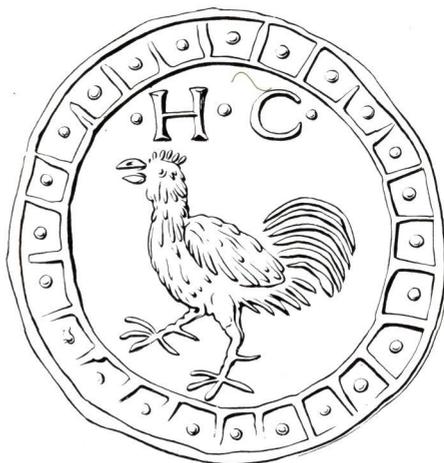


Transactions
Volume 37 1986



London & Middlesex Archaeological Society



THE JOURNAL OF THE
CANTON SOCIETY

5

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Editor's Notes:

The Editor will be glad to consider papers for publication. New contributors should obtain a copy of 'Notes for Contributors' from the Editor before submitting a paper.

Front cover: Excavated medallions from Fulham Stoneware bellarmines (drawn by C. M. Green)

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Transactions of the
London & Middlesex
Archaeological Society
incorporating the
Middlesex Local History Council

Volume 37

1986

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London & Middlesex Archaeological Society

incorporating Middlesex Local History Council

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London & Middlesex Archaeological Society

incorporating Middlesex Local History Council

130th ANNUAL REPORT OF COUNCIL FOR THE YEAR ENDING
30 SEPTEMBER 1985

Meetings

At the Annual General Meeting on 27 February 1985 Dr John Kent, Keeper of the Department of Coins and Medals at the British Museum, was elected President in succession to Professor John Wilkes, who gave his retiring Presidential Address on the subject of *Trajan's Column and Forum*. Other lectures in the 1984–85 season were on *Sir Joseph Bazalgette (1819–1891)* by Dr Denis Smith, 28 October 1984, *Crosswall—a successful partnership between archaeologists and developers* by John Maloney, 23 November, *Prehistoric Landscapes in the Lower Thames Valley* by Dr Stuart Needham, 14 December, *The Great Wen—cleaning up London in the 18th century* (the George Eades Memorial Lecture) by Dr Roy Porter, 25 January 1985, *Roman Colchester* by Philip Crummy, 27 March, *London Docklands and their Development* by Chris Ellmers, 24 April, and *Propping up the Past* by Brian Davison, 5 June. The first lecture of the autumn season was on *The History of the Royal Botanic Gardens, Kew* by Gail Bromley, 25 September. The AGM and following lecture meetings were held on Wednesdays rather than Fridays as before, and attendances at meetings were somewhat better.

Two autumn visits in 1984 were arranged by Beatrice Shearer, to *Kensington*, 20 October, and *Churches in the Bishopsgate area*, 24 November. The organisation of visits on a regular basis was taken over by Mr T. W. M. Anderson, who arranged visits to *Waltham Abbey*, 29 September 1984, *London Docklands*, 23 February 1985, the *British Museum Roman Gallery*, 30 March, *Churches on the Bucks/Oxfordshire border*, 20 April, and *Canterbury*, 15 June. Low attendances on visits caused some concern.

At the Stow Service at St Andrews Undercroft on 17 April Peter Jackson, Chairman of the London Topographical Society, spoke on *The London Stow Never Knew*; Dr Richard Luckett, Pepys Librarian, Magdalene College, Cambridge, addressed the Pepys Service at St Olave, Hart Street on 4 June on *Pepys and Children*.

Publications

Three major publications were issued during the year: volume 34 of *Transactions*, Special Paper No. 6—*A Dated Type-Series of London Medieval Pottery Part 2: London-type ware* by J. E. Pearce, A. G. Vince and M. A. Jenner, and, with the Surrey Archeological Society, Joint Publication No. 2—*Excavators in Staines 1975–76* by K. R. Crouch and S. A. Shanks.

Tony Wilmott, elected Hon. Assistant Editor (*Transactions*), began to take over full responsibility for the editing of *Transactions*, following Hugh Chapman's decision to stand down as Hon. Editor at the next AGM. Andrew Doidge produced three further issues of the *Newsletter*.

Council

Keith Bailey took over as Chairman of Council from Nicholas Fuentes, who continued as Deputy Chairman. John Clark announced that he wished to retire as Hon. Secretary, and Jean Macdonald was co-opted as Hon. Assistant Secretary. The effects of the proposed abolition of the GLC continued to concern Council; following considerable correspondence involving Council and the Archaeological Research Committee, it began to appear that reasonable provision might after all be made for the continuance of most of those services of particular interest to the Society.

Following the signing of a formal agreement with the Board of Governors of the Museum of London for the deposit of books from the Society's Library with the Museum and their integration in the Museum Library, there was discussion as to the most equitable means of disposing of books considered surplus to requirements, and arrangements were made to hold a book sale.

Archaeological Research Committee

The Committee met five times during the year, much of its time being spent on discussion of the problems to be faced by the London Archaeological Service following abolition of the GLC in 1986. Lengthy correspondence between the Chairman of the Committee and officers of the Historic Buildings and Monuments Commission sought, with little success, clarification of the arrangements for the future funding of the Service.

As usual, the Committee arranged the Annual Conference of London Archaeologists (the 23rd) at which the afternoon's theme, *The Archaeology of Death*, was addressed by Ralph Merrifield, Theya Molleson and Rob Poulton, following a morning devoted to reports on recent work in the London area. A sub-committee was set up to organise a weekend conference during 1986, an overall survey of the archaeology of the London region, to focus on the Society's first Special Paper, *The Archaeology of the London Area: current knowledge and problems*, in 1976.

Historic Buildings and Conservation Committee

The Committee received with regret the resignation of Josephine Birchenough, whose sterling work as Secretary since 1979 was much appreciated; happily she will continue to serve on the Committee. A new Secretary was enlisted in the person of Helen Smith. Following a number of changes in membership during the year, the Committee now consist of 12 members, with 8 corresponding members.

The committee continued, in its role as agent for the Council for British Archaeology, to consider listed building applications; in addition a number of cases were brought forward by members of the Committee or by local societies. Of 195 cases considered during the year, the principle sources were (with 1983–84 figures in brackets):

Camden	28	(21)
Merton	25	(19)
Richmond	20	(18)
Westminster	19	(16)
LDDC	16	(—)
Lambeth	15	(6)
City	12	(5)
Islington	7	(3)

From 8 boroughs no cases were reported. Comments were made on 26 cases, ranging from suggested improvements to opposing demolition.

Local History Committee

The theme of the 19th Local History Conference was transport, the principal speaker being Michael Robbins on *The Great Centre of Communication: transport for London's local historians*. Mr Robbins made his wide-ranging bibliography available for later publication. On more specific themes, Douglas Cluett talked on Croydon Airport, John Clark on medieval transport and Chris Ellmers on the Port of London. The theme was also taken up in several of the local society displays.

During the year the Committee discussed its relationship with the Affiliated Societies, and the need for new members if the Committee was not to be reduced merely to the role of organising the annual conference. Investigation of other county local history bodies in the south-east showed that most have both individual and society membership and arrange discussion meetings for representatives. It was also felt that the old Middlesex Bibliography should be revived, extended to cover the whole London area; such a project would require more active members on the Committee. It was proposed to put these ideas to a meeting of Affiliated Society representatives early in 1986; meanwhile a drive was undertaken to recruit other local societies into Affiliation.

Youth Section

Karen Eyre continued to organise activities for the Youth Section, which in October visited Cogges Farm Museum, Witney, as guests of the Oxfordshire Young Archaeologists. A second joint meeting was held in January, on the theme of *Anglo-Saxon and Viking London*; a handling session and Anglo-Saxon riddle quiz in the morning was followed by a visit to the exhibition *Anglo-Saxon Art 966–1066* at the British Museum.

