

A large group of early Tudor artefacts from Southwark: archaeological excavations on the More London site in Tooley Street

DAVID SAXBY, †GEOFF EGAN, BETH RICHARDSON, NICK HOLDER
and FIONA SEELEY

Archaeological excavation of a large site in Southwark, just downstream from London Bridge and to the north of Tooley Street, produced an important assemblage of Tudor finds, the majority of which date to the turn of the 15th and 16th centuries, c 1480–1510. This article reports on the early Tudor artefacts, which included a number of household fixtures, kitchen and table wares, clothing, shoes, evidence of metalworking and other trades, as well as several weapons and fragments of armour. The article also gives a chronological narrative of the site, beginning with some prehistoric features and Roman discoveries (a dated 3rd century AD waterfront), and continuing with medieval features (such as a number of fishponds) and the remains of numerous early modern brick and timber buildings.

Introduction

A large part of the Southwark riverfront – just downstream from London Bridge and to the north of Tooley Street – was redeveloped over a twenty-year period, beginning in 1986. The area is now a successful business district called More London, the scale, architecture, and tenants of which evoke the City of London on the other side of the river Thames. The most famous building within this redevelopment is City Hall, a striking glass and steel egg designed by Norman Foster. The building was completed in 2002 and is the seat of the Greater London Assembly.

This article reports on several aspects of the excavations carried out as part of this large redevelopment project. The most important aspect of this report is the publication of a selection of the large group of early Tudor artefacts discovered on the site – an important assemblage of finds from an archaeologically elusive period. The article also describes and illustrates the archaeological history of the site, beginning in late prehistory and continuing through medieval and early modern periods right up to the Victorian shops and houses along Tooley Street.

Archaeological excavation accompanied much of the twenty-year redevelopment programme (fig 1). Although this report concentrates on the excavations of 1999, a brief summary of the full archaeological programme is necessary to understand the context of that phase of excavation, and its relationship to other archaeological publications. Between 1986 and 1988, the warehouses and residential blocks that covered the eastern part of the site were demolished: the work was monitored by archaeologists from the Museum of London's Department of Greater London Archaeology (recorded under eighteen separate site codes). In 1992, the site of the Anning and Chadwick warehouse was excavated, following a public enquiry into this former listed building (site code ABO92). In 1995 the Museum of London Archaeology Service (MoLAS) carried out an archaeological evaluation within the western part of the site when six trenches were excavated, after which it was left undeveloped for several years (site code BAB95). The larger redevelopment project, originally titled London Bridge City but now called More London, came into being in the late 1990s and this article reports on the results of the excavations that were carried out by MoLAS prior to the More London redevelopment. The main area of excavation (carried out in 1999 and 2001 under the site code TYT98) was the western block of land, more or less the same area as the earlier BAB95 site but with more extensive and deeper archaeological excavation. However,

the excavation comprised thirteen trenches and 28 test pits scattered over the whole More London redevelopment footprint (fig 1; TQ 3368 8015).

Several aspects of the archaeological work carried out in the study area have already been published and are not, therefore, repeated in this article, although a summary of significant discoveries from earlier excavations is included in both text and figures. The 1995 excavation (site code BAB95) has been published in *Surrey Archaeological Collections* in an article that focused on the post-medieval development of the site (Grainger 2000). In 2003 Damian Goodburn reported on the extraordinary discovery of a 13th century rowing galley that had been broken up and recycled as timber lining of a medieval fishpond (site TYT98; Goodburn 2003). In 2005 Geoff Egan's book *Material culture in London in an age of transition* reported on the nationally significant group of Tudor and Jacobean artefacts recovered from site ABO92 (also drawing on earlier sites within the present study area; Egan 2005a). Then, in 2008, the discovery of the 17th century Pickleherring pothouse was published, together with several

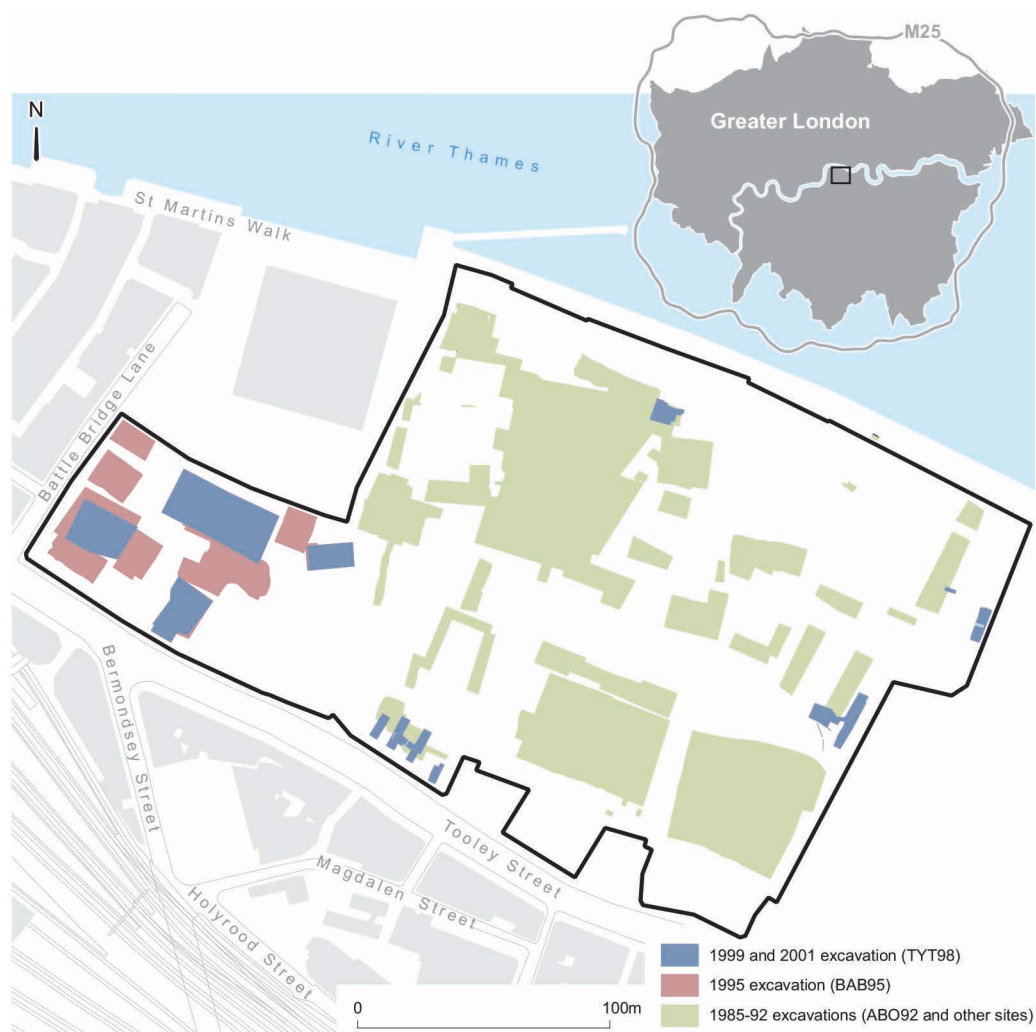


Fig 1 More London site, Southwark. Map showing the study area, the 1999 and 2001 excavation trenches, and earlier archaeological trenches within the areas within the study area that have already been the subject of archaeological publications (scale 1:3000).

other London delftware factories (sites VIN88 and ABO92; Tyler *et al* 2008, 26–59). Finally, in 2009, the early structural history of the study area was reported in *Great houses, moats and mills on the south bank of the Thames* (Blatherwick & Bluer 2009). The authors of this work concentrated on the medieval and early modern moated manors of Fastolf Place and the Rosary that had been revealed in site ABO92, but they also included material from several other sites in the study area including aspects of the present site, TYT98. The physical areas covered by these publications are mapped in figure 1. The present article focuses, therefore, on the unpublished 1999 excavation (site TYT98), primarily in the western part of the study area but also including new discoveries in other parts of the site.

The archaeological sequence is expressed here in terms of period and land-use. The periods are unique to the evidence from this site and are based on a combination of artefactual dating and major stratigraphic development. This report employs Building (B), Open Area (OA), Road (R) and Structure (S) numbers to describe land-use units. These are, in general, numbered sequentially through the excavated sequence, from the earlier features to the later, and describe the history of the use of land (and water) recorded on the site. The basic unit of cross-reference throughout the archive that supports this report is the context number. This is a unique number given to each archaeological event (such as a layer, wall, pit cut, road surface etc). Context numbers in the text are shown thus: [100]. Accession numbers assigned to many of the featured artefacts are shown thus: <1>. The field records, finds and other details pertaining to the excavation have been archived by the Museum of London under the site code TYT98 (earlier excavations are archived under their respective site codes). The archive may be consulted by prior arrangement at the Museum's London Archaeological Archive at Mortimer Wheeler House, 46 Eagle Wharf Road, London N1 7ED. The full finds catalogue with supplementary text and references is available online in the digital supplement (see *Endnote*).

Prehistoric activity (Period 1)

During the prehistoric period the area of modern Southwark was a series of islands surrounded by bodies of water and natural water channels. Archaeological evidence for prehistoric occupation has generally been quite elusive and little was known about the settlement patterns of the early inhabitants. However, in the early to mid-1990s excavations at Tooley Street, Lafone Street and Phoenix Wharf have yielded important evidence of early human activities. From the former site (TOS93), a single Mesolithic flint flake is further evidence of occupation of this date in the London area (Holder & Jamieson 2003). The other sites revealed important evidence of Neolithic to Late Bronze Age agriculture in the form of plough or 'ard' marks that were preserved in a buried sandy subsoil: prehistoric people were using these areas not only for seasonal hunting but were living on the island(s) and growing crops (Drummond-Murray *et al* 1994; Bates & Minkin 1999).

The present site straddles two prehistoric eyots that were separated by a large channel; the eastern island is often referred to as the Horsleydown eyot (an allusion to its medieval placename) and the western eyot is sometimes called the Cotton's Wharf eyot (after an 18th century placename). The majority of the study area was therefore under water in the late prehistoric period but the eastern and western parts of the site were located on the lower margins of the higher and drier ground (fig 2). Archaeological evidence from the present site gives us a little more information on human activity in this prehistoric environment: the remains of a prehistoric cooked meal on the edge of one of the eyots may date to the late Neolithic period, and the presence of possible bran among the wild plant seeds from the other eyot suggests human processing and cultivation of cereals in the Bronze Age.

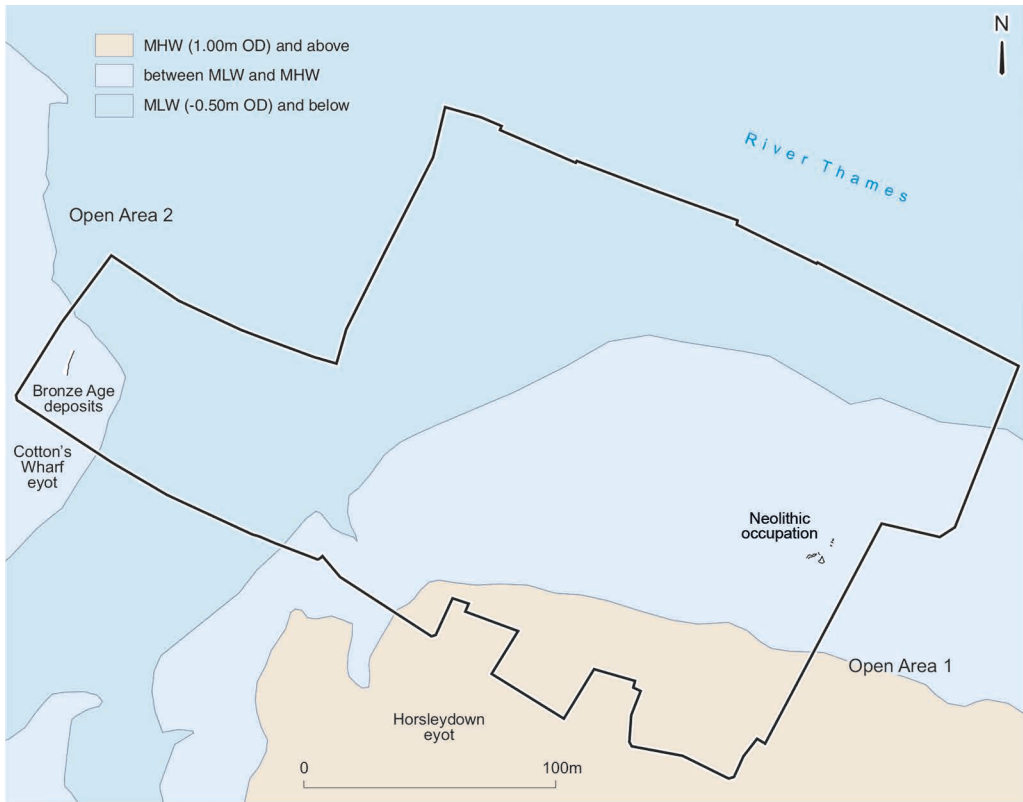


Fig 2 More London site, Southwark. Plan showing the site in relation to the prehistoric topography of north Southwark and Bermondsey (scale 1:3000).

THE HORSLEYDOWN EYOT: OPEN AREA 1

Observations in the eastern part of the study area showed that this part of the Horsleydown eyot was formed by successive deposits of sand, presumably deposited over long periods of later prehistory (fig 3). On one of these sand layers, close to a natural 'run-off' channel, there was a spread of burnt flint, animal bone fragments, pottery and unburnt struck flint, occupying an area of about 2 x 1.5m (and lying at a level of 0.50m OD). The bones could not be closely identified but appeared to be from all three of the major mammalian domesticates of cattle, sheep/goat and pig. This spread clearly represents the remains of one or more meals cooked on the lower northern slopes of the eyot, the remains of the fuel used presumably having blown away or floated away on the next high tide. Another layer of sand – probably roughly contemporary with the meal deposit – contained 116 sherds of prehistoric pottery. The more significant and identifiable fragments included two sherds from a Neolithic Mortlake-type Peterborough ware bowl, presumably dating to *c* 3300–*c* 2500 BC (fig 4). The illustrated sherd has some deep diagonal slashes, a common decoration on the rim and collar of such bowls, and there is a row of three deep impressions on the cavetto area under the collar. These impressions have been made with a blunt stick and there are corresponding bulges on the inside wall. Also recovered from the sand layer was a piece of flint from a polished implement used as a blank for an end- and side-scraper.



Fig 3 More London site, Southwark. Photograph, facing north, showing the excavation of prehistoric deposits in the eastern part of the site.

THE ‘COTTON’S WHARF’ EYOT (OPEN AREA 2)

The eastern edge of the ‘Cotton’s Wharf’ eyot was recorded towards the west of the site: here, the eyot was formed by successive layers of sands and clays. A grey/blue sand at 0.10m OD contained evidence of root action, suggesting that the lower slopes of the island were dry enough to support vegetation at this level. The layer also contained a large number of dyer’s rocket seeds and a flint waste flake. A higher and later organic clay layer (at 0.60m OD) contained low to moderate quantities of seeds of wild plants and possible bran fragments. Dating these layers is difficult but this level was the highest prehistoric dry ground on the site – presumably Bronze Age – and was covered by later alluvial flood deposits.

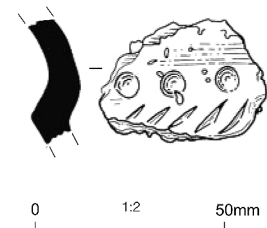


Fig 4 More London site, Southwark. Neolithic Mortlake-type Peterborough ware bowl (scale 1:2).

Roman activity (Period 2)

The present site lies over a channel separating two natural eyots that lay to the east of the mainland of Roman Southwark (fig 5; for the nomenclature of the eyots, see above; ‘Prehistoric activity (Period 1)’). The main area of Roman occupation was thus some 200m to the west of the present site, on the island at the southern end of the Roman London bridge.

The evidence found on this site points to a significant phase of groundworks taking place in the first half of the 3rd century. Beginning in the winter of AD 211–12, the eastern side of the ‘Cotton’s Wharf’ eyot was strengthened with a timber revetment, presumably in an effort to prevent flooding on the eyot and facilitate navigation in the channel. The works involved demolishing an important 2nd century building, the demolition rubble from which – including mosaic floors, painted wall plaster and heating flues – was used in the ensuing groundworks. The river wall was later rebuilt, first in AD 231–2 and then again in the second half of the 3rd century or the early 4th century. At the nearby Guy’s Hospital site, similar river-wall works took place in AD 241: there was clearly a major phase of public works taking place on the eastern fringe of Southwark in the first half of the 3rd century.

In addition to these major works, evidence for a late Roman fence or fish trap in a small channel on the Horsleydown eyot was also discovered.

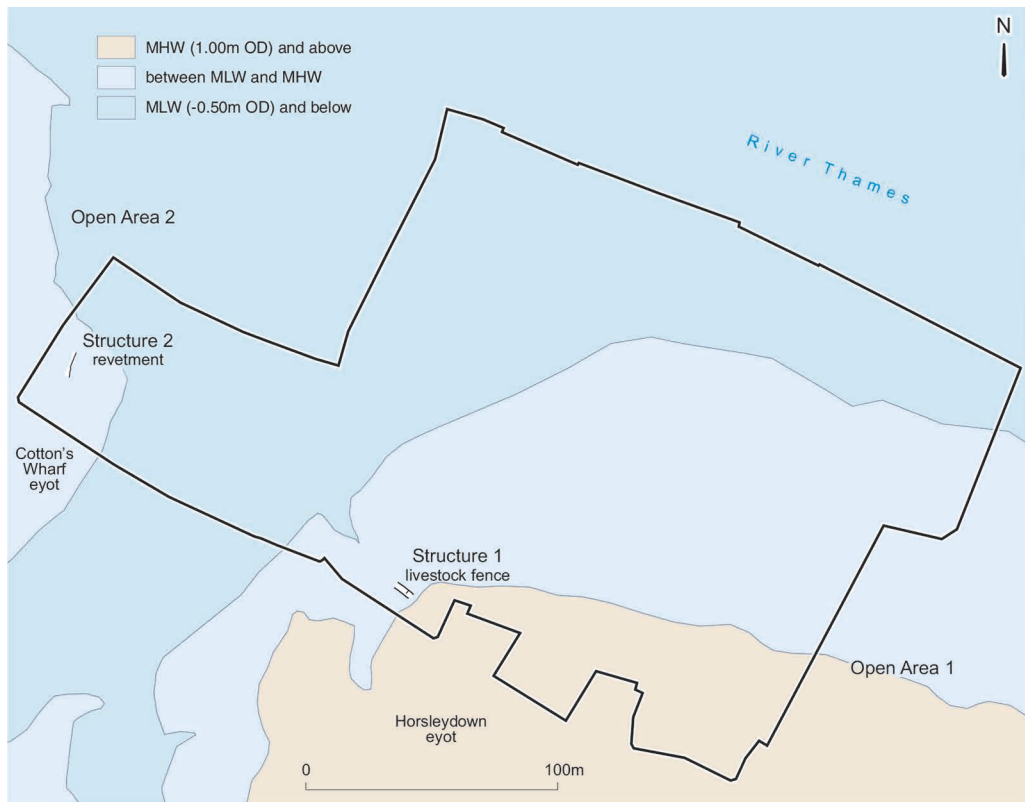


Fig 5 More London site, Southwark. Map showing the study area and the Roman landscape of river and eyots, also showing the location of the 3rd century timber river wall and a fence or fish trap (scale 1:3000).

RIVER-WALL WORKS OF THE 3RD CENTURY ON THE EDGE OF THE COTTON'S WHARF EYOT (OPEN AREA 2, STRUCTURE 2)

An oak revetment or river wall measuring some 20m in length (Structure 2) was built on the eastern edge of the Cotton's Wharf eyot and was later repaired on two occasions (figs 6 and 7). Dendrochronological analysis of one of the oak piles from the original build shows that the wood was felled in the winter of AD 211–12. The revetment was at least 1.7m high, with the upper surface (probably not the original top of the wall) lying at 1.2m OD. This first revetment (which could only be partially recorded in the excavation) survived as a line of boxed heart, hewn oak piles with horizontal oak planking on the landward (west) side.

The ground on the edge of the island, behind (ie to the west of) the new river wall, was made good and raised with earth that contained a large quantity of pottery dating to the early 3rd century AD.



Fig 6 More London site, Southwark. View of the 3rd century Roman revetment (Structure 2), facing south-west.

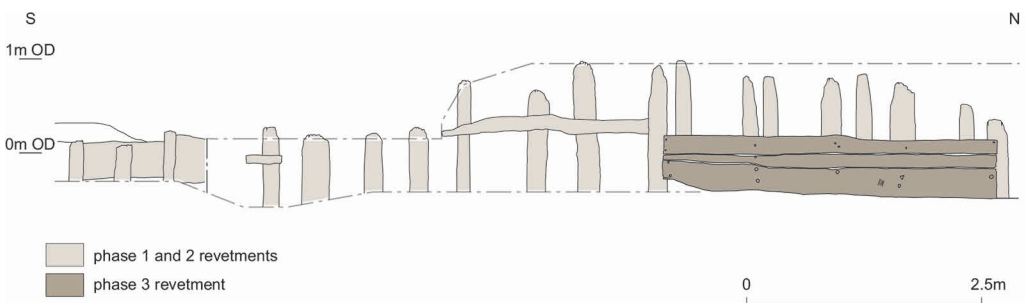


Fig 7 More London site, Southwark. East-facing elevation of the Roman revetment (Structure 2) (scale 1:80).

Early 3rd century AD pottery assemblage, by Fiona Seeley

The lowest fill B[1243] from the reclamation dump behind the revetment (Structure 2) contains a large ceramic assemblage (total 111 sherds, 3.86 EVEs, 2389g) (table 1). A single sherd from a black-burnished ware 1 jar with obtuse lattice (BB1 2 OL) (not illustrated) provides the latest date for this assemblage; the dating for the introduction of obtuse lattice decoration on BB1 everted-rimmed jars has been widely discussed but is generally thought to be in the early 3rd century AD (for full discussion see Rayner & Seeley 2002, 140–1). If this assemblage was deposited shortly after the construction of the revetment then this is one of the earliest dated examples of obtuse lattice decoration on BB1 vessels in London.

Black-burnished wares dominate the assemblage (29.4% by weight). There are a range of fabrics present including black-burnished ware 1 (BB1), black-burnished ware 2 (BB2) and Thameside Kent ware (TSK). Forms present are everted-rimmed jars (2F), such as the example illustrated in the fabric TSK <RP1>, and round-rimmed bowls (4H) including a vessel in black-burnished ware 2 (fine fabric) (BB2F) <RP2>. The full repertoire of decorative elements usually found on black-burnished wares is present including acute, obtuse and open acute lattice, grouped vertical lines, intersecting arcs and curvilinear decoration. Signs of use such as sooting and limescale are evident on all the black-burnished ware sherds and the average sherd size is small. Among the unsourced reduced wares is a hook-rimmed jar (SAND 2W) <RP3> (fig 8).

The samian ware present is notable not just because of its relative abundance (23.6% by weight) but also owing to the large sherd size and for the overall good condition. Dragendorff form 33 cups (6DR33) dominate, of which there are four examples, two from East Gaul (SAMEG) and two from Central Gaul (SAMCG). One of the East Gaulish examples is illustrated <RP4>. There are two examples of Dragendorff form 31 rouletted

Table 1 Quantification of pottery from Structure 2 B[1243]

Catalogue number Fig 8 (if illustrated)	Fabric/form/decoration	Sherd count	Estimated Vessel Equivalents (EVEs)	Weight (g)
	AHSU 2	1	0	12
	BB1 2 OL	1	0	10
	BB1 2F	2	0.05	10
	BB1 4/5	1	0	4
	BB1 4/5 ARCS	1	0	7
	BB1 4/5 CL	1	0	19
	BB2 2 AL	1	0	40
	BB2 4/5	1	0	20
	BB2 4H	1	0.05	8
RP2	BB2F 4H	7	0.3	206
	BBS 2	1	0	2
	BBS 2 GVL	2	0	38
	BBS 2 OAL	1	0	10
	BBS 2F	1	0.05	1
	BBS 4/5	4	0	62
	BBS 4H	4	0.15	78

Catalogue number Fig 8 (if illustrated)	Fabric/form/decoration	Sherd count	Estimated Vessel Equivalents (EVEs)	Weight (g)
	CC 3 END	1	0	8
	CGBL 3 ROD	3	0	5
	GAUL1 8G	1	0	149
RP8	GROG 2 ALX	11	0.45	395
	HWC 2T	1	0.1	6
	KOLN 3J BFD	1	0	2
	KOLN 3J ROD	1	0	6
	LOXI 9A	1	0	58
RP10	LOXIF? 4		0	54
	NKWS		0	13
RP9	NKWS 1D		1	72
	NVCC		0	2
	NVCC 3 BFD	1	0	2
	NVCC 3 ROD	1	0	3
RP7	NVCC 3K PR	2	0.06	7
	OXID	8	0	116
	OXID 1	1	0	25
	RWS	3	0	13
	SAM	1	0	1
	SAMCG	1	0	1
	SAMCG 3?	1	0	1
	SAMCG? 4 DEC	1	0	2
RP5	SAMCG 5DR31R ROD	1	0.3	301
	SAMCG 6DR33	2	0.31	30
	SAMEG 4DR37	1	0	39
RP6	SAMEG? 5DR31R ROD	1	0.07	125
RP4	SAMEG 6DR33	2	0.28	44
	SAMMV 4/5	1	0	20
	SAND	13	0	98
	SAND 2	1	0	8
RP3	SAND 2W	1	0.07	11
	SAND 4/5	1	0.07	24
	SAND 9A	2	0.2	2
RP1	TSK 2F	5	0.35	138
	TSK 2F OAL	1	0	50
	VRW	2	0	31
Totals		111	3.86	2389

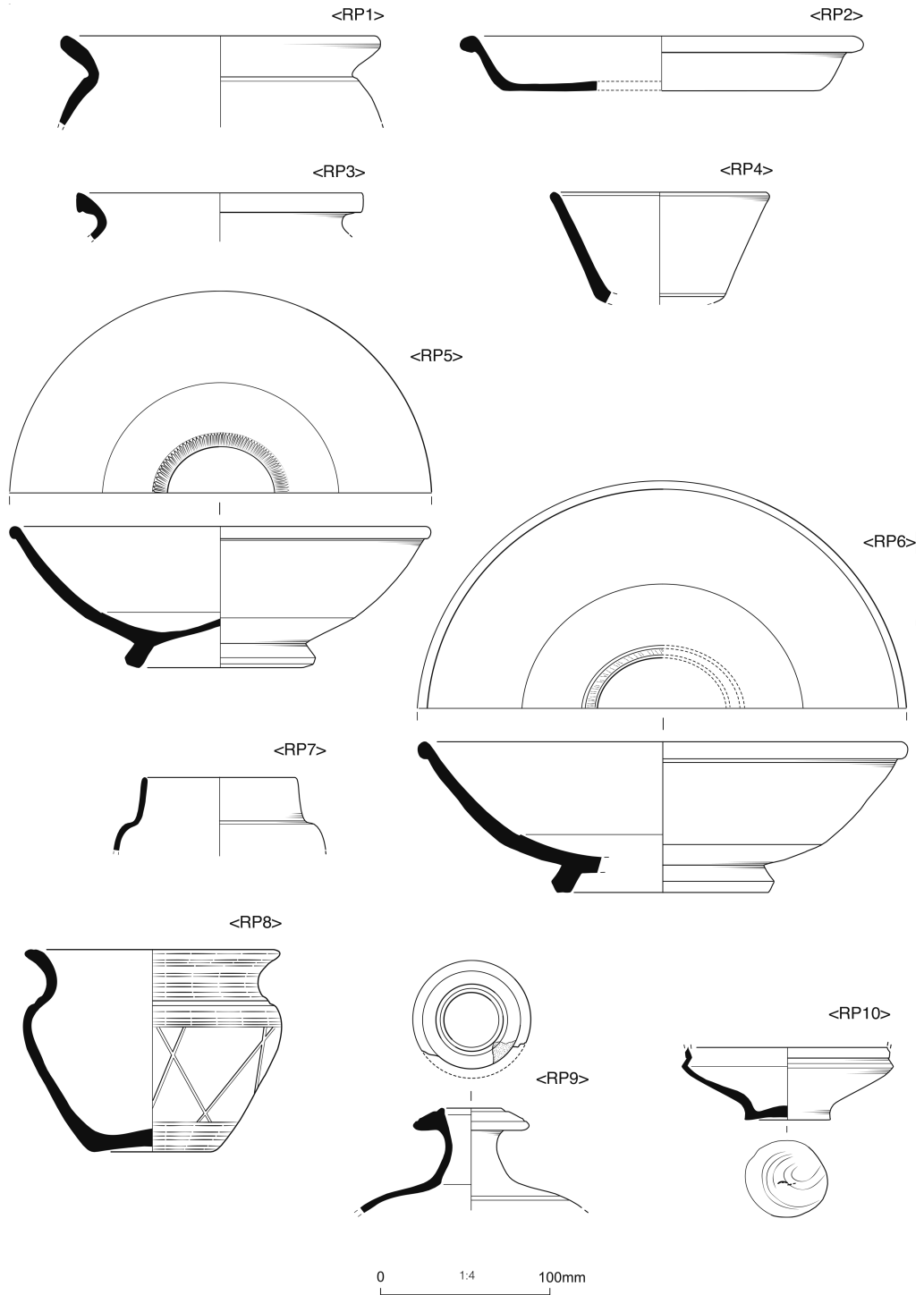


Fig 8 More London site, Southwark. Roman pottery assemblage associated with Structure 2 <RP1>–<RP10> (1:4).

dishes (5DR31R) present in Central and East Gaulish samian fabrics (SAMCG, SAMEG) <RP5><RP6>. A small but unreadable portion of a stamp is present on the central Gaulish example <RP5>. Additionally, there is also an abraded footing from an East Gaulish Dragendorff form 37 bowl (SAMEG 4DR37), a small Central Gaulish decorated sherd and four other small sherds in various samian fabrics. Nene Valley colour-coated ware (NVCC) is the second most common fine ware; all forms in this fabric, that can be identified, are beakers. The necked globular beaker (3K) <RP7> has a plain rim and it is thought that these are first produced by the Nene Valley industry in the second quarter of the 3rd century AD (Perrin 1999, 94, fig 61, nos 165–7). Other fine wares include two small sherds from decorated Cologne colour-coated ware bag-shaped beakers (KOLN 3J); the surviving decoration is suggestive of hunt scenes. There are also three sherds from a central Gaulish/Lezoux black colour-coated ware beaker with rouletted decoration (CGBL 3 ROD) that may be contemporary with the rest of the assemblage.

