 1985 to September 1986, Area W from May 1986 for five months, and Area S from June of that year for four months. By this date, a three-man team had dug a series of trenches in the basements of the Metal Exchange Buildings to

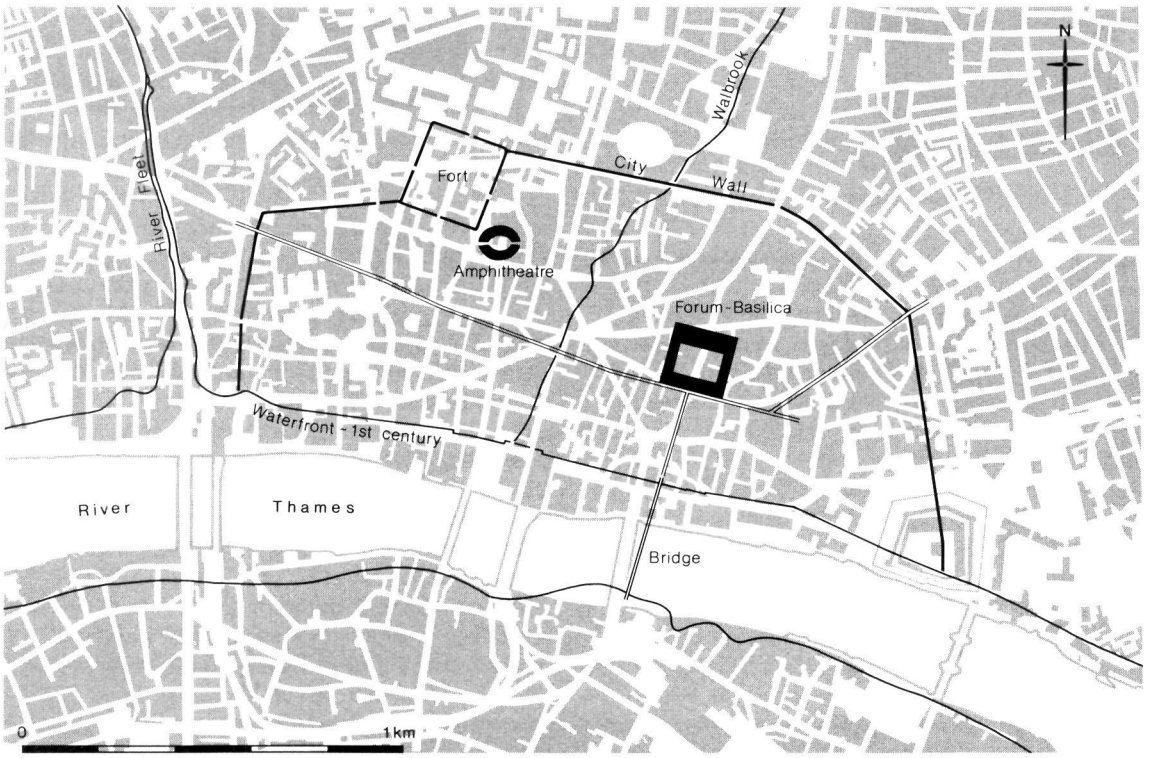

Fig 1. Plan of present-day City showing location of Roman forum and basilica in relation to fort at Cripplegate, amphitheatre and line of 3rd-century town wall

the south (Area M) which were not demolished until after the Museum team left the site in September. During the summer of that year, there were some 40 professional archaeologists working on the site, supported by the finds processing team and loyal volunteers. The Museum team worked a five-day week, but the site was also open on Sundays, when the City of London Archaeological Society volunteer group turned out in force. During the month of December 1986, a small Museum team returned to the cleared site to monitor the contractor's earth-moving operations. Two large Poclain 190s were working in tandem, lowering the ground surface for the insertion of the new basement, the floor of which lay well below the level of the earliest Roman features.

Work then began on the substantial quantities of pottery and other artefacts which had to be processed, and on an assessment of the plans and written record of nearly 6,000 archaeological features. It took two years of intermittent excavation and observation to collect the raw data, amounting to over 200 person-months work at a cost of about £250,000. A further four years of even more intermittent work by finds staff, environmentalists and the site supervisors, some 90 person-months in total, were required to compile the relevant archive reports upon which the subsequent studies are based. Further research, writing and illustration was required to prepare the reports of the 15th-century market building (Samuel 1989), the Roman Basilica (Brigham 1990) and on a general site summary (Milne 1992). Detailed work on the early Roman buildings and the associated material was completed in 1991–3. Since work began on this ambitious post-excavation project, there have been major changes in the provision of archaeological support in the City of London. The Department of Urban Archaeology, the agency which excavated the Leadenhall Court site, was subsumed by the Museum of London Archaeology Service (MOLAS) in December 1991.

Study of the site has shown that it lay just beyond the main focus of settlement in the mid 1st century, since a cremation cemetery dated to

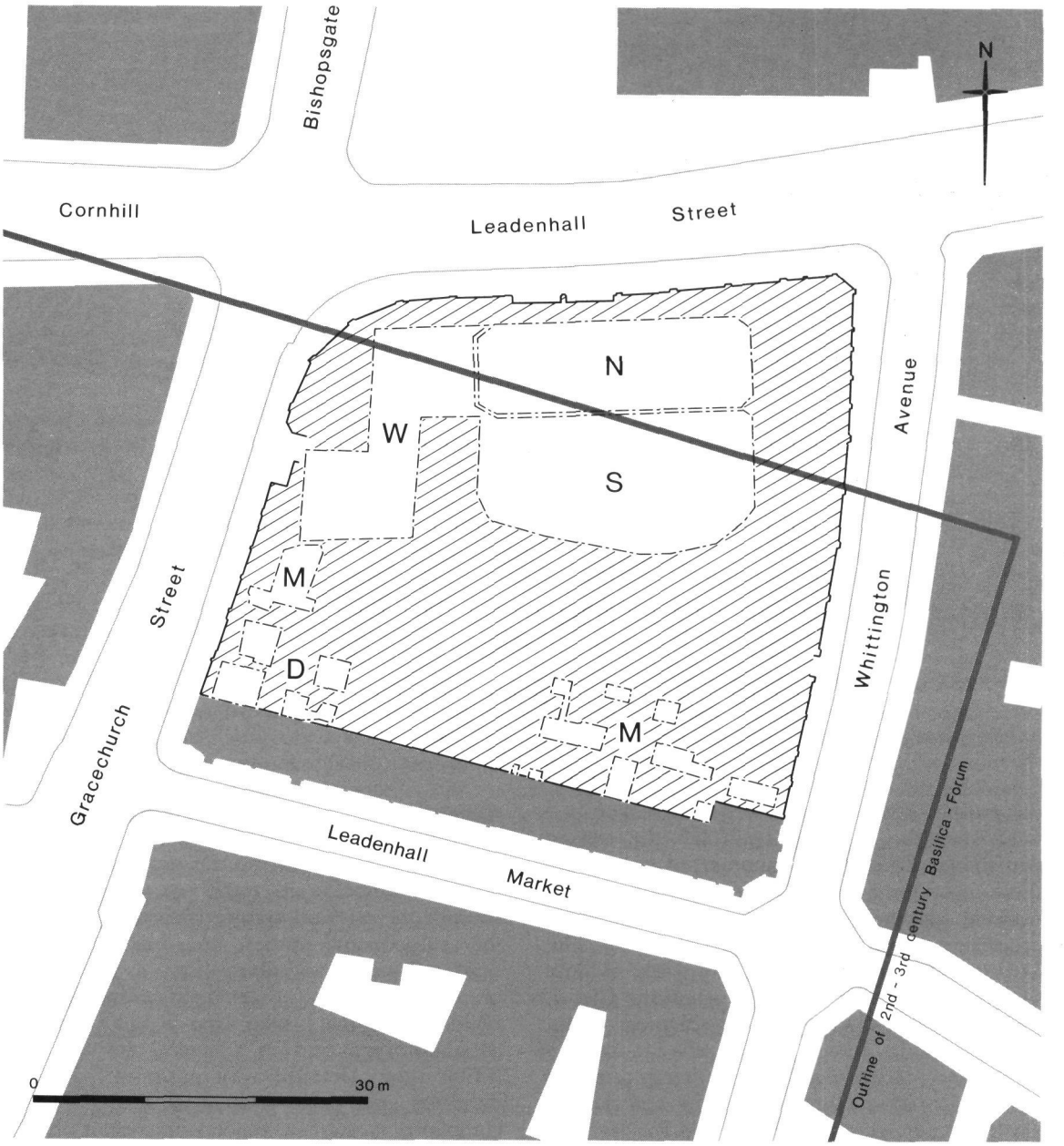

Fig 2. Plan showing location of trenches on the Leadenhall Court site excavated from 1985–6, in relation to the north-west corner of the 2nd-century basilica (shown in outline: see Fig 1). The larger Areas N, S and W were all excavated as open areas on cleared sites, while the smaller trenches were investigated in the basements of Dominion House (Area D) and the Metal Exchange (Area M) before demolition.

c. AD 60 was recorded on the excavation. However, by AD 75 buildings had begun to encroach over the area, and by AD 80 an insula of closely-spaced brickearth and timber strip buildings had been laid out as the town expanded northwards. Each building had a yard at the rear, with outhouses, wells, latrine pits and middens, from which a range of artefacts and animal bone was recovered. The entire area was sealed beneath the construction levels for the

next major development phase, that of the 2nd-century Basilica and its associated roads. The huts, stores and offices of that construction site were also represented on the excavation. The remains of the buildings and the associated assemblages therefore formed part of a completely sealed group.

Although the programme of rescue excavations was initially designed to record the 2nd-century Basilica, the study of the 23 earlier buildings sealed beneath it proved equally rewarding. The structures represented several phases of activity which could be closely dated to the period between AD 70 and 100. They represented activity which spanned the crucial period marking the elevation of *Londinium* from a modest trading settlement to the administrative capital of the province. Many finds were also recovered, and this presented a rare opportunity to study the development of an early Roman site in London which was well dated, covered a substantial area, and from which groups of finds could be associated with individual properties. Prior to this project, the detailed study of finds, and the study of structural and topographic aspects had rarely been fully integrated in the publication of Roman sites from London. The work presented here therefore considers questions not only of close dating and function of the buildings but also the relative status and degree of 'Romanisation' exhibited by the former occupants.

Such projects have never been attempted on London sites before and the work proved time consuming and labour intensive. It is to be hoped that the results amply justify the not inconsiderable input, with the development of a new methodology to investigate the social architecture of *Londinium*.

The excavation archive has been deposited in the Archaeological Archive of the Early Department at the Museum of London and may be consulted upon application. To facilitate consultation of the Archive, context group numbers (*eg* N4, S12) are shown throughout the following text.

2. THE BUILDINGS

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Site development

This section presents a picture of the development of the site from AD 50 to AD 100, during which time an area which initially lay beyond the main focus of urban activity was settled and then cleared to facilitate an extension to the civic centre. The account is based on previously published reports (Milne & Wootton 1990; Milne 1992), modified in the light of more recent research.

Period 1: early activity (AD 50) (Fig 4)

Much of the evidence for activity or occupation before AD 50 was destroyed by the Romans, since the area had clearly been comprehensively deturfed prior to their subsequent operations. This was a major operation in itself, for the surface of the naturally occurring Brickearth had obviously been lowered substantially over a wide area (the term 'Brickearth' with an upper case B refers to the natural undisturbed strata underlying Roman occupation levels; brickearth with a lower case b refers to the redeposited reworked material used in building construction).

Although this was not the first action undertaken by the Roman settlers, this truncation is best described here, not only so that the lack of evidence for earlier activity is placed in perspective, but also to support the attempt made to reconstruct the general nature of the pre-Roman topography, based on examination of the different types of Brickearth exposed at the end

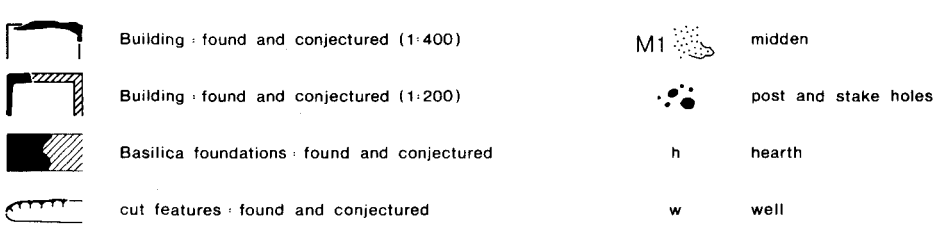

Fig 3. Key: Conventions used for figures in sections 1 and 2

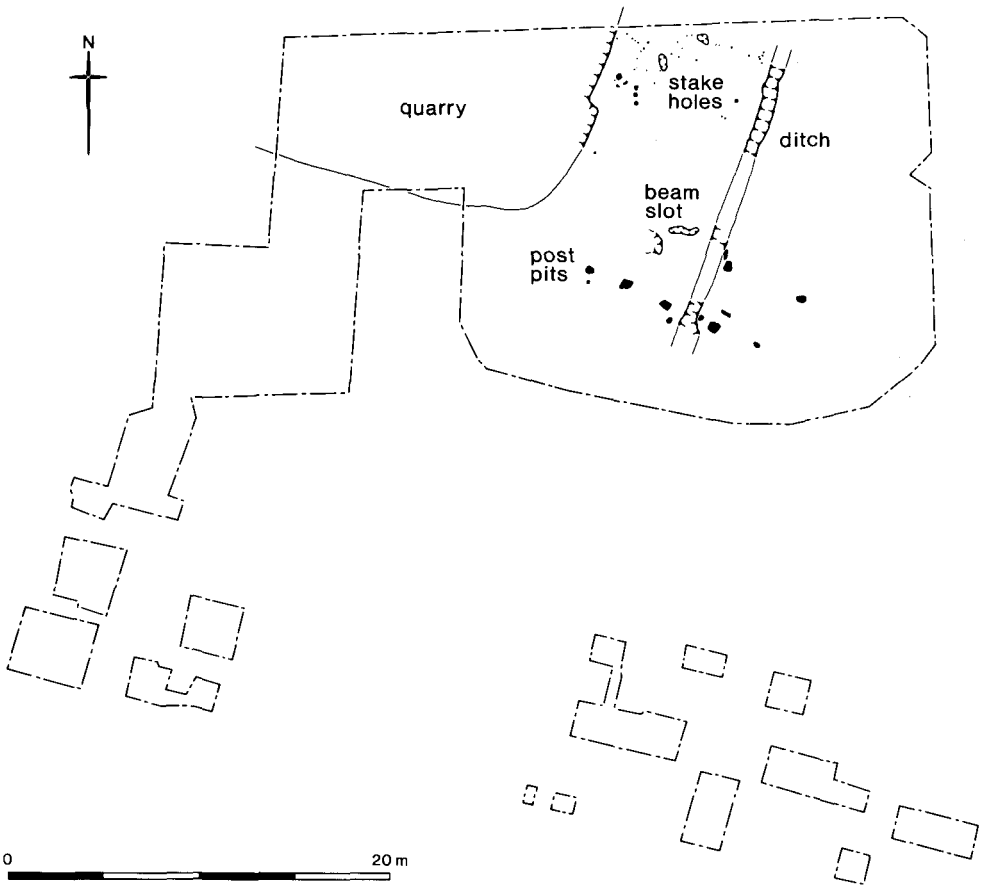

Fig 4. Plan showing mid 1st-century developments (Period 1) including a quarry on the Leadenhall Court site: cf Fig 5

of the controlled excavations. It seems that the Brickearth immediately below the ancient turf line was a distinctive leached white, sandy composition, up to 0.15m thick. Such material was found in quantity with its turf still in place, packed below the Roman road on an excavation at Copthall Avenue (Maloney 1990, 32–3). At Leadenhall Court, such deposits only survived (but without turf) on the northern edge of the site at a height of just below +12m OD. The sequence below may be described in general terms as a horizon of orange Brickearth disturbed by rootlets up to 0.7m thick over a similar orange Brickearth, the surface of which was devoid of rootlets but marked by frost cracks filled with white sand, giving a pronounced marbled effect. This was up to 0.6m thick and lay over a thin iron-panning horizon below which the Brickearth was a darker orange and more compact.

Having established the general succession of Brickearth, it was therefore possible to examine the surface exposed beneath the earliest artificial levels, determine the general character of the Brickearth, and suggest in broad terms how severely each particular area of the site had been truncated. As has been mentioned, the northern part of the site had barely been reduced at all, while the most southerly exposure of the Brickearth in Area D was of the compact orange variety at 11.6m OD, demonstrating that the original ground surface could have been at least 1 to 1.5m higher here. This shows that in AD 50 the highest point of Cornhill, the eastern of the two hills which comprise much of the area of the ancient City, lay to the south of the Leadenhall Court excavation. Today, the highest point is the junction of Gracechurch Street and Bishopsgate, immediately north west of the site. The Romans had not just de-turfed the area, they had deliberately levelled it.

The artificial horizon thus created was free of major root disturbance for the most part; a notable exception was recorded in Area W, where a series of irregular tree-holes were

recorded (Fig 5). It is suggested that the object of the truncation exercise was to grub out trees and shrubs and then, instead of back-filling the holes thus produced, the whole area was cut down to the level of the base of the root systems. This action provided a stable, level building platform, a supply of Brickearth for building material, a quantity of turves, topsoil, and stockpiles of wood and timber. It also represents an unequivocally determined act of redevelopment, a clear demonstration of future intent.

However, since the topsoil in which much of the evidence for any former occupation would have lain had therefore been removed, precise details of the layout and use of the site before AD 50 are difficult to establish. Some early features were recorded in an area where the ground surface had not been as severely truncated as elsewhere. These included the truncated bases of a scatter of stake-holes, two shallow beam slots and a line of more substantial post pits which represented a fence line or similar boundary. The majority, perhaps all, of these features are of early Roman date; only the stake-holes may represent earlier occupation, but there is little evidence to support or deny that suggestion. Although the handful of flints recovered from the site arguably represents some evidence for earlier activities, no clear evidence of a major contemporary settlement on the crest of this once-wooded hill was found.

c. AD 50–65 (Fig 5)

One of the earliest phases of Roman activity saw the cutting of a series of ditches marking subdivisions of the land. One of the east–west ditches was closely aligned on the post-built fence line mentioned above, an alignment which is traceable in the topography of the area for the next half-century. This suggests that that particu-

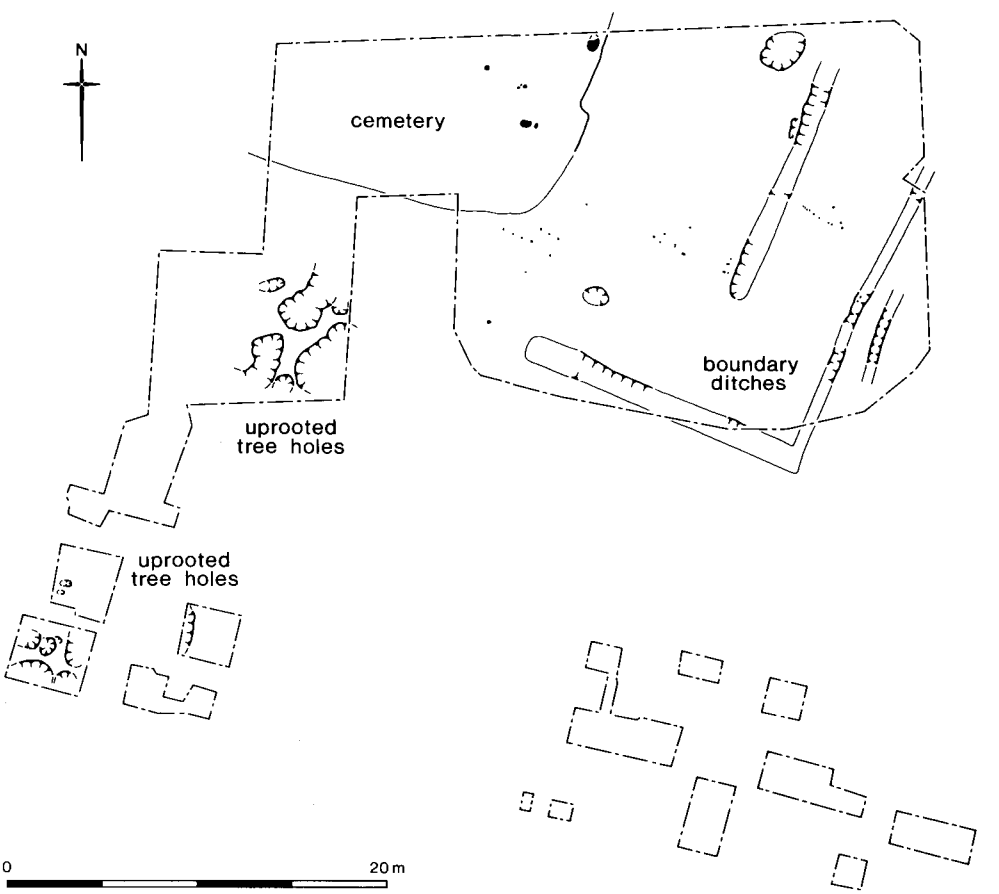

Fig 5. Plan showing later Period 1 developments on the Leadenhall Court site (cf Fig 4): *a small cemetery lies to the north of a stand of trees and west of a ditched enclosure*

lar boundary may represent one of the major land subdivisions of the early settlement. Indeed, it may even represent the northern boundary of the settlement itself. Even if the early settlement was not blessed with military defences, its boundaries may well have been clearly defined. Within the ditched enclosure in the NW corner of the site and therefore just outside the settlement, if the boundary is to be believed, was a large quarry dug to extract the natural Brickearth. The hole was subsequently left open and slowly began to silt up.

It then had a new use, as part of a small cemetery (Fig 5). At least five pottery vessels were found, of which one was still *in situ*, set vertically in the ground and containing burnt bone. It was a shallow-necked jar in a micaceous sand-tempered fabric of a type known from other sites in London, dating to the late AD 50s. The neck and rim had been broken off, but the other pots had been even more thoroughly disturbed. It is possible that two small holes might mark the position of more vessels, which rather than just being broken, had actually been dug up. Taken together, it seems that a small cemetery had been established here in the mid 1st century, and that it had subsequently been slighted. This action may have been malicious or just a consequence of ploughing, horticulture or similar activities. However, such an irreverent abuse of a cemetery within a decade of its foundation surely suggests that the despoilers, be they rebels, farmers or later settlers, were not related to those commemorated. What is certain is that, by the late 50s, *Londinium* had not expanded that far north, since, by Roman law, cemeteries occupied positions outside the limits of urban settlement, although they often lay close to main roads.

Period 2: Farms and farmyards c. AD 65–70+ (Fig 6)

Signs that the settlement was encroaching upon the area now became apparent. First, there was

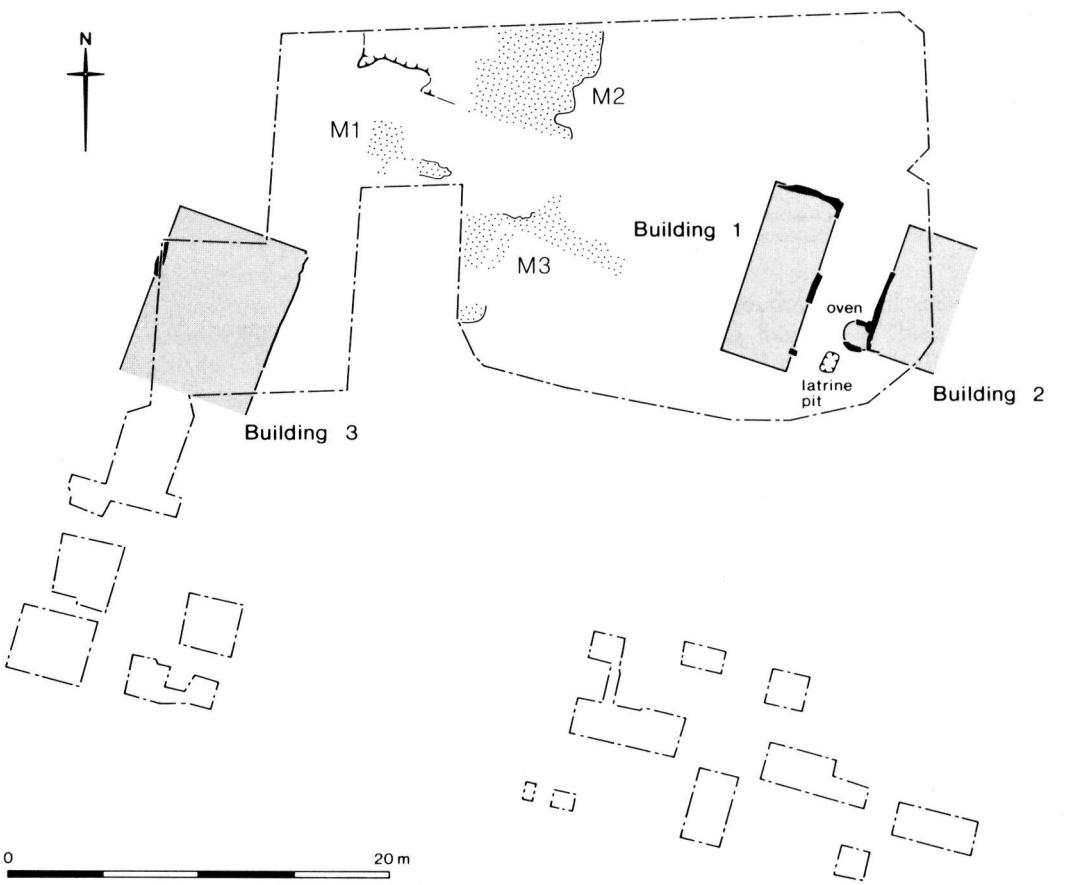

Fig 6. Plan showing Buildings 1 to 3 (Period 2), arranged around a yard area in which midden material has accumulated

clear evidence that a number of trees or shrubs were uprooted during general clearance and the resulting irregular holes were infilled. Finds recovered from these tree-holes included an iron mount, possibly part of a cart fitting (see finds catalogue No. 169 and Fig 57). As has been argued above, there may well have been tree cover over much of the area, but extensive truncation lowered the ground beneath the level of the root systems. A slab of brickearth was then spread over much of the site to prepare the ground for building. Quantities of domestic refuse were dumped over and around the disused cemetery (Middens 1–3, below), perhaps by the occupants of the buildings which had been newly erected in the vicinity. Two such large structures, Buildings 1 and 2, were recorded on the east side of the site—their wall lines marked by shallow beam slots – and a small latrine pit lay between them.

Remains of a third building (Building 3) were found to the south of the infilled cemetery. Examination of material derived from the associated destruction levels shows that, in contrast to the contemporary structures, its walls had been embellished with painted wall plaster,

Fig 7. View of brickearth-walled Building 12, with 10 × 100mm scale on internal floor, showing midden material dumped against rear wall to north (top of photograph)

and it may have had a tiled roof. This building therefore stands out as the principal building in this first group.

In the yards behind the buildings, and sometimes actually lying against the rear walls (Fig 7), were dumps of dark grey silts interspersed with food debris or discrete layers of ash. These middens also produced small quantities of domestic artefacts, the severely corroded metalwork including items of personal use such as a nail cleaner (No. 54). Leather artefacts were better preserved, Midden 2 yielding two shoes—one belonging to a man (No. 46), a strip with a decorative edge (No. 53), and part of a garment or a tent (No. 52). A small quantity of glassware included some fragments of high quality, notably a millefiori cup or bowl (see glass catalogue No. 2) and a colourless beaker with wheel-cut sinuous facet decoration (No. 72).

Plant remains were also well-preserved in Midden 2 which contained wetland species, although the numbers were fairly low in comparison with other waterlogged sites. Environmental samples from the tree-hole fills which contained numbers of grassland and arable weeds, may suggest the presence of crops including hay, and it is possible that several different farming-related activities took place at this time (see Part 3, plant remains).

c. AD 70–75 (Fig 8)

Shortly after the demolition of Building 1, a quarry some 5m in diameter was dug to extract Brickearth, presumably for Building 4 which was then erected to the south. This building was aligned east-west, while to the north were wells and a metalled surface, partially sealing the quarry which had been infilled with domestic refuse (Midden 4). The latter was surrounded by a fence, its line defined by post-holes. It is noteworthy that the building development was focused on the east side of the site, and that

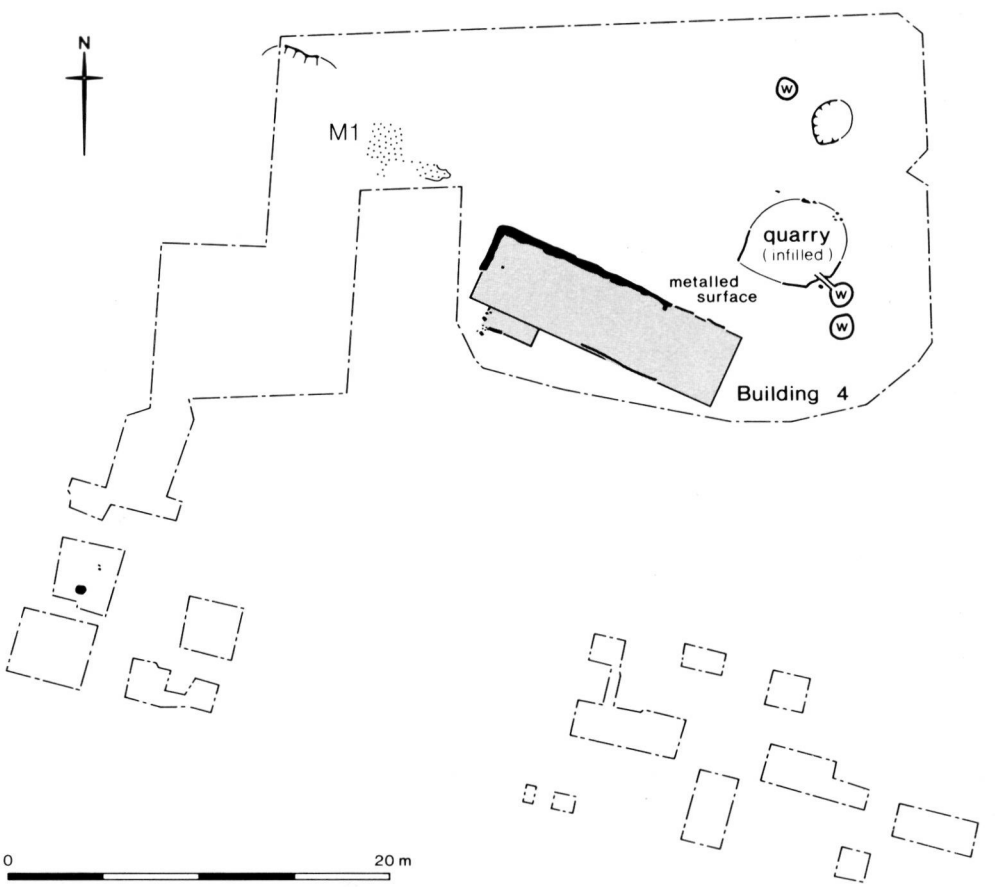

Fig 8. Plan showing Period 2 Building 4 set in centre of site, with associated middens, well, yard and quarry

evidence of horticultural activity next to a main north-south road was recorded on contemporary levels on the Whittington Avenue site just beyond the eastern limit of the excavation (Brown & Pye in preparation). It is suggested that Buildings 1 to 4 represent widely-spaced ribbon development, set back from the main road leading north from the more densely-occupied centre of the early Roman settlement.

A contemporary pit or well produced a sizeable group of glassware, with at least 48 vessel fragments. Most were containers; the other forms included pillar-moulded bowls, mould-blown and colourless vessels, all of which could date to before AD 75. Leather was also preserved, with fragments of two shoes (finds catalogue Nos 47–8), one perhaps belonging to a woman.

Period 3: Urban expansion c. AD 75–80 (Fig 9)

The major urban development of *c.* AD 75 established a more formal layout of closely-spaced houses, Buildings 5, 6, 7, 8, 9 and 11, to the rear of which were single-roomed outhouses, Buildings 13 and 14, also wells, latrine pits and

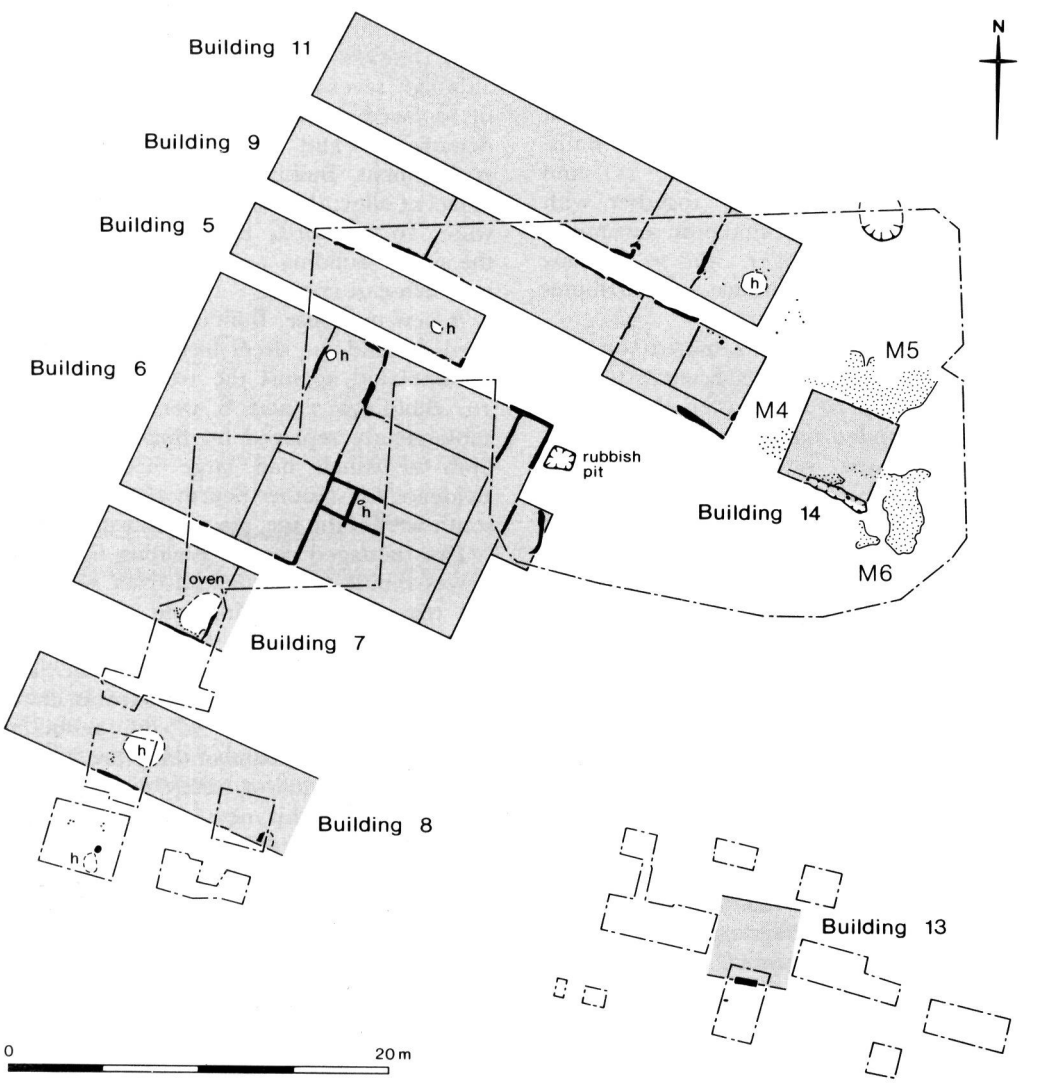

Fig 9. Plan showing major Period 3 developments, with strip buildings laid out along the western side of the Leadenhall Court site: cf Fig 8

the remains of Middens 4, 5 and 6. Although it was partially based on alignments set out in the previous phases, the focus of this new plan now faced west—that is to say that the frontage of the new buildings was laid out along the line of the principal north-south road which lay beyond the western limit of the excavation, beneath modern Gracechurch Street. This street ran directly north from the waterfront to the Forum, the first phase of which was also constructed in *c.* AD 75 (Marsden 1987). A radical replanning had obviously taken place in this part of *Londinium*, involving the insula which lay immediately north of the town's first Basilica. The construction of Roman London's civic centre presumably marks the town's elevation to the status of a self-governing *municipium*. As might be expected, this occasion was marked by major changes in much of the town, with the introduction of public buildings such as bath-houses (Spence & Grew 1989, 10–11) and harbour facilities (Milne 1985), together with substantial developments in domestic accommodation. The decade from *c.* AD 70–80 saw *Londinium* acquire the appearance and attributes of a major town.

Of the new buildings examined on the Leadenhall Court site, Building 6 seems to have been the largest and to have lasted the longest. Its walls were founded on squared timber base-plates and enclosed several interconnecting rooms; at least some of the rooms were adorned with painted wall plaster and the roof may have been tiled. It is perhaps significant that it replaced Building 3, another structure of higher quality than its immediate neighbours. It is possible to argue, but not to prove, that the owner of Building 3 may have been one of the more successful new inhabitants of this part of the town, prospering sufficiently to build the larger Building 6. Indeed, it could be suggested that Building 6 might represent a party which owned part of the new insula, while some of the inferior-quality buildings clustered around it may have been occupied by tenants.

In marked contrast to Building 6, Buildings 5, 7, 8, 9 and 11 were strip buildings, comprising a simpler arrangement of square rooms aligned one behind the other. Access to the rooms was not through the buildings, but via one of the narrow gravel alleyways which ran from the principal thoroughfare in the west to the backyards in the east. This implies that the structures were designed for more than one family unit. Perhaps the main tenant lived and worked in the westernmost rooms, next to the principal thoroughfare, while sub-tenants occupied the rooms to the east. Such a division might account for the way that additional rooms were added or subtracted to several of these strip buildings during their life, each self-contained unit of one or two rooms being built when new tenants arrived and demolished as they left without unduly affecting the stability of the building or the lives of the other families.

c. AD 80–85 (Figs 10,11)

The general lines of the building development were retained for the next 15 to 20 years, although several of the buildings were modified or replaced during that period. Building 9 was demolished and the southern wall of its replacement, Building 10, encroached over the adjacent alley; this access route was now just 1m wide. To the north, Building 12 was built over the site of Building 11, with a deep latrine pit at its north-east corner.

A new outhouse, Building 21, was built in the yards behind the street frontage, and Midden 7 accumulated against the west wall of Building 10. Buildings 7 and 8 were demolished and subsequently replaced by Buildings 17 and 18, both of which had large hearths or ovens. Evidence for another hearth was recorded in the south-west of the site, associated with Building 19.

Fire damaged part of Building 6, after which it was rebuilt. A substantial oven was added to the rear of the building and to the north an annexe was extended over the earlier yard; Midden 8 was deposited to the north. Evidence for an unusual religious practice was discovered during the excavation of the rebuilding of Building 6; the remains of an entire burnt sheep had been buried in a basket directly below the first surface of this new structure. Such ritual deposits have been found elsewhere in Roman London; a young dog had been carefully buried beneath the foundation of a 2nd-century building on the GPO site in Newgate Street (Merrifield 1987, 52–3), for example.

Period 4: Settlement contraction c. AD 85–90 (Fig 12)

The pace of expansion in the area was suddenly arrested at the end of the 1st century. The

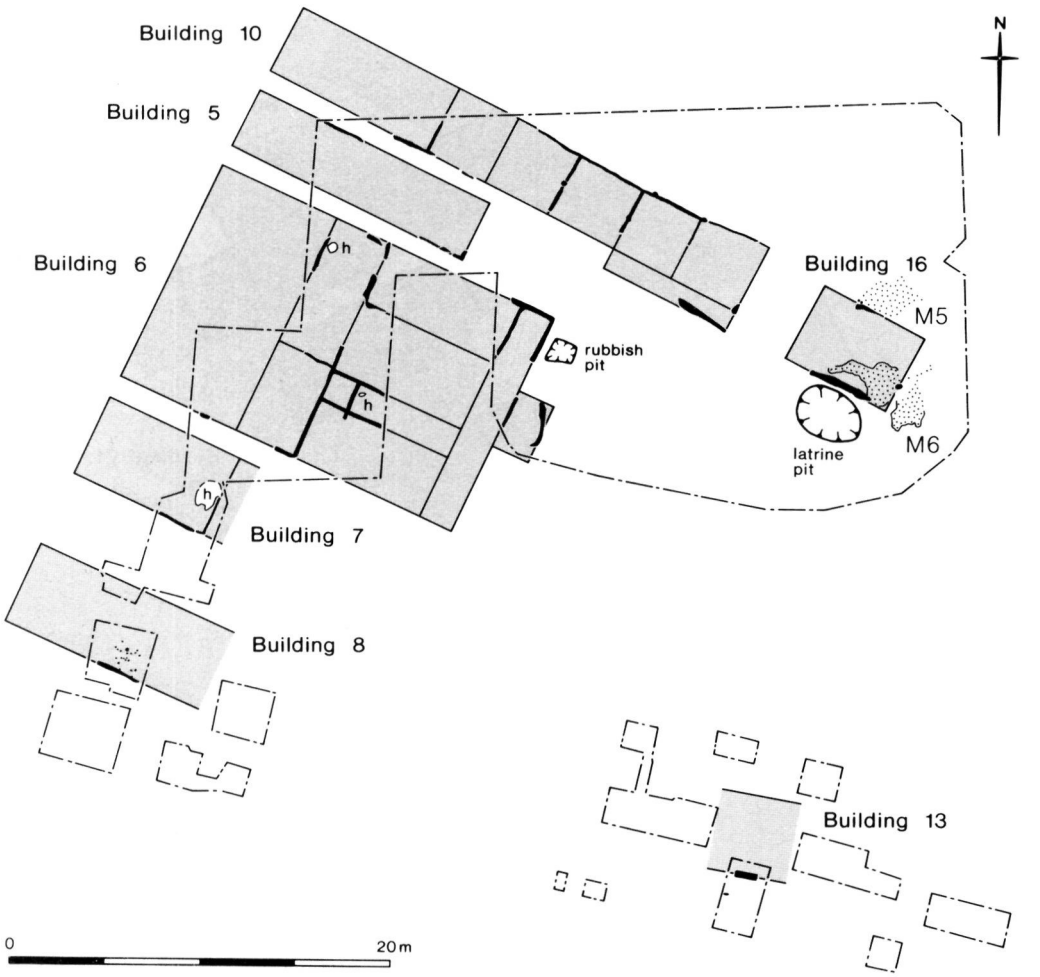

Fig 10. Plan showing later Period 3 developments on the Leadenhall Court site: cf Fig 9

annexe on Building 6 was dismantled and covered by Midden 11. Midden 9 developed over the latrine pit west of Building 20, the eastern end of Building 12 contracted, with Midden 10 accumulating over the demolished room, and Midden 14 developed within and around Building 21.

Finds from Midden 11 could be associated with Buildings 5, 6 or 10, the character of the glass being similar to that from Building 6, with bottle and phial forms predominating. Little metalwork was preserved, but a large mortar (finds catalogue No. 77) may have been deposited during this phase, although another fragment was found in a deposit associated with Buildings 1–3.

Samples from this and the preceding period produced the usual mix of seeds found on Roman urban sites, with weeds of waste and disturbed ground predominating. The number of food plants increased and included grape and lentil (both probably imported), which may be signs of increasing Romanisation (see Part 3 Plant remains).

c. *AD 90–95* (Fig 13)

The next phase saw a more dramatic change with the clearance of Buildings 6, 17, 18 and 19. The outhouse Building 21 was replaced by Building 22; Building 12 underwent further contraction, its east end sealed beneath Midden 12, while Midden 13 accumulated to the south. A small sample from Midden 13 contained a very high proportion of mineralised grass seeds thought to be the remains of animal dung.

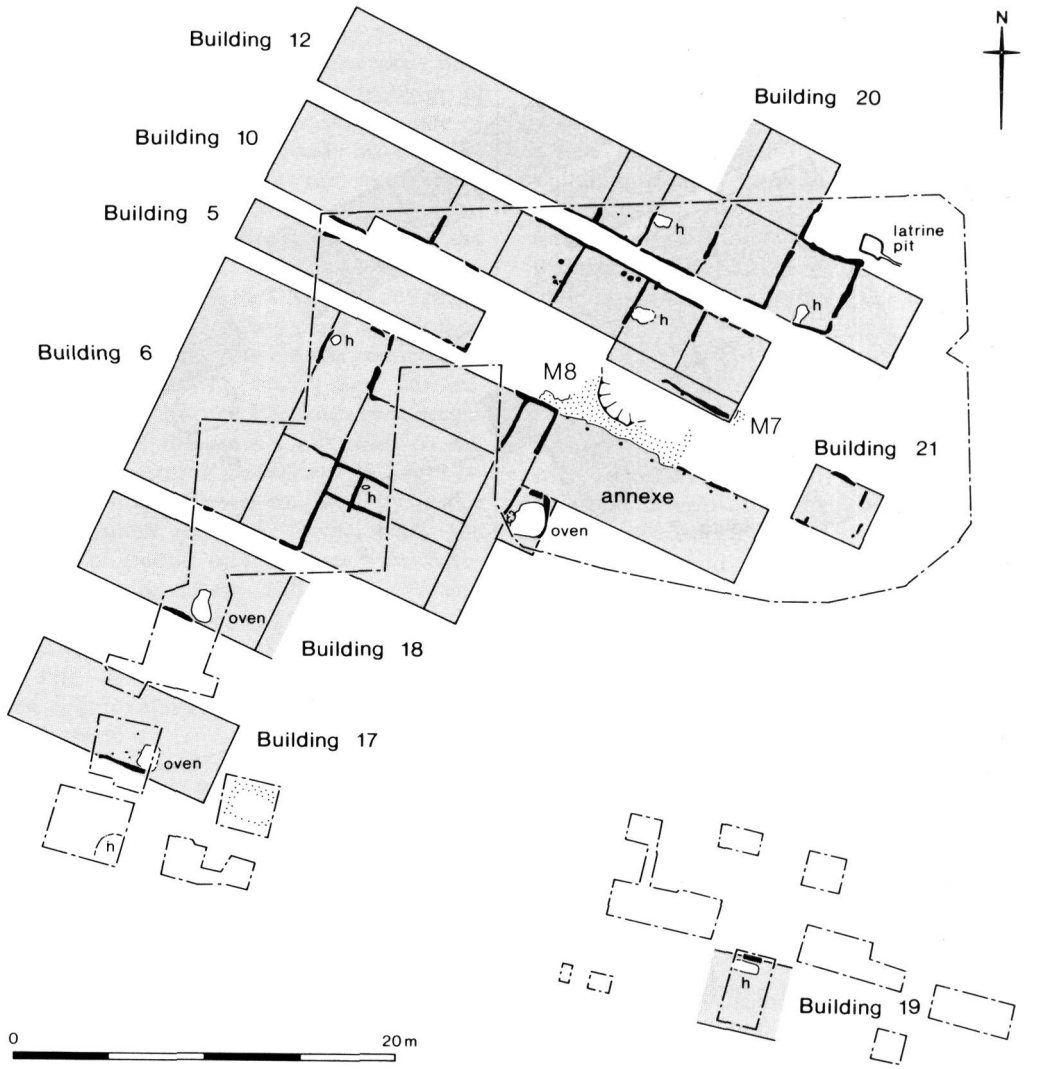

Fig 11. Plan showing final Period 3 developments on the Leadenhall Court site: cf Fig 10

The reasons for this apparent reversal in fortunes may be seen in the succeeding development, for it is now clear that the entire insula was in the process of being deliberately emptied of inhabitants and then demolished. The land was now required for an extension to the civic centre, the Forum and Basilica complex. The next major alteration in the town plan was about to be imposed on the site, just 30 years after the establishment of the original insula.

Period 5: Civic building site c. AD *95–100* (Fig 14)

Once the buildings had been demolished, the preparation of the site began. The structures which survived in the north of the area (Buildings 5, 10, 12) were modified, and Buildings 15 and 23 were erected just to the south and east. This new arrangement would have housed the construction workers, providing site huts, canteens, refuse dumps (Middens 15 and 16) and storerooms, all the paraphernalia to be expected on any major long-term civic building project. Significantly, associated finds included styli and seal boxes, perhaps representing the presence of architects, quantity surveyors and the like. To the south and east, the ground was levelled and deep foundation trenches dug. Into these were poured ragstone and mortar, the latter prepared in special mortar-mixing pits such as the one dug

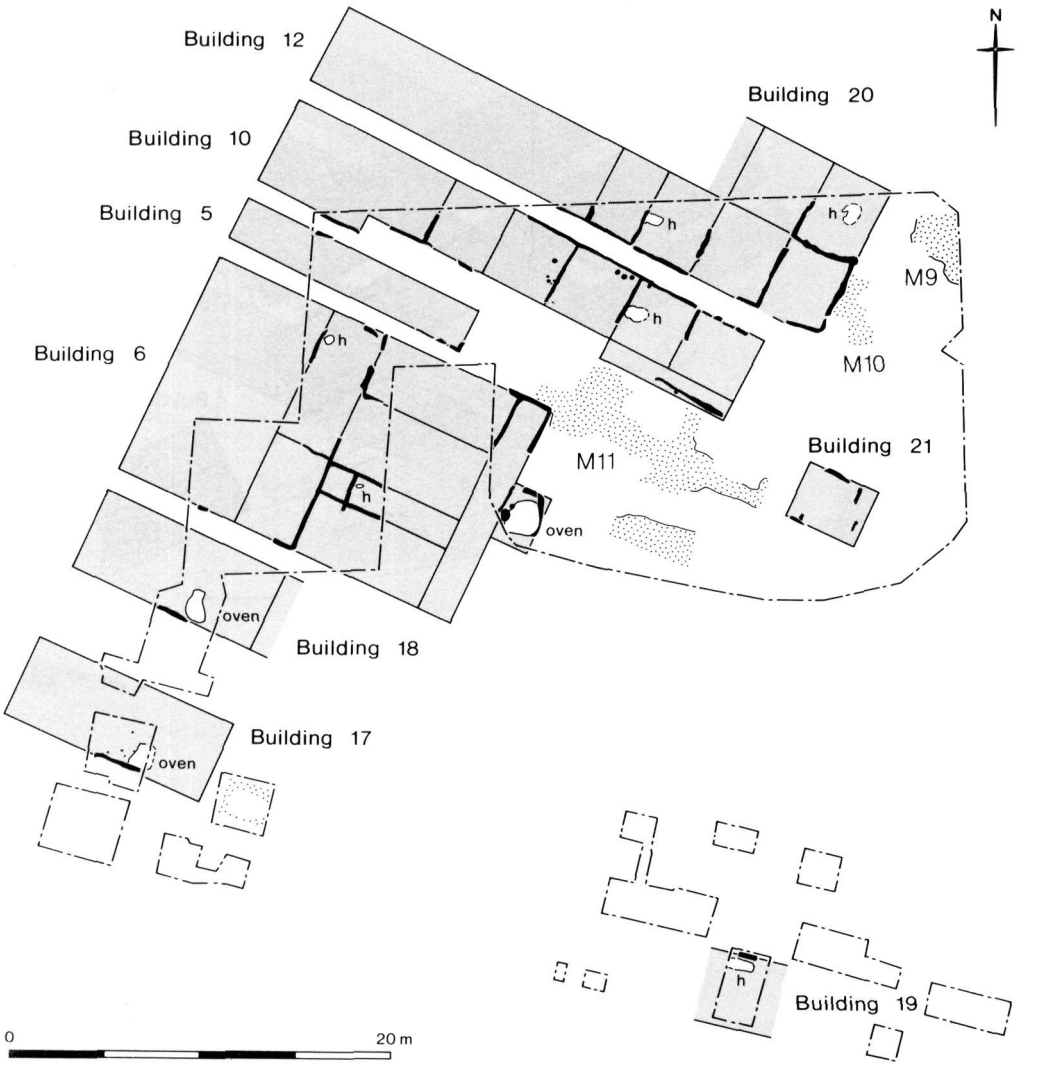

Fig 12. Plan showing start of contraction of urban development on the Leadenhall Court site in Period 4: cf Figs 11 & 13

in the yard surrounded by Buildings 10 and 15. To the east, between the pit and the foundations, was a spread of ragstone chippings, detritus from the construction programme of the new, enlarged Basilica.

A sample from Midden 16 was rich in charred remains, containing wheat grains and seeds of grassland species.The assemblage may well represent a mixture of hay and cereal cleanings, perhaps the remains of animal fodder (see Part 3 Plant remains) for pack animals delivering building materials to the site. Hoof-prints left by these creatures were recorded from a later level on the same excavation (Milne 1992,21).

Building catalogue

Building 1: Period 2. Archive Ref LCT 84:S28;S30 (Fig 15). Single roomed structure, 8.6m long by at least 3.4m wide, walls represented by vertically sided, shallow slots 0.3m wide by between 0.10 to 0.5m deep, packed with brickearth. No hearth, threshold or internal surface was found. Contemporary with a latrine pit which it may have shared with Building 2. To the N and W were Middens 2 and 3.

Building 2: Period 2. Archive Ref LCT 84: S28 (Fig 15). Single roomed structure, at least 4.4m long by at least 0.7m wide, constructed over an earlier boundary ditch with a brickearth floor. The walls were represented by earthfast posts up to 0.35m in diameter, set into packed postholes at 1.1m centres. The wall cladding may have incorporated

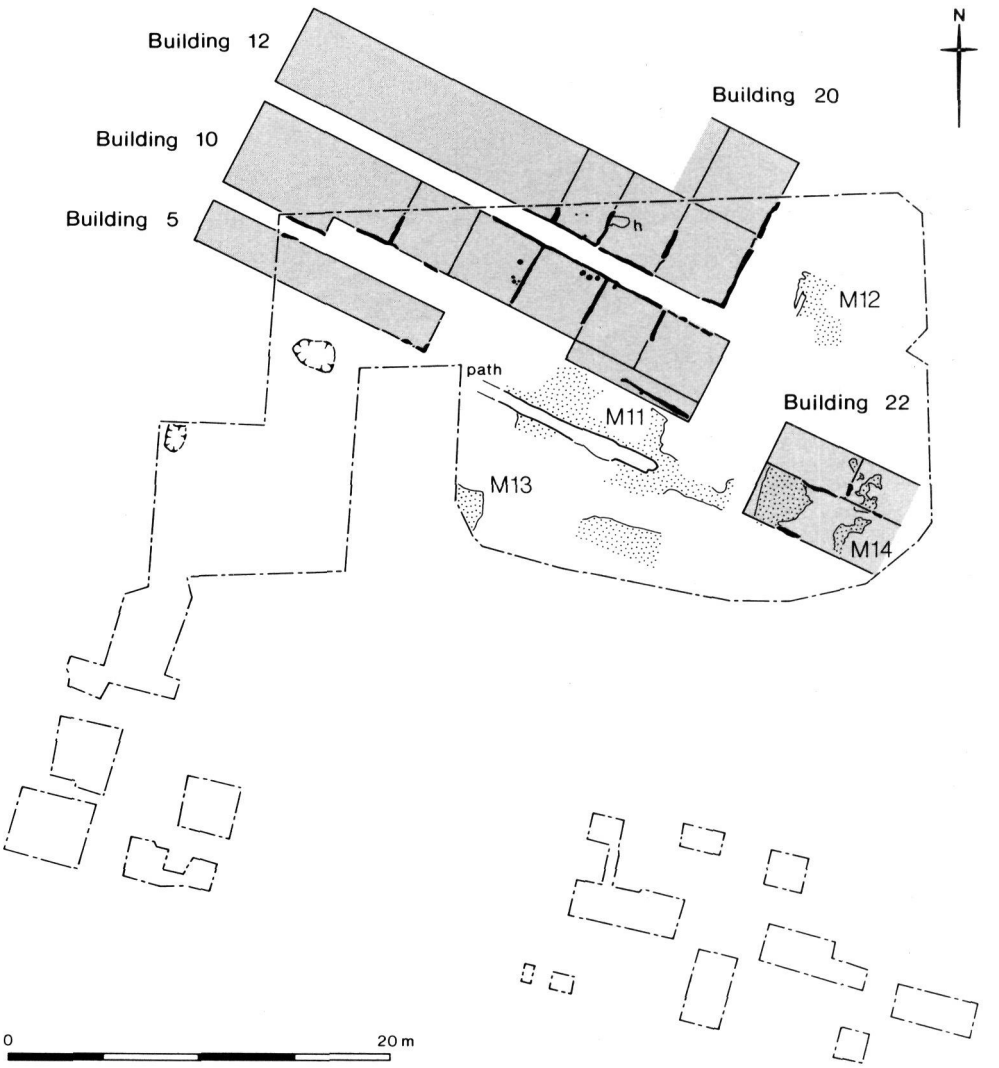

Fig 13. Plan showing clearance of buildings underway in Period 4 on the Leadenhall Court site: cf Fig 12

wattle and daub infill, or brickearth mass walling poured between shutters and allowed to dry. After the west wall was rebuilt, an apsidal feature, presumably the base of a circular oven 0.4m in diameter, was added, extending westwards over a possible boundary ditch which previously had separated Buildings 1 and 2. Two postholes at the N end of the W wall probably marked the position of a doorway which gave access from the inside of the building to the oven. This building was broadly contemporary with the middens listed for Building 1 above.

Building 3: Period 2. Archive Ref LCT 84:W3 (Fig 15). Single roomed structure, at least 5.4m long by 5m wide, with a brickearth floor. Walls represented by a timber sill beam in a slot 0.4m wide by 0.15m deep, with some evidence for wattling and brickearth daub. Traces of horizontal planking set on edge were also observed along the E (internal) edge of the wall. No hearth or threshold found. This building was broadly contemporary with Buildings 1 and 2 and Middens 1 to 3.

The earliest group of wall plaster fragments which may be associated with a specific building on the site came from the dumps overlying Building 3. Since the plaster formed a homogeneous group, it probably came from one building, perhaps from a single room, and Building 3 is the most likely source. The colour scheme probably comprised panels in yellow and possibly white, bordered by areas of green, white and red. The use of a yellow field in what was probably the central part of the wall is unusual, although there are parallels in the late 1st century at Fishbourne and in the early 2nd century at Cirencester (Davey & Ling 1981, 33). A reconstruction of part of the border area around the yellow panel is shown in Fig 36f. Two other fragments may represent a design in green, red and white, while a third is plain blue.

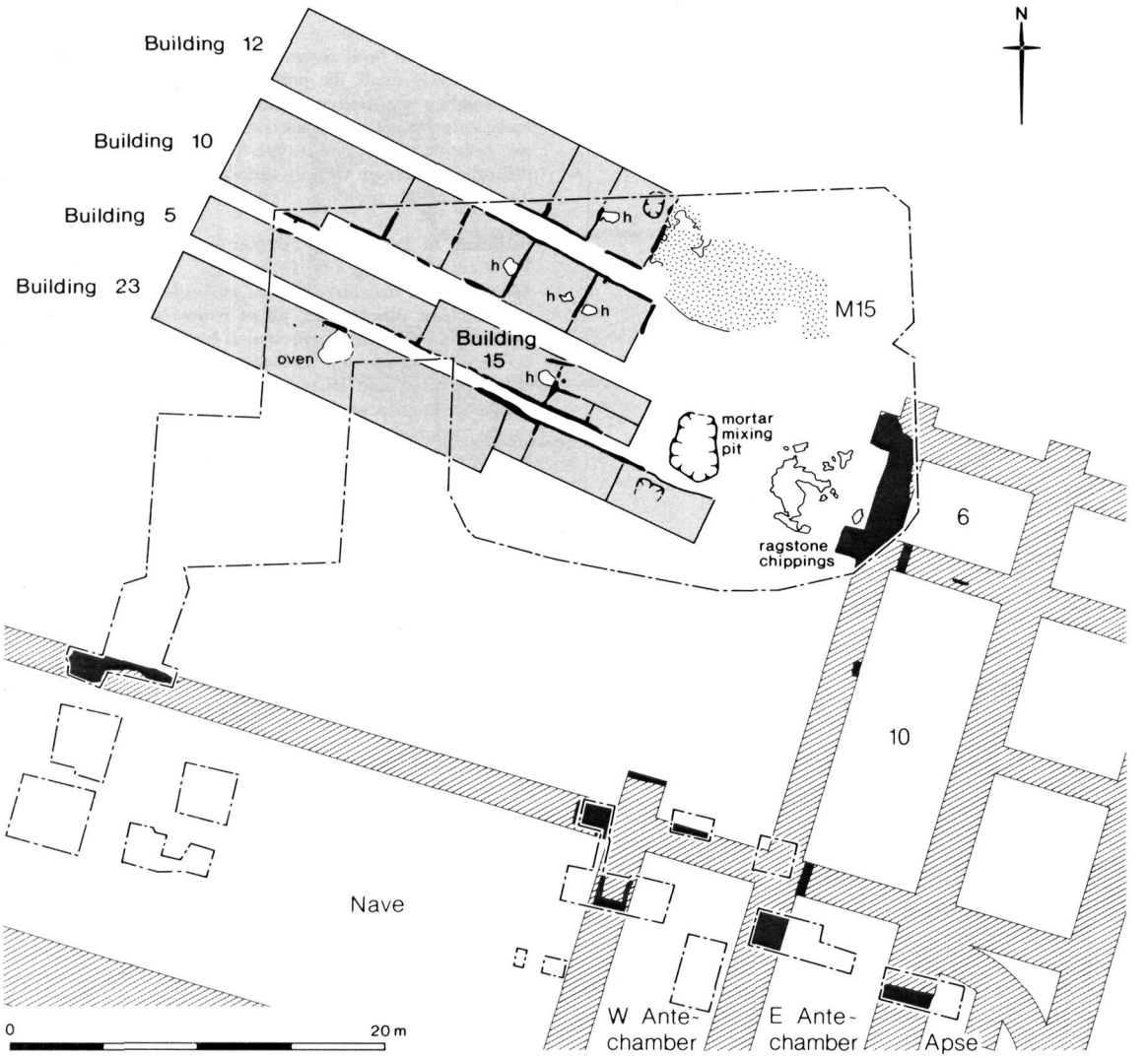

Fig 14. Plan showing construction of Basilica in Period 5, with strip buildings newly built or adapted to serve as accommodation for the site workers

Roofing tile recovered from make-up dumps covering Building 3 was presumably derived from the demolition of that structure, suggesting that it may have had a tiled roof.

Building 4: Period 2. Archive Ref LCT 84: S5; S6 (Fig 15). Single roomed structure, at least 11m long by 4.5m wide, with a brickearth floor. Walls were represented by slots 0.4m wide and packed post holes 0.2m in diameter, set *c.* 1m apart. The N wall was superimposed upon an earlier fence line, and the wall trench was packed with brickearth between the posts. On its external face, traces of timber planking set horizontally on edge were recorded, representing shuttering or weather-boarding. The post pits in the NW corner were more substantial, being up to 0.5m in diameter and 0.4m deep, perhaps marking the position of a doorway. Each pit contained one or more posts, packed with large tile and amphora fragments. At the east end of the north wall, the trench took the form of a narrow 'V'-section slot in which traces of timber survived. Most of the internal floor surface was truncated, apart from a small section which butted up against the S wall line, and no hearths were found.

At the east end of the south wall line, a series of stakeholes, two postholes for posts 0.2m in diameter set in pits up to 0.2m deep and packed with tile and amphora sherds, and a 0.2m wide slot, probably formed part of a porch. Immediately outside the west wall of the porch was a shallow cut containing oyster shells mixed with midden material, and Midden 4 was recorded to the north.

Building 5: Periods 3–5. Archive Ref LCT 84:W28; W34–35 (Fig 16).
Single roomed structure, at least 9m long by 3m wide, with a brickearth floor. Walls represented by traces of timber up to 0.16m wide, set within shallow slots 0.4m wide. Since most

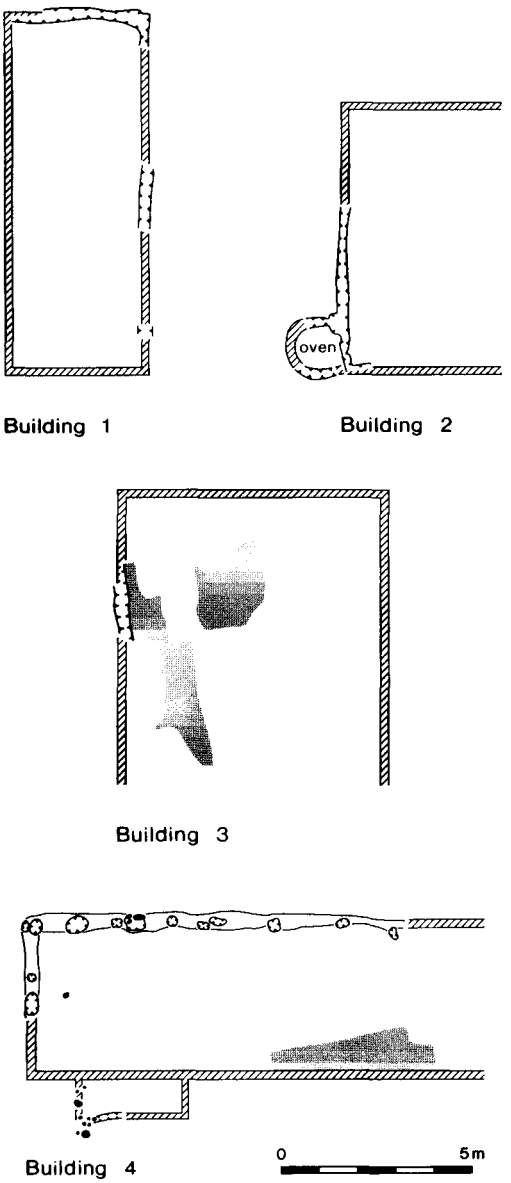

Fig 15. Leadenhall Court: plans of Buildings 1 to 4

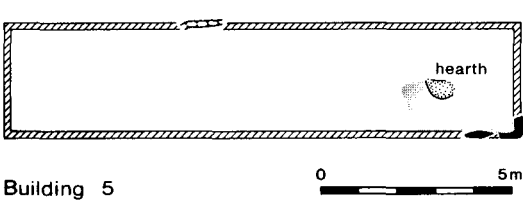

Fig 16. Leadenhall Court: plan of Building 5

of the internal area had been truncated no thresholds were found, but evidence for a central hearth was recorded.

Although the finds assemblage associated with Building 5 was relatively small, the pottery would seem to suggest that this building was used as a food store and cook-house. Other finds included glassware, all common 1st-century forms, and two ceramic lamps, one a type frequently found in London, the other a foreign import decorated with a figure on the discus. (Nos 88, 101).

Building 6: Period 3–4. Archive Ref LCT 84: W5; W16; W21–22; S8–11 (Fig 17).

Multi-roomed structure, at least 16.5m long by 12.5m wide, with at least nine rooms, all of which were surfaced with brickearth. Walls were represented by traces of timber up to 0.16m wide over which, in Room 1, air-dried mud bricks up to 0.15m long had been laid in courses. Rooms 2 and 6 apparently represent corridors providing access to the other rooms, although there was evidence for hearths or braziers in both, in the form of scorching on the brickearth floor, together with patches of charcoal and ash. There was evidence for a doorway leading from Room 2 into Room 5.

In Room 3, evidence for a different construction technique was recorded in an internal wall, for here a woven wattle framework was daubed on both faces with brickearth and then rendered with painted wall plaster, of which the bottom edge survived some 0.17m high. This comprised the lower section of dado in white with splashed decoration in red and black (Figs 18, 19) and a detached fragment from the floor of the room shows that it was bordered by red. The surface of the *in situ* plaster was uneven, suggesting that it was not of the highest quality. What is particularly unusual is that the craftsman had not applied the normal two or three layers of backing plaster. Instead, the paint was applied to the surface skim, resting on a single backing layer just 4mm thick. There was no keying of the underlying wall, a process which would normally be done during the construction of such buildings. This is significant, since the absence of keying indicates that it was not the original intention to plaster this part of Building 6. Wall plaster of identical backing type was recovered from a brickearth dump overlying Building 6 and shows areas of red and white separated by a light grey band. This may be part of the same scheme found *in situ* in Room 3, and Fig 18 shows how the various fragments may relate to each other.

Another fragment of plaster from the same dump had been attached to a keyed brickearth wall and may therefore have come from a different room. The backing layer was up to 7mm thick and the plaster was painted light grey and brownish-cream, separated by a grey band 9mm wide. A small quantity of wall plaster from other deposits which overlay Building 6 had the more usual backing layers up to 27mm thick. If this was from that building, then presumably it must be from a separate room. The fragments are plain white; plain red, blue above a red and pink design; part of a dado in pink with black splashes; and part of a border with green and black separated by a white band.

A layer of plain white plaster was found *in situ* attached to the NW wall of the corridor Room 8. It comprised a layer of whitewash up to 12mm thick which was not suitable to receive a painted surface. Presumably a corridor was not considered worth the expense of a more elaborate rendering. A substantial oven had been built against the east wall of the corridor (the rear wall of the property), housed in its own room (Room 9). This was destroyed by fire but subsequently rebuilt. Extending to the east of the building was Midden 8.

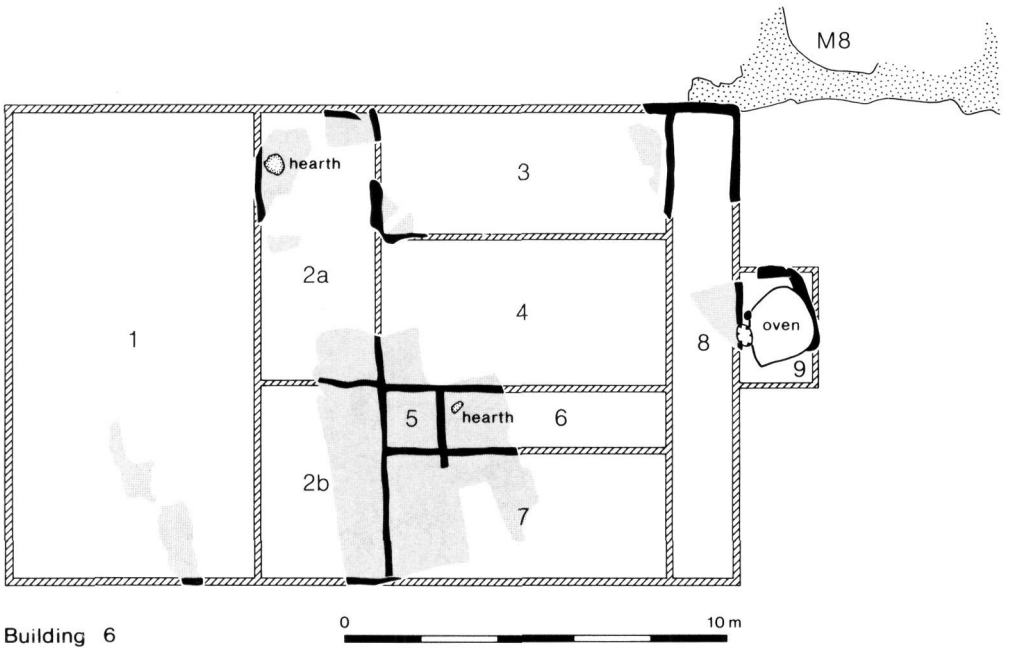

Fig 17. Leadenhall Court: plan of Building 6

During the reconstruction, a square pit 1.4m across and 1m deep which lay immediately outside the rear wall of the building was backfilled with demolition debris. In addition, a ritual deposit was interred next to the new wall of Rooms 8 and 9, represented by a burnt but articulated skeleton of a lamb in a charred basket. The second oven sub-circular in plan, and up to 2m across was domed and contained a fill of charcoal. At the same time as the bakehouse was rebuilt, an annexe 12m long and 4m wide was added to the NE corner of Building 6, sealing the M8 middens (Fig 11). Its walls were represented by postholes for posts, 0.14m in diameter, set 0.5m into the ground at 1.8m centres. The postholes were packed with tile and amphora, which was also mixed with a spread of gravel to form a bed over which a brickearth floor was laid. The annexe was demolished before the rest of Building 6, after which the Midden 11 material accumulated over the floor and against the east face of Room 8.