A meeting in March on *Toys and Models* was followed in June by a meeting for all the family, including a visit to John Keats' house in Hampstead. The 'Summer Special' in August was attended by 22 children. Activities over three days were balanced between archaeology and history, and included a day-trip to Bath and research on Cheapside using maps, old directories and photographs. Three issues of the *Newsletter* appeared. Thanks are as usual due to all those who contributed articles for it and those who helped with the other activities which make the Section, with a current membership of 83, so successful.

Membership and Finance

As foreseen in our last Report, the formal removal from Membership of those in considerable arrears with their subscriptions has severely affected Membership figures, which now more realistically reflect the numbers of subscribing Members.

Membership at 30 September 1985 (with 1984 figures in brackets) was 886 (932), made up as follows:

Ordinary Members	669	(706)
Life Members	46	(47)
Student Members	25	(31)
Honorary Members	5	(6)
Institutional Members	104	(103)
Affiliated Societies	37	(39)

The cost of the full programme of publications, meeting and conferences was met within the Society's subscription and other income. Involvement in the instigation and financing of excavations largely ended in the year, and in consequence the income from investments dropped substantially. However, income from all sources continues to cover the Society's various activities and no increase in subscriptions is envisaged.

It was with sorrow that we learnt, while this Report was being prepared, of the death of Mr R. R. P. Smith; Mr Smith had served as one of the Society's Honorary Auditors since 1977, freely giving of his time to assist in the production of the Annual Accounts.

By direction of the Council
KEITH BAILEY,
Chairman of Council

JOHN CLARK,
Hon. Secretary

LONDON & MIDDLESEX ARCHAEOLOGICAL SOCIETY
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 30TH SEPTEMBER 1985

	1983/84	1984/85	1983/84	1984/85
Expenditure	£	£	£	£
Publications:				
Transactions: Volume 33	10,087	—	5,063	4,725
Volume 34	4,000	5,072	Income Tax reclaimed on Deeds of Covenant	73
Volume 35	—	3,200	3,374	2,317
Index	500	—	995	1,090
Special Paper No. 6	—	4,556	Grants for Publication:	
Newsletter	627	715	Museum of London	3,514
	<u>15,214</u>	<u>13,543</u>	Dept. of the Environment	5,801
Lectures and Visits	21	167	Miscellaneous	<u>239</u>
Parish Boundary Marks	50	—	Donations	—
Archaeological Research Committee	—	(59)		
Local History Committee	2	13		
Youth Section	103	61		
Historic Buildings Committee	85	39		
Commemorative Services	—	2		
Library	25	2,230		
Postage, Printing & Stationery	2,178	300		
Secretarial	436	118		
Subscriptions and Donations	100	62		
Sundry Expenses	132	1,000		
Contingency Fund	1,000	17,476		
TOTAL EXPENSES	19,346	283	£19,730	TOTAL INCOME
Excess of Income over Expenditure	<u>384</u>	<u>£17,759</u>		<u>£17,759</u>
	<u>£19,730</u>			

Note. No value has been attributed to the Society's library, stock of publications or sundry equipment. Debtors includes £872 for shelving for the Society's library collection to be retained by the Museum which will be offset against the future proceeds of the disposal of the library.

We have examined the above Balance Sheet and attached Income and Expenditure Accounts with the books and vouchers of the Society as submitted by the Honorary Treasurer. We have verified the Bank Balances and Securities with the Society's Bankers. In our opinion and to the best of our knowledge, these Accounts together with the Notes, are correct and in accordance with the books and records of the Society.

(Signed) O. T. Allen, FCA
 Honorary Auditor

A LATE BRONZE AGE BARBED SPEARHEAD AND ASSOCIATED FINDS FROM PARK WOOD, RUISLIP, MIDDLESEX

JONATHAN COTTON

(with contributions from COLIN BOWLT, ANNE MILES and JACQUI
WATSON)

SUMMARY

A late Bronze Age copper alloy barbed spearhead found by metal detector in Park Wood, Ruislip and dated to the 9th–8th centuries BC is described. Subsequent excavation around its findspot by the Museum of London's Department of Greater London Archaeology (DGLA) revealed that it had probably originally lain within the fill of a shallow sub-oval scoop disturbed by a large tree-hole, along with several small abraded sherds of flint-tempered pottery fragments of burnt flint and flecks of charcoal and daub. Concluding discussion places the find in its local/regional context. The spearhead itself is currently in the possession of the finder; all other finds and site records are held by the DGLA (West London).

INTRODUCTION

A Late Bronze Age copper alloy spearhead was found in March 1984 by Michael Burdett whilst using a metal detector in Park Wood, Ruislip, in the north of the west London Borough of Hillingdon. Realising the potential significance of his discovery, the finder reported it to Dr Stuart Needham at the British Museum who, in turn, contacted the writer, in whose area of responsibility the find had been made. Upon visiting the findspot with the finder it was quickly apparent that his activities had attracted the attentions of other searchers, for a number of small, unfilled holes lay in the immediate vicinity. In an attempt, therefore, to furnish the spearhead with a meaningful context before further deprivations could take place, a two-day excavation was undertaken round the findspot in April 1984.

The arrangement of the present note reflects this sequence of events. Thus, fol-

lowing a consideration of the historical and topographical background to the area of the findspot, a section is devoted to the spearhead itself and another to the subsequent excavation and its finds. A further section attempts to draw these various strands together to place the find in its local/regional context. Finally, two Appendices provide evidence as to the wood used to haft the spearhead and information relating to other Late Bronze Age finds from the upper Colne valley.

HISTORICAL AND TOPOGRAPHICAL BACKGROUND

Park Wood lies within the parish of Ruislip on the northern side of Ruislip village in the north-west corner of the old county of Middlesex, and is centred at TQ 094 889 (Fig. 1). The River Colne, which runs to the north and west, marks the historic boundary between Middlesex and the neighbouring counties of Buck-