Oxidised wares only comprise a small percentage of the assemblage as a whole (16% by weight). This is unsurprising as it reflects the low numbers of flagons found in 3rd century assemblages compared with earlier periods. Only two flagons have been identified in the group and include a north Kent white-slipped disc-mouthed flagon (NKWS 1D) <RP9>. Vessels in London oxidised ware (LOXI) are also present but are most likely to be residual by this date. They include the lower half of a bowl in the fine variant of the fabric (LOXIF 4) <RP10>; it is carinated and similar in profile to variants of the Marsh type 44 bowl (Marsh 1978, fig 6.19, no 44.05; fig 6.20, no 44.20). In addition to the low numbers of flagons there is an absence of mortaria and only one sherd of amphora.

The most unusual vessel within the group is a handmade necked jar in an unsourced grog-tempered ware with lattice decoration (GROG 2 ALX) <RP8>. Exhibiting evidence of wheel-finishing, the vessel has highly burnished surfaces. The presence of more than half of this jar and the large size of the sherds suggest it is contemporary with the rest of the deposit. There are relatively few sherds among this assemblage, and that of the site as a whole, which are indicative of occupation during the early period (AD 43–160) and most of the contexts are dated post-AD 150, thus suggesting that the grog-tempered vessels are more likely to be later in date rather than residual 1st century examples.

Closest parallels among those products seen as late grog-tempered wares – which have a range of sources (Tyers 1990, 191–2) – are those attributed to the East Sussex late grog-tempered ware industries, in particular those at Ranscombe Hill (Green 1978, 252, fig 5, no 25; Lyne 2015, 28, fig 9, no 5D.7) and Beddington villa (Lyne 2015, 15, fig 3, no 5C.7). These vessels respectively are dated to the 4th century and AD 270–400, significantly later than the proposed date of the Tooley Street assemblage. Although late Roman grog-tempered wares are generally dated from the late 3rd century AD onwards (Fulford 1975, 289; Pollard 1988, 129), they are a continuation of an earlier pre-conquest tradition of pottery making in the South-East using grog tempering (Green 1978, 247; Lyne 2015, 1), and this vessel may be an early 3rd century precursor to the later wares. The shape of this vessel is most similar to that of an undecorated jar from Ranscombe Hill dated to the early to mid-2nd century AD (Green 1978, 251, fig 4, no 9). Although there is a rare mid-3rd century assemblage from Bishopstone, Sussex containing late grog-tempered forms (Green 1977, 165–7, figs 73–4, nos 42–61), none parallels the Tooley Street vessel.

With regard to the fabric of the vessel, it is hard fired with grey external surfaces, pink internally with a dark grey core. The main inclusions are very angular grey quartz ranging from pale grey to the same colour as the matrix. Grog are abundant, ranging in size up to 2.0mm. Rare large, low spherocity quartz and mica are also apparent. As discussed, there are a wide range of sources for late grog-tempered ware across the South-East and although the form is most similar to examples from Sussex, the fabric is unlike those published from this region and additionally, the high standard and method of finish make it unlikely to be an East Sussex grog-tempered ware product (Chris Green, pers comm). Neither is it Hampshire grog-tempered ware (HAM GT), Portchester 'A' fabric as described by Fulford (1975, 286–9)

as this ware has mostly angular as opposed to spherical grog. It is most comparable to the fabric of a jar from an early or mid-3rd century layer at Billingsgate Buildings (Green 1980, 73, fig 40, no 384), which the author suggests may be from West Kent, although no direct parallels for this form have been found in the West Kent repertoire. To conclude: although the exact source of this vessel has still not been established, it is likely to be part of a tradition of late grog-tempered wares made across south-east England and is important in that it provides one of the earliest dated examples.

This assemblage is strikingly similar in range of forms and fabrics to the pit group from London Bridge Street (LBA95) dated to *c* AD 230–60 (Rayner & Seeley 2002, 139–141, fig 100), although this ceramic date is not corroborated with dating evidence from other sources. As with the Tooley Street assemblage there is a high percentage of samian ware, in particular East Gaulish. The most common types of forms are beakers, dishes and bowls (either in samian fabrics or black-burnished ware 2) and everted-rimmed jars.

Three samian sherds were retrieved from the upper fill B[1272], two of which are from an East Gaulish samian Dragendorff form 33 cup (SAMEG 6DR33). This vessel is unstamped, a feature that is not unusual for East Gaulish examples of this form (Webster 1996, 45). An interesting aspect of this cup is that it has a distinctive wear pattern on the interior of the base indicative of a stirring or grinding action. The third, slightly abraded, sherd from this context is from a Central Gaulish samian Dragendorff form 37 (SAMCG 4DR37).

The dumped material also contained a large quantity of building material, in fabric types dating from the 1st to the mid-2nd centuries. Over 50 tesserae were recovered, mostly red in colour, but including smaller yellow, cream-white and light-brown examples (all in fabric 2454). Two smaller tesserae, one yellow ceramic and one light grey flint, must be part of a decorative mosaic. The dumped material also included painted wall plaster, brick, roof tile (*imbrex* and *tegula*) and flue tile (both scored and combed). The material must be demolition rubble of a 1st or 2nd century building of some status. The dump also contained a rich assemblage of cereals (wheats such as *Triticum spelta* and *T. dicoccum*), wetland plants, stable waste and fruits (including stone pine (*Pinus pinea*), blackberry/raspberry (*Rubus fruticosus/idaeus*) and plum (*Prunus domestica*)). Meat remains included the usual beef, mutton/goat and pork, as well as less common remains such as chicken, deer, hare and teal.

The first revetment of AD 211–12 was replaced by a second revetment built from driven, square oak posts with sawn oak boards placed horizontally behind the uprights (fig 7). This second revetment has been dendrochronologically dated to AD 231–2, indicating that the original revetment lasted some twenty years before being repaired and partially rebuilt. The oak piles (also hewn from boxed heart wood) were larger than the earlier piles, with scantlings varying from 250mm square to less than 200mm square. The best preserved (lowest) course of planking was 0.30m or 1 Roman *pes* wide and about 25mm (1 *uncia*) thick. The majority of timber used for the planking and piles of this revetment was of fairly fast or moderate growth rate and probably derived, therefore, from fairly open managed woodland. Some timber derived from slower-grown trees that may have grown in the darker conditions of wildwood-type forests.

The river wall was repaired with a third phase of revetment, structurally unlike the earlier two phases (fig 7). This third phase could not be dated by dendrochronology but the material that accumulated or was dumped in front of the new revetment contained pottery dating to AD 250–300. Unusually for Roman revetments, the sheathing planks were securely nailed to the front (riverside) face of the revetment, not the landward side. The new timber river wall was quite smooth – without the protruding timber piles – and therefore well suited to bringing river barges alongside.

A livestock fence or fish-trap on the Horsleydown eyot (Open Area 1, Structure 1)

Near the edge of the Horsleydown eyot there was a small channel, perhaps a natural stream that had been enlarged or deepened by hand. The channel ran north-westwards towards open

water and was 2.8m wide x 0.3m deep. Spanning the full width of this watercourse was a line of 23 closely-spaced driven oak stakes, 450–650mm long x 40–80mm in diameter (figs 9 and 10). The often crooked stakes were probably branch wood rather than fast-grown coppiced wood and the bark had been left on. Their wedge-form tips had been cut by an axe or bill hook at least 65mm wide. The line of stakes could have functioned as a fish-trap although

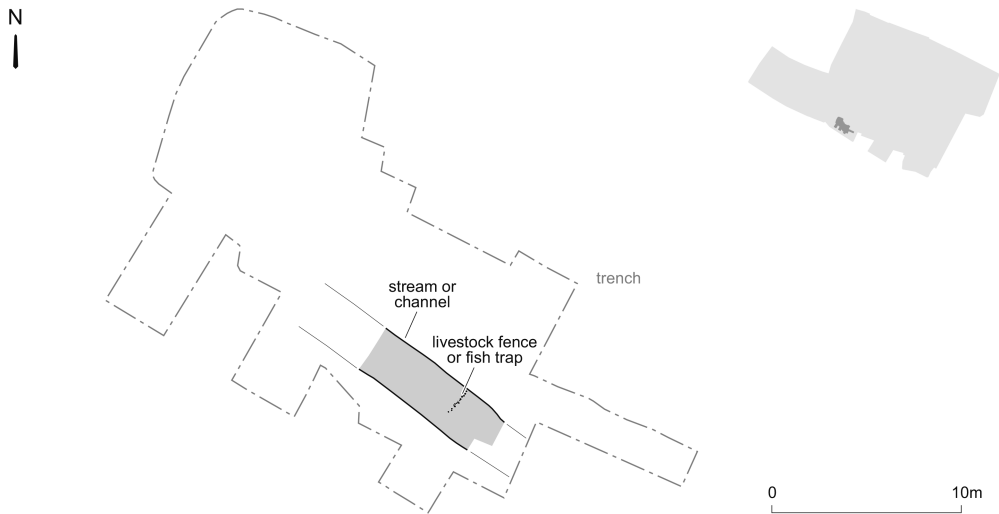


Fig 9 More London site, Southwark. Plan of livestock fence (fish-trap?) and watercourse (Structure 1) (scale 1:400).



Fig 10 More London site, Southwark. View of ?fish-trap (S1) facing west.

some sort of boundary or livestock fence is equally likely: ditches and streams passing through grazing fields often have fences to prevent animals walking or swimming round the fences between the pasture fields. Dating the feature is problematic because none of the stakes had enough growth-rings to provide a dendrochronological date, nor were there any associated finds. The feature was initially thought to be prehistoric – Neolithic or Bronze Age – but the rather wide and flat tool marks point to a date in the Iron Age or later. Furthermore, the stakes survived in relatively good condition and the level at which their tops had rotted away suggests a Roman date (for the fence to be prehistoric it would have to have survived for hundreds of years before rotting in the Roman period). Finally, similar features at the nearby Hunt's House site have been dated to the Roman period (Taylor-Wilson 2002, 12).

Medieval: 11th to mid-15th century (Period 3)

In the Saxon period the study area probably lay within the tidal margins of the Thames, a little to the north of a road along the south bank of the river. The road was later known as Horsleydown Lane or, closer to London, as Tooley Street, the latter deriving from 'Saint Olave Street' (Carlin 1996, 25). At the time of the Domesday Book of 1086, Tooley Street was only built up at its western or Southwark end, near to London Bridge. Further east (in the area of the present site) were crofts or large plots of land on the north side of the lane, which ran eastwards to a common called Horsleydown; along the riverfront ships would have moored before loading or unloading further upstream in the City. Over the medieval period these crofts passed between various aristocratic and monastic landlords. The croft at the

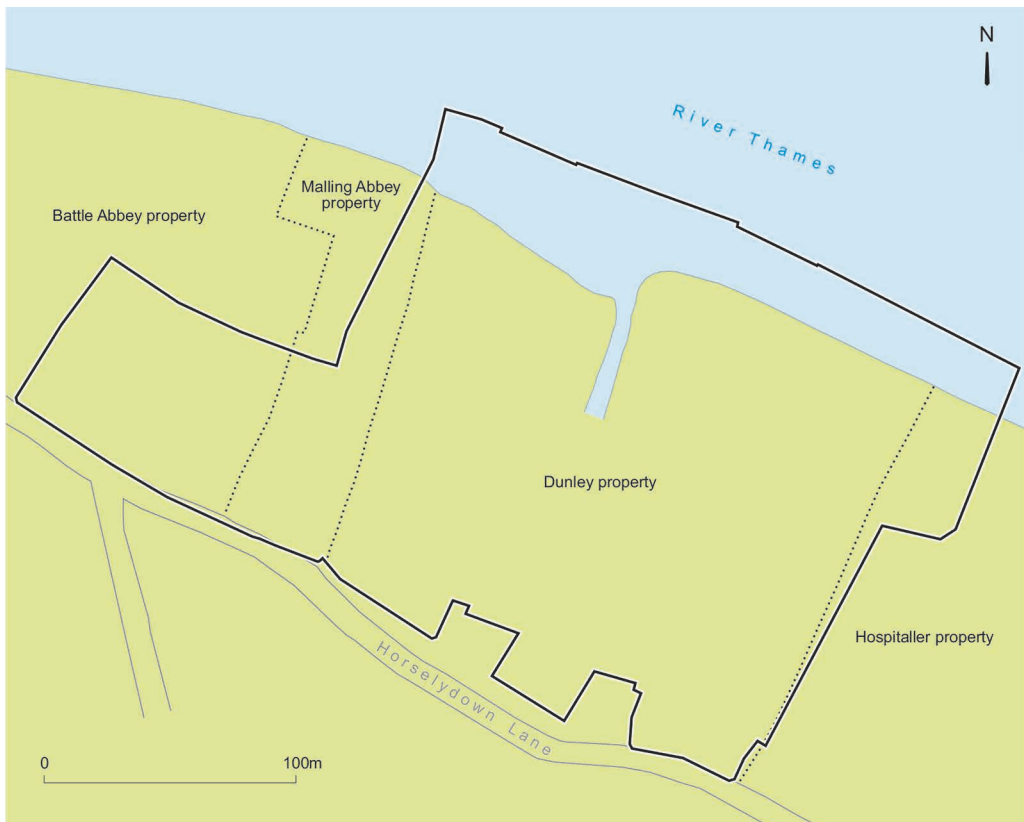


Fig 11 More London site, Southwark. Map showing the study area in the 13th century (scale 1:3000).

western end of the study area was owned by the de Warennes, earls of Surrey, and had been acquired by Merton Priory in the early 12th century. The Merton land was subsequently bought by Battle Abbey in the 13th century and added to other plots to form the site of the abbot's town house: the area became known as Battlebridge (fig 11). Further east within the study area there were crofts with tide mills, one of which was owned by Malling Abbey and another by the Dunley family in the 13th century. In the 14th century the Horsleydown Lane frontage was becoming built up, presumably as the Battlebridge property was subdivided; Southwark and Bermondsey were becoming centres of suburban industry with a particular emphasis on the leather trades, brewing and butchery. To the east the larger mill and croft properties survived a little longer: Edward II acquired part of the Dunley property in the 1320s and constructed a moated timber hall known as the Rosary, and towards the end of the century the royal architect Henry Yevele acquired the former Malling Abbey mills (fig 12; Blatherwick & Bluer 2009, 57–62 and 76–7; Carlin 1996, 46–7).

Archaeological evidence from the site shows that a combination of active land management (raising the ground level with earth brought in from elsewhere) and a changing river regime meant that this part of Southwark could once again be occupied in the 11th or 12th centuries, after some centuries of regular tidal inundation. The land management works may also have included timber revetments to replace those built many centuries before in the 3rd century AD, although no new river walls were seen on this site. If the full extent of these medieval ground works cannot be understood, some of the results can be seen: the process of urban expansion as the built-up area of Southwark expanded eastwards towards Bermondsey in the late 13th or early 14th century. Building 1 was a new house and workshop built on the



Fig 12 More London site, Southwark. Map showing the study area in the 14th century (scale 1:3000).

north side of Horsleydown Lane at this time. Evidence from the yard at the rear of the house suggests that the occupier was in the leather business: the pits in the yard still had a pungent smell of urine when excavated in 1999, animal urine being one of the main chemical agents in the tanning process. Further back from the building was a plot of land used for fishponds, perhaps in different ownership or occupation. The quantity of ponds and the care taken with their maintenance (with the timber, wattle and chalk linings regularly replaced) suggests that they were used commercially, for holding fish before they were sold at market or for the supply of local religious or great secular houses. The ponds may even have been used for temporary stocking of sea and estuarine fish.

The excavation provided unexpected detail on another aspect of medieval riverine trade with the important discovery of the remains of a 13th century rowing galley. The galley was probably 40 feet (12m) long and had been built in the 1260s or early 1270s from Irish oak. At the end of the life of the galley she had been broken up and her beech timbers recycled as the lining for one of the fish ponds. This nationally important discovery – complete with the vessel's 'gunwales' or oar holes – is reported in detail elsewhere (Goodburn 2003).



Fig 13 More London site, Southwark. Plan of Building 1 and the fishponds (in blue) in Open Areas 2 and 3 in the 14th century (scale 1:800).

A LATE 13TH OR 14TH CENTURY BUILDING ALONG TOOLEY STREET (BUILDING 1)

The evidence for Building 1, on the north side of Horsleydown Lane, consisted largely of chalk foundations that were up to 0.9m deep and up to 0.8m wide (fig 13). These foundations were clearly designed to carry a fairly substantial superstructure, presumably a two-storey masonry building, perhaps with a third garret storey. The building may have had some details or patched repairs in brick: when it was demolished in the 16th century its successor was partly built using recycled yellow/pink bricks dating to the 14th or 15th centuries (brick fabric 3208, reused in Building 5; see ‘Elizabethan and Jacobean: 1550–1700 (Period 5)’, below). This successor building also reused some unidentified sandstone that could well have come from Building 1. The medieval building was about 5m wide and probably 10m long (allowing for offset foundations and assuming that it continued nearly as far as the Horsleydown Lane frontage). Within the north-east corner of this building were the remains of a hearth built from roof tiles laid on edge. A second and larger hearth lay outside the rear of the building, built in a similar way but with an additional border of horizontal tiles. Overlying the second hearth was a deposit of ash that contained a few charred cereal grains.

Building 1 was enlarged with the addition of an extension to the rear of the property, perhaps forming a workshop (fig 14). The rather narrower and shallower chalk foundations (0.3 x 0.3m) suggest that this extension was single storey. This room had a rammed earth floor with a circular hearth, again built from on-edge roof tiles enclosed by a band of horizontal tiles. Little dating evidence was recovered from the main wing of Building 1 but make-up layers within the extension contained pottery dating to 1270–1350. An assemblage of sheep metapodials was also recovered from the extension wing, hinting that the occupier was engaged in the tanning trade. The wing also had a square pit or silt-trap (some 400mm deep) with a drainage gully leading under the rear wall. Pottery from this feature was slightly later,



Fig 14 More London site, Southwark. View of the late 13th or 14th century Building 1, facing north, with the extension and hearth at the top of the picture.

dating to 1350–1500, suggesting that the wing was in use in the late 14th or 15th century. There appeared to be no direct door between main and workshop wings; instead, a passage led out of the main wing into a yard to the west, with two limestone slabs forming a threshold into the workshop.

A plot of tanning pits and fishponds to the rear of the Building 1 (Open Area 3)

Behind Building 1 was a large yard in which several pits had been dug with, further away to the north, at least seven larger ponds (fig 13). The smaller pits had vertical sides, and one still had the decayed timber of what appeared to be a barrel lining. A smell of urine was still discernible during excavation of these pits, some 600 or 700 years after they were first dug. Furthermore, one pit contained a concentration of sheep foot bones: three carpal/tarsals, twelve metapodials and four phalanges. The bones are clearly from adult individuals and they almost certainly represent tanning waste since skins were often bought by the tanner from the butcher with the feet still attached (Armitage 1984, 140; Serjeantson 1989, 137). The evidence points, therefore, to the house and yard being used by a tanner. The backfill of the pits contained a mixture of domestic food refuse and latrine waste including oysters, mussels and fruit such as apple or pear (*Malus/Pyrus* sp.), grapes (*Vitis vinifera*) and plum (*Prunus domestica*). A small number of seeds were recovered from plants that could suggest nearby cloth production or the cultivation of useful plants for the trade: flax (*Linum usitatissimum*), hemp (*Cannabis sativa*) and dyer's rocket (*Reseda luteola*). The sample of seeds also included hop (*Humulus lupulus*) perhaps grown locally to be used for brewing.

The larger pits had been dug further from the house. They were roughly square in shape, between 5 and 9m square, and the deepest was 2.9m deep with near-vertical sides (fig 15). Their lowest waterlain fills contained little dating material but the small quantities of pottery dated to 1150–1350, suggesting that the pits were contemporary with the late 13th or 14th century house, Building 1. Environmental samples from the lower fills revealed little of their original function but the form of the pits strongly suggests that they were dug and used as fishponds, each capable of containing about 40,000 litres of water, with the largest pond capable of holding nearly 200,000 litres.

A gravel path or lane (Road 1)

A gravel path that was 2.9m wide ran perpendicular to Horsleydown Lane, north-eastwards towards the river frontage. Although it lay within the Battlebridge property it may have functioned as a boundary, dividing the plot containing Building 1 and the square fishponds from a separately leased plot to the west. A narrow wattle-lined ditch (0.9m wide) ran along the west side of the path.

A second plot of fishponds (Open Area 2)

On the west side of the path (Road 1) a number of large ponds were dug in the 14th century, three of which were particularly well built (fig 13: Structures 3, 4 and 5). Once again, there was no environmental evidence to help identify the function of the ponds, but their form and locations strongly suggests that they were fishponds. The three ponds appeared to be in contemporary use: they were of similar size and shape, arranged in a regular row and were built and maintained using similar techniques. They were flat-bottomed rectangular ponds dug to a depth of 1 or 2m and were between 12 and 14m long x 4.5m wide. Each was shored with overlapping planks, generally elm with some softwood, held in place with driven oak posts about 110–180mm in diameter. The two shallow ponds (fig 13: Structures 4 and 5) had a capacity of about 50,000 litres, with the deepest (Structure 3) capable of holding over 100,000 litres (fig 16). All three ponds had been repaired and modified on a number of occasions: elm posts were added as the original oak posts rotted and the bases



Fig 15 More London site, Southwark. View of one of the fishponds being excavated in 1995, facing south-east.

were lined with chalk. Parts of the retaining walls of the deep pond were also relined with chalk, the planks presumably having rotted. There seems to have been some sort of platform or stair structure in the north-west corner of the deep pond where some 50mm-diameter stakes had been driven into the base. The middle pond also needed repairs, the planks being replaced with oak and beech planks recycled from a dismantled 13th century rowing galley (figs 17 and 18). There were other repairs to the shoring of this pond (and the third pond, Structure 5) carried out using chalk and wattle (figs 19 and 20). The limited dating evidence for the construction and use of the ponds points to a date in the 14th and/or 15th centuries, with a few sherds of Surrey-Hampshire Coarse Border ware pottery dating to 1270–1500.



Fig 16 More London site, Southwark. View of the western fishpond (Structure 3) showing the chalk base, facing north.

A larger unlined pond was excavated to the north of the three lined ponds: the alluvial clay may have been stiff enough for the sides of the pond to last a few seasons. A ditch or channel to the north allowed the run-off of surplus water from the ponds.

Late medieval and Tudor: 1450–1550 (Period 4)

In the 1440s the soldier and landowner Sir John Fastolf purchased the former Dunley and Yevele properties. He carried out improvement works to the 14th century moated house known as Dunley's Place, now Fastolf's metropolitan residence. Fastolf preferred his country seat in Caister (Norfolk) but stayed here on occasion, including during Jack Cade's rebellion in 1450. As part of his redevelopment of the property he demolished the mills in the Dunley plot but retained and leased out the mills in the western (Yevele) property, also receiving rents for dye-houses, brew-houses and wharves (fig 21). The Battlebridge property was owned in the 1450s and '60s by William Lemyng and his heir Roger Lemyng and included a tenement and three gardens along the street frontage. In 1472 Roger Lemyng released the land to



Fig 17 More London site, Southwark. View of the chalk-lined fishpond (Structure 4) and the rowing galley used as the timber revetment, facing north-west.



Fig 18 More London site, Southwark. View of the galley planking reused in the medieval fishpond lining in Structure 4.



Fig 19 More London site, Southwark. View of the chalk-lined fishpond (Structure 4), facing south and showing the wattle fence lining the southern end of the fishpond.



Fig 20 More London site, Southwark. View of the fishponds (S4 and S5), facing south.

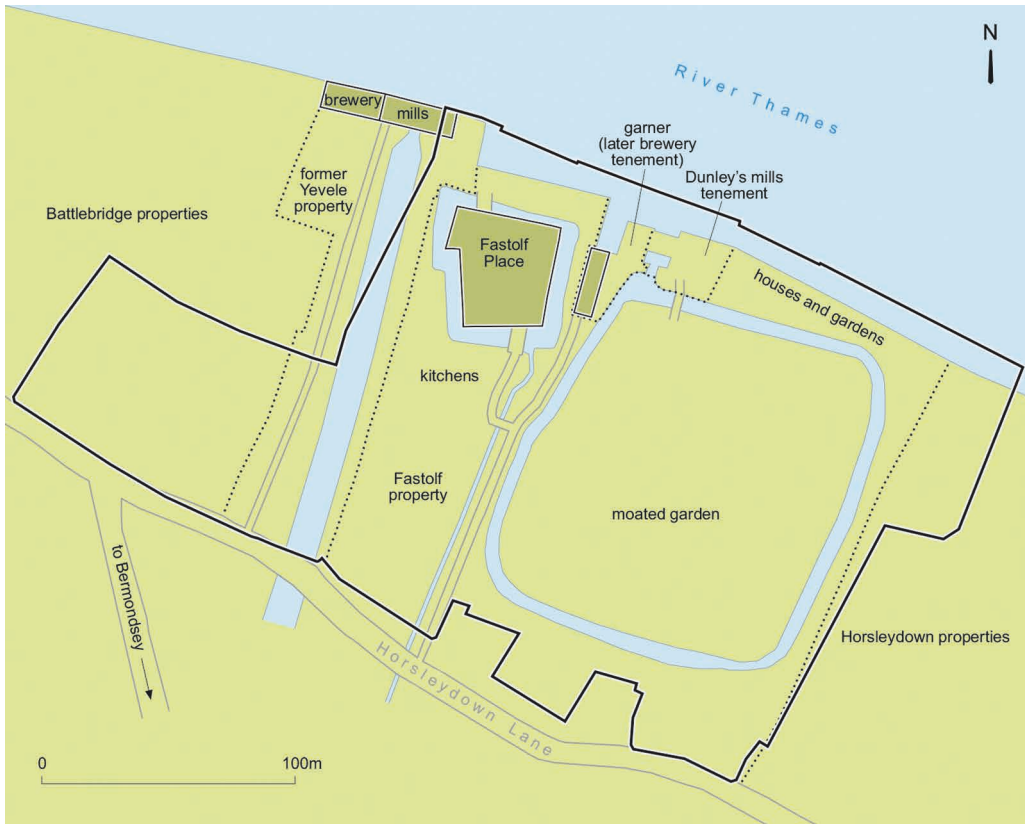


Fig 21 More London site, Southwark. Map showing the study area in the 15th century (scale 1:3000).

William Copley, a York merchant who was a relative of the London and Bristol merchant Sir Roger Copley. The property – the land between Fastolf’s mills to the east and the Battle mills to the west – remained in the Copley family until the 1530s and they seem to have sold the majority of their plots here by 1546. Both documentary and archaeological evidence attest to the increasing population density as the tenements were subdivided into smaller house plots along the Horsleydown Lane frontage, by now known as Tooley Street (Carlin 1983, 340–2; Carlin 1996, 57–60; Blatherwick & Bluer 2009, 82–5).

The present site revealed little new structural evidence for this period; the discoveries relating to Fastolf’s property and its later alterations are reported elsewhere (Blatherwick & Bluer 2009, 82–127). The importance of this site relates instead to the extraordinary assemblage of everyday and high-status possessions included in the huge dumps of refuse that were discarded here at the turn of the 15th and 16th centuries. This probably occurred when the fishpond plots were redeveloped as rear gardens for the new subdivided tenements along Tooley Street. This nationally important assemblage of early Tudor artefacts is the subject of the second part of this article.