Not only were there significant differences between the form of Building 6 and other contemporary structures on the site (see Part 7 Conclusions), but differences were also identifiable in the related finds assemblages and in the building material. For example, the percentage of samian forms from the associated pottery groups was relatively low, while the percentage of amphorae and of coarse pottery of purely 'Roman' type was very high.

Other finds included a two-piece Colchester brooch (No. 9), a mirror (No. 65), glass beads (Nos 30, 32) a gaming counter (No. 150), two lamps (Nos 103-4), part of a rotary quern No. 75) and two late 1st-century coins. The relatively large quantity of roof tile in the demolition levels of Building 6 indicates that it may have had a tiled roof. A hearth, built from and over the demolition debris that derived from the building, incorporated a complete lydion brick as a base, measuring 444 × 292 × 35mm, which is one by one-and-a-half Roman feet. Fragments of *tegulae* (Fabric 2815) and *imbrices* (Fabric 2454) were also found.

In addition, three fragments of ceramic water-pipe were recovered from contexts associated with, or in the vicinity of, Building 6, although none was found *in situ* (Fig 36 a & b). While it is possible that the building had a piped water supply, the fragments may have been dumped after removal from a building elsewhere. A piece of Purbeck marble veneer of late 1st-century type was found in the nearby Midden 11 (Fig 36d). Since such veneers were used to line the walls of masonry buildings, it is unlikely to have come from any of the brickearth and timber buildings on the site.

Building 7: Period 3. Archive Ref LCT 84: M56 (Fig 20). Part of a strip building at least 2.5m long by at least 2.5m wide. The external south wall was represented by traces of a timber up to 0.16m wide over which brickearth had been laid. A partition which extended north from this south wall was of a similar construction, and had a sub-circular oven, some 1.4m wide and 2.2m long, built against it. A deposit of clay and ash was associated with a series of 13 stake holes set in a sub-circular pattern, indicating that the oven was probably of the 'beehive' type. The internal surface was of brickearth, but no threshold was found in the limited area excavated.

Accessioned finds from Building 7 were of a utilitarian character, including a well worn mortar of Purbeck marble (No. 78), a few severely corroded metal artefacts, and only one fragment of glass. The destruction debris was more productive and again suggests domestic use, with a fragment of hand mirror (No. 69), ceramic gaming pieces (Nos 153–5) probably part of an improvised set, and, by contrast, glassware of high quality including a marbled pillar-moulded bowl (No. 8) and a decorated mould-blown bowl (No. 87).

Building 8: Period 3. Archive Ref LCT 84: D25; D42 (Figs 9,10).
Part of a possible strip building at least 2.5m long by at least 2m wide. The external south wall was represented by a slot

Fig 18. G Wall plaster from Building 6, the lower part found in situ

0.2m wide, with brickearth packing in which traces of wattlework was found. A large fragment of *tegula* found in the west end of the wall trench may indicate the position of a threshold. The internal surface was of brickearth, but in the limited area excavated, part of the south edge of a central, circular oven or hearth was recorded. This was represented by severe scorching of the brickearth floor, which was sealed by deposits of ashy silts and charcoal and a series of stake holes forming a sub-circular pattern.

Most of the few finds recovered were from the demolition debris and included a mount from a belt or harness (No. 165) and a small quantity of glassware.

Building 9: Period 3. Archive Ref LCT 84: N5; N13; W28; S18 (Fig 21).

Part of a strip building at least 20m long by 4m wide, including four rooms with a porch 1m wide extending for at least 3m on the south side. The external walls were represented by shallow slots with brickearth packing, with the exception of the north wall of Room 4 which incorporated a line of stake holes for a wattle framework. The internal surface was brickearth, but no clear evidence of hearths or thresholds was found. The porch wall comprised a brickearth sill up to 0.2m wide.

Although it was not possible to distinguish the finds from

Fig 19. H Wall plaster from Building 6

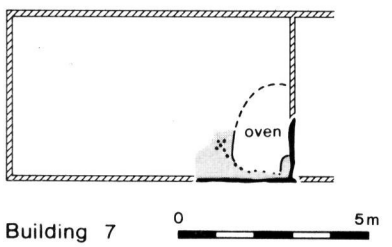

Fig 20. Leadenhall Court: plan of Building 7

Building 9 from those associated with Building 11, several items suggested domestic use. An amber bead (No. 24) was one expensive item, and a small group of glass included a tube which is probably from a syphon (No. 143).

Building 10: Periods 3–5. Archive Ref LCT 84: N14; W29; S19 (Fig 22).
Part of a strip building, at least 20m long by 4m wide, including six rooms with a porch 1m wide extending for at least 4m on the S side. The external walls were represented by traces of timber up to 0.16m wide, laid beneath a brickearth sill up to 0.2m wide. Part of a collapsed mudbrick wall was recorded to the south of the building. Further mudbricks were found in later destruction levels, together with a fragment of keyed daub walling, although no evidence for wall-plaster decoration was recovered in this or the neighbouring building.

The internal surfaces were brickearth in all rooms. There was clearly no hearth in Rooms 3 and 4. A post in the middle of the partition wall between those two rooms may have supported the roof. Traces of a possible threshold were found in the north wall of Room 5, while evidence for a porch or verandah ran along the south side of Room 5 and 6.

The internal features of the building were subsequently modified, with the addition of five large post pits in Room 3 and three in Room 4. A hearth in Room 5 which was built against the west wall comprised an oval cut, 0.7m by at least 0.8m with gently sloping sides and a flat bottom. It was filled with very compacted silty clay with an intense area of burning to the south. This was covered by a roughly rectangular deposit of orange brickearth, 0.6m by at least 0.9m, which had straight lines of iron staining running parallel to each other along the three surviving sides. On top

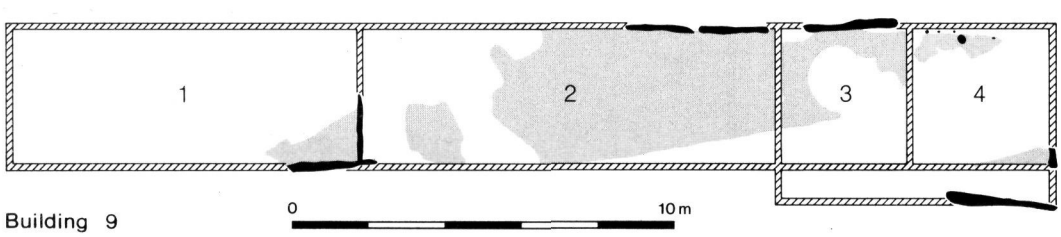

Fig 21. Leadenhall Court: plan of Building 9

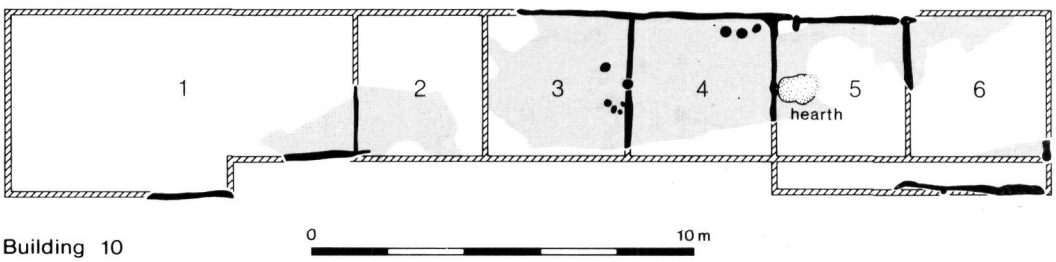

Fig 22. Leadenhall Court: plan of Building 10

of this, strips of burnt brickearth and silts formed rectangular patterns around a large rectangular stone centre.

Two types of stone *tesserae* were found in deposits associated with Building 10, Wealden shale and hard chalk: for example, a block of five chalk *tesserae* was recovered, still embedded in mortar. However, there is no other evidence to suggest that the building had tessellated floors; indeed, the earliest *tessera* from the site came from a pit beneath Building 10. The same pit also contained a rare triangular-shaped marble wall veneer, probably 'Rosso Antico' from southern Greece. Although broken, its original size can be reconstructed as 156 × 113 × 109mm, by up to 13mm thick (Fig 36c).

The finds assemblage from the first phases of Building 10 would seem to indicate that the original occupants were less wealthy than their immediate successors but, taken together, Building 10 is seen as a relatively low-status building. Small finds from this building were few and there is nothing to suggest particular prosperity. Apart from a glass gaming piece (No. 144), there is an absence of personal possessions. Most artefacts were found in levels associated with the later phase and reflect a miscellaneous household assemblage, with items such as a bone hinge (No. 201) and a pan weight (No. 132). By contrast, this building produced one of the largest groups of glass on the entire site, including a wide range of vessels of differing quality and function, although there is little to distinguish the material from the early and later phases. Storage containers predominate, and there are a few fragments of luxury glassware, including a fragment of a sports cup (No. 94) and a late 1st-century, almond-decorated beaker (No. 88). A fragment of cased glass (No. 4) dating from the early 1st century must be residual.

The collapsed mudbrick walls of Building 10 were noted in group N28. Further mudbricks were found in dumps over Buildings 5 and 10 (W31). It is possible that these also formed part of the superstructure of Building 10. A fragment of keyed daub walling came from the same group, although there is no evidence of wall-plaster decoration in either building.

Building 11: Period 3. Archive Ref LCT 84: N13 (Fig 23). Part of a strip building at least 11.7m long by 5m wide including three rooms. The external walls were represented by shallow slots up to 0.2m. wide, with brickearth packing. Remains of a hearth were recorded in Room 3, together with a scatter of stakeholes. Each room had a brickearth floor, and evidence for thresholds was noted on the south edge of Rooms 1 and 2 where the internal surface seemed to overlie the external wall line.

Building 12: Periods 3–5. Archive Ref LCT 84: N26 (Fig 24). Part of a strip building at least 18m long by 4m wide including six rooms. The wall dividing Rooms 3 and 4, and the N, E and S walls of Room 5 were defined by brickearth packed around lines of stakeholes representing a wattle framework, although these stakeholes were not recorded within the brickearth stubs of other walls. All six rooms were surfaced with brickearth, and a threshold was identified on the S wall of Room 5. The south-facing wall of this room had a lime-wash coating which would have protected it while enhancing its appearance. The base of the hearth in Room 3 was orange brickearth with much charcoal and iron staining, over which were layers of burnt, powdery brickearth, with concentric bands of fire-reddened brickearth over that. The hearth also incorporated some roof tile and brick (Fabric 2815).

The hearth in Room 5 was formed by a sub-circular depression 0.5m in diameter and 0.1m deep, with gently sloping sides. The edges were marked by ridges of pale yellow brickearth 0.06m thick and the feature was filled with scorched brickearth and white ash. A latrine pit in the yard to the NE was contemporary with this building, as Middens 9 and 10 may also have been.

The east end of the building suffered considerably from subsidence, the result of constructing over loosely-infilled pits and other features. Although the easternmost rooms were subsequently demolished, the rest of the building remained occupied, and Midden 15 accumulated over the levelled rooms and against the new east end of the building, Room 3.

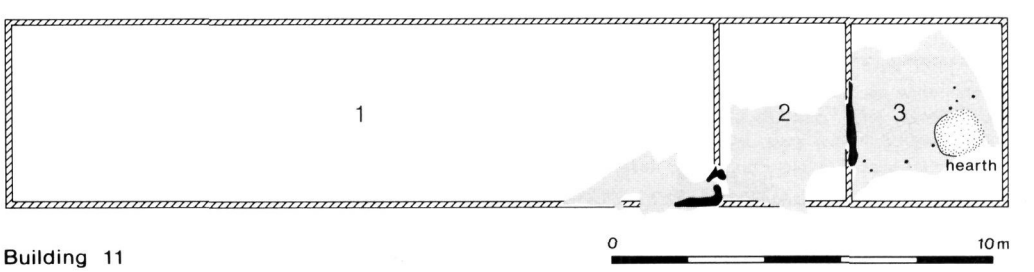

Fig 23. Leadenhall Court: plan of Building 11

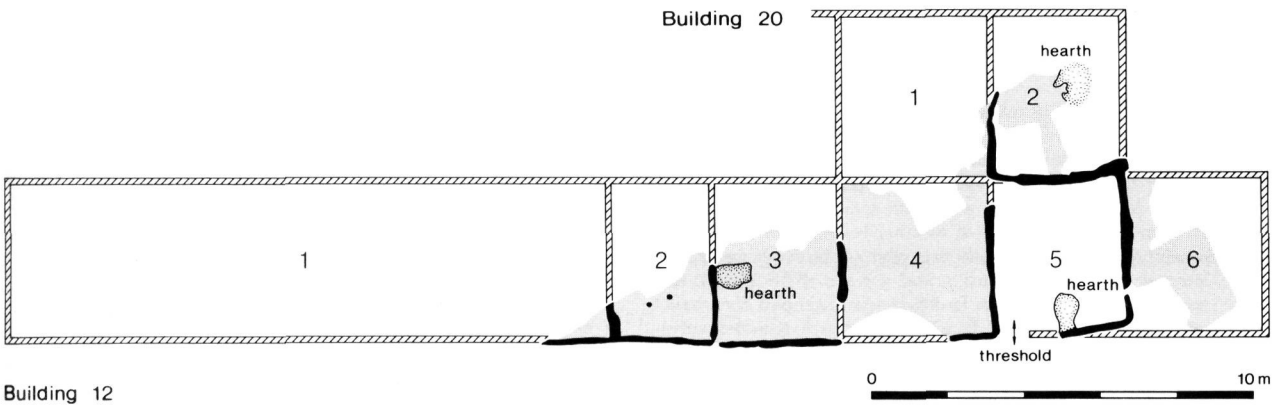

Fig 24. Leadenhall Court: plan of Building 12

A pit associated with Building 12 contained part of an unusual curved brick (Fabric 2815), which may originally have been either semi-circular or circular in shape (Fig 37i). There are two almost complete curved bricks in the Museum of London collection (Acc Nos 2177; 2178). The Leadenhall brick has a similar curvature but was some 20mm thicker (60 to 69mm). Other associated features produced three hard chalk *tesserae* (although there is no other evidence for a tessellated floor in Building 12) in addition to two substantially complete *imbrices*. One came from the Eccles-area kiln and had a breadth of 155 to 178mm with a thickness of up to 20mm. The presence of such well-preserved *imbrices*, which are rarely used for anything other than roofing, along with other fragments of *tegulae* and *imbrices*, indicates that Building 12 had a tiled roof, at least by the time of its demolition.

A large pottery assemblage associated with Building 12 was of late 1st-century date. Two unusual vessel types were present, an *ampulla olearia* and an *unguentarium* in the form of an animal, possibly a boar (No. 112). The *ampulla olearia* would have contained oil, probably used for bodily application, whereas the *unguentarium* may have been used in a household shrine. Several linking-sherds were found in the destruction levels of this building and the associated Middens, 9, 10 and 15. Study of the finds suggests that Building 12 may have been of a higher status than the other strip buildings, but of less importance than Building 6.

A wide variety of domestic material was found in middens and other deposits associated with the use of this building. The metalwork and other finds are generally undistinguished, although luxury and personal items such as a mirror fragment (No. 70), three brooches (Nos 2, 5, 13) and a distinctive knife (No. 117) were included. There is, however, a notable quantity of glassware with a diversity of forms and some of the most exceptional pieces from the site, in particular a skyphos in colourless glass (No. 66 Figs 61,63). Part of a basalt lava quernstone was also found (No. 76). Finds from the latest occupation phase are of a similar character and much of the glass is likely to be residual.

Building 13: Period 3. Archive Ref LCT 84: M2 (Fig 10). Fragment of a possible strip building at least 1.2m long by at least 1m wide, with a brickearth floor. The external south wall was represented by a shallow slot 0.3m wide, packed with brickearth. No hearths or thresholds were identified in the small area recorded.

Building 14: Period 3. Archive Ref LCT 84: S17; S32; S34 (Fig 25).
Single-roomed outhouse structure 5m by 4.8m wide, which incorporated a variety of construction techniques. The north wall was represented by a line of air-dried mudbricks, the west wall by traces of a timber plate, 0.16m wide, over which brickearth was packed, while the south wall was defined by a shallow robber trench-like feature, 0.6m wide, in the base of which were two postholes for posts, 0.2m in diameter, set 1m apart. The internal surface had been truncated and no evidence for hearths or thresholds was recorded. A series of deposits (Middens 5 and 6) had accumulated within and against the walls of this building.

The pottery recovered from Midden 5 has been dated to the AD 70s, although the material from Midden 6 is probably a decade later. Sherd links between the assemblages recovered from Middens 4 and 5, and between Midden 6 and the quarry infill would suggest that the dumped material that formed these middens had a common source and probably came from the high-status Building 6.

An associated pit fill produced a few miscellaneous items including a shale platter (No. 74). The presence of a large quantity of glassware from nearby Midden 5 may be explained by the length of time the dump remained open and the material may have come from a number of buildings.

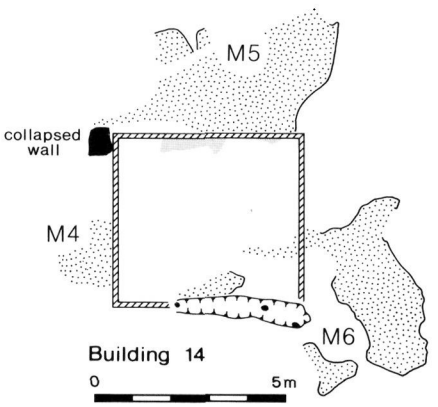

Fig 25. Leadenhall Court: plan of Building 14

A wide range of vessel types of differing form and function was recovered, and the state of survival was exceptional (see Glass report).

Building 15: Period 5. Archive Ref LCT 84: S14-15 (Fig 26). Part of a strip building at least 12.5m long by 3m wide, including four rooms which had been erected against the east wall of Building 5. The walls were represented by traces of timber plates up to 0.2m wide with some evidence for studs at 1.2m intervals. Traces of weather-boarding or shuttering were recorded along the external edge of the south wall. The internal surfaces in Rooms 1 and 3 were of brickearth, no evidence of thresholds was found, but an oven had been built against the east wall of Room 1. This was a sub-circular feature 0.74m wide by 0.5m across, defined by brickearth walls 30mm thick. The base comprised a shallow depression filled with charcoal and burnt brickearth.

A small assemblage of glassware, unidentifiable metal artefacts and a lamp imported from Central Gaul (No. 86) were recovered. The small pottery assemblage associated with this building has been dated to the late 1st century.

Building 16: Period 3. Archive Ref LCT 84: S35–36 (Fig 27). Single-roomed outhouse structure 4.6m long by 4.4m wide. The walls were represented by stubs of brickearth with traces of timber planking on both faces. The internal surface was covered in midden material over which metalling had been laid. No hearth or threshold was recorded. Middens 5 and 6 seem to have accumulated against the walls.

Immediately to the south was a large latrine pit, 3.6m across and over 1.6m deep, on the west side of which traces of a timber chute at least 0.5m long 0.2m wide were found. There was evidence that the pit was planked over and it may have been covered by a roof projecting southwards from

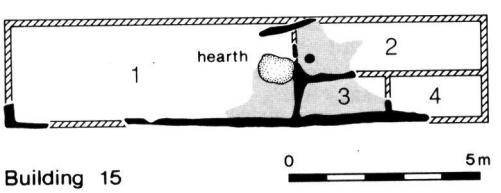

Fig 26. Leadenhall Court: plan of Building 15

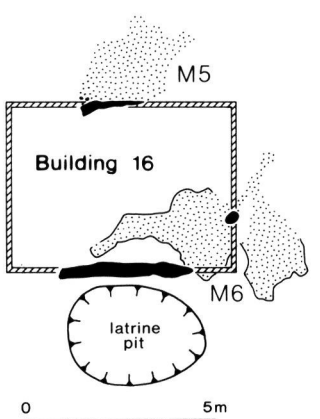

Fig 27. Leadenhall Court: plan of Building 16

Building 16. A substantial midden deposit ultimately sealed the pit.

The finds assemblage associated with this building included a samian stamp dated AD 80–100. Seven sherd links from material associated with Building 14 suggest that some material was residual. In addition there were linking sherds from contexts associated with Building 16, the latrine pit and an external surface, and the latrine pit and Midden 6. This would suggest that earlier midden material was levelled and spread over the area. The pottery from these middens would have been made up from the material associated with other buildings rather than Building 16 itself.

No small finds came from within Building 16, but finds of a domestic character from adjacent surfaces and features, such as the latrine, included personal items—an enamelled brooch (No. 11), a shale armlet (No. 23), melon bead (No. 40) and a ligula (No. 57). A large group of glassware from the latrine pit comprises a varied range, but little of high quality. The finds could have been associated with the use of either Buildings 5, 6 or 10.

Building 17: Periods 3–4. Archive Ref LCT 84: D29–30 (Figs 11,12).
Fragment of a strip building at least 2.5m long by at least 2.4m wide. The external south wall was represented by a shallow slot with brickearth packing up to 0.2m wide incorporating at least two postholes, 0.15 in diameter, set 1.4m apart. The internal surface was of brickearth and a series of stakeholes had been cut into it, perhaps associated with the hearth structure. No threshold was found in the limited area excavated. A key-hole shaped hearth, at least 1.2m by 0.8m wide, had been built against the south wall. The base comprised fragmented roof tiles (Fabric 2815) laid in a 'U'-shape packed with burnt brickearth. Over this were five horizontally-laid tiles in Eccles area Fabric 2454, which had been subjected to intense heat. A series of midden deposits accumulated to the east of the building. Despite the small area of excavation, two personal items were recovered, a woman's earring (No. 20) and a ligula (No. 59).

Building 18: Periods 3-4. Archive Ref LCT 84: M59–60 (Figs 11,12). Fragment of a strip building at least 3m long by at least 2.2m wide. The external south wall was represented by a shallow slot with brickearth packing up to 0.3m wide. The internal surface was of brickearth, but no threshold was found in the limited area excavated. Against the south wall a keyhole-shaped oven, at least 1.6m by 1m wide, had been built. The base comprised burnt brickearth over which were layers of horizontally-laid bricks with some tile fragments (Fabric 2815) and layers of burnt brickearth over them. The oven was rebuilt with a new base, comprising fragments of brick, tile and mudbrick, while two incomplete *tegulae* fragments were laid horizontally in the mouth.

A small quantity of painted wall plaster, some 260gm, was recovered from midden deposits associated with the demolition of the building. These included plain fragments of grey, red and white plaster, the latter with a very irregular surface. There were also fragments of pink-coloured dado with splash decoration in black, white, yellow and red, while another piece had a dark red decoration above a red background. It is possible that this group came from the walls of Building 18, but it is too small to be certain.

From the demolition deposits came miscellaneous household items, a bone needle (No. 129), an iron key (No. 162), a copper stud (No. 185) and a small amount of glassware, mainly containers.

Building 19: Periods 3–4. Archive Ref LCT 84: M3–4 (Fig 12).
Part of a strip building, at least 1.1m long by at least 2.8m wide. The external north wall was represented by a shallow slot packed with brickearth, and the internal surface was of brickearth, scorched against the line of the wall, perhaps indicating the position of a hearth. There was evidence of successive re-linings of the oven.

The sole metal find was a fine copper alloy belt-plate of 1st-century type, with repoussé decoration on the face depicting a cavalryman spearing a fallen enemy (No. 41, Fig 39). The only glass of note was part of a millefiori pillar-moulded bowl (No. 6) in yellow and green.

Building 20: Periods 3–4. Archive Ref LCT 84: N21 (Figs 13, 24).
Fragment of a strip building, at least 3m long by at least 2.2m wide, built against the north wall of Building 12, which became a party wall. The wall dividing Rooms 1 and 2 was represented by a shallow slot, 0.2m wide, packed with brickearth. The internal surface in Room 2 was of brickearth in which many nails were embedded, with their heads uppermost. Signs of scorching in Room 2 presumably indicated the presence of a hearth enclosed by a timber framework, traces of which were recorded. No thresholds were found in the limited area excavated.

Building 21: Periods 3–4. Archive Ref LCT 84: S37 (Fig 12).
Single-roomed outhouse structure, 3.5m by 3.3m wide. Some of the walls were represented by stubs of brickearth, but the south wall was defined by a 'V'-shaped slot, 50mm wide by 50mm deep. The internal surface was covered by Midden 14, over which metalling had been laid. The few ceramic finds from these deposits included three lamps, (Nos 80, 91 and 97), two of which were imports. Since no hearth or threshold was recorded, this structure may have housed animals or fowl.

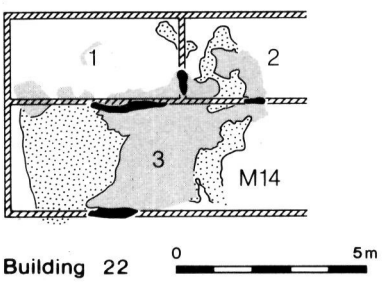

Fig 28. Leadenhall Court: plan of Building 22

Building 22: Period 4. Archive Ref LCT 84: S39 (Fig 28).
Three-roomed structure at least 8m long by at least 4m wide. The walls were represented by brickearth stubs up to 0.3m wide with traces of decayed timber. The internal brickearth surfaces were covered in midden material. No hearth or threshold was recorded. The brickearth slab for Building 22 was laid out over Midden 14 material. Subsequently, more midden deposits accumulated against the east wall of the building.

Building 23: Period 5. Archive Ref LCT 84: WS25; S14; S16 (Fig 29).
Part of an irregular strip building at least 25m long by 4m wide, including four rooms. The walls were represented by trenches 0.25m deep in which were traces of timber plates up to 0.2m wide and over which brickearth had been packed. Traces of weather-boarding or shuttering were recorded along the external edge of the wall. The internal surfaces were of brickearth, and an oven, 2m long by 1m wide, built against the north wall of Room 1, had been re-lined three times. The base was constructed from horizontally-laid *tegulae* fragments (Fabric 2815) and the brickearth and tile walls survived to a height of 0.26m and a width of 0.36m. The first lining of the bowl was very hard, and on the second lining, finger prints were recorded. The final re-surfacing filled the bowl with brick fragments and brickearth, extending the apron of the oven southwards. Another internal feature in Room 1 was represented by a group of three postholes. No evidence of thresholds was found.

A little plain red plaster was recovered from the construction levels of Building 23 and an associated external surface. This is separated from the original plain white plaster surface by a backing layer 9mm thick. The shade of red on the upper surface is identical to that found in Building 6 and it seems more likely that the plaster was derived from that earlier structure than from Building 23.

The range of vessels in the relatively small pottery assemblage would suggest that Building 23 was of a relatively high status. Other artefacts from associated deposits included fragments of two brooches (No. 16, No. 17), a melon bead (No. 36), 30 fragments of glass, seven of which were from bottles and the remainder from mid to late 1st-century bowls.

Form function and construction

G. Milne

The 23 1st-century buildings exhibited a variety of forms, including single-roomed structures,

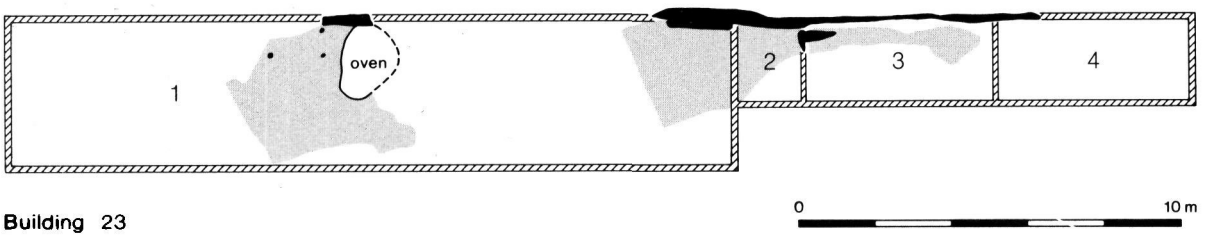

Fig 29. Leadenhall Court: plan of Building 23

multi-roomed strip buildings and buildings of more complex structure.

Single-roomed buildings

The three single-roomed buildings (14, 16, 21) were the smallest type represented. Building 21 was only 3m × 3m for example (Figs 11,12). They were all positioned in yard areas at the rear of the properties fronting the main north-south thoroughfare (Figs 9,10,11). Some were therefore probably used as storehouses or animal sheds rather than for domestic occupation; others housed latrine pits.

Strip buildings

The multi-roomed strip building is now regarded as one of the most common types of domestic vernacular building found in early Romano-British towns. These buildings comprise a single range of small rooms set one behind the other, and several such buildings were often laid out contiguously within long narrow urban property

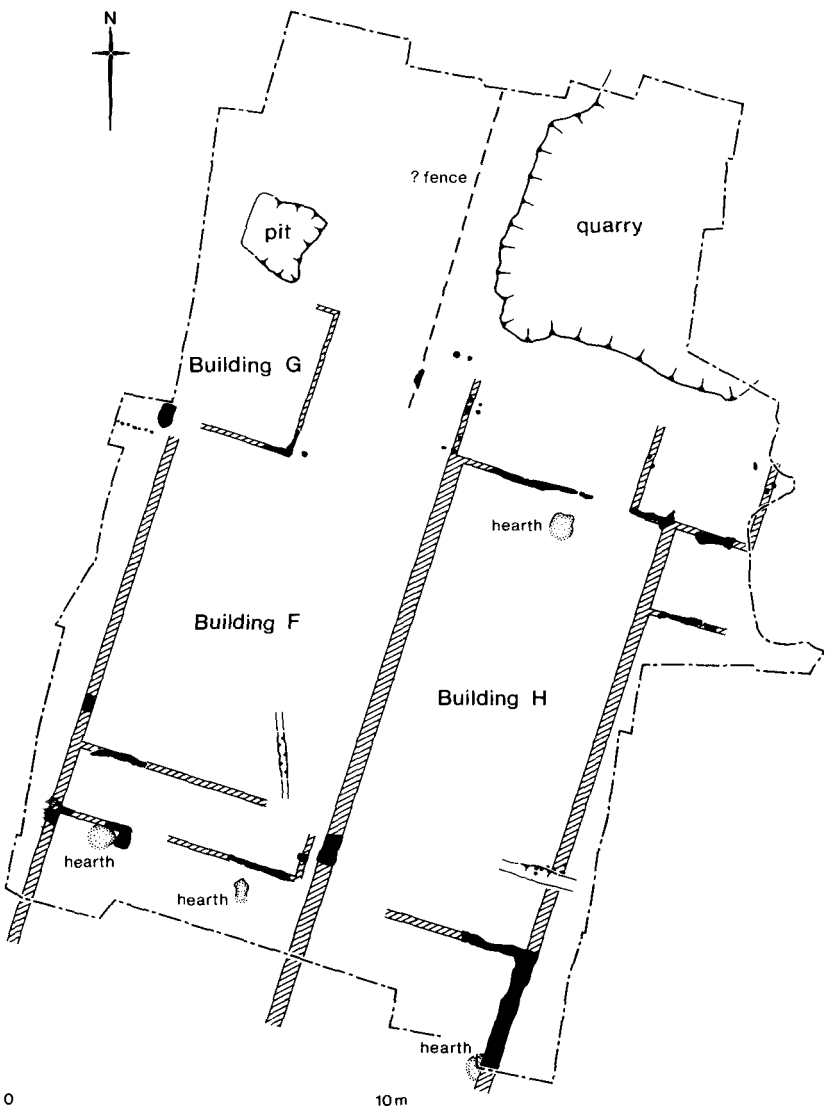

Fig 30. Plan of strip buildings on the Newgate Street site (GPO75) fronting onto main road to south with quarries and pits to rear

plots. On sites where the frontage has been recorded, the room immediately adjacent to the street is often interpreted as a shop with a workshop behind, and residential accommodation beyond that. Such structures are well known from recent work in London, as at the Newgate Street site, (Fig 30; Perring & Roskams 1991) as well as in many other towns, such as *Verulamium* (Frere 1972). Six clear examples of strip buildings were recorded on the Leadenhall Court site, Buildings 9, 10, 11, 12, 15, 23 (Figs 9,10,11,31), while Buildings 7, 8, 17 and 18 may also have been of this type. Unfortunately, the western end of the buildings (*ie* the street frontage) lay beyond the limit of the excavation so the full length of these structures was not established. However, the seven-roomed Building 10 was at least 24m long and a total length in excess of 30m may not be unreasonable. The average width of these buildings was 4m, and all the rooms were usually square, often with a tile-based hearth (Fig 32), to provide both heat and cooking facilities, set against one wall. The floors were simply surfaced and resurfaced with brickearth and were rarely level. The doorways seemed to be in the side walls, opening on to the narrow alleys which ran between the buildings, rather than in the partition walls. This is considered significant, since it suggests that the building was not occupied by a single family requiring access to all the rooms, but that each room or block of two rooms may have formed an independent residential unit.

Several different family groups may therefore have occupied each one of the strip buildings, perhaps renting the rooms from a landlord. Such tenants were presumably the new artisan class, perhaps the native British who flocked to the towns, having lost their farms and homes when ancient tribal estates were seized and the lands re-allocated by the Romans. Such a landless class

Fig 31. Strip buildings on the Leadenhall Court site cut by later pits and steel struts: the 10 × 100mm scale rests on the internal surface within a room in Building 12 which lies to the north of a narrow alley dividing it from Building 10, just visible to the south (top of the photograph)

Fig 32. Building 18, Leadenhall Court site (LCT84): remains of domestic hearth with tile apron, to right of 5 × 100mm scale, viewed vertically

is of necessity itinerant, always moving to places where work might be offered. The modular building construction which could be, and was, extended or contracted as needs dictated, may be argued to reflect such a noticeably changing population. Although the buildings provided adaptable accommodation, they were also short-lived: many lasted only five to 10 years before being replaced, while none survived much more than 30 years.

Buildings of a more complex structure

The strip buildings may be contrasted with the more spacious property excavated on the Watling Court site, in which a military diploma was found (Fig 33; Perring & Roskams 1991; Roxan 1983). This building was occupied by an auxiliary veteran, perhaps one of the more prosperous of the first Londoners. There was only one structure on the Leadenhall Court site which could be compared with that class of property: Building 6. This was a timber-framed structure which had at least seven rooms, an internal corridor, and a verandah at the rear. It was one of the few vernacular buildings which may have had a tiled roof, since a number of *tegulae* and *imbrices* were recovered from an associated destruction horizon. It was also one of the few buildings from which painted wall-plaster was recorded. The plaster was not applied over two to three layers of backing plaster as was standard practice elsewhere, but comprised a thin layer directly over the brickearth walling which was then painted (Fig 34). The design included a white dado panel decorated with red, yellow and black splashes within a red border. It seems that Building 6 represents the dwelling of a relatively wealthy citizen (at least in terms of this particular *insula*) and, as such, reflects the way different classes lived side by side in the early town.

Construction and reconstruction

Several construction techniques for domestic buildings have been recorded from Roman

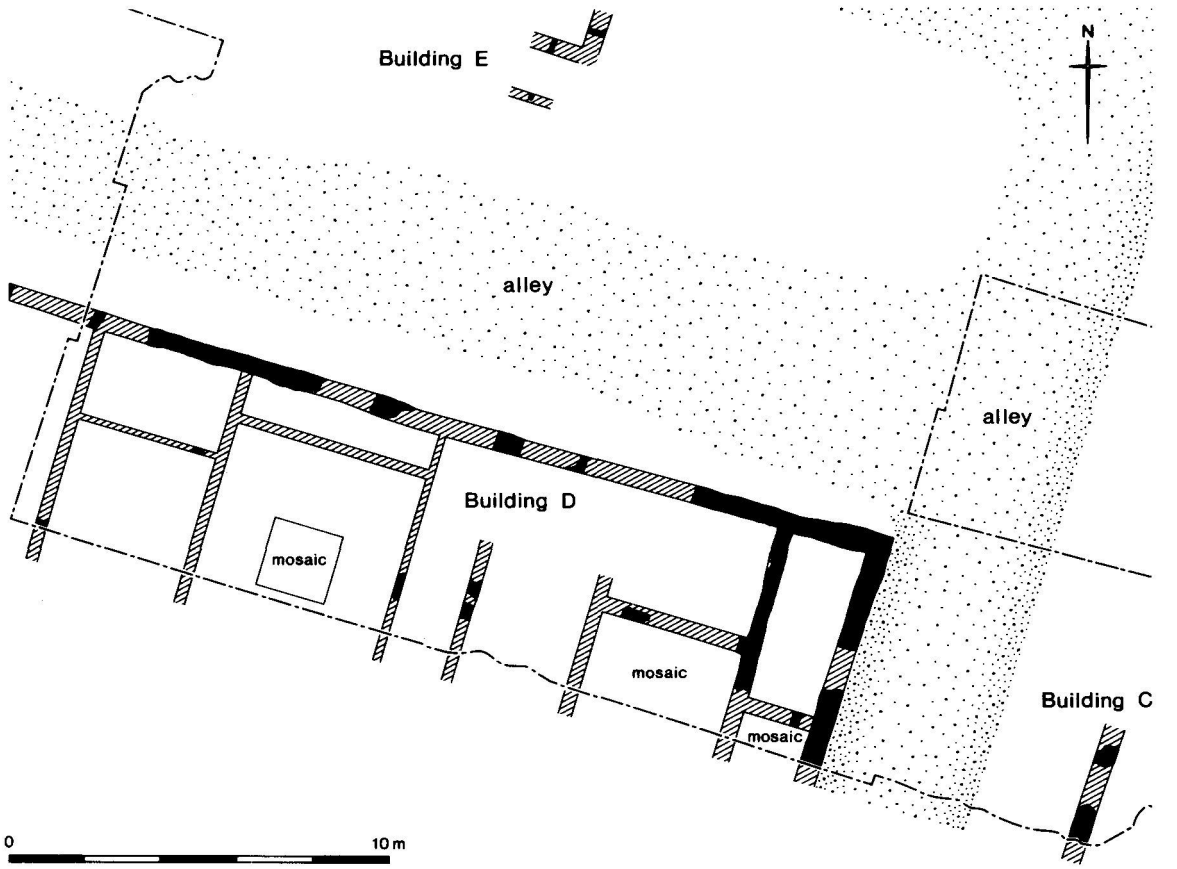

Fig 33. Building D on the Watling Court site (WAT78)

Fig 34. Building 6, Leadenhall Court site (LCT84): traces of plaster rendering on internal face of brickearth wall

London, as has been noted in recent publications (*eg* Perring & Roskams 1991). They range from the use of masonry footings with either a masonry, tile, or even a brickearth superstructure, to a variety of timber and brickearth wall types. The 23 vernacular Roman buildings on the Leadenhall Court site were all built of the latter materials. At least three different construction techniques were represented, with some buildings incorporating walls of earthfast posts, others stake and wattle, while some had a timber framework. Occasionally, different techniques were found in the same building.

Earthfast post structures, such as Building 2, had posts up to 0.35m in diameter, set into packed postholes at *c.* 1.1m centres. The wall cladding may have incorporated wattle and daub infill, or brickearth mass walling poured between shutters and allowed to dry. The stake and wattle method of construction involved the driving of a series of stakes directly into the ground or a shallow construction trench. The stakes varied in diameter but averaged between 80mm and 100mm, set some 0.5m apart. Wattles were then woven around the posts to provide a sturdy frame around which wet brickearth was packed and allowed to air-dry. Some buildings (*eg* Buildings 10, 15 and 18) utilised mud-bricks made from brickearth, while evidence of external

lime-wash rendering was recorded on Building 12. Nearly two-thirds of the 'strip-buildings' recorded were of a standard type and are thought to have been erected relatively quickly and at low cost. Contemporary comments on Roman wattle-walled buildings were made by the architect Vitruvius who declared '...as for wattle & daub, I wish that it had never been invented. The more it saves in time and gains in space, the greater and the more general is the disaster that it may cause, for it is made to catch fire, like torches. It seems better, therefore, to spend on burnt (fired) brick walls, than to save with wattle & daub and be in danger' (Morgan 1914, 57). Clearly, the inhabitants of buildings from the Leadenhall Court site lacked the money to erect fire-resistant brick houses.

Buildings with a timber framework were also common in early Roman London. A shallow construction trench was dug, into which was laid a timber base-plate with mortices cut into its upper face to support vertical timber posts, known as studs. On the Leadenhall Court site, fragments of decayed wood were all that survived of the base-plates, but few traces of upright studs were recorded. Much clearer evidence for timber-framed buildings in Roman London has recently been recorded. For example, the well-preserved wooden floor and foundations of a 2nd-century warehouse were discovered *in situ* in Southwark in 1988 (Dillon 1989), while on the Cannon Street Station site, timber base-plates, studs, wall-plates and tie-beams had been reused as foundation piles below a masonry wall (Goodburn 1991). At Leadenhall Court, the infill material was usually either a form of wattle and daub, or mudbricks laid between the studs and bonded with wet brickearth. In some cases a further coating of brickearth or lime was painted onto the external surfaces of the finished wall for protection against the weather. In contrast to the stake and wattle buildings discussed above, walls which incorporated a timber framework, such as those of Building 6 (Fig 35), may have stood to a height of 2m or more and may even have been two storeyed.

Fig 35. Building 6, Leadenhall Court site (LCT84), looking south: evidence of timber framed footings. The 5 × 100m scale rests on the internal floor of the building

Brick and tile fragments were recovered from the levels associated with the vernacular buildings at Leadenhall Court. This material came in a number of forms and fabrics, the majority of which were probably produced in tile kilns situated between London and St Albans. However, there is little evidence to suggest that many, or indeed any, of the buildings were roofed in ceramic tile, Buildings 3 and 6 being the only possible exceptions. A considerable proportion of the brick and tile was used to construct the bases and walls of hearths and ovens, while much of the rest seems to have been re-used as hard core in the alleys and yards.

In the 1st century, then, it seems that the majority of domestic buildings in *Londinium* were of brickearth and timber construction, similar to the range of forms recorded on the Leadenhall Court site. Although the plan form of such structures is clear, a detailed consideration of the associated superstructure has not been attempted, although the construction techniques have been closely studied (Perring 1991). It is generally assumed that brickearth walls with a width of 0.3m or less would be unlikely to support a two-storey structure. The amount of debris recorded in the destruction horizons would also seem to bear this out. The modular nature of the construction, in which rooms were added and subtracted as required, shows that the buildings were erected in discrete units, rather than as integrated structures, which has obvious implications for the design of the roof as much as for the walls. Indeed, it is possible that single-pitched roofs may have been used, which might imply that the walls in which doorways were inserted were higher than the other long walls. However, centrally-placed postholes, presumably to support a ridge pole, were recorded in some of the

buildings. As for the roof itself, this was probably not tiled, since the demolition levels did not produce significant quantities of *tegula* or *imbrex*, while the walls seemed too insubstantial to support such a weight. A lightly thatched or boarded roof might be more appropriate, although affording an obvious fire hazard.

Building materials

Ian M. Betts & Naomi Crowley

Introduction

A total of 599.8kg of building material was recovered from pre-Basilica levels at Leadenhall Court. This included 5.7kg of stone, 7.2kg of daub and mudbrick and 19.8kg of painted wall plaster. All the material was recorded in an attempt to provide information on the external and internal appearance of the clay and timber buildings. The origin of the building material is discussed here, together with the information it provides about the construction of at least one other building in the vicinity of Leadenhall Court.

The 23 brickearth and timber buildings of 1st to early 2nd-century date at Leadenhall Court range from single roomed outbuildings to strip buildings to a yet more elaborate corridor building with at least seven rooms (Building 6). Nearly all the ceramic and stone building material comes from hearths, alleys, backyards and middens making it difficult to attribute any of it directly to the superstructure of the buildings. The building material which can be, or which may be, related to specific buildings is discussed in the Buildings Catalogue.

Ceramic building material

Fabrics

The earliest ceramic roofing tile and brick come from Period 1 and 2 contexts, dated AD 50–70. The tiles, all various shades of red, belong to Fabric group 2815, thought to have been manufactured at various kiln sites around London, although the main source of supply seems to have been the tile kilns straddling Watling Street between London and St Albans. These fabrics, with all others mentioned in the text, are described in more detail in Table 1. Tiles in Fabric group 2815 predominate throughout the 1st-century sequence, comprising 87.4% of the total tile assemblage.

Distinctive white, yellow and pink tiles from the Eccles area of north-west Kent first appear in Period 2 pits and dumps dated AD 60/65–80. Eccles area tiles were imported into London during the period AD 50–75/80 (Table 1; Betts in preparation). In the pre-Basilican deposits they constitute 7.6% of the tile assemblage.

The presence of Eccles tiles in these dumps coincides with the first appearance of tiles from the kiln site at Radlett in Hertfordshire. The tilery is situated near kilns producing tiles in Fabric group 2815, but the distinctive brickclay used by the Radlett tilemakers allows their products to be distinguished. Tiles from Radlett were brought into London during the period AD 50/70–120. These fabrics constitute 3.5% of the total ceramic building material present.

Four other fabric types are present (3025, 3028, 3051, 3068), but these constitute only 1.52% of the total tile assemblage. All are known from other sites in London to be of 1st-early 2nd century date. The locations of the kiln sites producing these rarer fabrics are still unknown.

Products

The vast majority of the ceramic building material comprises roofing tile (*tegula* and *imbrex*) and brick. They constitute 98.4% of the total tile assemblage.

Fabric 3051 is unusual in that every example currently found in London, including the two Leadenhall examples from 1st-century pits (N19, S24), is a brick. This indicates that either the tilery using this fabric only manufactured brick, which seems unlikely, or that there was preferential import of brick into 1st-century London. The latter could indicate a shortage of brick for construction work.

Seven fragments of box flue tile were recovered from dumps lying over demolished Building 8 (D28), with further fragments from Building 17, and Midden 5 associated with Building 14 (all Period 3). Most have scored keying, whilst one plain side has a surviving length measurement of 75mm and a thickness of 13-14mm. The tile from Midden 5 has the remains of a vent, possibly circular, cut into the plain side. The presence of scored, but not combed, keying reinforces the information from other London sites which indicates that combed keying was

Table 1. Ceramic fabric types

1) Fabric Group 2815
Date: AD 50/70 to 140/200
Origin: Greater London, Hertfordshire, Surrey, Essex
Tile Types: tegula, imbrex, brick, flue tile, tegula mammata, paving tile, water pipe, type uncertain
Colour: various shades of red, or reddish-orange

Fabric group 2815 can be split into four individual fabric types based on the size and frequency of quartz inclusions in the clay matrix:
a) Fabric 2452
Fairly fine fabric with small, but varying amounts of quartz (up to 0.5mm). Usually with a scatter of calcium carbonate and iron oxide (up to 2mm).
b) Fabric 2459A
Fine sandy fabric with few quartz grains above 0.2mm. Occasional scatter of calcium carbonate and iron oxide (up to 1mm).
c) Fabric 3004
Sandy fabric with common quartz (up to 0.7mm), with occasional iron oxide and calcium carbonate (up to 0.7mm).
d) Fabric 3006
Covers the fabric range between 2459A and 3004. Individual tiles vary but most have frequent quartz (up to 0.3mm) with occasional iron oxide and calcium carbonate.

2) Eccles fabric group
Date: AD 50 to 75/80
Origin: Eccles area, north-west Kent
Tile Type: tegula, imbrex, brick
Colour: normally yellow, pink, grey, white

These tiles are split into three fabric types based on the amount of quartz inclusions in the clay matrix. The quartz can either be of normal type or, more frequently, a reddish colour (rose quartz).
a) Fabric 2454
Varying amounts of quartz (most up to 0.5mm). Scatter of iron oxide (up to 1mm) and calcium carbonate (up to 2mm).
b) Fabric 2455
Fine smooth clay with only occasional quartz and calcium carbonate.
c) Fabric 3022
Frequent quartz (up to 0.4mm) with occasional iron oxide and calcium carbonate.

3) Radlett fabric group
Date: AD 50/70 to 120 (+?)
Origin: Radlett, Hertfordshire
Tile Type: tegula, imbrex, brick
Colour: various shades of red, orange and brown

This group is split into two fabrics based on the amount of cream-coloured silty inclusions present.
a) Fabric 3023
Fine sandy fabric with frequent quartz (up to 0.3mm). Frequent very small black iron oxide inclusions (up to 0.1mm). Silty and red iron oxide inclusions scattered through the clay matrix.
b) Fabric 3060
As fabric 3023 but lacks cream-coloured silty inclusions. Some tiles seem to have less very small black iron oxide.

4) Fabric 3025
Date: AD 60 to 80/100
Origin: unknown
Tile Type: tegula, brick
Colour: pink, light brownish-orange

Fine fabric with prominent yellowish-white silty inclusions. Scatter of iron oxide (up to 1mm) and occasional quartz (up to 0.3mm)

Table 1. (continued)

5) Fabric 3028
Date: AD 70 to 100/120
Origin: unknown
Tile Type: tegula, brick
Colour: various shades of red, orange, brown

Sandy fabric with frequent quartz (up to 0.4mm) and silty pellets and bands (up to 6mm). Scatter of red iron oxide (up to 1mm).

6) Fabric 3051
Date: AD 70 to 100/120
Origin: unknown
Tile Type: brick
Colour: pink, light brown, green, yellowish-brown, red

Varied firing colour. Scatter of large rock fragments and calcium carbonate (most up to 7mm) with frequent smaller inclusions of quartz, iron oxide and calcium carbonate. Clay matrix sometimes has a mottled appearance

7) Fabric 3068
Date: AD 50/70 to 120/125
Origin: unknown
Tile Type: tegula, brick
Colour: orange, light brown

Smooth background clay matrix. Common quartz (mostly around 0.8mm with only a few smaller grains). Frequent iron oxide and occasional silty inclusions (up to 3mm).

rarely, if ever used before the 2nd century (Betts in preparation).

The box flue tiles must have originally been used in a 1st-century building of masonry construction, although not necessarily in a hypocaust system. They could not have been used in any of the clay and timber buildings excavated at Leadenhall Court. The nearest masonry building which may have had flue tiles is the first Forum and Basilica less than 50 metres to the south.

Tegulae mammatae, bricks with circular nibs (*mammae*) on their upper surfaces, are found in tile assemblages associated with Period 3 buildings—Building 6 (S10), Building 10 (W29), Building 14 (S34) and Building 12 (N27). Most of the *tegulae mammatae* used in London (first introduced around AD 55–80), are of 1st-century date (Betts in preparation).

Four circular waterpipe fragments were recovered from Building 6 (S10). The pipes are between 23 and 34mm thick, with internal diameters of between 54 and 84mm, and external diameters of approximately 130 and 170mm (Fig 36a and b). One fragment from Building 6 has the remains of a socketed end 16mm thick with external diameter *c.* 110mm, which would have allowed the pipe to fit into the end of the adjacent pipe. All are dated AD 70–100. Ceramic pipes are very rare in London and even rarer in their original position. None of the Leadenhall fragments was *in situ* although all clearly pre-date the Basilica.

A single fragment of paving brick used in *opus spicatum* herringbone flooring came from Midden 4, Period 2. There is no sign of wear or mortar on the surviving surfaces, suggesting that it may never have been actually laid in a floor.

One tile, a fragment with knife scoring in its sanded base, cannot be identifed with certainty (Fig 36c). It could be a half-box flue, or wall tile, although the thickness of 38-44mm would suggest the latter. If it is a wall tile this would be one of the earliest examples from London. Alternatively, it may be a brick, the keyed base suggesting use in flooring. The tile came from the demolition and robbing of Building 8, Period 3.

Stone building material

London has no naturally occurring hard stone so all building stone was imported. Very little stone was recovered from the pre-Basilican contexts at Leadenhall. A small amount of Kentish Rag, a hard, grey, sandy glauconitic limestone thought

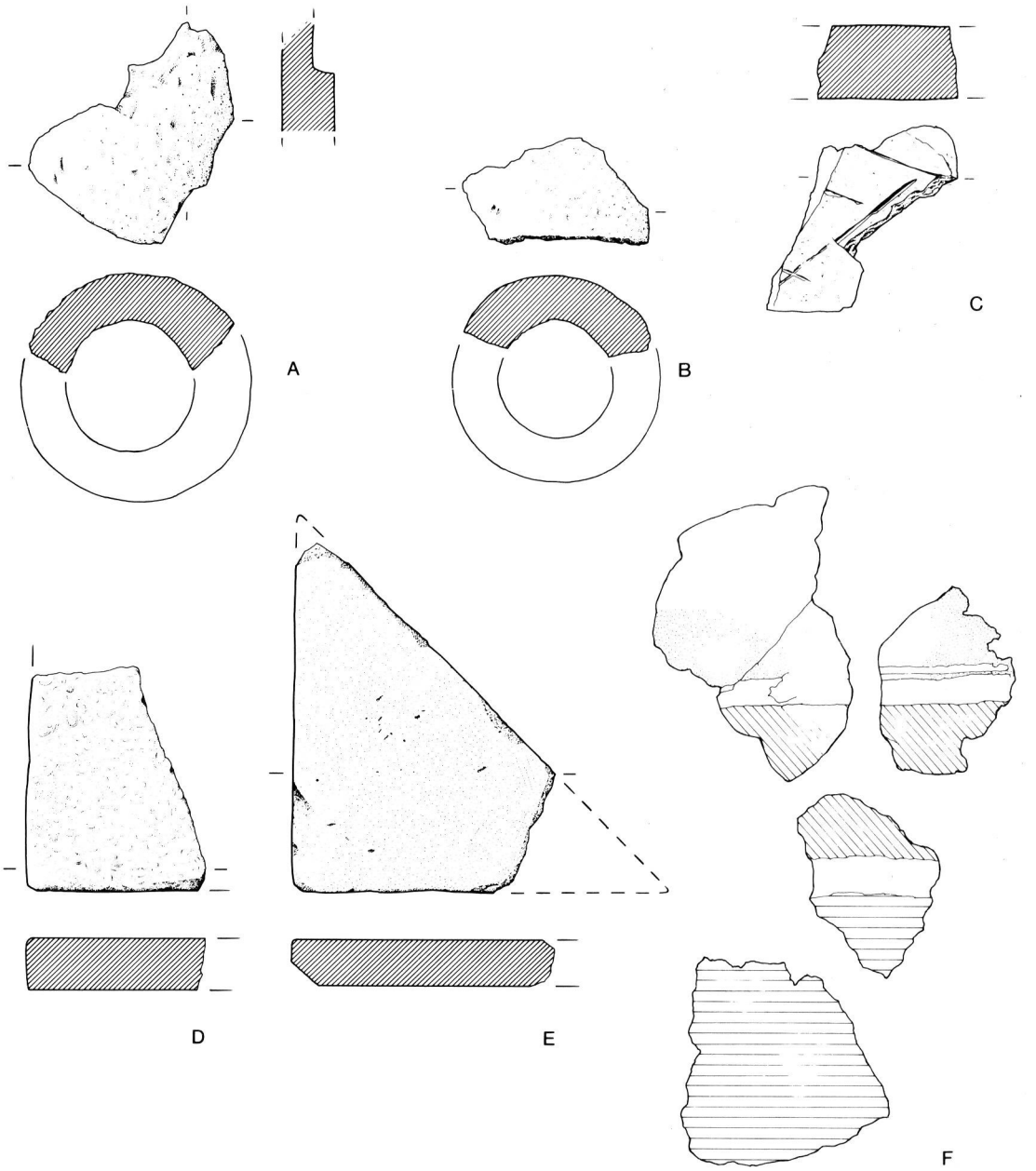

Fig 36. A & B Fragments of ceramic water pipe, scale 1/4; C scored tile, scale 1/4; D Purbeck marble wall veneer (scale 1/2); E 'rosso antico' wall veneer (scale 1/2); F wall plaster from Building 3 (scale 1/2)

to be from quarries in the Maidstone area, occurs as rubble in Building 7 destruction material (Period 3, *c.* 80–85) and in an unassigned group dated broadly AD 70–100. A number of small *tesserae* , found in miscellaneous groups of Periods 3 to 5, are made from exceptionally hard, Upper Cretaceous, chalk. Dr R. W. Sanderson, who undertook thin-section analysis of one example, reports that the origin of the stone cannot be determined on petrological grounds but 'the described characteristics suggest that it might well be derived from the Tethyan province, *ie* the Mediterranean region' (Sanderson 1991). Other *tesserae*, of grey calcareous shale or

limestone, probably from the Weald, were also found. None can be assigned to a specific building (see below).

A fragment of Purbeck Marble wall veneer came from Midden 11, Period 4. This is a shelly limestone from the Isle of Purbeck in Dorset (Fig 36d). A very small fragment of Reigate Stone from the Mersham/Reigate area of Surrey may be intrusive in a 1st-century level, as the material is not thought to have been used in London during the Roman period.

A thin, laminated, pale maroon sandstone fragment from a pit fill dated AD 70–100 is unprovenanced but is thought to have been quarried somewhere in south-east England. Laminated sandstone roofing, from the same source, is believed to have been used for roofing in the later 4th century (Betts & Foot 1994,32). However, there is no evidence for the use of stone roofing in 1st-century London so the presence in such an early context is puzzling.

A pit associated with Building 10 contained a rare triangular shaped wall veneer (Fig 36e). Although broken, its original size can be reconstructed as 156 × 113 × 109mm, with a thickness of 12–13mm. Dr R. W. Sanderson reports: 'The identity of this stone has not been determined with certainty. The Roman archaeological context and the lithology suggest that it may be the marble known as *Marmor Taenarium* to the Romans, or *Rosso Antico* in modern nomenclature. This stone derives from Cape Matapan, southern Greece' (Sanderson 1991). If the identification as *Rosso Antico* is correct, this would be the first occurrence of this stone type in Roman London.

Daub and mudbrick

Brickearth deposits occur all over the London area and were extensively dug throughout the Roman period for the production of daub walling and mudbricks. The earliest daub fragment comes from a Period 1 pit cut through natural brickearth dated AD 50–70. Daub, and to a lesser extent mudbrick, was used extensively in the pre-Basilican clay and timber buildings.

Painted wall plaster

Buildings of both masonry and clay and timber could have plastered walls. The earliest painted plaster fragments came from a Period 1 ditch fill (N8), and an external dump (S4) dated AD 60/65–80. Although neither can be related to a specific building their early date suggests that at least some of the earliest buildings in Roman London had painted wall decoration. Work elsewhere, however, suggests that such painted walls were a rarity before the Boudiccan Fire (AD 60/1), (Betts in preparation).

The wall plaster from the Period 1 contexts comprises areas of plain red, plain white and plain light grey. Two fragments are identified as parts of a dado, the plaster from the lower part of a wall, especially where there is a base-zone in a tripartite scheme (Davey & Ling 1981, 19). One fragment of white dado has yellow, red and light grey splash decoration and another may be part of a red dado, although only a single white splash is present.

Painted wall plaster associated with specific buildings is discussed in the Buildings catalogue (Figs 18,19,36f).

Markings

Relatively few tiles had any sort of markings, those that do can be split into two categories, accidental and deliberate. In the first category are footprints caused by animals walking across tiles laid out on the ground to dry prior to firing. Paw prints occur on the surface of two bricks and a *tegula*, and hoof prints on a further five *tegulae*. One brick may show part of a shoe imprint. All these marks are on tiles in the common fabric group 2815 from groups dated throughout the sequence.

Two types of deliberate markings are present: signature marks and tally marks. Signature marks seem to have been added to a certain proportion of tiles before firing and each tilemaker is thought to have had his own individual mark. A new signature mark in coarse sandy Fabric type 3004 (a division of 2815) occurs on a *tegula* from Building 12 destruction material (Fig 37j).

Tally marks, which are much rarer than signature marks, are believed to mark batches of tiles and were again added before firing. In London they are normally knife cut and occur on the edge of *tegula* and brick. A *tegula* in Radlett Fabric type 3023 has the number X cut into the side and a similar mark occurs on another in associated Radlett Fabric 3060 (Fig 37k).

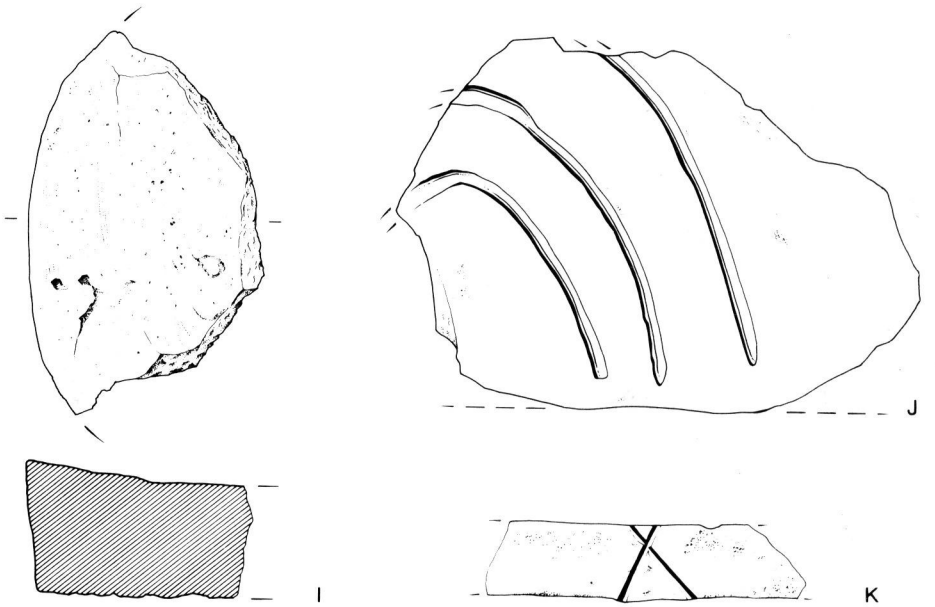

Fig 37. I curved brick (scale 1/4); J new signature mark fabric 3004 (scale 1/2); K tally mark, Radlett fabric types 3023 and 3060 (scale 1/2)

Discussion

Only one building out of the 23 clay and timber buildings constructed between AD 70–120 had painted wall plaster still *in situ* (Building 6), Period 3–4. Even this may have been added some time after construction as the plaster was not applied to keyed daub but to a smoothed daub wall surface which was probably never intended to carry plaster. There are, however, a few detached fragments of wall plaster which were originally attached to keyed daub. This would indicate that at least some walls of Building 6 were keyed during construction to take a wall plaster finish.

Of the other buildings, only in the case of the Building 3 (Period 2) is there reasonable evidence of painted wall plaster decoration. A small quantity of plaster was found associated with material from Buildings 18 and 23 (Periods 3,4 and 5), but it is not at all certain whether this actually came from the walls of the buildings themselves. In other clay and timber buildings the daub walls, even where keyed, seem to have remained undecorated. The small quantity of wall plaster which has survived makes comparison with similarly dated plaster very difficult. The same pink dado with black, white, yellow and red splash decoration, possibly from Building 18, was used in a late 1st-century clay and timber building (Building 8, phase 2) at 28–32 Bishopsgate, London (BOP82).

Only Building 12 has evidence of daub walls covered by white lime-wash, whilst Building 6 is the only building known to have had internal walls covered in a rough white plaster finish. These wall coverings would have been much cheaper and quicker to apply than painted plaster.

Both Building 6, with plastered walls, and Building 3, probably with plastered walls, have evidence of tiled roofs. The only other building which seems to have had a tiled roof, at least by the time of demolition, is Building 12. From this, one might infer that if an owner had sufficient wealth for wall plaster decoration he could also afford to erect a tiled roof. However, the lack of evidence for tiled roofs on other buildings should be treated with caution. It is possible that some were covered by tiled roofs of which no trace remains. As all the buildings were deliberately demolished at the end of their life, the roofing tile would have almost certainly been taken down to be reused on buildings elsewhere. Many of the buildings had a relatively short life so any tile would still have been in good condition. However, many buildings had walls of insufficient strength

to withstand the weight of a tiled roof and their roofing material must have been of thatch or wood, all trace of which has now disappeared.

The principal use of brick and tile was in the construction of the bases and walls of hearths and ovens. Most other brick and tile seems to have been reused as hard core in the alleys and yards. The only exception is the large roof tile fragment in Building 8 which is believed to have acted as a threshold. Roofing tile, principally *tegula*, and brick was used to form the hearths or ovens in Buildings 12, 17, 18 and 23. The same types of tile were used to construct the hearth directly post-dating the demolition of Building 6.

There are certain types of building material which could not come from a clay and timber building, among them the two fragments of wall veneer, the box flue tiles and probably the water pipes which must originally have formed part of an important masonry building. Clay and timber buildings could have tessellated floors, but as there is no evidence of such flooring in the buildings at Leadenhall, the grey and white stone *tesserae* may also have had an alternative, perhaps a common, source.

The nearest known major masonry building is the first Basilica/Forum which lay just to the south-west. Planning and construction of this complex is believed to be contemporary with the second phase of the present study (Buildings 1–4). However, the anomalous material was all found in later contexts, and it is difficult to see how it can be related to the construction of this building. What is more probable is that the material was discarded after reconstruction of the Basilica, which was subject to 'at least one major period of re-building' (Marsden 1987,37), although this cannot be closely dated. Alternatively some, or all, of this material may have come from the demolition or refurbishment of an undiscovered building.

3: ENVIRONMENTAL STUDIES

Plant remains

Anne Davis

Introduction

Soil samples from Leadenhall Court were studied as part of a larger project on plant remains from 15 Roman sites in London (Davis, in preparation), but also with the specific aims of the Leadenhall project in mind. The purpose of the wider study was to investigate evidence for environment and economy in *Londinium* throughout the Roman period. The well-stratified sequence at Leadenhall Court was thought to have the potential to show patterns or changes in the plant assemblages over a short time-span, particularly between Periods 2 and 5, which might illustrate processes of urbanisation. In addition it was hoped that remains from middens associated with specific buildings, or types of building, might show changes or differences in the diet of their inhabitants.

Methods

Of 38 samples taken from 1st-century deposits, the 12 from midden contexts were examined initially, as sample sizes were small and these seemed the most likely features to produce reasonable numbers of plant remains. In the event, most of them did not prove particularly rich and a further 12 contexts were chosen as having the greatest potential either for charred remains (hearths, rake-offs), or waterlogged remains (pits, dumps). When these proved even less rewarding, no further samples were processed. However, in total some 20 samples were found to contain at least some seeds. Five samples previously studied by Dominique de Moulins (unpublished) for charred remains were also included in the analysis, two of them being from duplicate contexts and thus increasing the sample sizes.

All samples were floated using either a modified Siraf tank or buckets, depending on sample size, and were sorted using a low powered binocular stereo-microscope. Easily identifiable waterlogged taxa were recorded as they were seen, and assigned a frequency value of + (1–9 seeds), ++ (10–49) or +++ (over 50) (see Tables 2–5). More problematical seeds were extracted and identified using a modern reference collection. As there were relatively few charred remains these were all extracted and counted.