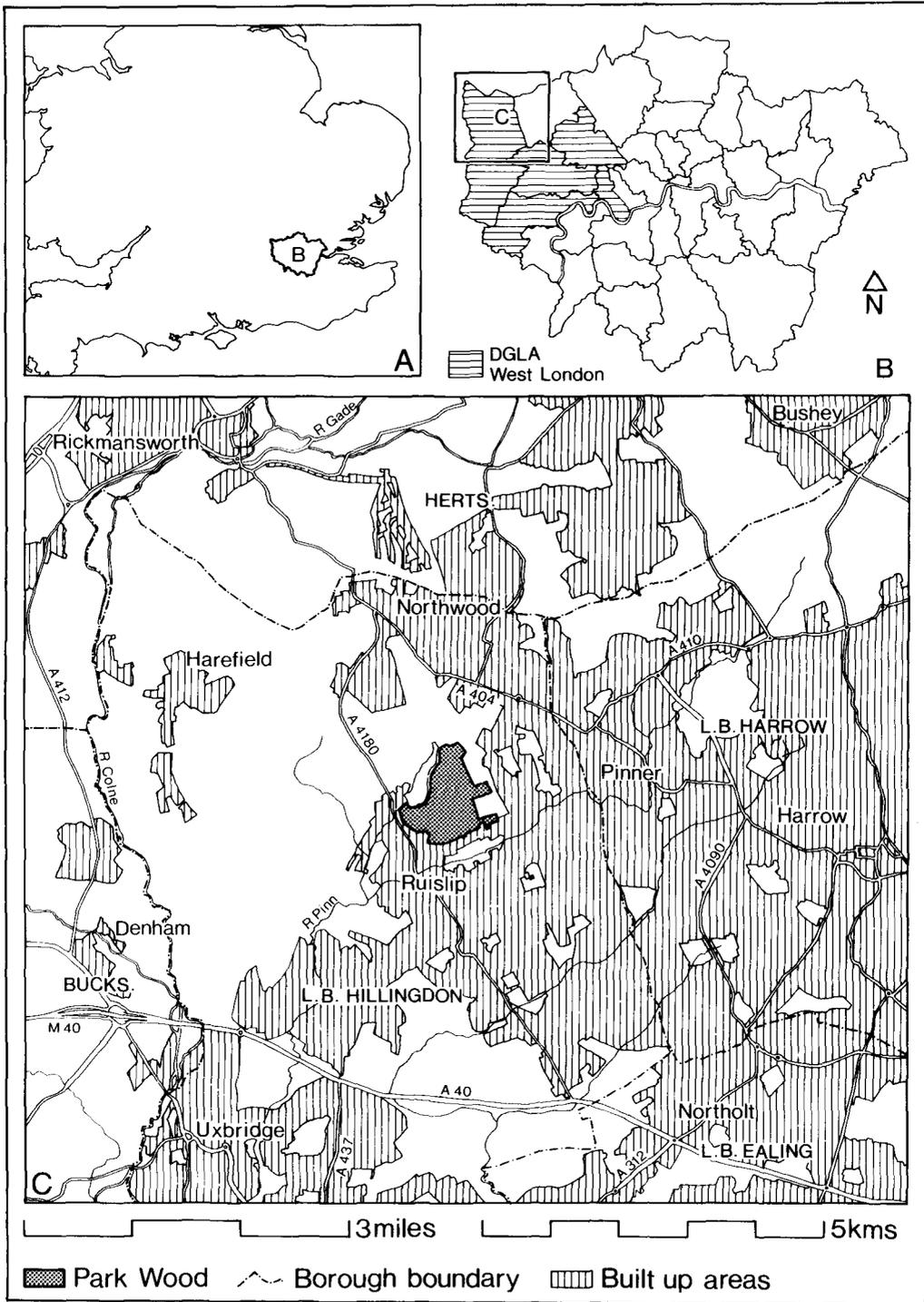


Fig. 1 Park Wood: Site location

inghamshire (to the west) and Hertfordshire (to the north).

The wood itself, now some 250 acres in extent and composed principally of coppiced hornbeam (*Carpinus betulus*) and standard and sessile oaks (*Quercus robur*; *Q. petraea*) (Bowl & Bowl 1982, 5; 1984, 73), has an ancient pedigree. Its southern portion, bounded on the north by a substantial curving bank-and-ditch some 30–35 feet in overall width (Braun 1933, 102ff & Fig. 1; 1936, 375–6 & Fig. 3; RCHM 1937, 108; Bowl & Bowl 1984, 73), probably formed part of the ‘park for wild beasts’ (*parcus ferarum*) which is mentioned in the Domesday Book (Morris 1975); the northern area beyond the park, known as the Outwood in the fif-

teenth century (Morris 1980) and within which the spearhead published here was discovered, appears to have been enclosed within slighter earthworks (20–25 feet in width) later in the Medieval period (Bowl & Bowl 1984, 73). D. F. A. Kiddle (1974, 199) suggests that this may have occurred ‘before 1300’.

Although the boundaries of the wood have undergone a number of changes—particularly in more recent times (Bowl & Bowl 1982, Maps 1–6)—the documentary evidence makes it clear that it has been managed since at least the 11th century to provide game for hunting, pannage for pigs (Ruislip was assessed for 1500 at Domesday (Morris 1975)), timber for building and underwood for charcoal



Plate 1 Park Wood: Site of the findspot (marked by ranging rod), looking north

and fuel (Kiddle 1974, 230). Together with the other surviving local woods, Bayhurst Wood, Copse Wood and Mad Bess Wood, Park Wood represents a relict fragment of once more extensive tracts of ancient Middlesex woodland (the Great North Wood of Norman times), and is now designated as a Site of Special Scientific Interest (S.S.S.I.).

In topographical terms, Park Wood is situated on the southern slope of Haste Hill (94m OD), one of a series of high, round-topped clay hills overlooking the southern bank of the river Colne, which here runs east to west past Oxhey and Rickmansworth, before turning south to join the Thames at Staines, 22km distant. The River Pinn, a tributary of the Colne, skirts the southern flank of Haste Hill; to the west lies a further small feeder stream which was dammed to create a compensating reservoir (now the Ruislip

Lido) for the Grand Junction Canal following the 1804 Enclosure award (VCH Middx IV, 127–8).

The geology is London Clay over Reading Beds and Upper Chalk, the main expanse of the latter formation surfacing north of the Colne to form the much-dissected southward-facing dip-slope of the Chilterns. The London Clay is in places overlain by isolated patches of High Level terrace gravels (formerly mapped as 'Plateau Gravels' or 'Glacial Gravels'); one of these patches covers the summit of Haste Hill itself, and extends south-westwards into Park Wood. A series of small springs issue from the gravel at this point, making the higher areas of the wood somewhat damp, particularly in the winter months. The spearhead was recovered from a position just down-slope from this gravel deposit on the London Clay at *c.* 70m OD (Plate 1). Its exact

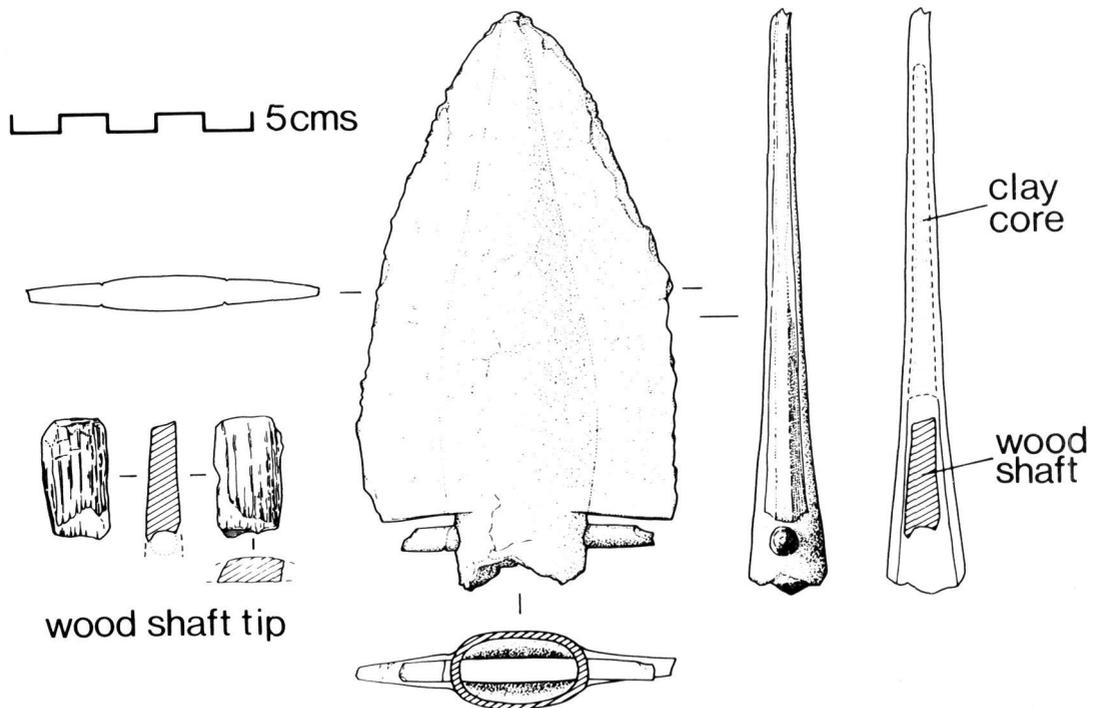


Fig. 2 Park Wood: The spearhead and wooden shaft tip

findspot will not, however, be disclosed here.

Little in the way of Bronze Age material has been recovered from Park Wood or its immediate environs hitherto. However, a probably Early Bronze Age plano-convex flint knife from the centre of the park enclosure is mentioned in passing by Braun (1933, 102), while the blade of a small Late Bronze Age socketed axe was purportedly recovered from 'Ruislip Common' by a metal detector user in 1981 (inf Dr S. Greep; Appendix II). Other relevant discoveries within the upper Colne valley are discussed below (see also Appendix II).