Elizabethan and Jacobean: 1550–1700 (Period 5)

By the second half of the 16th century the built-up area of Southwark had expanded eastwards along Tooley Street and reached the junction with Bermondsey Street; our study area was, therefore, truly urban for the first time (fig 22). In the 15th and early 16th centuries

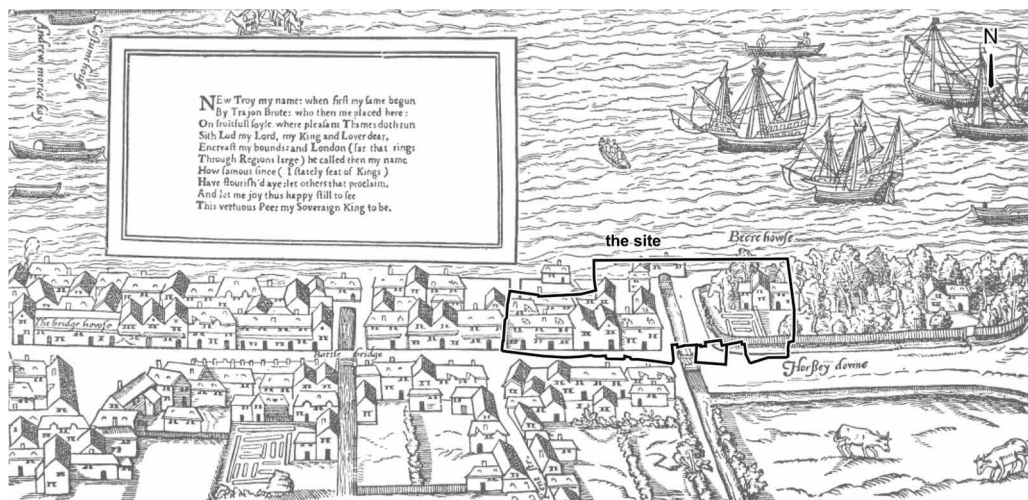


Fig 22 More London site, Southwark. The 'Agas' map-view of the 1560s.

the Battlebridge property (the west of the study area) had been in the hands of the Copley family but they divided and sold the property into about 22 tenements between the 1530s and '50s. The owners of these tenements in the 1550s and '60s are known thanks to two surviving surveys (of 1555 and *c* 1565) but it is difficult to trace subsequent owners and tenants (Carlin 1983, 337, 340–5). Nor can the precise boundaries of these individual tenements be accurately mapped but their approximate location is shown on figure 23. It was presumably at this time that the small lanes and tracks that ran north from Tooley Street crystallised into the formal roads of Battle Mill Lane (now Battle Bridge Lane) and Morgans Lane. Further to the east, the tide mills once owned by Henry Yevele were now owned by Magdalen College and were known as the St Mary Magdalen mills. The mills were still leased in the 1660s but by the time of a survey of the property in 1684 the mills had been replaced by a dye-house, a brewery and various yards and tenements. Moving further east, Sir John Fastolf's moated property was owned by William Cockayne in the second half of the 16th century and leased to a local coppersmith and brewer, Olave Burr, who ran another brewery here variously known as The Chequer, the High House or the Berehouse (Blatherwick & Bluer 2009, 127–8 and 140–2). In the early 17th century the Dutch entrepreneur Christian Wilhelm set up a pothouse in the eastern part of the study area, manufacturing tin-glazed or 'delftware' domestic crockery (including bowls, cups, dishes and chamber pots) and floor tiles; this is the subject of a more detailed archaeological publication (Tyler *et al* 2008, 26–59).

The archaeological evidence reveals details of the development of some of the 22 documented tenements behind Tooley Street, in between Battle Mills Lane and Morgans Lane. Our 14th century masonry building on Tooley Street (Building 1 in Period 3) was demolished in the late 16th century and replaced with less substantial houses built in brick (Buildings 4 and 5). There is also evidence for another new 16th century brick building along Battle Mills Lane (Building 2), new 17th century brick houses along Morgans Lane (Building 3), and a newly laid-out lane called Toolys Gate. A timber-lined common sewer was dug behind Tooley Street, draining rainwater and kitchen or workshop waste (but not latrine waste) from the new tenements fronting onto Tooley Street.

The archaeological evidence also shows that the ground level of the whole area behind Tooley Street was raised, presumably to alleviate problems with ground water and localised flooding. The improved land could then function as gardens, perhaps as a series of market gardens. One garden or yard behind Tooley Street (Open Area 6) had barrel wells that may have functioned as watering wells for the gardens and, furthermore, numerous garden

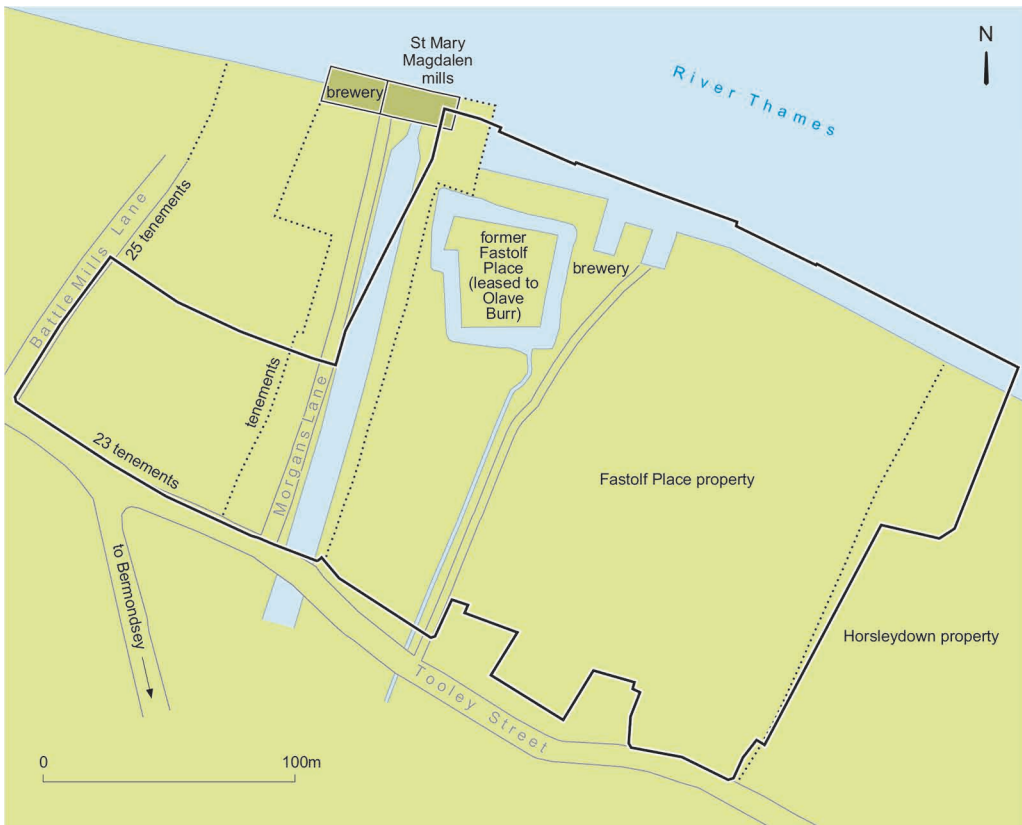


Fig 23 More London site, Southwark. Map showing the study area in the second half of the 16th century (scale 1:3000). Note that Horsleydown Lane is now named as Tooley Street.

implements such as sprinkle pots (watering cans) and sickles were found here. The gardens may have also been used for recreational pursuits: the bowling balls discovered on the site may suggest a bowling green. Environmental evidence recovered from this area revealed a large range of fruit and nut species – some of which were probably locally grown – including grape, blackberry/raspberry, sloe, plum, pear/apple, fig, walnut and hazelnut. Plants that may have been grown in the garden included hops, viola, marigold (*Calendula* sp.), yarrow (*Achillea millefolium*), feverfew (*Tanacetum parthenium*) and blessed thistle (*Cnicus benedictus*). The last three of these were often used as medicinal plants, whereas the hops were presumably used in domestic brewing or were grown for (or waste from) the nearby breweries. There was also evidence of herbs such as coriander and caraway, as well as food such as cabbage (*Brassica/Sinapis* spp), carrot (*Daucus carota*) and fennel (*Foeniculum vulgare*).

Evidence for industrial activity was also found, including plants used in the textile trade such as flax (*Linum usitatissimum*), dyer's rocket and hemp. There were a number of offcuts of copper-alloy sheets indicating metalworking during the second half of the 16th century: this activity could have been related to the local coppersmith Olave Burr. As in the late medieval and Tudor period (Period 4, above), there were also discarded sheep and goat foot bones, typical detritus from tanning and skinning industries.

One intriguing find is part of an ostrich: a tarsometatarsus bone with cut marks to the midshaft. The discovery raises interesting questions about whether the bird was a traded item or whether it represented the catch of a Tudor explorer. Was it used for its meat and, if so, what happened to the rest of the carcass? The ostrich bone would appear to be the

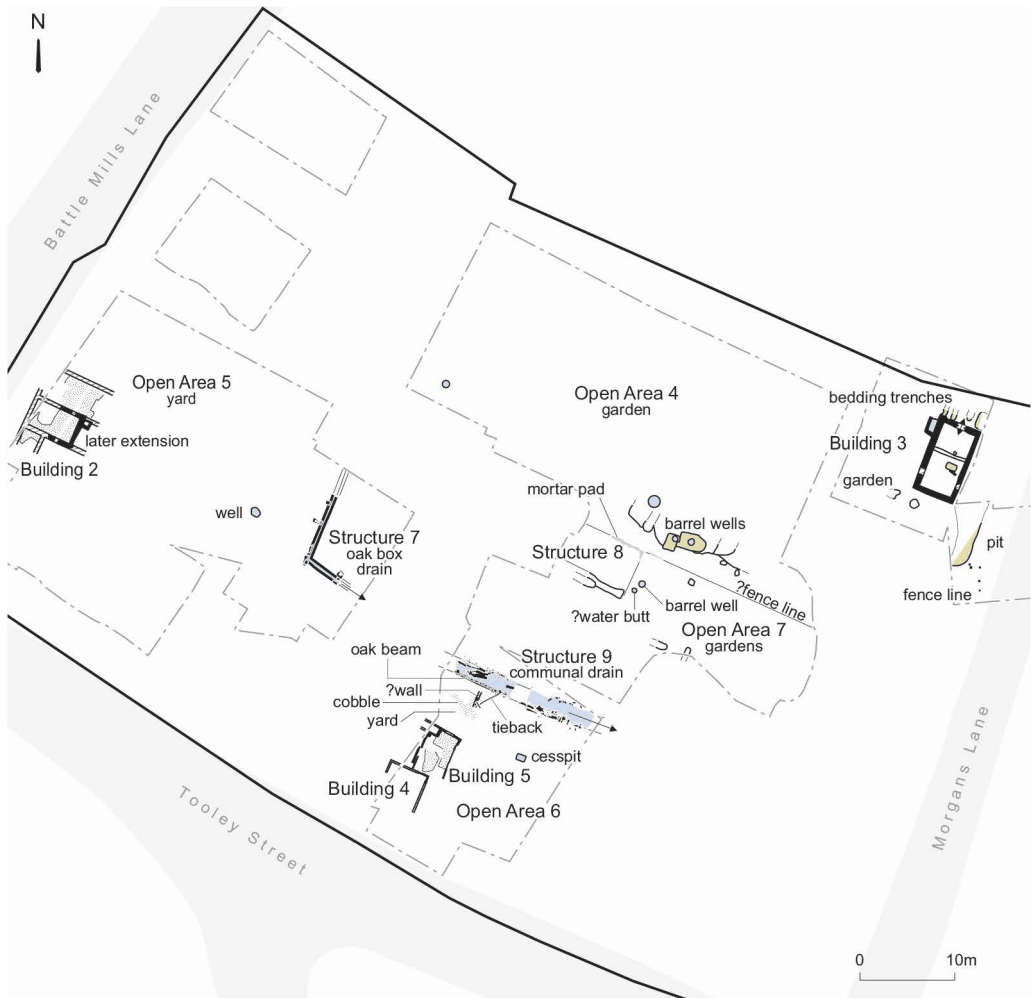


Fig 24 More London site, Southwark. Map showing archaeological evidence for the tenements along Tooley Street, Battle Mills Lane and Morgans Lane in the late 16th and early 17th centuries (scale 1:800).

earliest find of this species in Britain. Otherwise, slightly later than the example found at this site, there is a record of an ostrich presented by the Moroccan ambassador to the States General in Holland in 1659 (Parnell 1999, 20).

Right in the east of the study area, in what remained of the Horsleydown open space (known as Potter's Fields in the 17th century), remains of a ship-breaking yard was discovered.

The following discussion is organised spatially, describing the buildings and gardens in their original setting, ie according to the street or lane on which they fronted. The archaeological evidence for the lanes, houses and gardens are illustrated by two maps, the first showing the archaeological evidence for the tenements in the late 16th and early 17th centuries (fig 24) and the second showing evidence for their slightly later state of development, in the second half of the 17th century (fig 25).



Fig 25 More London site, Southwark. Map showing archaeological evidence for the tenements along Tooley Street, Battle Mills Lane and Morgans Lane in the late 17th century (scale 1:800).

TENEMENTS ALONG BATTLE MILLS LANE (BUILDING 2 AND OPEN AREA 5)

The east side of Battle Mills Lane began to be developed in the second half of the 16th century: the excavations have revealed at least one building of that date (fig 24: Building 2). The house was built of brick, using 16th century unfrosted red bricks and occasional chalk blocks. The bricks were remarkably thin (51–54mm, in brick fabric 3033) and they may have been reused from an earlier Tudor building. The original house had a 0.5m square brick soakaway on the outside (eastern) wall. However, the building was soon extended eastwards, requiring the demolition of both the east wall and the small soakaway, and a herringbone pattern brick floor was laid in the longer room, extending also into the southern room (fig 26). Another room to the north (with a mortar rather than brick floor) may have been part of the same building, or it could equally have been a separately owned or rented tenement. The dating evidence for the building suggests a construction date in the late 16th or early 17th century (later therefore than the bricks used in its construction): small quantities of pottery from the construction layers is dated to 1550–1700 while pottery and clay tobacco pipes from



Fig 26 More London site, Southwark. Excavating the herringbone brick floor of Building 2, facing north-east.

an internal occupation layer are dated to 1610–1650. To the east lay a yard (Open Area 5), with the part nearest the house roughly surfaced in sand and gravel. The house is probably part of the tenement owned by Charles Pratt in 1555, either his own large plot or one of the five smaller tenements he rented out (Carlin 1983, 342 and fig 9).

TENEMENTS ALONG TOOLYS GATE (BUILDINGS 10–14)

In the second half of the 17th century several buildings were erected along a newly laid-out lane that ran northwards from Tooley Street before turning east to join Morgans Lane. The lane was built on what appeared to have been garden plots in the 16th and early 17th century, and it was known as Toolys Gate by the mid-18th century (fig 31). Towards the Tooley Street end of the lane, one of the 17th century brick buildings along the lane was found in the archaeological excavations (fig 25: Buildings 10–12). This building (excavated in 1995 and therefore reported in detail in Grainger 2000, 14–15, ‘buildings 3 and 4’) was a slightly more substantial house than its neighbours to the east (‘Tenements along Tooley Street’, below). It

was built in brick, founded on chalk and flint foundations, and had a brick chimney stack in one of the rooms. Only three rooms were observed in the excavation area (fig 24: Buildings 10–12) but the house probably had a linear plan with four or five nearly square rooms in a row running back from the street frontage. The rear two rooms were interconnecting, with a door by the chimneystack leading down into a half-basement with a brick floor at the very rear. The tenant may not, however, have had access to the whole floor, let alone the whole building: the property could well have housed a series of separately rented and accessed ‘flats’, perhaps two such properties on each of two or three storeys.

To the rear lay another mid- or late 17th century house (fig 25: Buildings 11 and 12). This was a timber-framed building resting on a brick base and arranged as a pair of large rectangular connecting rooms (but without access to Building 10). This building was probably a workshop, at least on its ground floor: the southern room had two hearths or ovens, an oblong brick-built hearth by the south wall and a smaller round brick oven in the north-west corner. The former hearth contained ash and flecks of copper-alloy waste, with the latter containing small offcuts of copper-alloy sheet.

The excavations also revealed slight evidence of two other 17th century buildings further back along the lane, near its junction with Morgans Lane (fig 25: Buildings 13 and 14). The buildings had been built over a former garden behind Tooley Street (fig 24: Open Area 4). The archaeological remains were limited but the use of narrow brick walls suggested that the buildings were timber-framed houses resting on brick sleeper walls. Both buildings had a two-roomed plan.

TENEMENTS ALONG TOOLEY STREET (BUILDINGS 4–7, STRUCTURES 7–9, OPEN AREAS 6, 7 AND 10)

Buildings 4 and 5 were late 16th century houses within a tenement on Tooley Street and had a yard (Open Area 6) on their east side (fig 24). The surviving evidence for Building 4 consisted of two narrow (0.2m wide) walls on shallow foundations, built mainly in red unfrogged bricks: these insubstantial walls must have been the masonry bases for a timber-framed building fronting onto Tooley Street. Abutting the house to the north was part of a small second building or extension (Building 5), built in a similar style to Building 4 but slightly offset to the east. The surviving room of Building 5 had a brick floor. The house had to be repaired or rebuilt on at least one occasion in the 17th century: the latest pottery in internal layers associated with this work dated to 1630–1700. The tenement also included a yard on the east side of the houses, part of which had flint cobbling (Open Area 6). At the rear of the yard there was what appeared to be the remains of a workshop or outbuilding. It was situated by the large drain or ‘common sewer’ at the rear of the tenement (Structure 9, below) and the rear wall of this workshop was founded on a 5.1m-long oak sill beam (the uppermost timber of the wall of this part of the drain). The fairly solid beam (about 190mm wide x 120mm thick) was anchored by a tieback post that prevented the building subsiding northwards into the drain. The upper face of the beam had a series of rectangular mortices – evenly spaced and 400mm (1ft 4in) apart – to hold the uprights. The uprights (of 6in by 1½ in scantling) had been removed but the remains of the oak pegs that held them survived. The long base plate (5.1m or 16ft 6in) presumably represents the full width of both the workshop and the plot. There was also a privy in the yard: like most early modern London privies this was constructed over a cesspit and did not drain into the rear sewer.

The house was completely rebuilt on a longer and more regular plan in the late 17th century, still with a workshop at the rear (fig 25: Building 6). Again, the thin and lightly founded brick walls strongly suggest that the superstructure of the building was of timber-framed construction. Clay tobacco pipes from the demolition layers of Building 5 date from 1660 to 80 and suggest that the reconstruction (of Building 5 as Building 6) took place in the third quarter of the century. The yard (Open Area 6) was reduced to a cobbled and brick-paved passage around this time when a new building was built on its east side (Building 7).

Once again, this seems to have been a timber-framed house resting on brick sleeper walls and it had a brick floor. This house probably only lasted a generation: a spread of demolition rubble covering the brick foundations contained a large quantity of clay tobacco pipes dating to the 1660s and '70s (type AO15).

Running behind the Tooley Street tenements was a communal drain. The archaeological evidence showed the direction of flow was eastwards and it must have emptied into a drain or ditch along Morgans Lane that would run northwards into the Thames. To the west (fig 24: Structure 7), it was a small box drain, about 1ft (0.35m) square internally, constructed of oak planks fitted together with slightly curved lap-joints secured by iron nails. Further east (Structure 9), it was much larger as though more than one box drain fed into it. The larger drain was up to 2m wide, with its base lying nearly 3.5m below 16th century ground level. It was clearly repaired and rebuilt over a considerable period of time but it had initially been built as a ditch with vertical sides shored with timber (fig 27). The shoring planks were of sawn oak or softwood and were generally under 1in (20mm) thick, set on edge. The planks



Fig 27 More London site, Southwark. Excavating the communal drain, facing west.

were held in place with a variety of oak and elm piles and stakes on the inside of the drain. The drain appeared not to have been covered along its whole length: collapsed timber planks recovered from one part of the drain may instead represent the remains of a collapsed timber foot-bridge. The earliest silting layers in the drain contained pottery dating to around 1580–1600, suggesting that the drain had been built in the last quarter of the 16th century. The drain was something of a treasure trove: a large number of personal possessions had been lost or discarded and ended up stuck in the silt layers that formed at its base. The focus of this article is on the assemblage of Tudor finds from the old fishponds, not the 17th century artefacts from the drain, but this significant later assemblage is discussed and illustrated in the archive report for the site. The personal possessions lost and found include jettons, spoons, a thimble, pins and knives, while the household objects include locks, keys and hinges. The ostrich bone (discussed above) was found in the fill of the drain.

Behind the communal drain lay at least two gardens (fig 24: Open Areas 4 and 7). There was archaeological evidence for the improvement and management of these gardens. The landowners or tenants had brought in considerable quantities of earth in an effort to improve the gardens and raise the ground level. The newer soil brought improved growing conditions and better drainage while the higher land level would give better resistance against flooding from high tides. The gardens appeared to be largely open without any structures or buildings but there was evidence for a timber shed at the rear of one garden (fig 24: Structure 8). All that survived was a shallow trench on one side and a line of mortar on the other, both features presumably supporting timber baseplates for walls. There was also evidence for a number of barrel-lined wells. The wells used recycled oak barrels and casks as shoring and were up to 3m – five barrels – deep (fig 28). There were five such wells in the



Fig 28 More London site, Southwark. Excavating one of the barrel wells.

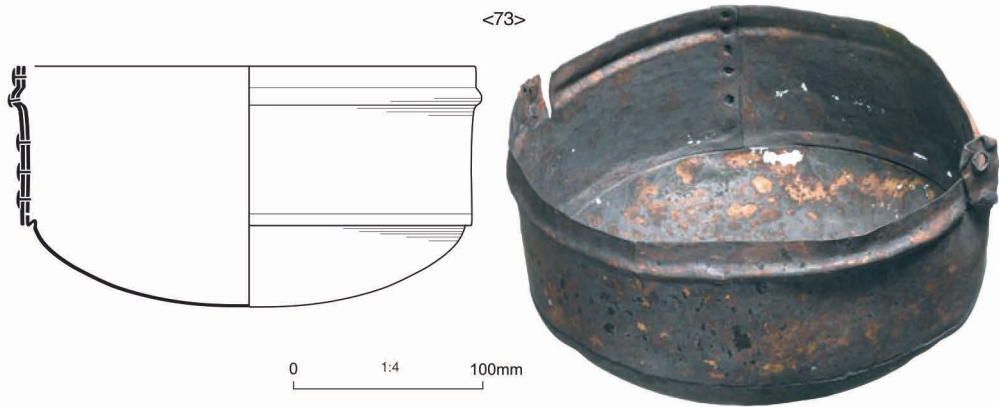


Fig 29 More London site, Southwark. A copper-alloy bowl<73>, discarded in a garden pit (scale 1:4).

northern garden and another two in the southern garden (respectively Open Areas 4 and 7). The dating evidence suggests that they were dug in the second half of the 16th century and that replacement wells were regularly dug in the first half of the 17th century. Two of the wells in the northern garden were contained within shallow rectangular pits, which could once have held some sort of water-lifting mechanism or superstructure. A pit dug in one of the gardens contained an unusual find from the late 16th or early 17th century, a complete copper-alloy sheet bowl (fig 29 <73>). The gardens were largely built over in the second half of the 17th century when a new lane was laid out (above, ‘Tenements along Toolys Gate’).

TENEMENTS ALONG MORGANS LANE (BUILDING 3)

During the 17th century, a rectangular brick building was built along Morgans Lane (fig 24: Building 3). The brick walls rested on rammed chalk foundations. There is, unfortunately, little precise dating evidence for the building but a small amount of pottery dating to 1600–1700 was found in an internal posthole. The house had a single large room at first, with a crushed chalk and mortar floor. The main entrance was along the side (north) wall where a brick door-jamb was found. A small brick base in the north-east corner was probably for the staircase. A small internal wall was later built, dividing the building into two roughly equal rooms. The occupants used an external privy attached to the rear (west) wall and had a small plot to the north, probably used for growing vegetables or herbs judging by the remains of the bedding trenches. A fence separated the house from Morgans Lane. In the second half of the 17th century the building was considerably enlarged, both to the north and west (fig 25: Building 3). The new rooms had brick floors (this building was excavated in 1995 and is reported in Grainger 2000, 13, ‘building 2’).

Found in an archaeological context slightly earlier than Building 3 was a copper-alloy lid, perhaps from a tobacco box (fig 30 <1339>). The lid bore the arms of Maurice, Prince of Orange, Count of Nassau, Stattholder of the United Provinces of the Netherlands, who died in 1625 (Begent & Chessyre 1999, 318, no 409).

A SHIPBUILDING OR SHIP-BREAKING YARD BY POTTERS FIELDS?

To the east of the study area, located by the Thames near an open space known in the 17th century as Potters Fields, there was evidence of a large timber structure and a yard. The first piece of evidence is a line of five large square postholes, *c.* 0.6m square x 1.1m deep (not illustrated; the postholes were discovered in the north-easternmost trench of site TYT98



Fig 30 More London site, Southwark. The copper-alloy lid of a box, perhaps a tobacco box, bearing the arms of Maurice, Prince of Orange (died 1625) <1339> (scale 1:1).

on figure 1). No other element of the building's ground plan survived, or any floor level, so conjecture of the form and function of the building is difficult, but the postholes might have been used for foundation piles of a strongly built workshop or large industrial type shed of some kind. The function of this shed may be revealed by an adjacent yard surface of wood offcuts laid parallel and set in solidified black tar or pitch. The offcuts also included barrel staves and a few pieces of nautical origin. Together they formed a very strong platform, probably external rather than internal, and it would have made a very serviceable yard surface. As pitch was an expensive imported material at this time it is likely that the pitch was recycled, probably scraped off timbers. Both the pitch and the miscellaneous timbers are typical by-products of barge and ship-building work: this area could have formed part of such a facility. A number of medieval and post-medieval boat timbers were found on this site and its predecessor sites, testament to a local industry of vessel-breaking and repair (Blatherwick & Bluer 2009, 215–17). This trade is also suggested by finds of tarred horse hair (used for caulking boats) and iron-clinker boat or barge rivets in slightly earlier layers in this part of the site. Pottery dating to 1580–1600 suggests that this possible shipbuilding or ship-breaking yard was built in the late 16th century.

The 18th century (Period 6)

The process of dense urbanisation – started here in the second half of the 16th century – continued into the 18th century when most of the former open spaces of yards and gardens were covered over by new buildings. Rocque's map of 1746 shows some of the new streets and alleys in the study area, including Toolys Gate and Robin Hood Court in the western part and Whites Court in the east (fig 31). The map also shows the large number of industries in the area, revealed in the street- and place-names of Farriers Yard, Coopers Yard, Bakers Alley, Brew House, Wheelwrights and Stoney Lane (indicating stoneware kilns of a pothouse). By the end of the century the study area had become even more industrialised along the river frontage: Horwood's map of 1813 (based on his late 18th century map) shows wharves and jetties along the Thames (Gun and Shot Wharf, Symonds Wharf, Stantons Wharf and Pickleherring Stairs) as well as a number of large factory complexes including the Clowes Brewery (fig 32).

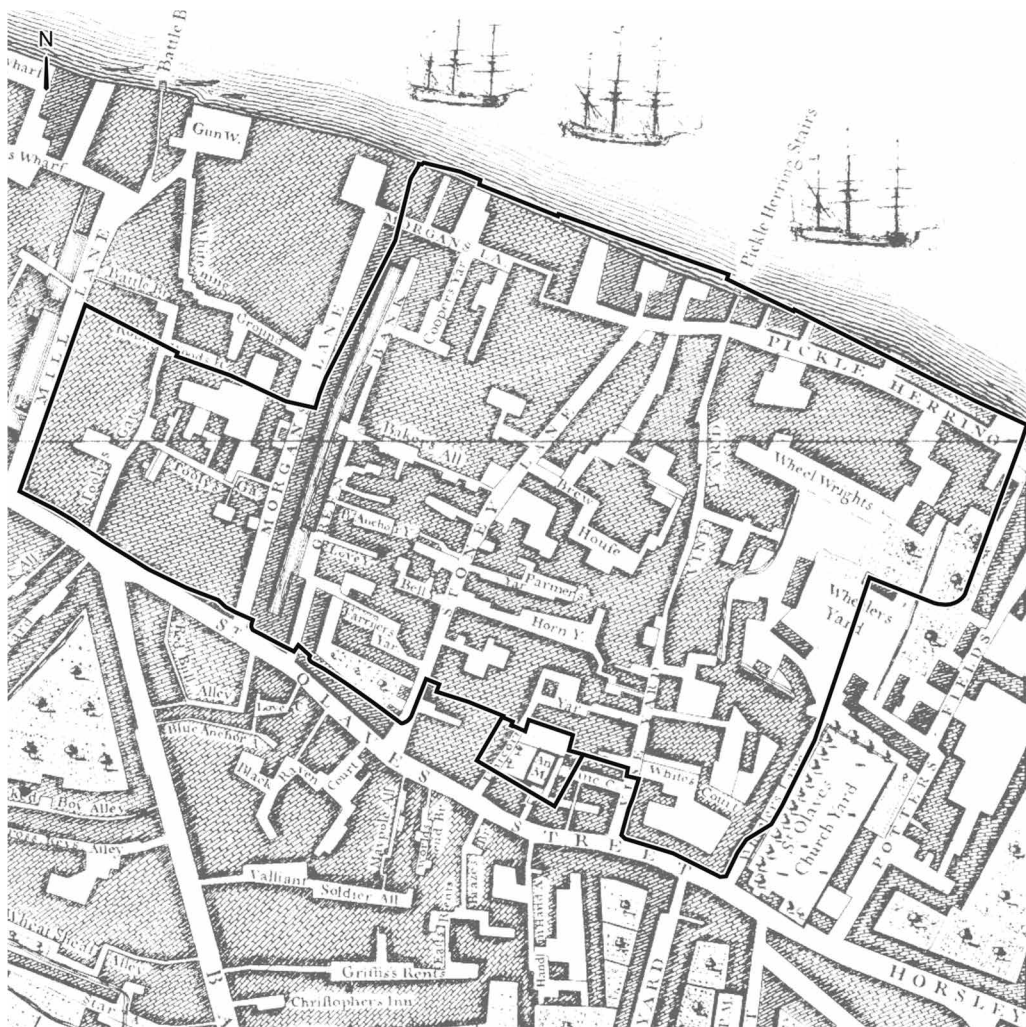


Fig 31 More London site, Southwark. Detail of Rocque's map of 1746 with the study area superimposed (scale \approx 1:3000).