Results

Most of the samples examined contained some charred plant remains and several also had

Table 2. Waterlogged plant remains from periods 2 and 3

			Period 2								*Period 3*				
		context no.:	4486	4487	10031	6593	6624 a	6624 b	6758	4489	6755	9951	4465	1215	1351
		sample vol. (L):	8.0	6.0	2.0	4.8	0.5	6.5	2.0	0.25	0.5	8.0	2.5	0.25	1.5
Species	**Common name**	**Habitat/use**													
Caltha palustris L.	marsh marigold	CE		+											
Ranunculus acris/repens/bulbosus	buttercups	ABCDEG	+ +	+ +					+ + +		+		+		
Ranunculus sardous Crantz	hairy buttercup	ABE	+	+ +					+						
Ranunculus cf. sardous	hairy buttercup	ABE	+												
Ranunculus cf. parviflorus	small-flowered buttercup	CD	+												
Ranunculus flammula L.	lesser spearwort	EG	+	+			+		+				+		
Ranunculus subgen. Batrachium (DC)A	crowfoots	E		+											
Ranunculus sp.	—	ABCDEG					+								
Papaver cf. rhoeas	field poppy	ABGH								+					
Papaver somniferum L.	opium poppy	BGHI					+						+		
Papaver sp.	poppy	ABGHI									+				
Thlaspi arvense L.	field penny-cress	AB	+												
Reseda luteola L.	weld, dyer's rocket	ABGHI	+										+		
Hypericum sp.	St. John's wort	CDE					+								
Silene sp.	campion/catchfly	ABCDF							+						
Lychnis flos-cuculi L.	ragged robin	CDE							+				+		
Agrostemma githago L.	corn cockle	AB	+	+			+		+	+			+		
Cerastium sp.	mouse-ear chickweed	ABD							+						
Stellaria media (L.) Vill.	chickweed	AB	+	+			+ +		+		+				
Stellaria graminea L.	lesser stitchwort	CD	+	+			+		+ +				+		
Stellaria cf. alsine	bog stitchwort	E					+								
Stellaria sp.	chickweed/stitchwort	ABCDEG								+					
Montia fontana ssp. chondrosperma L	blinks	AE	+				+		+ +			+	+ +		
Chenopodium album L.	fat hen	ABFH		+			+		+						
Chenopodium cf. album	fat hen	ABFH											+		
Chenopodium rubrum/glaucum	red/glaucous goosefoot	AB					+ +						+		
Chenopodium sp.	goosefoot etc.	ABCDFH	+	+						+					
Atriplex spp.	oraches	ABFGH		+					+						
Chenopodium/Atriplex spp.	goosefoots/oraches	ABFGH	+												
cf. *Vitis vinifera*	vine	FI											+		
Filipendula cf. vulgaris	dropwort	D											+		
Rubus fruticosus/idaeus	blackberry/raspberry	CFGH													+
Potentilla cf. erecta	tormentil	CDEGH	+	+											
Potentilla spp.	cinquefoil/tormentil	BCDEFGH	+						+ +			+			
Fragaria vesca L.	wild strawberry	CDF							+				+		
Aphanes arvensis agg.	parsley piert	ABD					+		+	+		+			
cf. Oenanthe sp.	dropwort	DE		+											
cf. Foeniculum vulgare	fennel	BDFGI					+								
cf. Conium maculatum	hemlock	CEG					+								

Apium nodiflorum (L.)Lag.	fool's watercress	E										+												
Apium sp.	—	EFI										+												
Daucus carota L.	wild carrot	ADFGI													+	+	+							
Umbelliferae indet.	—	—				+														+		+		
Polygonum aviculare L.	knotgrass	ABG	+	+		+	+					+			+	+	+			+		+	+	
Polygonum cf. lapathifolium	pale persicaria	ABE	+			+																		
cf. Fallopia convolvulus	black bindweed	ABF	+																					
Rumex acetosella L.	sheep's sorrel	AD	+									+			+					+		+		
Rumex maritimus L.	golden dock	E													+									
Rumex maritimus L.	golden dock bract	E										+												
Rumex spp.	docks	ABCDEFG	+			+	+					+			+	+	+			+		+	+	
Urtica urens L.	small nettle	AB										+								+				
Urtica dioica L.	stinging nettle	BCDEFGH	+									+												
Ficus carica L.	fig	FGI	+			+	+					+										+		
Corylus avellana L.	hazel	CF										+												
Hyoscyamus niger L.	henbane	BDG																				+		
Solanum nigrum L.	black nightshade	BF										+			+									
Satureja hortensis	summer savory	FGI													+							+		
Prunella vulgaris L.	self-heal	BCDG	+			+									+							+		
Labiatae indet.	—	—																+						
Plantago major L.	great plantain	ABC										+												
Sambucus nigra L.	elder	BCFGH	+																					
Sambucus nigra/ebulus	elder/danewort	BCFGH				+																		
Leontodon cf. taraxacoides	hairy hawkbit	D				+																+		
Sonchus cf. asper	spiny milk-/sow-thistle	AB													+									
Sonchus sp.	milk-/sow-thistle	ABE																				+		
Alismataceae indet.	—	E	+															+						
Triglochin maritima L.	sea arrow-head	E				+																		
Zannichellia palustris L.	horned pond-weed	E																		+				
Juncus spp.	rush	ADEH	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+
Eleocharis palustris/uniglumis	spike-rush	E	+	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+	+	+	+	+
cf. Scirpus sp.	club-rush	E				+																		
Isolepis setacea (L.)R.Br.	bristle club-rush	E																				+		
Carex spp.	sedges	CDEH	+	+		+	+					+			+	+	+	+		+	+	+	+	+
Cyperaceae indet.	—	—																+		+				
Gramineae indet.	—	—	+	+								+			+	+		+	+	+				

Key to habitat codes used in tables 2–5
A *Weeds of cultivated land*; B *Ruderals: Weeds of waste places and disturbed ground*; C *Plants of woods, scrub, hedgerows*; D *Open environment (fairly undisturbed)*; E *Plants of damp/wet environments*; F *Edible plants*; G *Medicinal and poisonous plants*; H *Commercial/industrial use*; I *Cultivated plants*

Table 3. Charred plant remains from periods 2 and 3

			Period 2								*Period 3*				
		context no.:	4486	4487	10031	6593	6624 a	6624 b	6758	4489	6755	9951	4465	1215	1351
		sample vol. (L):	8.0	6.0	2.0	4.8	0.5	6.5	2.0	0.25	0.5	8.0	2.5	0.25	1.5
Species	**Common name**	**Habitat/use**													
Triticum cf. spelta	spelt	FI									1				
Triticum sp.	wheat	FI				1		1							
Triticum sp.	wheat glume base	FI		2	1		1		1		1				
cf. Triticum sp.	wheat	FI												1	
Hordeum sativum	barley	FI	1	1		2		1		1					
cf. Hordeum sativum	barley	FI	2	1					1						
Hordeum/Triticum sp.	barley or wheat	FI			1										
Avena sp.	oat awn	AFI			+										
cf. Avena sp.	oat	AFI	1												3
Cerealia	indet. cereal	FI						1						3	
Ranunculus acris/repens/bulbosus	buttercups	ABCDEG													1
Ranunculus sp.	—	ABCDEG													1
Stellaria graminea L.	lesser stitchwort	CD										4			
Atriplex sp.	orache	ABFGH										2			
Chenopodium/Atriplex spp.	goosefoots/oraches	ABFGH										2			
cf. Trifolium sp.	clover	BDI		1											
cf. Lens culinaris	lentil	FI										1			
Vicia/Lathyrus sp.	vetch/tare/vetchling	CD	1												
Polygonum aviculare L.	knotgrass	ABG										1			
cf. Polygonum sp.	—	ABCDEFG													1
Rumex sp.	dock	ABCDEFG										1			
Prunella vulgaris L.	self-heal	BCDG										1			
Galium sp.	bedstraw	ABCDE				1									
Chrysanthemum segetum L.	corn marigold	AHI										2			
Compositae indet.	—	–										1			
Eleocharis palustris/uniglumis	spike-rush	E		1			1								3
Carex spp.	sedges	CDEH													2
Bromus sp.	brome	ABD				3					1				
cf. Bromus sp.	brome	ABD											1		
Gramineae indet.	grasses	—			1	4	1				3	1	1		1
cf. Gramineae indet.	grass stems	–		+											
Gramineae indet.	grass floret	ABCDEHIF				1									
cf. Gramineae indet.	grasses	ABCDEHIF													3
Indeterminate		–		2								4			8

Table 4. Waterlogged plant remains from Periods 4 and 5

Species	Common name	Habitat/use	context no.:	9812	6586	6456	4120	4100	4099 a	4099 b	4086	4058	4005	4004
			sample vol.(L):	0.15	4.0	10.0	4.0	26.0	1.6	3.7	3.0	2.5	2.5	11.0
Ranunculus acris/repens/bulbosus	buttercups	ABCDEG			+	+								
Ranunculus cf. flammula	lesser spearwort	EG				+								
Lychnis flos-cuculi L.	ragged robin	CDE			+									
Agrostemma githago L.	corn cockle	AB			+									
Stellaria graminea L.	lesser stitchwort	CD			+									
Stellaria sp.	chickweed/stitchwort	ABCDEG				+								
Montia fontana ssp. chondrosperma L	blinks	AE			+	+								
Chenopodium album L.	fat hen	ABFH			+									
Chenopodium cf. album	fat hen	ABFH				+								
Chenopodium rubrum/glaucum	red/glaucous goosefoot	AB		+(m)										
Chenopodium spp.	goosefoot etc.	ABCDFH			+									
Vitis vinifera L.	vine	FI			+									
cf. Vitis vinifera	vine	FI										+		
Rubus fruticosus/idaeus	blackberry/raspberry	CFGH				+								
Potentilla sp.	cinquefoil/tormentil	BCDEFGH				+								
Umbelliferae indet.	—	—				+								
Polygonum sp.	—	ABCDEFG			+									
Rumex acetosella L.	sheep's sorrel	AD		+(m)		+								
Rumex cf. acetosella	sheep's sorrel	AD			+									
Rumex spp.	docks	ABCDEFGI		+(m)	+ +	+								
Ficus carica L.	fig	FGI			+	+						+		
Hyoscyamus niger L.	henbane	BDG			+									
Labiatae indet.	—	—			+									
Sambucus nigra L.	elder	BCFGH					+							
Alismataceae indet.	—	E			+									
Juncus spp.	rush	ADEH			+ + +							+ +		
Eleocharis palustris/uniglumis	spike-rush	E			+ + +	+ +						+		
Carex spp.	sedges	CDEH			+ +	+	+							
cf. Carex sp.	sedge	CDEH										+		
Festuca sp.	fescue	CDEF		+(m)										
Poa type	poa	ABDE		+ +(m)										
Agrostis type	bent-grass	ABCD		+ + +(m)										
Phalaris type	reed/canary grass	BE		+(m)										
Gramineae indet.	grasses	—		+ + +(m) +										

Table 5. Charred plant remains from Periods 4 and 5

		context no.:	9812	6586	6456	4120	4100	4099 *a*	4099 *b*	4086	4058	4005	4004
		sample vol.(L):	0.15	4.0	10.0	4.0	26.0	1.6	3.7	3.0	2.5	2.5	11.0
Species	**Common name**	**Habitat/use**											
Triticum spelta	spelt glume base	FI						14					
Triticum cf.spelta	spelt	FI			1								
Triticum cf.spelta	spelt spikelet fork	FI		1									
Triticum cf.spelta	spelt glume base	FI		1	1								
Triticum dicoccum/spelta	emmer/spelt spikelet fork	FI										1	
Triticum spelta/aestivum	spelt/bread wheat	FI			5								
Triticum sp.	wheat	FI		1			1	2	2				
Triticum sp.	wheat spikelet fork	FI											1
Triticum sp.	wheat glume base	FI		1	4			7	1			1	5
cf.*Triticum* sp.	wheat	FI						2					
Hordeum sativum	barley	FI		2	1			2		1		4	1
Hordeum sativum	barley rachis	FI											1
cf. Hordeum sativum	barley	FI			1	1			2				1
Hordeum/Triticum sp.	barley or wheat	FI		1									
Cerealia	indet. cereal	FI		2	3			9	2	1		1	2
Ranunculus acris/repens/bulbosus	buttercups	ABCDEG			2			3			1	3	
Ranunculus cf. acris/repens/bulbosus	buttercups	ABCDEG											2
Ranunculus flammula L.	lesser spearwort	EG						1					
Ranunculus sp.	—	ABCDEG									1		
cf. Chelidonium majus	greater celandine	BC						1					
Brassica sp.	wild cabbage/turnip/mustard	ABFI							1				
Cruciferae	—	—						2					
cf. Agrostemma githago	corn cockle	AB			1								
Stellaria graminea L.	lesser stitchwort	CD						1					
Chenopodium album L.	fat hen	ABFH						1					
Chenopodium sp.	goosefoot etc.	ABCDFH											1
cf. Atriplex sp.	orache	ABFGH						1					
cf. Trifolium repens type	white clover	D										1	
Trifolium sp.	clover	ABDI		1									1
Ornithopus perpusillus L.	birdsfoot pod fragment	D						1					
cf. Ornithopus perpusillus	birdsfoot	D						1					
Lens culinaris	lentil	FI						1					
cf. Vicia sp.	vetch	CD											2
Vicia/Lathyrus spp.	vetch/tare/vetchling	CD			1			1				3	
Vicia/Lathyrus/Pisum sp.	vetch/tare/vetchling/pea	ABCDEFI											1
Leguminosae indet.	—	—						4		1			
cf. Leguminosae	—	—						4					
Prunus spinosa L.	sloe/blackthorn	CFG		1									
Rosaceae indet.	—												2
Polygonum persicaria/lapathifolium	persicaria	ABEH							1				

Rumex acetosella L.	sheep's sorrel	AD											1
Rumex spp.	dock	ABCDEFG		1		2					4		1
cf. *Corylus avellana*	hazel	CF						+					
Prunella vulgaris L.	self-heal	BCDG				2							
Plantago lanceolata L.	ribwort	D		1		1							
Hypochoeris radicata L.	cat's ear	CD				1							
Eleocharis palustris/uniglumis	spike-rush	E		6	3						5		5
Carex sp.	sedge	CDEH									1		
Lolium/Festuca	rye-grass/fescue	BCD											2
Bromus sp.	brome	ABD				2	28	4					1
cf. *Bromus* sp.	brome	ABD		2	5	1							
Avena/Bromus sp.	oat/brome grass	ABCDFI									2		
Gramineae indet.	—	-		9	5	2	1	32		2	1	1	2
cf. Gramineae indet.	grass stems	—						+					
Gramineae indet.	grass culm node	ABCDEHIF					1	11					
Indeterminate	—	-		1				7					1

waterlogged seeds. A single sample produced only seeds preserved by mineral replacement. Full seed lists are shown in Tables 2–5, with sample sizes and broad habitat preferences/uses for each taxon, based mainly on Clapham *et al* (1987).

Waterlogged preservation was best in samples from Period 2, which showed both a higher number of seeds and a greater species diversity than the later phases. Many of these samples also contained moss and other vegetative remains, and Cladoceran (water-flea) eggs. Charred remains, on the other hand, were more abundant in phases 3 and 4 than in the early phases.

Although the seeds from Leadenhall Court were similar to those found on other Roman sites in London, certain differences were noticed between assemblages from the earlier and later phases, the later samples being more representative of urban London environments.

The environment

A noteworthy feature was the number of species represented from damp or aquatic habitats. *Ranunculus flammula* (lesser spearwort), *Montia fontana* (blinks) and *Lychnis flos-cuculi* (ragged robin), which grow in damp meadows and fields, occur in samples from all three phases, as do the ubiquitous *Eleocharis palustris/uniglumis* (spike-rush), *Carex* spp. (sedges) and *Juncus* spp. A number of additional, wet-loving species were present in Period 2, however, including *Caltha palustris* (marsh marigold), *Oenanthe* sp. (dropwort), *Apium nodiflorum* (fool's watercress) and *Ranunculus* subgenus *Batrachium* (crowfoots), all of which require wetter environments, such as marshes, ditches and streamsides. Water-flea eggs also require a body of water in which to develop, although the eggs themselves are resistant to desiccation.

The four richest waterlogged samples from Period 2 are of interest individually, as they suggest possible differences in origin for at least part of their assemblages. Context 4487 (N4) from Midden 2, associated with Building 1–3, was particularly rich in the wetland species mentioned above, although the numbers of each were fairly low compared with samples from sites in the poorly drained Walbrook valley (de Moulins 1990). Sample 4486, from the same group, contained mainly plants of disturbed ground, including arable weeds such as *Thlaspi*

arvense (field penny-cress), *Rumex acetosella* (sheep's sorrel) and *Ranunculus sardous* (hairy buttercup). Arable and other disturbed ground weeds are also common in sample 6758 (group W20) from a 'peaty' external dump context, but this also has a higher number of grassland seeds than usual including *Ranunculus acris/repens/bulbosus* (buttercups), *Stellaria graminea* (lesser stitchwort), *Potentilla* spp. (cinquefoil/tormentil), *Aphanes arvensis* (parsley piert) and over 50 seeds of *Daucus carota* (wild carrot).

Pitfill 6624 (W14) contained several taxa which are characteristic of nitrogenous soils, in particular *Chenopodium glaucum/rubrum* (red/glaucous goosefoot) which grows on rich waste ground, rubbish tips and in farmyards (Clapham *et al* 1987), *Conium maculatum* (hemlock), also a plant of rubbish tips, and *Plantago major* (great plantain), a disturbed ground plant often found in farmyards. Other plants were indicative of waste and disturbed ground, and *Rumex maritimus* (golden dock) of bare, muddy ground.

The better preservation of waterlogged remains in Period 2 is unlikely to be due to differing depths of deposits over such a narrow date range. It is more likely that conditions of deposition varied and that seeds from this phase were contained in more damp, organic deposits, which provided better, near anaerobic, preservation conditions. It is unlikely, however, that a site in the well drained, hilltop position of Leadenhall Court would have had aquatic plants growing in the immediate vicinity, and many of the wetland plants predominating in the first phase of occupation were probably imported to the site with rushes and reeds used for animal litter, flooring or roofing, although there was little sign of the stems of these plants.

Two samples with significant numbers of arable and grassland weeds may suggest the presence of crops, including hay, in this phase, and pitfill 6624 contained seeds from a number of plants which could have grown in a farmyard, and entered the pit by natural dispersal methods.

Altogether these four samples suggest that several different farming-related activities may have taken place on the site in the first phase, and the good preservation is also compatible with the relatively damp, organic environments found in a farmyard. The two later phases show the usual mix of seeds found on Roman urban sites, with weeds of waste and disturbed ground predominating.

Food remains

Food plants were rather poorly represented at Leadenhall Court. *Ficus carica* (fig) was present in all phases while *Fragaria vesca* (strawberry) was found only in Periods 2 and 3, and *Vitis vinifera* (grape), *Lens culinaris* (lentil) and *Rubus fruticosus/idaeus* (blackberry/raspberry) only in Periods 3 and 4. Fragments of *Corylus avellana* (hazelnut) shell occurred in single samples from the first and last phases. There was a slight increase in the number of food plants identified in the two later phases, despite the samples being poorer. These include grape and lentil, both probably imported, from a dump unassociated with any particular building and in the destruction material overlying Building 12. These may be signs of increasing Romanisation, although the majority of food waste was obviously not being disposed of in any of the features examined here, so comparisons may not be valid.

Charred cereals were more common, but not abundant (Tables 3 and 5). *Triticum* spp. (wheat), most of it probably *T. spelta* (spelt wheat), *Hordeum sativum* (barley) and a little *Avena* sp. (oats) were found, together with some cereal chaff and weed seeds. Overall, wheat occurred slightly more frequently than barley, either as grains or as glume bases and spikelet forks, but in the second phase barley outnumbered wheat, although the numbers involved are very small. Grain from Period 2 seems to have been better cleaned than that from the later phases, having a lower proportion of chaff fragments and weeds (60% of all items compared with 85% and 81% respectively in the third and fourth phases). Virtually all the chaff comprised glume bases and spikelet forks of glume wheats, and the weeds were a mixture of arable and wasteland species, with some grassland weeds, and a few items of food waste in the later phases.

There was no sign of by-products from the early stages of crop processing (winnowing and coarse sieving) which might have indicated that cereals were produced on the settlement (Hillman 1981,1984; Jones 1984). Most of the charred assemblages probably represent waste from the final cleaning of cereals, and spillages from the preparation of grain for consumption. These may have been disposed of by burning, and the ashes, together with partially burnt plant remains, dumped on middens. Alternatively, chaff and weeds may have been used as tinder and the

majority of it burnt away, leaving only the small, dense seeds and glume bases.

Some differences were observed (based, admittedly, on only a small number of plant remains) between charred assemblages from the three phases represented. If anything, they show the second phase producing less waste from crop processing activities than the other two. Final cleaning of grain was not necessarily a rural activity however, and small weed seeds and chaff fragments are common, even in an urban environment. Two samples from Periods 4–5 are also worthy of mention. The richer of the two in charred remains—context 4099 (N31) from Midden 16—contained grains of wheat and barley, spelt wheat chaff, and a large number of weed seeds, the majority of which were from grasses, as well as grass culm nodes and stem fragments. Many of the other weeds, such as *Prunella vulgaris* (self-heal), *Ornithopus perpusillus* (birdsfoot) and *Stellaria graminea* (lesser stitchwort), are characteristic of grassland, and the whole assemblage seems likely to represent a mixture of hay and cereal cleanings (or semi-cleaned cereals); as such, they are probably the remains of animal fodder. A single, very small, sample—9812 (S13) from Midden 13 overlying the demolished Building 6 (Fig 13)—contained many mineralised grass seeds with very little else. Plant remains become mineralised in the presence of high levels of phosphate, usually in the form of faeces (Green, 1979). Although there was no sign of grass stems in the sample, this could also be the remains of hay, perhaps in animal dung.

In conclusion, the samples show some differences in the plant assemblages between the main phases, perhaps demonstrating a change from a relatively more open area with signs of agricultural activity to a more urbanised environment. Comparison with other dated assemblages from London is essential to put this in perspective. It proved impossible to examine the differences between individual buildings or types of building as there were too few productive samples which could be assigned to each of these. The small quantity of food waste also makes aspects of diet difficult to assess at this level of detail. High status can be implied by the presence of exotic food species but as few food plants were recovered no comparisons could be made, although the presence of imported foodstuffs in the later periods should be noted, especially in the light of observations about an increasingly 'Romanised' diet mentioned in the following report on the animal bones.

The animal bone

Barbara West

Introduction

The animal bone from the 1st-century deposits at Leadenhall Court provided a unique opportunity to examine individual contexts and features of the site within phases covering no more than 10–15 years. Similar quantities of bone were found in each of the main phases as shown in Table 6 (Periods 2–5), which facilitates direct comparisons among the assemblages. In collaboration with the other specialist studies, the material was also examined in terms of function and status of general building types, individual buildings and individual middens. This site also formed part of a much larger study of the animal bone from 26 sites in Roman London by the author, and general comparisons in this text refer to that collection of material. The data is available from the Museum of London upon request.

Methods

Two methods of recording animal bone are used at the Museum of London for differing types of material; cataloguing (devised by B West and J Rackham) and scanning (J Rackham). Because of the relative paucity of material from this site compared to others, such as the large waterfront dumps, the material from Leadenhall was scanned. This involved recording the presence/absence of groups rather than individual skeletal elements (horncore, head, vertebrae and ribs, metapodials and carpal/tarsals, phalanges and sesamoids) of each species in a context, and weighing them together to give a total weight for each species in that context. The presence of infant and neonatal animals was also recorded, as well as sex determination. Measurements were taken only of complete halves of the fully adult bones of cattle, sheep and pigs, and only complete bones of other animals. Tooth wear and eruption data was recorded only on mandibles of cattle, sheep and pigs with at least three intact molars and/or the 4th premolar.

Measurements (available in the archive) were taken according to the recommendations of von den Driesch (1976), and the withers heights were calculated in accordance with von den Driesch and Boessneck (1974). Age ranges were estimated using dental eruption (Silver 1969, Habermehl 1961) and dental attrition (Grant 1975, Payne 1973); these patterns were assessed using the method devised by West (1984). Sexual dimorphism was determined by the morphology of pig canines, the visual criteria for cattle innominates (Lemppenau 1964), of sheep innominates (Armitage 1977), and the innominate measurements for all mammals (West 1990). In chickens, sex was determined from the presence or absence of the tarsometatarsal spur, a late stage of spur development called the primordium (West 1982,1985), and the mineralized deposit known as medullary bone indicating egg-laying females (Driver 1982).

Chronological patterns

From Table 6, it is apparent that, although there is a slight increase in the total weight of animal bone through time, the percentages of cattle decrease, relative to sheep and pigs. The pattern in Period 2 (*c.* AD 65–75) is quite similar to other early Roman sites in London, with greater proportions of pig than sheep. In the next phase (*c.* AD 75–85) however, there is a marked increase in sheep and a decrease in cattle, while pigs remain static. The latest phases (*c.* AD 85–100) bring yet another change: pigs increase very sharply and cattle drop to only 48%, while sheep remain static.

The patterns for domestic birds also show an interesting chronological change: although chickens, geese, and ducks (in order of importance) are present in very small numbers during Period 2, chickens quadruple in absolute terms in the next phase and yet again in the latest periods. Since chickens in almost all the site features comprise less than 1% of the edible domesticates, this phenomenon is entirely due to activities in Middens 12 and 16 (N31). Ducks show a minuscule increase, but geese disappear altogether after Period 2.

Horse and dog remains occur most frequently in Period 2, decrease in the earliest levels of the next phase, and then disappear until the very latest levels. Hares occur exclusively in the latest levels in the three middens associated with Period 4/5, Building 12 (N24,N25,N31).

Neonatal (newborn) calves, lambs and piglets occur in Period 2 and only in the earliest levels of the next phase, disappearing until the very last level of Period 5 (S42). Roe deer and red deer also occur only in Period 2, vanishing until their reappearance in the large midden deposit (Midden 16) in Period 5.

Building types and associated features

Material from the various types of building and their associated features were grouped together, in conjunction with the pottery studies, in order to discern possible differences in function and status. Although cattle predominated throughout, fitting the London-wide pattern, a strikingly low proportion was associated with Period 4–5, in which pigs reached their highest level, nearly equivalent to cattle. Relatively low proportions of cattle and high levels of pigs were also found in the Period 2 farm buildings and the first Period 3 strip buildings; however, sheep were

Table 6. Animal bones from the main phases of development at Leadenhall Court

	Total weight (gms)	**Cattle**	**Sheep**	**Pigs**	**Chickens**	**Geese**	**Ducks**	**Other species, Neonates, etc**
Period 2 *c.* AD 65–75	16017	7890 74%	1102 10%	1727 16%	14	4	1	5 horses, 5 dogs, 3 neonatal sheep, 1 neonatal pig, roe deer, unidentified
Period 3 *c.* AD 75–85	21171	8785 67%	2280 17%	2119 16%	55		4	2 horses, 4 dogs, 3 neonatal calves, red deer
Period 4/5 *c.* AD 85–100	23868	6424 48%	2224 17%	4609 35%	240	—	7	2 horses, 4 dogs, 3 hares, red deer, roe deer, red sea bream, eels, unidentified, 21 mice/voles, 33 small mammals, dove, 2 laying hens

much more evident in the later strip buildings, nearly equivalent to pigs. In contrast to the general pattern on Roman sites in London, sheep predominated over pigs in the single-roomed outhouses and in Midden 11, whereas the pattern for the 'high status' Building 6 was very similar to other London sites, with a predominance of cattle followed by pigs and sheep. Building 6 also contained the foundation deposit of a young sheep, one- to two-years old, burnt in a basket.

Individual buildings

Turning from these groups to focus on individual buildings, the evidence was much more scanty, but the pattern in most of the buildings fits the general London-wide ranking of cattle, then pigs, then sheep. The exceptions were in Period 3, the fragments of strip buildings 7 and 8 and the single-roomed outhouse Building 14, all of which contained more sheep than pigs. Building 14 also contained the only red deer in this phase, and smelt were found only in the later Building 17.

Middens

Analysis of the individual middens in chronological sequence proved interesting, because although they followed the general pattern for all the features in the three main phases discussed previously, two were highly unusual: Midden 12 (N24) and Midden 16 (N31). These, both associated with Building 12 (Period 4–5), stood out from every other feature on the site in several ways: pigs predominated over all other species, more chickens were found in these two features than in all others combined, 'laying hens' were found only here, as well as small mammals such as mice or voles. Hares were only found in these middens and in the adjacent Midden 15 (N25).

The two middens also differed from each other: Midden 12 contained a greater proportion of mice/voles than Midden 16, as well as the only examples of dove also uncommon fish such as red sea bream. Midden 16, on the other hand, contained roe deer, red deer and eels. In absolute terms Midden 12 produced more chickens than any other site feature, but remarkably, however, when relative percentages are calculated for all the edible domesticates, chickens comprise a full 4% of the totals for each of these two middens, which surely indicates a common origin.

Interpretation

In three seminal reviews of Roman animal-bone assemblages in Britain, Anthony King (1978, 1984, 1988) pointed out that one characteristic of Roman and 'Romanised' settlements was a higher proportion of pigs than sheep, while the reverse was apparent on 'native Celtic' and Iron Age sites. In both patterns cattle usually predominate. The typical Roman pattern is remarkably consistent in the material from 26 Roman sites in London, although more detailed examination of individual features on each site may yet reveal 'pockets of native resistance'. The unique opportunity provided by Leadenhall Court to compare closely-dated material has brought just such a possibility to light.

Another important factor in the interpretation given below is the presence and distribution of neonatal animals. Since newborn animals are neither eaten nor transported to be sold, their presence indicates husbandry on the site itself. It is noteworthy that of only 34 neonates found on all the Roman London sites for the entire period AD 50–100, fully 41% were from Leadenhall Court in the period AD 65–100. Moreover, of 19 similarly dated sites scattered across London and the waterfront, neonates occurred on only three, all near the Forum (LCT84, BOP82, EST83—see Appendix 6 for key to site codes).

Not only does this suggest that the Forum area was the core of the initial settlement, but the presence of neonates only in Period 2 and in the very earliest levels of the next phase at Leadenhall Court suggest an agricultural character for Period 2, with a brief transition into the more 'urban' Period 3. Their presence in Basilica-construction deposits (S42), associated with a large sample of early pottery (Jo Groves pers comm), indicates that the Basilica construction levels contained material derived from the earlier occupation of the site (Gustav Milne pers comm). The other patterns previously discussed reinforce the idea of a working farm in the earlier phase: more horses, dogs and geese, little time for hunting or fishing (no hares or wild birds, only one roe deer and one unidentified fish), and a concentration on animal husbandry essentially Roman in character, with a marked preference for pigs over sheep.

A very brief transitional stage incorporating these elements is seen in the earliest Period 3 levels, followed by a marked change in which horses, dogs and geese are absent, sheep become more important in the diet of the occupants of the strip buildings and outhouses, and ordinary, 'low status' fish like smelt, as well as small mammal bones, appear in Building 17. The pattern for 'high status' Building 6 retains the Roman preference for pigs. This suggests a cultural mix in Period 3: the pattern for Building 6 remains Roman, whereas the pattern for the strip buildings and outhouses appears more 'native Celtic' in character.

The next phase brings yet another change: pigs increase very sharply to higher levels than the usual pattern for Roman London, while cattle numbers drop precipitously. This change is most extreme in the three middens associated with the latest level of Building 12 (Period 4–5): Midden 15 (N25) and, particularly, Middens 12 (N24) and 16 (N31), (see above). The absence of small mammals suggests that most of the middens were backfilled rapidly while (N31) was left open for a little while (just long enough for a mouse to fall in), and Midden 12 was left lying open for a much longer time (several mice). However the common origin of the contents of these middens is indicated by the highly unusual but equal proportions of chickens in each.

Two further points are of interest here: first, the presence of laying hens means that the hens were eaten while still laying eggs daily, and therefore indicates a waste of animal resources. Secondly roe deer and red deer are represented only by metapodials (foot bones). Although this shows that venison was being consumed (as opposed to the collection of shed antlers for antler-working), it could also mean, as suggested by Armour-Chelu (1991) from ethnographic parallels, that the deer were caught and butchered leaving the bones in the forest, thus considerably lightening the load of boned venison to be carried back to the settlement in the hide, with only the foot bones still attached.

To sum up the contents of these middens, the unusual mixture of very large proportions of pigs and chickens, as well as doves, laying hens, red deer, roe deer, hares, ordinary fish such as eels and uncommon marine fish such as red sea bream, could suggest the diet of a gang of construction workers of Continental origin brought in to build the Basilica, amply supplied by their employers with their favourite pork and poultry dishes, but supplementing their fare with interesting local produce.

4: FINDS STUDIES

Accessioned finds

Angela Wardle with Frances Pritchard

Introduction

The accessioned finds are generally personal and domestic in character, comprising a range of brooches and other objects of personal adornment, items associated with leisure pursuits and other activities, tools, household utensils and fittings. There are few identifiable iron artefacts due to their poor survival in the brickearth deposits and much of the copper alloy is badly corroded. A small number of waterlogged deposits produced several shoes and other fragments of leather (Nos 43–51).

In the catalogue the finds have been grouped by their function, the categories broadly based on those used by Nina Crummy (1983). There is a separate list of finds arranged by material in Appendix 1. Of note among the copper alloy objects is a decorative military belt plate (No. 41, Fig 39) from Building 19, showing a horseman spearing a fallen enemy, a subject familiar in Roman art. Apart from a bone buckle (No. 42, Fig 39), other objects of a military character come from 2nd century- and later levels (archive report) with no significant pattern of distribution.

Items of jewellery (Figs 38,39) comprise brooches (Nos 1–17), all common 1st-century types, finger rings of copper and iron (Nos 18–19), earrings (Nos 20–22, Fig 39), a shale bracelet (No. 23, Fig 39) and beads of amber and glass. Iron finger rings, which are often ornate, are not necessarily an indication of low status and amber is a comparatively rare find in London. The six mirrors (Nos 65–70, Fig 43) are certainly imported luxury items and the group from Leadenhall Court compares favourably with those from other sites, with similar numbers from Newgate Street (GPO75) and Fenchurch Street (FEN83) and a total for the entire City at present of about 45. Although fragmentary, cosmetic implements are represented (Nos 54–9), and an unusual tool, No. 60 may have had a medical use.

Domestic utensils comprise bone and copper spoons and a shale platter (Nos 71–4, Figs 44–5),

while stone querns and mortars were used for food preparation (Nos 75–8, Figs 46–7). There are no surviving fragments of metal vessels which would complement the glass and ceramic assemblages. Household lighting is represented by oil lamps, with 32 examples of various types, both local and imported, including one in Lyon ware, with the head of Hercules on the discus (No. 79, Fig 49).

Metal tools were poorly preserved and in some cases only the bone handles survived (Nos 118–19, Fig 51), of which No. 118 from Midden 3 is a well-known 1st-century type. The copper alloy handle with a terminal in the form of a human hand, (No. 117, Fig 51, from Midden 12) is of particular interest as a distinctively Roman object. A folding copper alloy tool, from Midden 4 (No. 122, Fig 51), is also of note although its function, perhaps as a measuring device, is uncertain.

Bone and copper alloy needles (Nos 125–9, Fig 52) may have been used domestically or in manufacturing processes, while balances and weights (Nos 130–3, Fig 53) could suggest commercial activity. Some degree of literacy is attested by the presence of seal boxes and styli (Nos 134–7, Fig 53) all from the later 1st-century levels. Numerous counters in bone, glass and pottery (Nos 139–55, Fig 54) show how some leisure time was spent, and two objects, a figurine and an *unguentarium* in imported Gaulish wares (Nos 111–112, Fig 50), may have had religious significance.

Finally there is a range of mounts and various fittings, from the specialised cart fitting (No. 169, Fig 57), several locks and keys (Nos 156–63, Fig 55), to the ubiquitous rings, studs, straps and nails found on all Roman sites. The number of identified miscellaneous objects of this type is not large, but this is not surprising considering the adverse burial conditions and the fact that some objects may have been recycled.

The groups

Detailed lists of the finds and glass from individual buildings can be found in Appendix 2, but significant groups are discussed and compared here. Attempts to evaluate function and status of specific buildings from the evidence of the accessioned finds foundered on the generally small and diverse nature of the groups. The poor preservation of the metalwork in particular is likely to give an unbalanced picture and any trends observed should be considered in the light of all the other evidence. The overall range, when examined by function, is broadly similar in all the main phases, with a preponderance of personal and domestic items, and few objects with a more specialised use.

Period 2: Buildings 1–4

There were no accessioned finds from the buildings themselves, but two middens (Middens 2 and 3) and a well contained several poorly-preserved personal items including a brooch (No. 12) and a nail cleaner (No. 54) and the only leather artefacts from the site (Nos 46–53). Four ceramic lamps (Nos 87,93,108,109 Fig 49) were also recovered from levels associated with Building 4.

Period 3: Urban expansion

The strip buildings

Of the few finds from Building 5, those from its early phases suggest a general domestic use as does the presence of a large 'beehive' oven and a well-used Purbeck marble mortar (No. 78, Fig 47) from one room of Building 7 (M56,M57). Other finds from the destruction debris (M58) also suggest that the building was at least partly residential. They include a hand mirror (No. 69, Fig 43), a luxury item, three ceramic gaming counters (Nos 153–5, Fig 54) apparently part of a cheap improvised set, and an imported lamp, (No. 85). Finds from Buildings 8 and 9 (see Part 2: Building catalogue) also suggest residential use.

Artefacts from the succeeding Building 10, mostly found in levels associated with the later phase, comprise mundane household items such as a bone hinge (No. 201, Fig 58), a scale-pan weight (No. 132, Fig 53), a wire ring fitting of copper alloy (No. 180), miscellaneous ironwork, and a Central Gaulish lamp (No. 82). Unusually, there are no items of jewellery or dress accessories and the only personal possession is a glass gaming piece (No. 144). An associated midden (N18) produced only a few items, of a very similar character; hobnails from a shoe (No. 44), part of a closed lamp from Colchester (No. 98), and a little encrusted metalwork. The general scarcity and poverty of accessioned finds from this building contrast markedly with the large quantity

of glassware, chiefly from the later phases (see below), but this too was of a generally utilitarian character, with few luxury vessels.

Buildings 17, 18 and 19 were not fully excavated, but produced some objects of interest. From Building 17 (D29) came a woman's earring (No. 20, Fig 39) and two *ligulae* (Nos 58–9), all copper alloy. The earring, although made of base metal, is a well known and fashionable 1st-century type. The demolition rubble of Building 18 (M59,M60) produced a small group of domestic items, (see Part 2: Building catalogue). From Building 19 (M3) came the fine copper alloy belt plate (No. 41, Fig 39).

Building 6 (Periods 3–4)

Considering its size, relative complexity and superior decorative finish, the number of finds from Building 6 itself was surprisingly small. This could however merely reflect tidy housekeeping and it is probable that items from middens in the area of Building 14 should also be considered with the more obvious Building 6 groups. The latter produced various finds of a personal nature, particularly a two-piece Colchester brooch (No. 10), a mirror (No. 65, Fig 43), glass beads (Nos 27,32, Fig 39), and a gaming counter (No. 150, Fig 54), suggesting a residential use. Other domestic material comprised two locally produced open lamps (Nos 103–4), recovered from the annexe, and miscellaneous fittings (*eg* Nos 184, 192). Finds from the destruction rubble offer no further insight, being limited to part of a well-worn basalt lava rotary quern (No. 75, Fig 46), and an iron spike (No. 124) while the associated Midden 13 yielded only a knife blade (No. 114, Fig 51). Two coins of Vespasian came from groups associated with the use and demise of the building.

The finds from Midden 11 (S12), situated in an alley between Buildings 6 and 10, could be associated with Buildings 5,6 or 10. Of three copper alloy artefacts, only a nail cleaner (No. 56) could be identified. A large fragment of shelly limestone mortar (No. 77, Fig 47), is part of the same vessel as recorded in a deposit associated with Buildings 1–3.

The outhouses

Objects from the middens and other groups in the area of outhouse Building 14 could have come from any of the neighbouring buildings—5, 6 or 9. Midden 4 (S17) yielded a fragmentary brooch (No. 15, Fig 38), part of a steelyard arm (No. 131, Fig 53) and a lamp from Central Gaul (No. 85). The glassware was very fragmentary. Other personal and domestic objects including a shale tray or platter (No. 74, Fig 45) were found in associated contexts (S34). An open lamp in Verulamium grey ware (No. 100, Fig 49) is the first example to be identified in London.

In Midden 5 nearby (S35) was a copper alloy earring (No. 22, Fig 39), a tumbler-lock slide key (No. 159, Fig 55), a melon bead (No. 38, Fig 39), a lamp (No. 90) while one of the few needles found (No. 127) came from Midden 6. Together these objects form a group similar to others from the residential buildings. Unusually Midden 5 produced a notable group of exceptionally well preserved glassware (see glass report below). The nature of the ceramic assemblages (p 45) may indicate a link with Building 6, and the quality and character of the finds are consistent with this.

In a similar way, the small finds in the area of Building 16 (S35,S36) may have been associated with any of the contemporary dwellings and sherd links between different groups suggest residuality. The latrine pit contained a varied group comprising an enamelled brooch (No. 11, Fig 38), a glass bead (No. 40), a *ligula* (No. 57, Fig 42), a nailed shoe (No. 45), a shale bracelet (No. 23, Fig 39), a bone spoon (No. 72, Fig 44) and a glass gaming piece (No. 149, Fig 54), together with unidentifiable fragments of iron and copper alloy. Fragments of lead sheeting, (Nos 204–5—see Appendix 1), were the only lead objects recovered in the area.

Building 12 Periods 3–5

Building 12, which replaced Building 11, underwent considerable alteration during its long period of use and is discussed separately because of the large numbers of finds, most from associated middens and from demolition levels, Periods 4 and 5. As is the case with the ceramic assemblages, there are no obvious differences in the nature of the finds from the early and late phases and there is much residuality.

Two iron keys (No. 160, Fig 55 and No.163) came from inside the building, with a bone counter (No. 139, Fig 54) and a nailed shoe (No. 43) from Room 3. Midden 10, which overlay a latrine pit, produced various personal belongings; a mirror (No. 68, Fig 43), a finger ring

(No. 18), and a lamp (No. 110) while Midden 9 produced part of a second mirror (No. 70, Fig 43), a brooch (No. 6, Fig 38), a hone (No. 120) and three lamps (Nos 99, Fig 49, 83,84).

Midden 12 (N24), which contained destruction material from the partly demolished building produced structural metalwork (Nos 173,177,181) together with numerous unidentifiable fragments. Other items of interest included a distinctive knife (No. 117, Fig 51), a seal box (No. 134, Fig 53), key (No. 161, Fig 55) and a bone counter, similar to one recovered from inside the building (No. 139, Fig 54) and possibly from the same set. Sherds of an open lamp in Verulamium White ware were also present (No. 107).

Material of a similar nature came from the latest phase, Period 5. Midden 15 (N25) produced a brooch (No. 14), needle, steelyard (No. 130, Fig 53) and stud (No. 190) all of copper alloy, a bone counter (No. 140, Fig 54) and an iron ferrule (No. 172). Finds from Group N31, which contained demolition debris as well as refuse, included an iron knife (No. 115), a stylus (No. 136, Fig 53). An *unguentarium* (No. 112, Fig 50) and an amber necklace bead (No. 25, Fig 39) were also found.

Although the number of accessioned finds associated with Building 12 is not large there is a great variety of objects, indicating domestic occupation by persons (male and female), perhaps of limited wealth. The glass is however notable for its quantity (see glass report below), with a diverse range of forms and some fine early pieces. Much of it is residual, as is much of the material of all categories found in the later levels of all buildings.

Catalogue of accessioned finds

The catalogue, which includes artefacts of metal, bone and other materials, is arranged by functional groups. A concordance (Appendix 1) lists each item by its material category. The context number of each object is given in square brackets [**], its accession number in angled brackets <**>. The group number follows with a brief reference to its provenance, for example Building, Midden *etc* and its Period number. All objects have been related to a specific building or midden where possible, otherwise a general context description is given, together with the broad context date. Appendix 2 lists the accessioned finds and glass objects from each building.

Personal ornament and dress

Brooches (Fig 38)

Of the 32 copper alloy brooches found on the site, 15 can be directly related to 1st-century building levels, with two more from the Basilica construction dumps. All are 1st-century types, the majority being the common brooches of the mid 1st century, Nauheim derivatives and two-piece Colchesters. Also represented are the earlier Aucissa and Hod Hill types, *likely to be survivals or residual in their respective contexts.* Other residual 1st-century brooches are found in 2nd-century and later levels on the site. The assemblage is typical of the London collection—in which the two-piece Colchester brooch predominates—and it is very similar in character to the group from Newgate Street (GPO75), which comprises 16 identifiable 1st-century types, with a higher proportion of Hod Hill examples.

Analysis of the metals was undertaken by Justine Bayley of the Ancient Monuments Laboratory, using x-ray fluorescence.

One-piece

Nauheim derivatives Hull Type 10/11, with a single curve to the bow, described by Stead (Stead & Rigby 1986,109) as the 'poor man's brooch' are dated to the mid 1st century (Hawkes & Hull 1947, 312, type VII; Hull in Cunliffe 1971, 150).

1. [9146] <1302> (S45) Basilican construction. Length 42mm, incomplete. Gunmetal, Hull Type 10; arched flat bow and plain catchplate.

2. [4100] <889> (N31) Midden 16, Period 5, *c.* AD 95–100, head only, width 11mm.

Early hinged

Aucissa Hull Type 51 is commonly found in the Roman provinces, appearing on both pre- and post-conquest sites in Britain, although less frequently in Flavian contexts (Butcher 1990, 118), the type is comparatively rare in London, with only one other excavated example, from Throgmorton Street (TRM86 [235] <52>). The brooch is distinctive, the head rolled back forming a narrow tube to hold the axial bar for the hinge. The short foot ends in a knob, which is a separate casting. *c.* AD 10–60

3. [4477] <1391> (N12) external surface, Period 2, pre-AD 75. Length 48mm. Brass. Characteristic deeply arched bow; lacks the 'Aucissa' maker's mark.

Hod Hill Hull Type 60 is the most common of the Hod Hill series, with a hinge arrangement similar to that of the Aucissa; dated *c.* AD 43–60/5. Type 74W is a variant.

4. [9804] <1381> (S14) B15/23, Period 5, *c.* AD 95–100. Length 47mm. Brass. (Hull Type 60). Strongly arched bow with longitudinal mouldings. The flat head is broader than the bow, with mouldings or lateral notches; foot fractured above the knob.

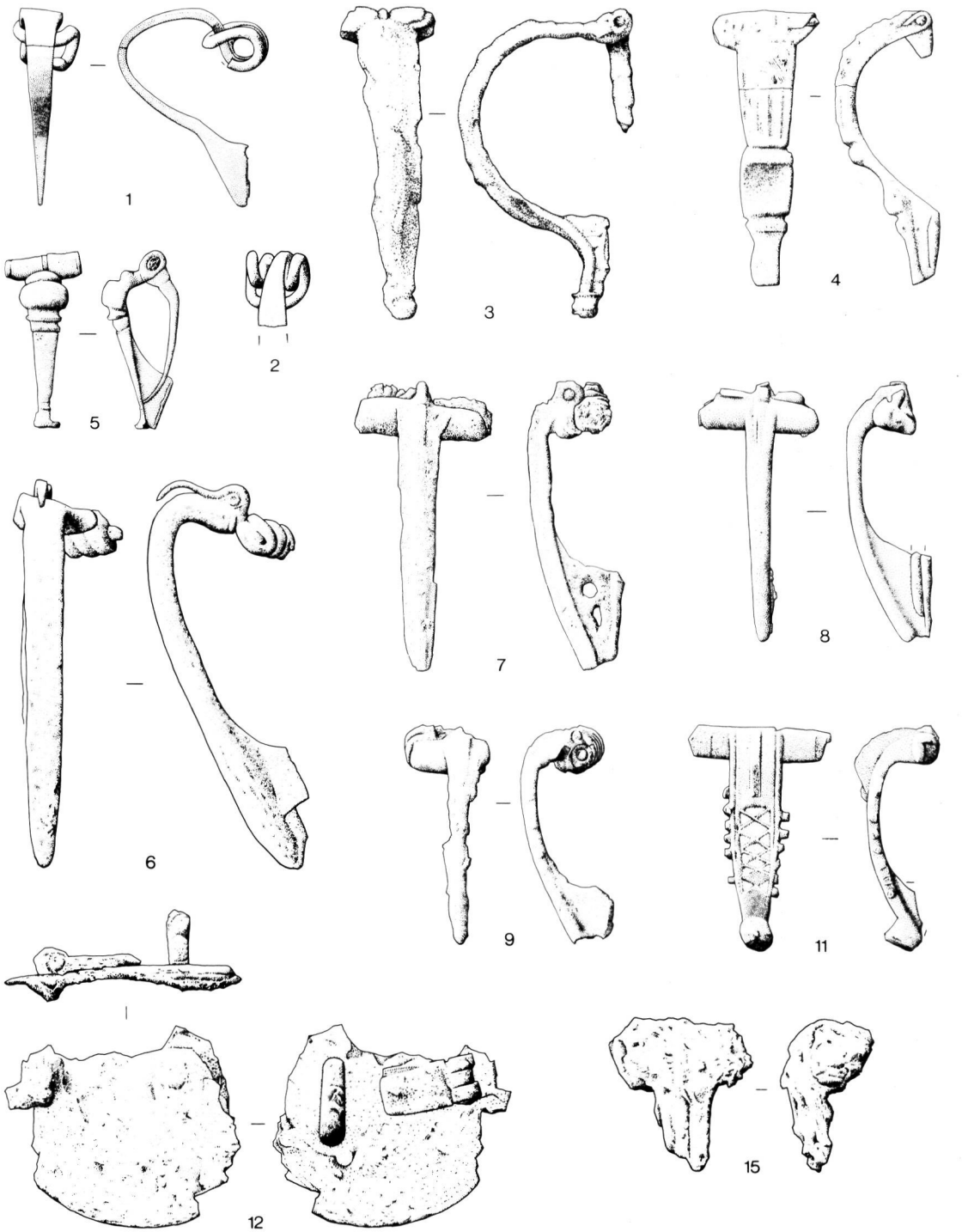

Fig 38. Copper alloy brooches, Nos 1–9,11,12,15 (scale 1/1).

5. [4100] <1045> (N31) Midden 16, Period 5, *c.* AD 95–100. Length 28mm. Brass, traces of tinning. (Hull Type 74W).
T-shaped head with hinged pin; mouldings on upper part of the bow, which below this is straight, with an out-turned foot; plain catch plate.

SPRUNG BROOCHES

One-piece Colchester (A) Hull Type 90 with a simple curved bow, flat side wings and a forward hook holding the chord. *c.* AD 20–70.

6. [4387] <1317> (N20) B12, Midden 9, Period 4 *c.* AD 85–90. Length 62mm. Bronze. Spring of eight turns with head loop or crest, thick strip bow and plain catch plate. Pin missing.

Two-piece Colchester (B) Hull Type 92/93; the spring secured by passing an external chord with two perforations behind the head. *c.* AD 50–70.

7. [6401] <1294> (W4) dump, Period 2, pre-AD 75. Length 47mm. Leaded bronze. Spring of eight turns secured by a hook and concealed by T-shaped wings; pierced catchplate.

8. [6532] <1383> (W37) construction dump, Period 5, *c.* AD 100. Length 42mm. Leaded bronze. Spring of six turns, a superior chord secured by a forward hook; narrow, almost straight bow and plain catchplate. A similar brooch <1384> came from the same context, which may have contained residual material from the 1st-century buildings.

9. [9911] <1517> (S10) B6 annexe, Period 3, *c.* AD 85. Length 33mm, incomplete. (Leaded) bronze. Spring of eight turns, head crest on top of a plain bow; plain catch plate.

10. [9944] <2009> (S32) B14, Period 3, *c.* AD 75–80 (not illustrated). Length 53mm. (Leaded) bronze. Spring of eight turns, head crest and plain catch plate.

SAWFISH

11. [9897] <1499> (S36) B16, Period 3, *c.* AD 80. Length 36mm. Gunmetal. Sawfish (Hull Type 145E). Traces of enamel (colour uncertain) remain within lozenges on the bow which has lateral teeth. The hinged pin is held in a tube with a devolved crouching dog form of crest on the head. Compare examples from Verulamium (Waugh & Goodburn 1972,116, fig 30, no.12) and Richborough (Hull in Cunliffe 1968,83, no.36, pl.xxx).

PLATE

12. [10001] <1521> (S3) Midden 3, Period 2, pre-AD 75. Width (incomplete) 35mm. Circular ?plate brooch, without visible decoration; hinged fastening.

FRAGMENTS *(not illustrated)*

13. [4100] <899> (N31) Midden 16, Period 5, *c.* AD 95–100. Fragment of head; hinged.

14. [4246] <1175> (N25) B12, Midden 15, Period 5, *c.* AD 95–100. Bronze. Spring of twelve turns.

15. [9722] <1494>, <1501> (S17) B14, Midden 4, Period 3 *c.* AD 75. Bronze. Spring with head crest; possibly Colchester B.

16,17. [6496] <1951>, <1390> (W25) B23, Period 5 *c.* AD 95–100. Springs only.

Finger rings

There is a wide range of finger rings from London in materials as diverse as gold, silver, iron, glass and bone, some set with semi-precious intaglios. The number of excavated examples is relatively small, about 50, and the extremely small number from the comparatively large excavated area of Leadenhall Court may be explained by the adverse soil conditions. No.18 is a common type, but the iron ring (No.19) is of more interest. Iron rings are comparatively rare finds due to poor survival, but were popular items of jewellery in the 1st and 2nd centuries.

18. [4328] <1342> (N23) B12, Period 4, *c.* AD 85–90 (not illustrated). Copper alloy. Diameter *c.* 22mm. Incomplete. The exterior has fine incised lines, poorly preserved.

19. [6128] <1042> (W8) dump, unphased *c.* AD 70–100 (Fig 39). Iron. Width 24mm. Part of the hoop and oval bezel remain but without intaglio or device. The wearing of iron is not necessarily an indication of poverty at a time when gold was reserved for members of the aristocracy. Iron rings were frequently worn by wealthy members of the lower classes and could be of intricate workmanship and design, (Manning 1985,78). Elaborate examples from London, with intaglios, include items in the Roach Smith Collection (Manning 1985, J1, J2, pl 33). A more recently excavated ring of early 2nd century date, from Dowgate Hill, bears the image of an enigmatic figure (Murdoch 1991,129,no.298) and another with a glass intaglio came from a late Neronian/early Flavian level at Newgate Street (GPO75 <3821>).

Earrings

Earrings are increasingly recognised on Roman sites, due largely to recent studies by Lindsay Allason-Jones (1989) whose typology is used here. The City of London has produced about 30 Roman examples, half of which are from recent excavations. Most are of the common penannular or circular wire type, but the earlier collections include six gold earrings. The wearing of earrings was seen as a sign of wealth, according to various classical authors (Allason-Jones 1989,22) and the gold originals of the rich were copied in cheaper metals for the masses. The spiral earrings, Nos 20–21, are the first of this type to be found in London. The form was popular in the mid first century with examples from many British sites (*ibid*, nos 465,121,122,234), but despite a long tradition of spiral ornament in Britain, the type was relatively short-lived, being found chiefly in contexts of Claudian to early Flavian date.

20. [1268] <228> (D29) B17, Period 4, *c.* AD 85–90 (Fig 39).
Copper alloy. Diameter 10mm. Type 9 (Allason-Jones 1989,8). Clockwise spiral coil with single wire.

21. [3879] <598> (N32) Basilican construction (Fig 39). Copper alloy. Diameter 14mm. Type 9 (*ibid* 1988, 8).

22. [9577] <3149> (S35) Midden 5, Period 3, *c.* AD 75–80

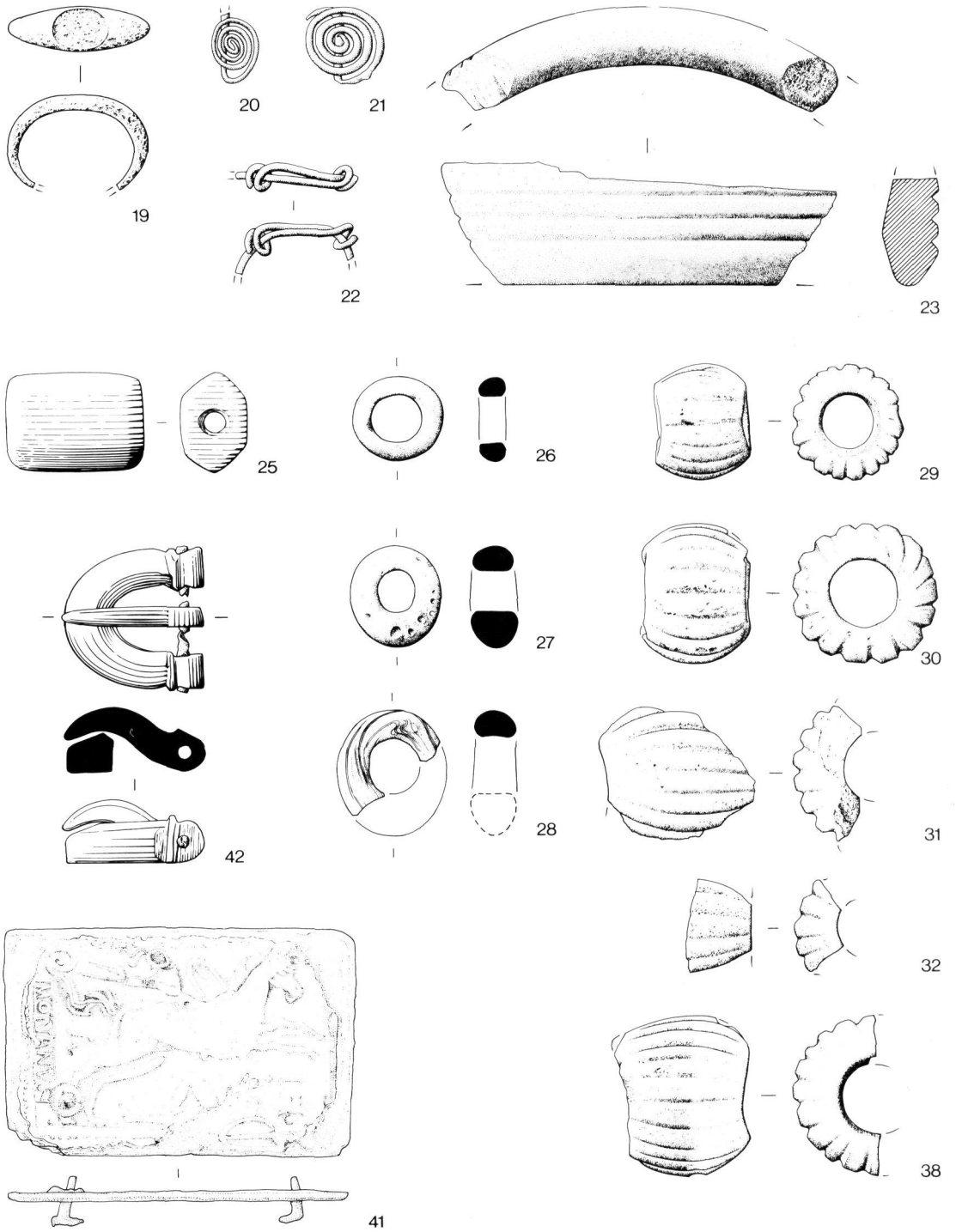

Fig 39. Iron ring No.19; copper alloy earrings Nos 20–22, shale bracelet No.23, glass beads Nos 25–32,38, copper alloy belt plate No.41, bone buckle No.42 (scale 1/1).

(Fig 39). Copper alloy. Length 28mm, incomplete. Type 3. Plain ring made from fine wire, the ends overlapped and twisted around the shank twice on each side, probably intended for permanent insertion in the ear lobe.

Bracelets

23. [9941] <2899> (S36) B16, latrine, Period 3, *c.* AD 80 (Fig 39). Shale. Width 18mm; external diameter *c.* 90mm. Fragment of wide bracelet with two central ribs, similar to one from Colchester (Crummy 1983, 37, 1559). Undecorated example <438> from the Basilica (Room 2).

Beads

Annular

Beads Nos 24 and 25 are made from amber. The amber trade flourished from the time of Augustus until the end of the 2nd century AD. The fossil resin was brought from the Baltic to Aquileia, a manufacturing centre for the variety of trinkets and objects which were then exported to other parts of the Roman world. Amber was expensive, prized for its electrostatic properties as well as its beauty and is mentioned by Pliny as a luxury material (NH XXXVII,42–50).

Amber beads are comparatively rare finds in London. An amber necklace of late 1st to early 2nd century date was recovered from Old Jewry (Chapman 1974, 273).

24. [4418] <2027> (N13) B9, Period 3, *c.* AD 75 (not illustrated). Amber. Diameter 21mm; annular, dark orange, incomplete.

25. [4099] <2037> (N31) Midden 16, Period 5, *c.* AD 95–100 (Fig 39). Amber. Length 20mm; width 14mm; cylindrical, opaque yellow/orange.

26. [4246] <1884> (N25) B12, Midden 15, Period 5, AD 95–100 (Fig 39). Glass. Diameter 14mm. Blue.

27. [6331] <2042> (S8) B6, Midden 8, Period 3, *c.* AD 80 (Fig 39). Glass. Diameter 14mm. Natural greenish blue

28. [6765] <2780> (W34) B5, Period 3, AD 75–80 (Fig 39). Glass. Diameter *c.* 18mm. Green.

Gadrooned 'melon beads'

Blue

29. [1347] <519> (D6), unphased AD 70–100 (Fig 39). Glass.

30. [6492] <2038> (W17) B6, disuse, Period 4, *c.* AD 90 (Fig 39). Glass.

31. [12240] <2048> (M59) B18, Period 3, *c.* AD 80–85 (Fig 39). Glass.

32. [6521] <2031> (W16) B6, Period 3, *c.* AD 80 (Fig 39). Glass.

33. [4221] <1874> (N15) Well, Period 2, AD 70–75 (not illustrated. Glass.

34. [9999] <2410> (S31) Midden, Period 2 AD 70–100 (not illustrated). Glass.

35. [1393] <522> (N18) B10, Period 3, *c.* AD 80–85 (not illustrated). Glass.

Green

36. [6496] <2637> (W25) B23, Period 5, *c.*. AD 100 (not illustrated). Glass.

37. [4476] <2758> (N12) external surface, Period 2, pre AD 75 (not illustrated). Glass.

Turquoise

38. [9577] <2032> (S35) Midden 5, Period 3, *c.* AD 75–80 (Fig 39). Glass.

39. [6507] <2744> (W28) B5, Period 4, *c.* AD 90 (not illustrated). Glass.

40. [9941] <2395> (S36) B16, latrine, Period 3, *c.* AD 80 (not illustrated). Glass.

Belt fittings

These are the only items from the early levels which have possible military associations. The site as a whole produced several military items, a lorica hinge from a 2nd-century context, a cuirass hook and strap-ends of 2nd-century and later date (see archive report).

Belt plate

41. [12040] <288> (M3) B19, Period 3, *c.* AD 80–90 (Fig 39). Copper alloy. Length 53mm; width 35mm. Belt plate with applied repoussé decoration depicting a horse and rider spearing a fallen enemy, a motif familiar in Roman art, particularly on cavalry tombstones, inscribed on the left MONTANVS. The piece is highly detailed and the surface shows traces of tinning. Three out of four rivets remain. Mid 1st-century type.

Buckle

42. [+] <1513> Unstratified, 1st-century level (Fig 39). Bone buckle. Length 22mm; width of loop 21mm. D-shaped loop with squared mouldings at the terminals and curved bone tongue, stained green, with copper alloy axle. 1st-century type.

Footwear

On many sites the hobnails used on the soles of shoes and sandals are the only evidence for footwear. London is fortunate in having large collections of Roman shoes from waterlogged sites such as Billingsgate and New Fresh Wharf (Rhodes 1980a; MacConnoran 1986) and there is a small quantity of leatherwork from wet deposits at Leadenhall Court.

Hobnails

Hobnails (not illustrated) were found in the following contexts:

43. [4078] <1244> (N27) B12, Periods 3–4, *c.* AD 80–90

44. [4432] <1394> (N18) B10, Period 3, *c.* AD 80–85

45. [9941] <1843> (S36) B16, latrine, Period 3, *c.* AD 80.

LEATHER SHOES

Frances Pritchard

46. [4487] <1777> (N4) Midden 2, Period 2, pre-AD 75 (Fig 40). Length 245+mm; width of forepart 80mm; width of waist 50mm; width of heel seat 61mm. Part of insole from a stitched shoe, right foot; tunnel-stitching on flesh face of insole. Fragments of heel stiffener or lining placed with the grain face on the inside, possibly from the same shoe; along the top edge is a row of stitch holes spaced at intervals of 2–3mm.

47. [4499] <1774> (N15) Well, Period 2, pre-AD 75 (not illustrated). Part of insole and middle sole from a stitched shoe, ? right foot. Tunnel-stitching on flesh face of insole; grain/flesh stitch holes round margin of middle which was placed flesh face up (see No. 48 below). Further fragments perhaps from the same shoe include the lasting margin from a lining, the grain face on the inside.

48. [4499] <1775> (N15) Well, Period 2, pre-AD 75 (Fig 40). Width of forepart 72mm; width of waist 46mm. Part of bottom unit of sandal, right foot. Two middle layers present with the outline of four toes and a single row of nails (pattern B, Rhodes 1980a, 107), four nails preserved. The lower layer is placed flesh side up, while the second layer is too worn to be certain. In addition to stitching slots round margin and for the principal toe thong, there are slots on the forepart and heel seat of both layers (see Rhodes 1980a, 119, no. 619). The small size of the sandal, although incomplete, suggests that it was worn by a woman.

Most sandals from the Billingsgate Buildings site were constructed with the middle soles placed grain side up (Rhodes 1980a, 117). Numbers 47 and 48 indicate that there was perhaps more diversity in shoemaking methods, although the early Flavian date of the shoes from Leadenhall may be significant.

49. [6667] <1782> (W23) Dump, unphased AD 70–100 (Fig 41). Heel wedge from stitched shoe and lasting margin of upper; grain/flesh stitch holes on wedge.

50. [6758] <1780> (W20) External dump, Period 2, pre-AD 75 (Fig 41). Width of waist 47mm; width of heel seat 64mm.

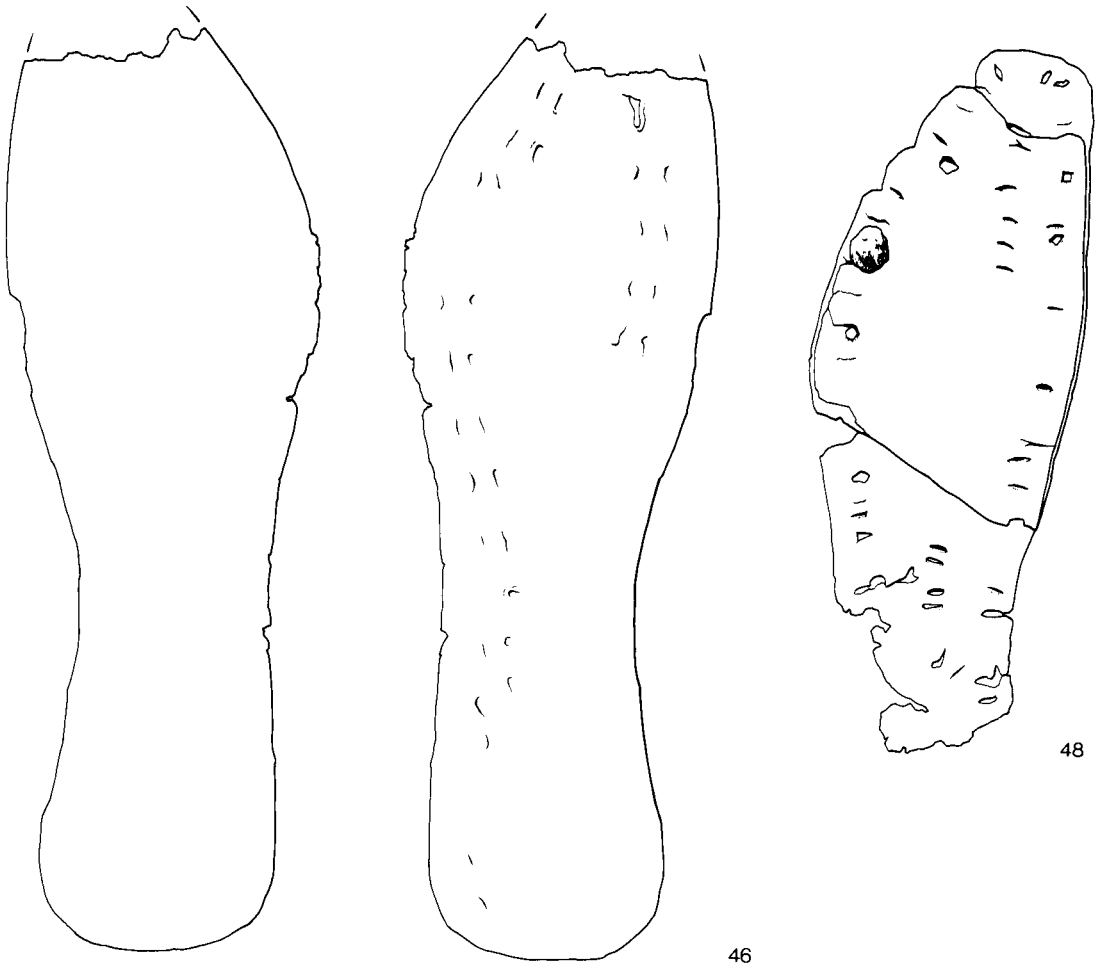

Fig 40. Leather shoes Nos 46,48 (scale 1/2).

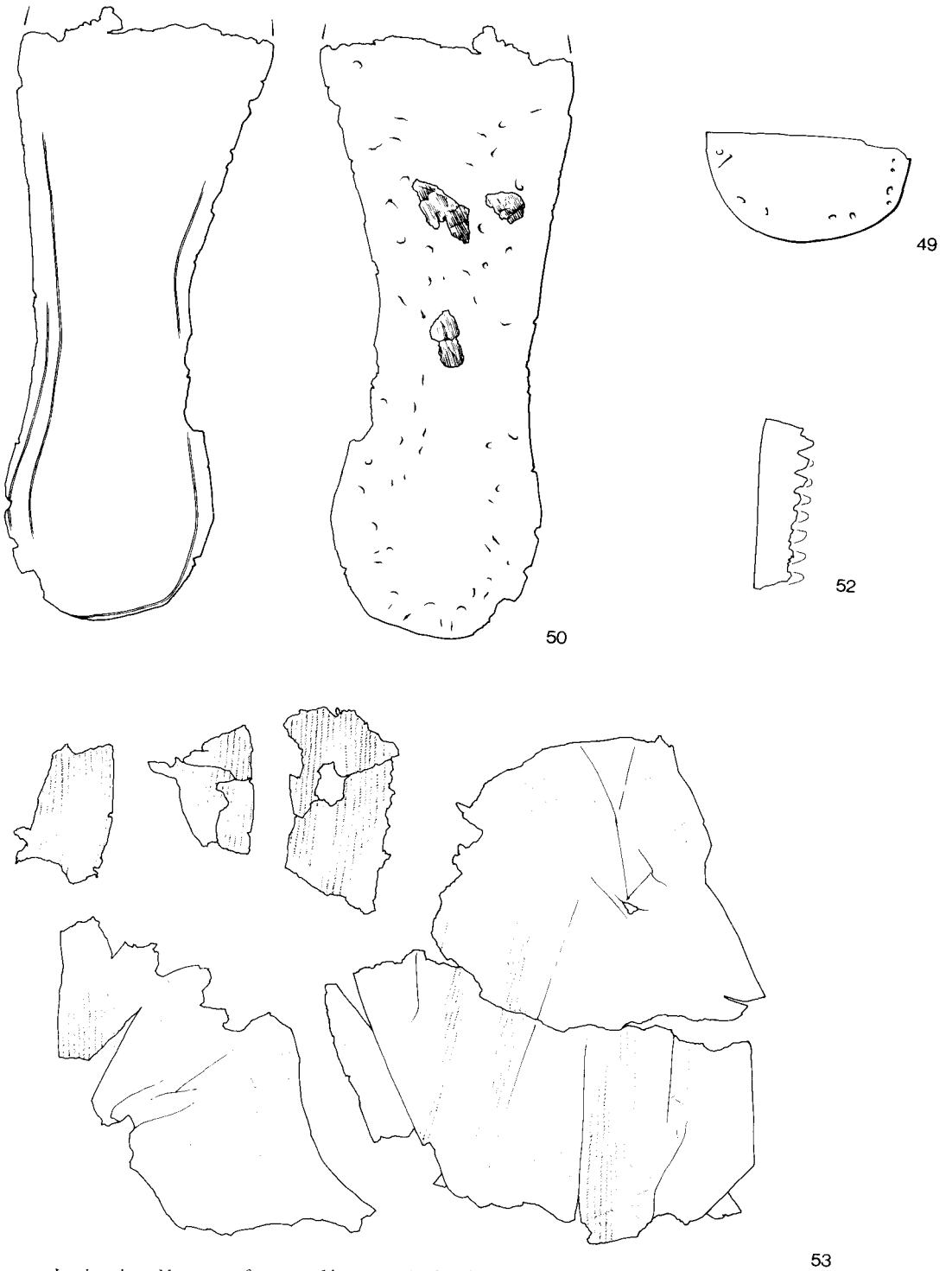

Fig 41. Leather shoes Nos 49,50,fragments Nos 52–3 (scale 1/2).

Part of insole from a stitched shoe or sandal (toe missing); left foot. Two rows of tunnel-stitching on flesh face, one for attaching the upper and the other for securing the middle sole. Line scored round margin of grain face, 1–7mm from margin.

51. [4487] <1776> (N4) Midden 2, Period 2, pre-AD 75 (not illustrated). Length 120mm; finished width 7mm. Strip folded in three lengthways with stitching holes close to one end. Possibly part of a shoe thong.

Unidentified leather (possibly from clothing)

52. [4487] <1778> (N4) Midden 2, Period 2, pre-AD 75 (Fig 41). Largest piece (3 conjoining fragments): length 360mm; width *c.* 300mm. Probably calfskin (identified by Glynis Edwards, AML). Four large fragments and seven smaller scraps. The largest piece has a finished edge, length 325mm; pierced with awl holes and folded inwards forming a hem 6mm wide. The holes lie parallel to the edge and are spaced at intervals of 4–6mm. Pairs of tunnel holes on the flesh face 8–10mm from the folded edge, also spaced at 4–6mm intervals, indicate a strip of leather was added to join this skin to another, making it waterproof. The leather is very worn and appears to have been cut up after its original use as a tent or item of clothing (see Miller & Rhodes 1980, 97, no. 506, fig 57).

53. [4487] <1779> (N4) Midden 2, Period 2, pre-AD 75 (Fig 41). Tapering strip cut from thinly pared leather with one edge serrated, the other plain. Leather species not identifiable (Glynis Edwards). Several examples of pinked edges have been recorded from London, especially amongst leather waste derived from recycling (Rhodes 1986a, 217, no. 7.13). Similar decorative edges have been noted on shoe uppers, bags and garments (Ambrose 1975, 250–51, no. 266, fig 133, pl XXXVI; Rhodes, *ibid*).

Objects of personal use

Toilet sets comprising nail cleaners, tweezers and small scoops or spoons are common finds on both urban and rural sites of this date. Nail cleaners have been dated typologically (Crummy 1983,57), and these examples, none complete, are all of standard 1st-century form. The dearth of tweezers and scoops from the 1st-century levels can again be explained by the adverse burial conditions.

Nail cleaners

54. [4485] <1459> (N4) Midden 2, Period 2, pre-AD 75 (Fig 42). Part of the suspension ring, handle and leaf-shaped blade, (Crummy Type 2; 1983,58). Mid to late 1st-century.

55. [9843] <2019> (S12) Midden, Period 4 *c.* AD 80–90 (not illustrated). As No.54; upper part.

56. [9868] <2212> (S12) Midden 11, Period 4 (not illustrated). As No.54; rolled suspension loop.

Ligulae and spatulas

Ligulae and spatulas had a broad range of cosmetic and pharmaceutical uses. Although found among domestic possessions they also formed part of the equipment of surgeons and doctors (Jackson 1986;1990). *Ligulae*, with small rounded spoons, either straight or cupped usually had plain handles, often tapering to a point, while the more robust spatulas were often double-ended, with an oval bulb at the handle terminal, which could have functioned as a swab, dropper or probe. The Leadenhall Court examples are all of the latter dual-purpose type, but none is complete. Such implements were frequently used with stone palettes, as No. 64, for the mixing of cosmetics or medicaments.