THE SPEARHEAD

The spearhead was located at a depth of about 15" (0.38m) below the modern ground surface, in an area where the finder had previously discovered

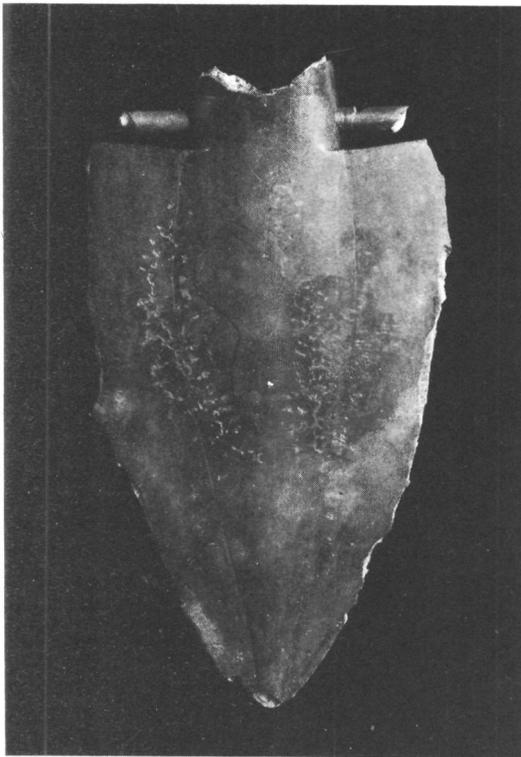


Plate 2 Park Wood: The spearhead

several Georgian coins and an undated (but probably not prehistoric) lead roundel. It was apparently lying in a horizontal position and aligned north-south (inf M. Burdett).

Following conservation in the Museum of London, the spearhead, 111.60g in weight, now measures 122mm in overall length and 66mm at its widest point, and has a short, squat blade with barbs projecting nearly at right angles from the socket (Fig. 2; Plate 2). However, it is clear from the damage it has sustained at the tip, along all edges and at the base of the socket that it was originally somewhat longer and wider (c. 135/140 × 75/80mm). (The preconservation drawing made by the British Museum shows that the implement then measured c. 123 × 74mm (inf Dr S. Needham).) An incomplete extended copper alloy peg of circular section, 5.83g in weight, secured the spearhead to its shaft. This peg now measures 52mm in length (a conjoining fragment 9mm long was recovered during the excavation (see below)), but may originally have been some 25/30mm longer. When complete, it would appear to have tapered from 5mm in diameter at its mid-point, to some 4mm in diameter at either end.

Conservation has also confirmed the presence of a clay core within the oval socket of the spearhead, and revealed the tip of the wooden shaft. Examination of the shaft by scanning electron microscopy has shown it to be of mature, rather than coppiced, ash (*Fraxinus* sp.) (inf J. Watson; Appendix I). The surviving portion of shaft measures 25mm in length, 13mm in width, and tapers from 7mm to 5mm in thickness (Fig. 2). It is clearly plano-convex in section, and appears to represent the tip of a longitudinally split timber. The end has been trimmed with a transverse (?axe) blow, while the perforation through which the copper alloy peg was inserted is also visible.

DISCUSSION

With its distinctive broad blade and pronounced barbs, the spearhead belongs to the Broadward complex, which can be dated to the Carp's Tongue/Ewart Park phase of the Late Bronze Age, i.e. 900–700 BC (Burgess *et al* 1972). The Park Wood piece is an example of the short variant Type III, and apart from a slightly atypical spearhead from Pendoylan, Glamorgan (Burgess *et al* 1972, 246; inf Dr S. Needham) is the first of this type to have been recovered as a single find. Type III spearheads are not common, but are known from three hoards—the eponymous Broadward (Shropshire) hoard itself, with eighteen complete and fragmentary examples (Burgess *et al* 1972, 211–19, 241–2 & Figs 4–8), the Thames Street hoard found 'near the Tower' in the City of London, with a single example (Burgess *et al* 1972, 239, & Fig. 24; Sparrow Simpson Manuscript Notebook, British Museum), and the newly-discovered hoard from Bramber, West Sussex, with nine complete and

PARK WOOD, RUISLIP 1984

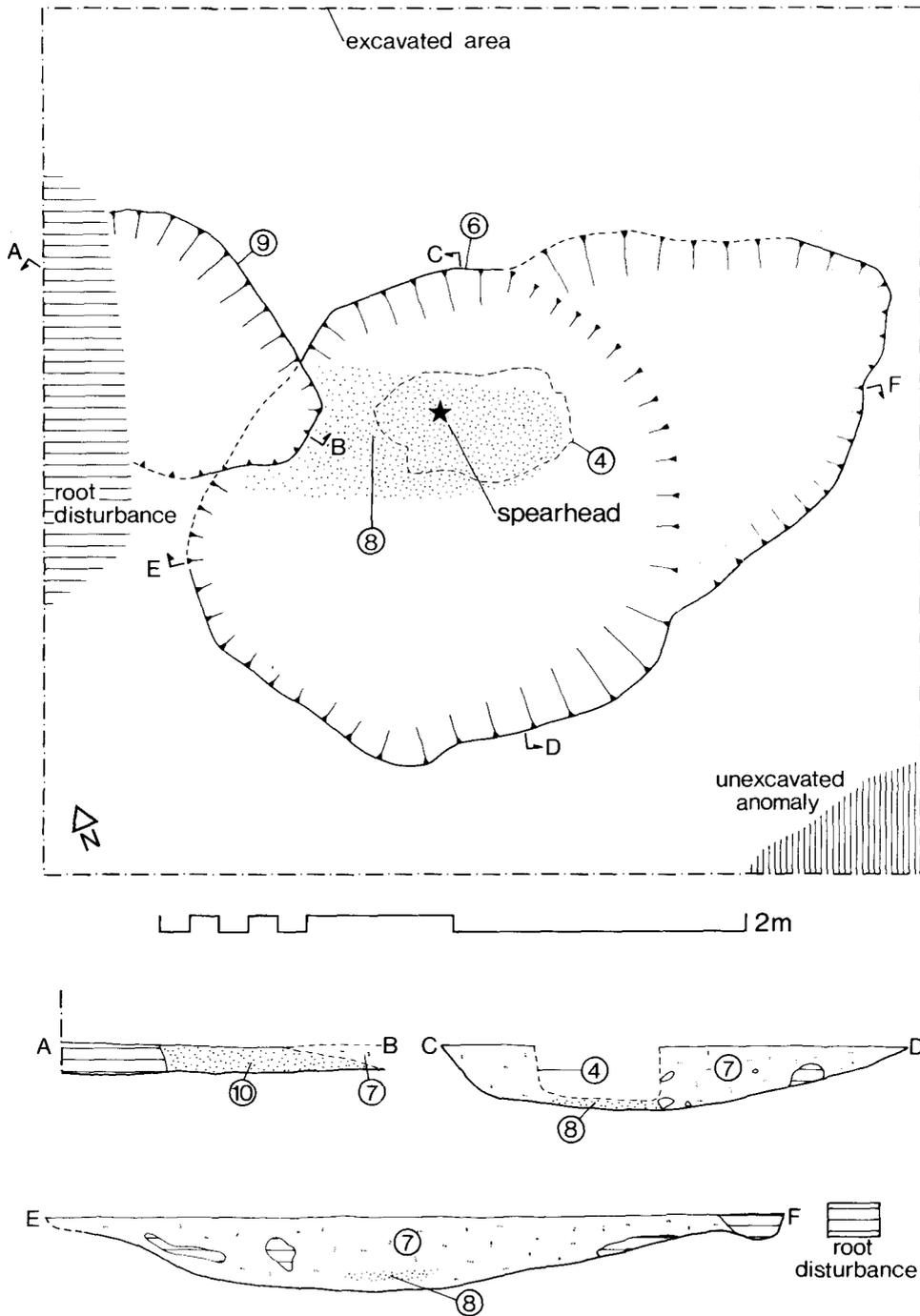


Fig. 3 Park Wood: Plan of the excavated area and section drawings

fragmentary examples (Aldsworth, Kelly & Needham 1981).