The tenements on Tooley Street and its rear lanes and alleys had also increased in density by the end of the century. Twenty-one houses with yards to the rear lined the street between Mill Lane in the west (former Battle Mills Lane) and Morgans Lane in the east. Toolys Gate was by then known as Bull Court and Brewers Court, both densely built up. The archaeological excavations revealed something of the increasing density of these lanes and tenements, with parts of three tenements along Tooley Street being excavated as well as several buildings on Bull Court and Brewers Court. Only one large open space survived behind Tooley Street in the 18th century, the garden described here as Open Area 7.

There was also evidence of a knacker's yard and a tanning workshop in the very east of the study area in Brooks Wharf. The archaeological traces included a large assemblage of horse bones and a production line of sunken barrels and tanks used for processing the hides in preparation for their use in tanning and leathermaking.

The following discussion is organised spatially (as was the evidence for the previous period), describing the buildings and yards according to the street or lane onto which they fronted. The archaeological evidence is illustrated in one main plan (fig 33). A table correlates the



Fig 32 More London site, Southwark. Detail of Horwood's map of 1813 with the study area superimposed (scale \approx 1:3000) and detailed inset to show excavated buildings.

Table 2 Concordance table for the excavated buildings in the 18th century (Period 6)

Street	Building number in this article	Date of construction	Street number on Horwood's map of 1813	Building number in 1995 excavation (Grainger 2000)
<i>Mill Lane</i>	Building 2	second half of 16th century		
<i>Bull Court</i>	Building 10	second half of 17th century		building 3
	Building 11	second half of 17th century		building 4a and 9
	Building 12	second half of 17th century		building 4b
<i>Brewers Court</i>	Building 13	17th century		building 5
	Building 14	17th century		building 6
	Building 18	first half of 18th century		building 8
	Building 22	late 18th century		building 10
	Building 23	late 18th century		building 11
<i>Tooley Street</i>	Building 19	first half of 18th century	71 Tooley Street	
	Building 20	first half of 18th century	69 Tooley Street	
	Building 21	second half of 18th century	68 Tooley Street	
<i>Morgans Lane</i>	Building 3	first half of 17th century		building 2

building numbers used in this report with the nomenclature of the 1995 excavation and, where known, the street numbering of the late 18th century (table 2).

BUILDINGS ALONG MILL LANE, FORMERLY CALLED BATTLE MILLS LANE (BUILDINGS 2 AND 25)

The 16th century brick house along Battle Mills Lane, by now known as plain Mill Lane, remained standing for much of the 18th century (fig 24: Building 2). Later in the century a new building, quite possibly a warehouse, replaced the earlier house (fig 33: Building 25). It was a well-built brick building with at least three rooms; the northern room had a brick floor (fig 34).

TENEMENTS ALONG BULL COURT AND BREWERS COURT, FORMERLY CALLED TOOLYS GATE (BUILDINGS 10–14, 18, 22 AND 23)

The 17th century buildings along the southern part of Toolys Gate, by now called Bull Court, were still standing in the 18th century (fig 33: Buildings 10–12), as were two buildings on the part of Toolys Gate now called Brewers Court (fig 33: Buildings 13–14). Another large brick building with a lower ground floor or half basement was built on the north side of Brewers Court, probably in the first half of the 18th century (fig 33: Building 18). It had a brick floor, in which a number of timbers were set, and a fireplace at the eastern end. The opposite, southern, side of Brewers Court became built up for the first time in the late 18th century when two or three buildings with fairly substantial brick foundations were constructed (Buildings 22 and 23; a possible third building lies to the west). Building 23 was the best preserved of these: it was founded on stone foundations and had brick floors, with the superstructure probably also built of brick. The plan, admittedly incomplete, appears unusual: a central chimney stack served a principal northern room and a narrow southern room.

TENEMENTS ALONG TOOLEY STREET (BUILDINGS 19–21, NUMBERS 68–71 TOOLEY STREET)

The archaeological evidence suggests that the buildings fronting onto Tooley Street had a fairly short lifespan and that they were more frequently rebuilt than the houses in the lanes

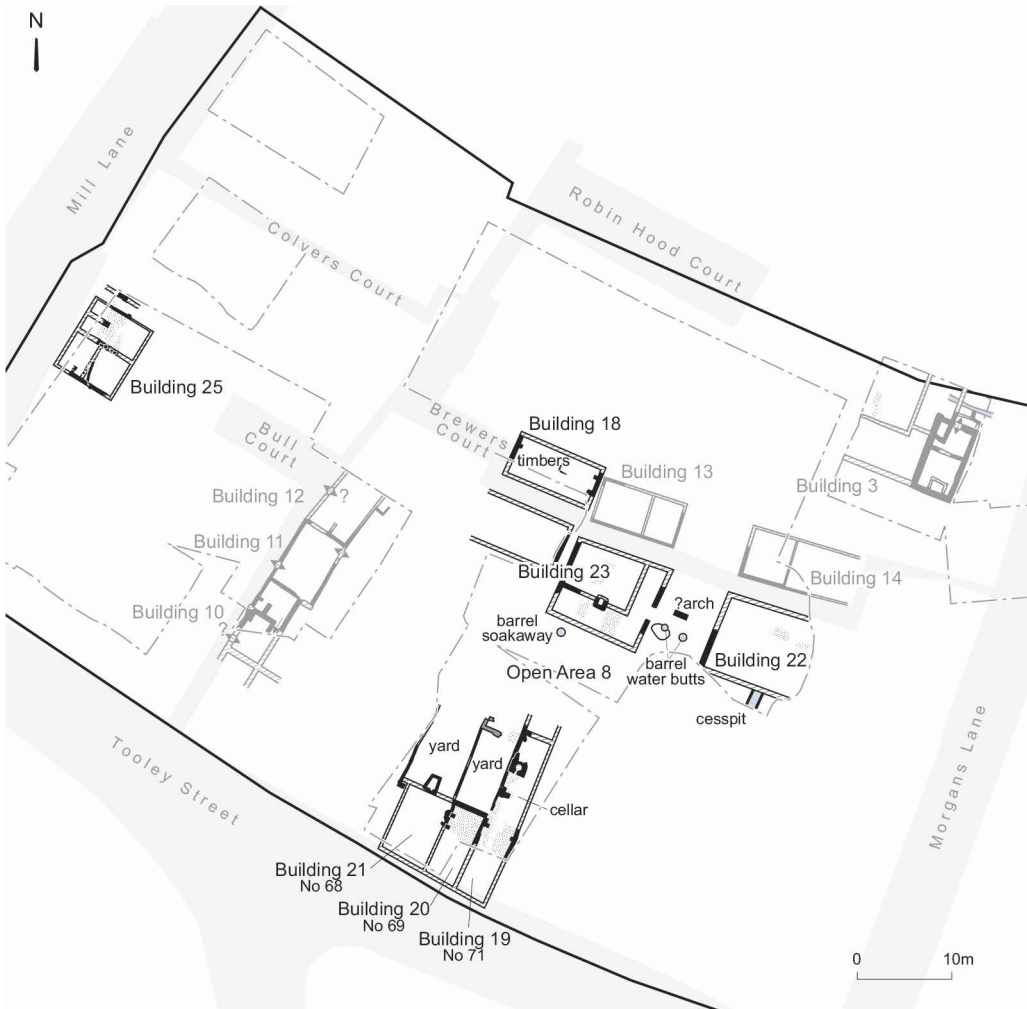


Fig 33 More London site, Southwark. Map showing the archaeological evidence for the tenements along Mill Lane, Tooley Street, Bull and Brewers Court, and Morgans Lane in the 18th century (scale 1:800).

to the rear. A late 17th century house (fig 25: Building 6) survived for two or three decades of the 18th century but its neighbour (Building 7) was demolished and replaced with a narrow gravel lane that was about 3.5m or 11ft wide, perhaps a covered passage (not illustrated).

Two new houses were soon built, one replacing Building 6 and the other built over the short-lived lane or passage (Buildings 20 and 21). Dating evidence of pottery and clay tobacco pipes suggests that this pair of new buildings was constructed in *c* 1730. Unfortunately, little evidence for the original layout of the buildings survived, having been truncated when cellars were added to the buildings in the 19th century. Building 21 had an internal drain towards the rear, presumably draining waste kitchen water into a soakaway at the rear of the building (fig 33). It also had an unusual brick-lined tank, *c* 0.9m deep with a brick floor, that had been dug in the adjacent room in the second half of the 18th century (fig 35). A small area of flagstone flooring also survived in this room.

At the end of the 18th century Building 21, more appropriately known as 68 Tooley Street, was occupied by Robert Collis. *The Daily Advertiser* of Monday 26 September 1796 records the sale of Collis's furniture and effects:



Fig 34 More London site, Southwark. View of Building 25, facing south-west.



Fig 35 More London site, Southwark. View of the cellar in Building 21, facing east.

To be sold by auction this day at eleven o'clock. The neat and genteel household furniture, linen, books, fine prints, and other effects of Mr. Robert Collis, a bankrupt, removed for convenience of sale; comprising a handsome assortment of general domestick articles for chamber, kitchen and parlour use, excellent bedding, mahogany articles of fashion, good carpets and some valuable fixtures, brewing copper etc., the whole in perfect condition. The house to be let. (*Daily Advertiser* 1796)

Rather more is known of the appearance of the three-storey house thanks to its description in *The Times* the following year (11 August 1797), when the lease on the building was for sale:

A substantial, convenient, leasehold brick dwelling-house, desirably situated No. 68, Tooley-Street near Mill Lane, Southwark, three stories high and contains two garrets, three bed-chambers, a dining room, a shop with double bow front, a counting house, a kitchen, separate entrance, paved yard and a detached warehouse. (*The Times* 1797)

On the east side of no 68 lay no 69 Tooley Street (fig 33: Building 20). It had a lower ground floor, 0.9m or 3ft below ground level, with a brick floor surface and a fireplace towards the rear. Behind this room there was a second room at ground level. There is little other archaeological or documentary information about the house but the *Morning Chronicle* of 26 October 1799 records that a Mr Fellows was living at this address. Like its neighbour it was presumably a three-storey brick-built building.

The next house along, no 71 Tooley Street (fig 33: Building 19), appears to have been built slightly later than its neighbours, probably in the second half of the 18th century. It had a long and narrow basement, with an unmortared brick floor. Much of the 18th century brick vault of the basement survived, supported by a central spine wall that ran along the length of the cellar (fig 36). The vaulted cellar was used for storing coal and fuel and it would have been accessed by a chute or chutes at pavement level. In 1772 the occupant was a coalmonger, James Staice:

The lease of a house, No.71 Tooley Street, opposite Bermondsey Street, Southwark, at the low rent of ten guineas per annum. Ten years unexpired, the premises in substantial repair and are in the possession of Mr. James Staice, dealer in coals going into another way of business; also all the genuine household furniture, fixtures, stock in trade, charcoal, smallcoal, firewood etc. (*Daily Advertiser* 1772)

TENEMENTS ALONG MORGANS LANE (BUILDING 3)

The 17th century brick building along Morgans Lane (figs 25 and 33: Building 3) remained in use in the 18th century. There is no archaeological evidence for any further adaptations to the building.

A KNACKER'S YARD IN BROOKS WHARF

At the eastern edge of the study area, adjacent to a lane known as Brooks Wharf in the 18th century (the north-easternmost trench of site TYT98 on fig 1), the excavations revealed evidence for a knacker's yard and tannery. Three apparently contemporary features were discovered here: a large timber-lined tank; a row of barrels set in the ground; and a large pit filled with horse bones (figs 37 and 38). The timber tank was 3.9m long, 0.8m deep and at least 2.7m wide (the full width was not revealed in the excavation trench). It was constructed on a framework of earthfast oak posts measuring over 1.3m long, some of which were squared and some quarter-round. Three courses of cladding planks survived, a few of elm, but mostly softwood. On one side of the tanks the planks were nailed to the outside



Fig 36 More London site, Southwark. View of three 18th century buildings, nos 68, 69 and 71 Tooley Street (Buildings 19, 20 and 21), facing north-west.

of the posts, but on the shorter sides they were on the inside. Small planks inserted between the cladding planks functioned (not very effectively) as tie-backs to hold the lining in place. The tank did not require any planks on its base since it had been dug into watertight alluvial clay. Two other structural features cast light on the function of this tank. Nailed to the top of the cladding, on the south side (ie facing the line of barrels and the knacker's pit), was a ramp of wooden planks, designed to ease the passage of heavy objects (possibly in a wheelbarrow) into the tank. In the centre of the west side, the cladding was pierced by a hollowed-out elm trunk pipe (fig 39). This type of pipe is usually used in the supply of fresh water but here it seems to have been used to drain water out of the tanks once the industrial process was over (Bluer 1993, 70). The primary fills of the tank contained pottery dating to 1730–50.

In a row stretching south from the timber pit were five wooden barrels,

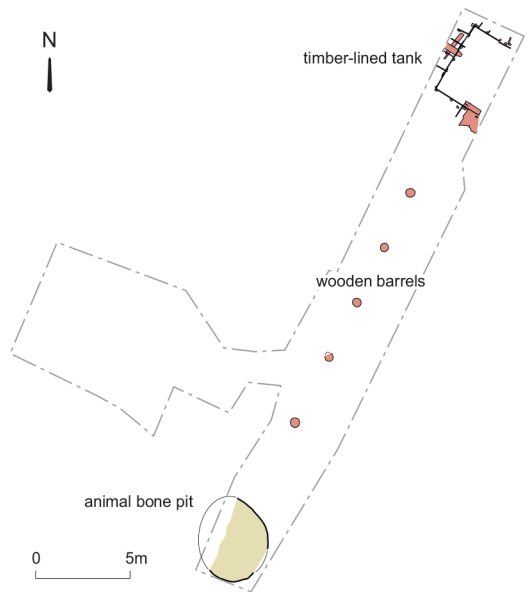


Fig 37 More London site, Southwark. Plan of an 18th century knacker's yard: a timber tank, a row of barrels and a pit containing horse bones (scale 1:400).



Fig 38 More London site, Southwark. View of the timber-lined tank, facing south.



Fig 39 More London site, Southwark. View of the elm water pipe in the timber-lined tank.

set about 3.2m apart and buried so that their tops just protruded from the ground. The barrels were almost certainly contemporary with the timber-lined tank and the bone pit: clay tobacco pipes and pottery dating to 1730–60 were recovered from the pits in which the barrels were set (not the backfills marking the disuse of the barrels). The barrels still had the lower heading and bungs: they were clearly being used as tanks rather than soakaways or well linings. The barrels were 18–20in (0.46–0.54m) in diameter and bore impressions of iron hoops (earlier London barrels used wooden hoops). Unfortunately the backfill of these barrels contained no evidence for their function but they were presumably related to the treatment of animal carcasses.

To the south of the line of barrels was an exceptionally large pit, *c* 4.0m x 2.2m, that contained 2660 fragments of animal bone (weighing 91.55kg). The major component of this assemblage is horse bone. The buried remains represent at least ten horses, with the bones largely composed of skulls, mandibles and vertebrae. Nine whole or partial articulated spines were present with their ribs; three of these had their pelvic girdles still attached (fig 40). Other



Fig 40 More London site, Southwark. Excavating a pit in a knacker's yard on Brooks Wharf containing large numbers of horse and other animal bones, facing north-east.

species represented include cattle (with some particularly large examples), sheep and fowl, as well as a large number of dog bones from a variety of individuals ranging in size from Alsatian to the relatively complete skeleton of a small terrier. Surprisingly, out of this vast assemblage of horse and other animal bone, only one skull showed any butchery marks (knife cuts) that can be interpreted as skinning marks. It seems that these articulated partial skeletons represent those parts of the carcass that were perceived as having no further usefulness, with no further dismemberment occurring. After everything useful had been removed from the carcasses they were discarded in the pit, and then covered with lime, presumably as a public health measure. The carcasses were deposited in the first half of the 18th century: clay tobacco pipes and pottery in the primary fill of the pit are dated to 1700–40.

Although our interpretation is coloured by the shape of the archaeological trench in which the tank, barrels and pit were discovered, the features seem to suggest a production line of industrial processes. It seems quite possible that the carcasses or animals were brought in by boat, then skinned and/or slaughtered in an open yard near the riverfront. The skins may then have been tanned in the large timber-lined tank. The barrels to the south may have been for storage and/or curing of body parts and offal. Finally, those parts of the carcass for which there was no economic use could simply be disposed of in the large pit in the ground.

This putative production line seems to have been short lived and went out of use in the mid-18th century: the closest dating comes from the backfill of the timber-lined tank, which contained pottery and clay tobacco pipes dating to 1740–50. The area became an open yard, cobbled in a most unusual way (fig 41). The cobbles were large water-rolled stones, generally 350mm or more in length. Strangely, they had been laid with the long axis vertical, resulting in a very undulating and uneven surface that would have been most uncomfortable to walk on, and quite impossible to draw wheeled vehicles over. There appeared to be no wear on the stones, nor any accumulation of silty trample between them. The nearest source for



Fig 41 More London site, Southwark. 'On Chesil Beach' in Southwark: view of the unusual cobbled yard, facing north.

such cobbles is probably the Dorset coast, for example the area of Chesil Beach, and it is therefore likely that they were brought here as ballast in a coastal boat. Despite the apparent limitations of the cobbling, the surface proved sufficiently successful that when an iron pipe had to be laid under it over a century later (to serve the Victorian residential block called Vine Street Buildings), the cobbles were relaid.

The 19th century (Period 7)

By the 19th century the character of the study area had become much less residential: housing was largely confined to the upper floors of shops on Tooley Street, and the remaining tenements in the yards and passages immediately to the rear (fig 42). In place of the old tenements that had once existed further back along lanes such as Bull Court and Brewers Court, new factories and bonded warehouses had been built. The large dockside wharves remained along the Thames waterfront.

Archaeological evidence of the changes to some of the buildings along Tooley Street was recorded in the excavation. For example, no 68 Tooley Street (fig 33: Building 21) was almost completely rebuilt. The new building had a deeper storage cellar (built in yellow stock bricks) that presumably served the shop above. The rear of the building now had two rooms, each with a fireplace, and there was a brick-built privy attached to the rear. These works were perhaps carried out during the occupancy of John Dennis, a draper, and his family in the



Fig 42 More London site, Southwark. Detail of the Ordnance Survey map of 1872 with the study area superimposed (scale 1:3000).

1840s or '50s (they are listed here in the 1851 census – TNA: HO 107/1559). Or the works might have been carried out slightly later in the century when the property was occupied by three separate households, perhaps one to each of the upper floors: the 1871 census (TNA: RG 10/624) shows that Susannah Poole, nurse, lived in one part, with Frank Askey, Post Office foreman, and his four brothers and sisters in another part, with Charles Layton, builder's clerk, and his family of five in a third flat. Unlike some excavations of Georgian and Victorian houses in London, no significant finds assemblages were recovered from this house, nor from its excavated neighbours at nos 69 and 71 Tooley Street (fig 33: Buildings 19 and 20).

A major assemblage of early Tudor objects

In the late 15th and early 16th centuries large quantities of earth and rubbish were brought into the yards and gardens to the rear of the Tooley Street properties (above, 'Late medieval and Tudor: 1450–1550 (Period 4)'). The land owners or tenants who carried out this work must have had several reasons for carrying out these extensive groundworks: they presumably wanted to raise the ground level to prevent flooding and to improve the garden soil. They also no longer needed their old medieval fishponds. The archaeological study of earthmoving is perhaps of limited interest but – much more significantly – this dumped earth and rubbish contained huge quantities of early Tudor objects. With a combination of hand and machine excavation, backed up by the use of metal detectors, the archaeologists recovered hundreds of items: knives and armour, padlocks and buckles, bag-flaps and shoes. These finds and their archaeological period have a broad date range of 1450–1550 but the evidence of the objects themselves, especially the footwear, suggest a narrower date range: the majority probably date to the last decades of the 15th century or the first decade of the 16th century. Given the sheer volume of artefacts recovered, the following discussion is highly selective, the items chosen for inclusion being well preserved, of relatively unusual categories or having less familiar characteristics than the usual run of comparable objects. This rare Tudor assemblage has few English comparators apart from the major group of Tudor and Jacobean finds from the moats and ditches of Fastolf Place and the Rosary, excavated in 1992 on the adjacent Anning and Chadwick warehouse site (site ABO92, published in Egan 2005a). More detailed descriptions and a catalogue of the objects, including later artefacts, can be found in the site archive in the MoLAA and the SyAC digital supplement: see *Endnote*.

The objects are discussed in seven broad functional categories. First, a number of *household fixtures* and fittings are described and illustrated including lighting equipment and several locks, as well as rarely surviving fixtures such as a window shutter. The second category, *kitchen and table wares*, includes a range of ceramic vessels, a fragment of a cast iron cauldron or cooking vessel (probably the earliest cast iron vessel yet found in London) (<579>), and a possible shellfish knife (<2>). The third category, *clothing, shoes and dress accessories*, includes leather clothing, footwear and metal dress accessories with shoe- and sandal-types described and closely dated for the first time. Among the most notable are a crudely slashed leather doublet imitating the Germanic Landesknecht mercenary fashion <79>, a large and very homogenous group of shoes and sandals and a complete wire girdle <72>. There are no brooches at all, emphasising just how dramatically this mainstream medieval dress accessory had fallen out of favour by the early 16th century. There are virtually no items in precious or exotic materials: just one gold finger ring (<199>). The fourth category, *money, leisure and personal possessions*, is rather smaller. There are remarkably few numismatic finds, with no coins and just a few jettons and tokens, one token (<434>) giving the address of a tavern. It is disappointing that there are no examples of the last generation of pilgrim badges. There are, however, two well-preserved decorated bag-flaps (<1>, <9>). There is rather more evidence for *tools and production*, particularly for metalworking industries of iron (buckles, wire, knives and sheet offcuts), and copper alloy (including folded staples and rolled sheet-cone rivets, lacechapes and pins). There are also four thimbles (<142>, <207>, <474>, <483>). The few lead cloth seals represent *traded items* rather than local production. They include alnage

seals from Essex, Oxfordshire and Suffolk, and a customs seal of a type found on imported rich sateen-weave fabrics including cloth-of-gold or -silver of a kind that would have been used in the late medieval and 16th century aristocratic houses in the area (<169>, <170>, <425>, <708>). Finally *weapons and armour* includes fragments of three daggers, five sheath and scabbard leathers and a firearm component, as well as some 50 pieces of armour, both plate and mail, all emphasising the potential violence of the period.

HOUSEHOLD FIXTURES AND FITTINGS

The evidence of this excavation shows that although some of the 16th century houses were built of brick, timber-framed houses (built on low brick sleeper walls) remained the norm in Tudor Southwark. The bricks used in both types of houses included new English and Flemish bricks, as well as recycled older bricks.

A number of household fixtures and fittings were recovered on the site (not necessarily deriving from houses in the immediate vicinity). A window shutter – a rare find from London – is made from a sawn oak plank with one iron strap-hinge attached and staining from another ([1128] not illustrated). The shutter has traces of a small oak batten, nailed across an incipient crack in the plank (the tangentially faced plank being $\frac{3}{4}$ in thick x 14in wide; 20 x 360mm). The edges of the plank are planed to form a counter rebate with a narrower board next to the hinge and the other shutter (allowing, therefore, for the expansion and contraction of the plank with changes in the weather). The iron strap hinges are secured with small nails with tips turned over twice. A small recess and two small nail holes in the open edge of the shutter appear to be a recess for a lock or catch. Assuming the shutters were a matched pair, the window opening would have been about 0.9m high x 1.0m (3ft x 3ft 3in; the shutter could not be tree-ring dated). Other window fittings include several pieces of cast window came and two early examples of iron ‘butterfly’ hinges, one complete and concave-ended (fig 43 <547>). Another rare external fitting is a folded lead sheet perforated with 24 gouged holes, a drain cover or grille to prevent leaves getting into a major drain, probably from a high-class building (fig 43 <36>; for examples from Nonsuch Palace and Kirkstall Abbey, see Egan 2005b, 344–5, fig 161, no 91; Duncan & Moorhouse 1987, 137–8, no 250, fig 71).

Several items from household interiors were found, including nine copper-alloy curtain rings from one context (<51>, <737>). Other metal objects include two iron fire steels (one illustrated (fig 44 <403>) and a candleholder in the form of a cup on a right-angled spike, a late example of a fashion current since the late 13th/early 14th century (fig 44 <1266>). Security equipment includes two iron padlocks of rectangular-box form with semi-circular, pivoting bars (fig 45 <546>, <232>) and two mounted locks (fig 45 <168>, <825>). The six incomplete rotary keys from the site, found with key-blanks and waste, are thought to be products of key-manufacturing (fig 61, *tools and production*). An eight-leaved copper-alloy rosette, 48mm in diameter, with a central hole, may be a decorative furniture mount, comparable with a 16th century iron mount from Abbots Lane (Egan 2005a, 214, 1180), (fig 44 <188>). A tassel (fig 44 <1226>) made from a strip of leather fringed into strips, rolled, and secured with a plaited thong is clearly decorative, and possibly from a cushion or saddlery. A substantial fragment of very worn, rectangular leather panel with a remaining area of red pigment is edged with regularly spaced domed, circular sheet copper-alloy mounts holding the remains of a thinner leather edging strip (<1185> not illustrated); stress and wear marks suggest this may have been the much-used covering of a padded object, such as a chair or bench seat.

A rare archaeological survival from a Tudor interior is a fragment of tapestry (the surviving piece measuring around 600 x 300mm). It is a weft-faced wool tapestry: only the horizontal weave shows. In places it has been woven with two or three strands rather than one for thicker highlights, possibly to give a more three-dimensional effect – what appear to be bulging eyes and enhanced texture on a lion’s mane. The design seems to have been woven sideways on the loom, using red, green and black dyed wool as well as brown.

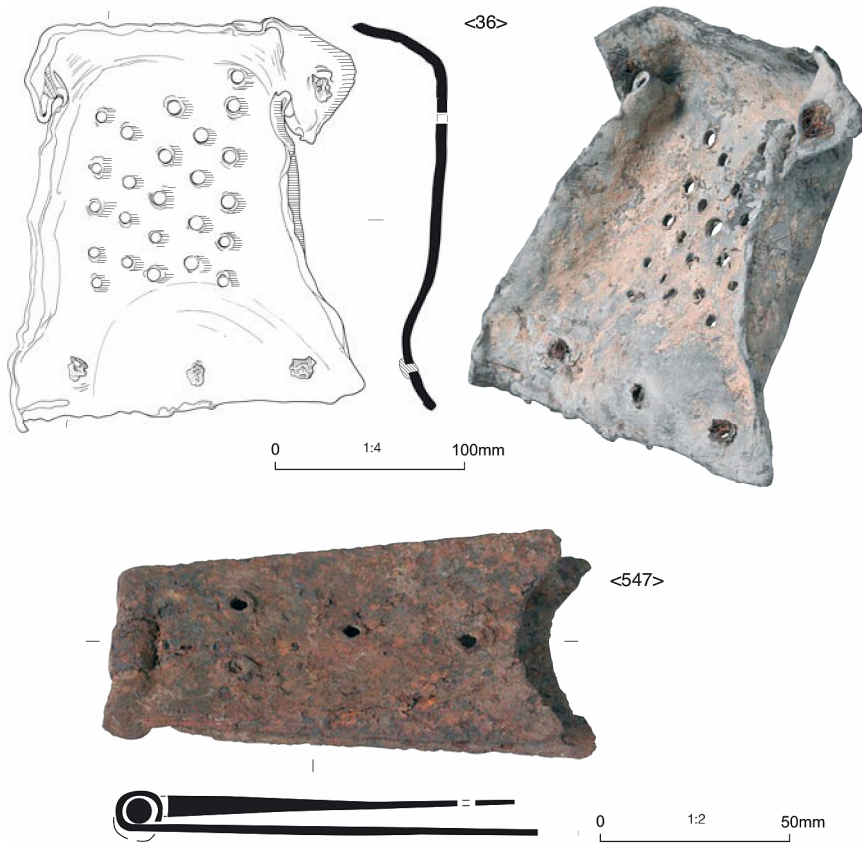


Fig 43 More London site, Southwark. External fixtures and fittings: lead grille or drain cover <36> (scale 1:4); iron 'butterfly' hinge <547> (scale 1:2).