57. [9897] <1487> (S36) B16, Period 3, *c.* AD 80 (Fig 42). Copper alloy. Length 69mm, incomplete. Olivary probe; moulded decoration on handle; spoon missing.

58. [1268] <228> (D29) B17, Period 4, *c.* AD 85–90 (not illustrated). Copper alloy. Length 86mm, incomplete. Probe and part of handle.

59. [1268] <229> (D29) B17, Period 4, *c.* AD 85 90 (Fig 42). Copper alloy. Tip of a spoon.

60. [6632] <1395> (W14) Pit, Period 2, pre-AD 75 (Fig 42). Copper alloy. Length 125mm; length of blade 103mm; width of blade 5mm. Implement. The main body of the object has a rectangular section which gradually tapers in thickness to form a long narrow blade, one surface is decorated with faint lines of punched dots. At one end is a tang, separated from the body by a shoulder. Possible surgical or medical function.

Stirring rods

61. [9667] <2225> (S15) B15/23, Period 5, disuse AD 95 100 (Fig 42). Glass. Plain shaft; natural greenish blue.

62. [9786] <2276> (S38) Midden, unphased (Fig 42). Glass. Spiral shaft.

63. [1177] <500> (D45) Basilica construction, AD 100+ (Fig 42). Glass. Spiral shaft.

Mixing palette

64. [6432] <1397> (W39) Basilica construction, AD 100+ (Fig 42). Stone. Width (complete) 51mm: length (incomplete) 59mm. Slate-like, fine grained black igneous rock (identified by Frances Wall, Department of Mineralogy, The Natural History Museum). Rectangular palette with bevelled edges, fractured at approximately the mid point. The underside is the more worn, suggesting that this was used for grinding and the bevelled edge was at the top. The palette is of a type used for mixing cosmetics or medicaments and is often found in marble or other stone as Crummy (1983,57, nos 1865–67) from Colchester.

Mirrors

The most commmon type of mirror found in Roman Britain, to which the following examples belong, was a simple rectangle or disc made from a brittle high percentage tin bronze. Mirrors were usually made in two sections. The reflecting surface, turned on a lathe, was protected by a matching lid while the hinge and handle were made separately from a leaded copper alloy and soldered on. The mirror surface was frequently treated with a white metal

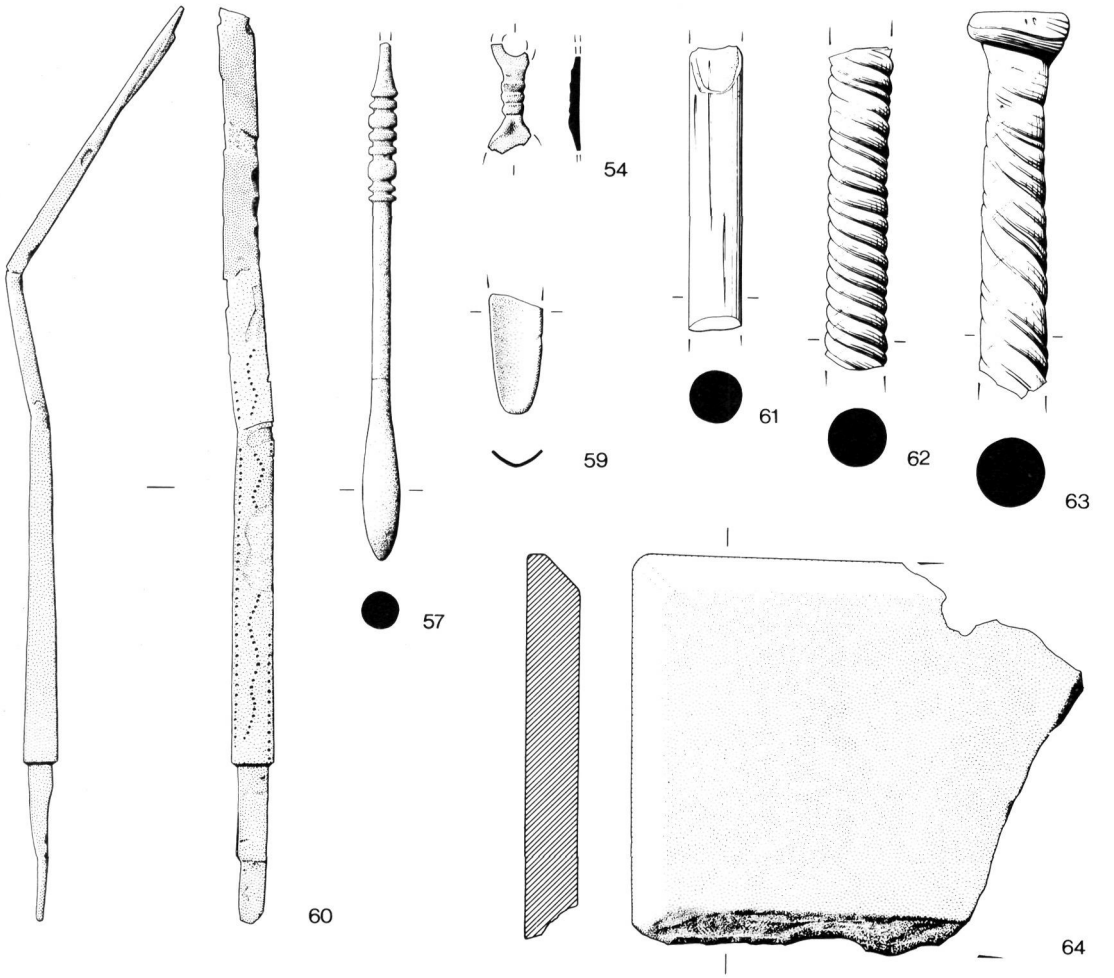

Fig 42. Copper alloy nail cleaner, ligulae and surgical tool, Nos 54,57,59,60; glass stirring rods Nos 61–3; stone palette; No. 64 (scale 1/1).

coating, or occasionally silvering, to improve its reflective qualities and the surface ornamented with lightly engraved or punched decoration. The following comments are taken from a full report by Glenys Lloyd-Morgan (1991).

The small collection of mirror fragments, all of 1st- century date, is of interest not only as a useful addition to the range of finds from London, but for the country as a whole. It suggests the extent of trade and contact from the early years of the Conquest and also in subsequent years between Italy and the north west provinces and Britain.

65. [6717]<1491> (W21) B6, Period 3, *c.* AD 75–80 (Fig 43). Copper alloy. Incomplete and fragmentary disc mirror of Lloyd-Morgan's Group F. Estimated original diameter *c.* 110 mm, comprising: i) edge fragment, two adjoining pieces; the curved surface of the reflecting edge is worn and decayed; the reverse, unfinished and slightly irregular; 32.6 × 26.0mm; thickness *c.* 1–1.4mm. ii) edge fragment, bevelled edge; 14 × 27.7mm; thickness 1.4mm. iii) fragment; 9.5 × 13.7mm (not illustrated).

Disc mirrors of Group F are roughly circular with a slightly convex reflecting surface, the other side unfinished, with a pocked appearance. They have a diameter of up to 110mm and a thickness of *c.* 1mm, sometimes with a slight thickening at the point where the metal was poured into the mould (Lloyd-Morgan 1981, 30–33, nos 3,4,12,20). It is probable that the edge fragments of this mirror are from such a point of thickening, formed when the disc was cast.

One of the earliest examples of this type was found in a grave dated *c.* AD 1–10, at Wincheringen, near Trier, Germany, which included both native and imported Roman goods, (Koethe & Kimmig 1937,57, Abb 10.20;61). Similar mirrors came from the Iron Age cemetery at King Harry Lane, Verulamium (Stead & Rigby 1989,103) with other examples also from Verulamium and Welwyn (Verulamium Museum; Arnold 1952–4, 136, no.3). To date (March 1991) some 28 examples are known from sites in Britain. Excavated examples from London came from a late Neronian/early Flavian context at 19 St Swithins Lane (SSL84 [153]<25>) and from St Martin Orgar (ORG86 [987]<103>).

66. [3842] <599> (N33) Road make-up, AD 100+ (Fig 43). Present dimensions 16 × 9.4mm; thickness 1mm; original diameter *c.* 90mm. Reflecting side finished and decorated

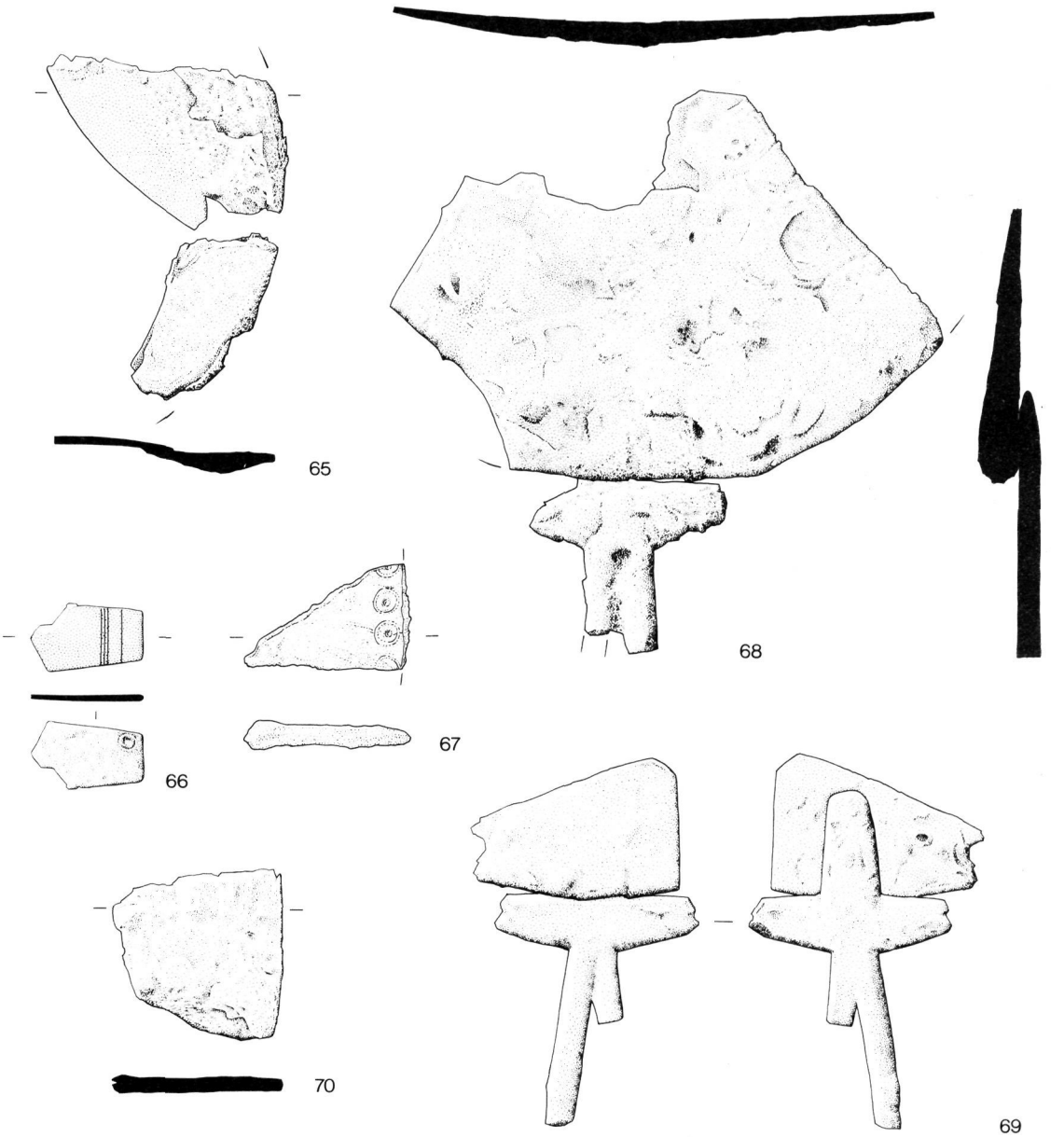

Fig 43. Copper alloy mirrors Nos 65–70 (scale 1/1).

with a single surviving dot-and-circle pattern at the edge. The reverse has at least two sets of very fine, turned, concentric circles, one at the edge, the other set of three, just inside it.

67. [9876] <2058> (S4) Dump, Period 2 *c.* AD 75+ (Fig 43). Present dimensions 15.2 × 23.5mm; thickness *c.* 1mm; diameter *c.* 90–100mm. The reflecting side is decorated with about four dot-and-circle motifs at the edge; possible trace of a single incised line inside the edge on the reverse.

Nos 66–7 belong to a subgroup of G, a class of hand mirror consisting of a light, finely made convex disc, related to Group F mirrors, but with the reverse side finished and bearing spin marks, as well as simple decoration in the form of one or more neat series of lightly turned concentric circles, near the edge and sometimes at intervals towards the centre (Lloyd-Morgan 1981, 37–43;41–2). Subgroup Gc mirrors have in addition a series of dot-and-circle patterns applied as a border to the edge of the reflecting side. A number retain their handles, which in the main have an elongated loop-

shaped grip, as one from a cremation in Norwich (Lloyd-Morgan 1977, 330). Many mirrors of Group G are of Flavian date, with recent examples from the cemetery at Nijmegen, Hatert, Grave 171, dated to AD 40–110 (Dr J.K.Haalebos pers comm), a tomb at Salinelles, Gard, (Musée Archeologique, Nimes, Inv. no.906.2.3.1 & 2) and the cemetery at Blicquy, Belgium (de Laet *et al* 1972,73,88 & 126). A fragment from Towcester, Northants, came from a 1st-century ditch (Charmian Woodfield pers comm). The general dating for the group is confirmed by No. 67, though it is not unexpected when fragments, or more complete mirrors are found in slightly later contexts. Although only these two representatives of subgroup Gc mirrors have yet been found in London, there are several examples of the basic Group G mirrors.

68. [4329] <1282> (N23) B12, Midden 10,Period 4, *c.* AD 85–90 (Fig 43). Dimensions: disc 76x56mm; thickness *c.* 1.3mm; original diameter *c.* 120–140mm; length handle fragment 39mm.
Hand mirror, incomplete; part of the disc and the upper part of the handle still attached. The reflecting side of the disc is slightly convex, very corroded and may be undecorated. The reverse is turned, with two sets of concentric circles spaced at intervals inside the edge. The handle has a loop-shaped grip (incomplete), and two sidearms on which the disc rested, one almost gone; disc support also lost.

69. [12244] <1386> (M58) B7 disuse, Period 3, *c.* AD 85 (Fig 43). Dimensions: disc 30.1 × 20mm; thickness *c.* 1.8mm; diameter *c.* 130mm; length of handle fragment 47.5mm.
Hand mirror, incomplete; a small fragment of the disc, heavily encrusted, with part of the handle still attached. This has a loop-shaped grip; the upper portions, the disc support and the side arms are almost intact.

The hand mirrors belong to Group H, where the discs were cast and turned, often with elaborate series of concentric circles on the reverse and forming a border to the reflecting surface. They are larger in diameter, and more substantial than mirrors of Group G (Lloyd-Morgan 1981, 49–56), but like them could have additional applied decoration, such as a light border of notches around the edge (*ibid*, 46 no.2, pl 9; Petru 1972,62, 158, Taf XLII, no.25), or a border of dot-and-circle motifs (Lloyd-Morgan 1981, 48, no.2, pl 10; Petru 1972,113,169). They are closely related to the Group K hand mirrors where the disc is pierced by a penannular border of holes (Lloyd-Morgan 1981,49–56); and Group L where the border is cut away to give a profile of various ray-like designs (*ibid*, 57–61). These types are well known in the 1st century AD on the Continent as a complete example of Group Ha, of Flavian date, from Blicquy, Belgium (de Laet *et al* 1972, 73,82,pl.4). The earlier finds from Britain are noted in the discussion of the incomplete disc from St Augustine's Abbey, Canterbury (Lloyd-Morgan 1988,201–2, fig 62, no.1).

70. [4392] <1368> (N20) B12, Midden 9, Period 4, *c.* AD 85–90 (Fig 43). Poorly preserved, corroded, fragment of ?mirror; 24 × 24mm.

Items of domestic use

Domestic material from the Basilica construction levels has been included as it reflects the general range of material in use in Flavian London and may well have derived from the early buildings.

Spoons

71. [9532] <1239> (S45) Basilican construction level (Fig 44). Copper alloy. Length (maximum) 106mm; length of bowl 28mm. Pear shaped bowl and plain handle, tinned. Late 1st/early 2nd-century type on analogy with others from Britain and Germany.

72. [9941] <2049> (S36) B16, latrine, Period 3, *c.* AD 80 (Fig 44). Bone. Length 83mm, incomplete. Crudely worked, flat round bowl.

73. [6407] <2030> (W39) Basilica construction (not illustrated). Bone. Incomplete. Round bowl; similar to metal *cochlearia* which date from AD 50–200.

Platter

74. [9819] <1772> (S34) B14, Period 3, *c.* AD 75 (Fig 45). Shale. Length (maximum surviving) 71mm. Three fragments of rectangular tray or platter; one piece from the edge, with two decorative parallel grooves. Such trays, perhaps used as serving platters, usually date to the late 1st or early 2nd century and are found in two sizes 12 × 10ins (305 × 255mm) or 20 × 16ins (508 × 406mm) (Biddle 1967, 248, 250). As with the more elaborate examples from Colchester (Crummy 1983, 69, fig 74, 2021–2023) it is not possible to determine the size of this item.

Querns

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75. [6492] <1449> (W17) B6 disuse, Period 4, *c.* AD 90 (Fig 46). Diameter 420mm; maximum thickness 76mm. Basalt lava from Mayen (Niedermendig), part of upperstone with raised lip and a worn, irregular-shaped hopper. Bi-directional grooving on upper surface which is divided into four segments, radial grooving on grinding surface, vertical grooving on edge. Socket for handle next to lip.

76. [4100] <1447> (N31) Midden 16, Period 5, *c.* AD 95–100 (not illustrated). Diameter *c.* 460; maximum thickness 72mm. Basalt lava from Mayen (Niedermendig), part of upperstone with raised lip. Diagonal, parallel grooves on upper surface, vertical grooving on edge.

Mortars

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77. [10031] <3096>,[9868]<1869> (S3) Midden 3, Period 2, *c.* AD 70, (S12) Midden 11, Period 4, *c.* AD 80–90 (Fig 47). Diameter of rim 250–320mm; diameter of base *c.* 180mm; height *c.* 90mm. Jurassic, shelly limestone. Five fragments (four conjoin), with two opposing side lugs of differing size and a vestigial footring. Top exterior edge of bowl tooled down to level of lugs. Inside surface worn smooth from pounding. (The wear is similar on all the fragments and therefore some doubt must remain as to the presence of the mortar in the early context which underlay the alley.)

At least three other examples of mortars made from this type of stone have been recorded from Roman London—including the well-preserved mortar from Birchin Lane (BRL87 [938]<248>, Fig 48). They appear to be similar in

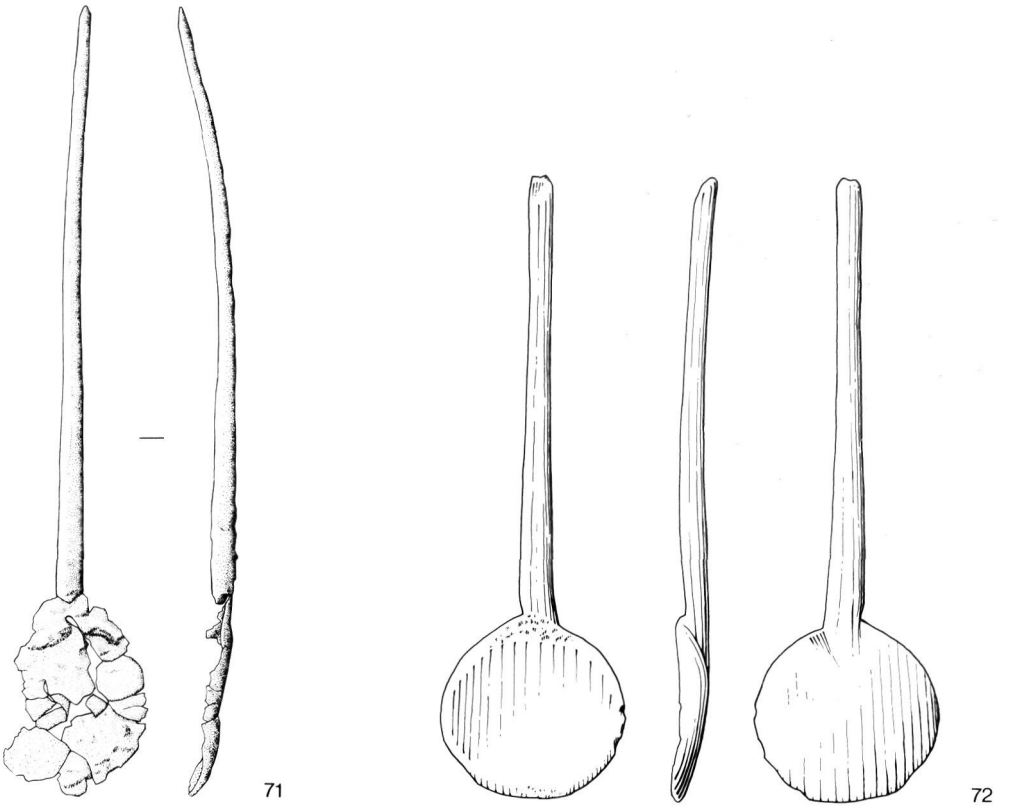

Fig 44. Copper alloy spoon No.71; bone spoon No.72 (scale 1/1).

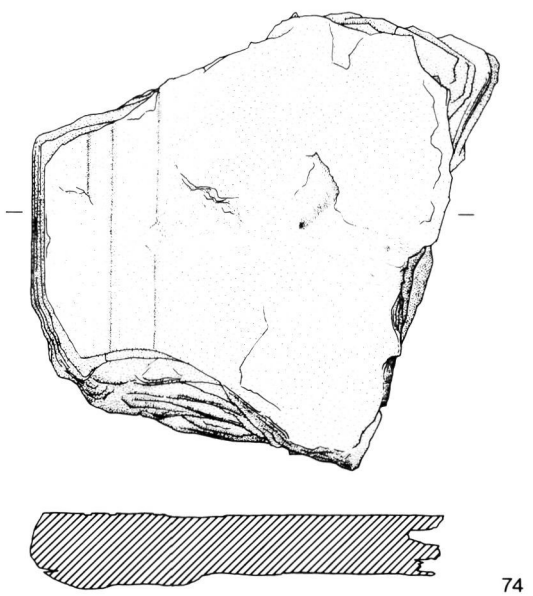

Fig 45. Shale platter No.74 (scale 1/1).

form with some variation in the shape of the side lugs; they were presumably lathe-turned, a method of shaping stone vessels referred to by Pliny (Blagg 1976, 165). The rough texture of the stone precluded fine surface tooling. Wear marks and breakage indicate that these, and other limestone mortars, were chiefly used for pounding ingredients.

78. [12302] <1870> (M56) B7, Period 3, *c.* AD 75–85 (Fig 47). Diameter of rim 280mm; diameter of base 230mm; height 65mm.
Purbeck marble. Three conjoining fragments, no lugs or pouring lip preserved. Whole of exterior chiselled smooth; the inside worn smooth from use. Striations on base (especially the exterior) from wear, probably grinding.

Several Roman examples of Purbeck marble mortars from London include those from Leadenhall Street (LEN89 [893] <413>, Fig 48). They usually had side lugs and a pouring lip, although considerable variation between these features and surface tooling suggests manufacture in different workshops. Where the base survives, wear marks indicate that they were used for grinding, rather than pounding, ingredients (*cf* a basalt mortar - LOW88 [1657]<209>). These ingredients were not always foodstuffs; traces of red pigment adhere to the inside of a large mortar excavated at King Street (see *mortarium* in White 1975, 10–12).

Mortars were made from a wide variety of stones in the Roman period, a diversity evident from examples excavated in London. Stones with English sources are Purbeck marble, various Jurassic limestones including a pale pink oolitic

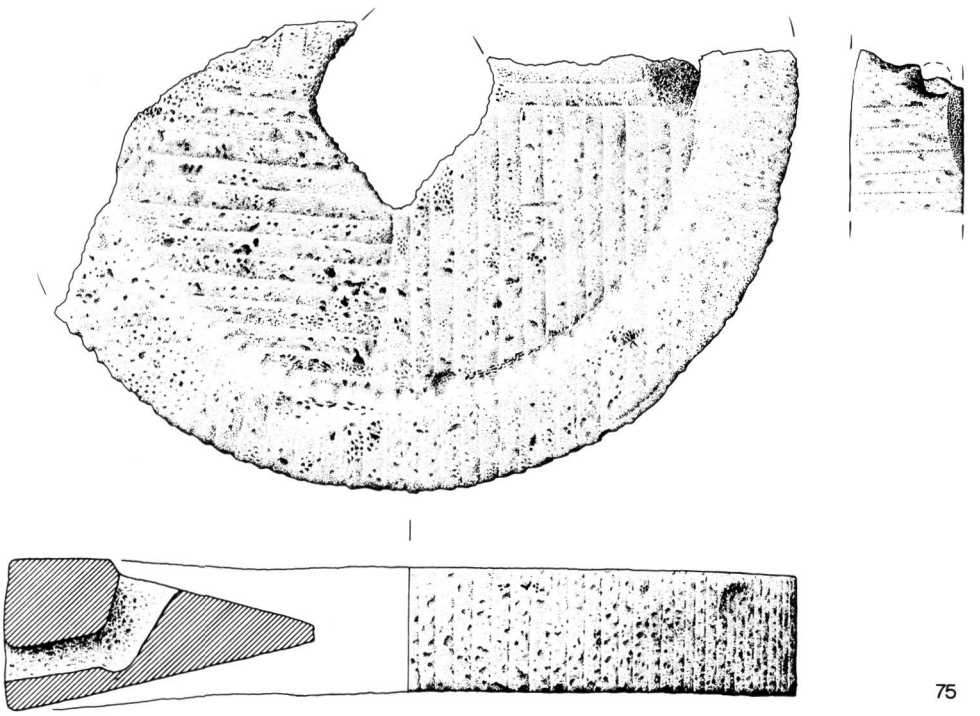

Fig 46. Quernstone No.75 (scale 1/4).

limestone FEN83 [1188]<1022>/[1348]<1021> and a type with sparse fragmented fossils BRL87 [72]<140> (Fig 48) as well as a coarse shelly variety (see No.77 above) which probably came from the Purbeck beds in Dorset, and a light grey griesen, probably from Cornwall PDN81 [1439]. All these point to trading contacts with the south west. In addition there is an example in a fine, uniform grained dark basalt for which SW England would have been the most accessible source (LOW88 [1657]<209>). By contrast with the medieval period, mortars made from continental marbles, which were also used as wall veneers, were also fairly common (see archive report).

The two mortars from Leadenhall Court show that examples made from Purbeck marble and (? Purbeck) limestone were being supplied to London in the 1st century. This complements evidence that decorative stonework, including *opus sectile*, made from Purbeck marble was in use in London by the early Flavian period (Pritchard 1986, 185).

Ceramic lamps

Closed forms

Lyon ware

79. [9878] <2850> (S12) Midden 11, Period 4, AD *c.* 80–90 (Fig 49). Volute lamp; head of Hercules on the discus, *cf* Bailey 1988, 35 for subject. Pre-Flavian.

Central Gaulish (CGOF)

80. [9850] <2881> (S37) B21, Period 3, *c.* AD 85 (Fig 49). Width 52mm. Volute lamp, complete except for nozzle and part of discus, design lost.

81. [12242] <3054> (M58) B7, disuse, Period 3, *c.* AD 80–85 (not illustrated). Volute; part of base and nozzle.

82. [4024] <2021> (N28) B10, Period 5, *c.* AD 95–100 (not illustrated). Body sherd.

83. [4392] <3032> (N20) B12, Midden 9, Period 4, *c.* AD 85–90 (not illustrated). Volute; fragment of side.

84. [4392] <3042> As No. 83 (not illustrated). Fragment of side wall.

85. [10083] <2852> (S17) B14, Midden 4, Period 3, *c.* AD 75 (not illustrated). Edge of discus with three ribs and part of nozzle.

86. [6671] <2634> (W36) B15, Period 5, *c.* AD 90–100 (not illustrated). Edge of discus with three ribs.

87. [9999] <2571> (S31) Midden, Period 2, *c.* AD 70–75 (not illustrated). Side wall.

Local oxidised wares

88. [6704] <2633> (W30) B5, Period 4, *c.* AD 80–90 (Fig 49). Fragment of discus with figure decoration.

89. [9849] <2886> (S36) B16, Period 3, Midden *c.* AD 80 (Fig 49). Fragment of discus with ?dancing figure.

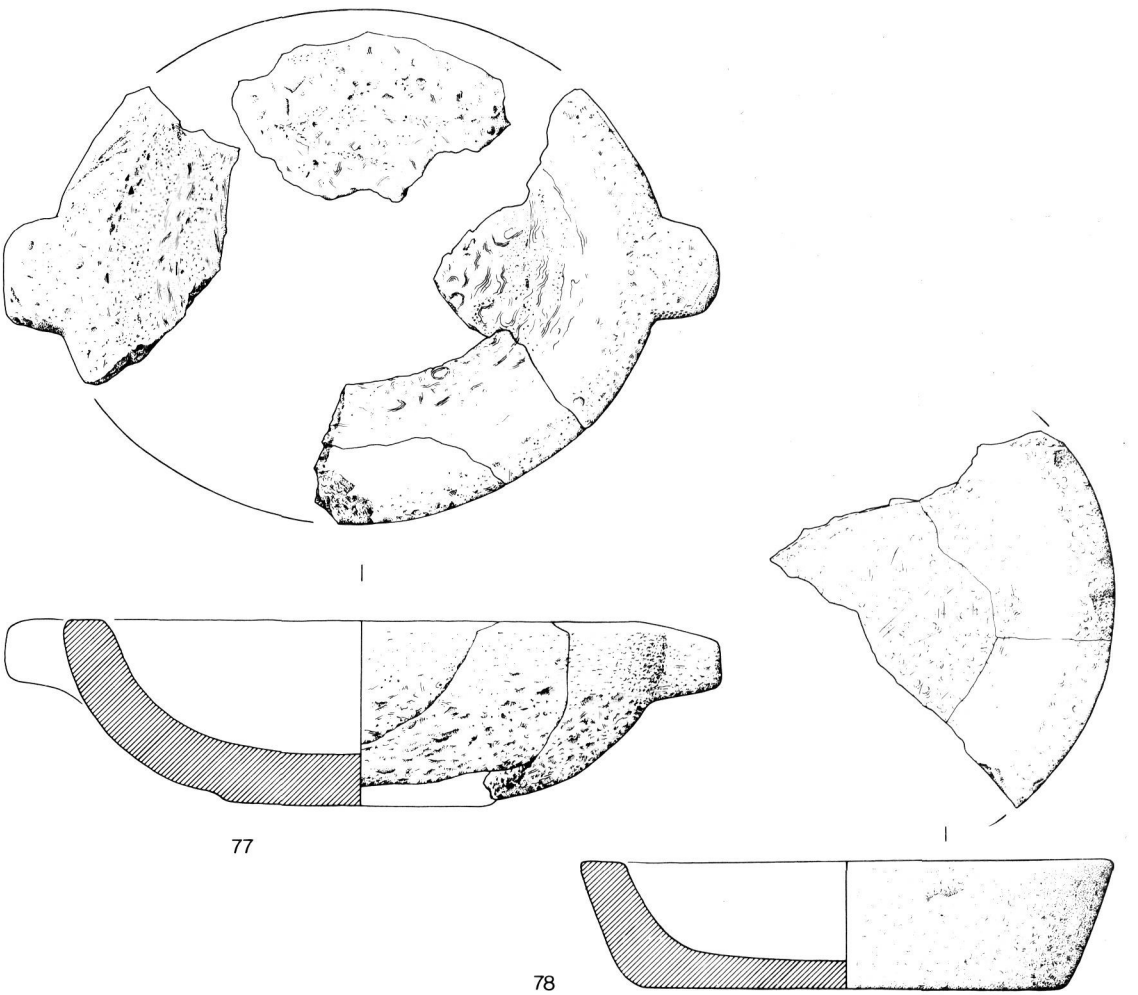

Fig 47. Mortars Nos 77,78 (scale 1/4).

90. [9577] <2971> (S35) Midden 5, Period 3, *c.* AD 75–80 (not illustrated). Part of side wall; sooted externally.

91. [9829] <2999> (S37) B21, Period 3, AD 85 (not illustrated). Three sherds from side wall with part of shoulder.

Open forms

Lyon ware

92. [4494] <3089> (N15) Well, Period 2, pre-AD 75 (Fig 49). Open lamp or holder, ? Lyon ware with pink slip

Colchester oxidised ware

93. [4459] <3084> (N15) Well, Period 2, *c.* AD 70–75 (Fig 49). Base and part of nozzle; wheel-made.

94. [4494] <3090> (N15) Well, Period 2, *c.* AD 70–75 (not illustrated). Fragment.

95. [4494] <3091> As No. 94 (not illustrated).

96. [4494] <3092> As No. 94 (not illustrated).

97. [9850] <2878> (S37) B21, Period 3, *c.* AD 85 (not illustrated).

98. [4432] <3036> (N18) B10, Period 3, *c.* AD 80–85 (not illustrated).

Sugar Loaf Court ware

99. [4337]<3041> (N23) B12, Period 4, *c.* AD 85–90 (Fig 49). Nozzle.

Verulamium Region Grey ware

100. [9861] <2879> (S34) B14, Period 3, *c.* AD 75 (Fig 49). Wheel-made base and applied strap handle, sooted.

Verulamium Region ware

101. [6621] <2632> (W30) B5, Period 4, *c.* AD 80–90 (Fig 49). Length 126mm, almost complete.

102. [4158] <1720> (N29) B12, disuse, Period 5, *c.* AD 95–100 (Fig 49). Nozzle with part of flat base.

Fragments (not illustrated)

103. [9911] <2887> (S10) B6, annexe, Period 3, *c.* AD 85

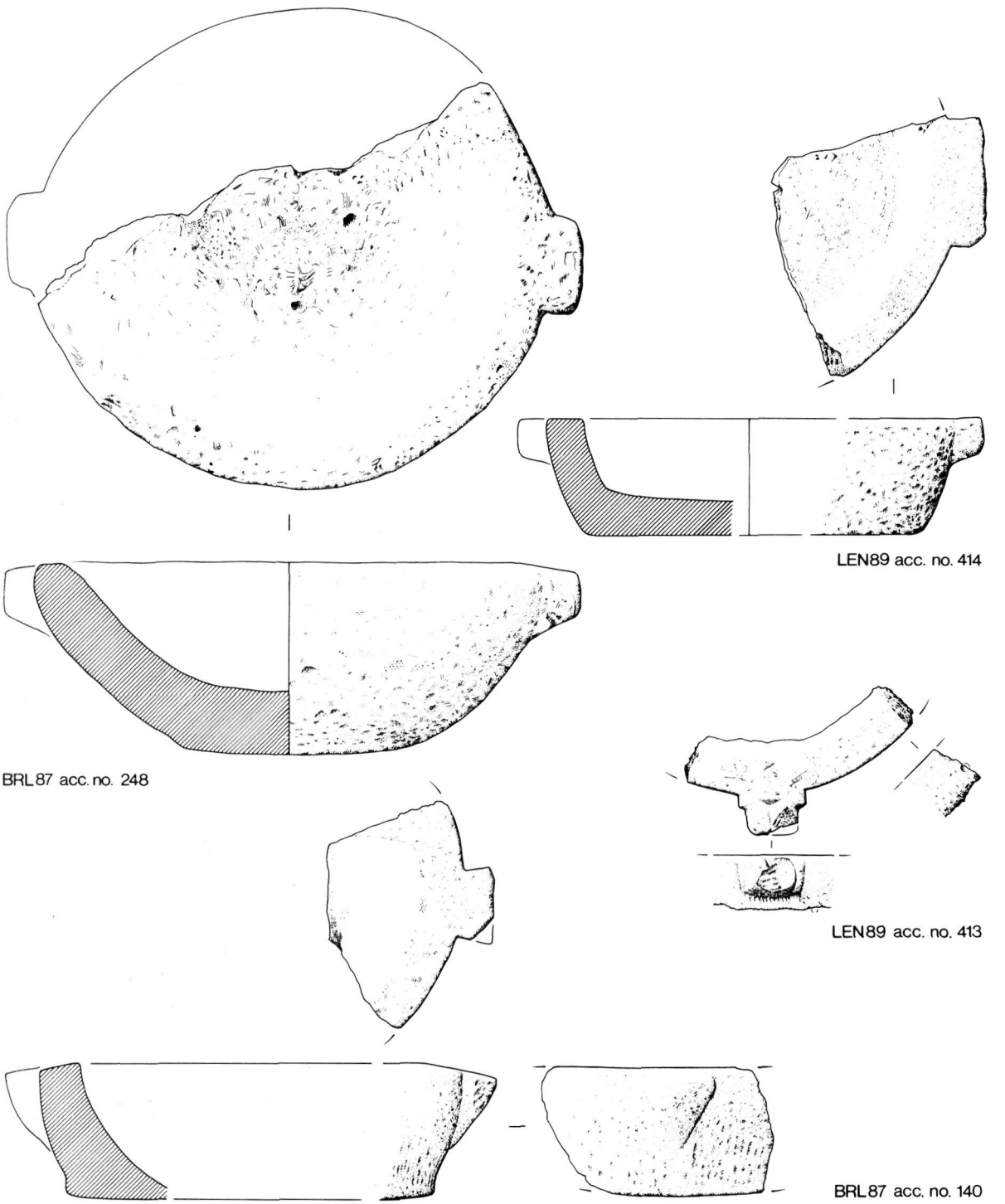

Fig 48. Mortars from other sites in London: 22–5 Birchin Lane BRL87 <248>, BRL87 <140>; Leadenhall Street LEN89 <413>, LEN89 <414> (scale 1/4).

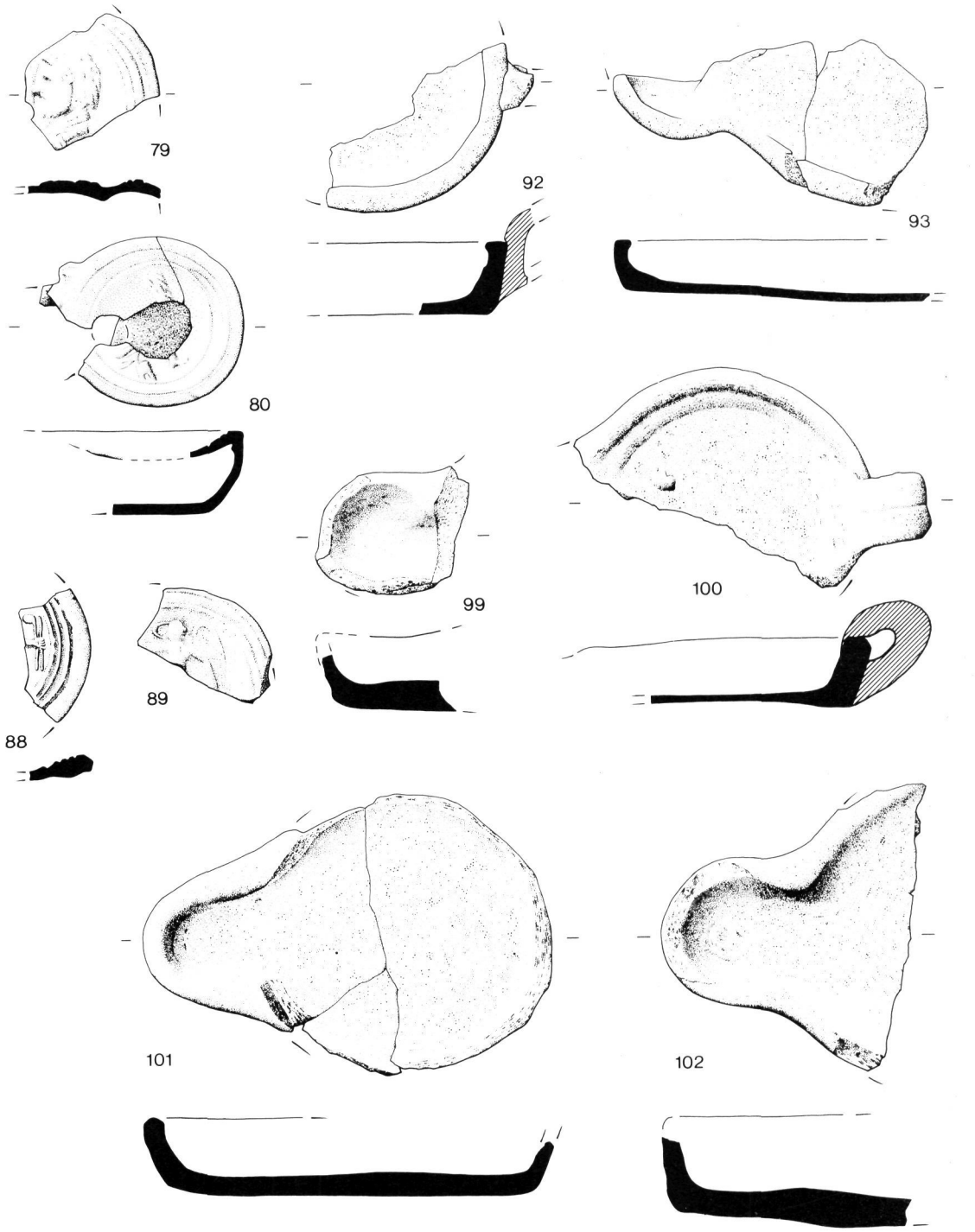

Fig 49. Lamps Nos 79–80, 88–9, 92–3, 99, 100, 101–2 (scale 1/2).

104. [9911] <2888> As No. 103

105. [9868] <2875> (S12) Midden 11, Period 4, *c.* AD 80–90

106. [4114] <3029> (N29) B12, Period 5, *c.* AD 95–100

107. [4109] <3040> (B12) disuse, Midden 12, Period 4 *c.* AD 90–95

108. [4459] <3071> (N15) Well, Period 2, pre-AD 75

109. [9999] <2572> (S31) Midden, Period 2, pre-AD 75

110. [4200] <3023> (N23) B12, Period 4, *c.* AD 85–90

Ceramic figurines

111. [9803] <2053> (S22), unphased, (Fig 50). Length 73mm. Pipeclay figurine representing a lizard (*cf* Rouvier-Jeanlin 1972, no. 1114), probably from the Allier district of Central Gaul.

112. [4062] <2848> (N31) Midden 16, Period 5, *c.* AD 95–100 (Fig 50). *Unguentarium* in the form of a boar couchant, greenish-yellow glaze; Central Gaulish Glazed ware. This is part of the neck of the vase, showing the ears of the boar. The late Dr Frank Jenkins commented that the object was probably produced in the Allier district. The application of lead glaze, presumably in attempt to create a finish resembling more expensive metal vessels, was not widely practised. Dr Jenkins noted that it seems to have been the speciality of a small group of *officinae* in the area, particularly at St Remy-en-Rollet, where small vases in the form of recumbent animals of various species were produced in the early years of the Empire.

Bell

113. [4458] <1718> (N16) External surface Period 2, pre-AD 75 (Fig 51). Copper alloy. Diameter 24mm. Semi-circular; fractured suspension loop; trace of iron clapper. Typical of the small bells used in the Roman period for a variety of purposes. Sets of *tintinnabula*, were supended and used as door chimes; they sometimes had an apotropaic function, but were also frequently worn by animals.

Tools

Knives

114. [9662] <2221> (S13) B6, disuse & Midden 13, Period 4 *c.* AD 90–95 (Fig 51). Iron. Length 52mm; incomplete, blade with part of tang.

115. [4083] <904> (N31) Midden 16, Period 5, *c.* AD 95–100 (not illustrated). Iron. Length (surviving) 69mm. Blade, probably from a large cleaver.

116. [12232] <1373> (M59) B18, Period 3, *c.* AD 80–85 (not illustrated). Iron. Length 121mm. Knife or cleaver. Fragments of blade with a thickened curved back and straight edge.

117. [4120] <931> (N24) B12, Midden 12, Period 4, *c.* AD 90–95 (Fig 51). Copper alloy. Length 51mm. Handle from small knife or razor; terminal in the form of a human hand, the thumb and index finger curled over and perhaps originally holding a spherical object possibly an egg or pomegranate. The main part of the cast handle is octagonal, with faint granular decoration at the junction with the fixed iron blade, of which only a trace remains. The typically Roman hand motif at the terminal is similar to those seen on hairpins (Cool 1991,157 fig 5, nos 1,2,5,7,9). The small size of this object may suggest a personal use.

118. [9867] <1714> (S3) Midden 3, Period 2, pre-AD 75 (Fig 51). Bone. Length 39mm. Knife handle with median rib on the two broader sides; both ends damaged, one grooved to secure the blade, the other tapering to a neck. Similar to one from a Boudiccan destruction layer at Verulamium (Goodburn & Grew 1984,69,fig 29, no.259). The tang of the

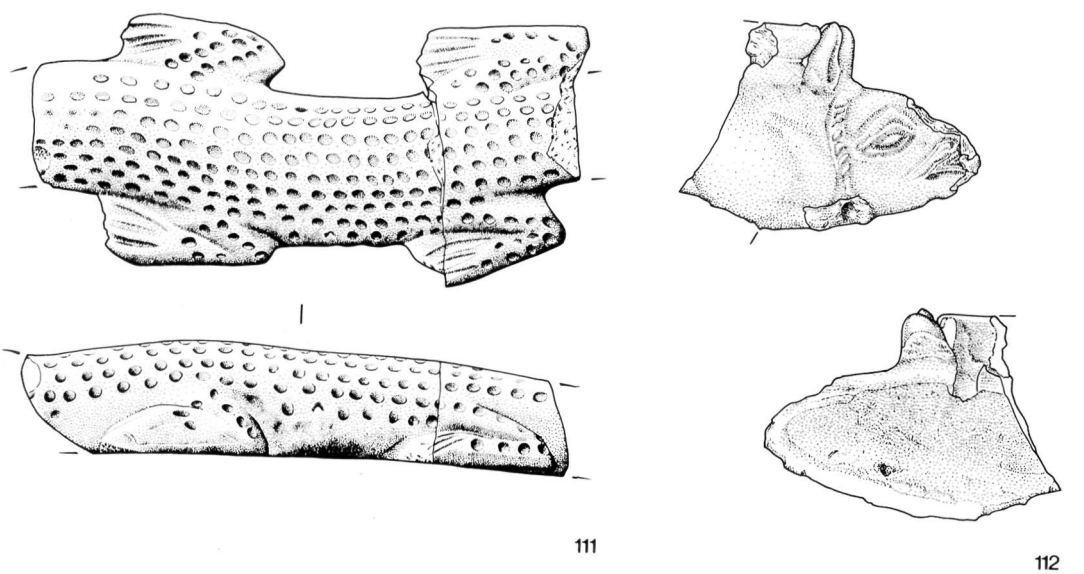

Fig 50. Figurines Nos 111–112 (scale 1/1).

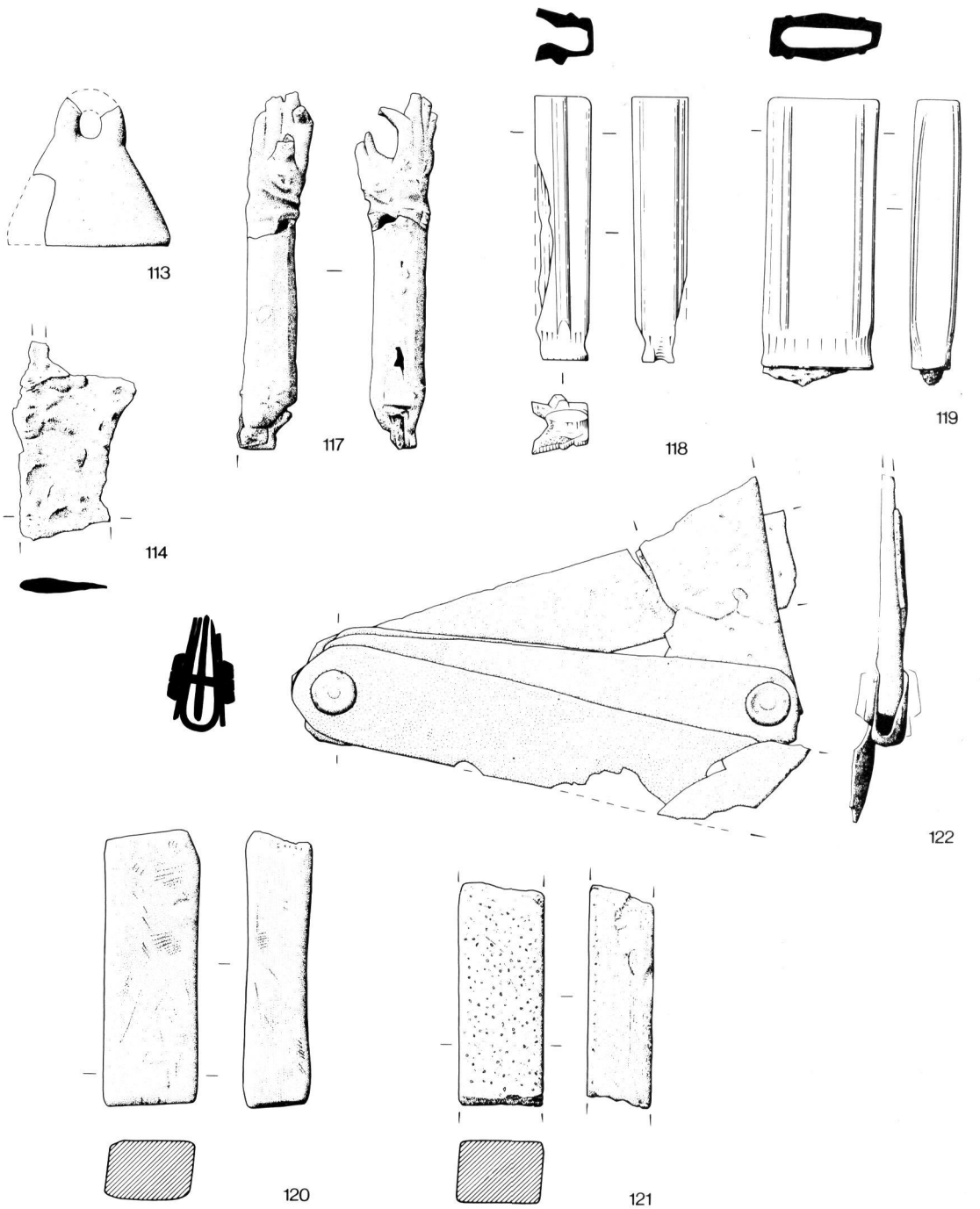

Fig 51. Copper alloy bell No.113; iron knife No.114; copper alloy handle No.117; bone handles No.118–119, hones Nos 120–121; copper alloy tool No.122 (scale 1/1).

blade would have passed through the handle and was secured at the end by a curving strip of iron. Other examples of the basic type come from Fishbourne (Cunliffe 1971,fig 67.8).

119. [4392] <1366> (N20) B12, Midden 9, Period 4, *c.* AD 85–90 (Fig 51). Bone. Length 43mm; width 16mm; thickness 7mm. Fragment of rectangular handle with trace of iron tang or blade within; decorative carving running along the edges.

Hones

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120. [4387] <1379> (N20) B12, Midden 9, Period 4, *c.* AD 85–90 (Fig 51). Stone. Length 80mm; width 26mm; height 18mm. Chert or flint from the chalk of SE England (identified by Frances Wall, Department of Mineralogy, The Natural History Museum). Rectangular, broken at one end; smooth longitudinal surfaces, slightly waisted from wear. Burnt.

The choice of a chert pebble for this hone is unusual particularly as the shaping of it would have required much work.

121. [6672]<2222> (W35) B5, Period 3, *c.* AD 80–90 (Fig 51). Stone. Length 62mm; width 23mm; height 19mm. Kentish Rag. Rectangular, broken at both ends from longer strip; smooth longitudinal surfaces with single groove on one side.

This example provides further evidence that hones of Kentish Rag were available in London by the last quarter of the 1st century. Its method of manufacture is similar to those recovered from later deposits (Jones & Rhodes 1986b, 240–41) and it is probable that the industry was established as soon as the Romans began quarrying the stone. A hone made from Kentish Ragstone recovered from Billingsgate Buildings is also dated no later than AD 100 (Rhodes 1980b, 132, no.685, fig 77).

Measuring device

122. [9722] <1496> (S17) B14, Midden 4, Period 3 (Fig 51). Copper alloy. Length 76mm. Folding tool. Two arms or blades are pivoted at one end on either side of a central sheath or bar. There is a pivot at the opposite end of of the central part, and possibly another 'blade'. The outer arms are of uniform width and section, but the poor condition of the object renders positive identification or further investigation impossible. It is tentatively identified as a measuring device.

Hammer

123. [6667] <2064> (W23) dump, unphased, *c.* AD 70–100 (Fig 52). Antler. Length 138mm; diameter 46mm. Sawn fragment of antler with a central rectangular perforation. Sections of the upper and lower surfaces are highly polished, but there are no wear marks.

Spike

124. [6517] <1511> (W17) B6 disuse, Period 4, *c.* AD 90 (Fig 52). Iron. Length 143mm. Bar with circular cross-section; upper end incomplete, tapering to a triangular section at the lower end; point broken.

Sewing equipment

Of the many objects associated with the manufacture of textiles and clothing only needles are represented in the 1st-century levels.

125. [9803] <1375> (S22), unphased, AD 65–120 (Fig 52). Copper alloy. Incomplete. Spatulate head and rectangular eye as Crummy Type 2, (1983, 65, no. 1977, fig 70). Mid 1st century onwards.

126. [12024] <291> (M6) dump, unphased, AD 70–100 (not illustrated). Copper alloy. Length 105mm, almost complete.
Rectangular eye, fractured at the point.

127. [9922] <1441> (S36) B16, Period 3, *c.* AD 80 (not illustrated). Copper alloy. Length (incomplete) 38mm.
Shaft fractured at the base of the eye.

128. [9146] <2529> (S45) Basilica construction level (Fig 52). Copper alloy. Length (unbent) 118mm. Needle of unusual type with an elongated pointed head and two long rectangular eyes, set at right angles to each other. The shaft is bent, perhaps deliberately, and thickens slightly below the mid-point; tip fractured. This is clearly an implement of specific purpose. The double eye indicates that thread was held under tension and the sharp head must be functional. Its use in leather working is an obvious possibility.

129. [12240] <2044> (M60) B18 demolition, Period 4, *c.* AD 90 (Fig 52). Bone. Length 134mm; incomplete. Double pierced eye, *cf* Colchester (Crummy 1983, 65]. Type found from the mid 1st century onwards.

Weights and measures

Balance

130. [4246] <1180> (N25) B12, Midden 15, Period 5, *c.* AD 95–100 (Fig 53). Copper alloy. Length 255mm. Steelyard or balance; one arm, circular in section with a central suspension loop. The surface is much pitted and there is no trace of any markings or measurements, although decorative moulding is visible by the suspension ring.

Steelyard

131. [9722] <1493> (S17) B14, Midden 4, Period 3, *c.* AD 75 (Fig 53). Copper alloy. Length 49mm. Fragment of one arm of circular section, terminating in a conical knob; no traces of markings. The general type is well known with fine examples in the London collections and some from recent excavations including Newgate Street (GPO [8998]<36421>), also from a Flavian level.

Weights

132. [4054] <851> (N28) B10, Period 5, *c.* AD 95–100 (Fig 53). Copper alloy. Diameter 21mm; height 13mm; weight 26.3gm. Circular pan weight with flattened top and base.

133. [9999] <1715> (S31) Midden, Period 2, pre-AD 75 (Fig 53). Copper alloy. Diameter 23mm; height 33mm.
Cylindrical weight with small circular projection on the upper surface, probably for suspension.

Objects associated with writing

Besides seal boxes used for the sealing of documents, the site yielded evidence for literacy in the form of iron styli.

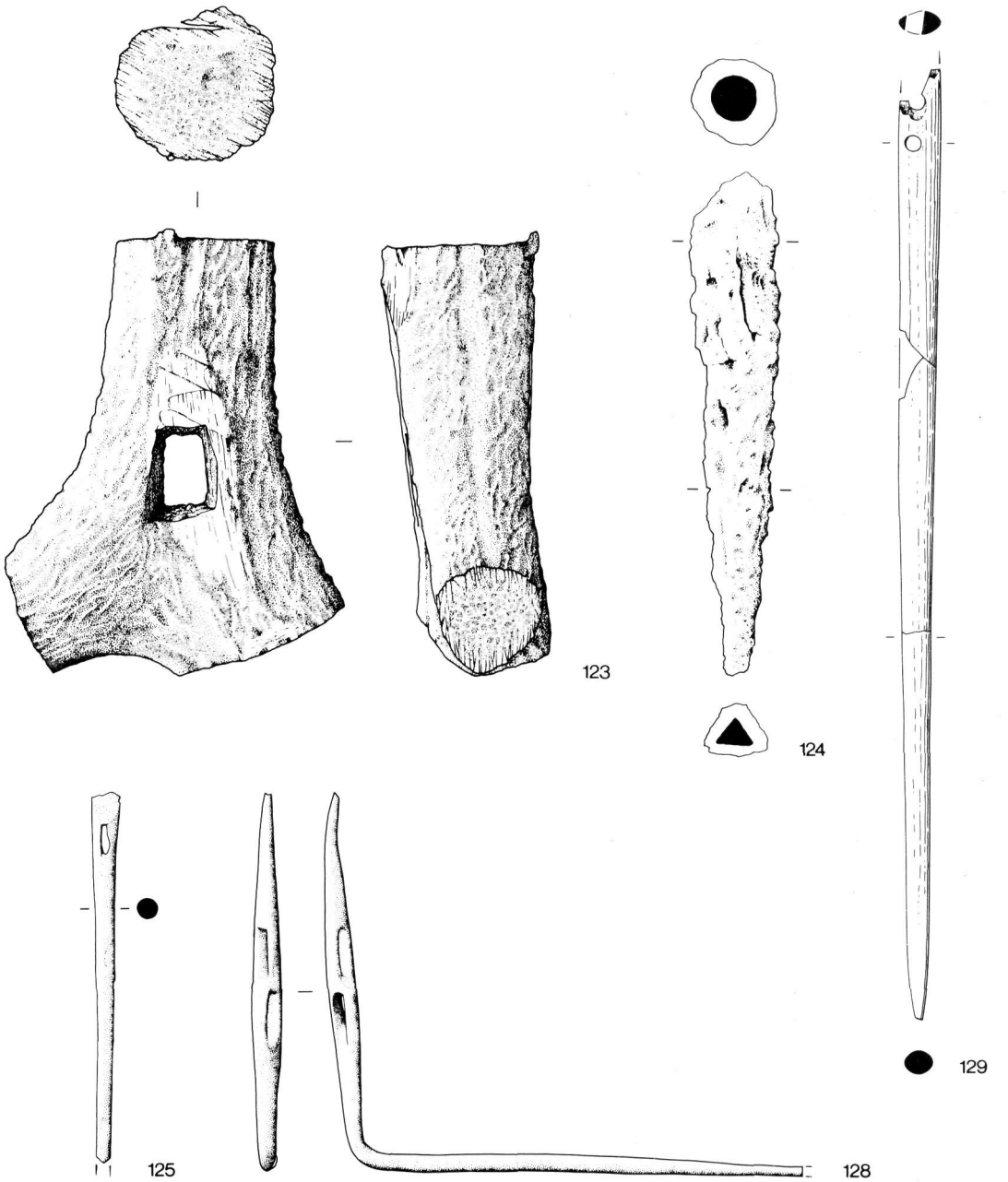


Fig 52. Antler hammer No.123; iron spike No.124 (scale 1/2); copper alloy needles Nos 125,128; bone needle No.129 (scale 1/1).

Seal boxes

134. [4263] <1224> (N24) B12, Midden 12, Period 4, *c.* AD 90–100 (Fig 53). Copper alloy. Diameter 17mm. Circular base with four holes. The bases of two similar boxes came from unstratified contexts in the northern area <1310>, <758> and may have been from either the 1st or 2nd-century buildings. An enamelled leaf-shaped example <241> is of 2nd-century date.

135. [3766] <451> (N33) Road make-up, AD 100+ (Fig 53). Copper alloy. Diameter 18mm. Circular base with five holes and part of hinge.

Styli

136. [4093] <949> (N31) Midden 16, Period 5, *c.* AD 95–100 (Fig 53). Iron. Length 120mm. Shaft with circular

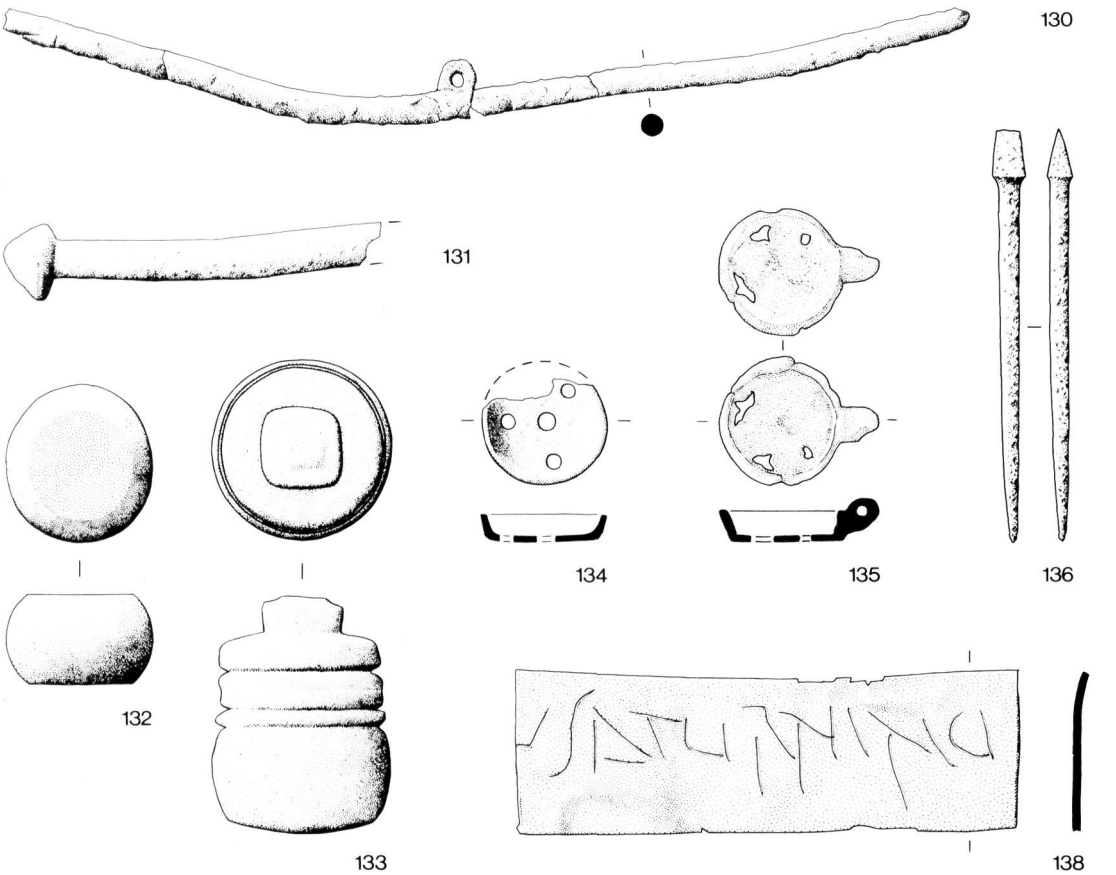


Fig 53. Copper alloy balances No.130–31, weights Nos 132–3, seal boxes Nos 134–5; iron stylus No.136; lead strip No.138; (scale 1/1, except No.136, 1/2).

section, one end tapering to a point (incomplete), the other terminating in an eraser, Manning Type 1 (1985,85).

137. [6586] <1486> (W23), Dump, unphased *c.* AD 70–100 (not illustrated). Iron. Length (surviving) 78mm. Incomplete. Type 1 (Manning,1985,85) without a shoulder between the circular sectioned shaft and the point. Eraser missing.

Inscribed strip

138. [4352] <1336> (N19) Pit, unphased, AD 70–100 (Fig 53). Lead. Length 67mm. Strip inscribed with the name SATVRNINVS.

Gaming pieces

Gaming pieces are found in a variety of materials, some purpose-made, (bone and glass), others perhaps improvised, as the ceramic examples Nos 152–5, or one from a later level made from window glass (No.151). For discussion of the types of board game played see MacGregor 1985, 132.

139. [4078] <883> (N27) B12, Period 3–4, *c.* AD 80–90 (Fig 54). Bone. Diameter 19mm. Plain disc, polished on both sides with central lathe indentation and bevelled edges. Crummy Type 1 (1983, 91).

140. [4246] <1263> (N25) B12, Midden 15, Period 5, *c.* AD 95–100 (Fig 54). Bone. Diameter 19mm; as No.139.

141. [4293] <2031>(N24) B12, Midden 12, Period 4 *c.* AD 90–95 (not illustrated). Bone. Diameter 19mm; as No. 139.

142. [1345] <11> (D6) Dump, unphased, AD 70–100 (Fig 54). Glass. Diameter 13mm. Blue.

143. [3974] <971> (N31) B12 Midden 16, Period 5, *c.* AD 95–100 (Fig 54). Glass. Diameter 16mm. White.

144. [4408] <2816> (N14) B10, Period 3, *c.* AD 80 (Fig 54). Glass. Diameter 20mm. Blue

145–147. [6222] <2039–41> (W6) (not illustrated). Glass. External surface, unphased. Diameter 17–18mm. Black.

148. [6222] <1977> (W6), as 145–7, (Fig 54). Glass. Diameter 17mm. Blue

149. [9941] <2373> (S36) B16, latrine, Period 3, *c.* AD 80 (Fig 54). Glass. Diameter 12mm. White

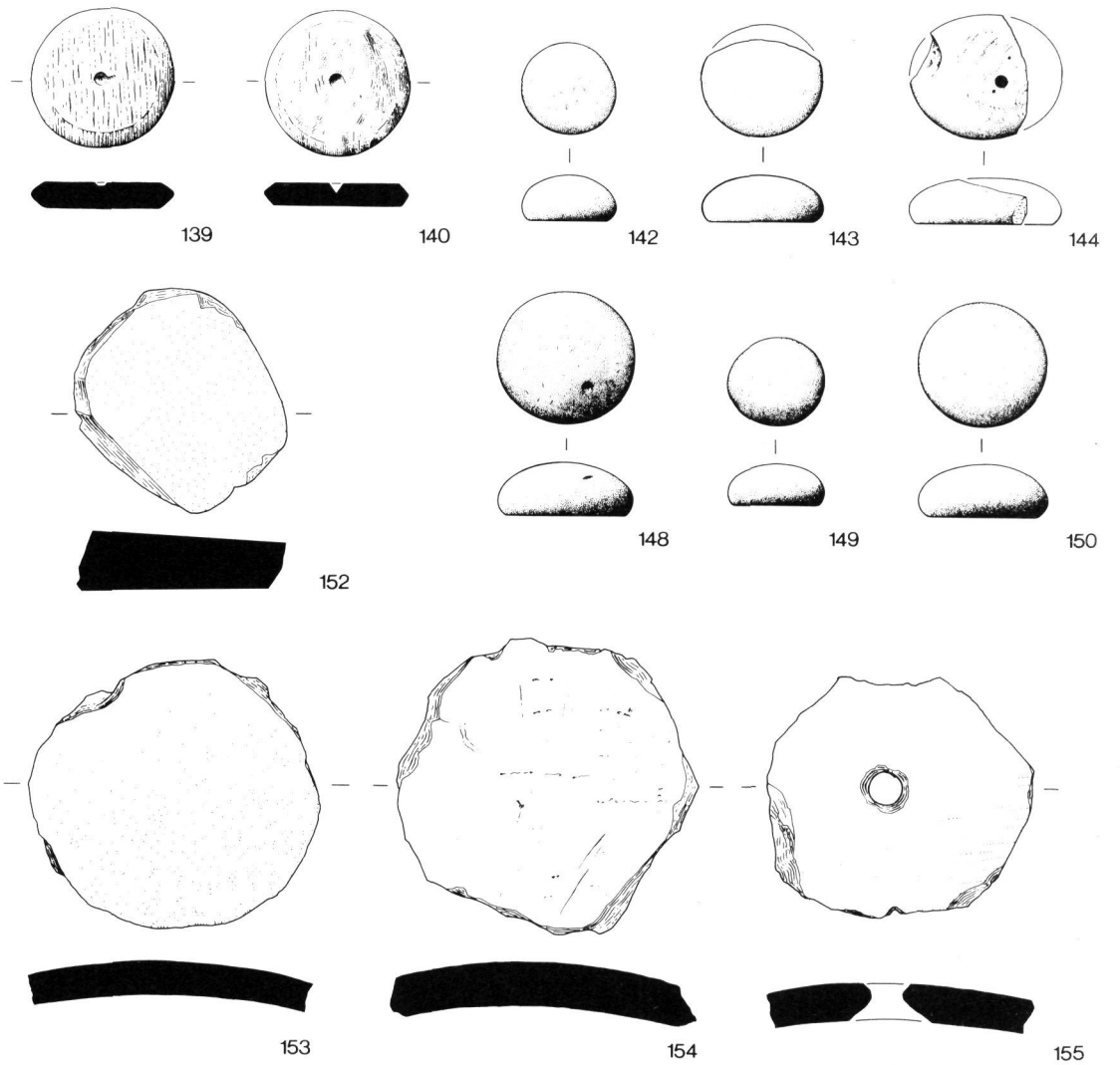


Fig 54. Bone counters Nos 139–40; glass counters Nos 142–4,148–50; ceramic counters Nos 152–5 (scale 1/1).

150. [9980] <2406> (S11) B6, Period 3, *c.* AD 85 (Fig 54). Glass. Diameter 17mm. Black.

151. [6407] <2437> (W39) Basilica construction (not illustrated). Glass. Fragment of window glass grozed all round and reused as counter.

152. [9895] <2867> (S4) Dump, Period 2, pre-AD 75 (Fig 54). Ceramic. Diameter 23–27mm. Roughly shaped from body sherd of South Gaulish samian ware vessel.

153. [12242] <3057> (M58) B7 disuse, Period 3, *c.* AD 85 (Fig 54). Diameter 34–37mm. Roughly shaped from body sherd of Alice Holt ware jar.

154. [12242] <3058> (M58) B7 disuse, Period 3, *c.* AD 85 (Fig 54). Glass. Diameter 36–38mm. As No.153

155. [12242] <3059> (M58) B7 disuse, Period 3, *c.* AD 85 (Fig 54). Ceramic. Diameter 30–35mm; diameter of hole 4mm; weight 6.5gm. As above. The centre is pierced with a hole, mainly drilled from the inside of the sherd. Frances Pritchard comments that the object is unlikely to be a spindle whorl, being too light (Barber 1991,52), and the hole too small for use with the usual bone or wooden spindle (Wild 1970,127, table F). Additionally it was found with Nos 153 and 154.

Fittings

Locks and keys

156. [9783] <2012> (S38) Midden, unphased, (Fig 55). Copper alloy. Lock bolt. Terminal with rectangular and triangular perforations for use with a tumbler-lock slide key as No.158.

157. [4418] <1366> (N13) B9, Period 3, *c.* AD 75 (Fig 55). Copper alloy. Lock pin, incomplete. Circular terminal and rectangular shank fractured above a perforation; used as a box fitting, often for fixing the lock plate.