The Broadward complex as a whole has a generally southern British distribution, with a main axis which runs eastward from the Welsh Marches, through Berkshire and Hampshire to the lower Thames valley (Burgess *et al* 1972, 235). Its eastern limit is conveniently marked by the large hoard dredged from the Thames off Broadness, Kent (Smith 1909–11).

The complex is characterised by the deposition, often in watery contexts such as lakes and rivers, of weapon hoards made up principally of spearheads and ferrules. Barbed spearheads are its most distinctive component, and seem to represent a peculiarly British development from Wilburton precursors. With the exception of fragmentary examples in hoards from Alderney and the Côtes-du-Nord (O'Connor 1980, 182), none have been found away from the British mainland. The ungainly form of these barbed spearheads, together with their frequent association with riverine or 'wet' contexts, has led to suggestions that they were used mainly for ceremonial or 'ritual' purposes

(e.g. Burgess *et al* 1972, 226–8; Burgess 1974, 210–11).

In addition to the Thames Street hoard, originally perhaps deposited in the Thames itself or, more likely in view of Nunn's work on the development of the main channel in central London (Nunn 1983, Fig. 8D), in a tributary stream (see Bentley 1984), other barbed spearheads from the London area include two of the long Type II variety from the Thames at Chiswick and Wandsworth (Burgess *et al* 1972, 245), and a fragmentary example of a Type IV spearhead from the Watford hoard (Coombs 1974; 1979, 197–233), a bare 6km to the north of Park Wood. This latter hoard was apparently deposited in a marshy area close to the River Gade, a tributary of the Colne (see below and Appendix II). Situated high up on the London Clay hills away from the river, however, the Park Wood spearhead appears to fall outside this pattern of 'wet' contexts.

The choice of ash for the spearshaft meanwhile is entirely consistent with ancient practice, for of 20 Bronze Age spearheads from 'the Thames' with remains of wooden shafts in their sockets, 15 were



Plate 3 Park Wood: General view of the excavated area, looking south-west

of ash (Coles, Heal & Orme 1978, 42). Ash is a resilient, close-grained wood, strong, tough and well able to withstand shocks and jolts. It is preferred above all other native timbers for the handles of hammers, axes, shovels and chisels (Edlin 1975, 72); while traditionally, it has also been used for cart shafts and cart-wheel rims, rakes and paddles (Edlin 1975, 72; Jenkins 1978). Finally, the ash's susceptibility to coppicing and pollarding (Rackham 1976, 34) makes it an ideal tree to manage (but see Appendix I). A few occur within the bounds of the modern Park Wood (Bowl & Bowl 1982, 15).

THE EXCAVATION

Following the discovery of the spearhead in early March, a trench 3m × 3m in extent was excavated round the findspot on the 17th–18th April 1984 (Fig. 3; Plate 3). The aim of this work was to recover evidence as to the context within which the spearhead had originally lain.

DESCRIPTION

The undisturbed stiff orange-brown London Clay <3> was found to lie at a depth of only 0.17–0.18m from the modern ground surface, below horizontal layers of leaf-mould 30mm–40mm thick <1>, and a leached and charcoal flecked grey clay-loam 0.10m–0.13m thick <2>. This latter layer contained a few small rounded pebbles and two pieces of struck flint, and was heavily disturbed by root activity.

The excavated contexts may be summarised in tabular form as follows:

Context No	Context Type	Dimensions	Finds
<1>	Horizontal layer	30mm–40mm thick	—
<2>	Horizontal layer	0.10m–0.13m thick	Charcoal, struck flint
<3>	Natural clay	—	—
<4>	Cut feature	0.67m × 0.37m × 0.40m	—
<5>	Fill of cut <4>	—	Cu alloy peg frag, struck flint
<6>	Cut feature	2.60m × 1.62m × 0.26m	—
<7>	Fill of cut <6>	—	Charcoal, burnt flint, stone
<8>	Layer under <7>	40mm–50mm thick	Charcoal flecks, pottery, daub, ? spearhead
<9>	Cut feature	∅0.95m × 0.80m × 90mm	—
<10>	Fill of cut <9>	—	Charcoal flecks, burnt flint

Underlying layers <1> and <2>, and cutting into the natural clay <3>, was a large, irregularly oval hollow, designated context <6>. This measured c. 2.60m × 1.62m × 0.26m deep and was filled with a mottled grey-brown sandy clay <7>, containing frequent fragments of wood charcoal and burnt flint, together with small rounded pebbles and a number of pieces of unburnt but shattered sarsen stone (inf F. Berry) and flint. Fill <7> was altogether smoother to the trowel than the natural clay. The hole dug by the finder to recover the spearhead was clearly visible cutting through layers <1> and <2> and fill <7>, and was designated context <4> (Plate 4). Its fill, context <5>, comprised a jumbled mixture of layers <1> and <2> and the natural clay <3>, and contained a single struck flint and fragment of the spearhead's copper alloy peg. The base of this hole lay 0.22m below the surface of the London Clay, at a depth of 0.40m from the ground surface, and had clearly broached a further lens of fill lying within the northern part of the irregular hollow <6> beneath fill <7>.

This lens, designated context <8>, comprised a much drier, more compact grey, charcoal flecked sandy loam, and contained several small flecks of daub, fragments of ?crushed burnt flint and three small abraded sherds of flint-tempered pottery. (The depth given by the finder for the recovery of the spearhead strongly suggests that it also lay within this lens.) Although the finder's hole had removed much of it, enough remained to show that <8> probably originated from a further, shallow sub-oval scoop, designated <9> and situated up-slope to the north-west, which had apparently been disturbed by the irregular hollow <6> (Plate 5).



Plate 4 Park Wood: Re-excavation of the findspot (context <4>)

Measuring at least 0.95m × 0.80m × 90mm deep, and cut into the natural clay, it was impossible to determine the full extent of this feature because of root disturbance. Its fill, however, designated context <10>, was visually virtually indistinguishable from <8>, and comprised a smooth, dry, slightly mottled grey loam containing charcoal flecks and fragments of ?crushed burnt flint. Finally, a further anomaly was recorded south of context <6>, in the south-east corner of the trench (Fig. 3), but was not excavated.

DISCUSSION

Root disturbance notwithstanding, the stratigraphy suggests that the sub-oval scoop <9> was the earliest feature within the small excavated area. Having silted up, it was apparently disturbed by hollow <6>, as a result of which the upper part of its fill (context <8>) was introduced into the base of the new feature. Lens <8> was then sealed by the charcoal-rich fill <7>, above which layers

<2> and <1> subsequently developed. The hole <4> dug by the finder to retrieve the spearhead represents the latest phase of activity.

Viewed in this way, shallow scoop <9> appears—whatever the reason for its digging—to have been backfilled with a deposit containing flecks of charcoal and daub, fragments of ?crushed burnt flint, three sherds of pottery and very probably the spearhead itself. The small size and abraded nature of the sherds, however, suggests that the focus of any domestic activity lay some way off. It is perhaps tempting to think in terms of a hitherto undiscovered settlement situated further up the slope, closer to the springs issuing from the gravels on the summit of Haste Hill.