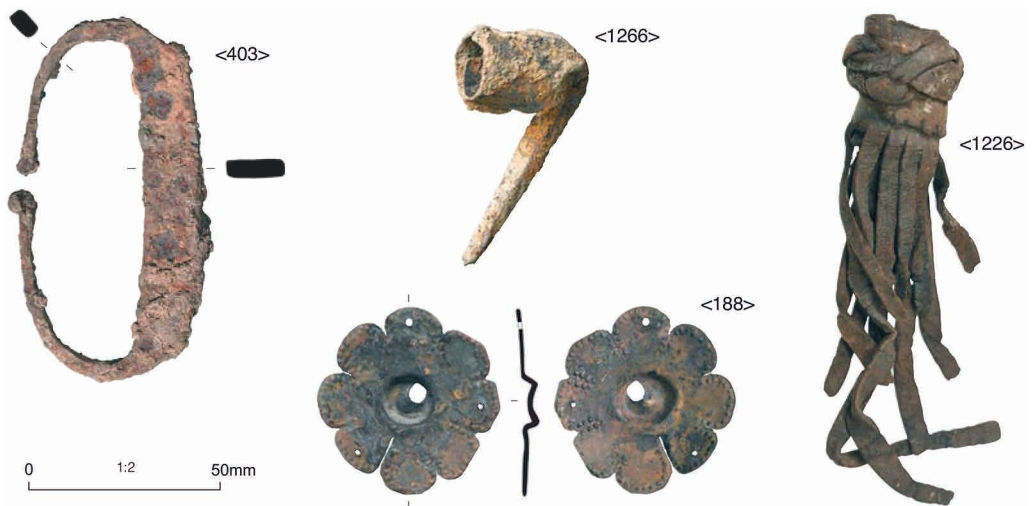


Fig 44 More London site, Southwark. Internal fixtures and fittings: iron fire steel <403>; iron candleholder <1266>; copper-alloy furniture mount <188>; tassel <1226> (scale 1:2).

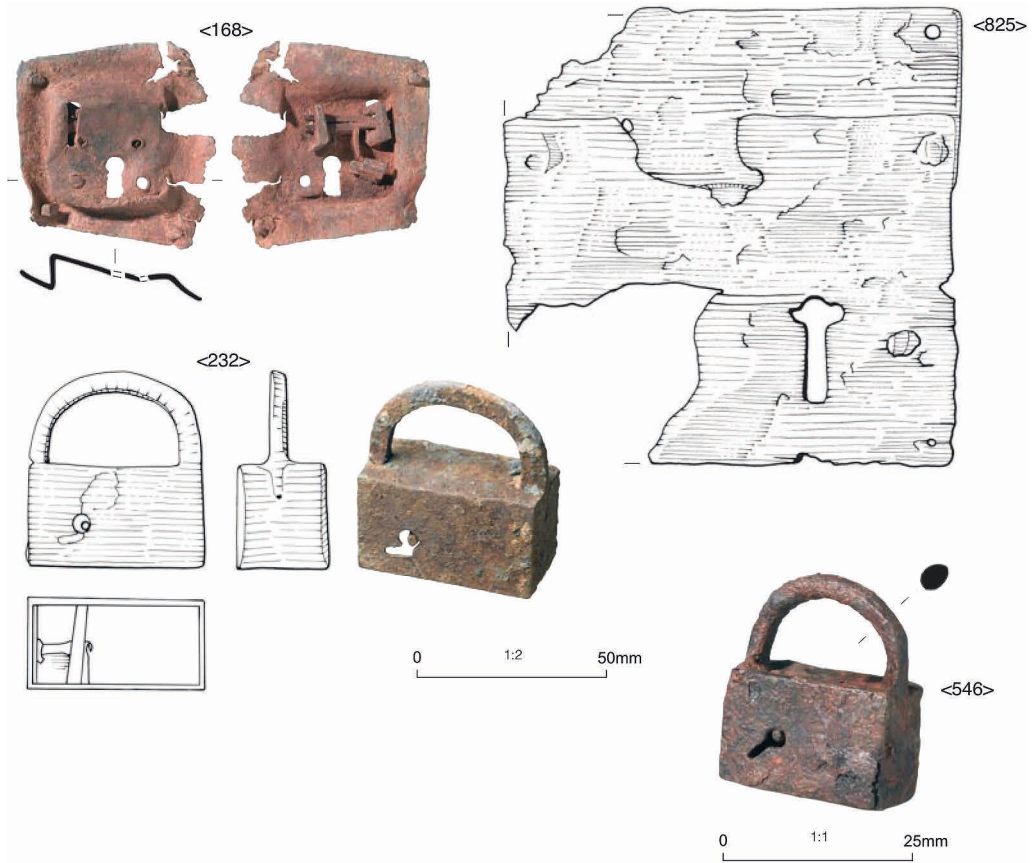


Fig 45 More London site, Southwark. Security equipment: mounted locks <168>, <825>; padlocks <232>, <546> (scale 1:2 except <546> 1:1).

KITCHEN AND TABLEWARES

Part of a cast iron vessel with a slightly flared rim may have come from a tripod cooking vessel or skillet (fig 46 <579>). This seems to be only the second recognised fragment of the archaeologically elusive, earliest cast iron domestic vessels; at such an early date the material is much more frequently known for prestigious, decorative firebacks and large-scale firearms. A suspension chain with five flattish-oval links would have also come from a cooking vessel (<415>). An animal-head spout from a two-spouted laver or a single-spouted ewer is an unusual item of tableware. It is made from copper-alloy sheet and clearly intended to resemble superior, cast versions (fig 46 <447>). Other cooking implements include pieces from two copper-alloy skimmers (<287>, <465>), part of a Purbeck marble mortar with full-height balusters, roughly finished with none of the smooth finishing at the rim evident in many of its medieval predecessors (<869>), and a somewhat battered small pewter measure, complete apart from its lid (<423>). Objects related to water storage include a folded fragment of a bottle or bombard (<1169>), and a bung for a liquid container consisting of a plain iron ring covered with a thick leather collar (fig 46 <1160>).

Large numbers of knives were recovered, the majority of which are relatively plain. Two have more ornate handles (fig 47 <426>, <1385>). Knife <1385> is made from multiple (almost 300) thin, sheet copper-alloy (?brass) roves alternating with thicker roves of horn and bone. Knife <426> is decorated with ivory roves on the side that would have faced the user,

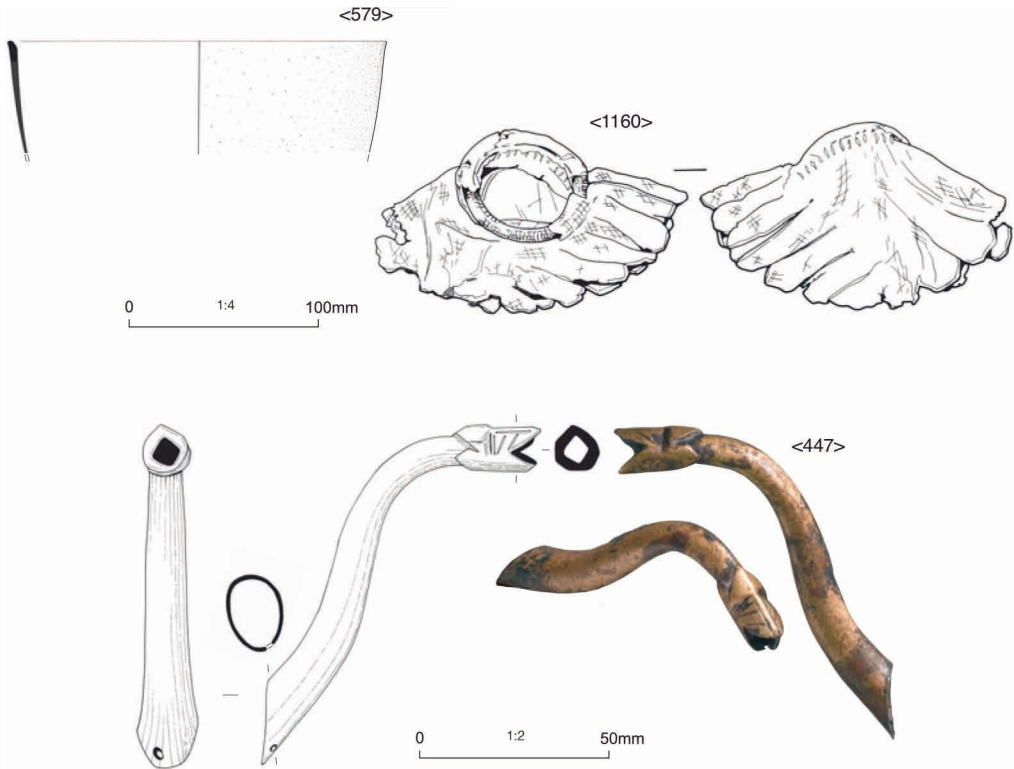


Fig 46 More London site, Southwark. Non-ceramic tablewares, kitchen implements and water-containers: iron vessel <579>; iron and leather collar for a water-container <1160> (scale 1:4); copper-alloy ewer spout <447> (scale 1:2).

with cheaper bone roves on the outer side; the maker was presumably intending to deceive the buyer. An unusual knife has a striking blade shape that has been adapted for a specific function and may well be a form previously known only from contemporary manuscript illustrations of feasting; perhaps for opening and consuming shellfish (fig 47 <2>) (Forbes 1975, 20, fig 4c; Marquardt 1997, 26). It has a blade with a straight back and markedly concave cutting edge with an asymmetrical, V-shaped nick (not sharpened) at the end. The handle is plain turned wood. Several knives have suspension holes by which they would have been carried on the person, hung from the belt (<112>, <426>, <488>). Several have makers' marks, for example an inlaid letter 'R' (<113>), a fleur-de-lis (<344>), an asterisk with one short arm (<296>), two superimposed 'V's (<369>). Only one spoon fragment was recovered from Period 4 contexts: a hexagonal-section pewter spoon stem (<1251>).

CLOTHING, SHOES AND DRESS ACCESSORIES

The excavation produced a substantial part of a youth's slashed singlet or perhaps a doublet if a fourth piece is a cod-piece and part of the same item (fig 48 <79>). The garment is made from bovine leather, probably calfskin, and all pieces have highly decorative, if somewhat rough, slashing. On figure 48 A is a sub-rectangular length from the back left, with a raised neck (L 370mm, W 190mm). It has stitch holes along the top (including the neck) and bottom. There are angled slashes at the neck (reversed and longer along the inner side); there are paired large holes near the middle of each long slash, presumably for lost thongs or ribbons. Fragment B is an incomplete part of the back right with decoration in a mirror image of

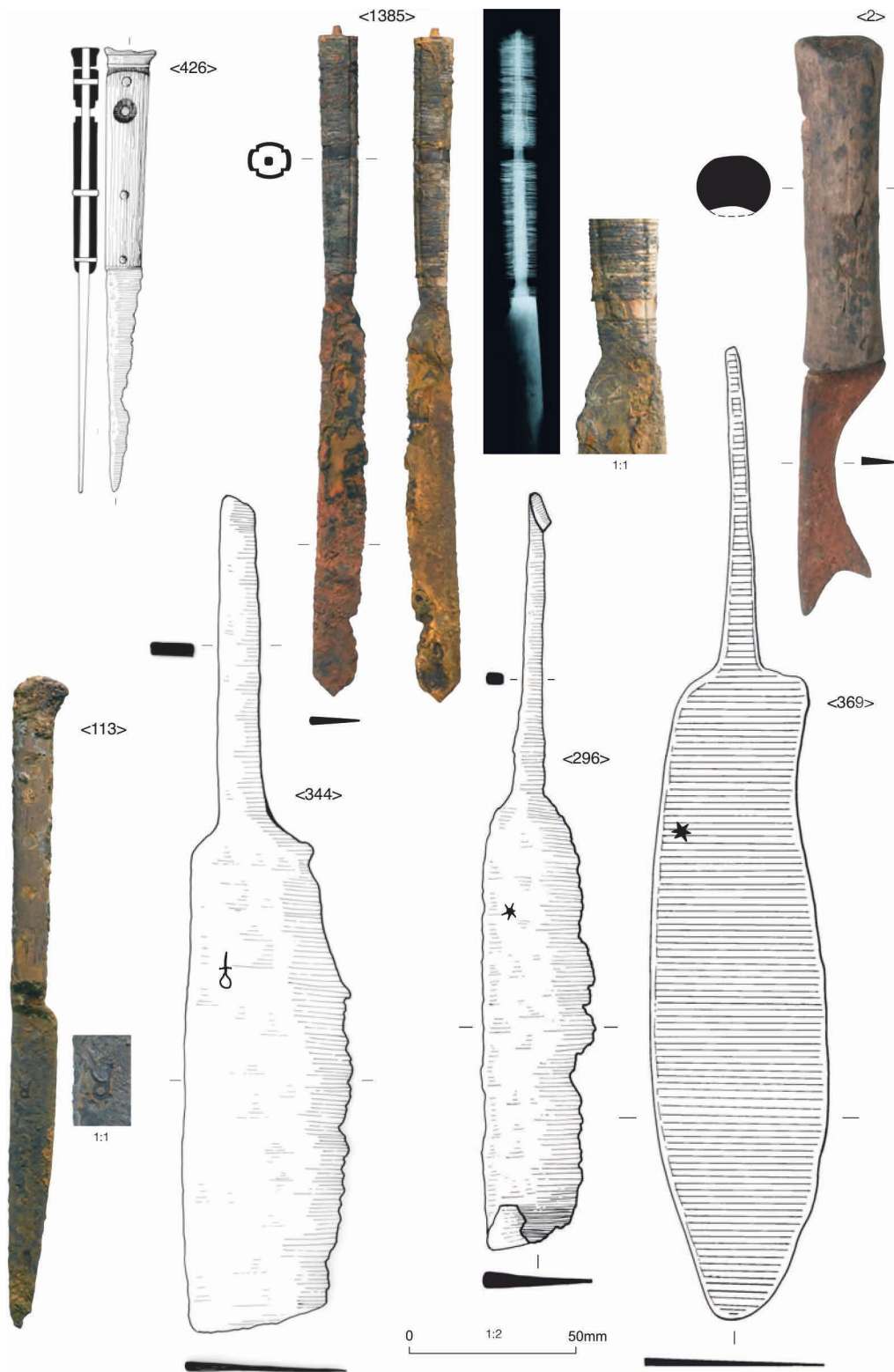


Fig 47 More London site, Southwark. Knives: <426>, <1385>; possible shellfish knife <2>; makers' marks on knives: <113>, <344>, <296>, <369> (scale 1:2).



Fig 48 More London site, Southwark. Four fragments of a youth's singlet or doublet in calfskin <79>: A) front right panel, B) front left panel, C) incomplete panel and D) possible cod-piece (scale 1:4).

fragment A (370 x 100mm). Fragment C is another incomplete piece, perhaps from the front of the garment (280 x 240mm). The fourth fragment, D, may be part of the doublet's cod-piece; it was perhaps originally rectangular with a sub-triangular cut-out (flanked on one side by an integral strip with stitch holes; 125 x 100mm). It has stitch holes along the two surviving sides (and the edge of the presumed cut-out), button holes at opposed corners and oblique, parallel slashes across the central area. It is not known whether this garment was originally made to be worn grain (smooth) side out (as illustrated) or flesh (sueded) side out; if flesh side out the sides would be reversed.

The dimensions suggest this was a youth's garment rather than that of a fully grown adult. The slashing is not particularly regular, giving the garment a home-made feel. The prominence of this cutting invites comparison with the Germanic tradition of the *Landesknecht* costume of the late 15th/early 16th centuries (Major & Gradmann 1947, *passim*). The many contemporary illustrations of the extravagantly slashed doublets and breeches worn by these mercenary soldiers suggest that the overall design was usually confined to a series of motifs made up of simple lines running in the same direction within defined areas. In contrast, the juxtaposition in the present garment of voided zigzags (possibly a toothing motif?) alongside a series of broad, elongated slashes gives an overall impression of exceptional busyness.

So far, no parallel has been traced for this extraordinary garment. It is difficult to decide how it might have been viewed by contemporaries. On the one hand, at best, the *Landesknechter* were highly valued hired troops, whose military prowess was almost legendary if they were on your side, but on the other hand they were formidable and feared adversaries, on occasion going to extremes of unnecessary violence that were universally condemned. They might be looked on as the 'bikers' or 'punks' of their day, the present doublet perhaps being the owner's proud adaptation of an originally unremarkable, plain garment (there are many modern analogies for such inventive adaptations to be seen today). So, this could be habitual wear within a London community of *Landesknechter* who had come to serve Henry VIII, or possibly a young man's aspirational or even rebellious fashion statement.

A long section from a decorated belt is decorated with lead/tin mounts, with a rectangular leather suspension strap attached to the top with two iron rivets; two other rivets on the lower corners would have held a purse, bag or knife/dagger sheath (fig 49 <98>). A line of at least 48 dome-headed mounts runs along its centre, with three motifs of angular letters 'S', each made from some 30 mounts. Among the several other pieces of straps or belts <1171> also has a decorative mount. There is also a highly decorative thick leather strip (perhaps from furniture or saddlery) with trefoil detail, triangular-dagged edges and fringing piece (fig 49 <78>).

Over 100 complete and near-complete shoes and sandals, as well as numerous shoe-parts, were recovered from the earth and rubbish used to fill in the medieval fishponds at the turn of the 15th and 16th centuries. The shoes and sandals are clearly domestic refuse rather than products of cobblers' workshops: many are complete or semi-complete and none of the uppers or soles have evidence of secondary cutting for reuse. Almost all display signs of wear. The majority are virtually identical pointed buckle-fastening turnshoes, often with extra clump soles sewn onto wide rands added at point of manufacture (the initial stage in the development of turn-welted construction). There is only one example of a slightly later style of broader-toed 'early Tudor' welted shoe, a type found in some quantity on the adjacent ABO92 site (Nailer 2005, 21–9). The sandals are also extremely homogenous in style, with pointed toes, high stacked leather heels and thin fastening straps fastened with buckles.

Large groups of late 15th to early 16th century footwear are extremely rare. Olaf Goubitz found few examples for his typology of shoes from northern Europe (Goubitz 2001), and there are very few groups of this date from Britain (twelve shoes from a large group of late 14th–15th century footwear from Coventry's city ditch are stylistically very similar to the Tooley Street assemblage (Mould 2017, 6). London has a dated typology of medieval shoes based on the large land reclamation infills behind dated waterfronts on the north

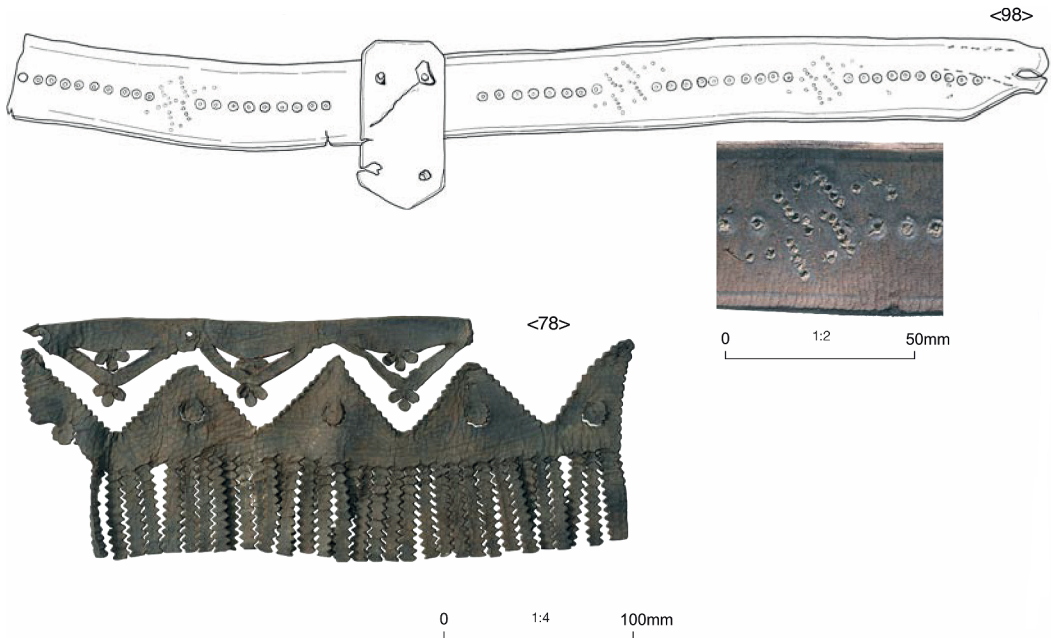


Fig 49 Leather belt with decorative mounts and a suspension strap <98> and decorative strip <78> (scale 1:4, detail 1:2).

bank of the Thames, but this sequence stops in the early to mid-15th century (Grew & de Neergaard 2001). Dumping of leather and other waste continued throughout the late 15th and 16th centuries in the Moorfields marshes to the north of the City, however, and some shoes and pattens from 19th and early 20th century excavations in this area, now in the Museum of London collections, are very similar to those from the present site. One small group in particular appears closely dated by a documented post-1477 repair of the City Wall, supporting the suggested late 15th century date for the footwear from Tooley Street (Lambert 1921, 101–4).

Shape and style

There is very little variety in shape or style. Like the shoes from the recently published infill dumps on neighbouring sites these plain practical shoes appear to be everyday working footwear (cf Nailer 2005, 22). All have sole shapes of late medieval type (types e2–4 from York and types 2a and 2b from Reading; Mould *et al* 2003, 3273, fig 1594; Mould 1997, 110, fig 59).

Four soles have additional small ‘poulaine’ points, which are straight or out-curved, and extend no more than 20mm from the end of the sole (eg fig 50 <1206>). The points are stuffed with moss, as are the toes of a high percentage (50%) of the other adult shoes with intact vamps. In contrast, only one of the children’s shoes has moss stuffing (<1297>, not illustrated). Moss was used extensively in the late 14th century for stiffening shoe toes in the extreme fashions of the time, and it is interesting that so many of these late 15th century shoes with their far more moderate points are also constructed in this way. After the more rounded toes of the early to mid-15th century, pointed toes became fashionable again in the 1450s, reaching a maximum length in the 1460s and becoming shorter over the next twenty years (Norris 1927, 449; Grew & de Neergaard 2001, 117; Swan 2001, 67–71). One side-laced shoe with an extraordinarily long moss-filled toe was obviously highly fashionable

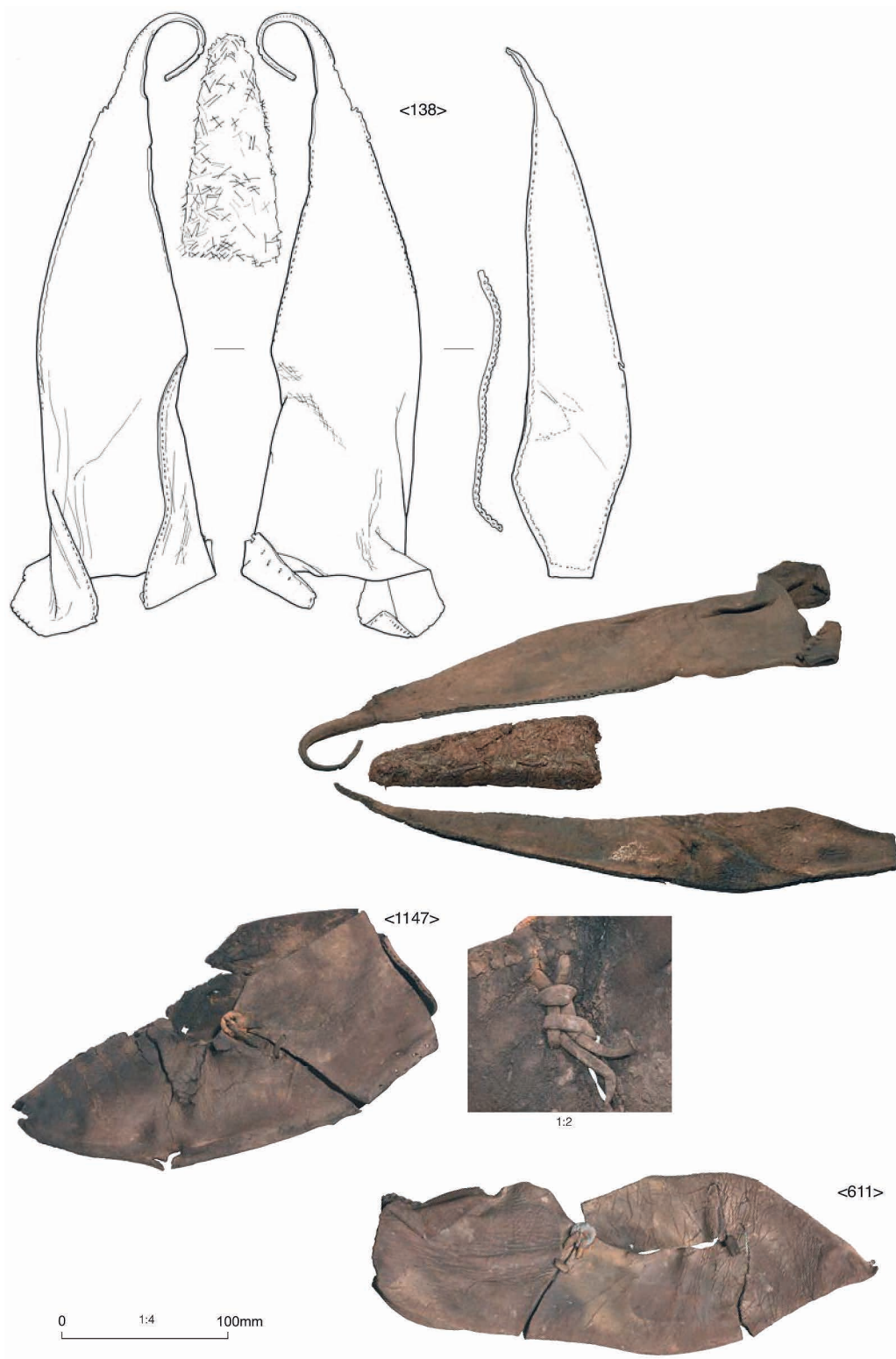


Fig 50 More London site, Southwark. Shoes: (a) long poulaïne <138>; ankle shoes <1147>, <611> (scale 1:4, detail 1:2).

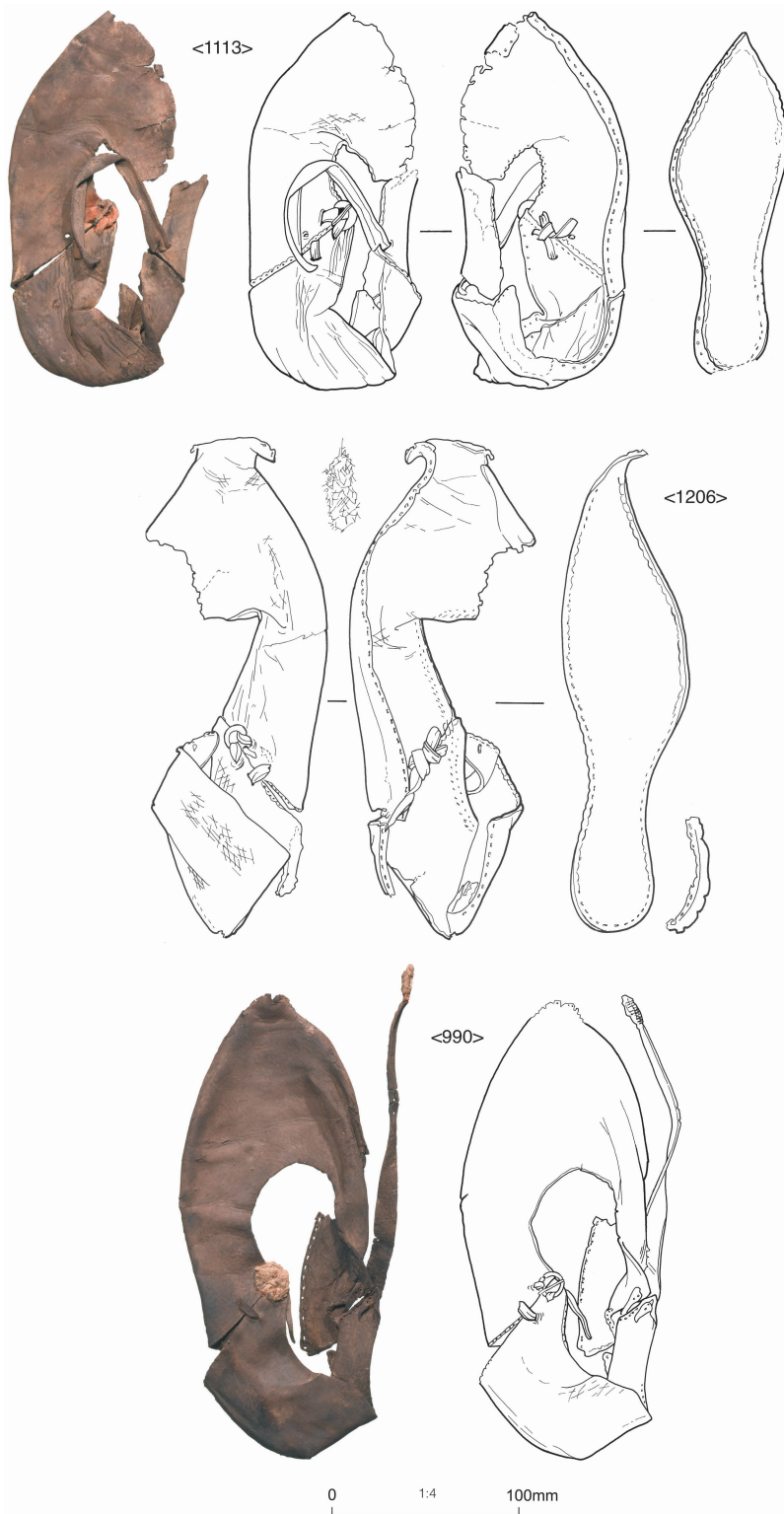


Fig 50 (contd) More London site, Southwark. Shoes: (b) <1113>; ankle shoe with additional small poulaire point <1206>; low shoes <990> (scale 1:4).