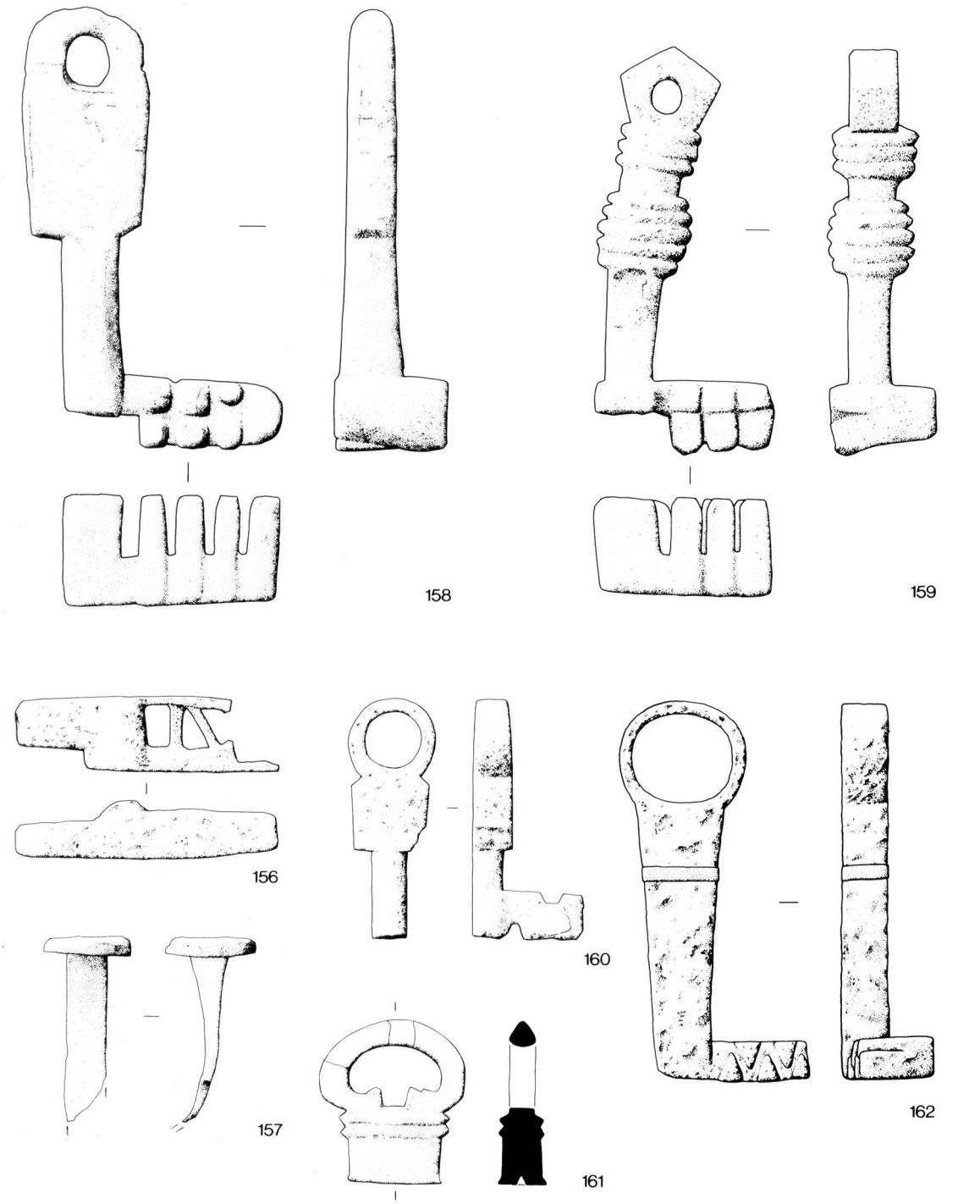


Fig 55. Copper alloy locks and keys Nos 156–61; iron No.162 (scale 1/1).

158. [6366] <1320> (W31) external surface, unphased AD 70–100 (Fig 55). Copper alloy. Length 72mm. Tumbler lock slide key of characteristic form. Heavy rectangular-sectioned handle with circular eye set into the flattened upper part; seven circular teeth on a straight bit.

159. [9577] <1392> (S35) Midden 5, Period 3, *c.* AD 75–80 (Fig 55). Copper alloy. Length 68mm. Tumbler lock slide key; six circular teeth on a rectangular bit. The handle, which has a circular eye set into a pentagonal terminal, has two zones of moulded decoration.

160. [4317] <1283> (N27) B12, Period 3–4, *c.* AD 80–90 (Fig 55). Copper alloy. Length 37mm. Lever lock key. Rectangular bit set to one side of the stem, which is hollow and fits over a pivot in the lock. Lever lock keys are less common than slide keys and this one is of a particularly early date.

161. [4109] <905> (N24) B12, Midden 12, Period 4 *c.* AD 90–95 (Fig 55). Copper alloy. Length 25mm; width 23mm. Terminal from a key handle. D-shaped hoop with mouldings at the top of the short shank (8mm); small hole at the lower end where the handle was attached.

162. [12270] <1518> (M60) B18 demolition, Period 4, *c.* AD 90 (Fig 55). Iron. Length 60mm. Tumbler lock slide key with three triangular teeth on the rectangular bit. The handle has a circular terminal below which is an inlaid strip of non-ferrous metal.

163. [4252] <1182> (N26) B12, Period 3–4, *c.* AD 80–90 (not illustrated). Iron. Length 80mm. Handle.

Mounts

164. [4385] <1359> (N18) B10, Period 3, *c.* AD 80–85 (Fig 56). Copper alloy. Diameter 35mm. Disc mount, possibly a leather fitting; circular plate with concentric decoration and raised central boss.

165. [1291] <565> (D27) B8 disuse, Period 3 *c.* AD 85 (Fig 56). Copper alloy. Diameter 20mm. Disc mount with concentric moulded decoration. Leather fitting for belt or harness; no trace of the attachment remains.

166. [4120] <3188> (N24) B12 Midden 12, Period 5 AD 90–95 (Fig 56). Copper alloy. Length 128mm; width at centre 15mm
Mount or handle from casket or furniture, consisting of a shaped flat plate, becoming wider at the mid point where it is pierced with a circular hole. At each end a hooked terminal ends in a decorative lozenge-shaped knob.

167. [4268] <1286> (N19) Pit, unphased *c.* AD 70–100 (Fig 56). Copper alloy. Diameter 20mm. Mount with lion head in high relief; iron shank. 1st century type (*cf* Skeleton Green, Borrill in Partridge, 1981,315) frequently used on the lock plates of burial caskets.

168. [9724] <1362> (S20) B10, Period 3, (Fig 56). Copper alloy. Length 20mm. Rectangular plate with bosses on each corner secured by four rivets on the reverse (one missing).

169. [6715] <1522> (W2) Tree hole, Period 2, AD 64+ (Fig 57). Iron. Length 237mm. Hooked binding or mount.

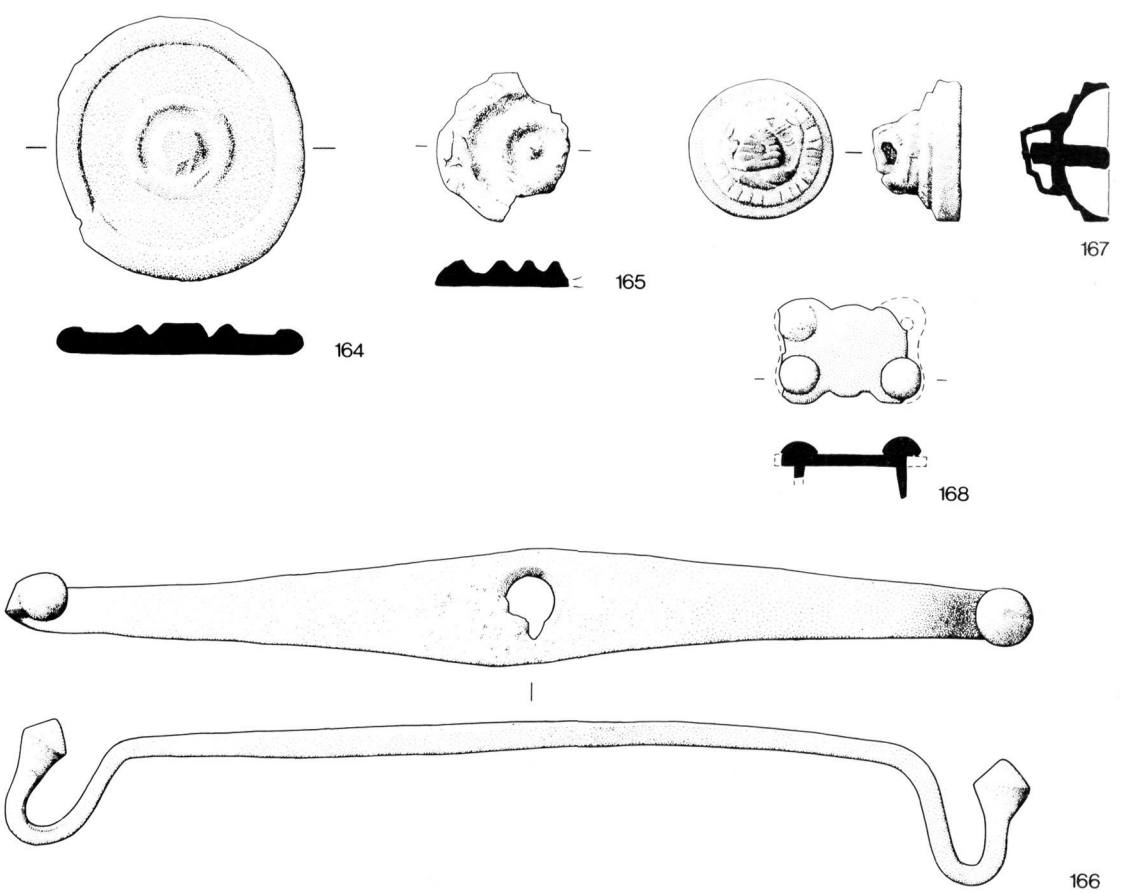


Fig 56. Copper alloy mounts Nos 164–8 (scale 1/1).

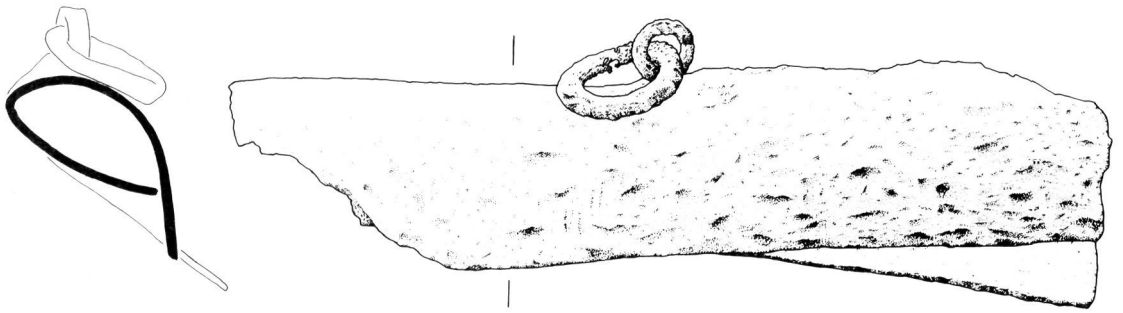


Fig 57. Iron cart fitting No.169 (scale 1/2).

The large plate is curved, forming part of a semi-cylindrical binding of a distinctive type which has an upturned hook at one end and an iron ring riveted at the central point. Here the ring is visible on the radiograph but the hook is missing. Similar mounts, thought by Manning (1984, 149, fig 35, no. 45) to be cart fittings, have been found elsewhere in London, and from other Romano-British sites such as Gorhambury, Dorchester on Thames, and Silchester. Objects of apparently similar function, although differing in detail, have been found in Germany. It is possible that they were used in the attachment of awnings.

Chain

170. [4481] <1385> (N12) external surface, Period 2, pre-AD 75 (not illustrated). Copper alloy. Fragment; loop-in-loop.

Ferrules

171. [6621] <1477> (W30) B5, Period 3, *c.* AD 80–90 (Fig 58). Copper alloy. Diameter 10mm; height 15mm. Collar ferrule encircled by narrow grooved decoration.

172. [4246] <1199> (N25) B12 Midden 15, Period 5, *c.* AD 95–100 (not illustrated). Iron. Length 60mm; width 41mm. Collar ferrule.

Double-spiked loop

173. [4109] <929> (N24) B12, Midden 12, Period 4, *c.* AD 90–95 (Fig 58). Copper alloy. Length 52mm. One arm fractured.

Loop headed spikes

174. [6586] <1504> (W23) Dump, unphased, *c.* AD 70–100 (Fig 58). Iron. Length 87mm.

175. [9922] <1510> (S36) B16, Period 3, *c.* AD 80 (Fig 58). Iron. Length 46mm. Triangular looped head and part of stem.

Staples

176. [4525] <3148> (N3) Quarry, Period 2, pre-AD 75 (Fig 58). Copper alloy. Length 11mm; width 11mm. Small rounded head, two sharp points.

177. [4120] <960> (N24) B12, Midden 12, Period 4, *c.* AD 90–95 (Fig 58). Iron. Length 39mm. U-shaped.

Rings

These had a variety of uses, both functional and decorative, for example on boxes and caskets. Larger examples could have been parts of harness fittings.

178. [3842] <552> (N9) Post holes, Period 2, AD 64+ (Fig 58). Copper alloy. External diameter 23mm; internal 18mm. Plain ring with D-shaped section, perhaps a plain finger ring but more probably a fitting.

179. [3842] <559> (N9) Post holes, Period 2, AD 64+ (not illustrated). Copper alloy. Diameter 20mm. Plain hoop, D-shaped section.

180. [4024] <777> (N28) B10, Period 5, *c.* AD 95–100 (not illustrated). Copper alloy. Diameter 18mm. Plain ring; circular sectioned wire.

181. [4109] <941> (N24) B12, Midden 12, Period 4, *c.* AD 90–95 (Fig 58). Copper alloy. Diameter 23mm. Half remaining, worn on one side.

182. [4114] <928> (N30) B12, disuse, Period 5, *c.* AD 95–100 (Fig 58). Copper alloy. Diameter 24mm. Ring-shaped fitting with thick D-shaped section.

183. [6703] <1489> (W2) Tree hole, Period 2, AD 64+ (not illustrated). Copper alloy. Diameter 45mm. Plain ring with circular section, possibly a cheek piece or other harness fitting.

184. [9938] <1506> (S10) B6 annexe, Period 3, *c.* AD 85 (not illustrated). Copper alloy. Diameter 24mm. Fitting, half remaining.

Studs

185. [12240] <1439> (M60) B18 demolition, Period 4, *c.* AD 90 (Fig 58). Copper alloy. Stud or finial. Dome headed with decorative flange or moulding.

186. [12244] <1360> (M58) B7 disuse, Period 3, *c.* AD 84 (not illustrated). Copper alloy. Diameter 17mm; flat head.

187. [10021] <2530> (S3) Midden 3, Period 2, pre-AD 75 (not illustrated). Copper alloy. Diameter of head 10mm; flat round head.

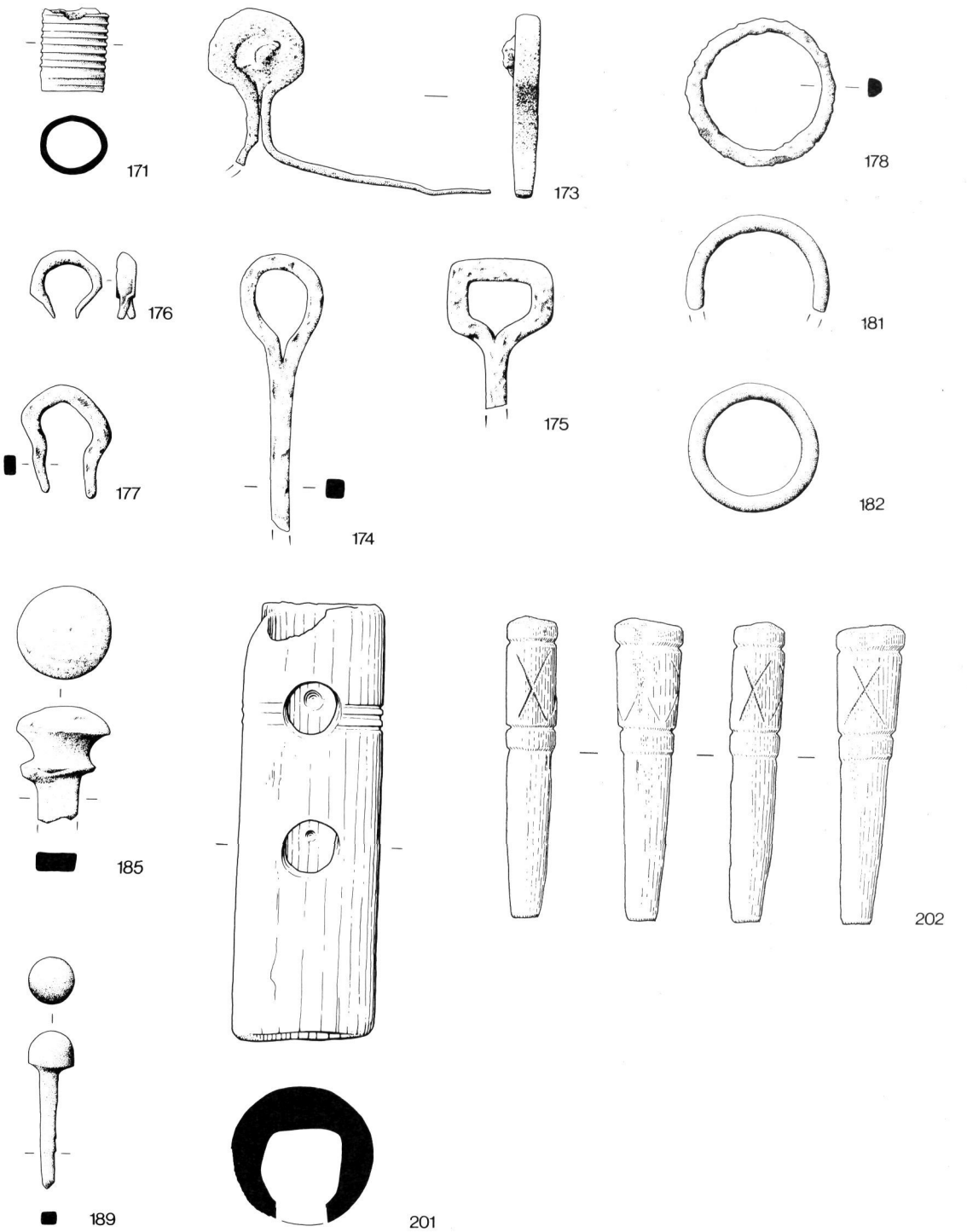


Fig 58. Miscellaneous fittings: copper alloy Nos 171, 173, 176, 178, 181–2, 185, 189; iron 174–5, 177; bone hinge No.201, peg No.202 (scale 1/1).

188. [4099] <932> (N31) Midden 16, Period 5, *c.* AD 95–100 (not illustrated). Copper alloy. Diameter of head 9mm; small spherical head.

Dome-headed studs (used for decorative finishes)

189. [12256] <1503> (M58) B7 disuse, Period 3, *c.* AD 85 (Fig 58). Copper alloy. Length 25mm; diameter of head 18mm.

190. [4246] <1301> (N25) B12, Midden 15, Period 5, *c.* AD 95–100 (not illustrated). Copper alloy. Incomplete.

191. [6768] <2210> (W20) External dump Period 2, pre-AD 75 (not illustrated). Copper alloy. Diameter of head 21mm.

192. [9986] <1438> (S10) B6, annexe, Period 3, *c.* AD 85 (not illustrated). Copper alloy. Length 10mm; diameter of head 12mm.

Straps

As would be expected on any Roman site, the excavations produced a large quantity of unidentified ironwork, mostly poorly preserved. On examination much was found to be miscellaneous strapping, used for a variety of purposes, generally for reinforcement of wooden objects. Accessioned items that are clearly fragments of strapping or binding are listed below, none are illustrated.

193. [6591] <1508> (W27) External dumps, Period 2, pre-AD 75

194. [9894] <2220> (S4) Dump, Period 2, pre-AD 75

195. [9722] <1509> (S17) B14, Midden 4, Period 3, *c.* 75

196. [1367] <455> (D26) B8, Period 3, *c.* AD 80

197. [4109] <937> (N24) B12, Midden 12, Period 4, *c.* AD 90–95

198. [4142] <1048> (N28) B10, Period 5, *c.* AD 95–100

199. [9674] <2066> (S13) B6 disuse & Midden 13, Period 4, *c.* AD 90–100

200. [9647] <1340> (S25) External surface, unphased.

Hinge

201. [3987] <778> (N28) B10, Period 5, *c.* AD 95–100 (Fig 58). Bone. Length 67mm; diameter 22mm. Two circular tenon holes and incised grooves at one end; tube irregularly shaped internally. From chest or casket.

202. [9981] <2020> (S8) B6, Midden 8, Period 3, *c.* AD 85 (Fig 58). Bone. Length 47mm. Tapering peg with grooved decoration on the head.

Rivet

203. [4221] <1135> (N15) Well, Period 2, pre-AD 75 (not illustrated). Lead. Length *c.* 11mm. Repair for broken samian dish.

Glass

John Shepherd

Introduction

The Leadenhall Court glass vessel assemblage totalled 1,884 fragments of which 852 (45.2%) could be identified by form; 1,032 fragments (54.8%) remained unidentifiable. Of the total, 1,110 vessel glass fragments (58.9%) were recorded from deposits directly associated with the pre-Basilica buildings and their middens. Five hundred and twenty four of these (47.20%) could be assigned to specific forms or vessel types while 586 (52.80%) remained unidentifiable. The remainder of the assemblage came from contexts associated with the Basilica and later levels.

In addition to vessel fragments, 71 glass objects came from the site. These include eight stirring rod fragments, 25 melon beads, four annular beads, 17 gaming counters and 17 window glass fragments. Thirty two (46.5%) of these glass objects came from pre-Basilica levels and are catalogued in the previous section. These are three stirring rod fragments, 12 melon beads, three annular beads, eight gaming counters and six window glass fragments (the window glass fragments are not catalogued).

In general most of the glass assemblage was very fragmentary and many pieces were, no doubt, residual in their respective contexts. This is borne out by the presence of a large number of fragments contemporary with those catalogued and discussed here (*ie* dating from the second half of the 1st century to the first half of the 2nd) in post-Roman (even post-medieval) contexts. The construction of the Basilica, however, effectively sealed earlier habitation and occupation. This fact alone focuses our attention on the glassware in use prior to this large-scale redevelopment of the area. In addition, the fact that the buildings recorded there were found with their associated middens only enhances our interest.

Before examining the range of glassware in use in this region of *Londinium* before the layout of the Basilica, and before noting, albeit tentatively, the variations in the nature of the assemblages between one building and another, the state of survival of a number of vessels from these middens (especially Midden 5, Figs 9,10,59) should be noted.

As stated above the majority of the glass from

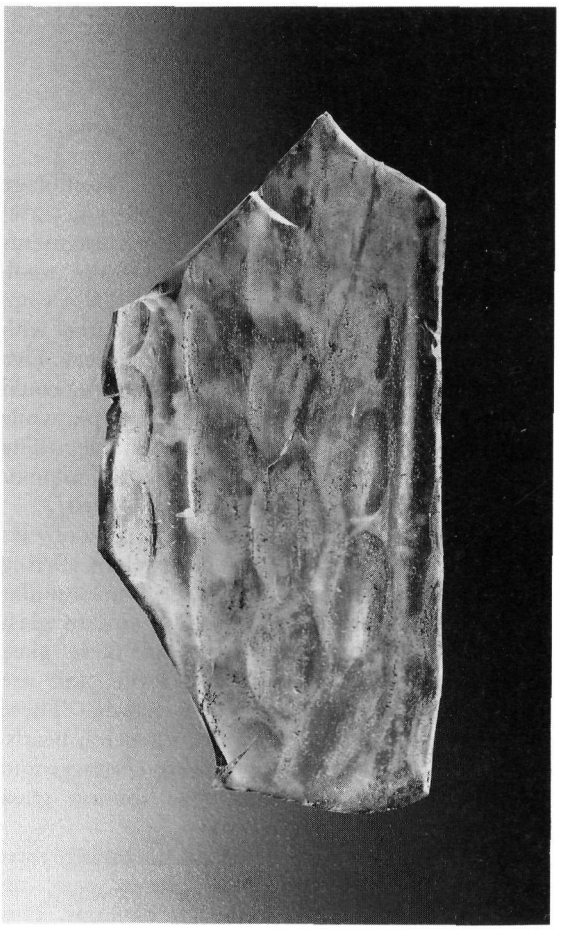


Fig 59. Detail of tall conical beaker with wheel-cut facets, No.73 (scale 1/1).

this site was very fragmentary but, exceptionally, there are a small number of broken but partially reconstructable vessels from the horizontal stratigraphy which comprise the middens. Although this in itself is of intrinsic value, the fact that so much of these vessels survived to be recorded at all is a very interesting phenomenon. Complete glass vessels are frequently discovered as part of grave furniture; they are often found in primary fillings of ditches, pits or wells and they are known, though less frequently, in contexts which have been sealed as a result of a natural disaster (*eg* by volcano at Pompeii and Herculaneum and by earthquake at Cosa).

The common factor in each of these cases is that the vessels were not to be, or could not be, recovered and their excellent preservation contrasts dramatically with the fragmentary state of the glass assemblages from other contexts, features and sites. It is believed that this extreme contrast in preservation is due to the broken glass being removed from the archaeological record in antiquity for recycling as cullet, a practice confirmed by contemporary literature.

Why, then, the good state of preservation in the Leadenhall middens? No other group of glassware deviates from the general model described above, so why was there apparently no attempt to recycle these vessels? The vessels themselves offer no explanations other than the logical suggestion that their presence in the middens was due to single and immediate actions such as the indiscriminate emptying of properties nearby. Perhaps the explanation is more simple. At the time when the vessels were no longer required, there may have been no organised collection of glass for recycling. Although there is evidence of 1st-century glass working at Watling House (Shepherd 1986, 141–3) this appears to be a small-scale operation. Intensive glass working does not appear to begin until the 2nd century.

The range of vessels

It is not the intention here to discuss the known history of each type of vessel recorded from the pre-Basilica levels but to highlight the main features of the supply of glassware to this part of *Londinium* during this period. These can be summarised as follows.

First, the volume of vessel glass from the site as a whole far exceeds that for other large scale excavations in the City of London (for example, Newgate Street, GPO75 and Watling Court, WAT78). It is probable that the midden deposits have contributed to this total figure, as they certainly do for the pre-Basilica levels alone, and so, if this is indeed the case, it would be unwise to compare directly the compositions of each assemblage. It is evident, however, that glass vessels were in regular supply and use at Leadenhall Court.

Secondly, the range of glass vessels satisfied a number of functions. Fine, high quality tableware is represented by ground and polished colourless beakers, cups and dishes. Good quality tableware is represented by horizontally wheel-cut cups and beakers in natural metals as well as the ubiquitous 1st century pillar-moulded bowl and equally well-attested one-handled, bulbous and conical-bodied

flagons. Furthermore, a number of trefoil-mouthed pouring jugs, wide-mouthed jars, free-blown plates and mould-blown decorated bowls and sports cups, also in naturally coloured metals but of a lower quality than the above, complement those finer vessels in the living and dining quarters of the buildings in this region.

At the opposite end of the functional scale, the large number of fragments of small cosmetic phials and cylindrical and prismatic bottles attest to the utilitarian function of glassware in the area. Such vessels would have performed as the storage or in-transit containers for a whole range of liquid and semi-viscous commodities (beverages, foodstuffs, cosmetics, medicines and ointments) in varying weights, measures and values, both liquid and dry.

Thirdly, the dating for the vessels from this site conforms with our current knowledge of glassware in the province of Britain. The naturally coloured vessels, those in green, blue and greenish-blue tints, predominate here as they do in every other assemblage in the Roman Empire. Special note should be made here, however, of those glasses where the glassworker has coloured or decolourised the glass metal.

The cast polychrome and monochrome vessels, in general pre-Neronian in manufacture and use, are few at Leadenhall Court and those recorded are very fragmentary and abraded. This might suggest that their presence is residual and should not indicate usage during the later decades of the 1st century and the early 2nd century. Similarly, free-blown monochrome vessels, which fade from circulation during the second half of the 1st century, are also few.

The highly decorated ground and polished colourless vessels, regarded as expensive glassware, first appear in the Roman world during the third quarter of the 1st century at the time when glassware in strong colours was declining in fashion. Indeed, the preference for this metal may have brought about this decline, for contemporary sources towards the end of the 1st century indicate the high regard in which colourless glass vessels were held. With respect to date, their presence at Leadenhall Court is not a surprise, but they do indicate the supply of luxury goods to the buildings described here, or to their neighbours.

Finally, the incidence of individual vessels and objects in the buildings and middens should be noted. The main groups are briefly discussed below in approximate chronological order.

Period 2

The middens associated with Buildings 1–3 (W2,N4,S3) produced a minimum of five vessels, some of high quality. The eight fragments included one from a millefiori cup or bowl (No.1) in Midden 2, while Midden 3 contained fragments of a colourless beaker with wheel-cut sinuous facet decoration (No.72), two pillar-moulded bowls (Nos 57,64) and a prismatic bottle (No.401).There were no finds from within Building 4 but an associated dump (S6) produced five fragments of glass representing at least three vessels, (214,297,537). A piece of window glass was also recovered and another was found in a contemporary feature (S31). Of the remarkably small number of window glass fragments, 18 from the whole site, representing less than 1% of the entire glass assemblage, six came from the 1st-century levels. As the early buildings were unlikely, from the evidence of their construction, to have had glazed windows, the window glass is likely to have come from elsewhere.

The well (N15) produced the first sizeable group of glassware on the site, comprising 48 vessel fragments. Containers are the most common items present; among other pieces are five pillar-moulded bowls, one of dark blue glass (No.9). All could date to before AD 75. In an attempt to analyse the glass assemblage by functional type the relative proportions of tablewares and containers were examined in each phase, and it appears that containers predominated in Period 2. This is not, however, based on a valid quantification method as used in ceramic studies.

Period 3: Urban expansion

Overall, there were more tablewares in the groups belonging to this and the succeeding periods. Building 5 was occupied until the end of the sequence, but most of the glass vessels came from the later levels. With the exception of a pillar-moulded bowl (No.13), all identifiable forms were types of container.

Other strip buildings which were only partially excavated produced small groups, among which were some pieces of quality. From the demolition debris of Building 7 (M58) came part of a pillar-moulded bowl in off-white and brown marbled glass (No.8, Fig 62) datable to the mid 1st century, and another mould-blown bowl decor-

ated with a geometric pattern (No.87, Fig 63). Only two containers, phials (Nos 262, not illustrated, and 263, Fig 67) were found. Seven vessel fragments, mainly flagons which included No.183, were recorded from Building 8 (D25,D26), with bottle fragments (324, Fig 67 and 332) in the destruction debris. A fragment of note in the small group from Building 9/11 (N13) was a piece of tubing probably from a syphon (No.143, Fig 65).

Ninety six fragments of glassware were recorded from Building 10, in all phases, covering Periods 3 to 5. This, one of the largest groups, includes a wide range of vessels of differing quality and function, although luxury glassware is scarce and fragmentary. The larger group, (63 fragments) comes from the fifth phase, but in both early and late phases storage containers, especially bottles and phials predominate. Objects of note from Period 3 include a fragment of cased glass (No.4), and a mould-blown sports cup (No.94, Fig 64). From the latest phase came an almond-decorated beaker (No.88, Fig 63) and a plate (No.99).

Although Building 6 is larger than the other structures, it only produced a small quantity of glass. Twenty three fragments of vessel glass were recorded, all naturally-coloured, and in the main, from common well-attested types, especially square and cylindrical bottles. No high-quality glassware was present. Sherds of five vessels dating to the late 1st/early 2nd century were recovered from the destruction levels (W17) and included a linear-cut cup (No.122), a jug (No.151), and a flagon (No.217). Fragments of vessel glass from Midden 13 in the contraction phase, were all naturally coloured with the exception of a fragment of blue and white marbled pillar-moulded bowl (No.7) which is residual. Considering the distinctive character of Building 6 in terms of both construction and decoration, the glass from the structure is surprisingly utilitarian, but as discussed above (p 45), the material in Midden 5 may have come from this building.

The finds from the Period 4 Midden 11 (S12) situated in an alley (Fig 12) could be associated with Buildings 5,6 or 10, but the glass assemblage is similar in composition to that from Building 6. Only one colourless vessel (No.74) was recorded. Again, bottle and phial forms predominate.

The glass from the various outhouses and their associated middens should be considered here as both could have been used by the inhabitants of several of the neighbouring structures, including Building 6. Only a small quantity of glassware was recovered from Building 14 but it represents a diverse range of vessels. These are a quality colourless beaker with sinuous facets (No.67, Figs 60, 63), a brown flagon (No.185), a blue jar or flagon (No.225), naturally coloured drinking vessels (Nos 105,137, Fig 65), a pillar-moulded bowl (No.51) and bottle fragments (Nos 257,399,423).

A wide range of vessel types of differing form and function was recovered from Midden 5 where, as discussed above, the state of survival was exceptional. Vessels included a ribbed trefoil-mouth jug (No.147, Fig 65), two plain jugs of similar form (Nos 149,150, Fig 65), a phial (No.264, Fig 67), two fragments of beaker (Nos 73 and 78, Fig 63), and part of a cylindrical bottle (No.331). A sherd of mould-blown sports cup (No.92, Fig 64) was found in redeposited midden material.

A little glassware, among which was a pillar-moulded bowl, (No.16), a flagon (No.178, Fig 66) and a bulbous-bodied jar (No.244), was found in levels associated with the use of Building 16 and external surfaces, but a much larger group came from the latrine pit (S36). This comprised a varied range, although there was little of high quality. Items include three pillar-moulded bowls (No.18, Fig 62, Nos 49, 50), a bowl made from colourless glass (No.76), two bowls or cups in natural green glass (Nos 124–5), and fragments of containers.

The remaining outbuilding, Building 21 (S37), situated east of the Building 6 annexe, yielded fragments of nine glass vessels, among them a Hofheim cup (No.102, Fig 64) and an indented beaker (No.134) as well as a small flagon or jug (No.197) and a prismatic bottle (No.406).

Periods 4 and 5

The long-lived Building 12 produced the largest glass assemblage on the site, much of it from late levels—Periods 4 and 5—with a diverse range of forms, among which containers, bottles and phials predominate. The group also contained some of the finest examples of colourless glassware, such as the skyphos (No.66, Figs 61,63), several colourless beakers (Nos 68,70,71,85), cups (Nos 107 and 119) and other pieces of high quality, such as a marbled phial (No.3, Fig 62), from Midden 10 which produced

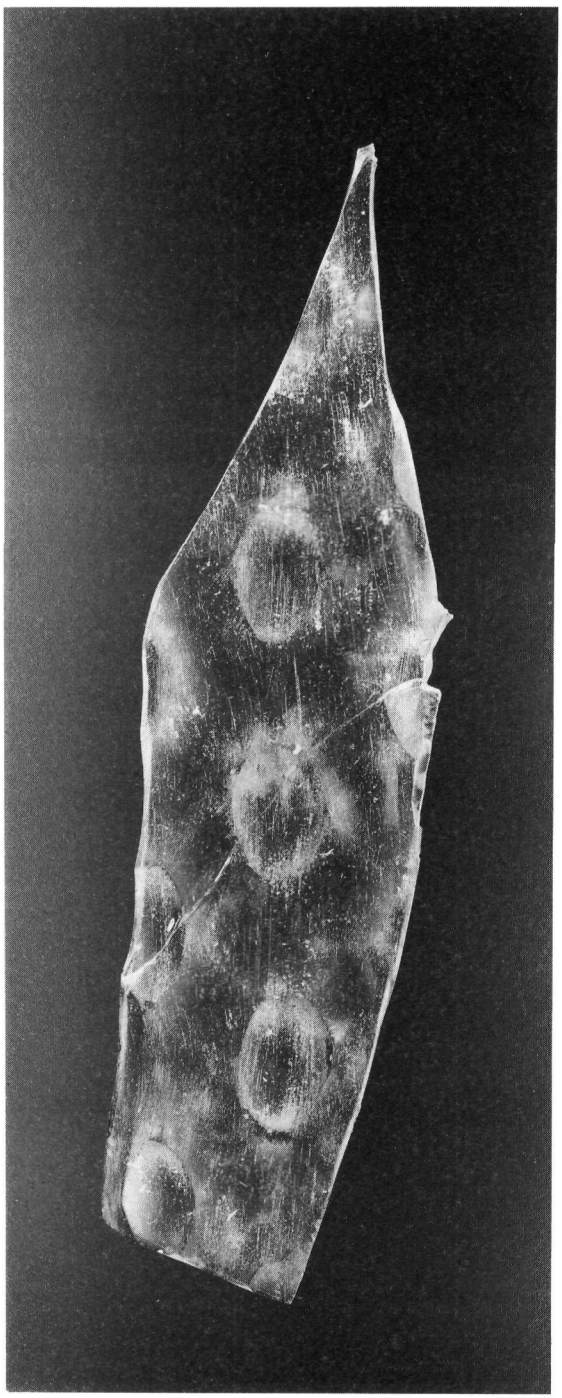


Fig 60. Detail of tall conical beaker (Isings 21) with faceted decoration, No.67 (scale 1/1).

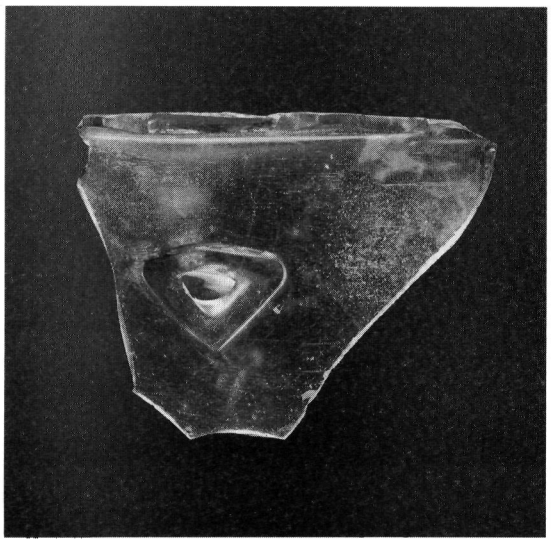


Fig 61. Detail of skyphos, Isings 39, No.66 (scale 1/1).

a large and extensive range of material. Sixteen fragments from a latrine pit (N22), mostly containers, included sports cups (Nos 96 and 98, Fig 64).

The most productive deposits were in the middens directly associated with Building 12 and material from an alley between Buildings 10 and 12 (N27). The latter contained a fragment of millefiori bowl (No.2) and a mould-blown cup (No.91) in natural blue glass, but containers again dominated the group with at least ten bottles and flagons.

Midden 12 (N24), at the east end of the truncated building, contained only one colourless vessel (No.79); drinking vessels included a sports cup (No.93, Fig 64). A small trefoil-mouth jug (No.146, Fig 65) and a phial (No.259, Fig 67) supplement the more common jar (No.176, Fig 66) and bottles.

A large group came from the latest phase of the building, most of it very fragmentary and much clearly residual. The earliest vessel from Midden 15 (N25) was part of a purple and white millefiori pillar-moulded bowl (No.5). Other vessels of quality included a a colourless bowl (No.65, Fig 63) and beakers (No.75, Fig 63, and No.27), also a sports cup (No.95, Fig 64) and pillar moulded bowls (Nos 19–21). The remainder includes at least 18 examples of containers, further examples of which (23 fragments) were found in other contexts postdating the building (N30). Forty-five fragments were recovered from the late midden (N31), mostly types of container,

but also a sports cup (No.97, Fig 64), two colourless beakers (Nos 69,135) and four pillar-moulded bowls (Nos 29,30,34,36).

The glass from the Period 5 Buildings 15 and 23 includes seven bottle fragments and several bowls, for example pillar-moulded bowls (No.15, Fig 62; Nos 46–8) and two colourless bowls (No.77, Fig 63; No.84).

Glass catalogue

The catalogue contains every fragment of glass vessel recorded in the 1st-century buildings and their associated contexts. The fragments are arranged first according to metal and technique *ie* cast polychrome, cast and free-blown monochrome and colourless and naturally coloured mould-blown, and then by form; naturally coloured plates, bowls, cups and beakers, jugs, jars, flagons, phials and finally bottles. Indeterminate fragments are listed at the end according to metal colour. All vessels are free-blown unless otherwise stated. References to Isings are to the forms given in Isings (1957). The dates given are the accepted date range for each form—all vessels described here were found in independently dated, 1st-century levels and consequently come from the earlier part of ranges which extend into the 2nd century, for example bottle forms Isings 50/51.

Colour descriptions have been abbreviated as follows:

NB Natural blue glass
NG Natural green glass
NGB Natural greenish-blue glass

Other conventions used are the same as in the finds catalogue. The catalogue for the entire site assemblage, which is differently numbered, is held in archive.

Polychrome and monochrome vessels

Nos 1–4, early to mid 1st century

1–2. [4487] <2028> (N4) Midden 2, Period 2; [4396] <2353> (N27) B12, Period 3–4. Millefiori glass (opaque yellow spiral in a green matrix) from either cups (Isings 1) or bowls (Isings 18). No.6 below is similarly decorated.

3. [4313] <1805> (N23) B12, Period 4 (Fig 62). Neck of a phial (Isings 16); marbled golden brown and opaque white.

4. [4261] <1909> (N14) B10, Period 3. Small fragment of cased glass. Vessel of indeterminate form; dark pink or purple on deep blue.

Pillar-moulded bowls (Isings 3)

Nos 5–11, Rims with part of side; mid 1st century

5. [4246] <1695> (N25) B12, Midden 15, Period 5. Purple and white millefiori glass.

6. [12035] <524> (M4) B19, Period 4. Millefiori glass, (opaque yellow in green matrix). Similar to No. 1 above but not certainly from the same vessel.

7. [9673] <2178> (S13) B6, Midden 13, Period 4. Marbled blue and white.

8. [12242] <2029> (M58) B7 disuse, Period 3 (Fig 62). Marbled off-white and brown.

9. [4494] <2749> (N15) Well, Period 2. Dark blue.

10–11. [6640] <2507> (x2) (S14) B15/23, Period 5. Body fragments; brown.

12–32. Rims and sides of an indeterminate number of pillar-moulded bowls. Mid to late 1st century.

[1228] <503> (D29) B17, Period 4, NGB, 2 ribs (Fig 62).
[6507] <2481> (W28) B5, Period 3, NGB (Fig 62).
[9577] <2121> (S35) Midden 5, Period 3, NGB.
[9750] <2258> (S14) B15/23, Period 5, NGB (Fig 62).
[9849] <2310> (S36) B16, Period 3, NGB.
[9912] <2345> (S10) B6, Period 3, NGB (Fig 62).
[9941] <2372> (S36) B16, latrine, Period 3, NGB (Fig 62).
[4246] <-> (N25) B12, Midden 15, Period 5, NGB.
[4246] <-> (N25) B12, Midden 15, NGB.
[4246] <-> (N25) B12, Midden 15, NGB.
[4328] <1812> (N23) B12, Period 4, NGB
[4385] <1858> (N18) B10, Period 3, NB.
[4385] <-> (N18), NGB.
[4399] <1867> (N18), NGB.
[4505] <2741> (N19) Pit, unphased, NGB.
[6382] <1792> (W31), NGB.
[4459] <2786> (N15) Well, Period 2, NGB.
[4494] <-> (N15) Well, Period 2, NB.
[4494] <2750> (N15) Well, Period 2, NB.
[4100] <1541> (N31) Midden 16, Period 5, NG.
[4100] <1542> (N31) Midden 16, Period 5, NGB.

33–52 Body sherds, all mid to late 1st century.
53–61 NGB.
62–64 NG.

Colourless glass

Nos 65–77 are good quality colourless glass of late 1st-century forms.

65. [4246] <1886> (N25) B12, Midden 15, Period 5 (Fig 63). Outsplayed rim of a small bowl (Isings 42/44); cast, ground and polished.

66. [4331] <1821> (N26) B12, Period 3–4 (Figs 61, 63). Rim and side of a handle cup (skyphos, Isings 39). Ground and polished horizontal rim elaborately carved at the point where it met the (missing) handle. Lower sticking part of handle carved into a triangular motif; straight wall slightly rounded below this.

67. [9819] <2301> (S32) B14, Period 3 (Figs 60, 63). Side of a tall conical beaker (Isings 21). Ground and polished decoration consisting of sinuous grooves formed by many

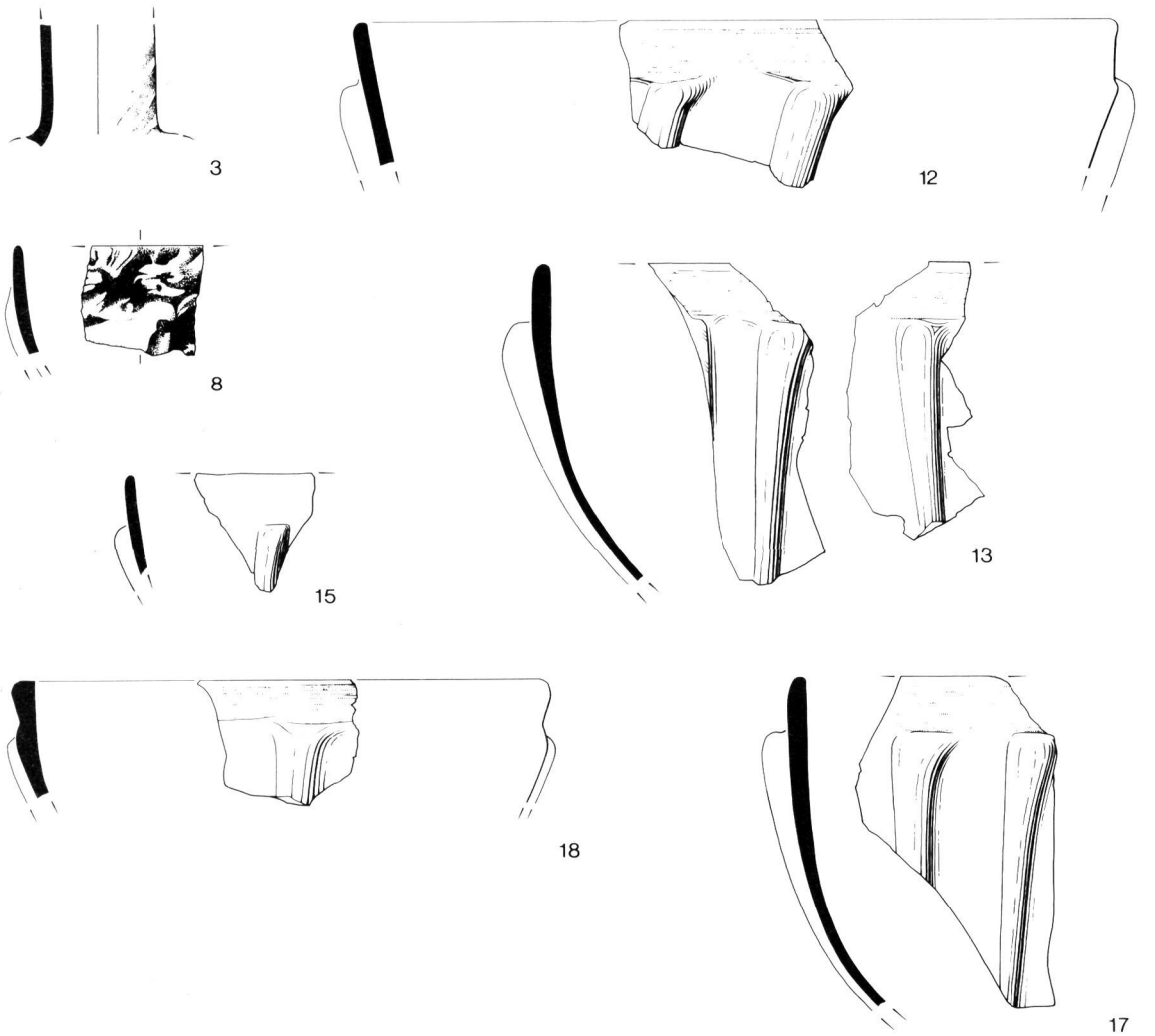


Fig 62. Polychrome vessels, 3,8; pillar moulded bowls 12, 13, 15, 17, 18 (scale 1/2).

overlapping facets with alternating oval facets orientated vertically.

68. [4337] <1934> (N20) B12, Midden 9, Period 4. Lower part of conical beaker (Isings 21); ground and polished.

69–72. Fragments from the bodies of conical beakers (Isings 21) decorated with wheel-cut sinuous facets. Late 1st or early 2nd century.

[4100] <1566> (N31) Midden 16, Period 5.
[4313] <1807> (N23) B12, Midden 10, Period 4.
[4392] <1860> (N20) B12, Midden 9, Period 4.
[9867] <2333> (S3) Midden 3, Period 2.

73. [9577] <2112>; [9760] <2263> (S35) Midden 5, Period 3 (Figs 59, 63). Rim and side from tall conical beaker (hybrid of faceted cut beaker Isings 21 and indented beakers Isings 32/33/35); free-blown, ground and polished. Upright rim with a slight groove around the lip and a single wheel-cut groove *c.* 13mm below forming a plain zone between. Below this is an elaborately decorated zone consisting of long, vertical indentations, decorated with overlapping wheel-cut facets.

74. [9843] <2308> (S12) Midden 11, Period 4 (Fig 63). Rim and side of a small hemispherical cup. Flat rim ground smooth; thin horizontal wheel-cut groove immediately below.

75. [4246] <1885> (N25) B12, Midden 15, Period 5 (Fig 63). Rim and side of an ovoid beaker, ground and polished. Knocked-off, everted rim ground smooth. A broad, raised horizontal band separates the rim from the swelling of the body.

76. [9941] <2903> (S36) B16, latrine, Period 3 (Fig 63). Base of a small bowl. A large circular facet has been ground away from the underside forming a slight fillet which serves as a base-ring. Immediately above this is a low-relief horizontal rib formed, also, by grinding.

77. [9746] <2257> (W25) B23, Period 5 (Fig 63). Base of a

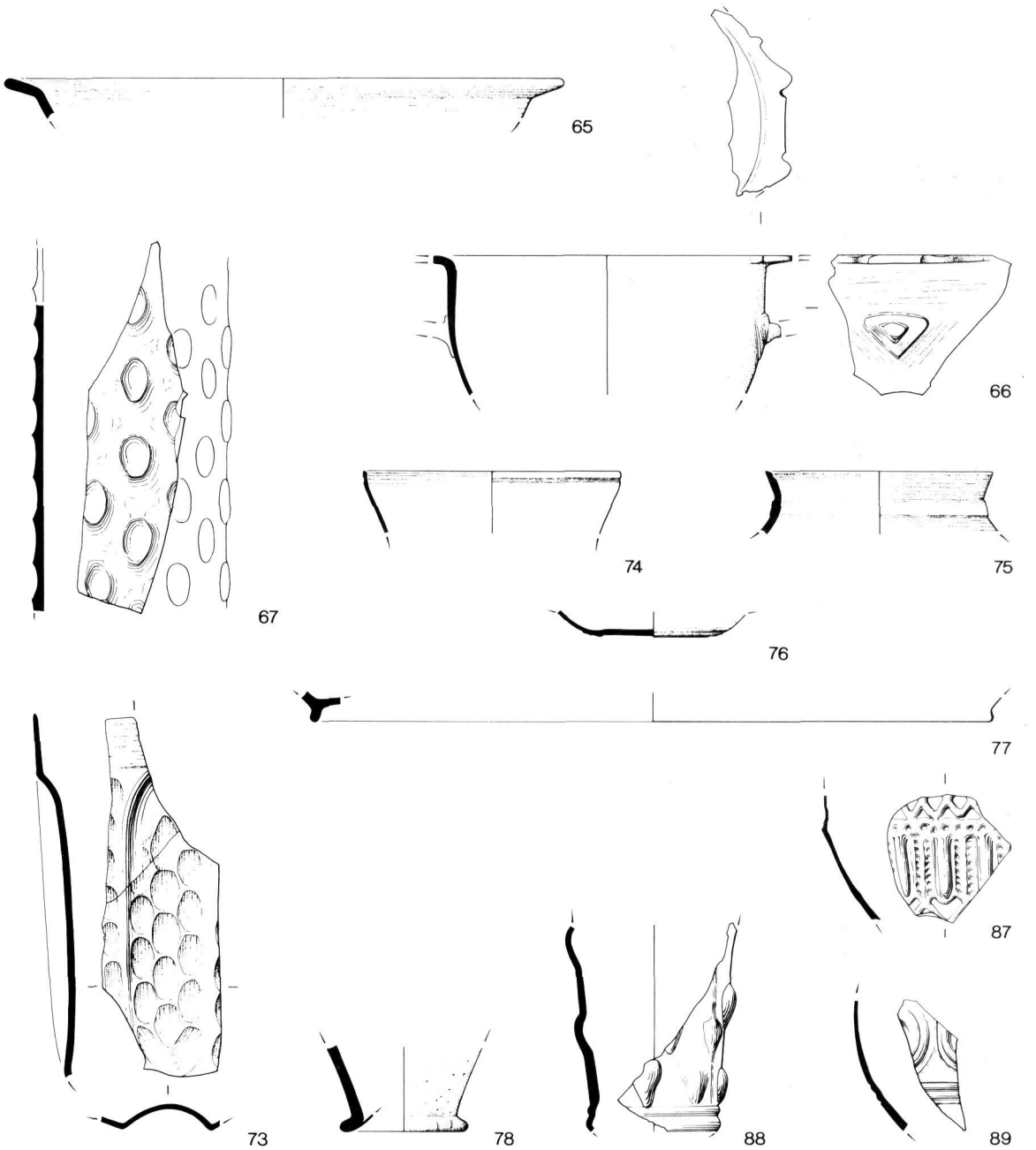


Fig 63. Colourless vessels: bowl 65, skyphos 66, beakers, 67, 73–8; mould-blown decorated vessels, 87–89 (scale 1/2).

plate or bowl; cast, ground and polished. Wide upright base-ring.

78. [9577] <2136> (S35) Midden 5, Period 3 (Fig 63). Beaker; colourless with faint greenish tint. Pushed in base forming a flattened tubular base-ring.

79–86. Fragments of colourless vessels of indeterminate form, with traces of grinding, polishing and some wheel-cut decoration.

[4275] <1915> (N24) B12, Midden 12, Period 5.
[6165] <1747> (W8) Dump, unphased.
[9922] <2362> (S36) B16, Midden 6, Period 3.
[3995] <1006> (N28) B10, Period 5.
[9648] <2194> (S21) B10, Period 3.

[9663] <2223> (S14) B15/23, Period 5.
[4252] <1906> (N26) B12, Period 3–4.
[12271] <3065> (M59) B18, Period 3.

Mould-blown decorated vessels

Nos 87–91 Late 1st century

87. [12244] <2425> (M58) B7, Period 3 (Fig 63). Lower part of a small bowl with vertical ribs alternating with vertical herring-bone motifs. Above and below are low-relief lattice designs. NGB.

88. [3987] <975> (N28) B10, Period 5 (Fig 63). Lower part of a conical beaker (Isings 31); greenish-yellow. Decorated with high relief almond-shaped motifs above two horizontal ribs; vertical mould-seam visible.

89. [4246] <1894> (N25) B12, Midden 15, Period 5 (Fig 63). Side of a small bowl or bulbous flask, precise form uncertain, decorated with low relief concentric circles above two horizontal ribs. NGB.

90. [6148] <1968> (W8) Dump, unphased. Beaker, base fragment; with a raised, low-relief element at its centre. NG.

91. [4300] <1923> (N27) B12, Period 3–4. Vessel of indeterminate form with a single low relief horizontal rib. NB.

Sports cups

Nos 92–98 Mid to late 1st-century date.

92. [9720] <2187> (S35) Midden 5, Period 3 (Fig 64). Side of a cylindrical cup; NB. The mould-blown design consists of three zones each separated by a horizontal rib. The upper zone contains the names of athletes of which only the letters ATE survive. The frieze below shows scenes and equipment from a gymnasium. On the left two boxers confront each other (only the left foot of one survives, the other is complete). A hurdle separates them from two wrestlers of whom only the legs of one survive. The lower zone contains a wreath and crossed palm fronds.

93. [4109] <888> (N24) B12, Midden 12, Period 5 (Fig 64). Rim and side of a cylindrical cup; pale blue. Rim slightly outsplayed at the lip and simply knocked-off. The design consists of two, probably originally three, zones each separated by a horizontal rib. The upper bore the names of the sportsmen depicted in the zone below but only the letters MEVAR survive. The main zone depicts four horses, the team of a quadriga.

94. [4410] <2186> (N18) B10, Period 3 (Fig 64). Side of a cylindrical cup; pale blue. The fragment is part of the main frieze, showing a chariot race. Parts of three horses (originally four) survive, running towards a crenellated tower.

95. [4246] <1876> (N22) B12, Period 3–4 (Fig 64). Lower part of a cylindrical cup; pale blue. Decorated with the forelegs of horses.

96. [4342] <1837> (N25) B12, Period 5 (Fig 64). Lower part of a cylindrical cup; pale blue. Two zones of decoration are separated by a horizontal rib. The upper depicts a chariot race of which just the wheel of one of four chariots survives. The lower shows running animals, one indeterminate animal (probably a hound) remaining. The base consists of a mould-blown, plain base-ring.

97. [4100] <1567> (N31) Midden 16, Period 5 (Fig 64). Lower part of cylindrical cup; pale blue. The surviving design shows two running animals below a horizontal rib.

98. [4342] <1836> (N22) B12, Period 3–4 (Fig 64). As Nos 96–7; NG. One animal remains.

Plates

99. [3987] <992> (N28) B10, Period 5 (Fig 64). Base of plate (Isings 48/49); NGB. Double folded flattened tubular base-ring. Late 1st century.

100. [4307] <1929> (N21) B20, Period 4 (Fig 64). As No. 99; NGB. Hollow tubular base-ring. Late-1st or 2nd century.

101. [9608] <2174> (S36) B16, Period 3. As No. 99; NB. Hollow tubular base-ring. Late-1st or 2nd century.

Hofheim cups (Isings 12)

Nos 102–110, mid 1st century.

102. [9850] <2315> (S37) B21, Period 3 (Fig 64). NB. Slightly incurving rim, lip knocked-off above a convex-curved body and a pushed-in pointed rounded base. The zone immediately below the rim is decorated with numerous horizontal abraded lines and a single broad band. Similar faint lines run around the body above the widest part.

103. [1430] <13> (D2), unphased. As No. 102; NB.

104. [9577] <2126> (S35) Midden 5, Period 3 (Fig 64). Rim and side as No.102; NB. Abraded lines form a broad and a narrow band around the rim.

105. [9861] <2324> (S34) B14, Period 3. As No.104; NB.

106. [9868] <2337> (S12) Midden 11, Period 4. Rim as No.102. NG.

107. [4258] <1724> (N20) B12, Midden 9, Period 4. Base as No.102. NGB.

108–110. Rims as No.102; NGB.
[3987] <987> (N28) B10, Period 5.
[3998] <1330> (N28) B10, Period 5.
[6222] <1756> (W6), unphased.

Beakers

Nos 110–11 Isings 30/34 Late 1st or early 2nd century

111. [4328] <1813> (N23) B12, Period 4 (Fig 64). Rim and side of a conical beaker; colourless with green tint. Rim slightly outsplayed, knocked-off and ground smooth. Immediately below the lip are two narrow bands of faint horizontal wheel-cut lines and on the body at least three bands of similar decoration.

112. [4249] <1904> (N25) B12, Midden 15, Period 5 (Fig 64). Rim and side; NB. Rim outsplayed, knocked-off and ground smooth, with a zone of faint horizontal wheel-cut lines visible immediately below it; another runs around the body of the vessel which slopes slightly inwards.

Nos 113–28 Body sherds, cups, bowls, beakers as Nos 102–112.

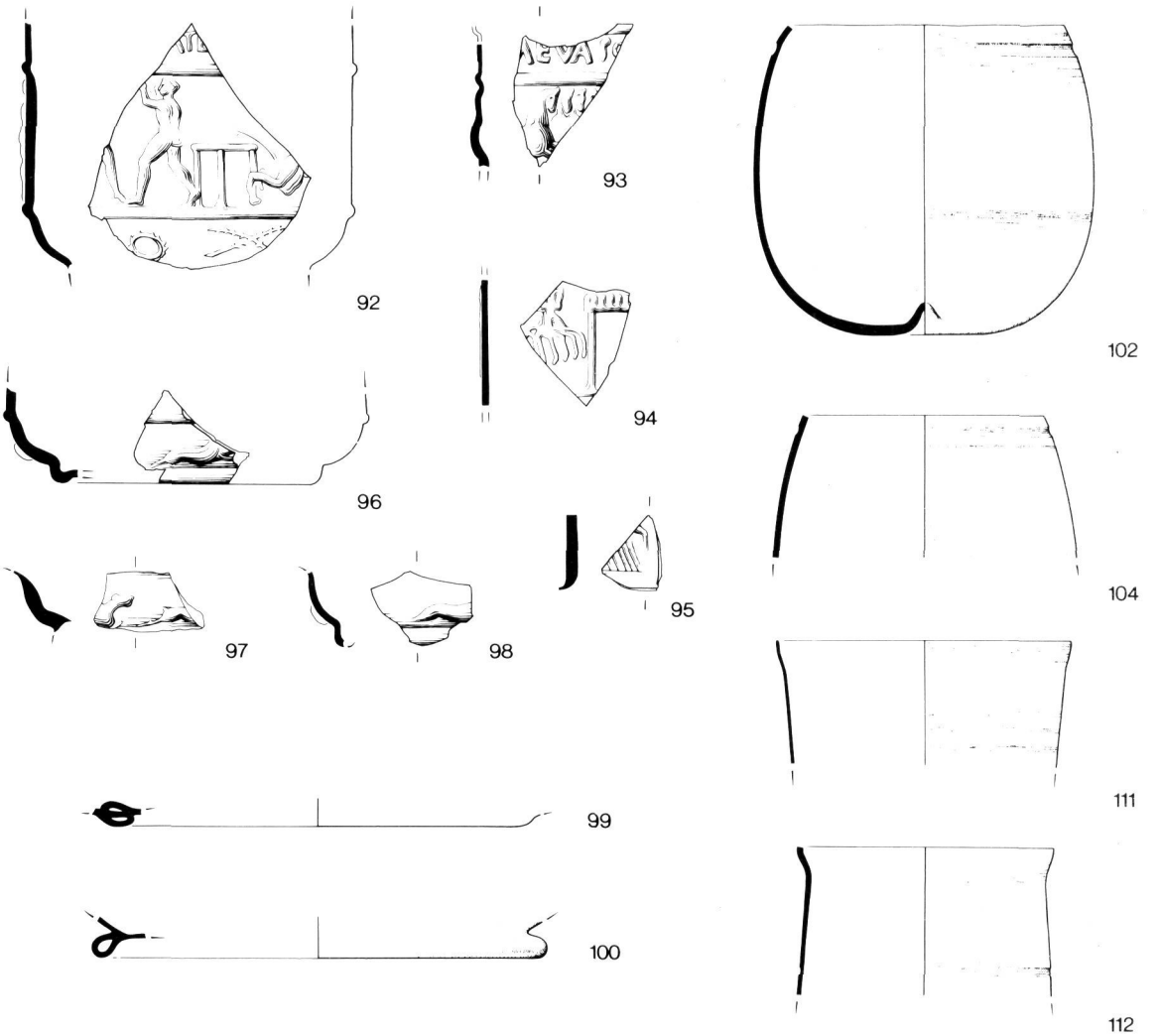


Fig 64. Sports cups 92–8; plates 99–100, Hofheim cups 102, 104; beakers 111–12 (scale 1/2).

113–118. Wheel-cut abraded horizontal decoration; NGB.
[3987] <987> x4 (N28) B10, Period 5.
[4109] <1594> (N24) B12, Midden 12, Period 5.
[4284] <1916> (N24) B12, Midden 12, Period 5.

119–120. NB.
[4392] <1866> (N20) B12, Midden 9, Period 4.
[6577] <-> (W29) B10, Period 3.

121–126. NG
[4481] <2752> (N19) Pit, unphased.
[6492] <2469> (W17) B6, Period 4.
[6671] <2515> (W36) B15, Period 5.
[9941] <2379> <2392> (S36) B16, latrine, Period 3.
[12244] <2426> (M58) B7, Period 3.

127. [4246] <1703> (N25) B12, Midden 15 Period 5. Colourless; wheel-cut decoration.

128. [9675] <2232> (S13) B6, Midden 13, Period 4. Beaker/cup; NB.

Indented beakers

Late 1st or early 2nd century

129. [9577] <3126> (S35) Midden 5, Period 3 (Fig 65). Pushed-in, concave base of beaker or jar (Isings 32); NB. Vessel has four indentations.

130–131. As No.129; NB.
[3987] <988> (N28) B10, Period 5.
[4080] <1431> (N31) Midden 16, Period 5.

132. [9722] <2245> (S17) B14, Midden 4, Period 3 (Fig 65). Base (Isings 35); NG. Base pushed-in to form a hollow tubular base-ring; body has six vertical indentations.

133–4. Body sherds; NGB.
[4284] <1917> (N24) B12 Midden 12, Period 5.
[9850] <2319> (S37) B21, Period 3.

135–6. As Nos 129–132; colourless.

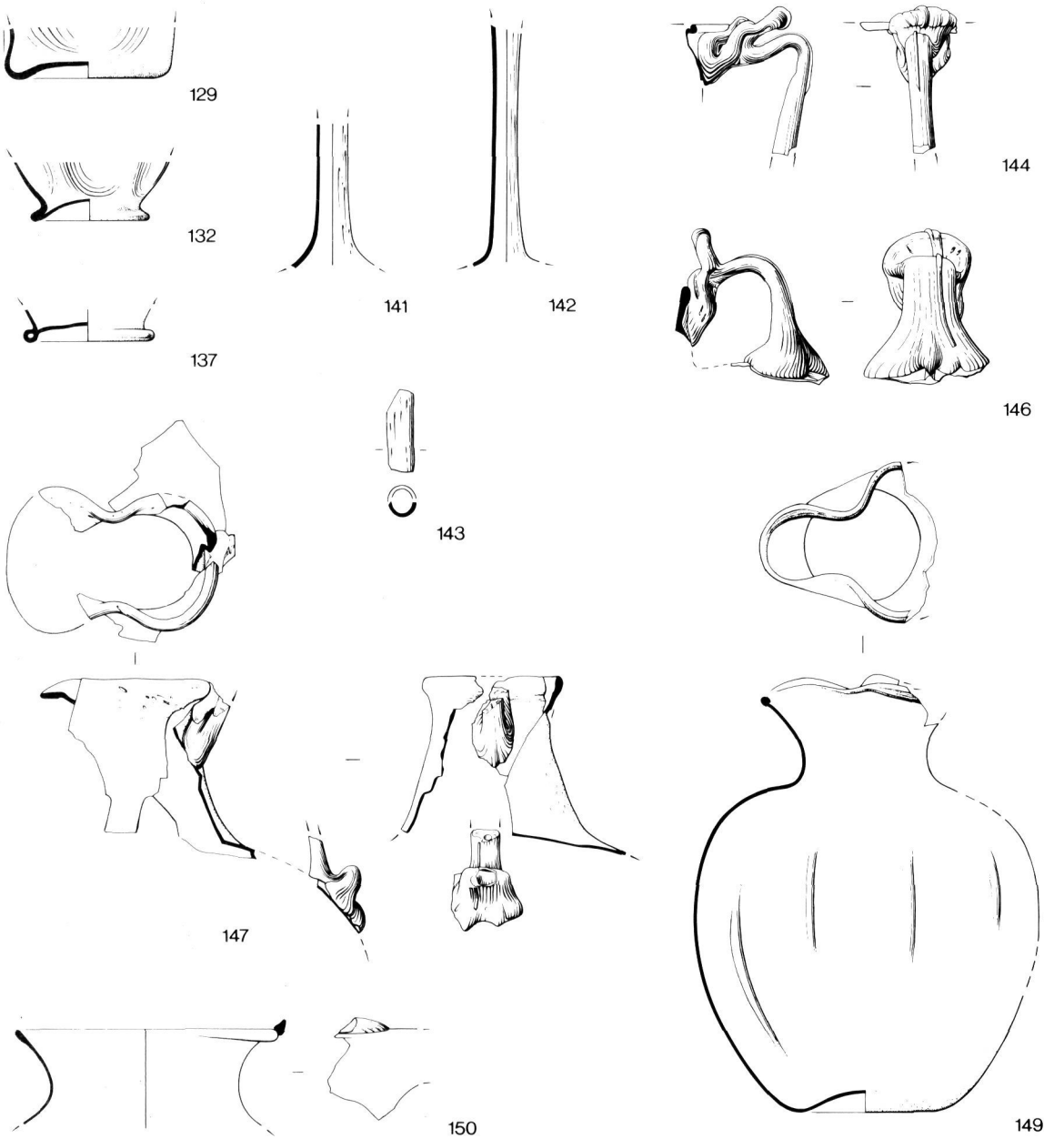


Fig 65. Indented beakers 129, 132, 137; funnels 141–2; syphon 143; jugs 144, 146–7, 149–50 (scale 1/2).

[4100] <1545> (N31) Midden 16, Period 5.
[4102] <1585> (N27) B12, Period 3–4.

137. [9577] <2114> (S35) Midden 5; [9861] <2323> (S34) B14, Period 3 (Fig 65). Base of a beaker of uncertain form; NG, pushed-in to form a hollow tubular base-ring.

Cantharoi (Isings 38)

138–139. [9784] <2270> (S38); [6222] <2435> (S35) Midden 5, Period 3. Fragments of *cantharoi* (single-handed cups); NGB.

140. [9608] <2174> (S35) Midden 5, Period 3. Part of outsplayed, fire-rounded and stepped rim of a cup (probably *cantharos*); NGB. Mid to late 1st century.

Funnels (Isings 74)

141–2. [9238] <1783> (S46); [9742] <2250> (S20) B10, Period 3 (Fig 65). Slim cylindrical neck on a bulbous body; NG.

Syphon (Isings 76)

143. [4418] <2718> (N13) B9/11, Period 3 (Fig 65). Tubing; NGB, probably from syphon. Mid to late 1st century.

Jugs (Isings 56/88B)

Late 1st or 2nd century

144. [9673] <2227> (S13) B6, Midden 13, Period 4 (Fig 65). Rim and upper part of jug handle; NG, streaked with many impurities and surface reaming. Complex, everted rim section formed by the lip being folded outwards and then folded in again and outwards. Upper sticking part has flattened thumb-grip; thin rod handle.

145. [6222] <1751> (W6), unphased. Upper part, and handle, of a trefoil- mouthed jug; NB.

146. [4125] <1629> (N24) B12, Midden 12, Period 5 (Fig 65). Small, bulbous-bodied, trefoil-mouthed jug; NG. Everted rim, lip folded inwards. Bulbous body decorated with vertical trails of the same metal. Handle applied to shoulder and rim. At the rim, it has an upright thumb-grip and at the body, a very small spur laid on one of the vertical ribs.

147. [9577] <2144> (S35) Midden 5, Period 3 (Fig 65). Upper part of a trefoil-mouthed jug; NB. Simple, fire-rounded rim at the spout but folded inwards at the rear (handle) end. Neck slopes slightly inwards towards the rim on a bulbous body; plain, rod handle applied to shoulder and rim.

148. [9895] <2340> (S4) Dump, Period 2. Spout; NGB.