The size, depth and irregular shape of hollow <6> meanwhile suggests that it is not an artificially dug, man-made feature. It is here interpreted as a clearance hollow or tree-hole, formed either by the deliberate grubbing out of a tree and its roots or, perhaps less likely in view of the

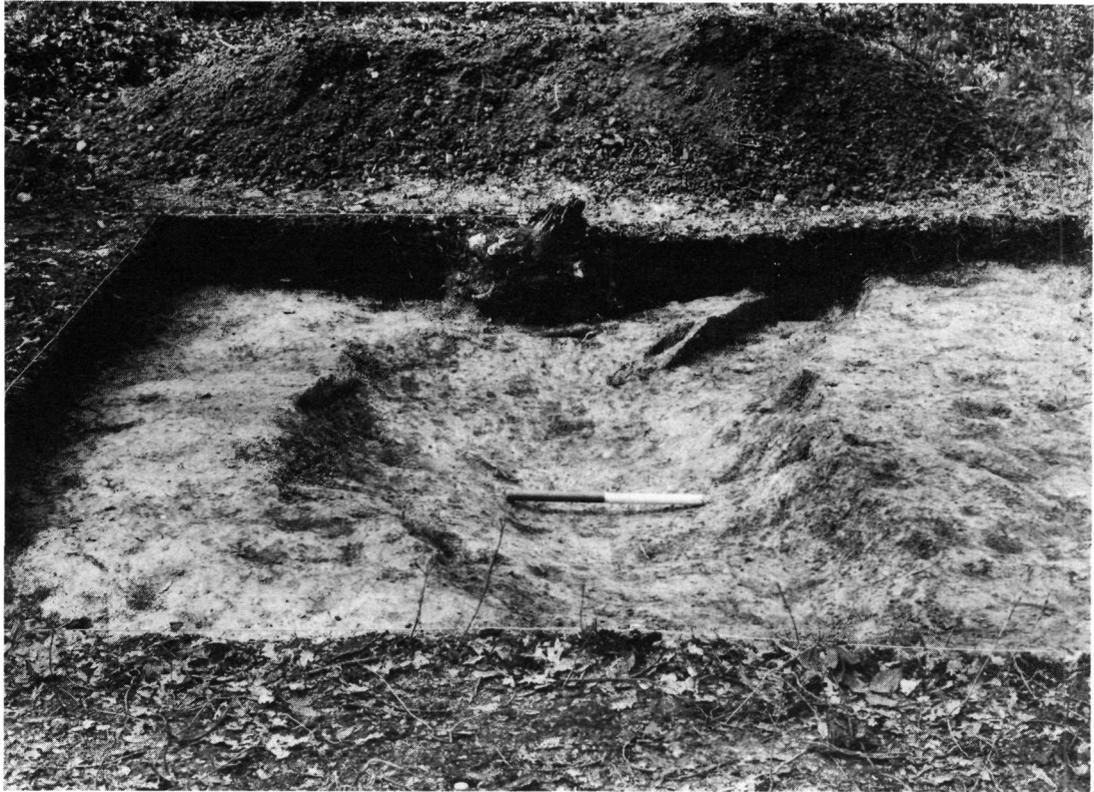


Plate 5 Park Wood: Sub-oval scoop (context <9>) cut by the ?tree-hole (context <6>), looking west (scale = 0.50m)

absence of the asymmetric silting pattern known to be characteristic of such features, by the uprooting of a tree in a storm. Several undated clearance features have been excavated on the brickhearths at Holloway Lane, Harmondsworth further south, while clearance hollows have been recorded on a number of chalk sites, e.g. Rams Hill, Berkshire (Bradley & Ellison 1975, 48–51 esp Fig. 2.19) and Bishopstone, East Sussex (Bell 1977, 7 & Fig. 3). Economy of hypothesis suggests that the Park Wood spearhead may have been deposited in a feature at the foot of a tree which was subsequently grubbed out.

Finally, following the deposition of lens <8> within its base, hollow <6>, the ?tree-hole, was apparently allowed to silt up naturally; the amount of charcoal and small burnt flints contained within this silting, however, is suggestive of considerable (but undated) man-made interference with the local vegetation cover.

THE FINDS

COPPER ALLOY

A fragment of copper alloy peg some 9mm in length was recovered from the backfill of the finder's hole (<5>). It has a circular section, and appears to taper from 5mm to 4.5mm in diameter. When re-united with the spearhead, it was found to conjoin with the peg which attached the spearhead to its shaft.

POTTERY

Three abraded sherds of heavily flint tempered pottery were recovered from lens <8>. They measure 32mm × 14mm × 10mm thick, 24mm × 19mm × 8mm thick and 24mm × 18mm × 9mm thick respectively. Surface colours range from grey/black to buff. The size of the individual fragments of crushed calcined flint temper (<3mm across) is consistent with that used in other local fabrics of early 1st millennium BC date. None of the sherds is worthy of illustration, although one may represent part of the shoulder of a coarse, biconical jar.

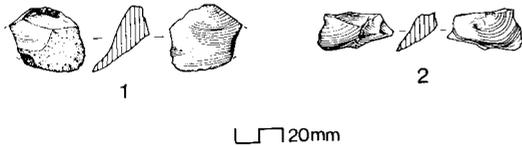


Fig. 4 Park Wood: Struck flint from context <2>

STRUCK FLINT

Three pieces of orange/umber coloured struck flint—all flakes—were recovered, two from layer <2> (Fig. 4) and one from the backfill of the hole dug to recover the spearhead (<5>). The prominent bulbs and cones of percussion, together with the low flaking angles and wide flake scars suggest that all are the products of poorly-controlled, stone-struck knapping of gravel pebble flint—the latter presumably obtained from the patch of High Level terrace gravels on the summit of Haste Hill a hundred metres or so to the north-east. A late prehistoric date is the most plausible in terms of the limited stratigraphic evidence and the knapping technology.

STONE AND BURNT FLINT

The fragments of sarsen stone and burnt flint, all from context <7>, can be tabulated as follows: (A number of tiny pieces of crushed burnt flint recovered during wet-sieving of soil from contexts <8> and <10> are not included)

	No of pieces	Weight
Stone	4	1150 grams
Shattered (not struck) flint	11	100 grams
Burnt flint	20	60 grams

THE CHARCOALS

by ANNE MILES

Soil samples from contexts <7>, <8> and <10> were retained. Of these, all 4.68k from context <8>, and sub-samples from contexts <7> and <10> (2k from 31.85k and 3.93k from 12.93k respectively) were wet-sieved and the flots collected on a 250µm sieve. After drying, each flot and residue were hand-sorted under a magnifying glass. The wood charcoal thus recovered was submitted for identification.

Wood charcoal samples from contexts <7>, <8> and <10> were examined, and the following species identified:

Context <7>	No of frags
beech (<i>Fagus</i> species)	266
oak (<i>Quercus</i> species)	55
hornbeam (<i>Carpinus</i> species)	14
poplar (<i>Populus</i> species)/willow (<i>Salix</i> species)	4
holly (<i>Ilex</i> species)	4
hawthorn (<i>Crataegus</i> species)	2

Context <8>	No of frags
oak (<i>Quercus</i> species)	24
hawthorn (<i>Crataegus</i> species)	5
hornbeam (<i>Carpinus</i> species)	2
poplar (<i>Populus</i> species)/willow (<i>Salix</i> species)	2
ash (<i>Fraxinus</i> species)	1
hazel (<i>Corylus</i> species)	1
holly (<i>Ilex</i> species)	1

Context <10>	No of frags
beech (<i>Fagus</i> species)	39
oak (<i>Quercus</i> species)	11
alder (<i>Alnus</i> species)	4
hawthorn (<i>Crataegus</i> species)	2

COMMENT

Dr Colin Bowlt writes that all the species represented in the samples are present in the Ruislip woodlands today, although in somewhat different proportions. (The most common species now are oak and hornbeam (in roughly equal proportions by mass), with some birch, hazel, hawthorn, sweet chestnut, beech, ash, wild cherry, aspen, field maple, sallow, holly and yew (Bowlt & Bowlt 1982, 13–16).)

It is often assumed that beech—the predominant species in two of the samples—does not grow well on clay, although it is common in parts of Bayhurst Wood nearby. In addition, quite a large number of beech saplings have recently appeared over an area round one tree in Park Wood (probably as a result of the hot weather in 1976, which was a good year for mast). This all suggests that natural communities are not necessarily as immutable as they might appear at first sight, even in the short term.

The beech has no particularly special properties that might account for its high proportion in the Park Wood samples. It may therefore simply have been the closest source of useable kindling. The absence of birch and lime from the samples is also of note.