Fig 50 (*contd*) More London site, Southwark. Shoes: (c) <1103>; boot <681>; detached tongue <1094> (scale 1:4).

and extremely expensive (fig 50a <138>). It is unlike any of the other footwear from the site and probably dates to the mid-15th century (cf examples of extreme poulaine or ‘cracow’ shoes (the names derive from Poland and its capital city Krakow) dating to the 1450s and 60s (Swan 2001, 67–8, figs 70, 72; Evans 1952, figs 52, 60). It was found in a fill ([1210]) with pottery dated 1400–1500. The thin curved point at the end also contained traces of compacted moss and has stitch marks along its length.

With the exception of a boot (fig 50c <681>) and a small number of low shoes (below), most of the adult shoes are ankle shoes/boots with uppers that end around or just above the ankle (cf Mould 2017, 62). They are front-opening with a high oval throat or central slit

that has internal whip stitch marks on one or two sides for attachment of a tongue. Only one tongue survives *in situ*, in boot <681>, which has a long, folded bellows tongue attached with whip stitch to both sides of the vamp central slit. There are also five detached tongues, all made from soft leather, one of which was loose inside a shoe (one illustrated, fig 50c <1094>).

There are only nine low shoes; these have fairly low oval or round throats but are otherwise very similar to the other shoes, just below or skimming the ankle and fastened with the same characteristic type of strap and side buckle fastening (fig 50b <990>, fig 50c <1103>). They have double lines of internal whip stitching at the throat and along the tops of the quarters, presumably for reinforcement cord. Only four have surviving quarters, but it is interesting that these are all one-piece. It may be that most if not all of these low shoes are large shoes for children, as many of the children's shoes also have one-piece quarters.

Fastenings

Nearly all the shoes are fastened with the same distinctive type of buckle attachment. The great majority, including low shoes, the boot and most of the children's shoes, have a narrow tapering strap across the instep that passes through a buckle and leather loop or 'strap-keeper' below the buckle on the outer butt seam. The straps have bifurcated or spade-shaped ends sewn to the inner butt seam (eg fig 50 <1103>). Two have surviving iron chapes at their tips (eg fig 50, <990>). All the buckles are identical: small (typically 13 x 9mm), round, and made from tinned and untinned iron (eg fig 50 <1147>, <611>; fig 57 <526>). The buckles are fixed to the outer butt seam with a thong, wrapped twice around, and then threaded through two upper holes (generally positioned either side of the seam), and knotted at the back. One end of the thong is threaded through two lower holes to form a strap-keeper for the strap-end, and threaded again through the knot at the back (eg fig 50 <611>, <1113>, <1147>). The strap-keeper was obviously an important feature: there are a few examples of buckles attached with a wider strap and here the keeper has been added separately (eg <1297>, not illustrated). The children's shoes are often made in one piece, but although in these cases the buckles are slotted through the vamp, a strap-keeper has still been added below them (fig 51 <1204>). This type of buckle attachment is not present on early to mid-15th century buckle-fastening shoes (eg Grew & de Neergaard 2001, 39–41). These later 15th century shoes differ not only in the way the buckle is attached, but also in its position, straddling and strengthening the outer butt seam. This style of buckled shoe was clearly ubiquitous in the late 15th century but this has only been recently recognised. It is present on other British and European sites but, possibly because there is a scarcity of excavated material of this date, has until now only been found singly or in small groups (Q Mould, pers comm; Mould 2017; Goubitz 2001, 214).

Two children's ankle boots have a front lace-fastening with two paired lace-holes (fig 51 <137>, <1073>). These are from a more mixed group of footwear in Pond J (which included the extreme poulaine – above) and could be slightly earlier (eg mid-15th century).

Construction

Uppers

The great majority of the adult shoes were made in three pieces, with symmetrical two-piece quarters joined at the back with a vertical butt seam, and joined to the vamp with slightly angled side seams. There are only seven adult shoes with one-piece quarters; these are either low shoes (eg fig 50 <990>) or small shoes that may be large shoes for children (four examples, all measuring between 200 and 225mm, fragmentary and not illustrated). Like the two-piece quarters, the one-piece quarters are generally joined to the vamp at instep side seams, although a possible pair of children's boots (<1055>; <1056> not illustrated) have one seam at the instep and one at the back, while another child's shoe has butt seams

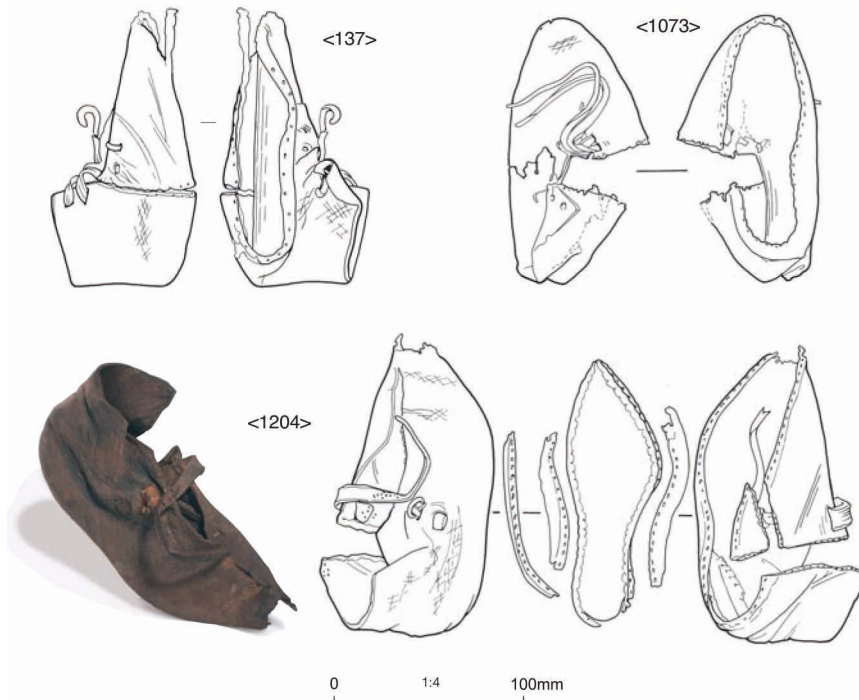


Fig 51 More London site, Southwark. Children's shoes <137>, <1073> and <1204> (scale 1:4).

further back than the normal instep position (<1139>, not illustrated). All sixteen definite examples of children's shoes have either one-piece wrap-around uppers or one-piece quarters, presumably to make them more robust and also because they would have been simpler and cheaper to make this way. The very few examples of additional triangular inserts at the inside instep also all occur on children's shoes (fig 51 <1204>; <1055>, <1056> not illustrated). Nearly all the adult shoes have intact triangular or trapezoidal heel stiffeners, or have tunnel stitchmarks for heel-stiffener attachment. Most heel stiffeners are made from soft leather; most fit the shoe, but at least one example is much too big and has obviously been reused.

Soles

By the mid-late 15th century the single-soled medieval turnshoe had evolved, with the addition of one or more extra outer soles often stitched to a wider rand. Sometimes the shoes were constructed this way when new, sometimes the extra sole or soles were added later as repairs; the key to the whole process was the wider rand, a strip of leather that was now partially inside and partially outside the shoe, acting as part of the sole and also extending beyond the sole seam, enabling the extra soles to be added. If the soles were attached to the wide rands with a double row of grain/flesh stitching (rather than an inside row of grain/flesh and an outside row of tunnel stitching) these turnshoes are described as 'transitional welted shoes', indicating their transitional position in the evolution of the welt. By the very end of the 15th century true welted construction had been introduced; the shoe was no longer assembled inside-out, and the upper and soles were attached to an external welt, situated around the outside edge of the shoe (Grew & de Neergaard 2001, 47; Goubitz 2001; 79, 91–5). Because of wear and multiple repairs it is often difficult to tell how many of the shoes in the group have true transitional welts. It is certainly clear from the absence of wear on many of the upper outer soles that most extra soles were added at the time of

manufacture. The multi-piece rands are wide, with one or two rows of stitching, and there are stitch holes above the lasting margins on the vamps and quarters where the 'clump' or repair soles were attached to the upper (eg fig 52 <1110>). The inner soles have stitch holes at the waist where the extra soles would have been attached, and there are also several shoes with intact clump or repair soles, usually two-piece (tread and sole) and some multi-part, with middle soles or, in one example, an extra heel-sole or 'heel patch' (fig 52 <1110>,

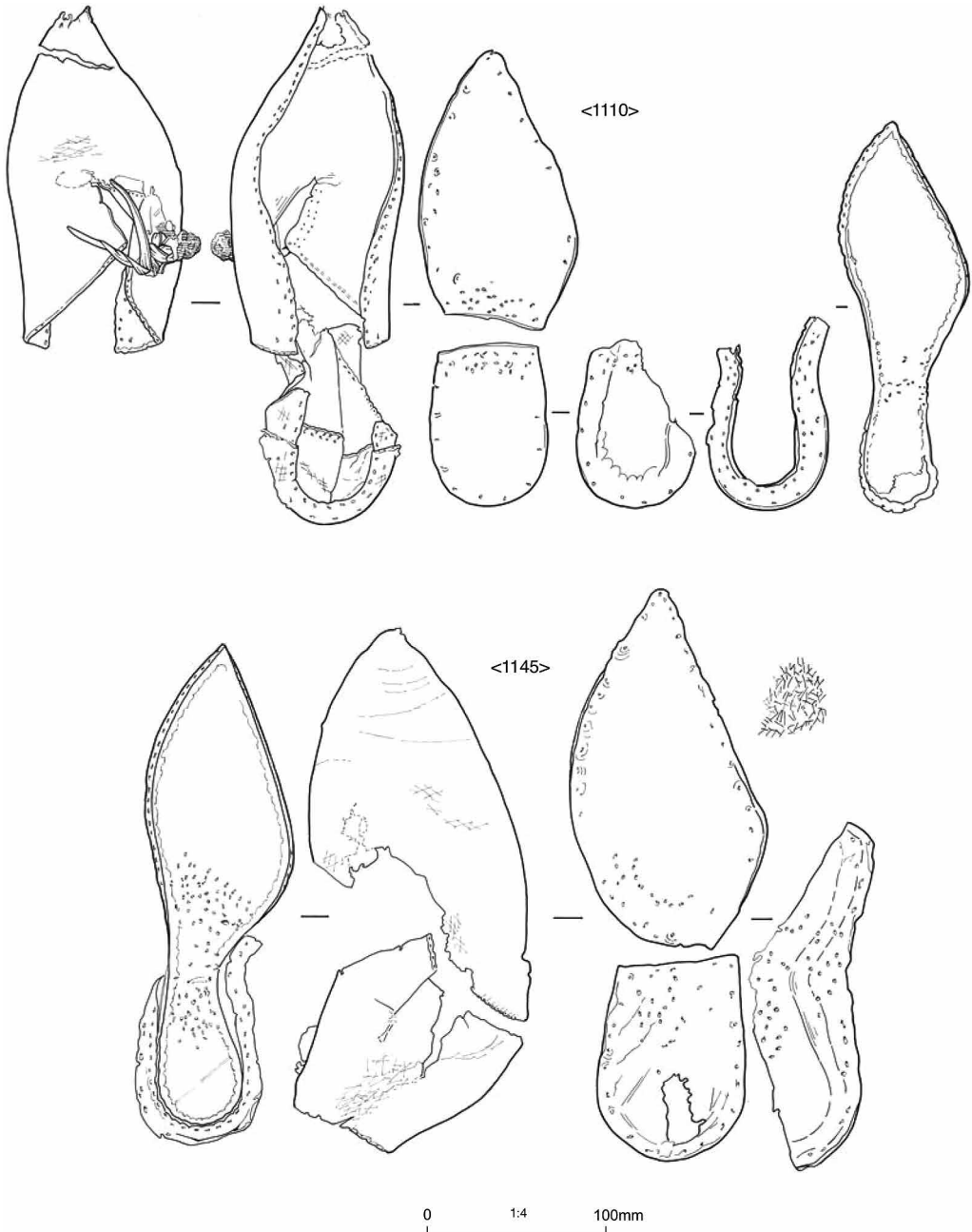


Fig 52 More London site, Southwark. 'Transitional welted' shoe soles <1110>, <1145> (scale 1:4).

<1145>). Again the children's shoes are different. Some children's shoes have wide rands (eg fig 51 <1204>) but the majority do not, and none has a clump or repair sole or stitching to indicate that one was ever attached. Given the wear that children's shoes get, this is a surprising feature and might indicate that the shoes, which are generally in good condition, were mainly worn 'for best'.

Decoration

Only two shoes are decorated: a fragmentary vamp and heel from a probable one-piece upper both have a raised central rib or pleat formed by tunnel stitching on the flesh side (<1193>, not illustrated). Other examples of this type of decoration on late medieval shoes have been noted at Shrewsbury, from a phase dated *c* 1450–1540, and Reading (Mould 2002, 124; 1997, 111). Additionally a vamp from a low shoe has four horizontal cut-away sections that are probably secondary but clearly intended to be decorative (<616>, not illustrated).

Leather-soled sandals

A large number of sandals with composite leather soles were found with the shoes. Because many soles are now detached it is difficult to estimate a total, but there are 40 complete or near-complete composite soles (many with fastening straps or strap-impressions), and 93 single and partial soles. This is an unusually large group, and a strong indication of the popularity of this style of footwear in mid–late 15th century London.

These items were initially identified and recorded as pattens (overshoes) because most straps were detached and strap positions were not obvious. When the straps were reassembled and soles examined for strap-impressions, it became clear that every upper consisted of two V-shaped straps at the toe and instep joined with a central buckle, and a two-part back-strap that passed behind the heel and fastened with a buckle over the ankle (eg fig 53 <942>, <992>, <1095>, <1183>). It is hard to see how the straps, which are short, narrow and delicate, would have fitted over a shoe, and it seems probable, as suggested for a much smaller number of earlier 14th and early 15th century composite-soled leather 'pattens' from London and the Netherlands, that these distinctive items of footwear are sandals worn directly over the foot or hose (Grew & de Neergaard 1988, 101; Goubitz 2001, 268). They seem to be extremely unusual and perhaps a distinctly English phenomenon, with examples excavated in the 19th and 20th centuries in the Museum of London Collections (eg Museum of London online catalogue nos 80.91/2, 4582) and from Southwark sites (Nailer 2005, 30, Fig 13), but with only two near-parallels among thousands of shoes surveyed from waterlogged sites in the Netherlands (Goubitz 2001, 268, figs 1, 2) and no close parallels from 15th century paintings and illuminated manuscripts in which the rare examples of leather-soled pattens or mules are much flatter, without back-straps. All the sandals from the present site have wear and grit on the soles and were clearly worn outdoors. They would have served a dual function as fashionable and practical raised footwear, which also protected clothing from the dust and mud of the streets.

Measurements of the soles were taken before and after freeze-drying for conservation with shrinkage *c* 5%. Allowing for this, and subtracting an average of 40mm for the length of the toe points beyond the foot, the sole lengths cluster between 210 and 228mm, the equivalent of modern sizes 2 and 3½. There are several smaller sizes including two very small sandals for children, which do not have such extreme points and are much wider than the adult examples (one illustrated, fig 53 <623>). The largest adult size is 250mm, adult size 5. These compare well with the suggested average medieval women's shoe sizes in Grew and de Neergaard (2001, 102), suggesting that they may have been predominantly or even exclusively worn by women.

Compared with the contemporary shoes (above) the sandals have an extreme shape. The vast majority are narrow and elongated, with pointed toes and angular or sub-angular treads

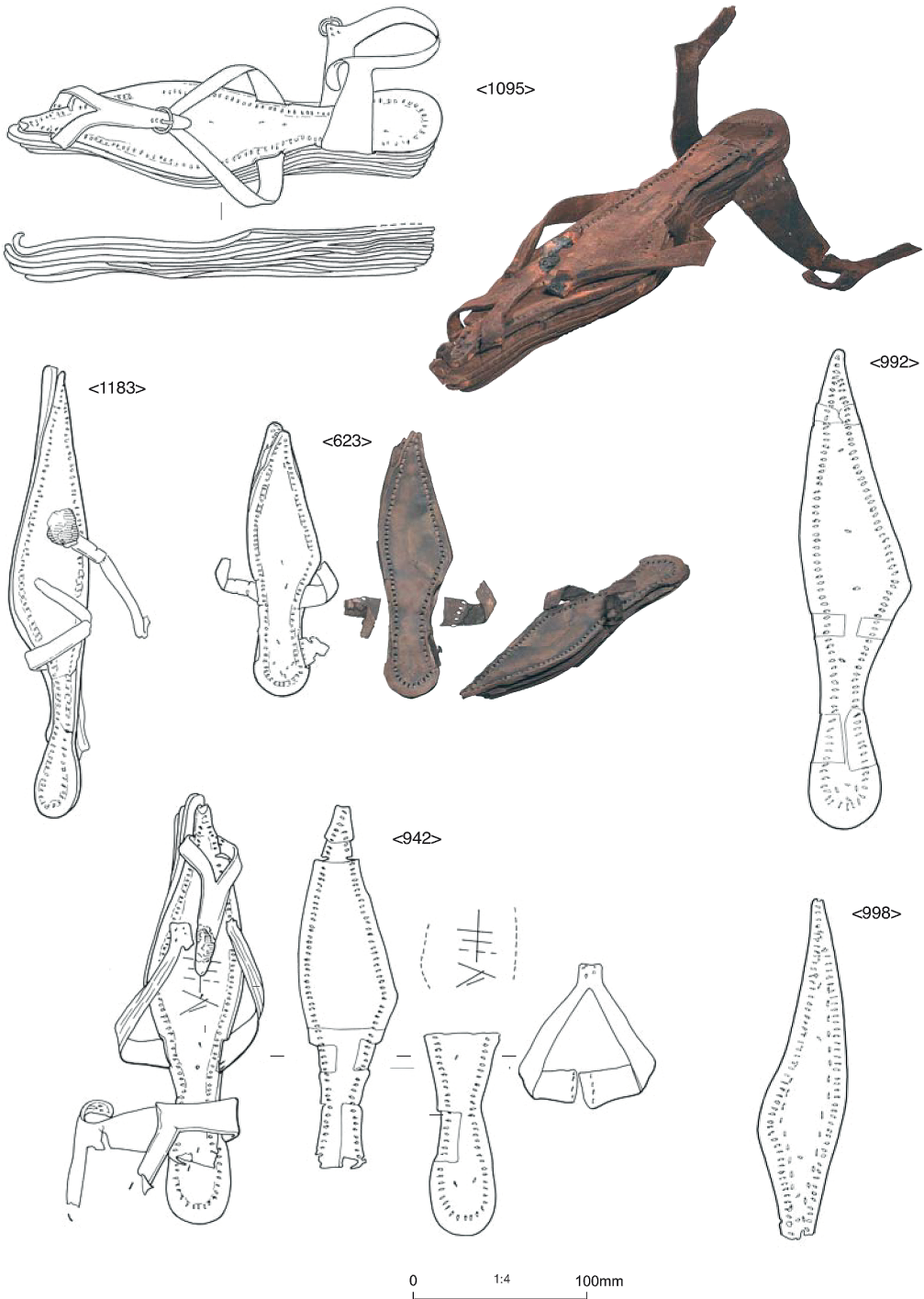


Fig 53 More London site, Southwark. Leather-soled sandals <1095> (reconstruction after <1095> and <942> mid-strap), <1183>, <623>, <992>, <942>, <998> (scale 1:4).

sloping sharply to long narrow waists and heels (eg fig 54 <661>, <664>); only three are wider with a shorter toe (eg fig 54 <135>). All the sandal soles are composite, with between five and ten layers of sole and segmented levelling pieces. Toe points vary in length from 30 to 70mm and are sometimes curved outwards or inwards; some heels are also slightly curved (eg fig 54 <666>, <679>). The stitch holes around the sole perimeters are the deep elongated running-stitch holes set at right-angles to the direction of the stitching that characterise composite soles. The straps are held in place between the upper and second sole by the perimeter stitching, sometimes with supplementary stitches. There are several examples of soles with partial or complete double rows of horizontal or horizontal and vertical stitching around the perimeter (fig 54 <995>, <661>, <641>, <133>). One undersole has iron nails driven into it and through several middle layers, presumably for repair. One upper sole has a graffito 'VIII' cut into it (<1095>). The straps are all cut from a single thickness of leather.

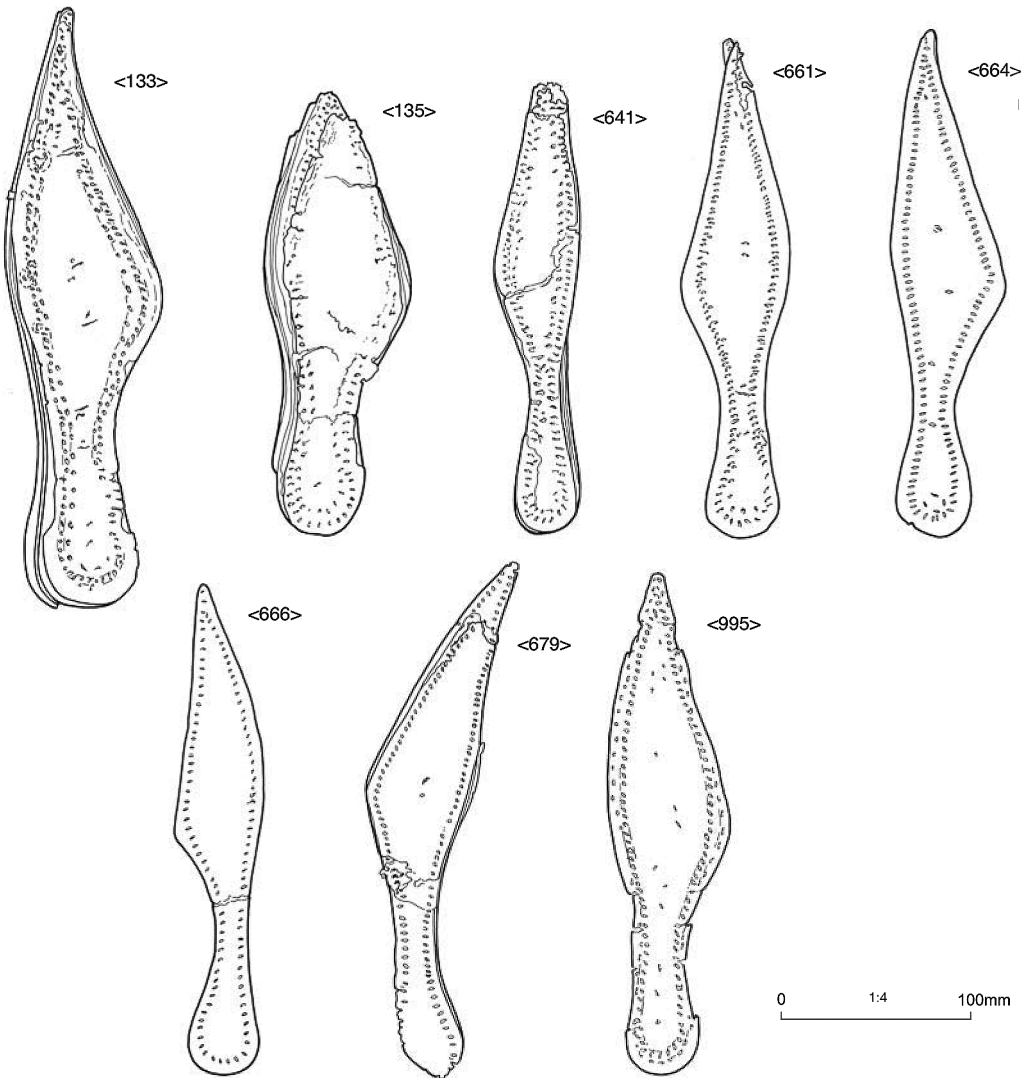


Fig 54 More London site, Southwark. Leather-soled sandals <133>, <135>, <641>, <661>, <664>, <666>, <679>, <995> (scale 1:4).

They are folded over the buckles and sewn; the ankle strap is attached to the heel strap with a butt seam. The round undecorated iron buckles at the ankle are all the same size and shape (and identical to the buckles used as shoe fastenings); the double buckles joining the V-shaped toe and instep straps are also undecorated and standardised in form.

Wooden-soled pattens or sandals

A few fragmentary examples of wooden-soled pattens or sandals were also recovered. All appear to have had hinged soles, which are either flat or slightly raised with a small moulded heel. There are no examples of the high wedged or 'stilt' soles that seem to have been more common on the Continent in the 15th century (Goubitz 2001, 249–53); these are also noted as absent in the early to mid-15th century waterfront groups on the north bank of the Thames (Grew & de Neergaard 1988, 96, 119). The most complete examples (fig 55 <605> and <1050>) are extremely similar in shape and construction to an example of similar date from the adjacent site at Symond's Wharf (Egan 2005a, 31, fig 14), but have intact wide leather back-straps which, like the back-straps on the leather-soled sandals, would have passed behind the heel and fastened over the ankle. With their similarities to the leather-soled sandals it is possible that the wooden-soled pattens were also worn as sandals, but without thick hose or padding the hinge would have been uncomfortable. The straps are notably thicker, wider and less decorative than those on the leather-soled sandals.

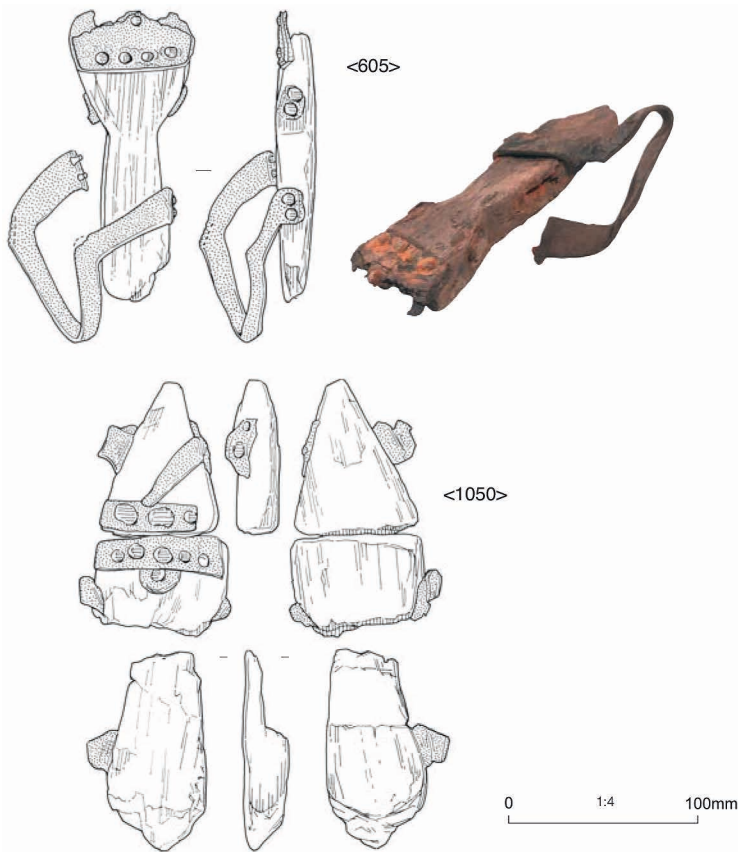


Fig 55 More London site, Southwark. Wooden-soled pattens or sandals <605> and <1050> (scale 1:4).

Mules

A few layered leather soles have distinctive stitching, with horizontal flesh/grain 'patten' stitches around the perimeter of the seat/heel and lower waist changing to vertical flesh/grain 'shoe' stitches around the perimeter of the upper waist and tread (eg fig 56 <665>; <624>, not illustrated). No uppers survive, but these were clearly the soles of mules or slippers with thickened soles and vamps covering the forefoot (Goubitz 2001, type 105, 243–8). On one example a wide rand with two parallel rows of flesh/grain stitch holes survives on the tread (fig 56 <665>), while others have rand impressions on the tread and upper waist.