149. [9577] <2143> (S35) Midden 5, Period 3 (Fig 65). Everted rim of a handled jug (probably Isings 56/88b); NGB. Rim folded outwards and down with part of the upper sticking part of the handle, a small spur of glass, visible on the top.

150. [9577] <2134> (S35) Midden 5, Period 3 (Fig 65). As No.147, rim and handle; NGB.

151. [6505] <-> (W17) B6, Period 3. As No.147; NB.

Jars

Late 1st or early 2nd century

152–3. [4059] <1413> (N28) B10, Period 5; [4355] <1848> (N19) Pit (Fig 66). Rims of small bulbous-bodied jars (Isings 68); NB, folded outwards and flattened.

154. [4377]<1949> (N19) Pit, unphased. As Nos 152–3; NGB, body sherd.

155–8. Fire-rounded and everted rims from jars of indeterminate form.
[3987] <982>; <985> NGB (N28) B10, Period 5.
[4307] <1928> Yellowish-green (N21) B20, Period 4 (Fig 66).
[6222] <1766> NB (W6), unphased.

159–167. Pushed-in bases from bulbous or ovoid bodied jars; NGB.
[1342] <523> (D25) B8, Period 3.
[4142] <1632> (N28) B10, Period 5.
[4144] <1638> (N30) B12, Period 5.
[4258] <1723> (N20) B12, Midden 9, Period 4.
[4328] <1814> (N23) B12, Period 4.
[4342] <1841> x3 (N22) B12, Period 3–4.
[9941] <2394> (S36) B16, latrine, Period 3 (Fig 66).

168–171. Rims of square-sectioned jars (Isings 62), ovoid-bodied jars (Isings 67b) or bulbous-bodied jars (Isings 67c). Rims folded out and down to form a high collar; NGB.
[4024] <1473> (N28) B10, Period 5 (Fig 66).
[9814] <2295> (W35) B23, Period 5 (Fig 66).
[4100] <1552> (N31) Midden 16, Period 5.
[4459] <2683> (N15) Well, Period 2 B4 (Fig 66).

172–6. Rims of jars as Nos 168–71 but thin-walled and therefore probably from ovoid or bulbous-bodied vessels (Isings 67b/67c). Fashioned differently from those above, as the lip of each vessel has been folded inwards slightly before being folded out and down to form a high collar; NGB. All B12, Period 5 (Fig 66).
[4086] <1532> (N31).
[4100] <1564> (N31).
[4109] <1595> (N24).
[4246] <1702> (N25).
[4257] <1710> (N24).

177–8. Rims and part of the handles of two jugs or amphorisks (Isings 15); NG. Rims folded inwards, with slim handles attached. Mid to late 1st century.
[4024] <1404> (N28) B10, Period 5 (Fig 66).
[9849] <2311> B16, Period 3 (Fig 66).

Flagons

Late 1st or early 2nd century.

179. [10083] <2734> (S17) B14 Midden 4, Period 3 (Fig 66). Rim and neck (Isings 52/55); NGB. Rim folded in and flattened down with upper sticking part of handle *c.* 10mm below.

180. [6507] <2483> (W28) B5, Period 4 (Fig 66). Conical-bodied flagon (Isings 55b); NB, decorated with vertical trails of the same metal. Applied handle with a pinched claw extending down the body of the vessel.

181. [9868] <2344> (S12) Midden 11, Period 4 (Fig 66). As No. 180; NG. Broad handle with a single vertical rib; vertical ribs on body.

182. [9868] <2344> (S12) Midden 11, Period 4 (Fig 66). Pushed-in and cut-out base-ring of a flagon; NG. Same metal and possibly from same vessel as No.181.

183. [1342] <515> (D26) B8, Period 3 (Fig 66). Plain body of a conical-bodied flagon (Isings 55); NB, with a drawn claw from the lower part of a handle.

184. [9868] <2343> (S12) Midden 11, Period 4 (Fig 66). Small conical-bodied flagon (Isings 55); NB. Plain strap handle on a plain vessel.

185. [9859] <2322> (S34) B14, Period 3. Handle of a bulbous or conical-bodied flagon (Isings 52/55); deep brown.

186–199. Plain, strap handles of small flagons or jugs of indeterminate type; NGB.
[3962] <965> (N31) Midden 16, Period 5.
[4300] <1924> (N27) B12, Period 3–4.
[4246] <1890> (N25) B12, Midden 15, Period 5 (Fig 66).
[4102] <1579> <2817> (N27) B12, Period 3–4.
[4355] <1938> <1939> Unphased.

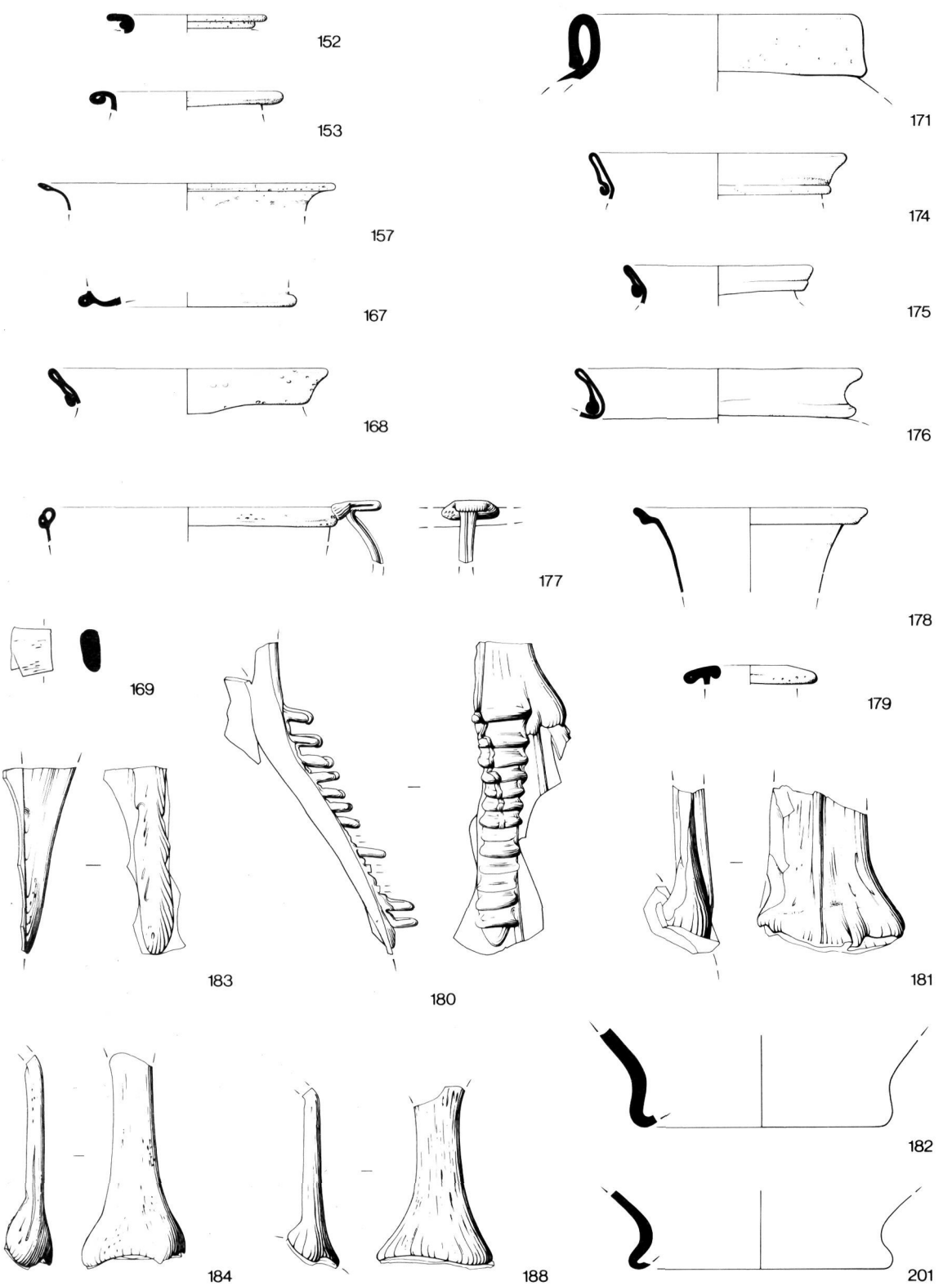


Fig 66. Jars 152–3, 157, 167–9, 171, 174–8; flagons 179–184, 188, 201 (scale 1/2).

[4424] <2716> (N18) B10, Period 3.
[4443] <2700> (N27) B12, Period 3–4.
[4459] <2756> (N15) Well, Period 2.
[6506] <-> (W28) B5, Period 4.
[9829] <2304> (S27) B21, Period 3.
[9890] <2355> (S12) Midden 11, Period 4.
[9941] <2375> (S36) B16, latrine, Period 3.

200. [4086] <1533> (N31) Midden 16, Period 5. Plain conical-bodied flagon (Isings 55); NGB. Slightly concave base.

201. [6169] <1972> (W8) Dump, unphased (Fig 66). Pushed-in and cut-out base-ring of a flagon (*eg* Isings 52/55) or jar (*eg* Isings 67c); NGB.

202. [9783] <2268> (S38) Midden. As No.201; NG.

203. [4075] <1427> (N31) Midden 16, Period 5. Plain conical or bulbous-bodied flagon (*eg* Isings 52/55); NG.

204. [3995] <1000> (N28) B10, Period 5. Plain bulbous-bodied flagon (Isings 13/14 or 52); NB.

205–7. [4054] <1480> (N28) B10, Period 5 ;[4100] <1569> (x2) (N31) Midden 16, Period 5. As No.204; NGB.

208–10. [9577]<2113> (x3) (S35) Midden 5, Period 3. Blue.

Ribbed bulbous-bodied flagons (Isings 52b)

211–12. NGB
[9577] <2140> (S35) Midden 5, Period 3.
[9922] <2359> (S36) Midden 6, Period 3.

213–14. NB
[9941] <2381> (S36) B16, latrine, Period 3.
[10027] <2730> (S36).

215–18. NGB
[4377] <1948> (N19) Pit, unphased.
[6280] <1770> (W6) Dump, unphased.
[6474] <2466> (W17) B6, Period 3.
[12240] <2420> (M60) B18, Period 4.

Ribbed conical-bodied flagons (Isings 52b)

219–20. NG
[6165] <1746> (W8) Dump, unphased.
[4328] <1817> (N23) B12, Period 4.

221. NGB, spirally ribbed
[4246] <1707> (N25) B12, Midden 15, Period 5.
222–3. [1342] <516> (D25) B8, Period 3; [3452] <358> (N45.)

224–5. Blue; 226–243. NGB; 244 NB; 245–51. NG

224–51. Flagons or flasks of indeterminate form; NG
Body sherds from bulbous-bodied jugs (Isings 56/88b), bulbous-bodied jars (Isings 67c), bulbous-bodied flagons (Isings 52b) or conical-bodied flagons (Isings 55b)— decorated with vertical ribs of the same metal.

Aryballoi (Isings 61)

Late 1st or early 2nd century

252–7. Fragments of thick-walled, bulbous-bodied flasks (*aryballoi*) ; NGB.
[4331] <1823> (N23) B12, Period 4.
[4418] <-> (N13) B9/11, Period 3.
[6507] <2484> (W28) B5, Period 4.
[9577] <2128> <2142> (S35) Midden 5, Period 3.
[9819] <2303> (S34) B14, Period 3.

258. [4510] <2742> (N9) Pit, unphased (Fig 67). NB. Small dolphin handle attached to body and junction of neck and body.

Unguentaria

259. [4109] <1596> (N24) B12, Midden 12, Period 5 (Fig 67). Small phial (Isings 8); NGB. Cylindrical neck and body separated by a slight constriction. 1st century.

260. [3844] <815> (N30) B12, Period 5 (Fig 67). Part of the rim and neck of a small flask or phial (Isings 6/28a). NGB. Rim fire-rounded and slightly outsplayed. 1st or early 2nd century.

261–2. As No.260. NGB
[6452] <2463> (W31) surface, unphased.
[12242] <2423> (M58) B7, Period 3.

263. [12275] <2429> (M57) B7, Period 3 (Fig 67). Small flask or phial (Isings 16); NG. Fire-rounded and slightly outsplayed rim, tall slim neck tapering towards top. Incomplete body but the part surviving suggests a pyriform shape. 1st or early 2nd century.

264. [9577] <2116> (S35) Midden 5, Period 3 (Fig 67). Small flask or phial (Isings 16); NGB. Irregular rim folded inwards, tall neck tapering slightly. Probably a pyriform shape rounding slightly towards the lower part of the surviving fragment. 1st or early 2nd century.

265. [4148] <1636> (N28) B10, Period 5 (Fig 67). Small flask or phial (indeterminate form); blue. Rim folded inwards and flattened down. Mid to late 1st century.

266. [9710] <2238> (S16) B23, Period 5 (Fig 67). As No. 265; NGB, poor quality. Infolded, flattened and distorted rim. 1st to 2nd century.

267. [4459] <2757> (N15) Well, Period 2 (Fig 67). Small flask or phial (Isings 26); NGB, poor quality. Irregular rim folded inwards, tapering neck; body of apparently bulbous shape. 1st to early 2nd century.

268. [9577] <2135> (S35) Midden 5, Period 3 (Fig 67). As No.265; NGB. Rim folded inwards, tapering neck. 1st to 2nd century.

269. [9927] <2365> (S8) B6, Midden 8, Period 3 (Fig 67). Flask or phial; NB, good quality. Rim fire-rounded, outsplayed and flattened. 1st to 2nd century.

270. [3987] <990> (N28) B10, Period 5 (Fig 67). Phial of indeterminate form; NB. Conical body with rounded base. 1st century.

271. [9688] <2745> (S21) B10, Period 3. As No.270; NG.

272. [4078] <1797> (N27) B12, Period 3–4 (Fig 67). Phial (Isings 28b?); NGB. Squat, conical body with a thick wall, but very thin base. 1st century.

273. [9577] <2119> (S35) Midden 5, Period 3 (Fig 67). As No.272; NGB, thick.

274. [6366] <1986> (W31) Surface, unphased (Fig 67). Spherical? phial (Isings 10); NB. Part of an upright neck visible. 1st century.

275. [4329] <2686> (N23) B12, Period 4. As No.272; NB.

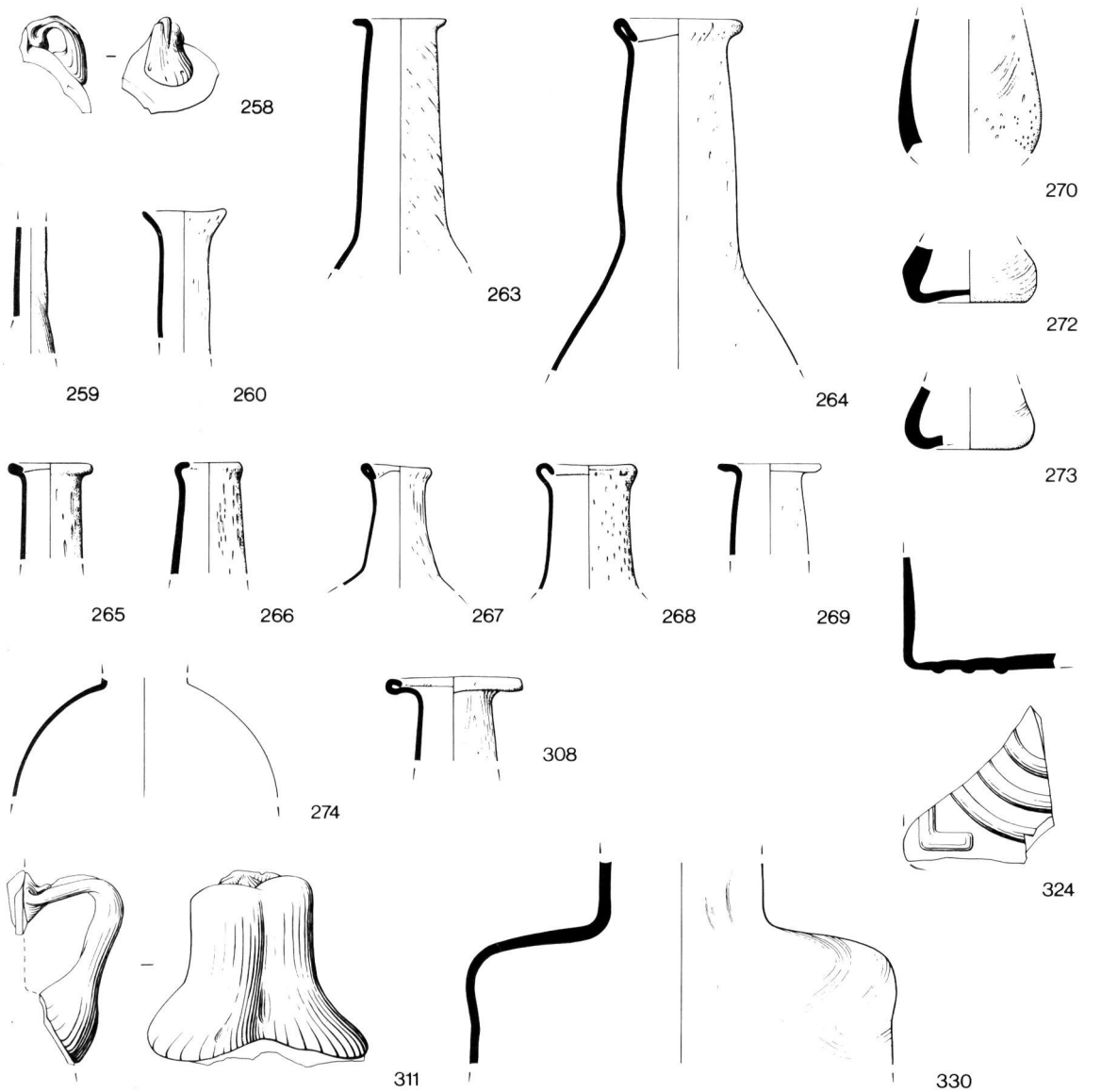


Fig 67. Aryballos 258; unguentaria 259–60, 263–270, 272–4; bottles 308, 311, 324, 330 (scale 1/2).

Fragments from flasks or phials of indeterminate form.

276. [9868] <2338> (S12) Midden 11, Period 4; green.

277–8. [4024] <1472> x2 (N28) B10, Period 5; colourless.

279–95. NGB
[3995] <9986> (N28) B10, Period 5.
[4082] <1530> (N31) Midden 16, Period 5.
[4246] <1887> (N25) B12, Midden 15 Period 5.
[4313] <1808> (N23) B12, Period 4.
[4329] <2685> (N23) B12, Period 4.
[4410] <2720> (N18) B10, Period 3.
[6222] <1753> (W6) Dump, unphased.
[6659] <2509> (W36) B15, Period 5.
[6668] <2512> (W16) B6, Period 3.
[6754] <2521> (S7) B6, Period 3.
[9577] <2127> (S35) Midden 5, Period 3.
[9722] <2241> (S17) B14, Period 3.
[9742] <2250> (S20) B10, Period 3.
[9779] <2266> (S14) B15/23, Period 5.
[9868] <234–6> (S12) Midden 11, Period 4.
[12242] <-> (M28) B7, Period 3.

296–7. NG
[3994] <996> (N31) Midden 16, Period 5.
[10027] <2729> (S6) B4, Period 2.

Bottles

Late 1st/2nd century

Rim fragments

298–304. Cylindrical or square-sectioned bottles (Isings 50/51). Cylindrical necks with rim folded inwards and flattened down. The scar of the upper sticking part of a single handle is visible on the neck and/or the underside of the rim of some.
[1282] <849> (D28) Dump. NB.
[4494] <2773> (N15) Well, Period 2. NB.
[4057] <1410> (N31) Midden 16, Period 5. NG.
[9577] <2117> (S35) Midden 5, Period 3. NGB.
[9577] <2125> (S35) Midden 5, Period 3. NB.
[9868] <2341> (S12) Midden 11, Period 4. NB.
[9890] <2354> (S12). NGB.

305–310. Cylindrical or square-sectioned bottles (Isings 50/51) or tall-necked flagons (Isings 52/55). Cylindrical necks, rim folded inwards and flattened down as 298–394.
[4392] <1861> (N20) B12, Midden 9, Period 4. NGB.
[4410] <2646> (N18) B10, Period 3. NGB.
[6667] <2510> (W23) Dump. NGB.
[9577] <2115> (S35) Midden 5, Period 3. NGB. (Fig 67).
[9941] <2374> (S36) B16, latrine, Period 3. NGB.
[12240] <2419> (M60) B18, Period 4. NB.

Handles

311–316. Handles (both ribbed and combed) of square-sectioned bottles (Isings 50), applied to the rim, neck and the body of the vessel.
[4155] <1642> (N27) B12, Period 3–4. NGB. (Fig 67).
[4170] <1645> (N28) B10, Period 5. NGB.
[6165] <1744> (W8) Dump. NB.
[6165] <1749> NGB. Two ribs?
[9868] <2336> (S12) Midden 11, Period 4. NB.
[10031] <2731> (S3) Midden 3. NGB.

317–321. Handles of cylindrical or square-sectioned bottles (Isings 50/51), applied to the rim, neck and the body of the vessel. Examples of both ribbed handles (in general associated with small volume bottles) and combed (large volume bottles) are represented.
[3962] <898> (N31) Midden 16, Period 5. NGB.
[3987] <-> (N28) B10, Period 5. NGB.
[4047] <1409> (N13) B9/11, Period 3. Large handle. NGB.
[4246] <1881> (N25) B12, Midden 15, Period 5. NGB.
[9804] <2292> (S14) B15/23, Period 5. NG.

322. [4246] <1708> (N25) B12, *Midden 15, Period 5.* Cylindrical-bodied or square-sectioned bottle (Isings 50/51), or bulbous (Isings 52) or conical-bodied (Isings 55) flagon.

Bases

323. [4355] <2625> (N19) Pit, unphased. Mould-blown square-sectioned bottle; illegible design. NB.

324. [1297] <512> (D27) B8, Period 3 (Fig 67). Mould-blown square-sectioned bottle (Isings 50); NB. Base design consists of, at least, three concentric circles with a right-angle motif in the corner.

325. [6153] <1741> (W8) Dump. Small bottle (Isings 50) as No.324; NGB.

326–7. Prismatic bottles each with part of a single relief circle.
[4239] <1692> (N15) Well, Period 2. NBG.
[4459] <2785> (N15) Well, Period 2. NB.

328–9. Cylindrical-bodied bottles (Isings 51); NGB.
[3844] <817> (N30) B12, Period 5.
[4188] <1654> (N34).

Upper body fragments

Cylindrical (Isings 51)

330. [6480] <2467> (W29) B10, Period 3 (Fig 67). Thick NGB.

331. [9577] <2141> (S35) Midden 5, Period 3. Thick NB.

Miscellaneous fragments

Prismatic bottles (Isings 50)
332–412. NGB
413. NG
414–23. NB

Cylindrical bottles (Isings 51)
424–53. NGB
454–56. NG
457 66. NB

Prismatic or cylindrical bottles (Isings 50/51)
467–509. NGB
510 22. NG
523–24. NB

The following fragments, all Roman in date, come from the bodies of indeterminate forms.
525–6. Amber; 1st or early 2nd century.
527–8. Green; 1st century.
529 39. Blue; 1st or early 2nd century.
540–55. Colourless; Late 1st or 2nd century.
556–962. NGB
963–8. Ribbed NGB
969 1032. NG
1033–5. Ribbed NG
1036–1099. NB
1110. Ribbed NB

5: CERAMIC STUDIES

Dating

J. Groves (report on decorated samian by J.Bird)

Introduction: aims and methods

The very large quantity of pottery (38,444 EVES—estimated vessel equivalents—55,4633g)

from the well-defined building sequences with their middens and other associated features presented an ideal opportunity to investigate specific questions, including issues related to dating the process of deposition and the determination of status and function. However, the very size of the assemblage necessitated a sampling strategy to facilitate the study. The selection policy ensured that the early, middle and late parts of the sequence were represented, as was each building type (*eg* strip buildings, outhouses) together with their middens, external surfaces and other features. During selection, preference was given to the larger assemblages as they are more viable for statistical analysis. The pottery in this study is from Buildings 1-6, 10, 12, 14-16, 23 and their associated features including Middens 1-9, 11-13 and 15.

At present some uncertainties exist in the dating of early Roman pottery from the City because of dependence on data from the Newgate Street site (GPO75) (Davies *et al* 1994). Many layers from that site had been subject to severe slumping and, as a consequence, the associated assemblages are contaminated with intrusive material. The well-stratified Leadenhall Court pottery was considered to have the potential to resolve some of the problems. Thus an attempt was made to distinguish the pottery from periods approximating to AD 70–80, 80–90 and 90–100, *ie* a refinement of Roman Ceramic Phase 2 (RCP2 *c.* AD 70/75–100). The terminology is that devised by Davies *et al* (*ibid*) where a series of six distinct ceramic phases have been identified during the period AD 50–150 (Davies 1992a,63).

The dating of the material was approached in two ways: first, according to the three main periods of activity and second by individual building sequences.

Recording and analysis

The pottery was recorded by weight and by EVES within fabric and form types according to the standard DUA/MOLAS procedure (Marsh & Tyers 1978; DUA 1984). Each fabric type or variant is assigned a unique numerical code and is further identified by either a 'common name' or a 'catch-all' code (*eg* OXID). The work here, in most instances, has not necessitated reference to the numeric component of the fabric code. Expansions of the fabric and form codes concerned are in Appendix 4 as are other abbreviations used. Brief descriptions of the most commonly mentioned fabrics are given in Appendix 5. Fuller descriptions covering all fabrics and forms are published elsewhere (Davies *et al* 1994).

The quantified data were computerised and tables were generated to facilitate analysis and interpretation. The relative percentages of types given in the text are in EVES unless stated otherwise.

Illustrations (Figs 68, 69)

Most of the pottery forms (excluding samian) referred to in the following text are illustrated. If drawings of these types were found in the DUA Roman pottery corpus these were used to avoid duplication. The illustrations, therefore, are composed of Leadenhall Court vessels and those from other sites in the City.

The main periods of activity

The dating evidence from the coins (identified by Jenny Hall) and samian stamps (identified by Brenda Dickinson) provides a guide and a chronological framework, within the parameters of the stratigraphic sequence. Twenty-nine coins found in the pre-Basilica levels were identifiable (Hall in Milne 1992,60–2) the earliest, a worn Republican *as* of 250–150 BC. All show at least some degree of wear. An *as* of Nero from a layer pre-dating any context in the assemblage provides a *terminus post quem* of AD 64, the first building phase (Period 2), and a stamp of Cotio AD 70–85 came from a group late in the same sequence (N15). The succeeding major period of urban expansion, Period 3, probably occurred during the 80s as attested by a stamp of Severus i, AD 80–100, from this phase. Period 4–5, the final phase considered here, contains a coin of Domitian (AD 85), suggesting a date range from about the mid 80s to perhaps the end of the 1st century.

The broad dating is also supported by study of the decorated samian. The pre-Basilican levels do not contain any samian from the next phase

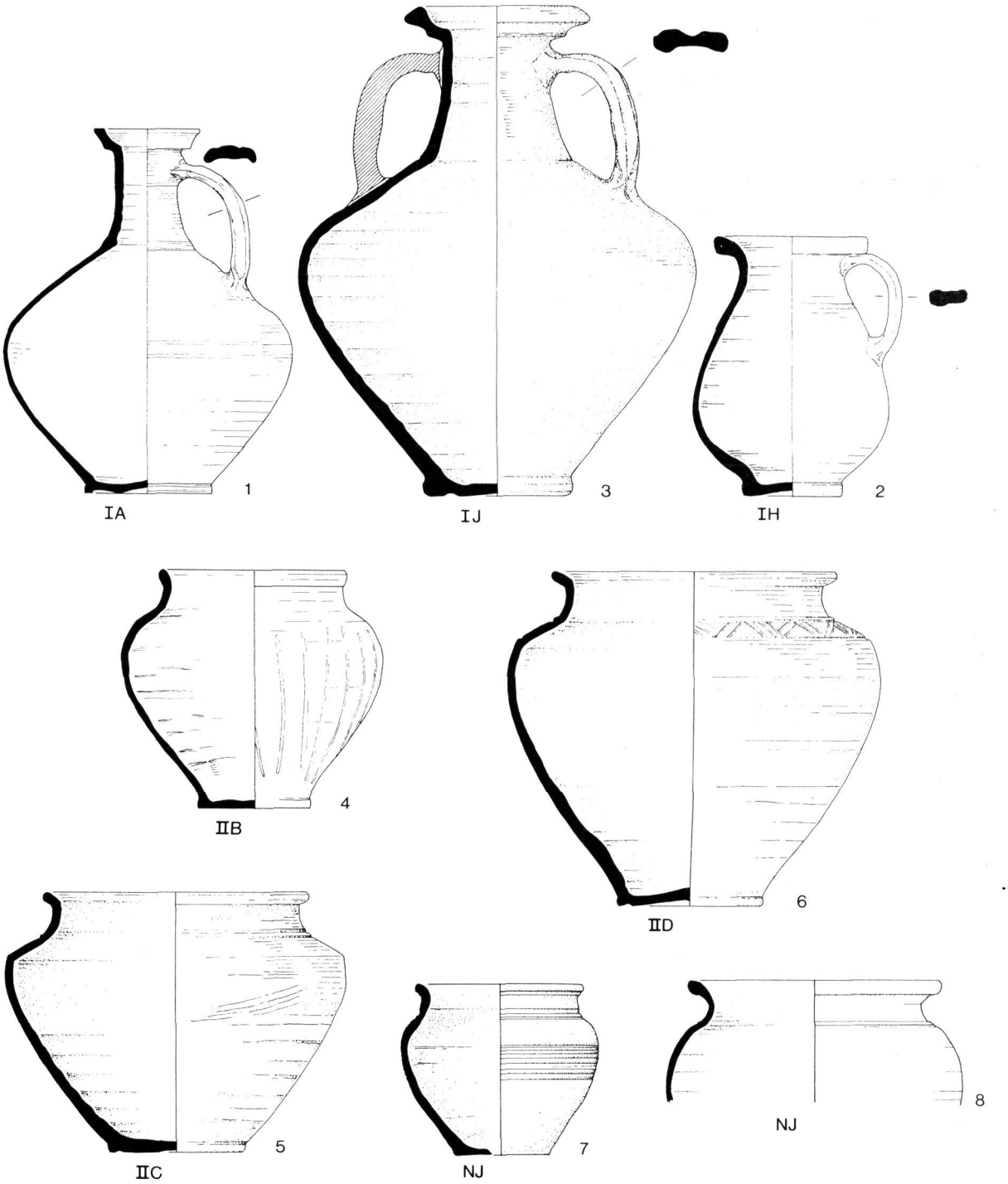


Fig 68. Form types: Flagons; 1-IA, Type Vessel 31000; 2-IH, TV 31021; 3-IJ, TV 31097; Jars; 4-IIB, TV 32200; 5 -IIC, TV 32059; 6-IID, TV 32091; 7-NJ, TV 32290; 8-NJ, TV 32287

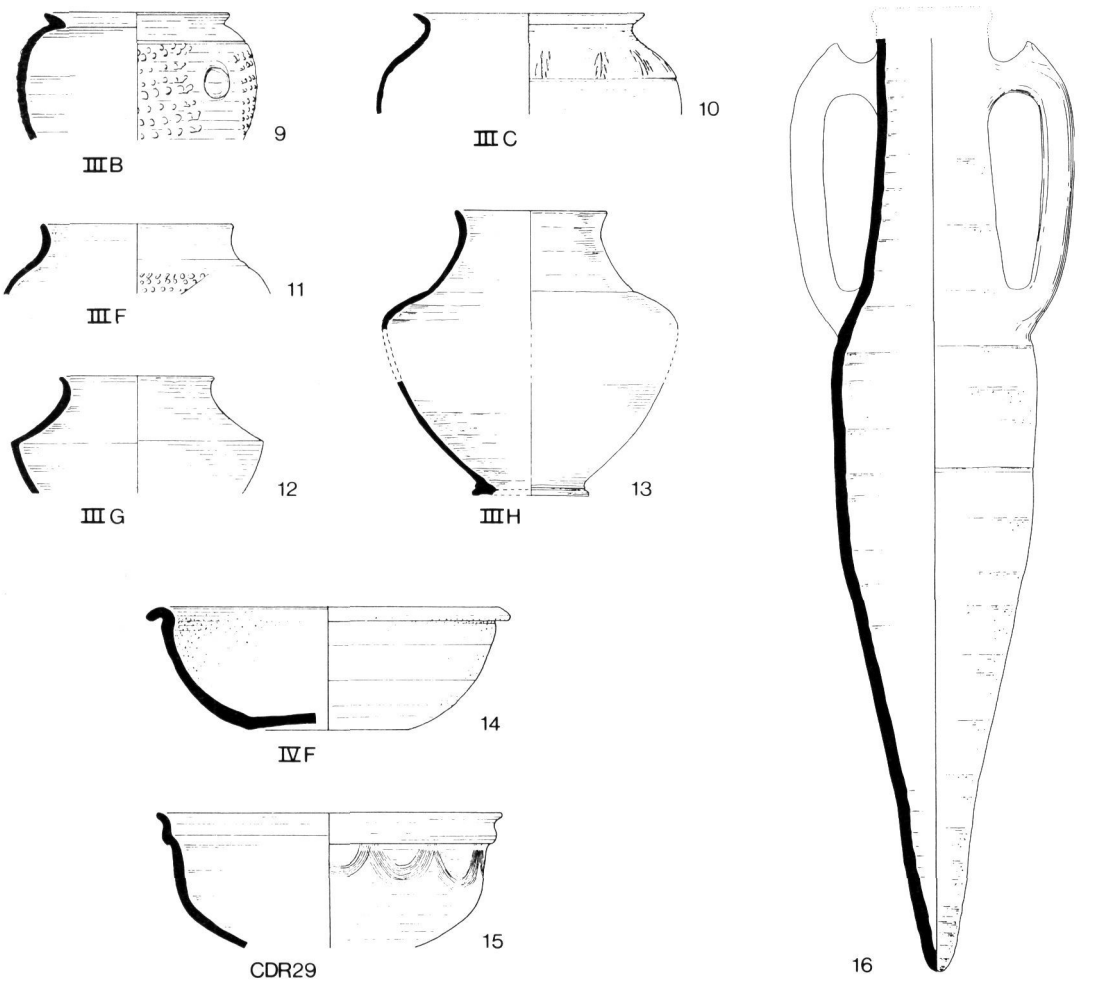


Fig 69. Form types: Beakers; 9-IIIB, Type Vessel 33158;10-IIIC, TV 33184;11-IIIF,TV 33118; 12-IIIG, TV 33060; 13-IIIH, TV 33002; Bowls; 14-IVF, TV 34369; 15-CDR29, TV 34413; Amphora; 16-RHOD, Rhodian

of production and there is no Trajanic Les Martres-de-Veyre.

Summary of the samian wares

Joanna Bird

The samian recovered at Leadenhall Court from the levels predating the Basilica is largely of Neronian to mid-Flavian date, and much of it falls within the period *c.* AD 60–90. This dating is indicated by the stamped and decorated vessels, which provide the closest dating evidence, and is confirmed by such features as the preponderance of Dr 18 and Dr 27 among the plain wares. Forms introduced in the early Flavian period (AD 70s and 80s) are well represented, notably Dr 37 (present in a ratio of 1:2 to Dr 29) and Dr 35 and 36. Among the latter are several uncommon variants, including Vernhet (1976) forms B1 (with sharply angled profile), F1 (undecorated), and A-F3 (on a pedestal foot). There are also examples of Dr 42 dishes with handles and barbotine decoration (Vernhet D1), two decorated bowls of the spouted and handled variant of Dr 37, and several beakers of form Déch 67, including three with moulded decoration.

Pottery earlier than AD 60 is rare: there is a decorated bowl, Dr 29, dated *c.* 40–55 (Fig 70a) from a Period 3 context; stamps of Bassus i, Gallicanus, Gallus ii and Primus iii, in Period 3 and 4 contexts, come within the range *c.*

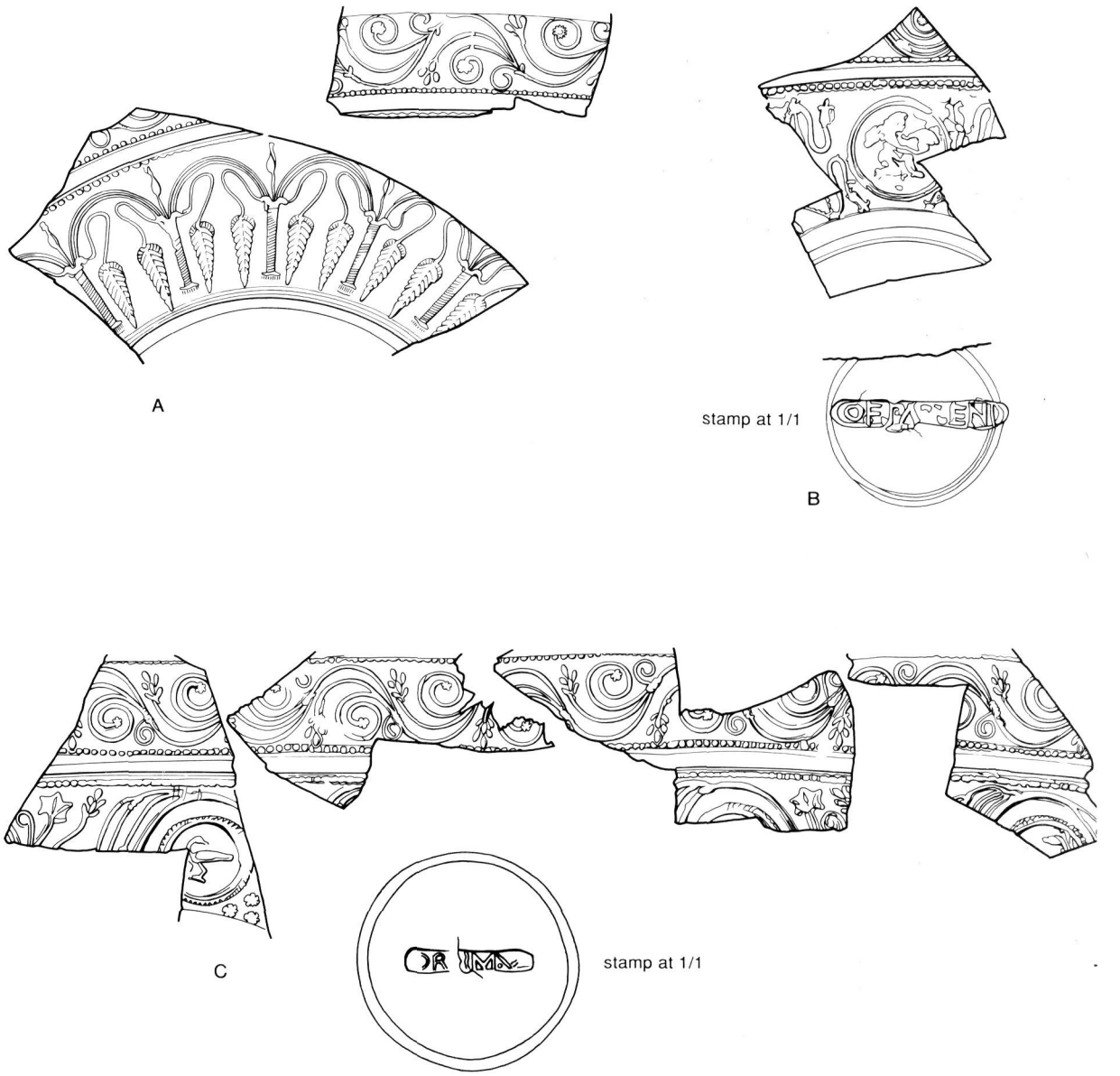


Fig 70. Decorated samian (scale 1/2)

45–60/65, and there is a single example of the plain form Ritt 3B and at least one of form Ritt 1. Characteristically mid 1st-century plain forms such as Dr 24/25 are relatively uncommon. The decorated ware of the Neronian to mid-Flavian period includes Dr 29s stamped by Passienus (two, including Fig 70b), Bassus i-Coelus, Primus iii-Sco (Fig 70c) and Rufinus ii (two, including Fig 71d). Also of interest is a bowl in a rather unusual style which may be associated with L Cosius Virilis, a very occasional maker of Dr 29 (Fig 71e). Several other examples of Dr 29 are in styles associated elsewhere with stamps of Primus, Senicio, Iucundus and Vitalis. The Dr 37 bowls include one from a signed mould of Mommo (Fig 72f) and others in styles associated with such 'Pompeii Hoard' potters as Calvus, Vitalis and Memor.

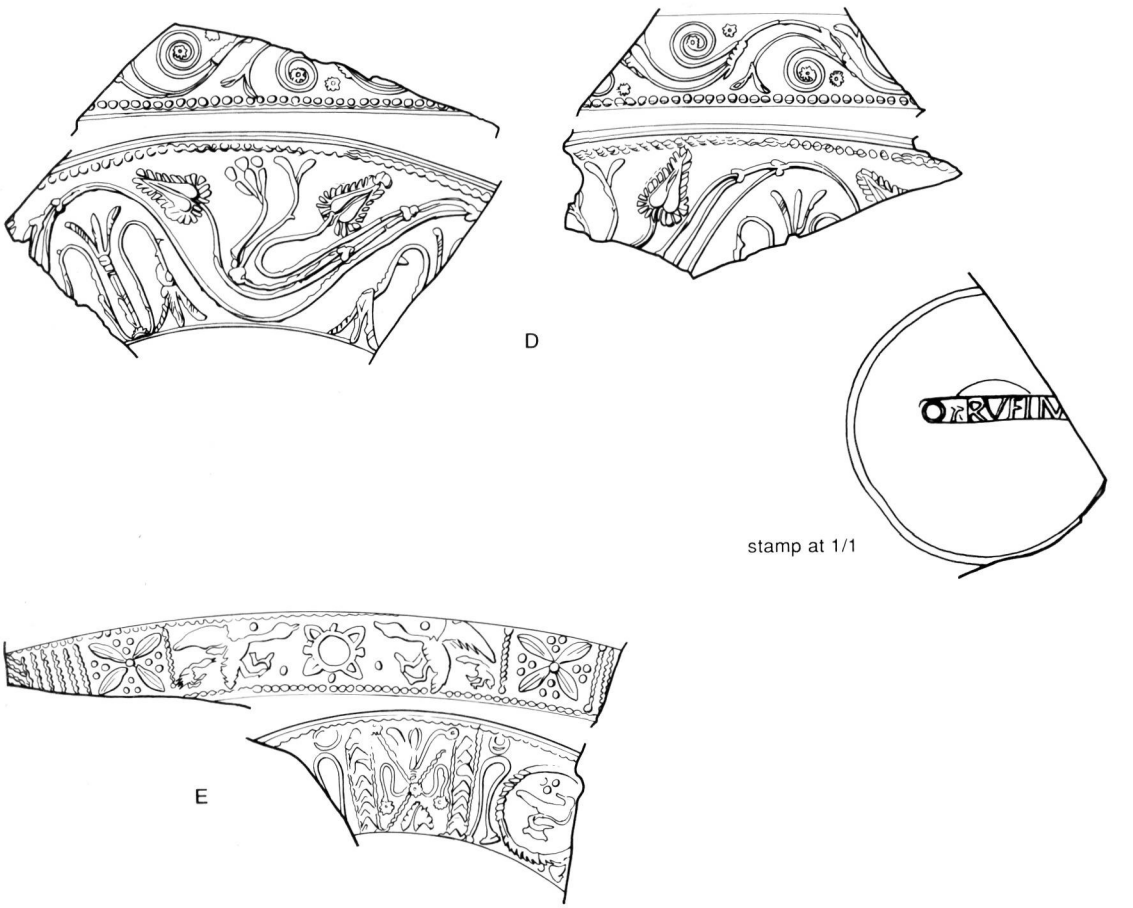


Fig 71. Decorated samian (scale 1/2)

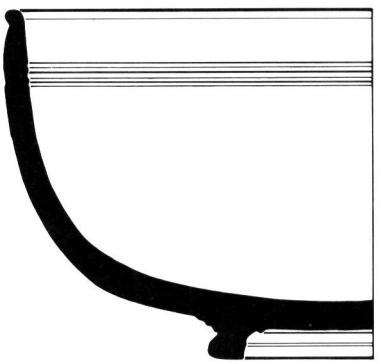
There is little that need date beyond *c.* AD 90: potentially the latest stamps, of Frontinus and Severus i, are relatively widely dated (*c.* 70–100 and 80–100 respectively), and the latest decorated bowls, of the M Crestio-Crucuro group, including one from Building 16, Period 3 (Fig 73g), date *c.* 75-100 overall. The later 1st-century decorated bowls, one with a mould-stamp of Mercator i (Fig 73h) the other signed in the mould by C Cincius Senovir, come from Basilican and medieval levels.

Virtually all the samian from these levels is South Gaulish, and probably almost entirely from La Graufesenque. The exception, a small group of 1st-century Lezoux wares, deserves a mention: it consists of three decorated bowls of form Dr 29 (Fig 74,j,k,l), two in the style of Titos, from contexts of Periods 3,4 and 5, a Dr 27 with illegible stamp, and at least one Dr 18; a stamped Dr 24 may also be in this ware. To these can be added a stamp of Lucanus ii on Dr 27, from a later context but of similar pre-Flavian date.

Catalogue

The samian vessels illustrated in Figs 70–4 are described below; the full report may be consulted in the site archive.

a) [4459] [9944] [9955] (S32), Building 14, Period 3; (S7) dump; Dr 29. Upper zone scroll with triple buds, lower zone columns supporting arcades which contain paired leaves. The triple bud in the scroll was used on stamped bowls of several Claudio-Neronian potters, including Crestio, Ingenuus, Licinus and Senicio (Webster 1987, pl C, no.42; after Knorr). The column is probably Hermet 1934, pl 16, no.58, but rather more delicately modelled than the illustration indicates. The pinnate leaf, frilled at the base, comes in size between leaves on stamped bowls of Murranus (Knorr 1952, Taf 44,B, from London) and Ingenuus (Knorr 1919, Taf 42,N, from Bonn). Colonnade designs tend to be early, which, with the



signature at 1/1

F

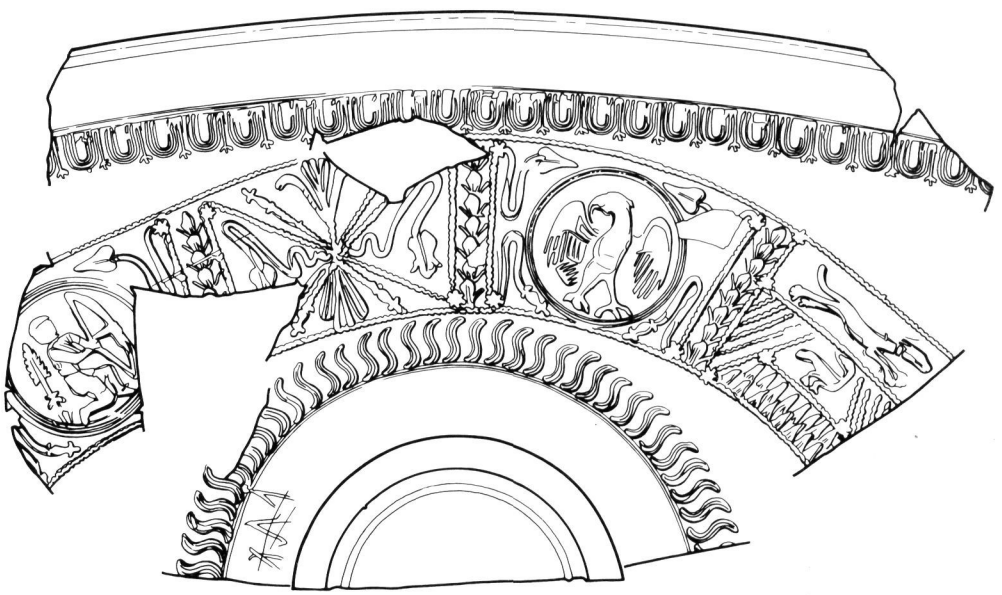


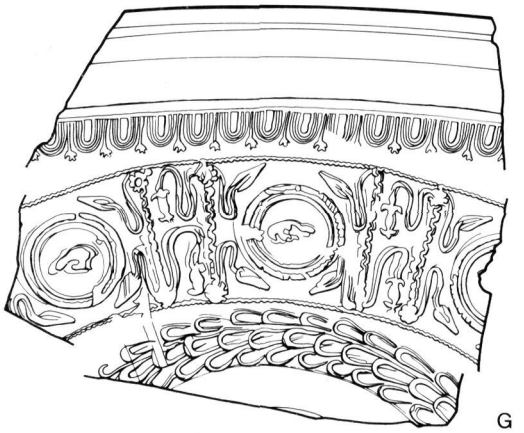
Fig 72. Decorated samian (scale 1/2)

potters for whom links can be noted, indicates a date *c.* AD 40–55. (Fig 70).

b) [9819] (S34) Building 14, Period 3, Dr 29, with internal stamp; Pass(i)enus of La Graufesenque, die 5a (Brenda Dickinson). The upper zone has spirals in double festoons; the lower zone has panels, including a saltire and a double medallion containing a cupid (Hermet 1934, pl 18, no.36) with poppyhead tendrils in the angles. The festoons and poppyheads are on a stamped bowl from Nijmegen (Knorr 1919, Taf 63,D). *c.* AD 65-80. (Fig 70).

c) [3962] [9865] [9868] [9887] [9941] (N39), Midden 16; (S12) Midden 11, Period 4, Dr 29, with internal stamp OF·PRM·S(Co); Primus iii—Sco[- of La Graufesenque, Die 1a (Brenda Dickinson). Upper zone scroll with cornears, used in a saltire on a stamped Primus bowl from Bregenz (Knorr 1952, Taf 51,A), which also has the small rosette terminals and the bird looking to the right. The other bird is on a stamped Primus bowl from Vechten (Knorr 1919, Taf 66,G). Lower zone scroll with palmate leaves and the cornear over cogged medallions containing the birds, and three eight-petalled rosettes in a triangular group. The medallion is on a bowl from London (Norris Coll, Lewes) stamped with one of Primus' later dies. *c.* AD 60-80. (Fig 70).

d) [6474] [6492] (W17) Building 6, Period 3 <2540>. Brenda Dickinson reports: Form 29, with internal stamp OF.RVFIN[I]; Rufinus ii of La Graufesenque, Die 2c. The scroll in the upper zone has a spiral, bifid motif (also used in the lower zone) and small rosette in each concavity. The scroll in the lower zone has trifid (Hermet 1934 pl 13,38) and bifid motifs, between fringed leaves (similar to Hermet, pl 8, 40) in the upper concavities. The lower concavities contain composite motifs, consisting of a central chevron stem with



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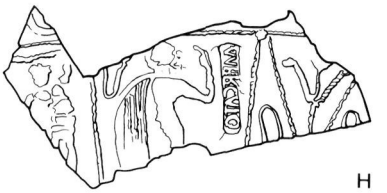

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stamp at 1/1

Fig 73. Decorated samian (scale 1/2)

trifid motifs at the top and on tendrils springing from the bottom. The upper scroll has a five-beaded tie, the lower a bead-and-chevron binding. No close parallels for the decoration have been found, but the trifid motif is on bowls by Rufinus from La Graufesenque and the London fort. The latter is from the same mould as a bowl from Neuss with one of Primus iii's later stamps. *c.* AD 65-80. (Fig 71).

e) [4494] [9577] (N15) Well, Period 2; (S35) Midden 5, Dr 29. Upper zone of rather eccentric panels, including diagonal wavy lines over triangles, flanked by vertical wavy lines; a large rosette with groups of three roundels; pairs of opposed large and small geese (Hermet 1934 pl 28, nos 29, 30 and 68) separated by an ornament; and a duck (Oswald 1936–7, no. 2259) facing two small geese (Hermet pl 28, no 68 left). The panel of triangles and wavy lines is shown on Hermet pl 52, no 1, without attribution. The various birds were shared by a number of potters, while the rosette is composed of four individual leaves (*cf* Hermet 1934 pl 15, no. 109). The ornament is recorded by Knorr for L Cosius (Virilis) (Knorr 1919, Taf 25, no 25), who very occasionally made Dr 29 (information from Brenda Dickinson). The group of roundels decorating the rosette is probably composed from an individual one, as the spacing is not uniform and it occurs singly on the geese panel. (Fig 71).

f) [4459] [4494] (N15) Well, Period 2) Dr 37. Mould signature presumably Mommo, below the decoration. The ovolo is recorded for Mommo and is on Atkinson 1914, pl 11, no 55 assigned to him, with the medallions containing the archer and leaf and the eagle respectively—also the pointed leaf on a tendril, what may be the same tasselled leaf, the trifid motif, and the poppybud; this bowl also has a similar use of narrow vertical foliage panels. The s-gadroon is on another Pompeii bowl assigned to Mommo (Atkinson 1914 pl 12, no 59). *c.* AD 70–85. (Fig 72).

g) [9921] (S36), Building 16, Period 3; Dr 37. Four-pronged ovolo used by M Crestio and Crucuro. The narrow pointed leaf on the tendril is on a mould-stamped M Crestio bowl in the Museum of London (5455G), which also combines the fine and coarse wavy line borders. The poppybud tendril is on another mould-stamped bowl, from Mainz (Knorr 1952, Taf 19,A). The heavy basal wreath of hollow leaves is on a late bowl from La Graufesenque (Hermet 1934, pl 88, no. 4), and the hollow leaf occurs as a single element on a bowl in late M Crestio style from Southwark (175 Borough High Street). The little medallion, the outer ring of which is hatched, has no obvious parallel in M Crestio's work. *c.* AD 80–100. Partly smudged in the mould. (Fig 73).

h) [12146] <3052> (M64) Basilica construction, Brenda Dickinson reports: Form 37, with a mould-stamp, MERC TO retrograde, in the decoration; Mercator i of La Graufesenque, Die 7a. The trident-tongued ovolo is probably his commonest one (Knorr 1919, Taf 57, 19). The panels include 1) a satyr (Hermet pl 19, 80 or 81); 2) Jupiter (*ibid* pl 18, 2); 3) a saltire, with a trifid motif (*ibid* , pl 14, 69?) in the top part. Neither figure-type is particularly common for Mercator. *c.* AD 80–110. (Fig 73).

j) [9890] [9938] [9939] [9941] (S12), Midden 11; (S10), Building 6, (S36), Building 16, Periods 3/4; Dr 29, 1st-century Lezoux ware. Style of Titos. The upper zone scroll with large rosettes and cornears and the same binding is on Piboule *et al* 1981, pl 59, no. 277, but it is not clear from the plate whether the motif in the field is a rosette or, as here, a roundel. The roundel occurs in the same position on pl 29, no. 289. The lower zone has been badly smudged, presumably on removal from the mould; it comprises saltires, medallions and a narrow arrangement of beadrows and rosettes in a chevron. Plate 16, no. 218 has a closely similar saltire with the same triple poppyheads at the top and a single one at the bottom, flanked by narrow corded motifs; it is not possible to be certain, however, whether the motif at the side on the Leadenhall bowl is a corded motif or a small leaf like that in the medallion. The medallion and its corded column, double spiral and rosettes are on pl 58, no. 276, with a similar saltire; the leaves in the medallion appear to be a new motif. The medallions are flanked by diagonal wavy lines bearing a small bird (Piboule *et al* , type C8). The chevron arrangement is fragmentary and unclear: for generally similar arrangements in upper zones, *cf* pl 42, nos 72–75, though they are much more elaborate. Neronian. (Fig 74).

k) [9868] (S12) Midden 11, Period 4; Dr 29, 1st-century Lezoux ware. Upper zone scroll in the style of Titos: corn ear as Piboule *et al* 1981, pl 49, no.152 (a signed Titos mould), spiral and small rosette as pl 16, no.218; for the roundel used in the same way, see pl 29, no.289. Lower zone scroll with large pinnate leaves (fatter and blunter than Piboule *et al* type C14), long corded motifs (as Oswald 1937,

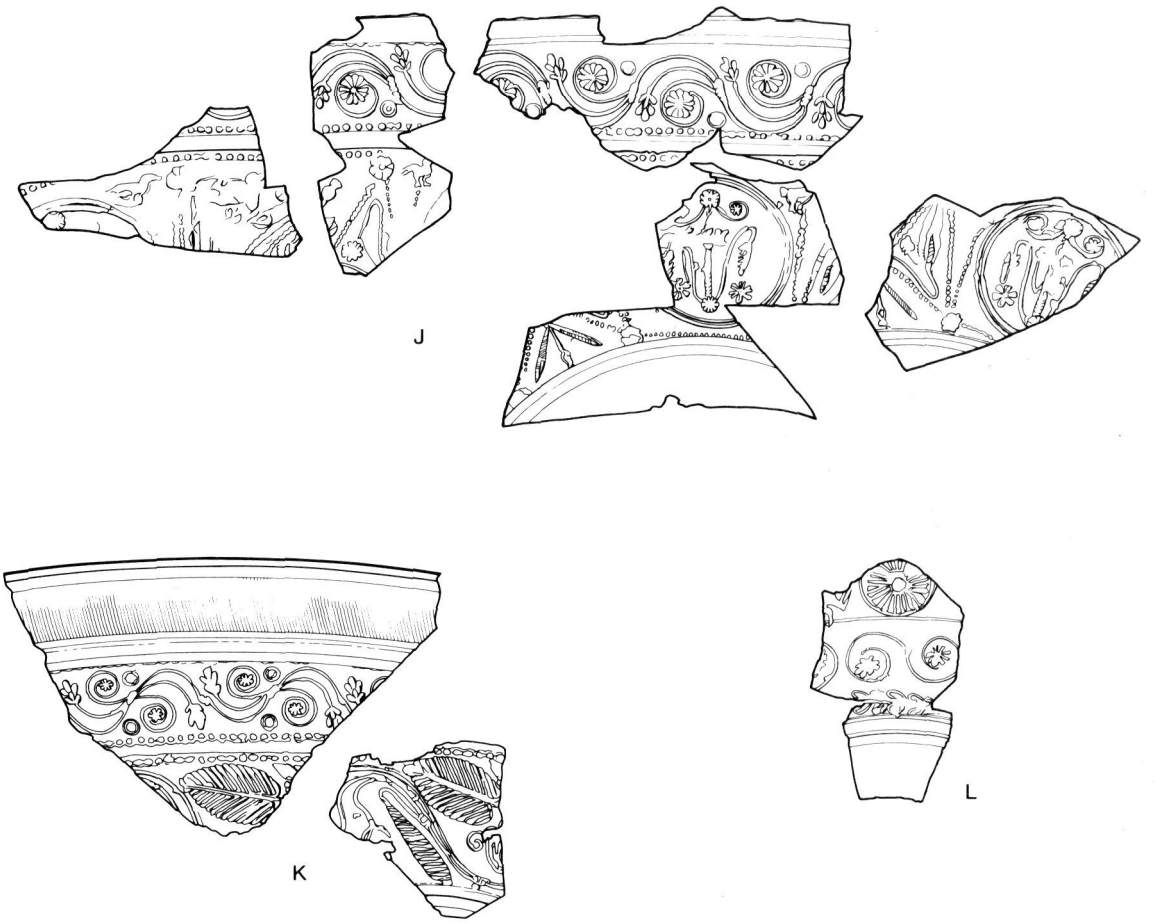

Fig 74. Decorated samian (scale 1/2)

fig 14, no.15), and probably narrow lobed leaves (*cf* Piboule *et al* 1 pl 28, 281), but these are damaged. Probably Neronian. The external surface is notably pale and rather blotchy on the upper zone. (Fig 74).

l) [9804] [9867] (S14) Building 23, Period 5, Dr 29, 1st-century Lezoux ware. Shallow bands of decoration: a large hollow-centred rosette in a plain medallion, beside a ?bird impressed sideways, above a band of s-spirals with rosette terminals and a basal band of bifid leaves. There is no apparent close parallel for the distinctive rosette. Pre-Flavian; burnt. (Fig 74).

Analysis of the pottery assemblages

J.Groves

In order to provide supplementary dating evidence to that supplied by the samian stamps and coins, and to determine whether it is possible to detect trends and characteristics that would assist in the subdivision of the late 1st-century Roman Ceramic Phase 2, the pottery was grouped to correspond with the main phases of pre-Basilican activity, namely 1) Period 2, the early settlement, (4,604 EVES, 72,079g); 2) Period 3, urban expansion (10,220 EVES, 13,3329g); 3) Periods 4 and 5, the period of contraction (8,241 EVES, 13,3361g). Pottery from construction contexts in the phases of urban expansion and contraction and those stratigraphical groups which overlapped more than one of these main phases to any great degree was excluded from this study. The percentages quoted in the following analysis are derived from the total assemblages of these three phases with the consequence that apparently minor differences may be of considerable significance and would be greatly amplified if the assemblage was split into smaller components, such as general ware types.

Felicity Wild (pers comm) has shown that the proportion of different samian forms has the potential to date late 1st-century assemblages

closely and the ratios of samian forms in Boudiccan deposits have been examined by Martin Millett (1987). The samian, therefore, was also selected for more detailed analysis so as to bring into sharper relief the relationship between the forms.

The fabrics (Figs 75–77 Tables 7–9)

Comparison of the three assemblages highlights several trends, most notably in regard to fabrics,

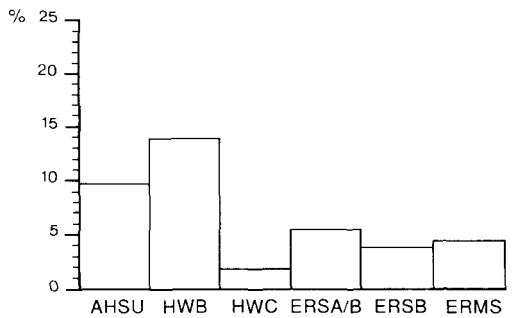

Fig 75. Histogram showing the principal fabrics from the early assemblages at Leadenhall Court, Period 2

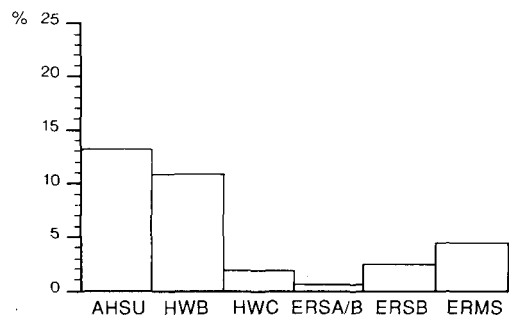

Fig 76. Histogram showing the principal fabrics from the assemblages at Leadenhall Court, Period 3

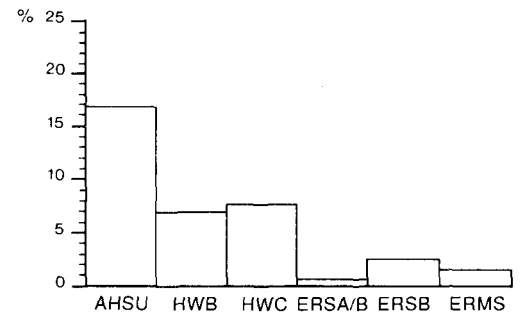

Fig 77. Histogram showing the principal fabrics from the latest assemblages at Leadenhall Court, Periods 4-5

and in particular the relationship between the reduced fabrics Highgate Wood B ware (HWB) and Alice Holt Surrey ware (AHSU). In the earliest phase HWB (14%) is more common than AHSU (10%) but by the latest phase the situation is completely reversed as AHSU (17%) is the dominant fabric, with HWB ware at only 7%. In the middle phase the fabrics occur in almost equal proportions but with AHSU slightly more prominent (AHSU 13%, HWB 11%).

Highgate Wood C ware (HWC), the later Highgate product which supersedes HWB, has a very low reading in the early and middle phases (2%), but in the latest phase reaches 8%. Highgate Wood B/C ware (HWB/C), the transitional Highgate fabric dated *c.* AD 65–75, shows a slight increase in the latest assemblage (from <1% to 2%).

The three groups clearly chart the sharp decline of Early Roman Sandy A/B ware (ERSA/B)—from 6% in the earliest to 1% in the later assemblages. Early Roman Sandy A ware (ERSA), the earliest fabric of the Early Roman Sandy wares group (ERS) is consistently low in all three assemblages (<1%), clearly showing that it is past its peak before the early phase, whereas the later variant, Early Roman Sandy B (ERSB), maintains relatively constant readings (4%, 2% and 3%). Early Roman Micaceous Sandy ware (ERMS) shows a similar pattern to ERSA/B in that it falls to a very low level in the contraction period, from 4% to 1%.

Ring-and-dot Beaker fabric (RDBK), a fine ware, shows a slight peak in the middle assemblage, rising from 2% to 3% then dropping to 1% in the latest phase. Fine Micaceous Black/Grey wares (FMIC) remain the most common local fine ware throughout, registering at 5% in the earliest assemblages and increasing to 6% in the later periods. Verulamium Region White ware (VRW) is the dominant oxidised ware, but fluctuates from 14% in the earliest period to 19%, and back to 12%. No chronological significance is attached to this.

All the assemblages show the emergence of a range of fabrics which are more common in the 2nd century, for example Local Mica-dusted wares (LOMI), Verulamium Region Coarse White-slipped ware (VCWS), Local Eggshell ware (LOEG) and North Kent Grey ware (NKGW). The very small quantities involved (1% or less) in each instance, clearly indicate that this is the nascent period for these wares. The Local Oxidised ware group of fabrics

Table 7. The Early Settlement (Period 2): fabrics by EVEs and weight (grammes)

Fabric	EVEs	%EVEs	Weight	%Weight
—	0.22	0.48%	396	0.55%
AHSU	4.45	9.67%	5868	8.14%
AMPH	0.40	0.87%	4291	5.95%
AOMO			18	0.02%
BHWS			62	0.09%
C186			2082	2.89%
C189			12	0.02%
CC	0.31	0.67%	24	0.03%
CGGW			2	0.01%
CGOF			10	0.01%
CGWH			8	0.01%
COAR			10	0.01%
COLC	0.20	0.43%	34	0.05%
DR20			17492	24.27%
ERGS	0.12	0.26%	32	0.04%
ERMS	2.03	4.41%	1633	2.27%
ERSA	0.08	0.17%	22	0.03%
ERSA/B	2.54	5.52%	1645	2.28%
ERSB	1.72	3.74%	1381	1.92%
ERSS			84	0.12%
FINE	1.81	3.93%	454	0.63%
FMIC	2.17	4.71%	788	1.09%
GROG	0.21	0.46%	174	0.24%
HOO			858	1.19%
HWB	6.41	13.92%	7717	10.71%
HWB/C	0.01	0.02%	82	0.11%
HWC	0.89	1.93%	653	0.91%
KOAN			1999	2.77%
LOEG	0.04	0.09%	8	0.01%
LOMI			6	0.01%
LYON	0.37	0.80%	22	0.03%
MICA	0.29	0.63%	14	0.02%
MLEZ	0.11	0.24%	14	0.02%
NFSE	0.31	0.67%	252	0.35%
NGGW			76	0.11%
NKGW	0.09	0.20%	114	0.16%
NKSH			373	0.52%
OXID	0.81	1.76%	486	0.67%
PE47	1.00	2.17%	3389	4.70%
PRW1			10	0.01%
RDBK	0.85	1.85%	746	1.03%
RHOD			3617	5.02%
RWS			450	0.62%
SAM	8.24	17.90%	4021	5.58%
SAND	3.14	6.82%	1230	1.71%
SHEL			32	0.04%
SLOW			98	0.14%
SPAN			2	0.01%
TNIM	0.36	0.78%	155	0.22%
VCWS			10	0.01%
VRG	0.23	0.50%	64	0.09%
VRW	6.63	14.40%	9059	12.57%
Total	46.04	100.00%	72079	100.00%

Table 8. The phase of urban expansion (Period 3): fabrics by EVEs and weight (grammes)

Fabric	EVEs	%EVEs	Weight	%Weight
—	0.03	0.03%	52	0.04%
AHSU	13.48	13.19%	14063	10.55%
AMPH			3464	2.60%
BHWS	0.55	0.54%	1960	1.47%
C186	0.08	0.08%	2663	2.00%
C189			46	0.03%
CC	0.20	0.20%	7	0.01%
CCGW			44	0.03%
CGGW			12	0.01%
CGOF	0.64	0.63%	44	0.03%
COAR	0.11	0.11%	206	0.15%
DR20	1.57	1.54%	39595	29.70%
ERGS			22	0.02%
ERMS	4.57	4.47%	2941	2.21%
ERSA	0.09	0.09%	295	0.22%
ERSA/B	0.52	0.51%	279	0.21%
ERSB	2.55	2.50%	1280	0.96%
ERSS			110	0.08%
FINE	1.54	1.51%	442	0.33%
FMIC	5.96	5.83%	2024	1.52%
GROG			138	0.10%
H70	0.50	0.49%	290	0.22%
HOO	1.70	1.66%	1784	1.34%
HWB	11.17	10.93%	10956	8.22%
HWB/C	0.32	0.31%	361	0.27%
HWBR	0.14	0.14%	314	0.24%
HWC	1.90	1.86%	1159	0.87%
KOAN			1959	1.47%
L555			600	0.45%
LOEG			4	0.01%
LOMI			4	0.01%
MICA	0.06	0.06%	6	0.01%
MLEZ	0.20	0.20%	188	0.14%
NFSE	0.27	0.26%	510	0.38%
NGGW			12	0.01%
NKGW	0.08	0.08%	12	0.01%
NKSH	0.07	0.07%	567	0.43%
OXID	0.84	0.82%	1371	1.03%
PE47	1.00	0.98%	1612	1.21%
PRW1			4	0.01%
PRW3	0.03	0.03%	10	0.01%
RDBK	3.11	3.04%	1379	1.03%
RHOD			558	0.42%
RWS	1.32	1.29%	156	0.12%
SAM	18.68	18.28%	6207	4.66%
SAND	6.00	5.87%	3272	2.45%
SEAL	0.96	0.94%	38	0.03%
SHEL	0.07	0.07%	18	0.01%
SLOW	0.31	0.30%	248	0.19%
TN			18	0.01%
TNIM	0.36	0.35%	152	0.11%
VCWS	0.70	0.68%	52	0.04%
VRG	1.33	1.30%	1043	0.78%
VRMI	0.24	0.23%	30	0.02%
VRR			24	0.02%
VRW	18.95	18.54%	28724	21.54%
Total	102.20	100.00%	133329	100.00%

Table 9. The phase of contraction (Periods 4/5): fabrics by EVEs and weight (grammes)

Fabric	EVEs	%EVEs	Weight	%Weight
—	0.31	0.38%	491	0.37%
AHSU	13.84	16.79%	13670	10.25%
AMPH	0.08	0.10%	2365	1.77%
AOMO	0.20	0.24%	64	0.05%
BHWS	0.09	0.11%	151	0.11%
BLEG			2	0.01%
C186	0.37	0.45%	5622	4.22%
C189	0.10	0.12%	218	0.16%
CC	0.41	0.50%	20	0.01%
CGGW			28	0.02%
CGWH			4	0.01%
COAR	0.42	0.51%	309	0.23%
DR20	0.73	0.89%	50445	37.83%
ECCW			16	0.01%
ERMS	1.23	1.49%	1098	0.82%
ERSA	0.07	0.08%	50	0.04%
ERSA/B	0.42	0.51%	128	0.10%
ERSB	2.08	2.52%	1880	1.41%
FINE	3.11	3.77%	586	0.44%
FLIN			68	0.05%
FMIC	5.26	6.38%	2821	2.12%
GROG	0.07	0.08%	306	0.23%
HOO			662	0.50%
HWB	5.73	6.95%	4738	3.55%
HWB/C	1.79	2.17%	902	0.68%
HWBR			60	0.04%
HWC	6.25	7.58%	3380	2.53%
KOAN	0.20	0.24%	1922	1.44%
L555	0.56	0.68%	484	0.36%
LOEG			18	0.01%
LOMI	0.64	0.78%	439	0.33%
LOXI	0.11	0.13%	76	0.06%
MLEZ	0.17	0.21%	100	0.07%
NACA			30	0.02%
NFSE	1.48	1.80%	677	0.51%
NKGW			2	0.01%
NKSH			1882	1.41%
OXID	0.99	1.20%	1104	0.83%
PE47	1.10	1.33%	3368	2.53%
RDBK	0.71	0.86%	578	0.43%
RHOD			1311	0.98%
RWS			38	0.03%
SAM	14.24	17.28%	5488	4.12%
SAND	8.32	10.10%	5084	3.81%
SEAL	0.22	0.27%	16	0.01%
SHEL	0.25	0.30%	105	0.08%
SLOW	0.22	0.27%	54	0.04%
SUG			6	0.01%
TN	0.06	0.07%	10	0.01%
TNIM			22	0.02%
VCWS			34	0.03%
VRG	0.63	0.76%	208	0.16%
VRMI			20	0.01%
VRW	9.95	12.07%	20201	15.15%
Total	82.41%	100.00%	133361	100.00%

(LOXI), which becomes fairly prominent in 2nd-century assemblages, does not emerge until the latest phase and then at only <1%.