PARK WOOD AND THE LATE BRONZE AGE IN THE UPPER COLNE VALLEY

A limited, two-day excavation round the original findspot was sufficient to provide the Park Wood spearhead with a context, and also to confirm its likely association with presumptively domestic debris including charcoal, burnt flint, pottery and daub. At first glance, the pres-

ence of occupation material would appear to set it apart from the majority of other Broadward finds, which have usually been recovered from waterlogged, 'ritual', contexts. However, the association of such finds with occupation debris may have been more common than the often garbled account of individual discoveries allow. Thus, for instance, the hoard from Broadward itself was apparently accompanied by vast quantities of animal bones, including whole skulls, which 'could be dug up in almost every part of the field' (Burgess *et al* 1972, 212), while more recently the find from Bramber, West Sussex was associated with deposits of burnt flint, charcoal, human and animal bone (one piece worked into a mount for a ?knife handle), a flint scraper and sherds of possible crucible and pottery (Aldsworth, Kelly & Needham 1981, 10–12). This potential complexity of evidence has far-reaching implications for the way in which such finds have been interpreted in the past, and underlines the need for careful observation at the scene of future discoveries.

Whatever the mechanism by which it came to be deposited—and the excavated evidence allows little to be said of this—the Park Wood material is the most recent in a small series of Late Bronze Age finds to have been discovered in a restricted zone of complex geology centred round the upper reaches of the Colne valley (Fig. 5). This area of variable sub-soils—principally outcrops of Upper Chalk and Reading Beds, and expanses of mixed gravels and alluvium—can be distinguished in terms of its potential appeal to early communities from the wide tracts of heavy London Clay which lie to the south and east. The majority of the finds have been recovered from the lighter sand and gravel deposits of the district; despite considerable disturbances over the years by house and road construction, the Park

Wood find is so far the only one to have come from the London Clay.

The finds in question (Appendix II) consist of two metalwork hoards, a scatter of single bronzes and several groups of pottery and other domestic material. Looked at in turn, the metalwork belongs almost exclusively to the Ewart Park phase of the Late Bronze Age—a now widespread phenomenon which, it has been argued, may owe something to the dumping of surplus bronze following the successful introduction of iron technology (Burgess 1979; Needham & Burgess 1980, 456). On the evidence available, the large hoard from Watford found close to the River Gade and, perhaps, the 'sword of the Bronze Period' from Denham (which lies on the River Misbourne, a tributary of the Colne) may represent deliberate river offerings of the sort mentioned earlier; the socketed axe blades from 'Ruislip Common' and Harrow Weald simply regarded as casual losses; and the Rickmansworth hoard, with its accompanying reference to 'blackened sand' and 'a stone-lined cavity measuring 14 inches by 12 inches', seen as metalwork abandoned at a workshop-site—a possibility supported by the presence of bronze cake and the unfinished condition of one of the five axes in the hoard (Leach 1972, 597).

In addition to the Park Wood find, domestic material has been recovered from three other locations within the area. It seems likely that the hearth discovered in 1937 in Sandy Lodge Lane (Cottrill 1939), and containing cylindrical loomweights and sherds of 'post-Deverel Rimbury' type pottery (Barrett 1980), stands at the head of the local sequence. In view of the current uncertainties over the dating of 'hooked-rim' jars such as that found at Sandy Lodge Lane, however (Dr S. Needham pers. comm.), its precise chronological position remains to be

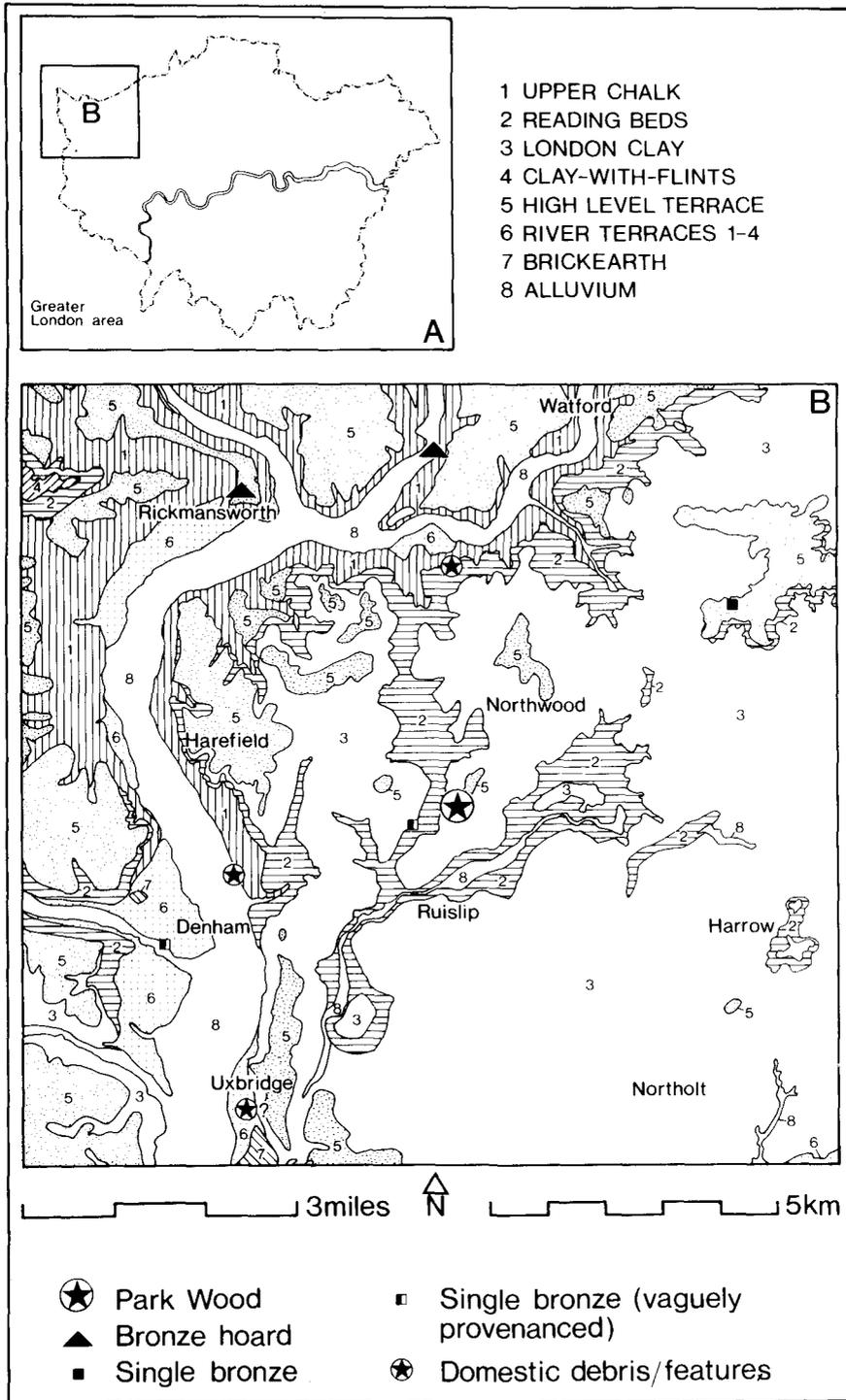


Fig. 5 Park Wood: Late Bronze Age finds from the upper Colne valley in relation to drift geology

determined. The apparently *single* carinated jar (*contra* VCH Middx I, 57 and Cotton, Mills & Clegg 1986, 48) from Dewe's sand pit meanwhile has, as Needham and Burgess have pointed out (1980, 465), probably transitional Late Bronze Age/Early Iron Age affinities. (A single flint scraper in the Lewis Price Collection from the same general area does not advance the argument). Finally, in Uxbridge, scraps of flint tempered pottery and struck flint recovered from a group of features including several short lengths of possibly parallel ditches may be regarded as very broadly contemporary (Mills 1984). Sited on a well-drained eminence of terrace gravel, the ditches—which run just west of north along the 40m contour—presumably form part of a field system belonging to an as yet undiscovered settlement.