All the mules have composite layered soles that are either flat (up to five layers) or slightly raised at the heel with two layers at the tread and four at the seat. The sole shapes vary, ranging from a natural shape with a rounded tread and oval toe (fig 56 <1172>) to a shape similar to that of the sandals and shoes from the same contexts, with a long or short pointed and curved toe and narrow seat/heel (eg fig 56 <665>; <675>, not illustrated). Two of these

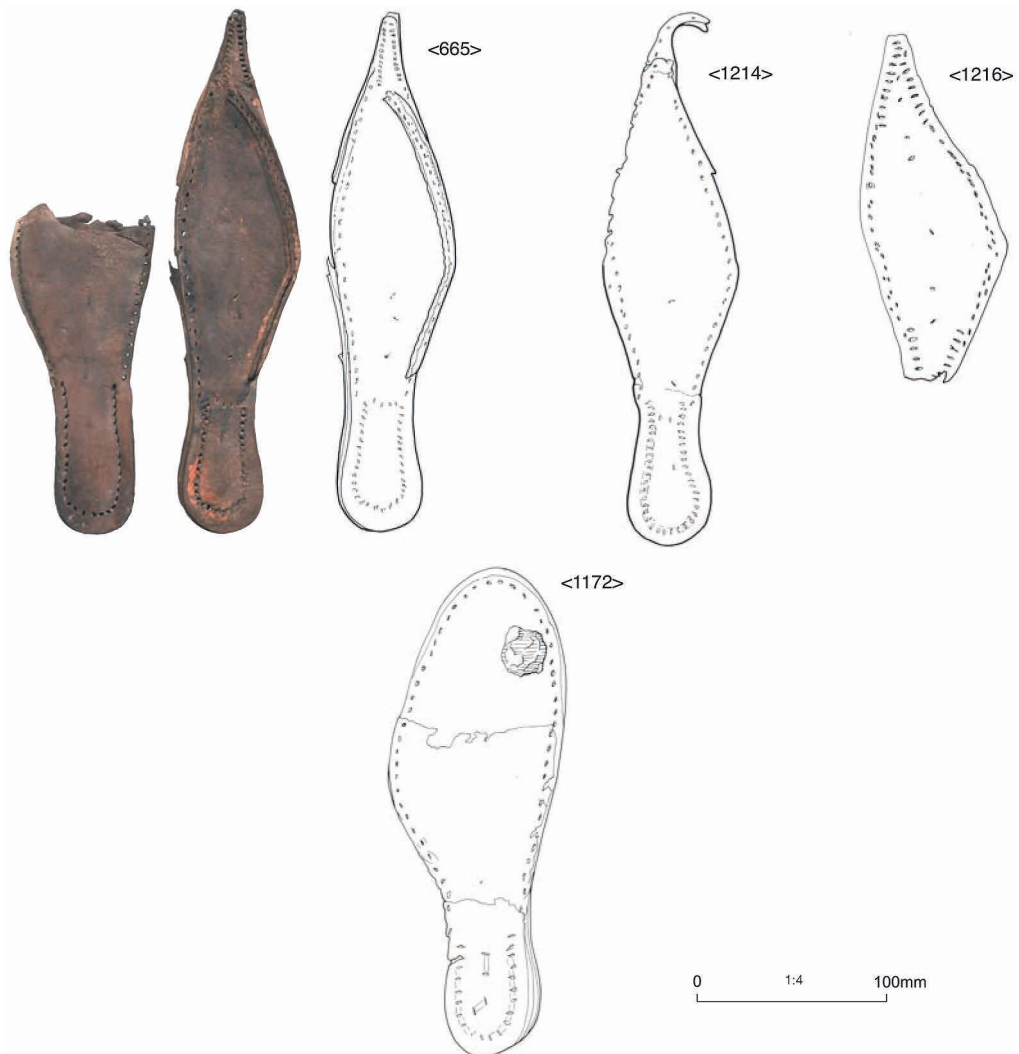


Fig 56 More London site, Southwark. Mules <665>, <1214>, <1216>, <1172> (scale 1:4).

pointed slippers or mules have closely-spaced horizontal stitching at the toe point as well as the heel, perhaps indicating that the toe was also open (fig 56 <665> and <1216>), while one with a curved poulaine toe may have been stuffed with moss (fig 56 <1214>). Only one mule undersole is worn and gritted indicating some outdoor use (<1299>, not illustrated).

There are also a few pieces of the characteristic leather covers from the sides of cork-soled mules or overshoes. The pieces, which are about 20mm wide with two rows of flesh/grain stitching, would have been wrapped around the sides of the cork soles. They are similar to pieces from a complete mule with a high winged vamp and pointed toe, dated 1480–1550, from an adjacent Southwark site, Gun and Shot Wharf (Nailer 2005, 24, 30, Fig 12).

Dress accessories

A large number of dress accessories were found on the site. A rare and complete item is a copper-alloy wire girdle, measuring about 850mm in length with a basic hook-and-eye closure (fig 57 <72>). It consists of a three-ply braid of paired, densely spiralled wires (with each end spirally bound) to which are attached opposed pairs of triple-looped eyes. The eyes' larger single loops hold at one end four larger oval loops, presumably giving scope for minor variations in waist size. This is a remarkable survival, virtually undamaged, of a category of very flimsy accessory that was probably very common in its day, but extremely liable to distortion. If any part became caught on foliage or some more solid obstacle, the spirals would very easily have become distorted or irreparably extruded. These accessories must have been a nightmare for the wearers – teenage girls or young women – who would have had constantly to be alert to the danger of getting them caught up.

Smaller dress accessories include items such as buckles, strap-ends and a variety of fastening accessories. The buckles include many small circular and double-oval shoe- and sandal-buckles, nearly all made from iron, some originally tinned (a large group of iron shoe-buckles from one context [184] <526> is illustrated, (fig 57), and a few made from lead (eg <60>, not illustrated) as well as larger oval, double-oval, D-shaped and rectangular strap- and belt-buckles, most of which are also made from iron (eg fig 57 <527>, <219>, <222>, <210>, <213>). Double-oval buckle <222> has a pair of lozenge-shape stamps along its edges and is an early example of an iron buckle with tooling on the frame, oval buckle <219> has several points of comparison with <222>, not least in the prominent rivets, while a small rectangular buckle with a curved profile and sheet roller may have come from armour <213>. There are very few mounts, emphasising their precipitate fall from fashion at the end of the medieval period (cf Egan 2005a, 39–41). There are also no buttons at all in a period when buttons were becoming popular but this may reflect the very early Tudor date of this group. There are four purse frames, three made from iron (<203>, <274>, <594>), one of which had threaded copper-alloy wire to hold a textile pouch in place (fig 57 <203>), and a fragment from a purse-lining (<453>) made from twisted copper-alloy wire loops (cf Egan 2005, 62 and 64 nos 271–83). A lead/tin strap-end has a crescent-shaped openwork sleeve and a basal loop for suspension (fig 57 <731>). An iron chatelaine with a large terminal ring (fig 57 <393>) was found joined into a ring before discarding. It seems to have been more functional than decorative, most probably to hold something like keys or a knife from the waist.

Other dress accessories include an unusual double wire dress hook with paired hooks bent into oblique angles held together with wound, hammered wire spiralled into decorative terminals (fig 58 <58>) (cf Guildhall Museum Catalogue 1908, 30 no 422 and pl 26 no 12, with two beads, probably bone (there misidentified as Roman); see also Margeson 1993, 18–19, no 89) and wire head-dresses in copper alloy and iron; one (<30>), in iron, has the addition of an oval wooden bead (fig 58 <195>, <1388>, <30>).

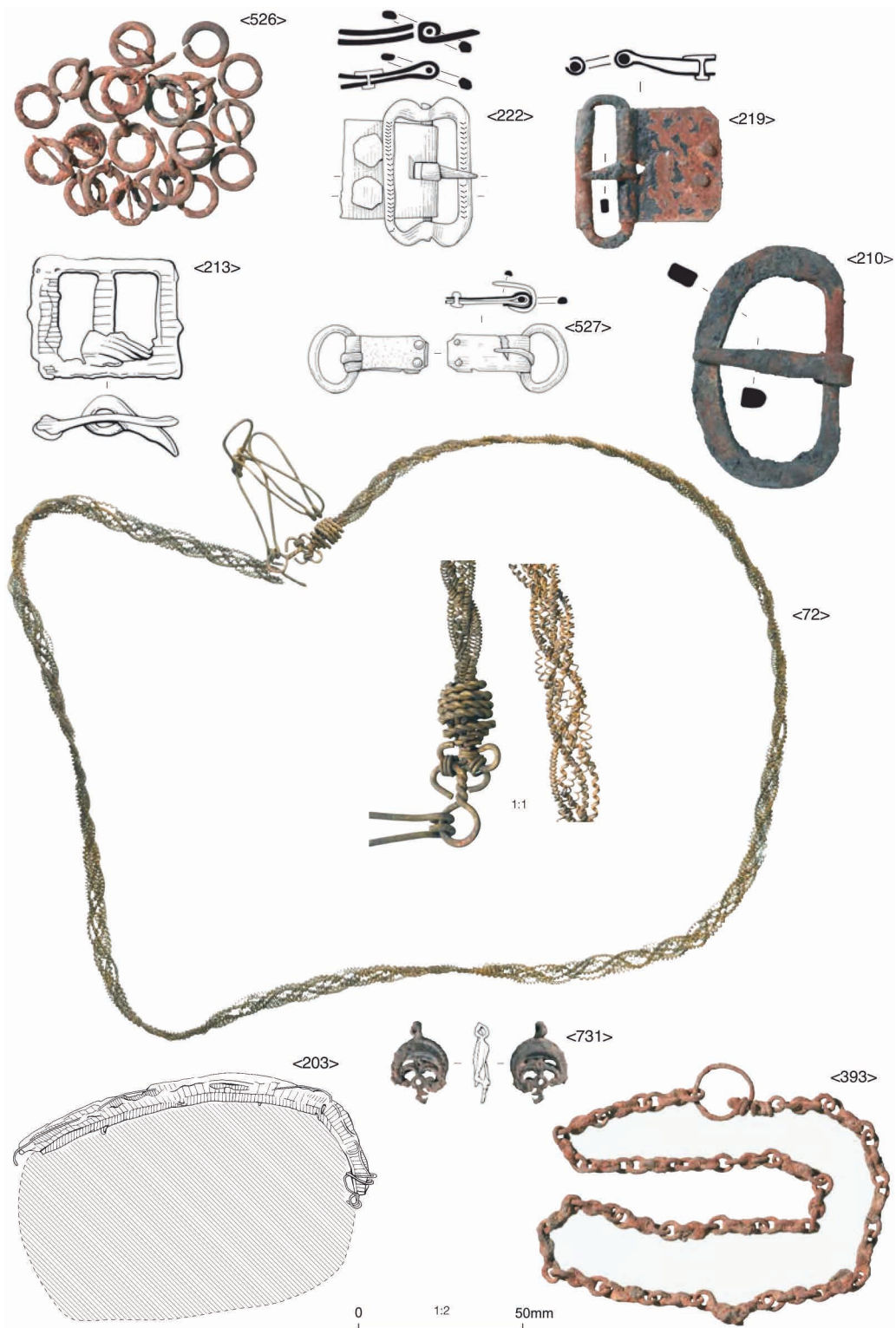


Fig 57 More London site, Southwark. Dress accessories: buckles <526>, <222>, <219>, <213>, <527>, <210>, copper-alloy girdle <72>; iron and copper-alloy purse frame <203>; lead/tin strap-end <731>; iron chatelaine, later joined into a ring <393> (scale 1:2, detail 1:1).

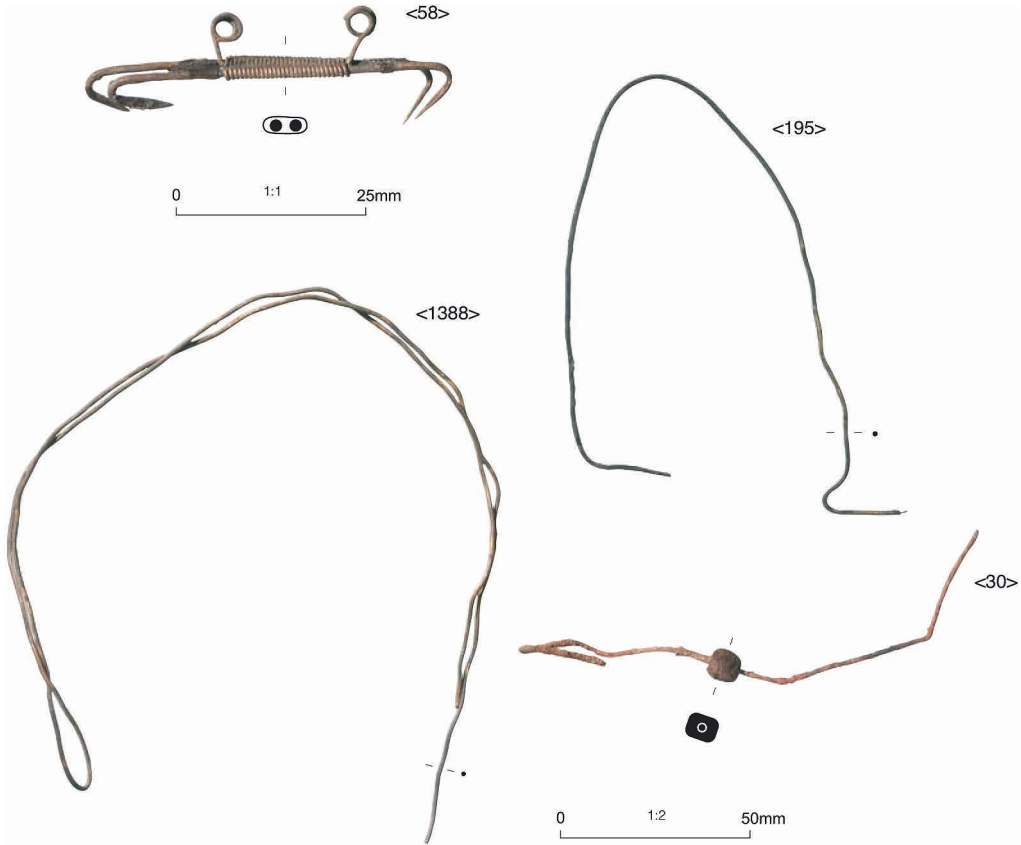


Fig 58 More London site, Southwark. Dress hook <58> (scale 1:1); head-dresses in copper alloy <195> <1388> and iron <30> (scale 1:2).

MONEY, LEISURE AND PERSONAL POSSESSIONS

The mainstream numismatic finds from this site are very limited, despite the archaeologists' extensive use of metal detectors. A few copper-alloy jettons were found, one bearing the legend 'vive le bon' (perhaps to be understood as something like 'let the good times roll'; <457>). Of greater interest is a lead/tin token, apparently giving the address of a tavern (fig 59 <434>). The blackletter legend reads MLVII CHEPE (E...I)WOD(E)BARGE // [image of ship] LUTHELITTLE(Q)VIEZ (GVLTN) 'PALELE(ON)E, probably to be read as something like '1507 in chepe [ie the market] [...] wood barge // by the little quay and gilded pale lion' (assuming that MLVII is an error for the date MDVII). This is from a series of tokens with blackletter English legends, some with addresses that often sound like taverns, and so far apparently known only in London (several have the City arms (see Egan 2005a, 167–71). The present one appears to be the first with a (16th century) date. Equally lacking is evidence of personal religious practice with a notable absence of the last generation of pilgrim badges (in contrast to the neighbouring site of ABO92).

Evidence for pastimes is restricted to a single die. The bone die, *c* 10mm square, has circle-and-dot numbers in 'regular' arrangement (opposed sides total seven); their specific layout is Potter's configuration 8 (Egan 1997, 3, fig 2). Sometime in the 16th century Potter's configuration 16 (which swaps the positions of the two/five with those of the two/four on the present layout) became overwhelmingly predominant, so the die may be from the last decades when different variants were common (fig 59 <163>).

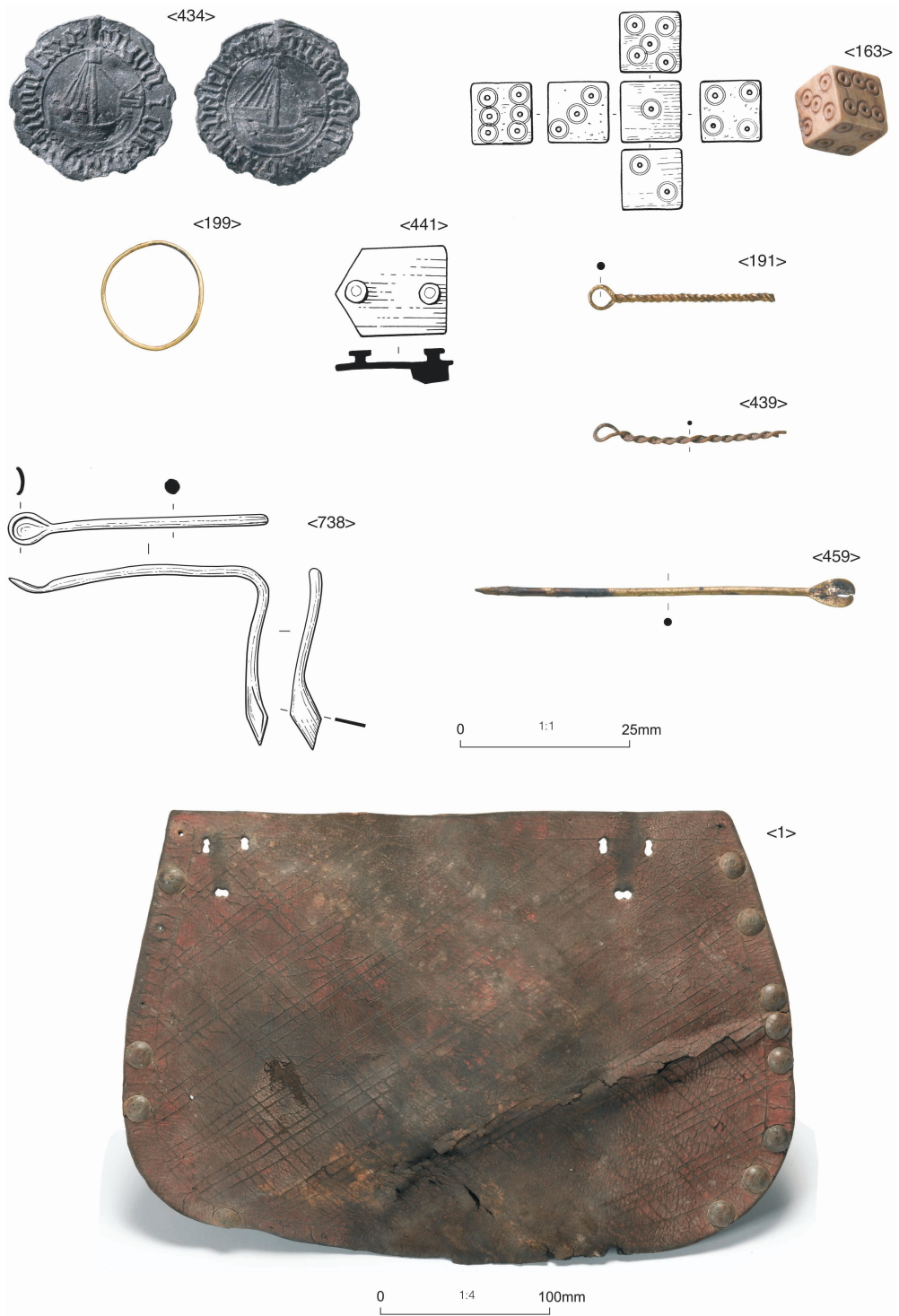


Fig 59 More London site, Southwark. Tokens, leisure and personal possessions: lead/tin token <434>; bone die <163>; gold finger-ring <199>; book cover clasp <441>; copper-alloy carpicks <191> <439> and toothpicks <738> <459> (scale 1:1); bag flap <1> (scale 1:4).

A few other personal possessions are notable, including a gold finger-ring (fig 59 <199>) and a clasp, possibly from a book cover (fig 59 <441>). A complete upper flap from a satchel-like bag or saddle bag is decorated with a tooled diamond/lozenge pattern and a border of tinned iron mounts, arranged in groups of three. The surface is coloured red with vermilion that could have been naturally dyed from cinnabar or synthetically produced from an alizarin dye (fig 59 <1>). A second, more fragmentary, bag-flap is also decorated with a tooled diamond/lozenge pattern and has a border of stamped circles, apparently imitating mounts or studs (<9>).

Several items for personal grooming include a wooden comb with both coarse and fine teeth (<1243>), two copper-alloy wire earpicks (fig 59 <191>, <439>) and two copper-alloy wire toothpicks (fig 59 <738>, <459>). The corroded sub-oval blade of a razor was also found (<282>).

TRADE ITEMS

The textile trade is represented by lead cloth seals, used in late medieval and post-medieval times on individual newly woven cloths as part of the quality control system in the textile industry, and in the case of official *alnage* seals additionally to indicate that a subsidy – a tax of a few pence per cloth – had been paid to the king. Without an *alnage* seal no cloth could legally be sold.

The five lead *alnage* and customs seals from the site are among a very few of these particular varieties to have been recovered from an archaeological sequence. There is no specific indication that they relate to local textile processing, although they are a small group. This is a contrast with finds from several other central London waterfront site assemblages on both banks of the Thames, notably Abbot's Lane (ABO92) and Braidwood Street (BRA88), both immediately west of TYT98, which produced several later dyers' seals. At least three counties are represented on the seals: Essex (fig 60 <708>), Suffolk (fig 60, <425>), and Oxfordshire (a possible blanket seal) (fig 60 <170>). A customs seal (fig 60 <169>) is a type known from several examples, some with slightly differing stamps, found in London,



Fig 60 More London site, Southwark. Lead cloth seals: <708> (Essex *alnage* seal), <425> (Suffolk *alnage* seal), <170> (Oxfordshire *alnage* seal), <169> (customs seal) (scale 1:1).

Salisbury and elsewhere (Egan 2001, 63–4 and 82, fig 23 nos 106–8). From the imprints of textiles sometimes found on the inside surfaces of the discs these seem to be specifically for rich sateen-weave fabrics, probably including cloths-of-gold.

TOOLS AND PRODUCTION

By the late 14th century there were a number of industries in this eastern part of Southwark, the majority of which made significant use of the plentiful natural resource of water. Documented local workers and artisans included brewers, fishermen, boatmen, tanners, dyers, fullers and a laundress (Carlin 1996, 178–9). Both artefacts and environmental evidence give further insight into local trades and crafts. In the finds assemblage bead-making, pinmaking, leather working, metalworking and textile-fibre processing are represented while plant remains suggest the presence of dyers, brewers and textile manufacturers on or near the site.

A large number of fragments of copper-alloy waste were found with the rubbish and soil in the disused medieval fishponds, including folded staples (used for sheet repairs) as well as edge trimmings and triangular shapes of copper-alloy sheet. A number of pieces of copper-alloy smithing waste were also found, including a small amount of hammer-scale (both flake and spheres), suggesting that both ordinary smoothing and high-temperature welding were clearly taking place. Some tiny, circular pieces of copper alloy probably relate to the manufacture of small mounts and fittings. A pinner's bone made from a cattle metapodial and used for gripping small pins during their initial shaping and sharpening suggests local copper-alloy pin manufacture (<1242>).

There was also plentiful evidence for iron-smithing and -working. Most of the iron slag was generated by secondary smithing (hot working of an iron shape by a smith to turn it into a utilitarian object). A number of broken pieces of smithing hearth bottoms were also recovered. A large number of unfinished iron objects included an uneven, four-sided angled bar, perhaps the first stages of smithing a knife (<567>), a fragment of an uncompleted knife-shoulder bolster (<718>), a blade offcut (<492>), and three possible key-bit blanks (fig 61 <585>, <592>, <587>). The key-blanks were found with six incomplete and fragmentary iron rotary keys (<39>, <40>, <100>, <278> <511>, <512>, <513>, not illustrated), one of which, a bit (<39>), may have been discarded without being set in a shaft, and another a possible waster (<513>). There are a number of small iron strips, bars, trimmings and other pieces of hammered waste from the same deposit ([184]).

There is much less evidence for other metalworking crafts: a single lead/tin ingot with a D-section (fig 61 <709>) is the only evidence for pewter working and a fragment of cuttlefish bone with one flattish face is burnt on the opposite face and was perhaps used as a mould for casting silver or pewter (<156>). A piece of leather stamped with leaves or feathers has the remains of at least two circular holes; it may be waste (used as a trial-piece for stamping) or part of a fitting (fig 61 <118>).

Environmental samples from archaeological contexts of this period included hop (*Humulus lupulus*) seeds and provide some evidence of brewing, perhaps on a domestic rather than commercial scale. Environmental samples also give slight evidence for cloth production in the form of occasional seeds of flax (*Linum usitatissimum*), hemp (*Cannabis sativa*) and dyer's rocket (*Reseda luteola*). Flax does not persist as a weed so the presence of its seeds could indicate nearby cultivation near the feature. Hemp seeds could have come from plants growing as weeds but cultivation seems likely. On the other hand, dyer's rocket is a very common weed and the recovered seeds may not be related to cloth production.

There is specific archaeological evidence for tanning on this site, but only from archaeological contexts before and after the Tudor period under discussion in this section. However, a number of distinctive large knives could have been used by skinners and tanners. These all have whittle-tang blades with convex sharp edges and straightish or slightly convex backs that angle down towards the point about two-thirds of the way along (fig 47 <296>,



Fig 61 More London site, Southwark. Evidence for metalworking and possible leather-working: unfinished iron rotary key-bit blanks <585>, <587>, <592>; key-bit <39>; lead/tin ingot <709>; possible leather waste with leaf stamps <118> (scale all 1:1 except <39> scale 1:2).

<344>, <369>). The flourishing leather trade in Southwark and Bermondsey makes a skinning identification likely for these knives, although they could have been used as cleavers by cooks or butchers (see Cowgill *et al* 1987, 52, fig 15, from a 14th century manuscript illustration, although this knife clearly has a scale tang).

A number of objects would have been used in primary or secondary textile working, leather working or sailmaking. These include several bodkins for making holes in cloth or leather (one is complete but distorted through use (fig 62 <537>), a small needle, probably for embroidery, with a round-section point and punched eye (fig 62 <543>), and a larger needle with a four-faceted point and rectangular eye, probably used for very coarse material such as sailcloth or leather (fig 62 <84>). Four thimbles were also found, one with a decorative basal band was apparently not used as the sharp edge at the base had not been file-finished (fig 62 <207>). A corroded iron-sheeting fragment from the backplate of a wool comb (<304>) and two U-shaped double prongs from a leather wool card (<449>) would have been used in

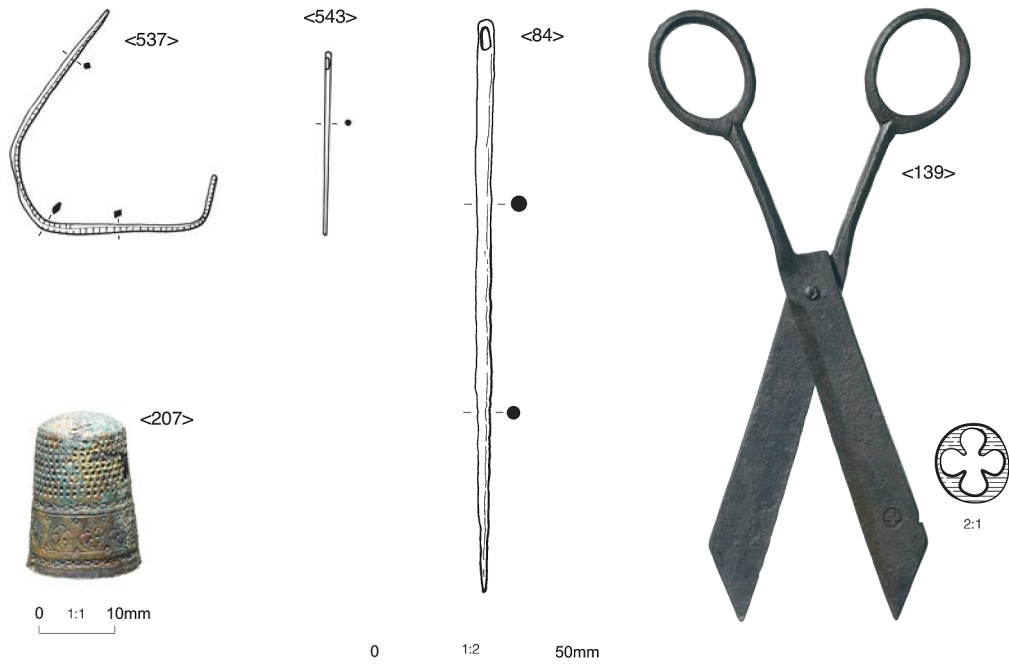


Fig 62 More London site, Southwark. Sewing, leatherworking and other crafts: iron bodkin <537>, iron embroidery needle <543>, iron needle for leather or sailcloth <84>; pair of iron scissors <139> (scale 1:2, detail scale 2:1); copper-alloy thimble <207> (scale 1:1).

fibre processing. A complete and well-preserved pair of scissors was presumably for tailoring; each blade has a stamped maker's mark of a quatrefoil in a circle (fig 62 <139>). Substantial pieces from three bow shears were also found (eg <224>). There are also woodworking tools including several augers with spoon-bit blades (three illustrated: fig 63 <400>, <413>, <124>). Iron wedges of diverse sizes may have been used for splitting logs into sections for use as planks (eg fig 63 <405>).