London ware (LONW), previously considered to be a late Neronian/early 2nd-century product (Davies *et al* 1994) is entirely absent, but there are some FMIC sherds, which are closely related to it, from the expansion and contraction assemblages. These sherds have compass-type incised decoration which is a characteristic of LONW, but a compass has not been used in its execution as is the case on true LONW. Furthermore the sherds lack thick black slip, another distinguishing feature of the later fabric. It seems likely that they represent a transition between FMIC and LONW.

The presence of North Gaulish Grey ware (NGGW), a fabric normally associated with the 2nd and 3rd centuries, in Period 2 and 3 groups is of interest, since it demonstrates the longevity of the type. North African Cylindrical Amphorae (NACA), another ware characteristic of the later Roman period, is represented (<1% wt) in the contraction assemblage. This amphora is not thought to have reached Britain until the 2nd century (Milne 1992, 68); however, the Leadenhall example is from a group (W17) which remained unsealed for a long period.

The miscellaneous sandy ware fabrics (SAND) in the expansion and contraction phases include some very distinctive rilled necked jars. They occur in three related fabrics (SAND 3968, 4133 and 4146) and form a coherent group previously unrecognized in the City. There are several similar vessels from 1st-century contexts at Verulamium (see, for example, Frere 1972, fig 102 no. 100 and fig 107 nos 272–3, 275).

Virtually all the samian is from La Graufesenque which is rare in Britain after AD 100; 2nd-century fabrics are absent (see above). The exceptions noted by Joanna Bird comprise a small group of 1st-century Lezoux wares (Fig 74).

The forms (see Appendix 4)

The non-samian forms

Coarse ware forms show less dramatic trends than the fabrics, and in most cases little change is evident between the assemblages. Lids show the most marked difference, increasing from 4% to 11% from the earliest to the latest phase.

There is a more gradual rise in the hooked/folded rim bowl (IVF), from 5% in the first two groups to 8% in the latest assemblage. It is possible that the increase in lids and the IVF are directly related, *ie* the two were used together. The reduction in the shallow-necked jar (IIB, 3% to 1%) is accounted for by the demise of ERMS, the fabric with which it is usually associated. It is perhaps surprising that the early flagon type IA (various fabrics) is more common in the latest group at 3% but is absent from the earliest assemblage.

It is of interest that all assemblages contain a few examples of HWC ware necked jars, which appear to be the precursors of the IIE, a 2nd-century jar type. They lack the slip, burnishing and decoration of true IIEs (see Fig 68, No.8). Some body sherds were also recorded as possible IIEs, because they have a zone of decoration typical of the form; however, this same decoration is not restricted to IIEs and is sometimes found on bead-rim jars (IIA) and flasks (IIR).

In all three periods, the 'poppy-head' beaker (IIIF) is limited to a type which represents its initial development, having a short neck and sloping shoulder; no vessels exhibit the tall neck and rounded shoulder which characterise 2nd-century examples.

The samian forms (see Appendix 4)

Marked changes are discernible between the three samian assemblages. With plates, the Dr 15/17 declines sharply from 17% in the early assemblage to just 2% and 3% in the expansion and contraction phases respectively, while Dr 18, the most common plate, remains relatively constant (29%, 31% 27%) decreasing slightly in Period 4-5. Millett (1987,96) noting variations in the percentage relationships between these forms commented that Dr 18 replaced Dr 15/17.

Dr 29 is consistently the most popular bowl type, but again a decline is evident; falling from 14% to 8% in the later periods. A rise in the proportion of Dr 37, the most prevalent bowl type in the 2nd century, slightly compensates for this, registering 5% in the earliest phase and 4% in the following phases. The Ritt 12 is an early bowl (AD 40–80), but it increases from 1% to 4% in the contraction assemblage.

The dominant cup in all three phases is Dr 27, although the percentages fluctuate (27%, 43%, 38%). Dr 33, which supersedes it in the 2nd century, has very low readings, registering by weight only (1%) in the earliest assemblage, increasing to just 1% (EVES) in the later groups.

Conclusions: refining late 1st-century dating

The trends and differences noted in the study of the assemblages from the three main phases of pre-Basilican activity suggest that it is possible to recognize early, late and, to some extent, even middle groups within Roman Ceramic Phase 2 (RCP2 *c.* AD 70/75–100). Verification of this, however, is required through the study of other large assemblages of similar date. It is clear that the changing trends in local grey wares is the key factor in dating assemblages of the late 1st century.

An early RCP2 assemblage (RCP2A) is characterised by the following: a markedly higher proportion of HWB than AHSU; a very small quantity of HWC (*c.* 2%); a relatively high quantity of the minor fabrics ERMS (and its main form the IIB) and ERSA/B (*c.* 4%–6%) and very high readings for Dr 15/17s and Dr 29s (*c.* 17% and 13% of samian forms respectively).

Conversely, a late RCP2 assemblage (RCP2B) is characterised by: a higher proportion of AHSU than HWB ware; a fairly high reading for HWC (*c.* 8%); very low percentages for ERSA/B and ERMS (1% or less); a high proportion of lids (*c.* 11%) low percentages of IIBs (1%), Dr 15/17s (3% of samian forms) and a fairly small proportion of Dr 29s (8% of samian forms).

Although other trends were noted, namely an increase in FMIC, IVFs, and a decrease in RDBK, the differences are not sufficiently great to be used as key factors in distinguishing early and late subdivisions of the ceramic phase. Similarly there are obvious difficulties involved in detecting a middle RCP2 assemblage because the developments noted lack the necessary contrast which is evident when comparing specific elements of early and late groups. It is possible, however, that occurrence of HWB and AHSU in roughly equal proportions may prove to be a valid means of recognizing this group (RCP2A/B).

The evidence from the dated fabrics in the assemblages generally corroborates that from the coins and samian stamps. Support for a date in the AD 70s for Period 2 is provided by the presence of HWC ware, NKFW, LOMI, Dr 37s,

Curle 11s and other late 1st/2nd-century types, together with low readings for ERSA, SLOW and other, probably residual, mid 1st-century RCP1 fabrics.

The pottery from Period 3 agrees with the AD 80s date suggested by the stamp of Severus, but the transitional nature of the assemblage, prevents any greater precision. The samian stamps suggest that the latest assemblage, Periods 4–5, is confined to the late 1st century and the other pottery supports this evidence. There is an absence of LONW, an early 2nd-century type; black-burnished ware which emerges *c.* 120; 2nd-century samian; the 2nd-century jar form the IIE; and well developed IIIFs. Furthermore, the common 2nd-century fabrics such as LOMI, VCWS and LOXI are only present in very small quantities. Finally, the major 2nd-century samian types, Dr 33 and Dr 37, form only a very minor part of the samian repertoire.

It is obvious that residuality will have a distorting effect on the relative proportions, particularly in the later assemblages. This may explain the relatively high readings for HWB/C, IAs and RT12s in the latest phase.

The assemblage therefore helps to resolve some of the uncertainties previously encountered when dating late 1st-century pottery from the City. The evidence suggests that LONW and IIE's are unlikely to have been produced before the 2nd century; their occurrence in late 1st-century assemblages at the Newgate Street site (GPO75) is probably due to contamination. The presence of LONW prototypes clarifies the relationship between FMIC and LONW. The data confirms the suspicion that the HWC everted-rim jar (IIF), a black-burnished ware form, is intrusive in the late 1st-century deposits at GPO75. It was also thought that LOXI might be intrusive in the GPO75 Flavian deposits (Davies *et al* 1994) but its appearance in the latest Leadenhall assemblage suggests that its production in fact began in the late 1st century.

Finally, it is of interest to compare the samian assemblages of the late 1st century from the forts in northern England with those from Leadenhall. Wild (pers comm) compared an Agricolan assemblage (AD 77/78–83/84) with one, also from the north, dated to the AD 90s; groups which correspond well with the expansion and contraction phases at Leadenhall. In the Agricolan fort assemblages Dr 18s are the prominent plate type with only a very small proportion of Dr 15/17s, a trend also apparent in the Leadenhall material. Where bowls are concerned the Agricolan assemblage has approximately equal proportions of Dr 29s and Dr 37s, and the later one is marked by the almost complete disappearance of Dr 29 and its replacement with Dr 37. This contrasts sharply with the Leadenhall groups where in both the expansion and contraction phases Dr 37 constitutes only a relatively minor component of the samian forms. This difference may to some degree be explained by two factors. First, there is an absence of residual material from the forts as there was no occupation prior to the assemblages studied; second, the evidence seems to suggest that the soldiers, on arrival, were issued with new supplies (Wild pers comm). The Leadenhall groups, by contrast, are more likely to be contaminated with residual material and the inhabitants of the buildings probably brought their possessions with them when they took up occupancy.

The buildings

Trends observed in the assemblages from the three main phases of activity are generally reflected in the pottery groups from individual buildings and their associated features. Detailed analyses of these groups can be found in the archive (Groves 1993). Each assemblage is recorded in tabular form with a histogram and commentary.

6: FUNCTION, STATUS AND ROMANISATION AT LEADENHALL COURT

Deposition

J. Groves

Introduction and methods

Further analysis of the ceramic assemblages was undertaken in an attempt to ascribe particular functions to specific buildings and to determine their relative status. Study of function and status has to proceed with certain caveats, the strongest of which concerns residuality, which is investigated here. A prime consideration is the depositional pattern of the pottery, of particular interest because of the presence of the middens.

Systematic sherd-linking was undertaken to answer several questions in relation to deposition, for example: did the buildings share middens? Is it possible to relate middens to particular buildings? What was the relationship between the different buildings? To what extent was material reused for make-up layers, paths *etc*? How extensive is the problem of residuality?

There are of course other aspects of depostion which could be considered. The degree of abrasion of the sherds, noted during the initial dating of the material, was not found to be a significant factor, probably due to the limited overall time span of the assemblage. It proved impractical to undertake detailed analysis of sherd size, and sherd-linking was thought to be the most effective method for this study.

To this end a systematic attempt was made to find sherd links. In order to make the exercise manageable only rims and very distinctive decorated sherds were used; samian was excluded. Links were sought within each fabric and each form present. A sherd link (SHL) was recorded only in instances where the sherds actually joined. If there was no join but it was virtually certain that the sherds were from the same vessel a 'probable sherd link' was recorded (PSHL).

The sherd-linking was undertaken on two levels:

1) Links were sought in most building assemblages which had, or seemed to have, associated middens (Buildings 1–4, 6, 10, 12, 14 and 16). It was not intended at this stage to find joins between sherds deposited in different buildings and middens or across the site generally, with the exception of Buildings 1–4 and their associated features, since this composed a relatively small assemblage. Some assemblages, however, were inadvertently combined prior to the availability of detailed and refined site information: Buildings 14 and 16 and their associated middens; Building 6 and Midden 11; some contexts of Buildings 5 and 15 were included under Building 10. Otherwise Buildings 5 and 15 were not included in the sherd linking. Building 23 was excluded altogether because it lacks a midden assemblage.

2) Two fabrics were selected for site-wide sherd-linking, FMIC 1659 and HWB. These were chosen because: they are fairly common; they showed a reasonably high number of sherd links in the first stage of sherd-linking, and joins were relatively easy to find. Time did not permit repetition of this procedure for other fabrics.

Discussion

The results of the sherd-linking exercise are summarised here; a more detailed account is contained in the archive report (Groves 1993).

One hundred and four sherd links were recognised, 14 of which were discovered during the site-wide sherd linking. All the latter links involved HWB; FMIC did not produce any joins. Nine of the 14 links were between one or other of the three major phases and are, therefore, firm evidence of residuality. A further 35 indicated residuality, but did not cross major phases. The sherd links, therefore, indicate a high degree of residuality with obvious implications for the analysis and interpretation of the assemblages. The residuality, though is minimal in chronological terms because of the short overall time-span of 30 years.

Over half the sherd links were confined to assemblages composed of groups assumed to be related (usually a building and its associated external features, including middens) and probably reflects the method employed. Ten links were identified between middens and other contemporary external features/surfaces, for example the Building 10 external surface and midden in N18. There are several possible explanations for this, none of which are necessarily mutually exclusive. The source of the midden material is an important factor here for it could be from the primary rubbish disposal, occasional site clearance or a mixture of both. This will obviously affect the interpretation of the sherd links. If, for example, it is assumed that the middens represent primary disposal it is reasonable to suggest that some of the material was used to construct and repair exterior surfaces. Alternatively the links could be a consequence of site clearance and the non-primary nature of the middens. Some of the sherd links are explained by the difficulty of defining a midden since rubbish would have been thrown into pits, for example the Building 16 latrine.

Although it was not possible to establish definitely that any one midden was used by a particular building, this is almost certainly due to the dearth of pottery from contexts associated with building use and need not imply that the assumed relationships are incorrect. Sherd links

between material from the disuse of Building 12 and Middens 9, 10 15 and 16 (N31), however, provide some evidence that in this case at least the assumptions are justified. There are also links between Midden 15 and 16 which suggests a common source.

The exercise highlights the problem of interpreting material in layers such as floor surfaces and the overlying silts as products of 'primary use', since in several instances these types of context were shown to contain residual pottery, demonstrating reworking of material (for example Building 10 (S21) and the earlier Building 4 external dump (S6)). It might, therefore, be more accurate to describe them as building construction/use.

The links, in some cases, showed that material from inside a building was related to the disuse of one or more buildings, for example Building 10 ?use (N28) and Building 12 disuse (N30). It is quite likely, because of the close proximity of the buildings, that material was mixed during and after demolition.

There were a relatively high number of sherd links (7) between Buildings 14 and 16, but this is possibly distorted since the two buildings were initially regarded as a single assemblage. Nevertheless the links show that the rubbish in the Building 14 middens was, to some extent at least, from the same source, since there are joins between Middens 4 and 6 and Midden 5 and the quarry/midden. It may be that the material in these middens is the result of secondary deposition. Midden 5 belonged to a group which remained unsealed until the construction of the Basilica.

The systematic sherd linking was compared to those noted during spot-dating, when *c.* 40 links were recognised, most of which are between contexts in the same group. This is consistent with the general pattern apparent from the systematic sherd-linking, *ie* most links occur within asemblages. Links between Buildings 14 and 16 and those crossing major phases were, however, lacking. It is likely that the spot-dating sherd links are equally biased towards links within assemblages because the pottery at that stage was viewed by context in numerical order. As a consequence, contexts from the same building and related features were probably recorded within a short space of time, thus increasing the probability of links being noticed.

Despite the methodological problems, the sherd links contribute to the understanding of the depositional process at Leadenhall. They certainly show that the pottery was subjected to horizontal and vertical movement, which reflects methods of rubbish disposal and the use of material for construction, the latter resulting in residuality.

Function and status

J. Groves

Introduction

The possibility of determining the socio-economic status of the occupants of the buildings was investigated by analysis of the fine ware assemblages. Attempts were also made to assess the extent of Romanisation by comparing the proportion of purely Roman vessel types to other types. The occurrence of form and ware types was examined in an effort to establish the function of the buildings, *ie* whether they were purely residential or had some specialised use. The study of individual room assemblages was not considered worthwhile because of the very small quantity of material.

The pottery in this exercise was examined at two levels: by individual buildings (Tables 10–11) and in merged assemblages according to building type, *ie* Buildings 1–4 (the possible farm buildings of Period 2), strip buildings (Buildings 10 and 12, Period 3), single-room outhouses (Buildings 14 and 16, Period 3) and the structures associated with the construction of the Basilica (Buildings 15,23 and the latest phases of 5,10,12, Period 5) (Tables 12–13).

Pottery from construction contexts is excluded from this study since it has no connection with building use. The exception to this is the amalgamated assemblages from the Period 2 buildings (1–4), because they are unlikely to be contaminated with earlier pottery. Material from deposits which have a reasonably certain association with a particular building, *eg* middens and external surfaces, has been included in the assemblages.

In order to facilitate the assessment of status and function, which is largely based on percentage by EVES, the fabrics have been grouped into the following categories: reduced, oxidised, samian, other fine wares, amphorae and their seals (Tables 10 and 12). Most of the assemblages share general characteristics, with reduced wares

predominating and oxidised wares or samian constituting the next most common ware types. These are followed by non-samian fine wares, which are almost entirely local wares from south-eastern England, and finally amphorae. Jars, followed by either flagons or bowls, are the main form in non-samian fabrics. Beakers are also fairly common, but other forms such as mortaria, amphora, and lids occur in smaller quantities. Although amphorae are a minor component, a wide range of types is represented.

Unless stated otherwise, the assemblages conform to the general pattern outlined above. Only in cases where an assemblage shows a significant deviation from this 'norm', or is in any other way exceptional are comments made. Interpretation and conclusions are largely reserved for the general discussion (p.133).

Forms have been subdivided into samian and non-samian. The distinction is made because samian vessels probably served a different function to their coarse ware equivalents.

The determination of status from pottery is problematical and at this juncture it must be largely restricted to hypothesis testing. Here fine wares have been taken as the key indicator for this purpose, with particular emphasis on the relationship between samian and other fine wares (see also Table 17). The quantity of non-samian fine wares was too small to merit specific analysis.

While it may seem logical to assume that a large proportion of samian denotes high status, research by Griffiths (1989,76) has shown that the reverse may be nearer the truth. A survey by Evans (1981) into classical literary sources shows that pottery was a cheap substitute for metal tableware (*ibid* 520), and was less desirable than high quality glass. The imitation of metal prototypes by samian producers is further evidence of the lower status of samian in relation

Table 10. Percentages by EVEs of major ware categories in the building assemblages

	Blgs1–3	**Blg4**	**Blg5**	**Blg6**	**Blg10**	**Blg10** early	**Blg10** site hut	**Blg12**	**Blg14**	**Blg15**	**Blg16**	**Blg23**	**M11**
Total Eves	8.21	36.24	4.87	24.38	27.91	12.29	14.78	80.57	17.28	4.40	36.80	6.27	23.47
AMPH	–	4	21	8	–	–	1	2	4	–	6	–	2
FINE	13	14	6	13	13	20	8	13	5	10	11	5	14
OXID	15	15	22	23	31	37	27	13	22	6	22	30	32
REDU	52	48	44	39	40	36	43	52	40	50	42	40	31
SAM	21	18	7	16	16	7	21	19	26	30	19	26	20

Table 11. Percentages by EVEs of major form categories from the building assemblages

	Blgs1–3	**Blg4**	**Blg5**	**Blg6**	**Blg10**	**Blg10** early	**Blg10** site hut	**Blg12**	**Blg14**	**Blg15**	**Blg16**	**Blg23**	**M11**
Total Eves	8.21	36.24	4.87	24.38	27.91	12.29	14.78	80.57	17.28	4.40	36.80	6.27	23.47
AMPH	–	4	21	8	–	–	1	2	4	–	6	–	–
BEAKER	7	12	5	12	5	7	4	12	4	6	9	2	8
BOWL	12	10	9	7	11	18	6	14	19	12	6	13	6
CUP	3	–	–	–	–	–	–	–	1	–	–	–	2
FLAGON	14	11	–	16	23	28	20	8	12	6	20	26	27
JAR	35	33	48	30	29	24	32	26	15	32	29	16	27
LAMP/LMPH	1	3	9	2	1	–	2	1	3	1	–	–	1
LID	5	4	1	3	9	5	12	11	5	3	5	10	6
MORTARIUM	1	1	–	6	3	7	1	2	3	–	1	4	–
PLATE	–	3	–	–	2	3	–	–	1	6	2	1	–
SEAL	–	–	–	1	–	–	–	1	2	4	1	–	–
TAZZE	–	–	–	–	–	–	–	–	2	–	–	–	–
SAM BOWL	2	4	–	4	4	3	5	3	4	7	1	3	5
SAM CUP	6	6	2	5	8	2	12	9	10	9	10	11	3
SAM DISH	–	1	–	2	–	–	–	1	–	1	–	–	2
SAM PLATE	12	8	5	5	4	3	4	5	11	12	7	11	8

to metal. It is unlikely, however, that a wealthy household would have dispensed with samian altogether since, as Vitruvius notes: '... for although our tables are loaded with silver vessels, yet everybody uses earthenware for the sake of purity of taste' (Morgan 1914, 247). It seems reasonable to suggest that a relatively low status residence would make greater use of local fine wares, because of lower cost; or perhaps largely do without specialised tablewares and use cooking vessels and other coarse wares instead.

One could argue, therefore, that a poor household would have a low proportion of samian, but greater quantities of other local fine wares or possibly even low percentages of both. A wealthy household would be able to afford, and perhaps prefer, other materials such as metal or glass, and therefore, show a low reading for all fine wares. An assemblage which lies between the two extremes might be expected to exhibit high quantities of samian in relation to other fine wares.

Romanisation may provide a supplementary indicator of status as well as reflecting the lifestyle and composition of the population. An attempt was made to detect any significant differences in the extent of Romanisation in selected assemblages (Building 6, Midden 11 and the building type assemblages described above) by comparing the proportion of exclusively Roman pottery types (flagons, mortaria, amphorae and samian) with all other wares based on percentage by EVES (Table 14).

The individual building assemblages
(Tables 10 and 11)

Buildings 1–3 including Middens 2 and 3 (Period 2)

(8.21 EVES 24,692g)
Individually these buildings either lacked pottery or the assemblages were too small for valid comment. There is, however, a group of pottery from features associated with Buildings 1–3. This assemblage is unremarkable and conforms to the pattern outlined above.

Building 4 (Period 2)

(36.24 EVES, 44840g)
Apart from a relatively high proportion of amphora (4%) this is a 'standard' assemblage.

Midden 1

(1.10 EVES, 64g)
This assemblage is too small for valid comment.

Building 5 (Periods 3/4)

(4.87 EVES 15,486g)
This assemblage clearly stands out from all the others, but this may well be due to its small size and subsequent statistical distortion rather than any real difference in function or status. Certainly some of the statistics are misleading, for example lamps register an exceptionally high 9%, but fragments of only two vessels are actually present.

The assemblage has a higher proportion of amphorae than any other building (21% EVES), but this is almost entirely due to the presence of a single Rhodian type wine amphora from a midden (W35). Other amphorae which are also well represented, but by weight only, would have contained olive oil (Dressel 20 11% wt), wine (PE47 21% wt) and seafood products (C186 22% wt).

Jars also show a particularly high reading at 48% EVES, whereas flagons are only represented by weight (<1%) and mortaria are entirely absent. Samian accounts for only 7% EVES and other fine wares are even lower at 6%.

Building 6 including Middens 8 and 13 (Period 3)

(24.38 EVES, 53,435g)
The percentage of samian from this group is relatively low (15% EVES); only Building 5 and the earlier phases of Building 10 have less. This lack of samian is not compensated for by a high proportion of other fine wares (13% EVES). Amphorae (8% EVES) are more evident than in any other assemblage, apart from the assemblage from Building 5. The proportion of purely Roman types of pottery is also the highest recorded from a building at 46%.

Midden 11 (possibly associated with Buildings 5, 6 and 10) (Period 4)

(23.47 EVES, 2,9304g)
Midden 11 is considered separately because it is uncertain which building or buildings used it. Reduced and oxidised wares are present in almost equal quantities (31% and 32% respectively); flagons and jars also (27%). The proportion of Roman vessel types is high (50%).

Building 10 including Midden 7 (Period 3)

(27.91 EVES 36,176g)
The assemblage from this building has a similar fine ware profile to Building 6: the samian constitutes 16% EVES and the other fine wares 13% EVES. When the assemblage is split on stratigraphic grounds, according to the urban expansion phase and the contraction period, some marked differences are apparent.

Building 10 expansion phase (Period 3)

(12.29 EVES 24,585g)
Reduced and oxidised wares occur in almost equal quantities (36% and 37% respectively). Samian shows a particularly low reading (7%) whereas other fine wares are exceptionally high (20%). The assemblage is small so the apparent deviations may be due to statistical distortion.

Building 10 final phase (Period 5)

(14.78 EVES 10,979g)
Unlike pottery from the early life of the building this assemblage conforms to the more usual pattern, although there are few beakers (4%). This may be compensated for by the other main type of drinking vessel, the samian cup, which registers highly at 12%.

Building 12 including Middens 9, 10, 12 and 15 (Periods 4/5)

(80.57 EVES, 12,5856g)
This is the largest assemblage from the buildings. Reduced wares dominate (52%), while oxidised fabrics account for only 13% EVES; flagons register at only 8%, one of the lowest readings from any assemblage. Unlike Building 10, there are no major differences between the early and late phases of the building. The earlier assemblage does, however, include two examples of a rare vessel type, namely an *ampulla ollearia* (oil jar), which probably contained body oil (from Midden 10 and building use?). Another unusual type—an *unguentarium* in the form of a boar was, in this case probably from a household shrine, although similar objects are also found in burials (Rouvier-Jeanlin 1975–9, 102).

Building 14 including Middens 4 and 6 (Period 3)

(17.28 EVES, 18,093g)
The proportion of samian is high (26%) but other fine wares constitute only 5%. This difference is reflected in the fine-ware forms: samian cups register at 10% in contrast to beakers at 4%. The most common form overall is the bowl (19%).

Building 15 (Period 5)

(4.40 EVES 8,773g)
This is a very small group, so the statistics are likely to be misleading. Oxidised fabrics constitute only 6% but samian registers 30% which is the highest reading from any of the buildings. Samian cups and plates are the most common vessel types after jars; flagons give a low reading at 6%.

Table 12. Percentages by EVEs of major ware categories from the building type assemblages

	Early blgs	**Strip blgs**	**Outhouses**	**Site huts**
Total Eves	46.04	34.48	54.38	74.80
AMPH	3	1	5	2
FINE	14	16	9	12
OXID	17	25	22	17
REDU	48	43	41	51
SAM	18	15	21	19

Table 13. Percentages by EVEs of major form categories from the building type assemblages

	Early blgs	**Strip blgs**	**Outhouses**	**Site huts**
Total Eves	46.04	34.48	54.38	74.80
AMPH	3	1	5	2
BEAKER	11	10	7	10
BOWL	10	12	10	13
CUP	1	–	–	–
FLAGON	14	15	18	12
JAR	32	30	25	26
LAMP/ LMPH	2	1	1	1
LID	4	7	5	11
MORT	1	5	2	2
PLATE	2	1	2	1
SEAL	–	1	1	1
SAM BOWL	4	4	2	3
SAM CUP	6	8	10	8
SAM DISH	1	–	–	1
SAM PLATE	9	3	8	6

Building 16 including Midden 6 (Period 3)

(36.80 EVES 37,928g)
Apart from a relatively large quantity of amphorae (6%) this is a standard assemblage.

Building 23 (Period 5)

(6.27 EVES, 10,481g)
This is a small assemblage which is probably subject to statistical distortion. Samian is at a relatively high 25% while other fine wares only constitute 5%. This accounts for the exceptionally small quantity of beakers (2%) and the high proportion of samian cups (11%). Compared with the other buildings, the quantity of jars represented is small (16%). The flagon is the most common form (26%), but this high percentage is due to a single VRW amphora-type flagon (IJ) from the alley (S16).

Assemblages grouped by building type (Tables 12,13,14)

The suburban early buildings (Period 2; Buildings 1–4)

(46.04 EVES, 72,079g)
Pottery from these buildings forms a standard assemblage, with Roman vessels constituting 36% of the total.

Table 14. The relationship between Roman vessel types and other pottery from different types of building and Midden 11

Building type/midden	Type	EVEs	%EVEs
Early buildings (Period 2)	Roman	16.64	36.14
	Other	29.40	63.86
Building 6 (Period 3/4)	Roman	11.17	45.82
	Other	13.21	54.18
Strip buildings (Period 3)	Roman	12.56	36.43
	Other	21.92	63.57
Outhouses (Period 3)	Roman	25.31	46.54
	Other	29.07	53.46
Site huts (Period 3)	Roman	25.74	34.48
	Other	48.91	65.52
Midden 11 (Period 4)	Roman	11.68	49.77
	Other	11.79	50.23

The strip buildings (Period 3; Buildings 10 and 12)

(34.48 EVES, 45,617g)
Samian and other fine wares occur in almost equal proportions (16% and 15% respectively). Thirty-six percent of the vessels are Roman types.

The single-roomed outhouses (Period 3; Buildings 14 and 16)

(54.38 EVES 56,401g)
Pottery from Building 14 midden 5 (S35) is excluded from the assemblage. Amphorae have a high reading (6%) and Roman vessels generally account for 47% of forms; the highest proportion from any of the building groups.

The site huts (Period 5; Buildings 15, 23 and the last phases of Buildings 5, 10 and 12)

(74.80 EVES, 88,426g)
The pottery constitutes a standard assemblage in which 34% of the vessels are Roman types.

Conclusions

The assemblages show a high degree of homogeneity and any major deviations from the 'norm' tend to occur in the smaller assemblages (Buildings 5, 15, 23 and the early phases of Building 10.) which are liable to statistical distortion. Consequently any conclusions reached in regard to the smaller assemblages are very tentative.

Function

Apart from Building 5, all groups are typical of general domestic use with no indication of any specialised functions. The reduced wares are principally associated with cooking and storage; the oxidised wares with food preparation and/or serving, whilst samian and the other fine wares would probably have been reserved for table use. The assemblages from the different types of building are remarkable for their similarity. There is little distinction between the outhouse assemblages and those from the other buildings, which suggests that rubbish from the main buildings was deposited on the middens and other features and surfaces associated with the outhouses. Building 6, constructed in the third phase, has a relatively high reading for amphorae,

but this may relate more to status and degree of Romanisation than function (see below).

The Building 5 assemblage presents difficulties of interpretation. Its relatively high proportion of amphorae and jars, small proportion of fine wares, negligible quantity of flagons and the absence of mortaria could imply that this building was used for food storage and possibly cooking. If the building did function as a 'cookhouse' the lack of mortaria is perhaps surprising. It may be, however, that these anomalies result from the small assemblage size. In addition, the accessioned finds suggest no specialised use.

Status and Romanisation

Examination of the relationship between Roman vessel types and other pottery in assemblages from the various buildings (Tables 12,13,14) shows some differences between the groups.

Almost half the pottery from Building 6 consists of Roman vessel types, implying that its occupants were well attuned to the Roman way of life and were perhaps more able to afford imported commodities, such as wine and olive oil, which were carried in amphorae. It is of interest that Midden 11 and the outhouses have similar percentages for Roman types, possibly indicating some link with Building 6. In the other grouped assemblages Roman types constitute between 34%–37% of the total, which is still suggestive of a fairly Romanised lifestyle.

The average proportion of samian is 19%, which is considerably higher than the figure for the combined Flavian assemblages from the City (13%). This implies, following the arguments presented above, that the buildings generally lie somewhere in the middle of the socio-economic scale. Where the individual assemblages are concerned, it would seem that the early phase of Building 10 (Period 3), with its low percentage of samian and high proportion of other fine wares, is situated towards the bottom of the scale. Buildings 1–3, 10 (final phase), 12, 15 and 16 and Midden 11 are towards the middle, having greater proportions of samian to other fine wares while the assemblages from Buildings 14 and 23 are possibly indicative of higher status because of an even higher ratio of samian to other fine wares. Building 6 and Building 4 are more difficult to place, since they have a relatively small quantity of samian and average readings for other fine wares. These proportions could be interpreted either as representing a fairly low or relatively high status household. In regard to Building 6 however, the style of the building lends support to the latter alternative. The anomalous readings for Building 5 may be due to a functional difference and/or distorted statistics rather than status. Both the structure and size of the building argue against high status (see Figs 9–12).

The building-type assemblages may be examined in the same way. Thus the strip buildings, which have a relatively low percentage of samian and a slightly higher proportion of other fine wares, are probably fairly low in status. The assemblages from the Period 5 buildings and the Period 3 outhouses have considerably higher proportions of samian to other fine wares which indicates they are of similar status, probably lying somewhere towards the middle of the scale. The early Period 2 buildings (1–3) present the same problems of interpretation as Building 4 (see above).

Finally, it is of interest to note that those assemblages which have an exceptionally low proportion of beakers (Building 10 final phase and Buildings 14 and 23) have a high incidence of samian cups implying that, in these households, samian cups were the preferred drinking vessel. Acceptance of this idea depends on the assumption that those vessels, which have been habitually classified by ceramicists as beakers and cups, were in fact used for drinking. The rim form of some types, for example the ovoid beaker (IIIB), would seem unsuited to the purpose.

7: CONCLUSIONS

G. Milne, B. Davies & A. Wardle

Introduction

G. Milne & A. Wardle

This report presents the results of the first detailed attempt in London to study the status and function of part of the Roman settlement, by relating finds and environmental research to the building development. By contrast, the report on the sites to the west of the Walbrook (Perring & Roskams 1991) published sequences of building plans devoid of any evidence which study of the associated finds might have provided. Has the Leadenhall Court project shown the value of the increased investment in finds and environ-

mental work, by increasing our understanding of the urban development represented? In this concluding chapter, the achievement of the work as a whole is critically evaluated and avenues for future research are indicated.

Certainly there have been major advances of a general nature: for example, the dating of 1st-century pottery has been markedly refined as a direct consequence of the Leadenhall Court study. Study of the ceramic assemblages from the three main phases of pre-Basilican activity suggest that it is possible to recognise subdivisions of Roman Ceramic Phase 2 (see Part 5 Ceramic studies: dating and this is of obvious benefit to research on *Londinium* in general. The closely-dated sequence of activity provides a remarkable window on the growth of Roman London at a crucial period, from AD 70 to AD 100, as it was rebuilt from the ashes of the Boudiccan uprising to become the administrative centre of the province.

Importantly, the publication of a large group of finds from a desiccated domestic development in the City enables comparisons and contrasts to be made with the published groups from the industrialised Walbrook valley (Wilmott 1991) and from other waterlogged sites (*eg* Jones and Rhodes 1980). Such a corpus can also be compared profitably with those from other contemporary settlements.

Comparative studies

On a more fundamental level, this study has attempted to establish the value of addressing questions of function and status, and offers a hypothesis as to how this might be carried out. The comparative study provides two levels of information: a) the urban development at Leadenhall Court can be viewed in relation to contemporary developments in *Londinium* , and, b) individual buildings on the site and their associated assemblages can be contrasted to highlight significant differences.

Looking at the wider picture first, the respective values of studying ceramic, non-ceramic objects and envronmental remains are considered. It is suggested here that all these classes can be used to highlight significant differences which seem to reflect social or economic factors. To take an obvious example, it seems clear that the non-ceramic assemblage from the Leadenhall Court strip buildings demonstrates the broadly domestic nature of the occupation represented (see Part 4), in marked contrast to the industrial function of similar buildings found in the Walbrook valley (Maloney 1990). Studies of faunal remains might also be used to show the broad level of Romanisation of the Leadenhall Court development in relation to other zones in the town: such a study has not yet been attempted, but the inter-site study reported by Barbara West (Part 3: Animal bone) demonstrates the very real possibilities of this approach. However, a major comparative ceramic study has been undertaken and is reported on here, as a worked example of the general methodology proposed.

Inter-site studies

B. Davies

Ceramic evidence from Leadenhall Court and other City sites was examined to investigate aspects of Roman London: a) the extent of the early settlement, and b) topographic and socio-economic patterns in the later 1st century and general questions of status.

Methods

Most of the selected sites (Fig 78) have been phased and dated for the recent series of studies of Roman London (Maloney 1990; Perring and Roskams 1991; Williams in preparation). Unphased sites have either been chosen for their proximity to Leadenhall Court (*see Appendix 6 for a key to site codes)*: 77–9 Gracechurch Street (ACE83), 62 Cornhill (CIL86), Lloyds (LLO78), 2–4 St Mary Axe (SXE88) and 1–2 Whittington Avenue (WIV88), or for their ceramic importance: Monument Street (MFI87), 24–7 Martin Lane (ML73); all have been 'spot-dated'.

The ceramic 'spot-date' database includes the size of the assemblage, the earliest and latest date and, where relevant, the condition of the pottery; it lists the presence of every form and fabric within each context, recorded as a single line of data. These data do not have any quantification fields (continuous variables; ratio of weight and EVES), being a qualitative statement of presence and absence (categorical variable; nominal, ordinal and binary). Each line of data constitutes the 'spot-date' record, referred to in the text below.

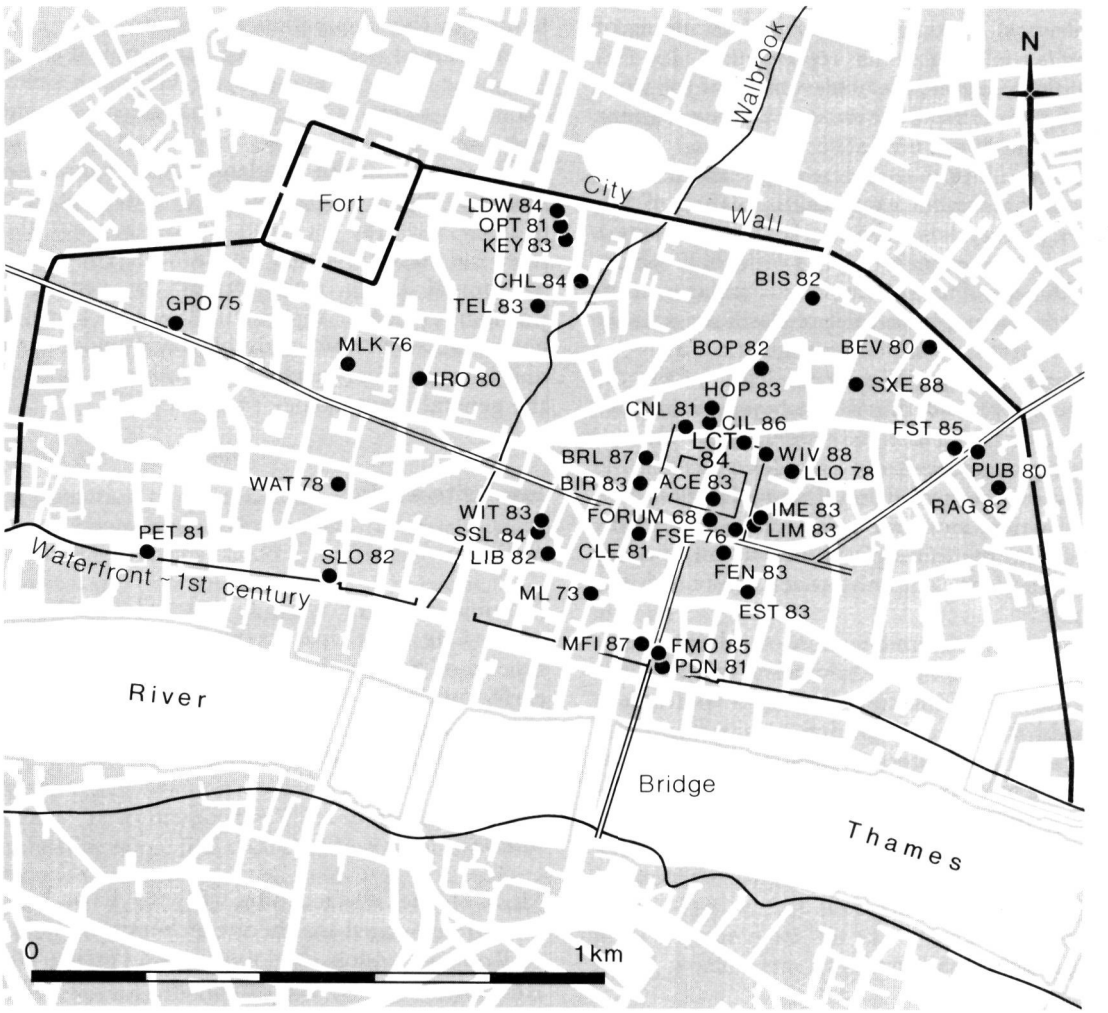

Fig 78. Location map showing Leadenhall Court and other sites used in the ceramic study (see Appendix 6 for an explanation of site codes).

Many sites do not have sufficient funding to take pottery research further than the unquantified 'spot-date' record, therefore generating no reliable statistical data. However, this basic archive produces a vast body of ceramic evidence. In order to utilise the valuable information the possibility is here explored of interpreting the 'spot-date' data as quantified data (see a–c below), hereafter referred to as presence data. This has been achieved by computer manipulation of the 'spot-date' data whereby each record is counted as a single occurrence which is then expressed as a percentage of the total count. A full discussion of this method can be found in Davies (1992b).

This system is not intended to be definitive, rather it is presented to encourage questioning as to how the data can be applied to meet individual needs. In this case it was a matter of expediency as this survey, completed in a limited time, encompasses over 50 phased and dated sites and explores questions of topography, socio-economic patterns and status. The use of presence data is complex. It relies on a sound, but not inflexible pottery chronology and typology, and is a reflection of, but not a substitute for, a ceramic model postulated through the analysis of quantified assemblages from well-stratified sequences.

The results provide a window, occasionally

somewhat opaque, through which to view Flavian Roman London from a ceramic perspective, and also highlight areas worthy of future research.

The ceramics have been analysed at three levels:

a) all pottery records from both quantified and 'spot-dated' sites have been treated as evidence of presence only (presence data), to give a percentage of the presence of fabrics and forms from each multi-period site. This method is used to examine the distribution of early fabrics and forms (see Early settlement in London below).

b) Where the sites have been phased and dated, the data in (a) have been joined with the stratigraphic site data and examined within stratigraphic groups for the period AD 60–100, summarised as:

i) Roman Ceramic Phase IA (RCP1A) *c.* AD 50–60/1

ii) Roman Ceramic Phase 1B (RCP1B) *c.* AD 60/1–70/5

iii) Roman Ceramic Phase 2 (RCP2) *c.* AD 70/5–100

For sites where no phasing is available, pottery is examined according to the ceramic date of individual contexts. This method has been used to explore topographic and socio-economic patterns within the City (see Ceramics and society below).

c) (Quantitative) statistics derived from pottery that has been analysed and quantified (Tyers & Vince, 1983) are collated within a phased and dated framework. The investigation of the status of selected individual buildings within the City (see Ceramics and society below) is based on this data—the most precise in the study.

This is supplemented by percentages derived from the presence data taken from the spot-date records for two sites—one with a substantial structure and one with strip buildings (FEN83,FST85). It is preferable to use directly comparable data in all cases and, although the presence data provides useful additional information, it should be used with discretion. Only those contexts which have been stratigraphically dated to the Flavian period have been used for this comparison.

Inevitably, there are problems using data in this way. The difference in site volumes could create a bias and the presence of secondary material from uncertain sources could distort the picture. Nevertheless, this study provides a model for future research. Ideally, assemblages from all selected sites should be quantified but the analysis of the large body of qualitative data (17,923 records) has proved valuable when used within contemporary chronological periods.

Table 15. Ceramic Phases R1B and R2 combined; comparison between quantified and qualitative data

c. AD 60–100: quantified data

Fabric	EVEs	%	Grammes	%
AMPH	608	1.58	193927	38.13
FINE	4166	10.86	14312	2.81
OXID	8778	22.87	109826	21.59
REDU	19916	51.9	171745	33.77
SAM	4908	12.79	18809	3.70
Total	38376	100.00	508619	100.00

c. AD 60–100: qualitative data

Fabric	No of records	%
AMPH	2062	11
FINE	2244	12
OXID	3861	22
REDU	7114	40
SAM	2742	15
Total	17923	100

The quantified data collated for the study of early Roman pottery from London (Davies *et al* 1994) for the late Neronian–Flavian period (combination of RCP1B and RCP2) compares very well with the presence data used in this study. When the totals for the main fabric groups are compared, in terms of EVES, from the quantified data and the number of records expressed as a percentage in the qualitative data, there is very little difference between the two sets of figures (Table 15). The apparent discrepancy for the amphorae can be explained by the inclusion within the presence data of two sites from the waterfront area (PDN81 & FMO85) which produced very large amounts of amphorae and, within the quantitative data, the low ratio of rims (EVES) to body sherds (weight). Although the percentages for amphorae should be treated with some caution, it seems reasonable to suggest that both sets of figures represent a model against which individual sites can be compared.

Early settlement in London (Period 1)

Archaeological evidence for settlement of London *c.* AD 50 shows 'a restricted central core' east of

the Walbrook stream south of Cornhill, in the area of modern Gracechurch Street, with subsequent development along the main east-west road (Williams 1990,600,602, fig 1; Perring 1991,6). It was not until the AD 70s that the town expanded to encompass the Leadenhall area, where the absence of structures and finds, with the exception of nine cremation urns, in the pre-building (Period 1) levels, indicates that the site lay outside the settlement. Ceramic and numismatic evidence from 57 sites across the City (Fig 78) were examined to clarify the extent of the settlement.

Records of definitive RCP1 (AD 50–70/5) pottery fabrics and forms (Table 16) and early coins, up to the issues of Claudius, were extracted from the unphased 'spot-date' (see above) and coin databases, and their distribution plotted. The RCP1 fabrics and forms were selected on the basis that they occur predominantly in pre-Boudiccan assemblages and ceased to be traded by *c.* AD 70, and are thus definitive indicators for occupation during this period. Full explanation of the dating of ceramic assemblages from AD 50–150 can be found in Davies *et al* 1994.

Despite such distorting factors as residuality and differing sample size, Fig 79 which illustrates the number of RCP1 records for each site, shows a clear pattern. Sites with high (30–50 records) or very high occurrences (over 100 records) occur either in the area of the port (FMO85 & PDN81), within the central core (CLE81 & FEN83), or along the east-west axial road (GPO75 & FST85). Those with 11–30 occurrences fall mainly in the central area, with some anomalies, as at SSL84 & WIT83 where there is evidence for pre-Boudiccan occupation (SSL84,WIT83). Sites with fewer numbers cluster to the north and west of Leadenhall Court.

The exception, if it is assumed to be outside the early settlement, is Leadenhall Court, with 132 RCP1 records. Other sites with such high numbers have archaeological evidence for pre-Boudiccan occupation (Perring & Roskams 1991; Williams in preparation). Leadenhall Court lacks such evidence, although early occupation was found at the adjacent site of Whittington Avenue (WIV88; Brown & Pye 1990).

Table 16. A list of the definitive RCP1 (AD 50–70/5) fabrics and forms extracted from the spot-date database

Eccles ware	[ECCW—OXID (2535), OXID (2560)]
Early Roman grog and sand tempered ware	[ERGS—SAND (2555)]
Lyon ware	[LYON]
Sugar Loaf Court ware	[SLOW—SAND (1630)]
Samian forms:	
Ritterling 8	[RT8]
Ritterling 9	[RT9]
Dragendorff 24/25	[DR24/25]

Examination of the early pottery within the stratified sequence from Leadenhall Court reveals that 14 occurrences are from the lowest levels, including Buildings 1 & 3 and associated features. None of these are in the northern trench, although there are nine more examples in this area, from the later Building 12. Clearly there is a high degree of residuality which is further emphasised by the presence of 34 examples from the second Basilica, the majority from the construction layers which, again, excluded the northern trench. Remains of newborn animals, which are otherwise found only in the earlier phases, also came from these layers. It is possible that make-up dumps were imported on to the site or, alternatively, the deep foundations of such a substantial building disturbed material from earlier occupation.

In summary, the distribution of the early fabrics and forms mirrors the archaeological evidence for the early settlement with the highest number of incidences around the central core, along the main east-west axial road, and in the waterfront area. Sites beyond these areas show decreasing amounts and those on the far periphery no occurrences. The coin distribution shows a similar pattern, with only isolated findspots in other parts of the City. The paucity of early wares from the northern trench at Leadenhall Court, in comparison to the rest of the site, accords with evidence from sites to the north, implying that this may have been the northern limit of the early settlement. The higher incidence in the south, west, and eastern trenches at Leadenhall suggests that there could have been early settlement, subsequently disturbed, which lay just inside the north-eastern edge of the central core, although no structural evidence was found, and the northern limit of the town lay on the southern edge of the site.

Ceramics and society

The next part of this study draws primarily on ceramic evidence, reinforced, where possible, by other material: First, ceramic assemblages dating

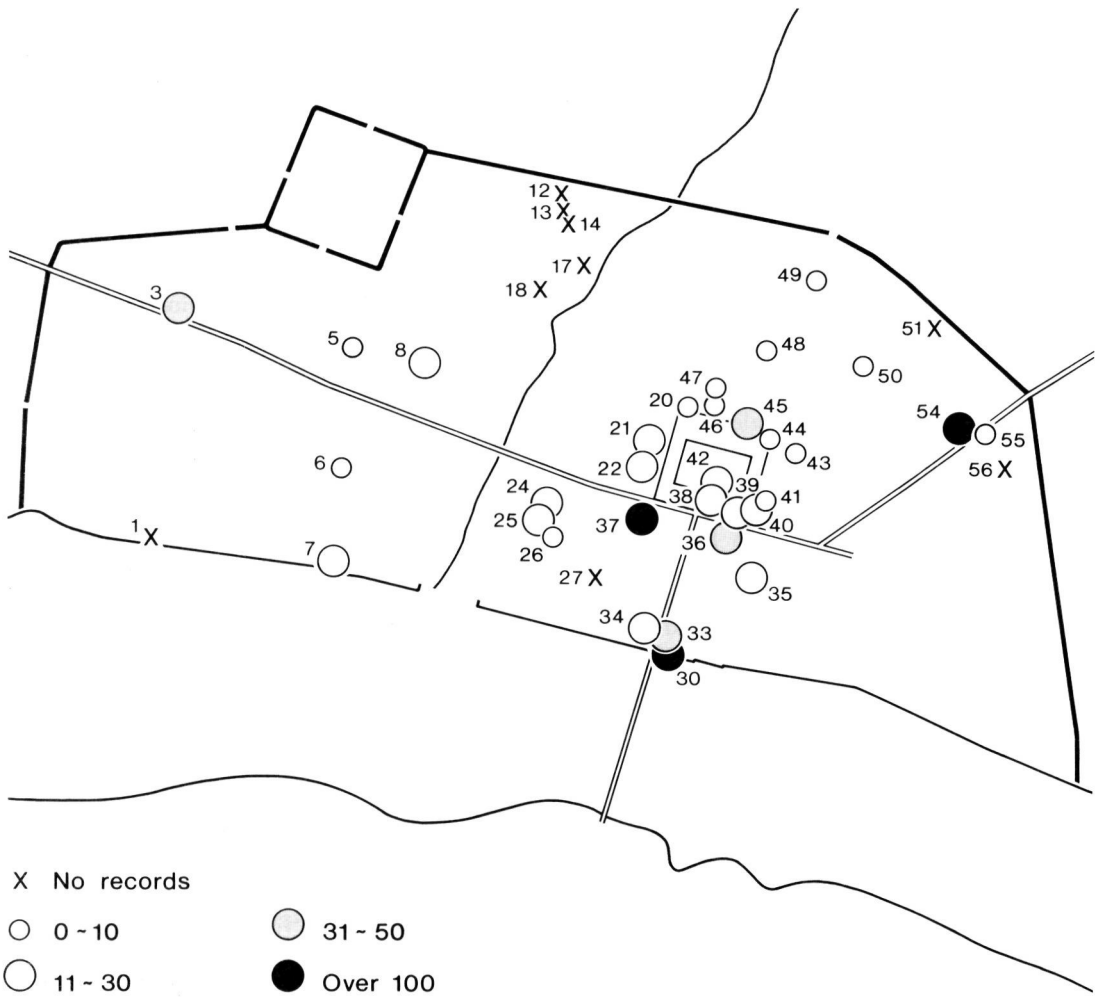

Fig 79. Distribution of early Roman Fabrics (RCP1) in London
(Key to sites: 1 PET81, 2 CHR76, 3 GPO75, 4 ABS86, 5 MLK76, 6 WAT78, 7 SLO82, 8 IRO80, 9 OLC85, 10 GAG87, 11 MGT87, 12 LDW84, 13 OPT81, 14 KEY83, 15 LOW88, 16 CAP86, 17 CHL84, 18 TEL83, 19 ACW74, 20 CNL81, 21 BRL87, 22 BIR83, 23 BUC87, 24 WIT83, 25 SSL84, 26 LIB82, 27 ML73, 28 ATR85, 29 ILA79, 30 PDN81, 31 SM75, 32 PEN79, 33 FMO85, 34 MFI87, 35 EST83, 36 FEN83, 37 CLE81, 38 FORUM68, 39 FSE76, 40 LIM83, 41 IME83, 42 ACE83, 43 LLO78, 44 WIV88, 45 LCT84, 46 CIL86, 47 HOP83, 48 BoP82, 49 BIS82, 50 SXE88, 51 BEV80, 52 HTP79, 53 FCS87, 54 FST85, 55 PUB80, 56 RAG82, 57 AL74 *(see Appendix 6 for an explanation of site codes).*

to *c.* AD 60–100, from phased sites, are analysed to examine broad topographic and socio-economic patterns. Second, pottery assemblages from buildings of differing structural types are compared in an attempt to clarify which elements contribute to determining 'status' in ceramic terms. This takes the previous study beyond Leadenhall Court itself.

The results are examined to elucidate two problems: the social status of the population inhabiting Flavian London, and the types of ceramics used in the average household compared with higher status households, also their supply.

Indicators of status

Building plans, and contrasting methods of construction and decoration, are obvious indicators of the relative status of different structures and form a starting point for this study. Environmental evidence, which can provide

Table 17. A proposed model for assessment of status

Status	samian + other imported fine wares	RB fine
Very high status	<mean	<mean
High status	>mean	<mean or =mean
Average	=mean	=mean
Low status	<mean	>mean
Very low status	<mean	<mean

information about diet and living conditions, is also important. Other indicators, such as objects made from precious metals are rare. In their absence, or in addition, the abundant survival of ceramics and, to a lesser extent, material such as glass and personal possessions, is a means by which social or economic status can be assessed.

The relevance of pottery as an indicator of status and function has been discussed in detail elsewhere (Part 6: Function and status). Imported pottery, in particular, is generally considered to be of higher status than most of the Romano-British equivalents, not only in terms of the technology employed in wares such as mould-decorated samian, and the price of the more exotic contents of amphorae, but also because of the additional costs of transportation.

Griffiths' study (1989), which showed that the expectation of large amounts of luxury wares from high status sites, and low quality, locally produced wares from poorer ones, proved too simplistic (*ibid*, 76), compared rural dwellings of various types, with those from towns. In the present study all the sites form part of a principal urban settlement, lying at the centre of the supply area. Taking these factors into consideration the following working hypothesis is suggested.

Apart from the model given above, it is necessary to present some criteria by which to distinguish high and low status. It is reasonable to assume that mould-decorated wares, such as samian forms Dr 29, Dr 30 & Dr 37, would be of higher value than the plain forms, because of the technology involved, and that these, in turn, would be of greater value than the majority of their Romano-British equivalents (FMIC & RDBK beakers for instance).

Table 17 summarises and expands the arguments given in Part 6: Function and status. It is proposed that very high status areas would have low amounts of both wares, using metal or high quality glass in preference. High status sites would show larger amounts of samian and imported fine wares and only moderate amounts of Romano-British fine wares, while those of lower status would have smaller amounts of samian but larger quantities of Romano-British fine wares. The poorest dwellings would show low percentages of all fine wares—in common with areas of very high status, but without evidence of high quality equivalents or superior building and decorative techniques—and probably a greater reliance on reduced or oxidised wares. The remainder would be those of average status which have quantities equal to or near the 'mean'.

In addition, the relative quantities of amphorae are considered and the evidence is presented within broad topographic areas.

Results

Amphorae (Fig 80, Table 18)

The largest amounts of amphora are found in the area of the port (FMO85 & PDN81), clearly a reflection of its function rather than its status. Some material is obviously backfilling for the Flavian waterfront (PDN81) and possible make-up dumps (FMO85), raising the question of rubbish disposal in the City and its use as 'hardcore'. Even so, it is a reasonable assumption that many of these wares came through the port to be redistributed from the waterfront warehouses, with consequent breakage and disposal. The principal route inland was the road to the Forum, and it is noticeable that most sites with above average amounts of amphorae are concentrated either in the Forum area, or near the port. Sites with average or smaller quantities cluster to the north of the Forum and in peripheral areas. Exceptions to the general pattern, as at MFI87 and HOP83 may be due to local factors such as the function or use of specific buildings.

Samian and other imported fine wares compared with Romano-British fine wares (Fig 81, Table 18)

The inundation of *Londinium* with 1st-century south Gaulish samian wares, which may have been deliberate policy, should be taken into account. However, in the port area, the PDN81 assemblage has markedly above average imported and very low quantities of Romano-British fine

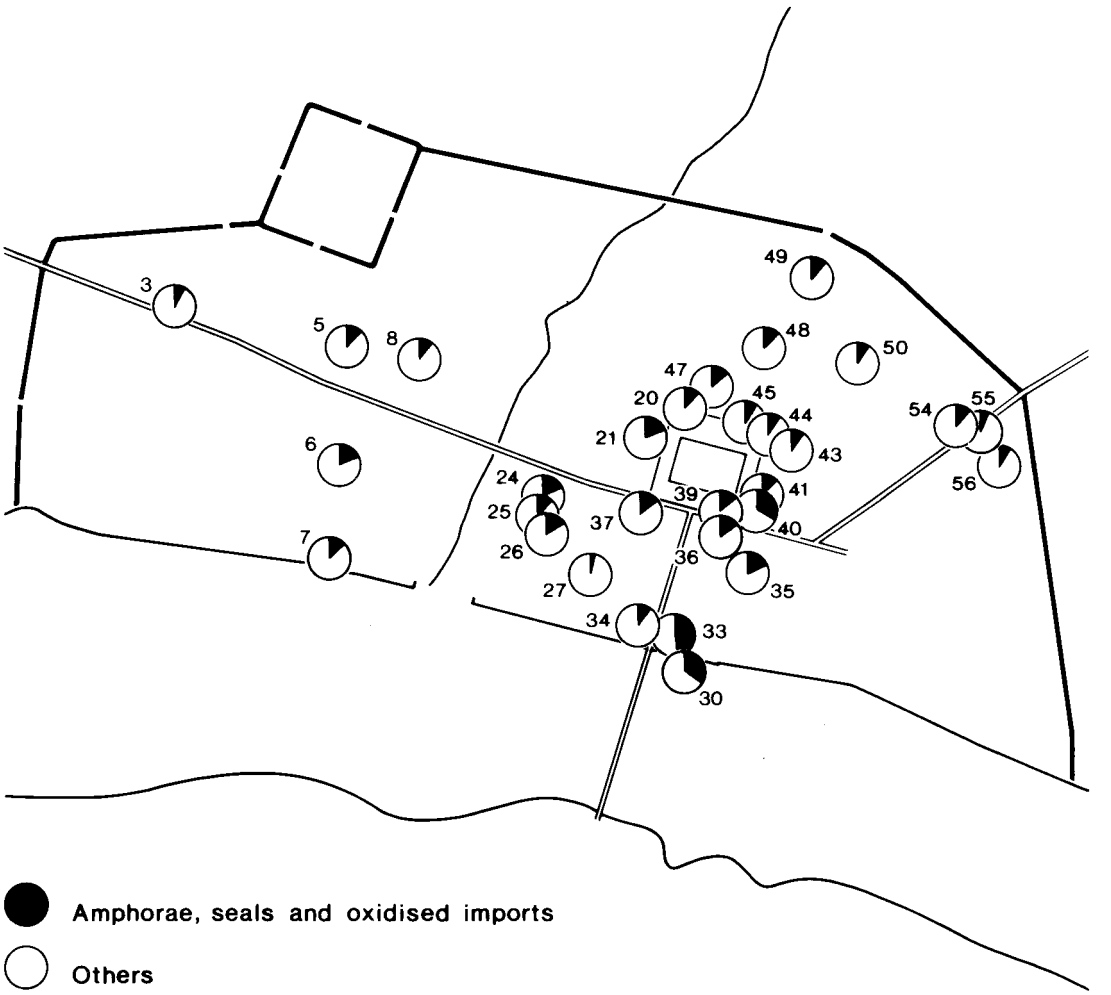

Fig 80. Distribution of amphorae, seals and oxidised imports across the City.

wares, reflecting the function of the site. In contrast, FMO85 has far less than the average of both wares. There is little additional evidence to suggest that this was an area of very high status and a shortfall is made up by large quantities of amphorae—again a reflection of the site's proximity to the port. The ratios at MFI87, on the other hand, suggest that it is a relatively high status site with above average amounts of both types of ware.

Elsewhere in the City there is no consistent pattern, with sites in the central area, such as BRL87,CLE81 and IME83, which conform to the average, co-existing with sites of higher status, as reflected by the greater proportions of imported wares (*eg* FEN83, FSE76, LCT84). Sites in the other selected areas show similar variation. Building D at Watling Court (WAT78) thought to have been of high status (see below) conforms to the proposed criteria. In contrast, Newgate Street (GPO75), situated on the main road to the west, where there is evidence of industrial activity and workshops (Perring & Roskams, 1991) has low amounts of imported, average Romano-British fine wares, and above average grey cooking wares, thus conforming to the model for lower status for the site as a whole.

Romano-British Oxidised wares

To a certain extent, the comparative abundance or lack of these wares reflects a functional as well as a social element. In general they are Roman forms, predominantly flagons and mortaria,

Table 18. Distribution of the principal fabric groups across the City in broad topographic areas (Qualitative data: + or − indicates to within 3% of the model—see Table 17)

Site/ area	Amph + oxid imports	Sam + fine imports	RB Fine	RB Oxid	RB Redu
	%	%	%	%	%
Waterfront					
FMO85	46 +	11 −	2 −	32 +	9 −
MFI87	9 −	22 +	15 +	17 −	36 −
PDN81	33 +	32 +	2 −	20	12 −
Centre					
BRL87	19 +	15	11	17 −	35 −
CLE81	24 +	13	8	28 +	36 −
FEN83	16 +	15	7 −	26 +	36 −
FSE76	13	18	6 −	21	43
IME83	11	17	8	19	44 +
LCT84	8 −	21 +	14 +	14 −	43
LIM83	31 +	10 −	7 −	23	29 −
LLO78	9 −	12 −	11	22	46 +
WIV88	9 −	16	15 +	16 −	44 +
EW Roads					
Main					
FST85	11	15	9	21	45 +
GPO75	9 −	11 −	13	22	45 +
IRO80	10	22 +	9	24	35 −
LIB82	16 +	22 +	1	20 −	32 −
MLK76	12	14	8 −	20	46 +
PUB80	7 −	14	8 −	27 +	44 +
Secondary					
EST83	18 +	19 +	3 −	19	41
SSL84	12	15	10	31 +	32 −
WAT78	18 +	18 +	6 −	20	38
WIT83	19 +	16	5 −	28 +	32 −
North					
BOP82	11	21 +	9	23	36 −
CNL81	11	13 −	10	21	45 +
HOP83	14 +	11 −	2 −	34 +	39
SXE88	9	12 −	14 +	25 +	40
South					
ML73	3 −	14	17 +	19	47 +
SLO82	13	16	5 −	39 +	27 −
Periphery					
BIS82	12	16	9	21	42
RAG82	9 −	11 −	14 +	30 +	36 −

mainly used for food preparation and serving rather than for cooking. Almost all the sites exhibit quantities which cluster close to the model. Williams (1990, 601–3) and Perring and Roskams (1991) have demonstrated that London probably had a large immigrant population which was Roman, or had adopted the Roman way of life. A relative abundance of this type of ware would be expected in a Romanised society, but the overall consistency of the distribution across the City suggests that, regardless of the status of the dwelling, Romanised tastes in cuisine demanded particular vessels in similar quantities.

Romano-British Reduced wares

These wares, which are mainly vessels of native rather than Romanised traditions, were used for cooking purposes. Most sites show figures for these wares within the range 32–47%, suggesting some uniformity in culinary activities. Exceptions, with lower amounts, are in the port area (FMO85 & PDN81) and at LIM83 where the function of the sites is primarily non-domestic at this time. At SLO82 the shortfall is made up by a very high amount of oxidised wares, much of which was detritus from earlier occupation, when there may have been a kiln on the site.

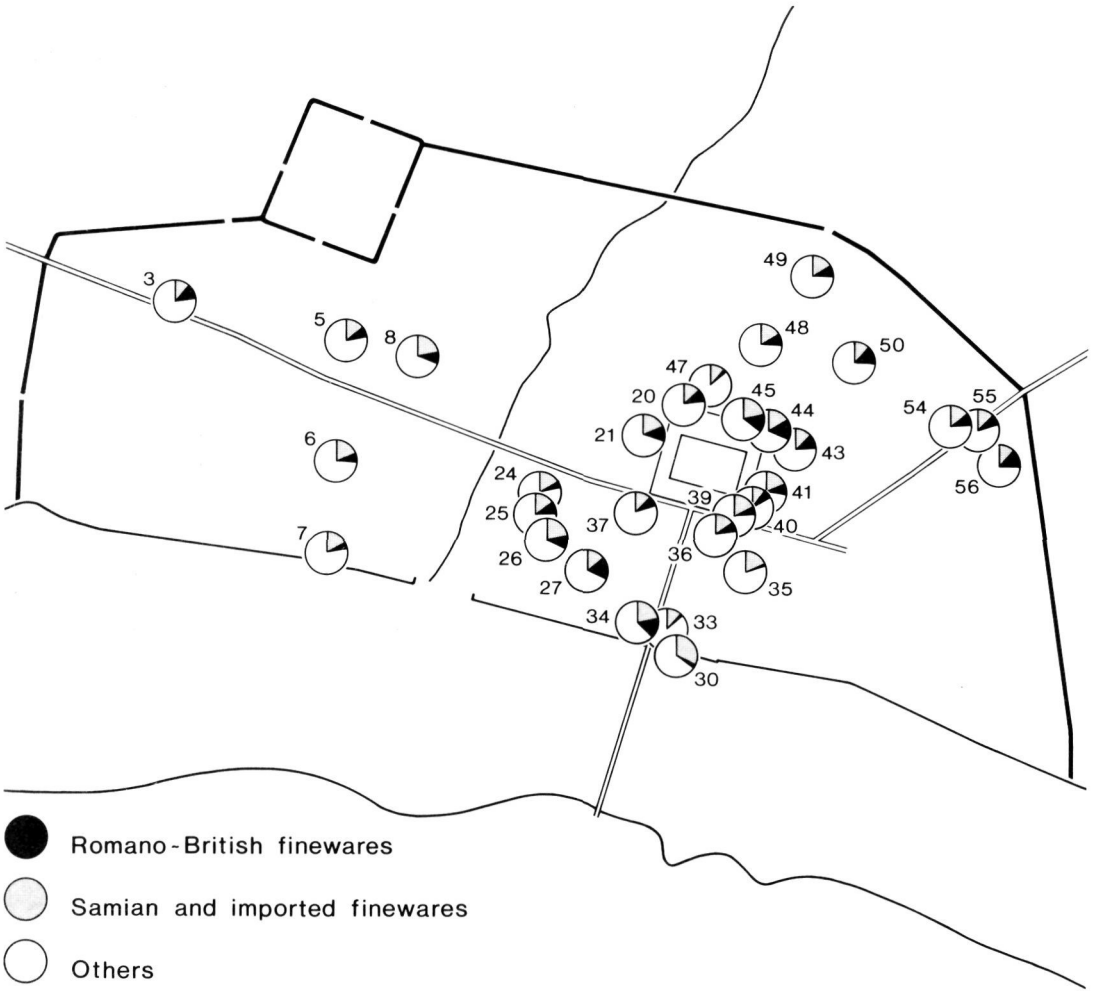

Fig 81. Distribution of Romano-British fine wares, samian and imported fine wares across the City.

Discussion

According to Allason-Jones (1989b,78) there is little evidence from Britain to suggest that high or low status domestic buildings were confined to particular areas of towns, rather they were intermingled. Structural evidence from London supports this view. For example, at Leadenhall Court the seemingly modest strip buildings lay next to the more substantial Building 6, with its painted wall plaster decoration. Similarly, at Watling Court a multi-roomed strip building was built next to a substantial structure with mosaic floors.

Although offering no more than a glimpse of the potential for a more detailed study, a broad examination of the distribution of imported wares arriving in London from *c.* AD 60–100 mirrors the structural evidence. In general, the results show that areas of probable differing status existed alongside each other, but some topographic and socio-economic patterns emerge. The higher incidence of amphorae at sites in the port area reflects their location and role in the market supply. The position of one known commercial/industrial site, GPO75, places this type of activity on the edge of the town, a feature shared by RAG82, where there was evidence of agricultural or horticultural activity.

No site shows evidence of very high status, according to the definition proposed here. Perhaps, more predictably, the majority cluster towards average or above average status which would be expected in a town of London's stature

at this time. Equally, although none of the sites appear to be very low status, the more peripheral sites, together with those in the northern sector appear to be of relatively lower status in comparison with those towards the centre and along the main routes. However, compared with assemblages of the same date from Chelmsford, a typical Romano-British 'small town' with similar computerised data, even the lowest status sites of London contain a far higher proportion of all types of imported wares (Going 1987, 117).

A comparison of individual buildings

The ceramic assemblages from Building 6 at Leadenhall Court have been compared with contemporary dwellings from the site which are of poorer structural quality to determine their relative status. In order to place them within the wider perspective of late 1st-century London, the pottery and other finds assemblages are compared here with a variety of structures of similar date from different areas of the City. The buildings have been grouped according to presumed status and, unless otherwise stated, the data used here are derived from quantified pottery.

High status areas

5–12 Fenchurch Street, EC3 (FEN83), Building 12 (Williams in preparation). A substantial stone-founded building of aisled construction. It had a long life, from the Neronian period until the early-mid 2nd century, and was modified several times. The data, qualitative in this case, is restricted to contexts dating to the Flavian period. The loose finds are diverse, with a range of domestic and personal items similar to the groups from Leadenhall Court, but also objects with military association.

Watling Court, 11–14 Bow Lane, EC4 (WAT78). The area was almost exclusively residential. During Period IV there is evidence for a number of buildings, one of which was divided into three units of four to six rooms, perhaps apartments, (Building F) and a substantial town house (Building D). This had plastered walls and contained a series of black and white mosaics, some designs showing Italian influence (Perring 1991,55–6; Perring & Roskams 1991, 30–41). The presence of a military diploma in Building D found in a Hadrianic context (Roxan 1983), suggests an occupant of distinction, but the number of other finds is neither large nor particularly notable, namely a range of miscellaneous domestic material. In a well-kept residence rubbish would have been cleared and the accidental loss of personal objects is a matter of chance. Associated rubbish dumps were not found. The individual pottery assemblages from this site were too small to be statistically viable and have been analysed as a single group.