Finally, it should be remembered that this part of Southwark was not yet completely built up: the adjacent area remained as fields and meadows. This well-preserved sickle (fig 64 <74>) could have been used in these fields, or in one of the large gardens behind Tooley Street or in Fastolf Place. Like all sickles of this date its blade has a series of closely-spaced oblique-cut teeth cut with a hammer and sharp cold chisel while the blade was in a soft (unhardened) state – as files were made. A second tool <8> complete with wooden handle was found in Period 5 OA4. It has a relatively wide blade and no visible sign of teeth, so is better termed a 'reaping hook'.

WEAPONS AND ARMOUR

Several weapons and a number of pieces of Tudor armour were recovered. One particularly unusual item is a large-calibre cannon projectile cut from Portland stone (<866>). This irregular oval stone was cut to fit a bombard with a bore of about 18in. The stone was cut with a hafted adze and then trimmed with a chisel (of a form known as a clawtool). The bombard from which it was fired must have been of crude construction and the absence of an effective gas seal (the projectile was not at all round) must have wasted much of the charge. A smaller-bore cannon shot (<867>) may have been cut from Kentish Ragstone (not necessarily Hythe); it weighs about 6 lb (1428g) and is 4³/₈in wide, presumably intended for a 4¹/₂in gun bore (allowing space for hemp wadding). The weapon must have been a demi-

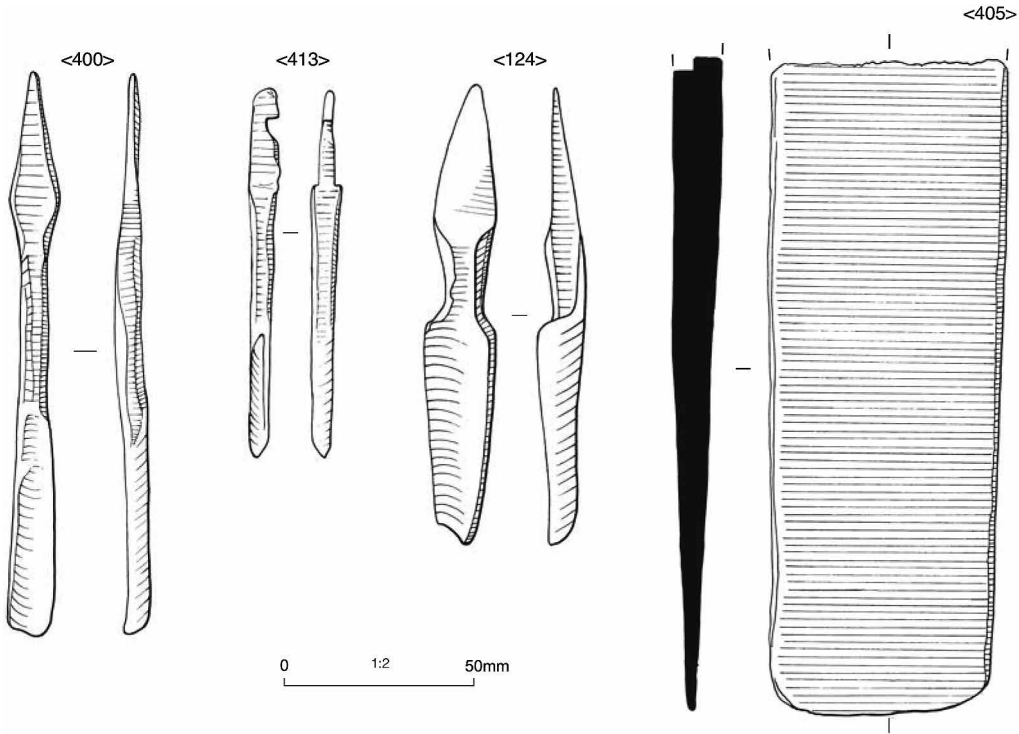


Fig 63 More London site, Southwark. Woodworking tools: iron augers <400>, <413>, <124>; iron wedge <405> (scale 1:2).

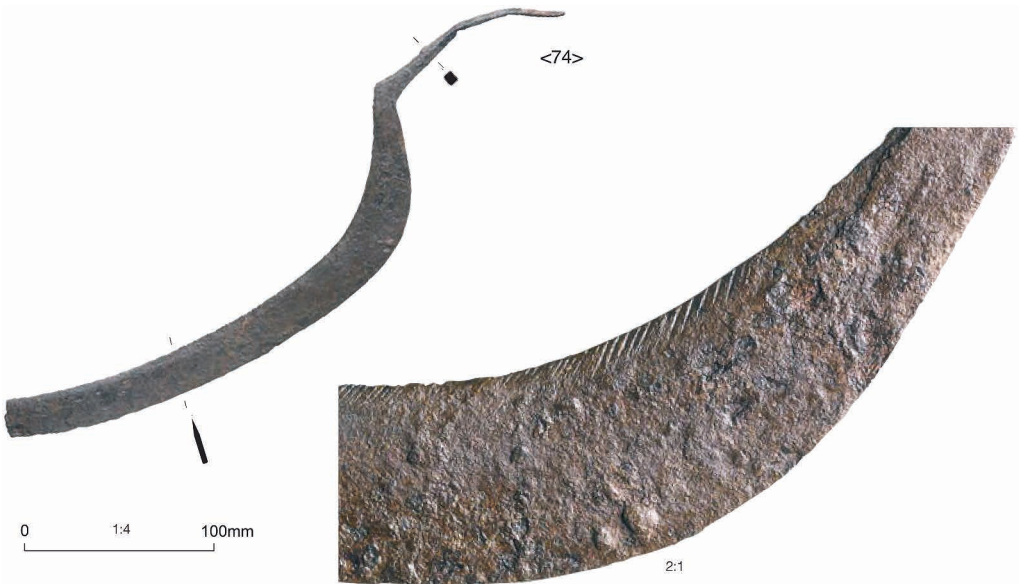


Fig 64 More London site, Southwark. Iron sickle <74> (scale 1:4, detail 2:1).

culverin of the sort used on the *Mary Rose*; stone shot was used in addition to the heavier iron shot because the former had a greater range (McKee 1982, 88). This shot was more regularly finished than the bombard shot and shows signs of final polishing. It is possible that the shot was fired at targets on the opposite side of the river from the Tower of London, either in the course of gunnery contests or as a method of testing weapons.

The site also provided evidence of smaller-scale Tudor arms. There are pieces from two iron daggers, one of which has a single-sided blade with a lozenge section thickening along the back to the point (fig 65 <505>), and a convex pommel disc made of two sheets, one with a perimeter flange, joined with a decorative octofoil-head rivet (fig 65 <67>). There is also a broad socketed 'broadhead' arrowhead with narrow barbs; a plug of wood survives from the shaft (fig 65 <294>). The fact that the arrowhead has a maker's mark suggests that it was a hunting arrow: only hunting arrowheads of this particular form seem to have been marked by the maker, the stamp perhaps solving a question of ownership within a hunting party.

The small number of sheaths and scabbard leathers found on the site is consistent with other late medieval assemblages where a sharp decrease in quantities of sheaths and scabbard leathers can be observed in late 14th and 15th century deposits (Cowgill *et al* 1987, viii–x). Only one sheath, three scabbard leathers and a hilt-grip were present in the very large leather assemblage from the site. Two of the three scabbards are simply decorated with longitudinal raised ridges outlined with tooled lines (with the ridges impressed from the interior side) (fig 66 <134>, <1228>); the other (<33>) is largely undecorated. The better-preserved leather sheath, possibly cut down at the blade end and closed with (missing) mounts or nails for reuse, is decorated both sides with panels containing chevrons, zigzags, shields, circles and flowers, giving a crudely heraldic effect (fig 66 <110>) (cf earlier (14th century) sheaths

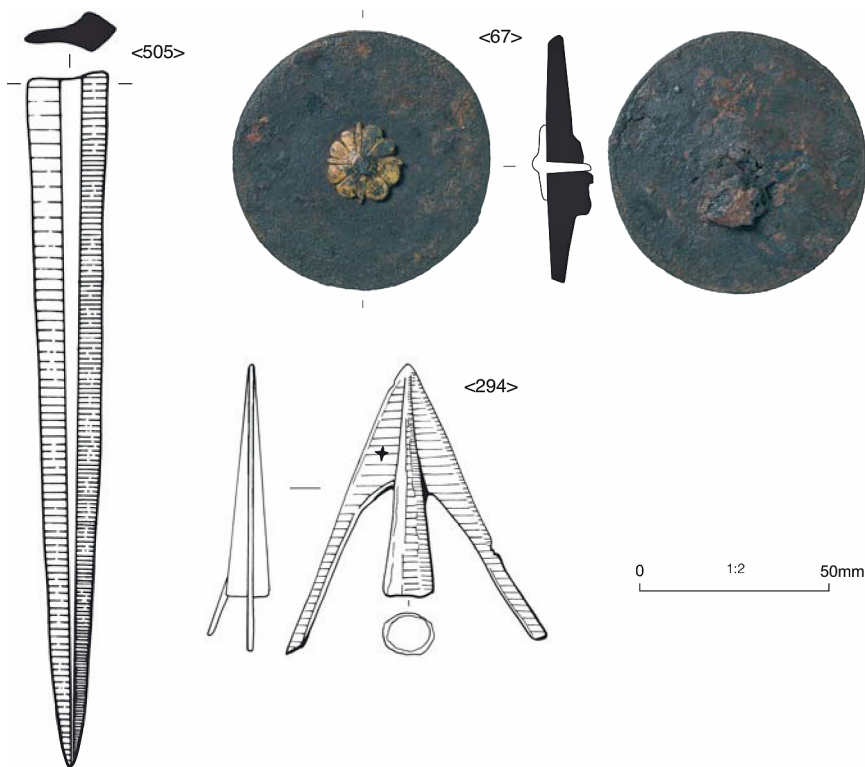


Fig 65 More London site, Southwark. Weapons: iron dagger blade <505>; pommel <67>; arrowhead <294> (scale 1:2).

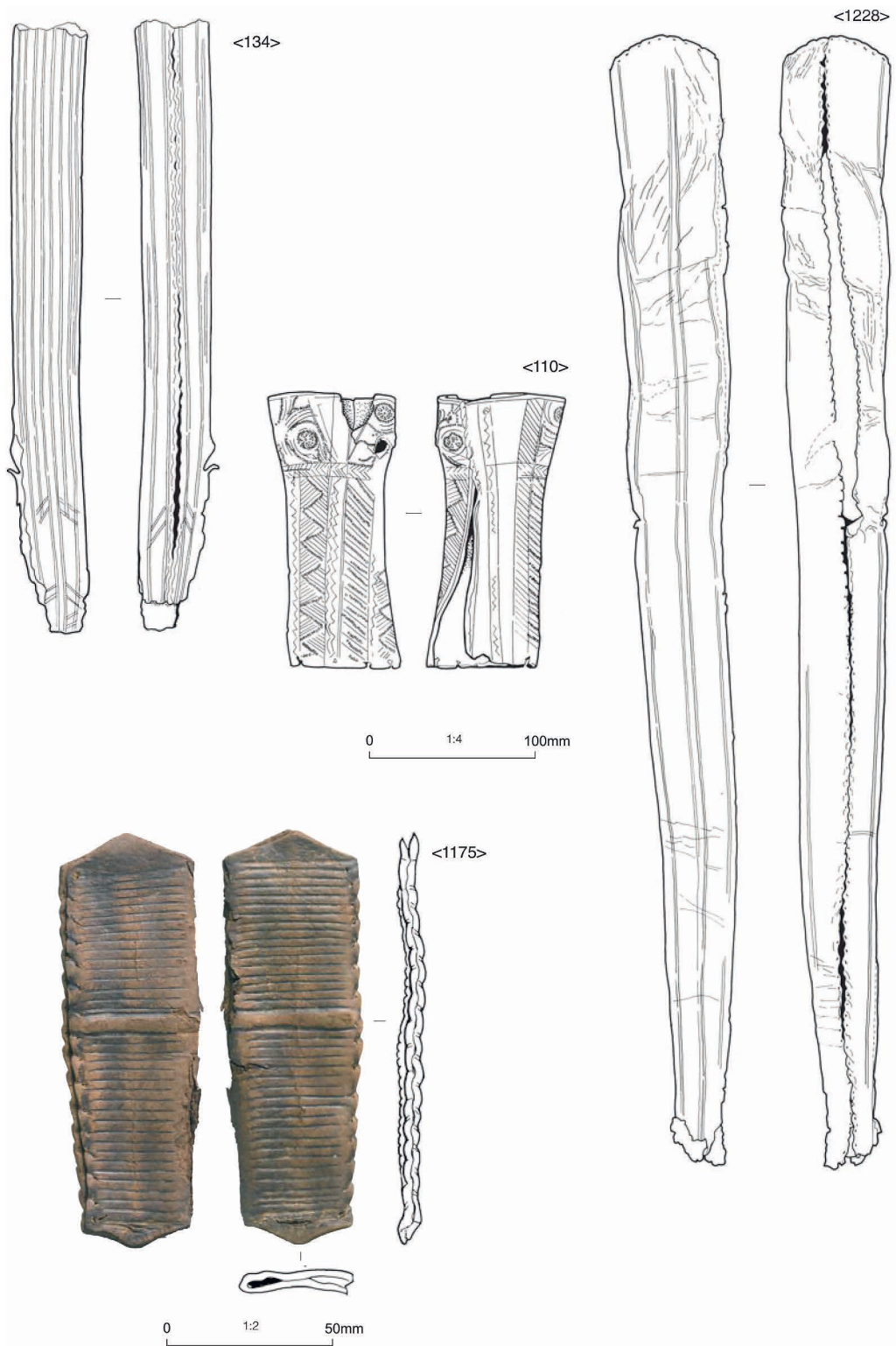


Fig 66 More London site, Southwark. Sword scabbard leathers <134>, <1228>; sheath <110> (scale 1:4); grip <1175> (scale 1:2).

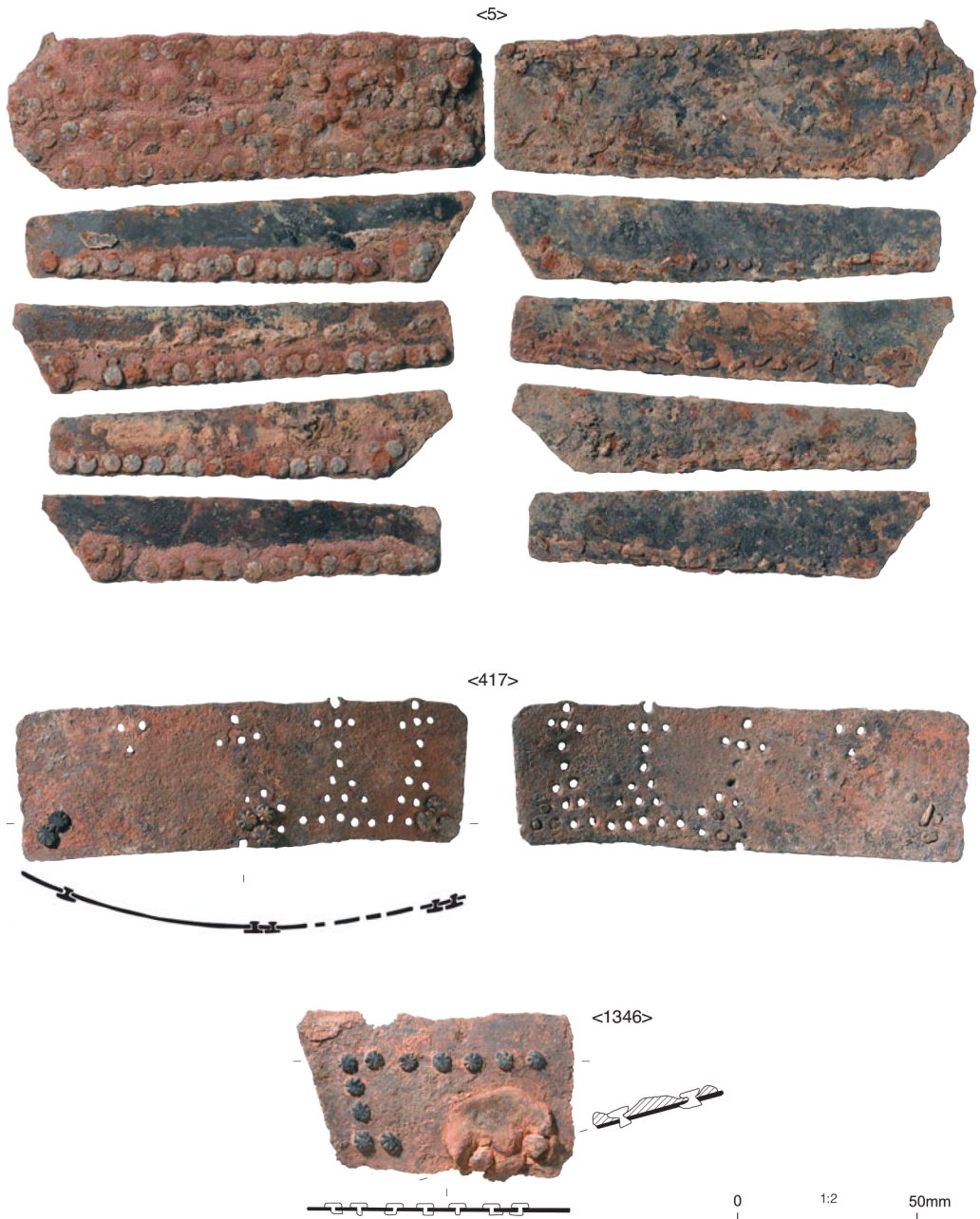


Fig 67 More London site, Southwark. (a) Brigandine plate armour: <5> with surviving fabric; plates with asterisk-headed rivets <417>, <1346> (scale 1:2).

illustrated in Cowgill *et al* 1987, 155, no 462). A leather sword- or dagger-grip with raised horizontal ridges is complete and a rare archaeological find (fig 66 <1175>).

A large number of iron armour plates were found on the site, including 21 pieces of high-quality plate from at least two armoured cloth doublets (brigandines). Thirteen plates, many mirror images of each other, retain their reddish plain-woven fabric covering as well



Fig 67 (*cont'd*) More London site, Southwark. (b) possible collar-piece <285>/<396>; possible shoulder-piece <68> (scale 1:2).

as tin-coated round rivets with eight-armed asterisk motifs in relief (five illustrated, fig 67 <5>). The plates are coated in shiny (now black) coating, probably lead/tin, on their outer surfaces to prevent rusting where it was impossible to clean, but despite their rich appearance are generally less neatly cut out and less intensively wrought than the others, probably because they were hidden under fabric. The other brigandine plates are more varied in shape, basically sub-triangular and sub-rectangular, with no exact repeats. Two also have

asterisk-headed rivets (fig 67 <417>, <1346>). Another two pieces roughly riveted together at an angle also retain fragments of woven reddish fabric and are decorated with lines of dag-like configurations made from asterisk-headed rivets. This item may be part of a low collar-piece, though no form other than a high one is known for this form of armour (fig 67 <285>, <396>). Two sub-arcs of circles with single holes may be shoulder-pieces (<68>, <69>), one illustrated (fig 67 <68>). Many plates are subtly differentiated in thickness to allow maximum ease in articulation: such highly wrought plates would have taken extensive working on the part of skilled smiths. The adaptation of two plates (which appear to have been cut down) may suggest that some kind of armour working, if only refurbishing, was going on in the area, although such secondary adaptation need not have been carried out by specialist armourers. Comparable excavated pieces come from the adjacent ABO92 site, as well as from Poole and Camber Castle (Egan 2005a, 194–7 nos 1086–96; Eaves 1994; Scott 2001, 205–8, fig 5.6, nos 163 and 167). Near-complete brigandines also survive above ground. Examples from Milan and Valetta have deep red fabric surviving (suggesting a ceremonial or parade function as much as a practical one). Fastolf Place could have been an appropriate milieu for wearing such decorative armour.

Several other pieces of armour were found including a possible breastplate fragment (the rolled edge suggests this was a piece of armour) (<1330>), a jack plate (a specialised rove in the form of a slightly domed square sheet with rounded corners and central hole) used with many others to cover a linen upper garment as a form of armour (<548>); four pieces of copper-alloy chain mail and five pieces of iron chain mail, including <238> and <225> (fig 68). There is also a firearm component, a sub-rectangular sheet cover for a powder priming pan with one squared and two rounded corners and a corner with a small projecting, rounded terminal (cf Egan 2005a, 200, 1106) (fig 68 <388>).

Finally, a number of items of horse equipment were recovered including several horseshoes, a probable spur buckle (<387>), a large saddle- or harness-buckle (<523>), a snaffle bit (fig 69 <392>) and parts of six iron spurs. One rowel-spur with ten spikes is near complete (fig 69 <237>). Part of a probable leather spur strap has mounts arranged in such a way that they would be visible on both sides of the instep (fig 69 <1138>).

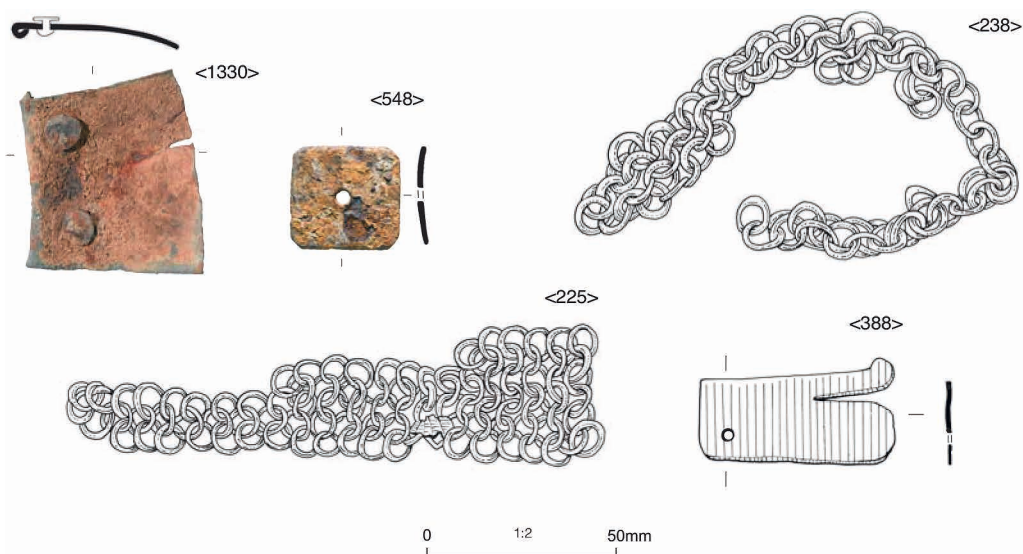


Fig 68 More London site, Southwark. Other armour: possible breastplate fragment <1330>; jack plate <548>; iron chain mail <238> and <225>; cover for a powder priming pan for a firearm <388> (scale 1:2).

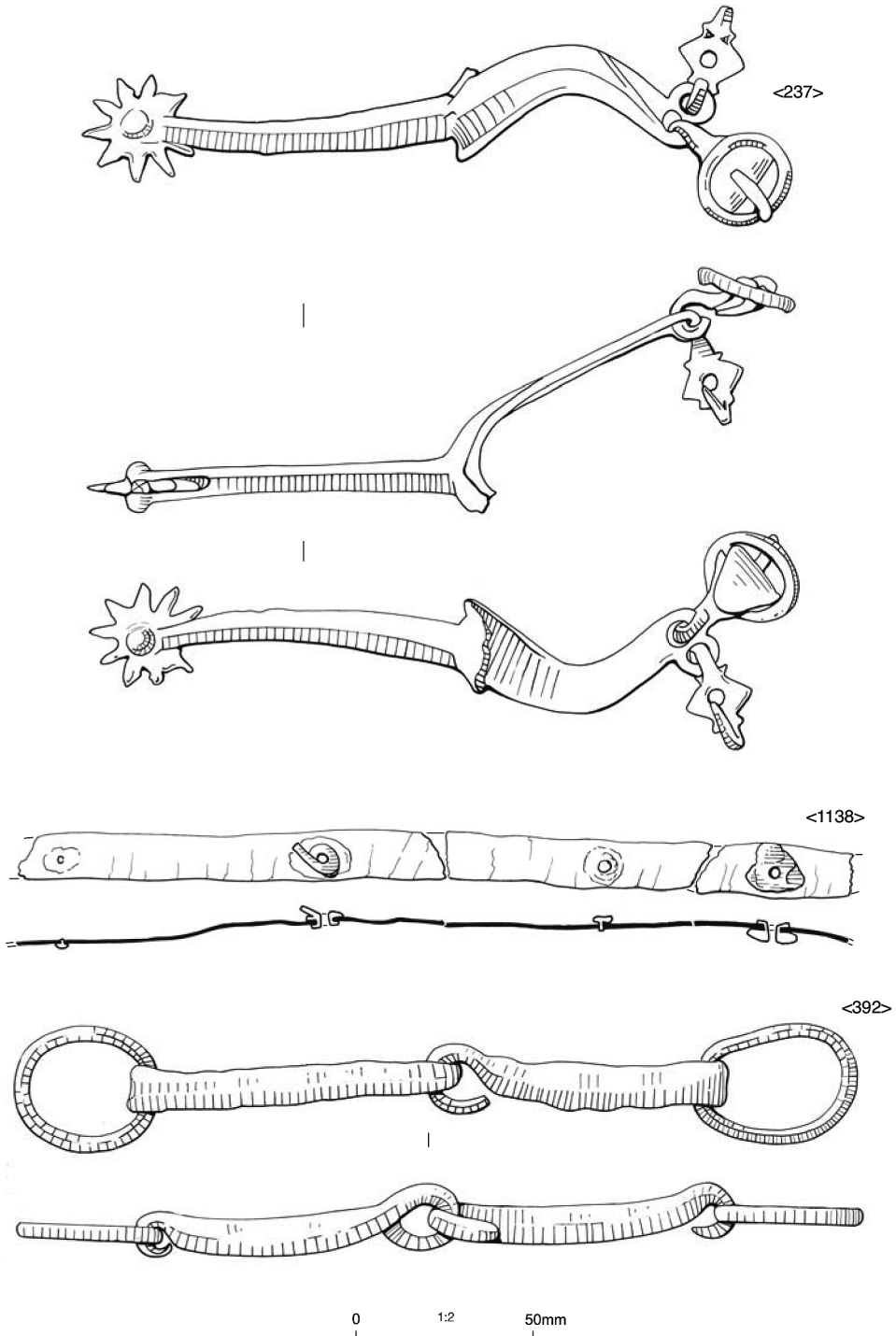


Fig 69 More London site, Southwark. Horse equipment: iron spur <237>; spur strap with corroded ?lead/tin mounts <1138>; and snaffle bit <392> (scale 1:2).

Endnote

The full finds catalogue is available on the Archaeology Data Service website:
<https://doi.org/10.5284/1000221>

Select *Surrey Archaeological Collections* volume 103 and the file is listed as supplementary material under the title of the article.

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The stratigraphic content of the present article is by Dave Saxby, with major contributions by the late Geoff Egan on the non-leather artefacts and Beth Richardson on the footwear and other leather. Geoff's text was unfinished when he died in 2010; a shortened version was compiled for this report by Nick Holder.

Richard Bluer supervised part of the 1999 excavation and helped Dave Saxby with the post-excavation research and writing. A large number of other Museum of London archaeologists examined material and contributed to this article: Liz Barham and Christie Pohl (conservation), Philippa Bradley (prehistoric flint), Damian Goodburn (woodwork), Kieron Heard (clay tobacco pipes), Louise Rayner (prehistoric pottery), Kevin Rielly (animal remains), Kate Roberts (plant remains), Mark Samuel (stone shot), Terence Smith and Ian Betts (ceramic building material), Ian Tyers (tree-ring analysis), Lucy Whittingham and Roy Stephenson (medieval and later pottery). Their respective reports can be consulted in the Museum of London's London Archaeological Archive, under the site code TYT98. Nick Holder edited the authors' texts into the present article. The finds illustrations were drawn by Hannah Faux, Sandra Rowntree and Faith Vardy, the plans were compiled by Juan Jose Fuldain and Carlos Lemos, and the finds photographs were taken by Andy Chopping and Maggie Cox.

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Finally, the authors and contributors would like to pay tribute to the late Geoff Egan. Geoff died unexpectedly in December 2010 after four decades of work on London's archaeological finds. His interests ranged from the international cloth trade to children's toys; in a typically witty and modest way he called his 2005 book *Toys, trifles and trinkets* (co-written with Hazel Forsyth). We hope that the present publication of this nationally important assemblage of early Tudor objects is a fitting tribute to Geoff's work.

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