Strip buildings

81 Newgate Street, EC1 (GPO75). This area appears to have been commercial rather than purely residential. Period V, dating to the early Flavian period, saw the construction of buildings (G & F) with a long axis adjacent to the street frontage, perhaps shops with living quarters behind. Contemporary with these structures is one of the strip building type (H) which was modified during Period VI, later in the Flavian period. This contained a number of hearths which suggest some industrial activity, (Perring & Roskams 1991, 101). A large quarry and other pits produced most of the ceramic assemblages, which, with material from the structures, is treated as one group. Despite the apparent poverty of the buildings the accessioned finds from GPO75, though scarce, are quite varied in character. Among them are some items of particular interest, including a rare hanging lamp of copper alloy and a tripod mount of Bacchus (Henig 1967,248). These seem to be out of place given the general paucity of domestic material.

Monument Street DLR, 17 Fish Street Hill (MF187). A large quantity of pottery and animal bone came from a square timber-lined well situated within the courtyard of a strip building of clay and timber construction (Building 2). The well, which was in use during the earlier phases of the building, was subsequently used as a cess/rubbish pit, the backfilling dated to the early Flavian period by a coin of Vespasian of AD 71.

94–97 Fenchurch Street, EC3 (FST85) (Williams in preparation). Buildings 3 and 4, strip buildings of substantial clay and timber construction, are probably one large structure divided by a thick wall and can be compared to the strip buildings of Insula XIV at Verulamium (Frere 1972). The building was constructed after the Boudiccan sack of London and survived well

into the second century, undergoing several phases of development. Pottery from this structure has been treated as one assemblage and has been incorporated as qualitative data.

Waterfront area

11–11A Pudding Lane, EC3 (PDN81) (Milne 1985). The development of the waterfront at Pudding Lane in the Flavian period resulted in large assemblages from the backfilling of the quays, dated by dendrochronology from after AD 78 to after AD 86 and before AD 106 (Milne 1985, 35). This material, although not from a building as such, is representative of the great variety of materials arriving in London at this time, which are not necessarily present on individual sites.

Open urban area

25–6 Lime Street, EC3 (LIM83) (Williams in preparation). Initial occupation, near the Forum, was followed by a period of abandonment after the Boudiccan destruction of AD 60/1. Until the early 2nd century the site was an open area, with successive phases of pitting and dumping. The material, from contexts dating only to the period in question, is representative of the general rubbish disposed of by Flavian occupants of the city.

Method

The same criteria (Table 17) are used to determine the relative status of buildings. The proportions of the main fabrics present in RCP2 are given in Table 19 to provide a standard for comparison. The broad patterns of the fabric types found in the selected buildings are shown in Table 20. Details are then examined through specific comparisons: amphorae types (Table 21) are listed by content and source, to show the variety of imported consumables found on the different sites; the range of samian forms is examined (Table 22), in particular the incidence of decorated to plain vessels; and the quality of drinking vessels is assessed and compared (Table 23). The data for the individual buildings are presented according to their assumed status.

Table 19. Roman Ceramic Phase 2: distribution of the main fabric types

Fabric	EVEs	%	Grammes	%
AMPH	516	1.95	85150	29.81
FINE	3096	11.70	11608	4.06
OXID	5493	20.77	67373	23.59
REDU	14440	54.59	109902	38.48
SAM	2908	10.99	11580	4.05

Fabric types

All the buildings of presumed higher status follow the patterns already seen in the area study. As would be expected, much of the material from the waterfront area is imported. The pottery from the rubbish and make-up dumps at LIM83 gives a good indication of the types in more general use, as reflected by the discard patterns. It includes large quantities of amphora sherds which, because of their density, make serviceable hardcore. Reduced wares, used as cooking pots, feature strongly, while oxidised wares, comprising serving dishes and more substantial vessels for food preparation, appear less frequently, as do the more highly prized fine wares such as samian.

The material from the strip buildings is less consistent. Assemblages from the GPO75 buildings and the well group from MFI87 conform to the criteria for dwellings of average status, with moderate amounts of samian ware but fewer imported products of other types and higher quantities of reduced wares. The strip buildings from Leadenhall Court and FST85 have more samian than average (although not the quantity found in higher status areas). Uncertainty about the source of the material deposited in the middens seemingly associated with the Phase 3 strip buildings at Leadenhall Court has been discussed above (Part 6). This is emphasised to some extent by the high quality of the glass from the same dumps which appear anomalous in comparison to the poorer quality of the structures. The assemblage from the strip buildings at FST85 appears to conform more to those from high status areas. The dwellings were substantial structures, with tiled roofs (Crowley 1989) and, although lacking decorative features in the 1st century, were relatively large in size, and were, perhaps, quality town houses rather than tenements. Other finds were domestic in character, with several glass vessels. Overall, strip buildings show marked differences in both construction and content across the City.

Table 20. Distribution of principal fabric types (LCT84 and comparative sites)

Fabric	EVEs	%	Grammes	%
High Status Areas				
LCT84 Building 6				
AMPH	191	7.84	25234	47.27 Imported
FINE			18	0.03 Imported
FINE	312	12.81	1290	2.42 RB
OXID	46	1.89	90	0.17 Imported
OXID	526	21.60	15208	28.19 RB
REDU	954	39.18	9667	18.11 RB
SAM	378	15.52	1866	3.50 Imported
SEAL	28	1.15	12	0.02 Imported
Total	2435	100.00	53385	100.00
WAT78				
AMPH	77	7.22	26687	77.97 Imported
FINE	3	0.28	30	0.09 Imported
FINE	67	6.28	334	0.98 RB
OXID	20	1.87	550	1.61 Imported
OXID	220	20.62	2468	7.21 RB
REDU	444	41.61	3396	9.92 RB
SAM	236	22.12	764	2.23 Imported
Total	1067	100.00	34229	100.00
FEN83—Building 12				
AMPH	21	9.77 Imported		
FINE	4	1.86 Imported		
FINE	16	7.44 RB		
OXID	73	33.95 RB		
REDU	74	34.42 RB		
SAM	26	12.09 Imported		
SEAL	1	0.46 Imported		
Total	215	100.00		
Strip Buildings				
LCT84—Strip Buildings				
AMPH	20	0.58	11626	30.78 Imported
FINE	37	1.07	50	0.13 Imported
FINE	528	15.31	1937	5.13 RB
OXID	27	0.78	454	1.20 Imported
OXID	832	24.13	10127	26.81 RB
REDU			12	0.03 Imported
REDU	1477	42.84	11801	31.24 RB
SAM	506	14.68	1762	4.66 Imported
SEAL	21	0.61	6	0.02 Imported
Total	3448	100.00	37775	100.00
GPO75				
AMPH	392	1.72	94364	33.27 Imported
FINE	103	0.45	213	0.08 Imported
FINE	3138	13.74	9945	3.51 RB
OXID	104	0.46	2601	0.92 Imported
OXID	4988	21.84	63933	22.54 RB
REDU	11733	51.38	101523	35.79 RB
SAM	2376	10.40	11049	3.90 Imported
Total	22834	100.00	283628	100.00
MFI87				
AMPH			2475	4.58 Imported
FINE	51	0.70	148	0.27 Imported
FINE	397	5.47	1228	2.27 RB
OXID	1782	24.56	17583	32.55 RB
REDU	4246	58.52	31128	57.63 RB
SAM	780	10.75	1449	2.68 Imported
SEAL			3	0.01 Imported
Total	7256	100.00	54014	100.00

Table 20. (continued)

Fabric	EVEs	%	Grammes	%
FST85				
AMPH	33	16.02 Imported		
FINE	1	0.48 Imported		
FINE	22	10.68 RB		
OXID	38	18.45 RB		
REDU	71	34.47 RB		
SAM	41	19.90 Imported		
Total	206	100.00		
Waterfront Area				
PDN81				
AMPH	623	14.57	103315	76.83 Imported
FINE	24	0.56	170	0.13 Imported
FINE	45	1.05	246	0.18 RB
OXID	26	0.61	1049	0.78 Imported
OXID	930	21.75	14579	10.84 RB
REDU	766	17.92	7217	5.37 RB
SAM	1861	43.53	7829	5.82 Imported
SEAL			67	0.05 Imported
Total	4275	100.00	134472	100.00
Additional Data— Low Status				
LIM83				
AMPH	50	8.30	8398	66.17 Imported
FINE	56	9.30	219	1.72 RB
OXID	39	6.48	1541	12.14 RB
REDU	409	67.94	2360	18.59 RB
SAM	48	7.97	174	1.37 Imported
Total	602	100.00	12692	100.00

Amphorae

The material from LIM83 illustrates the amphora-borne foodstuffs in general use in Flavian London, principally olive oil (DR20), wine from southern Gaul (PE47), with a little from a probable Italian source (KOAN), but also fish sauce (C186)—a Roman delicacy from southern Spain. Elsewhere the comparative abundance of wine amphorae and exotica such as dates(?) (C189), defrutum (H70) and olives in defrutum (L555) suggest a population prosperous enough to afford them, variety therefore indicating wealth and perhaps, status. The assemblages of two high status buildings (WAT78 & FEN83) show a relatively high proportion of wine amphorae. Fish sauce is also present as well as dates but the more common olive oil amphorae are less well represented. LCT Building 6, on the other hand, has a higher percentage of olive oil and lower numbers of wine amphorae (although from at least three different sources) but also a rarer product—olives in defrutum. Of the strip buildings, FST85 & GPO75 have higher percentages of oil amphorae and less wine, which might suggest a less wealthy population, although the latter site also has small amounts of the more exotic dates and defrutum. In contrast, MFI87 shows a very low proportion of olive oil but a far greater than average wine content (84.95%), perhaps a reflection of function rather than status—it also has a high incidence of samian cups (see Table 22). As discussed above (Table 20) the strip buildings at LCT appear to be anomalous, with wine present in some quantity, together with other delicacies such as fish sauce and dates, although olive oil is still the main product represented.

Samian forms

The assemblage at LIM83 reflects the very low proportion of samian ware discarded and therefore in use (Table 20), and it is clear from Table 22 that decorated vessels are least common. This is true of all the buildings considered here, but the hypothesis that higher status structures

Table 21. Distribution of amphorae types by content (as a % of all AMPH by weight)
The assemblage from Pudding Lane (PDN81) is subdivided to show the range of imported amphorae types and their expected contents.

Form	%	Contents	Source
DR20	51.72	Olive Oil	Spain
C186	9.65	Fish sauce	Spain
C189	0.42	Dates?	Mediterranean
H70	5.98	Defrutum	Spain
DR28	0.76	Wine	Southern Gaul and Spain
KOAN/RHOD	6.52	Wine	Mediterranean
KOAN	0.12	Wine	Italy and Mediterranean
PE47	2.90	Wine	Southern Gaul
RHOD	3.34	Wine	Rhodes and Mediterranean
L555	3.20	Olives in defrutum?	Southern Gaul and Spain
H077	0.15	?	Mediterranean
R527	0.09	?	Mediterranean
AMPH	15.10	unident	Mediterranean
SEAL	0.06	—	Mediterranean

Site	DR20	C186	C189	H70	KOAN	PE47	RHOD	L555	AMPH	SEAL
Higher Status										
LCT84B6	82.40	2.34	—	—	0.68	4.20	1.27	1.33	7.60	0.05
WAT78	12.11	61.63	0.40	—	7.70	8.96	—	—	9.20	—
FEN83	40.90	13.63	—	—	—	13.63	9.00	—	18.18	4.50
Strip Buildings										
LCT84	58.17	13.87	0.40	—	1.10	8.24	1.05	—	11.98	0.05
GPO75	88.78	0.42	0.01	3.50	1.55	4.41	—	—	4.47	—
MFI87	14.93	—	—	—	12.31	72.64	—	—	—	0.12
FST85	58.82	—	—	5.88	—	5.88	—	—	29.40	—
Additional data—Low Status										
LIM83	53.31	2.96	—	—	0.10	39.84	—	—	3.74	—

Table 22. Samian vessels (as a % of all samian by EVEs)
General classes of vessel are given, to reflect function, but not the individual forms. The prefix D indicates decorated. Ink means inkwell.

Site	Beaker	Bowl	Cup	Dbowl	Dish	DJar	Ink	Plate
Higher Status Area								
LCT84B6	2.9	8.99	24.07	16.40	7.41	—	—	40.21
WAT78	—	5.51	47.46	11.86	4.66	—	—	30.51
FEN83	—	4.35	30.43	17.39	—	—	4.35	43.48
Strip Buildings								
LCT84SB	—	1.07	48.28	20.82	6.87	—	—	22.96
GPO75	—	6.31	39.81	6.48	5.12	0.43	1.88	39.98
MFI87	—	—	84.62	12.34	—	—	—	3.08
FST85	—	12.12	30.30	30.30	—	—	—	27.27
Waterfront Area								
PDN81	—	5.01	33.32	17.42	2.88	—	1.25	40.12
Additional Data—Low Status								
LIM83	—	—	50.00	4.17	—	—	—	45.83

are likely to have a greater percentage of decorated bowls in proportion to plain forms is not borne out by the statistics. Only the properties at GPO75 show a significant dearth of decorated wares. All the other strip buildings have proportions similar to those from the higher status areas, although those of higher status have a greater abundance of samian as a whole.

Drinking vessels

The fabrics of beaker type vessels were analysed to see if finer fabrics were used by the occupants of higher status buildings in preference to reduced ware products. The fabrics are presented in order of quality with colour-coated or fine vessels first, followed by oxidised examples (OXID, RDBK, SLOW), finer grey wares (ERMS, FMIC) and lastly sandy grey wares (COAR, HWC, SAND).

Buildings of higher status generally have fewer drinking vessels in fabrics other than samian. Consequently the variety within those present is limited, especially within the finest category which is represented in their case by samian equivalents. Higher status buildings, apart from FEN83, show a distinct preference for the finer coarse ware beakers, mainly represented by oxidised (RDBK) or finer grey ware examples (FMIC). The most common types found in the rubbish dumps at LIM83 are fine grey ware beakers (FINE), finer grey wares (FMIC) and sandy beakers (HWC). This is mirrored within the strip-building assemblages which show a range across the spectrum but in most cases at least, a quarter of the beaker assemblage is composed of sandy grey ware vessels. It seems, therefore, that the particular fabrics of beakers are a good indicator of status.

Summary

Griffiths (1989,76) found that in Northamptonshire and the Milton Keynes area there was no absolute concentration of 'luxury' products', such as imported wares on the richest sites, or that the assemblages of the poorest sites were entirely composed of coarse wares. Rather, it seemed, that mass-produced products, including samian, were distributed through all ranks, particularly middle and lower orders.

As Griffiths was comparing rural with town settlements, it is not surprising that the results of

Table 23. Beaker fabrics (as a % of all beakers – EVEs)

Site	BLEG	CC	CGOF	LYON	FINE	LOMI	MICA	SAM	VRMI
Higher Status Area									
LCT84B6	—	—	—	—	—	—	—	3.50	—
WAT78	—	—	—	—	—	—	—	—	—
FEN83	—	—	—	14.28	—	—	—	—	—
Strip Buildings									
LCT84SB		—	1.15	—	16.62	—	—	—	6.88
GPO75	—	—	—	1.05	9.15	1.68	1.74	—	—
MFI87	11.25	3.25	—	—	—	—	—	—	—
FST85	—	—	—	4.00	8.00	—	—	—	—
Waterfront Area									
PDN81	—	11.54	15.38	3.08	—	—	—	—	—
Additional Data—Low Status									
LIM83	—	—	—	—	37.04	—	—	—	—

Site	OXID	RDBK	SLOW	ERMS	FMIC	NKGW	COAR	HWC	SAND	VRG
Higher Status Areas										
LCT84B6	—	3.82	—	3.18	89.49	—	—	—	—	—
WAT78	—	59.46	—	—	40.54	—	—	—	—	—
FEN83	14.28	—	—	—	42.86	—	—	28.57	—	—
Strip Buildings										
LCT84SB	4.30	28.94	—	—	31.80	—	—	7.16	3.15	—
GPO75	0.80	22.00	0.21	—	44.59	—	0.45	13.41	4.40	0.52
MFI87	—	47.07	—	—	13.02	2.17	—	22.56	—	—
FST83	16.00	8.00	—	—	16.00	—	—	8.00	40.00	—
Waterfront Area										
PDN81	5.38	15.38	—	14.62	7.69	—	—	26.92	—	—
Additional Data—Low Status										
LIM83	—	—	—	—	44.44	—	—	18.52	—	—

the study of London assemblages show a different pattern. High status buildings and sites generally conformed to the proposed criteria (Table 17) as did two lower order sites (GPO75 and LIM83). Recognition of status within the strip buildings proved less certain, showing a range within the middle ranks. The pottery from LCT84, in particular, appeared anomalous but this might be due to some uncertainty as to its source. However, it was possible to make some distinctions through analysis of the beaker assemblages.

Although additional evidence is required, this study has shown that some ceramic categories can be used as indicators of status, principally through amphora-borne commodities, together with samian and other imported fine wares. On the other hand, the relative percentages of decorated to plain samian forms do not appear to show any distinction as far as status is concerned. Perhaps one of the clearer indicators is the relative abundance of sandy grey ware beakers in dwellings of lower status compared to their absence from two of the three higher status sites examined. Reduced wares, in the native tradition, generally appear in larger quantities in lower status sites; whereas oxidised vessels are found in relatively consistent amounts in all types of assemblages—perhaps reflecting the Romanised tastes of the Flavian population of London.

Intra-site studies

G. Milne & A. Wardle

In this section an attempt is made to evaluate the various elements of the study in establishing the relative status and function of the buildings at Leadenhall Court. The section concludes with a brief summary of the sequence, incorporating the integrated evidence.

The elements considered are:

a) The character of the buildings themselves, their situation and differences in plan and size. At Leadenhall there are clear differences between the types of building (see Part 2).

b) Construction and decoration as indicated by the building materials. Although all buildings are timber-framed, evidence of tiled roofs or painted walls might suggest higher status.

c) Ceramics. The relative proportions of fine wares, in particular the relationship between samian and other fine wares, from assemblages linked to specific buildings—which was a suggested indication of status (Part 6: Function, status and Romanisation). The ratio of Roman vessel types to other wares is thought at least to reflect the fashion for Roman ceramics, an indication of lifestyle if not status. Amphorae, and their contents, were found to be especially useful in this respect (see also above, Table 21). The Leadenhall Court assemblages have demonstrated differences which allowed tentative conclusions to be drawn, some of which are supported by evidence from other materials.

d) Accessioned finds. Analysis of the functional categories represented among the finds makes it possible to define a general character for the overall assemblage, *ie* that it is domestic in character, with numerous personal items, as opposed to industrial or military items. However, when assigned to individual structures, the groups are too small and disparate for valid patterns to emerge. Individual items, such as the belt plate (No. 41), from Building 19, may allow speculation about the identity of its owner, and possibly an inhabitant, and a greater variety of finds, including imported goods, could be indicative of relative wealth.

e) Glass. Although glass is an important commodity, and the Leadenhall Court assemblage one of the largest from the City, it is difficult to evaluate it in terms of status or function, because it is never certain how much has been removed in antiquity for recycling. A valid method of quantification such as that employed for ceramic studies has yet to be devised. Examination of the broad functional types, containers and tablewares shows some differences in the assemblages, with more containers in the Period 2 groups, but direct comparison with the ceramic groups—essential for a full functional analysis proved impossible. Comparison with the glass from other London sites is also essential for full evaluation—this has not yet taken place.

f) The faunal remains. Examination of the animal bones discarded in each main phase gave some indication of differences in diet which are thought to be characteristic of varying degrees of Romanisation (Part 3). These indicators are also seen in particular buildings or groups of buildings.

g) Plant remains. The samples show significant differences in the plant assemblages, changes in the environment over the 30-year period, compatible with the process of urbanisation. However, study of the plant remains from individual buildings, which could potentially have given evidence of diet with implications for status and Romanisation, was limited by the poverty of the samples on a desiccated inland site.

The finds groups

Before attempting to portray an integrated picture of the development, some general points should be made about the nature of the finds groups. Although, by City standards, the site covered a large area, many of the individual groups in all categories are too small for valid statistical analysis so often it is only possible to draw broad conclusions. In general, groups directly associated with the occupation of the buildings contained little material, with most of the finds coming from middens, pits and external areas. This is unsurprising, an obvious reflection of tidy housekeeping, but the dearth of significant finds has made it difficult to ascribe particular functions to different areas of a building, except where this is suggested by structural features. The depositional study of the ceramics (Part 6: Deposition) highlights the dangers of interpreting interior surfaces as primary use, showing that on this site at least, these contain much residual material, with sherd links to earlier dumps. The siting of the middens strongly suggests that they were used by the inhabitants of particular buildings but this is frequently impossible to prove. Certain sherd links between middens and destruction levels, for example those of Building 12, justify at least some assumptions, but overall the study has shown that ceramic and other material was mixed during and after demolition of the closely-spaced buildings, a factor that would explain the very similar character of many of the finds groups, particularly the glass.

Examination of the building materials (Part 2) has revealed the presence of various types, suitable for use in a substantial masonry building, that could not have come from any of the brickearth and timber structures under consideration. The authors have suggested that wall veneers, flue tiles, water pipes and *tesserae* may have been discarded during a reconstruction of the first Basilica/Forum to the south-west. The presence of such material in groups apparently associated with the Leadenhall buildings raises questions about the source of other finds in these groups.

All other material is consistent with that to be expected from domestic buildings but the depositional studies have shown a high degree of residuality, even within a very limited time scale. Much of the earliest glass, for example, may well be residual and unconnected with building use—early polychrome vessels, which may admittedly have a lengthy period of use as valued articles, occur sporadically throughout the sequence, with several examples in the latest groups. On a more positive note, however, the assemblage as a whole is well stratified, sealed by the second Basilica, and broad trends can be detected for the main phases of occupation.

Suburban activity (Period 2)

Environmental evidence for the first building phases (AD 65–75) at Leadenhall Court, representing widely-spaced ribbon development on the periphery of the town, which was beginning to recover after the Boudiccan disaster, suggests the possibility of agricultural activity in the area, both in the nature of the plant species and in the presence of newborn animals and those typically found in farmyards (see Part 3: Environmental studies). The damp burial conditions in features associated with Buildings 1–4, which preserved the seeds, also preserved some leather objects, but other artefacts were few and no tools were found. Cart fittings, as No.169, from an early context, have, however, been found on rural as well as urban sites (*eg* Gorhambury; Wardle 1990,144,no.470). Of the individual structures, Building 3 stands out as perhaps more substantial, with a tiled roof and painted walls. Ceramics from this phase show no distinguishing features, but the few glass vessels included fragments of quality, besides the ubiquitous pillar-moulded bowls and utilitarian containers.

Urban expansion (Period 3)

With the spread of the town in the succeeding phases, the plan (Figs 9,10) now showing a more formal layout of closely-spaced properties, changes in the flora and fauna are apparent. The flora shows the typical mix found on Roman

urban sites with more food plants, among them imported species, but no distinction between the evidence from individual buildings. However, the evidence of the animal bones differentiates the groups from Building 6, where a preference for pork is shown, an indicator of a 'Roman' diet (Part 3: Animal bone), while sheep were more numerous in the strip buildings. The amphorae suggest that the diet of the inhabitants of Building 6 included olive oil, olives in defrutum and wine, although amphorae which contained wine, oil and fish sauce are also present in the strip buildings (Tables 20,21). The ceramic studies show that Building 6 had the greatest proportion of Romanised vessel forms (Table 14) and the building was initially thought, from its size, plan and construction, to be of a higher relative status than other contemporary structures, but the poor quality of the plaster attached to the daub walls argues against very high status. The small finds are of a domestic character and are not distinctive, although the imported mirror (No.65) is a luxury item. There is, however, surprisingly little glassware from this building, and none of the highest quality. The finds from Midden 11 and the middens and other deposits around Buildings 14 and 16 which may also be associated with the use of Building 6 would substantially increase the range of objects; Midden 5 in particular contained a large amount of glassware, notable both for its variety and state of preservation, although the dump was open for a considerable length of time. Whereas the vessels are of good, but not the highest, quality, they would support the ceramic evidence of a higher degree of Romanisation.

Among the strip buildings, the ceramics suggest that Building 10 was of relatively low status in its early phases. Evidence from the other finds would support this, particularly as there is a marked lack of personal ornament and possessions, but the large glass assemblage is of note. Most of the glass, however, came from the later phase and the emphasis on storage containers shows its utilitarian character.

The range of material from Building 12, constructed originally in Period 3, was considerable and it produced the largest groups from all the buildings in terms of ceramics, glass and finds. Sherd links between Middens 9,10,15,16 and the destruction levels provides evidence that these dumps contained material from the building, a point reinforced by the similarity of the faunal remains. Many finds from the later levels were clearly residual, particularly the glass and ceramics. A great variety of possessions may be an indication of prosperity, but the position here is complicated by residuality, which has increased the number of finds. It should be noted that two imported foodstuffs, grape and lentil, were found in the destruction levels. In addition, Building 12 was distinguished by having lime-washed walls externally and may have had a tiled roof, at least in its later phase (Periods 4/5).

Contraction and construction (Periods 4/5)

The plant remains from the clearance phase are generally similar to those from preceding periods and are typical of a Roman urban environment, but there is a marked change in the fauna, most clearly seen in the latest middens (Period 5), where pigs predominated and the number of chicken bones increased dramatically. The nature of the groups of finds remains similar to those from the preceding periods, with much residual material. It may, however, be of significance that there is evidence for some degree of literacy from these levels in the form of styli and seal boxes, and other objects of a distinctively 'Roman' style include the elaborate knife handle No.117. The seal boxes in particular may be indicative of increased official involvement with the site's development.

In contrast to the earlier Building 6, the overall proportion of Romanised vessel forms is relatively low (Table 14), but the high proportion of samian to other fine wares suggest that the Period 5 Buildings (Fig 14) lie in the middle of the scale.

Assessment of function

Although it is possible to define the character of the assemblage as a whole, and to some extent to distinguish between the main phases, little progress was made in ascribing specific functions to particular buildings or rooms. It has been suggested, on the basis of the relatively high proportion of amphorae and jars, that Building 5 was used for food storage and, perhaps, cooking. Although the small size of the assemblage may have distorted the picture, the small quantity of glass, mostly containers may complement it. Significantly, the building also contained a hearth which may now be seen as a domestic rather than an industrial feature.

The oven in Building 7 would also have been used for cooking rather than industrial processes, since the associated finds include a Purbeck marble mortar (No.78) and items of a personal nature.

A complicating factor in functional analysis of the groups, was the partial excavation of several buildings as dictated by constraints of the development, a problem also noted in connection with the animal bones. The size of the units as potential living quarters has been discussed in Part 2 (building form, function and construction).

There is no positive evidence for small-scale industry or craft-working in any of the buldings. However, various needles, one of particularly distinctive form, (No.128, Fig 52) could have a domestic or an industrial purpose and the presence of several small weights may suggest some commercial activity. It is a logical supposition that in the final stages of the development the remaining buildings were used to house construction workers.

Future directions

Each aspect of the study, therefore, contributes to a composite picture of the site and the life of its inhabitants. To carry such work further the following agenda is suggested.

First there is a need to test the refined dating of RCP2 on other large assemblages from London. Secondly the attempt to evaluate questions of status and socio-economic indicators from the study of pottery has already produced some significant patterns. Clearly there is great potential for further linking with other material and for continuing the studies in a wider field. The particular value of Barbara Davies's work lies in the method employed, a means of extracting the maximum information from the spot-dating record at times when financial constraints make full quantification of pottery assemblages impossible (Davies 1992b).

The potential exists for a wider study of accessioned finds by functional type for different zones and individual sites over the City, ideally on the lines of the recent analysis of the finds from York (Cool *et al* 1995). Further studies of Roman glass from London will be invaluable. The existence of an early 2nd-century glass-working cullet dump from Guildhall Yard, although outside the date-range of this study, should permit a more detailed examination of, and perhaps a solution to, the problems of glass quantification in London and beyond (John Shepherd pers comm). More precise comparisons with ceramic evidence may then bepossible.

In their discussions of the environmental evidence the authors have made reference to London-wide studies of both bones and plants. It is essential that the results of such work should be integrated with structural and finds evidence to enable comparison of areas within the City at different periods.

Finally, the site at Leadenhall Court is only a small part of Roman London, but represents a microcosm of the developing town. A picture emerges of a busy, increasingly crowded area, its planning and subsequent clearance suggesting increasing official organisation. In AD 60-70, the disposition of Buildings 1-4 set around a yard, together with the faunal and botanical evidence, combine to suggest that this part of *Londinium* contained farms or small holdings: self-sufficiency was the order of the day as the province tried to rebuild itself in the aftermath of the Boudiccan uprising.

That phase may be contrasted with the developments in *c.* AD 75, altogether more characteristically-urban in nature. Strip buildings (*eg* nos 5,6,7,8,9,11) were now laid out cheek by jowl behind the main north-south road which lay just to the west of the site. This was a mixed community, with some evidence of higher status occupants (*eg* Building 6) in an area characterised by lower status, short-life, rented accommodation. Clearly this was part of a more extensively-planned development than the previous one, and presumably marks a change of role or status for the settlement as a whole.

A further level of official involvement in the urban planning process can be detected in the even more remarkable happenings of the next phase in AD 85–90. This saw wholesale clearance in advance of the programme to rebuild the Basilica, the largest public building in London, and indeed the province. Further confirmation of state involvement might be inferred from the discovery in associated levels of the excavation of seal boxes, perhaps suggesting that official instructions or despatches were now being delivered to the new occupiers of the site. In sum it seems that the fate of the settlement (or at least that part represented on the Leadenhall Court site) lay firmly in the hands of the state, rather than the enterprise of its citizens.

APPENDIX 1: LEADENHALL COURT: CATALOGUED FINDS LISTED BY MATERIAL

Copper alloy

Brooches
1 [9146] <1302> Fig 38
2 [4100] <889>
3 [4477] <1391> Fig 38
4 [9804] <1381> Fig 38
5 [4100] <1045> Fig 38
6 [4387] <1317> Fig 38
7 [6401] <1294> Fig 38
8 [6532] <1383> Fig 38
9 [9911] <1517> Fig 38
10 [9944] <2009>
11 [9897] <1499> Fig 38
12 [10001] <1521> Fig 38
13 [4100] <899>
14 [4246] <1175>
15 [9722] <1501>, <1494>
16 [6496] <1951>
17 [6496] <1390>

Finger ring
18 [4328] <1342>

Earrings
20 [1268] <228> Fig 39
21 [3879] <598> Fig 39
22 [9577] <3149> Fig 39

Belt plate
41 [12040] <288> Fig 39

Nail cleaners
54 [4485] <1459> Fig 42
55 [9843] <2019>
56 [9868] <2212>

Spatulas/Ligulae
57 [9897] <1487> Fig 42
58 [1268] <228>
59 [1268] <229> Fig 42

Tool
60 [6632] <1395> Fig 42

Mirrors
65 [6717] <1491> Fig 43
66 [384] <599> Fig 43
67 [9876] <2058> Fig 43
68 [4329] <1282> Fig 43
69 [12244] <1386> Fig 43
70 [4392] <1368> Fig 43

Spoon
71 [9532] <1239> Fig 44

Bell
113 [4458] <1718> Fig 51

Knife
117 [4120] <931> Fig 51

Needles
125 [9803] <1375> Fig 52
126 [12024] <291>
127 [9922] <1441>
128 [9146] <2529> Fig 52

Balance
130 [4246] <1180> Fig 53

Steelyard
131 [9722] <1493> Fig 53

Weights
132 [4054] <851> Fig 53
133 [9999] <1715> Fig 53

Seal boxes
134 [4263] <1224> Fig 53
135 [3766] <451> Fig 53

Locks
156 [9783] <2012> Fig 55
157 [4418] <1366> Fig 55
158 [6366] <1320> Fig 55
159 [9577] <1392> Fig 55
160 [4317] <1283> Fig 55
161 [4109] <905> Fig 55

Mounts
164 [4385] <1359> Fig 56
165 [1291] <565>
166 [4120] <3188> Fig 56
167 [4268] <1286> Fig 56

Strap mount
168 [9724] <1362> Fig 56

Fittings
Chain
170 [4481] <1385>

Ferrule
171 [6621] <1477> Fig 58

Double spiked loop
173 [4109] <929> Fig 58

Staple
176 [4525] <3148> Fig 58

Rings
178 [3842] <552> Fig 58
179 [3842] <559>
180 [4024] <777>
181 [4109] <941> Fig 58
182 [4114] <928> Fig 58
183 [6703] <1489>
184 [9938] <1506>

Studs
185 [12240] <1439> Fig 58
186 [12244] <1360>
187 [10021] <2530>
188 [4099] <932>
189 [12256] <1503> Fig 58
190 [4246] <1301>
191 [6768] <2210>
192 [9986] <1438>

Bone

Buckle
42 [+] <1513> Fig 39

Spoon
72 [9941] <2049> Fig 44
73 [6407] <2030>

Knife handles
118 [9867] <1714> Fig 51
119 [4392] <1366> Fig 51

Hammer
123 [6667] <2064> Fig 52

Needle
129 [12240] <2044> Fig 52

Counters
139 [4078] <883> Fig 54
140 [4246] <1263> Fig 54
141 [4293] <2031>

Hinge
201 [3987] <778> Fig 58

Peg
202 [9981] <2020> Fig 58

Iron

Finger ring
19 [6128] <1042> Fig 39

Hobnails
43 [4078] <1244>
44 [4432] <1394>
45 [9941] <1843>

Knives
114 [9662] <2221> Fig 51
115 [4083] <904>
116 [12232] <1373>

Spike
124 [6517] <1511> Fig 52

Styli
136 [4093] <949> Fig 53
137 [6586] <1486>

Keys
162 [12270] <1518> Fig 55
163 [4252] <1182>

Mount
169 [6715] <1522> Fig 56

Ferrule
172 [4246] <1199>

Loop headed spikes
174 [6586] <1504> Fig 58
175 [9922] <1510> Fig 58

Staple
177 [4120] <960> Fig 58

Strapping/binding
193 [6591] <1508>
194 [9894] <2220>
195 [9722] <1509>
196 [1367] <455>
197 [4109] <937>
198 [4142] <1048>
199 [9674] <2066>
200 [9647] <1340>

Lead

Inscribed strip
138 [4352] <1336> Fig 53

Rivet
203 [4221] <1135>

Sheet
204 [9941] <1847>
205 [9941] <2055>

Leather

Shoes
46 [4487] <1777> Fig 40
47 [4499] <1774>
48 [4499] <1775> Fig 40
49 [6667] <1782> Fig 41
50 [6758] <1780> Fig 41
51 [4487] <1776>

Miscellaneous
52 [4487] <1778> Fig 41
53 [4487] <1779> Fig 41

Glass

Beads
Annular
26 [4246] <1884> Fig 39
27 [6331] <2042> Fig 39
28 [6765] <2780> Fig 39

Gadrooned (melon beads)
29 [1347] <519> Fig 39
30 [6492] <2038> Fig 39
31 [12240] <2048> Fig 39
32 [6521] <2031> Fig 39
33 [4221] <1874>
34 [9999] <2410>
35 [1393] <522>
36 [6496] <2637>
37 [4476] <2758>
38 [9577] <2032> Fig 39
39 [6507] <2744>
40 [9941] <2395>

Stirring rods
61 [9667] <2225> Fig 42
62 [9786] <2276> Fig 42
63 [1177] <500> Fig 42

Counters
142 [1345] <11> Fig 54
143 [3974] <971> Fig 54
144 [4408] <2816> Fig 54
145 [6222] <2039>
146 [6022] <2040>
147 [6022] <2041>
148 [6222] <1977> Fig 54
149 [9941] <2373> Fig 54
150 [9980] <2406> Fig 54
151 [6407] <2437>

Stone

Bracelet
23 [9941] <2899> Fig 39

Mixing palette
64 [6432] <1397> Fig 42

Platter
74 [9819] <1772> Fig 45

Querns
75 [6492] <1449> Fig 46
76 [4100] <1447>

Mortars
77 [9868] <1869>, [10031] <3096> Fig 47
78 [12302] <1870> Fig 47

Hones
120 [4387] <1379> Fig 51
121 [6672] <2222> Fig 51
122 [9722] <1496>

Amber

Beads
24 [4418] <2027>
25 [4099] <2037> Fig 39

Ceramic

Lamps
79 [9878] <2850> Fig 49
88 [6704] <2633> Fig 49
89 [9849] <2886> Fig 49
90 [9577] <2971>
91 [9829] <2999>
80 [9850] <2881> Fig 41
81 [12242]<3054>
82 [4024] <2021>
83 [4392] <3032>
84 [4392] <3042>
85 [10083] <2852>
86 [6671] <2634>
87 [9999] <2571>
92 [4494] <3089> Fig 49
93 [4459] <3084> Fig 49
94 [4494] <3090>
95 [4494] <3091>
96 [4494] <3092>
97 [9850] <2878>
98 [4432] <3036>
99 [4337] <3041> Fig 49
100 [9861] <2879> Fig 49
101 [6621] <2632> Fig 49
102 [4158] <1720> Fig 49
103 [9911] <2887>
104 [9911] <2888>
105 [9868] <2875>
106 [4114] <3029>
107 [4109] <3040>
108 [4459] <3071>
109 [9999] <2572>
110 [4200] <3023>

Figurines
111 [9803] <2053>
112 [4062] <2848>

Counters
152 [9895] <2867> Fig 54
153 [12152 <3057> Fig 54
154 [12242]<3058> Fig 54
155 [12242]<3059> Fig 54

APPENDIX 2: ACCESSIONED FINDS FROM CONTEXTS DIRECTLY ASSOCIATED WITH THE 1ST-CENTURY BUILDINGS

Period 2

Early levels (W2)

iron 169
[6715] <1522> mount, Fig 57
[6716] <1495> Nero, As,–,64–66

Buildings 1–3 No finds

Associated groups

Midden 2 (N4)
copper [4487] <1456> coin, unidentified
54 [4485] <1459> nail cleaner, Fig 42
leather 46 [4487] <1777> shoe (man's), Fig 40
51 [4487] <1776> shoe thong
52 [4487] <1778> garment/tent, Fig 41
53 [4487] <1779> fragment, Fig 41
glass 1 [4487] <2028> millefiori bowl
1 vessel fragment

Midden 3 (S3)
copper [10021] <1454> –, As,?M1
12 [10001] <1521> brooch, Fig 38
187 [10021] <2530> stud
bone 119 [9867] <1714> handle, Fig 51
stone 77 [10031]<3096> mortar, Fig 47
glass 57 [9867] <2332> pm bowl
64 [10031]<2733> pm bowl
72 [9867] <2333> col beaker
2 bottle fragments
1 vessel fragment

Building 4 (S6)
glass 214 [10027] <2730> flagon
297 [10027] <2729> flask/phial
537 [10027] <2767> vessel,blue
2 vessel, 1 window fragment

Associated features (S31)
copper 133 [9999] <1715> weight, Fig 53
ceramic 109 [9999] <2572> lamp
87 [9999] <2571> lamp
glass 34 [9999] <2410> melon bead
508 [9947] <2401> bottle
1 vessel, 1 window fragment

Well (N15)
copper [4499] <1490> –, Sest, 1st
lead 203 [4221] <1135> rivet
leather 48 [4499] <1775> shoe (woman's), Fig 40
47 [4499] <1774> shoe
ceramic 108 [4459] <3071> lamp
93 [4459] <3084> lamp, Fig 40
glass 33 [4221] <1874> melon bead
9 [4494] <2749> pm bowl

28 [4459] <2786> pm bowl
29 [4494] <—-> pm bowl
30 [4494] <2750> pm bowl
38 [4494] <2748> pm bowl
171 [4459] <2683> jar
267 [4459] <2757> flask/phial, Fig 67
nb [4459] <2784> vessel
16 vessel fragments
22 bottle fragments

Building 5

Period 3 (W34)

glass 28 [6765] <2780> bead, Fig 39
429 [6524] <2491> cylindrical bottle

Period 4 (W30,W35,W28)

copper 171 [6621] <1477> ferrule, Fig 58
[6704] <2215> unidentified

stone 121 [6672] <2222> hone, Fig 51

ceramic 88 [6704] <2633> lamp, Fig 49
101 [6621] <2632> lamp

glass 39 [6507] <2744> melon bead
13 [6507] <2481> pm bowl, Fig 62
180 [6507] <2483> flagon, Fig 66
254 [6507] <2484> aryballos
2 bottle fragments
10 vessel fragments

Building 6

Period 3
Construction and dump (W15)

glass 2 bottle fragments
1 vessel fragment

copper [6679] <1464> Claudius 1, As copy,41–64
[6617] <1437> Nero, As, 64–66

Construction, use, (S7,W4,W21)

bone 202 [9981] <2020> peg, Fig 58

copper 65 [6717] <1491> mirror, Fig 43

glass 289 [6754] <2521> phial
2 vessel fragments

Use (S8,S9,S10,S11,W5,W16,W22)

copper [6604] <1358> Vespasian, As, 69-79
9 [9911] <1517> brooch, Fig 38
184 [9938] <1506> ring
192 [9986] <1438> stud

ceramic 103 [9911] <2887> lamp
104 [9911] <2888> lamp
glass 27 [6331] <2042> annular bead, Fig 39
32 [6521] <2031> melon bead, Fig 39
150 [9980] <2406> counter, Fig 54
17 [9912] <2345> pm bowl, Fig 62
269 [9927] <2365> flask/phial, Fig 67
287 [6668] <2512> flask
5 bottle fragments
8 vessel fragments

Period 4
Destruction levels (W17)

copper [6492] <1370> Vespasian, Sest,–,71
iron 124 [6517] <1511> spike, Fig 52

stone 75 [6492] <1449> quern, Fig 46

glass 30 [6492] <2038> melon bead
122 [6492] <2469> cup
151 [6505] <-> jug
217 [6474] <2466> flagon
500 [6492] <2470> bottle
1 vessel fragment

Midden 11 (S12)

Period 4

copper [9868] <1468> coin unidentified
56 [9868] <2212> nail cleaner

ceramic 105 [9868] <2875> lamp
79 [9878] <2850> lamp, Fig 49

stone 77 [9868] <1869> mortar, Fig 47

glass 58 [9868] <2339> pm bowl
59 [9868] <2347> pm bowl
60 [9868] <2351> pm bowl
106 [9868] <2337> cup
181 [9868] <2344> flagon, Fig 66
182 [9868] <2344> flagon, Fig 66
184 [9868] <2343> flagon
315 [9868] <2336> bottle
403 [9868] <2350> bottle
11 vessel fragments

Midden 13 (S13)

Period 4

iron 114 [9662] <2221> knife, Fig 51
199 [9674] <2066> strap
glass 7 [9673] <2178> pm bowl
128 [9675] <2232> beaker
144 [9673] <2226> jug, Fig 65
250 [9673] <2226> jar/jug
385 [9675] <2231> bottle
2 vessel fragments

Building 7

Period 3

Use (M56, M57)

stone 78 [12302] <1870> mortar, Fig 47

glass 263 [12275] <2429> phial, Fig 67

Destruction levels (M58)

copper [12244] <1256> Vespasian, As, 69–79
[12244] <1357> Titus, As, 77-78
69 [12244] <1386> mirror, Fig 43
186 [12244] <1360> stud
ceramic 81 [12242] <3054> lamp
153 [12242] <3057> counter, Fig 54
154 [12242] <3058> counter, Fig 54
155 [12242] <3059> counter, Fig 54
glass 8 [12242] <2029> marbled pm bowl, Fig 62
42 [12244] <-> pm bowl
87 [12244] <2425> mb lattice bowl, Fig 63
126 [12244] <2426> cup/beaker
251 [12242] <2421> jar/flagon
262 [12242] <2423> phial
4 vessel fragments

Building 8

Period 3

Use (D25, D26)

copper [1344] <6> coin Vespasian, Dup, 69–79

iron 196 [1367] <455> strapping

glass 159 [1342] <523> jar
183 [1342] <515> flagon, Fig 66
222 [1342] <516> flagon
414 [1305] <514> bottle
3 vessel fragments

Destruction levels (D27)

copper 165 [1291] <565> mount, Fig 56

glass 324 [1297] <512> bottle, Fig 67
332 [1297] <-> bottle

Building 9/11 (N13) It is not possible to separate the finds from these two buildings

Period 3

copper 157 [4418] <3166> lock, Fig 55

amber 24 [4418] <2027> bead

glass 143 [4418] <2718> syphon, Fig 65
253 [4418] <-> aryballos
2 bottle fragments
2 vessel fragments

Building 10
Midden (N18)

Period 3

copper 164 [4385] <1359> mount, Fig 56

iron 44 [4432] <1394> shoe (nails)

ceramic 98 [4432] <3036> lamp

glass 23 [4385] <1858> pm bowl
24 [4385] <-> pm bowl
25 [4399] <1867> pm bowl
94 [4410] <2186> sports cup, Fig 64
193 [4410] <2716> flagon
287 [4410] <2720> flask
3 bottle fragments
3 vessel fragments

External surface (N14)

144 [4408] <2816> counter
4 [4261] <1909> cased bowl
3 bottle fragments
4 vessel fragments

Use (S20)

copper 168 [9724] <1362> mount, Fig 66

glass 45 [9742] <2251> pm bowl
291 [9742] <2250> flask
2 bottle fragments
5 vessel fragments

(S21)

glass 83 [9648] <2194> col vessel
271 [9688] <2745> phial
3 bottle fragments
vessel fragments

(W29 use)

glass 120 [6577] <-> beaker
330 [6480] <2467> bottle, Fig 67
3 vessel fragments

Period 5 (Building site)

(N28)

copper [3987] <757> Nero?, –, ?64-66
[3987] <767> Vespasian, As,69-79
[4135] <921> coin unidentified
132 [4054] <851> weight, Fig 53
180 [4024] <777> ring

iron 198 [4142] <1048> strap

bone 201 [3987] <778> hinge, Fig 58

ceramic 82 [4024] <2021> lamp

glass 33 [3987] <991> pm bowl
53 [4142] <1631> pm bowl
82 [3995] <1006> col vessel
88 [3987] <975> beaker, Fig 63
99 [3987] <992> plate, Fig 64
109 [3998] <1330> cup
113 [3987] <987> vessel
130 [3987] <988> beaker
152 [4059] <1413> jar
155 [3987] <982> jar
156 [3987] <985> jar
160 [4142] <1632> jar
168 [4024] <1475> jar
177 [4024] <1404> jug, Fig 66
204 [3995] <1000> flagon
205 [4054] <1480> flagon
226 [3987] <976> jar/jug
265 [4148] <1636> flask, Fig 67
270 [3987] <990> flask/phial, Fig 67
277 [4024] <1472> flask/phial
279 [3995] <998> flask/phial
7 bottle fragments
17 vessel fragments

(N29)

copper [4158] <1054> coin, ?L 1st
[4152] <922> Domitian,As,85,RIC 302A,BMC 355,356

ceramic 102 [4258] <1720> lamp, Fig 49
2 bottle fragments
4 vessel fragments

Building 12

Period 3/4 (N22,N26,N27)

copper [4342] <1284> coin, unidentified
68 [4329] <1282> mirror, Fig 43
160 [4317] <1283> key, Fig 55

iron 163 [4252] <1182> handle ?key
43 [4078] <1244> shoe (nails)

bone 139 [4078] <883> counter, Fig 54

ceramic 110 [4200] <3023> lamp

glass 2 [4396] <2353> mill. bowl
66 [4331] <1821> skyphos, Fig 63
85 [4252] <1906> col vessel

91 [4300] <1923> mb vessel
96 [4342] <1837> sports cup, Fig 64
98 [4342] <1836> sports cup, Fig 64
136 [4102] <1585> cup
164 [4342] <1841> jar
187 [4102] <1579> flask
188 [4102] <2817> flask
190 [4300] <1924> flagon
194 [4443] <2700> flagon
224 [4078] <1481> jug/flagon
246 [4102] <1581> jug/jar
252 [4331] <1823> aryballos
272 [4078] <1797> phial, Fig 67
18 bottle fragments
27 vessel fragments

Midden 10 (N23)

Period 4

copper 18 [4328] <1342> finger ring

glass 3 [4313] <1805> phial, Fig 62
22 [4328] <1812> pm bowl
70 [4313] <1807> col beaker
111 [4328] <1813> beaker, Fig 64
163 [4328] <1814> jar
220 [4328] <1817> flagon
275 [4329] <2686> phial
282 [4313] <1808> phial
283 [4329] <2685> phial
4 bottle fragments
14 vessel fragments

Midden 9, latrine (N20)

copper [4285] <1223> -, As, 1st
6 [4387] <1317> brooch, Fig 38
70 [4392] <1368> mirror, Fig 43

bone – [4392] <1366> –

stone 120 [4387] <1379> hone

ceramic 99 [4337] <3041> lamp, Fig 49
83 [4392] <3032> lamp
84 [4392] <3042> lamp

glass 68 [4337] <1934> beaker
71 [4392] <1860> beaker
107 [4258] <1724> cup
119 [4392] <1866> cup/bowl
162 [4258] <1723> jar
248 [4337] <1933> jar/jug
305 [4392] <1861> flagon
6 bottle fragments
8 vessel fragments
2 window fragments

Period 5 (N30)

copper [4114] <1030> coin, L1/2
182 [4114] <928> ring, Fig 38

ceramic 106 [4114] <3029> lamp

glass 161 [4144] <1638> jar
260 [3844] <815> flask, Fig 67
8 bottle fragments
5 vessel fragments
1 window fragment

Midden 12 (N24)

Period 5

copper [4109] <912> Vespasian, Dup,71-73, Lyon, RIC 475,740, BMC P199,816
117 [4120] <931> knife, Fig 51
134 [4263] <1224> seal box, Fig 53
161 [4109] <905> key, Fig 55
173 [4109] <929> split pin, Fig 58
181 [4109] <941> ring

iron 177 [4120] <960> staple

bone 141 [4293] <2031> counter

ceramic 107 [4109] <3040> lamp

glass 79 [4275] <1915> col vessel
93 [4109] <888> sports cup, Fig 64
117 [4109] <1594> beaker/cup
118 [4284] <1916> beaker/cup
133 [4284] <1917> beaker
146 [4125] <1629> jug, Fig 65
174 [4109] <1595> jar, Fig 66
176 [4257] <1710> jar, Fig 66
230 [4109] <1598> jug/flagon
231 [4120] <1627> vessel
259 [4109] <1596> phial, Fig 67
2 bottle fragments
10 vessel fragments

Midden 15 (N25)

Period 5

copper 14 [4246] <1175> brooch
130 [4246] <1180> scales
190 [4246] <1301> stud

iron 172 [4246] <1199> ferrule
– [4246] <1200>

bone 140 [4246] <1263> counter, Fig 54

glass 26 [4246] <1884> bead, Fig 39
5 [4246] <1695> pm bowl
19–21 [4246] <-> pm bowls
65 [4246] <1886> bowl, Fig 63
75 [4246] <1885> beaker, Fig 63
89 [4246] <1894> bowl, Fig 63
95 [4246] <1876> sports cup, Fig 64
112 [4249] <1904> beaker, Fig 64
127 [4246] <1703> beaker
175 [4246] <1702> jar, Fig 66
188 [4246] <1890> flagon, Fig 66
221 [4246] <1707> flagon
232 [4246] <1701> jug/jar/flag
237 [4246] <1888> jug/jar/flag
281 [4246] <1887> flask
7 bottle fragments
24 vessel fragments

Midden (N31)

Period 5

copper 188 [4099] <932> stud

iron 115 [4083] <904> knife
136 [4093] <949> stylus, Fig 53

amber 25 [4099] <2037> bead, Fig 39

ceramic 112 [4062] <2848> figurine, Fig 50

glass 143 [3974] <971> counter
131 [4080] <1431> beaker
172 [4086] <1532> jar/bowl
186 [3962] <965> flag
541 [4058] <1412> vessel
[3946] <892> window
9 bottle fragments
10 vessel fragments

Midden (N31) contaminated contexts

Period 5

copper 2 [4100] <889> brooch
5 [4100] <1045> brooch, Fig 38
13 [4100] <899> brooch, Fig 38

stone 76 [4100] <1447> mortar

glass 29 [4100] <1542> pm bowl
30 [4100] <1541> pm bowl
34 [4100] <1544> pm bowl
36 [4100] <1546> pm bowl
69 [4100] <1566> beaker
97 [4100] <1567> sports cup, Fig 64
135 [4100] <1545> beaker
170 [4100] <1552> jar
173 [4100] <1564> jar
206 [4100] <1569> flask
227 [4100] <1547> jug/jar/flagon
4 bottle fragments
6 vessel fragments

Building 13 No finds

Building 14

Period 3

Midden 4 (S17)

copper [9722] <1466> Nero, As, Lyon, 64-66,
[9722] <1466> RIC 12 477, BMC 378
15 [9722] <1501> brooch
15 [9722] <1494> brooch
131 [9722] <1493> steelyard, Fig 53

iron 195 [9722] <1509> strap

ceramic 85 [10083]<2852> lamp

glass 44 [9722] <2243> pm bowl
132 [9722] <2245> beaker, Fig 65
179 [10083]<2734> flagon, Fig 66
290 [9722] <2241> flask
426 [9722] <2246> bottle
3 vessel fragments

Use (S32,S34)

copper 10 [9944] <2009> brooch, Fig 38

ceramic 100 [9861] <2879> lamp, Fig 49

stone 74 [9819] <1772> shale platter, Fig 45

glass 51 [9944] <2399> pm bowl
67 [9819] <2301> col beaker, Fig 63
105 [9861] <2324> cup
137 [9861] <2323> beaker, Fig 65
185 [9859] <2322> flagon
225 [9944] <2397> flask/jug (blue)
257 [9819] <2303> aryballos
2 bottle fragments
1 vessel fragment

Midden 5 (S35)

Period 3 and later

copper 22 [9577] <3149> ear ring, Fig 39
159 [9577] <1392> key, Fig 55
ceramic 82 [9577] <2835> lamp

glass 38 [9577] <2032> melon bead, Fig 39
14 [9577] <2121> pm bowl
42 [9577] <2123> pm bowl
43 [9577] <2122> pm bowl
73 [9760] <2263> beaker, Fig 63
73 [9577] <2112> beaker
78 [9577] <2136> beaker, Fig 63
92 [9720] <–> sports cup, Fig 64
104 [9577] <2126> cup, Fig 64
129 [9577] <3126> beaker, Fig 65
137 [9577] <2114> beaker, Fig 65
147 [9577] <2144> jug, Fig 65
149 [9577] <2143> jug, Fig 65
150 [9577] <2134> jar, Fig 65
208 [9577] <2113> flagon
211 [9577] <2140> flagon
255 [9577] <2128> aryballos
256 [9577] <2142> aryballos
264 [9577] <2116> phial, Fig 67
268 [9577] <2135> bottle, Fig 67
273 [9577] <2119> flask, Fig 67
289 [9577] <2127> flask
10 bottles

Midden 6 (S36)

Period 3

copper [9922] <1469> Vespasian, As, 69-79
127 [9922] <1441> needle
glass 81 [9922] <2362> bowl
212 [9922] <2359> flagon
4 vessel fragments

Building 15 (S14,part,S15 part,W36)

Period 5

ceramic 86 [6671] <2634> lamp

glass 61 [9667] <2225> rod
10 [6640] <2507> pm bowl (brown)
84 [9663] <2223> col bowl
123 [6671] <2515> cup
286 [6659] <2509> flask
2 bottle fragments
7 vessel fragments

Building 16

Period 3

Use/Es (S36) part

ceramic 89 [9849] <2886> lamp, Fig 49

glass 16 [9849] <2310> pm bowl
178 [9849] <2311> jug, Fig 66
244 [9862] <-> jar/flag
464 [9862] <2326> bottle

Latrine (S36)

copper [9941] <1442> ?Vespasian, As, ?69-79
[9941] <1463> -, As, M1-M2
11 [9941] <1499> brooch, Fig 38
57 [9897] <1487> ligula, Fig 42

iron 45 [9941] <1843> shoe (nails)

bone 72 [9941] <2049> spoon, Fig 44

lead 204 [9941] <1847> fragment
205 [9941] <2055> fragment

shale 23 [9941] <2899> bracelet, Fig 39

glass 40 [9941] <2395> melon bead
149 [9941] <2373> counter, Fig 54
18 [9941] <2372> pm bowl, Fig 62
49 [9941] <2386> pm bowl
76 [9941] <2903> col bowl, Fig 63
124 [9941] <2379> cup
125 [9941] <2392> cup
167 [9941] <2394> jar, Fig 66
199 [9941] <2375> jug/flag
213 [9941] <2381> flagon
243 [9941] <2387> bowl
7 bottles

Disuse

glass 101 [9608] <-> plate
140 [9608] <2174> cantharos
456 [9608] <2175> bottle

Building 17 (D29,D30)

Period 3

copper 20 [1268] <228> earring, Fig 39
58 [1268] <228> spatula, Fig 42
59 [1268] <229> spatula, Fig 62

glass 12 [1228] <503> pm bowl, Fig 62

Building 18 (M59,M60)

Period 3

copper [12240] <1377> Nero, Dup,64-66
185 [12240] <1439> stud, Fig 58

iron 162 [12270] <1518> key, Fig 55

bone 129 [12240] <2044> needle, Fig 52

glass 31 [12240] <2048> melon bead
86 [12271] <3065> col beaker
218 [12240] <2420> flagon
5 bottle fragments
5 vessel fragments

Building 19 (M3, M40)

Period 3

copper 41 [12040] <288> belt-plate, Fig 39

glass 6 [12035] <524> pm bowl mill
3 vessel fragments

Building 20 (N21)

Period 4

glass 100 [4307] <1929> plate, Fig 64
157 [4307] <1928> jar, Fig 66
2 vessel fragments

Building 21 (S37)

Period 3

ceramic 91 [9829] <2999> lamp
80 [9850] <2881> lamp, Fig 49
97 [9850] <2878> lamp

glass 102 [9850] <2315> cup, Fig 64
134 [9850] <2319> beaker
197 [9829] <2304> flagon
406 [9850] <2316> bottle
5 vessel fragments

Building 22 (S39)

Period 4

glass 1 vessel fragment

Building 23

Period 5

Construction (S14)

copper [9719] <1369> –, As, 250-250 BC,
[9719] <1369> Republican
4 [9804] <1381> brooch, Fig 38

glass 15 [9750] <2258> pm bowl, Fig 62
56 [9750] <2259> pm bowl
292 [9779] <2266> flask
3 bottle fragments

Use (W25)

copper 16 [6496] <1951> brooch
17 [6496] <1390> brooch

glass 36 [6496] <2637> melon bead
46–8 [9746] <-> pm bowls
57 [9746 <2255> pm bowl
77 [9746] <2257> col bowl, Fig 63
169 [9814] <2295> jar, Fig 66
266 [9710] <2238> flask, Fig 67
4 bottle fragments
11 vessel fagments

APPENDIX 3: COIN LIST

Context	Acc. No.	Emperor	Denomination	Date	Group	Building or Midden
[9719]	<1369>	Republican	As	250–150BC	S14	B23
6679	1464	Claudian copy	As	41–64	W15	B6
6586	2211	?Claudian copy	As	44–65	W23	–
12240	1377	Nero	Dup	64-66	M60	B18
3987	757	?Nero	–	?64-66	N28	B10
9722	1466	Nero	As	64-66 Lyon RIC12 477 BMC 378	S17	B14 Midden 4
6716	1495	Nero	As	64–66	W2	
6617	1437	Nero	As	64–66	W15	B6
6668	1462	Nero	As	64–66	W16	B6
6452	1337	?Nero	As	64-66	W31	
4495	1452	?Nero		64–66	N17	
6691	1465	Vespasian	As	69–71	W23	
1344	6	Vespasian	Dup	69–79	D26	B8
12244	1256	Vespasian	As	69–79	M58	B7
4355	1467	Vespasian	As	69–79	N19	pit
3987	767	Vespasian	As	69–79	N28	B10
9927	1440	Vespasian	As	69–79	S8	B6 Midden 8
9941	1442	?Vespasian	As	69–79	S36	B16 M6
9922	1469	Vespasian	As	69–79	S36	B14 M6
9786	1354	Vespasian	As	69–79	S38	–
6222	1059	Vespasian	As	69–79	W6	–
6604	1358	Vespasian	As	69–79	W16	B6
6492	1360	Vespasian	Sest	71 Rome BMC 528	W17	B6
4109	912	Vespasian	Dup	71–73 Lyon	N24	B12
12244	1357	Titus	As	77–78 Lyon RIC 789(A), BMC 870	M58	B7
4152	922	Domitian	As	85 Rome RIC 302A, BMC 355, 356	N29	B10

15 other coins are unidentifiable beyond the fact that they are 1st-century types (Hall in Milne 1992, 61)

APPENDIX 4: KEY TO CERAMIC CODES

Fabric codes

Code	Expansion	Date
AHSU	Alice Holt Surrey ware	40–160
AMPH	Amphorae	40–400
AOMO	Aoste mortaria	40–100
BHWS	Brockley Hill White-slipped ware	50–100/130
BLEG	Black Eggshell ware	40–100
C186	Camulodunum 186 amphorae	40–100
C189	Camulodunum 189 amphorae	40–150
CC	Colour-coated wares	40–400
CCGW	Copthall Close Grey ware	80–150
CGGW	Central Gaulish Glazed ware	40–100
CGOF	Central Gaulish Other fabric	40/60–130
CGWH	Central Gaulish White fabric	40/60–130
COAR	Coarse wares	40–400
COLC	Colchester Colour-coated ware (pale fabric)	40–70
DR20	Dressel 20 amphorae	40–300
ECCW	Eccles ware	40–80
ERMS	Early Roman Micaceous Sandy ware	40–100
ERS	Early Roman Sandy wares	40–120
ERSA	Early Roman Sandy ware A	40–70
ERSA/B	Early Roman Sandy ware A/B	40–80
ERSB	Early Roman Sandy ware B	60/70–120
ERSS	Early Roman Sandy and Shelly ware	40–120

ERSI	Early Roman Sandy Iron-rich ware	40–70
FINE	Fine Reduced wares	40–400
FLIN	Reduced wares with flint	40–200
FMIC	Fine (Black/Grey) Micaceous wares	55–100/120
GROG	Grog-tempered wares	40–400
H70	Haltern 70 amphorae	40–100
HOO	Hoo ware	40–100
HWB	Highgate Wood B ware	40–100
HWBR	Highgate Wood Red-slipped ware	40–100
HWB/C	Highgate Wood B/C ware	60–85
HWC	Highgate Wood C ware	70–160
KOAN	Dressel 2-4 amphorae	40–100
L555	London 555 amphorae	40–120
LOEG	Local Eggshell ware	70–120
LOMI	Local Mica-dusted wares	70–120
LONW	London ware	100–120
LOXI	Local Oxidised wares	90–160
LYON	Lyon Colour-coated ware	40–70
MICA	Mica-dusted wares	40–400
MLEZ	Micaceous Lezoux samian	40–100
NACA	North African Cylindrical amphorae (lime rich fabric)	150–250
NFSE	North French/Southeast England wares	40–150
NGGW	North Gaulish Grey ware	70–300
NKGW	North Kent Grey ware	70/100–150/250
NKSH	North Kent Shelly ware	40–150
OXID	Oxidised wares	40–400
PE47	Gauloise amphorae	40–250
PRW1	Pompeian Red ware, fabric 1	40–100
PRW2	Pompeian Red ware, fabric 2	40–100
PRW3	Pompeian Red ware, fabric 3	60–150
RDBK	Ring-and-dot Beaker fabric	50/70–90
RHOD	Rhodian and Rhodian-type amphorae	40–150
RWS	Red and white-slipped wares	40–300
SAM	Samian ware	40–250
SAND	Sandy Reduced wares	40–400
SEAL	Amphorae seal fabrics	40–250
SHEL	Shelly wares	40–400
SLOW	Sugar Loaf Court ware	40–80
SPAN	Spanish Colour-coated ware	40–70
SUG	East Sussex Grog Tempered ware	40/70–200/250
TN	Terra Nigra	40–80
TNIM	Imitation Terra Nigra	40–100
VCWS	Verulamium Region Coarse White-slipped ware	70–200
VRG	Verulamium Region Grey ware	50–160/200
VRMI	Verulamium Region Mica-dusted ware	70–120
VRR	Verulamium Region Red ware	60–160?
VRW	Verulamium Region White ware	50–160

Form codes

Code	**Expansion**
I	Flagon
IA	Collared or Hofheim Flagon
IB	Ring-neck flagon
IB2	Ring-neck flagon with trumpet mouth and well-moulded rings
IC	Pinched-mouth flagon
ID	Disc-mouth flagon
IE	Two-handled flagon with squat bulbous body
IH	Flagon with rim and neck forming a continuous curve with the body
IJ	Two-handled amphora-type flagon
II	Jar
IIA	Bead-rim jar
IIA16	Bead-rim jar with ledged rim

IIB	Shallow-necked jar with rounded body
IIC	Necked jar with carinated shoulder and cordon at base of neck
IID	Necked, round-shouldered jar with 'figure-7' rim and decorated zone on shoulder delineated by cordons and grooves
IIE	Necked, round-bodied jar with decorated zone on shoulder
IIF	Everted-rim jar
IIJ	Simple neckless jar (sometimes called unguent jar)
IIK	'Honey pot' jar
IIM	Storage jar with rolled-rim with decorated zone on shoulder
IIR	Narrow-necked jar/flask
III	Beaker
IIIA	Butt beaker
IIIB	Ovoid beaker
IIIB1	Ovoid beaker with barbotine ring and dot decoration
IIIC	Everted-rim beaker with sloping shoulder
IIIE	Everted-rim beaker without neck or shoulder decorated by zone of decoration delineated by groove beneath rim
IIIF	'Poppy-head' beaker
IIIG	Carinated beaker with tall rim
IIIH	Round-bodied beaker with tall rim
IV	Bowl
IVA	Bowl with grooved flanged rim
IVF	Bowl with hooked or folded-over rim
IVJ	Dish with plain rim
IVK	'Surrey bowl'
V	Plate
VA	Plate with plain exterior profile
VB	Plate
VI	Cup
VIII	Mortarium
IX	Miscellaneous, *eg* figurine
FIGU	Figurine
LMPH	Lampholder
MORT	Mortarium
MORT HOF	Hooked-flange mortarium
MT	Marsh type (Marsh 1978)
NJ	Necked jar
SJ	Storage jar
STRA	Strainer
TZ	Tazze

Samian forms

CU	Curle
DE	Déchelette
DR	Dragendorff
RT	Ritterling
IVR	samian bowl with rouletted decoration on base

Copies of samian forms are prefixed by 'C', *eg* CDR29

Other abbreviations

EVES	Estimated vessel equivalents, a method of quantification based on measuring the percentage of rim surviving, from which relative quantities of different pottery types are calculated.
VAR	Variant

APPENDIX 5: KEY TO CERAMIC FABRIC DESCRIPTIONS

Reduced wares

Alice Holt Surrey ware (AHSU) a sandy ware with abundant, well sorted quartz which gives a granular feel to unburnished surfaces. Typically it has a light grey core and darker surfaces.

Early Roman Micaceous Sandy ware (ERMS) this fabric has very micaceous, usually grey surfaces. It has moderate, poorly sorted, rounded quartz. Some of the vessels are handmade and wheel finished.

Early Roman Sandy Wares (ERS group: ERSA, ERSA/B, ERSB) all the fabrics in this group have moderate to abundant well sorted quartz and it is distinguished by

occasional larger, rounded grains. ERSA, is black, hand made, wheel finished and has a fairly silty background with sparse inclusions of limestone and clay pellets. ERSB is light grey and has more densely packed quartz and is wheel made. ERSA/B is the transitional fabric of the group and has characteristics of ERSA and ERSB.

Highgate Wood Grog-tempered ware (HWB) a lumpy fabric with abundant grog and charcoal and occasional quartz in a fairly silty matrix. The surface colour varies from grey to brown/orange and is often mottled. Hand made.

Highgate Wood Sand-tempered ware (HWC) a grey fabric characterised by fine and abundant, well sorted quartz.

Highgate Wood B/C (HWB/C) a transitional fabric between HWB and HWC and, therefore, with characteristics of both. The grog is not so abundant as in HWB and the sand is not as well sorted as in HWC.

Oxidised and fine wares

Fine Micaceous Grey or Black wares (FMIC) these wares have very micaceous surfaces which are usually burnished on the exterior. There are several fabrics in the group, the most common being fabric 1659, which has a very fine silty matrix with occasional organics.

Ring and Dot Beaker Fabric (RDBK) a fine fabric ranging in colour from off-white to pale pink and orange. It has abundant, well sorted silt-size quartz with sparse to moderate larger quartz and iron. The latter causes red streaking on burnished surfaces.

Verulamium Region White ware (VRW) a granular fabric with a very clean matrix and abundant, well sorted quartz. It varies in colour from white to pink or orange.

APPENDIX 6: LIST OF SITES MENTIONED IN THE TEXT

ABS86 St Albans House, 124 Wood Street, EC2
ACE83 77–79 Gracechurch St, EC3
ACW74 1–8 Angel Court, 30–35 Throgmorton St, EC2
AL74 62–64 Aldgate High St, Wingate Centre, EC3
ATR85 10 Arthur Street, EC4
BEV80 2–16 Bevis Marks, EC3
BIR83 18 Birchin Lane, EC3
BIS82 76–80 Bishopsgate St, EC2
BOP82 28–34 Bishopsgate, EC2
BRL87 22–25 Birchin Lane, EC3
BUC87 Bucklersbury DLR (shaft in road), EC4
CAP86 Capel House, 54–62 New Broad Street, EC2
CHL84 4–6 Copthall Avenue, EC2
CHR76 Christchurch Greyfriars, Newgate St, EC1
CIL86 62 Cornhill, EC3
CLE81 29–32 Clements Lane, EC4
CNL81 68–72 Cornhill, EC3
EST83 27–29 Eastcheap, EC3
FCS87 107 Fenchurch Street, EC3
FEN83 5–12 Fenchurch St, EC3
FMO85 37–40 Fish Street Hill, 16–20,Monument Street, EC3
FSE76 161 Fenchurch St, 22–23 Lime St, EC3
FST85 94–97 Fenchurch Street, EC3
GAG87 Guildhall Art Gallery, Guildhall Yard, EC2
GPO75 Post Office site, 81 Newgate St, EC1
HOP83 3–5 Bishopsgate, EC2
HTP79 Mitre Square, 10–14 Mitre St, EC3
ILA79 Miles Lane, 132–137 Upper Thames Street, EC4
IME83 27–30 Lime Street, EC3
IRO80 24–25 Ironmonger Lane, EC2
KEY83 15–35 Copthall Avenue, 45–50 London Wall, EC2
LCT84 Leadenhall Court, 1–4 Leadenhall Street, EC3
LDW84 44 London Wall, EC2
LIB82 119 Cannon St, EC4
LIM83 25–26 Lime St, EC3
LLO78 Lloyds, 12–19 Leadenhall St, EC3
LOW88 52–62 London Wall, 20–56 Copthall Avenue, EC2
MFI87 Monument Street DLR, 17 Fish Street Hill, EC4
MGT87 55–61 Moorgate, EC2
ML73 24–27 Martin Lane, 4–8 Arthur St, EC4
MLK76 1–6 Milk St, EC2
OLC85 St Margarets Rectory, St Olaves Court, EC2
OPT81 2–3 Cross Keys Court, EC2
PDN81 11–11A Pudding Lane, 121–127 Lower Thames St, EC3
PEN79 Peninsular House, 112–116 Lower Thames St, EC3
PET81 St Peter's Hill, 223–225 Upper Thames St, EC4
PUB80 The George PH, 86 Fenchurch St, EC3
RAG82 1–12 Rangoon St, 61–65 Crutched Friars, EC3
SLO82 Beaver House, Sugar Loaf Court, EC4
SM75 St Magnus New Fresh Wharf, Lower Thames St, EC3
SSL84 18,19,21–23 St Swithin's Lane, 13,Sherbourne Lane, EC4
SXE88 2–4 St Mary Axe, EC3
TEL83 8 Telegraph St, EC2
WAT78 Watling Court, 11–14 Bow Lane, EC4
WIT83 18–23 St Swithin's Lane, 113–114 Cannon St, EC4
WIV88 1–7 Whittington Ave, EC3

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