Together, these finds suggest that the upper Colne valley was a favoured locality in the Late Bronze Age, whose success was probably founded equally on the ability of its local communities to exploit a wide range of natural resources, and on their participation in the movement of goods and raw materials up and down the valley between the central Chilterns and the Thames. (The importance of this route is exemplified by the presence of the contemporary Runnymede-Egham complex at the valley mouth (O'Connell & Needham 1977; Longley & Needham 1979).) Situated on the London Clay hills, the Park Wood find is an important element in the picture which is beginning to emerge, in that it points to the presence of people perhaps engaged in the (? seasonal) exploitation of a number of clay-based resources (e.g. timber, game and pannage) away from the lighter soils adjacent to the river Colne. The presence of the Broadward type spearhead here, meanwhile, bears witness to the range of metalworking contacts which such Late

Bronze Age communities were able to command, and also hints at complex depositional practices which even the most thorough excavation cannot now hope to elucidate.

ACKNOWLEDGEMENTS

Thanks are due to the finder for reporting his discovery and allowing it to be published here; to Dr Stuart Needham for bringing it to the writer's attention; and to Mr J. Bell and the Leisure Services Department of the London Borough of Hillingdon for sanctioning the excavation, which was carried out by John Mills (DGLA), Tony Lewis (West London Archaeological Field Group), Dr Colin Bowlt (Ruislip, Northwood & Eastcote Local History Society) and the writer.

Thanks are also due to Helen Ganiaris (Museum of London) for supervising conservation of the spearhead and for arranging the scanning electron microscopy, which was undertaken by Jacqui Watson of the Ancient Monuments Laboratory; to Anne Miles for identifying the wood charcoal; to Dr Bowlt for his comments on the results; and to Frank Berry (formerly of the Institute of Geological Sciences), Carolynne Cotton (Hillingdon Borough Libraries), Mike Farley (Aylesbury Museum), Dr Stephen Greep (Verulamium Museum), Nick Merriman (Museum of London) and Dr. Needham (British Museum) for supplying additional information. I am grateful too, to Dr Bowlt, John Lewis, Nick Merriman, John Mills, Dr Needham, Clive Orton and Harvey Sheldon for reading and commenting on the manuscript.

APPENDIX I

The wood from the socket of the spearhead was submitted to Jacqui Watson of the Ancient Monuments Laboratory for examination by scanning electron microscopy (SEM). She reports as follows:

'Bronze Age spearhead with wood preserved in the socket—*Fraxinus* sp. (ash). As this is a ring porous wood the curvature of the annual rings is clearly visible, and in this sample they indicate that the shaft was fashioned from mature timber rather than branch or coppiced wood'.

APPENDIX II

Appendix II lists the Late Bronze Age finds mapped in Fig. 5. These are arranged alphabetically by location, and accompanied by a grid reference. Following an indication of the geology and topography of the findspot, the find itself is

briefly described, and its present location and published references listed.

CASSIOBRIDGE FARM, WATFORD

TQ 090 956

Geology/topography: Alluvium, 55m OD

Description: Bronze hoard found at a depth of 4 feet in August 1960 whilst digging a pile-hole for factory foundations. Hoard consists of 22 complete and fragmentary socketed axes (7 ribbed, 2 ribbed wing ornamented); 4 gouges; a tanged chisel; a Thorndon type knife; 2 Ewart Park swords and fragments of 3 others; 10 socketed spearheads with leaf-shaped blades (7 with decorated sockets); a fragment of a Boardward Type IV barbed spearhead; 23 fragments of copper ingot; 3 razors; 2 cast discs; ?cast pommel piece; fragmentary cast plate; cast mount with zig-zag edges; and a further complex cast mount. A bowl of sheet copper may, like 3 copper printing plates, be of modern date.

Present location: Central Library, Watford.

References: Coombs 1974; 1979.

'DENHAM' (village centred TQ 041 871)

Geology/topography: ?Alluvium/terrace gravel, c. 40m OD

Description: 'Sword of the Bronze Period' with 'slots in the handle in which were fixed plates of horn or other material to form a grip'. Apparently 'dug up in Denham' and exhibited in Aylesbury in 1905 by Mr Swithinbank of Denham Court (inf M. Farley).

Present location: ?Lost.

References: Head 1955, 150.

DEWE'S FARM, SOUTH HAREFIELD

TQ 056 882

Geology/topography: Alluvium, 40m OD.

Description: 67 sherds of a single large carinated jar of coarse, heavily-flint tempered sandy fabric with a short, inwards-sloping neck and simple rim (VCH Middx I, 57, mentions 'remains, probably of two pots'). Found at a depth 'stated as 18 inches in the natural sand, in working sand-pit (in January 1935)', and given to the British Museum by L. S. Rose, Harefield Park Estate Office, Uxbridge, Middlesex. The position of the pit is described as '450 yards north of Dewe's farm house'. The jar apparently contained 'black stuff', although 'no bones'. (A flint scraper in the same box, from the Lewis Price Collection, is marked 'DENHAM. 400 YDS NW HIGHWAY FARM IRON AGE SITE'. A second hand has added 'i.e. that of our HAREFIELD URN 1935, 2-13'.) A further eight small sherds, accompanied by a label reading 'FRAGMENTS OF BRONZE AGE POTTERY FOUND

IN A SANDPIT AT HAREFIELD', in the Hamson Collection in the Central Library, Uxbridge, may very well belong to the same vessel.

Present location: British Museum (Acc No 1935 2-13 (1)). Inf Dr S. Needham.

Hamson Collection, Uxbridge.
Inf C. Cotton.

References: VCH Middx I, 57; Needham & Burgess 1980, 465; Cotton, Mills & Clegg 1986, 48.

HARROW WEALD TQ 143 928

Geology/topography: High Level gravel, c. 130m OD.

Description: Blade of a socketed axe, found by a metal detector user c. 1981.

Present location: Private.

References: Unpublished (British Museum, Prehistoric Bronze Implements Index).
Inf Dr S. Needham.

HIGH STREET/WINDSOR STREET, UXBRIDGE TQ 0550 8405

Geology/topography: Terrace gravel, 40m OD.

Description: Group of features including shallow scoops and short lengths of at least two possibly parallel ditches containing struck flint and small sherds of heavily-flint tempered pottery.

Present location: Finds and site records currently with DGLA (West London).

References: Mills 1984; Cotton, Mills & Clegg 1986, 48.

RICKMANSWORTH TQ 0550 9495

Geology/topography: High Level gravel, 70m OD.

Description: Bronze hoard found in 1949 during the construction of a path in the garden of 'Pine Croft'. The hoard consists of 5 socketed axes (3 ribbed, of which 1 is unfinished); 2 socketed spearheads with leaf-shaped blades; a fragment of a sword blade, and 3 lumps of bronze cake. A 'quantity of blackened sand' and a 'stone-lined cavity measuring 14 inches by 12 inches' were also observed on the site.

Present location: Private.

References: Leach 1972.

'RUISLIP COMMON' (centred TQ 085 890)

Geology/topography: ?Reading Beds, c. 50m OD.

Description: Blade of a socketed axe, found by a metal detector user c. 1981.

Present Location: Verulamium Museum (Acc No 81.3324). Inf Dr S. Greep.

References: Unpublished.

SANDY LODGE LANE TQ 092 936

Geology/topography: Reading Beds, close to the junction with the Upper Chalk, 70m OD.

Description: Hearth found 2'8" below ground level in September 1937 in the garden of 'Slamat'. 18" in diameter, the hearth consisted of a 6" layer of lumps of burnt clay, burnt stones, potsherds [about 60], and fragments of loomweights lying on a 1" layer of dark soil and charcoal'. The sherds belong to at least two vessels. A fragment of unperforated clay plaque was also recovered.

Present location: ?Museum of London (ex London Museum); not located.

References: Cottrill 1939; Needham & Burgess 1980, 465.

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A PREHISTORIC TIMBER STRUCTURE AT RICHMOND TERRACE, WHITEHALL

DAVID ANDREWS and NICK MERRIMAN

The buildings at the corner of Richmond Terrace and Whitehall, just to the S of the Ministry of Defence (Fig. 1), had been earmarked for redevelopment by the Home Office since 1967. In the late 1960s, Mr B. K. Davison researched the archaeological implications of the scheme and dug trial trenches to check the historical investigation¹. The development was deferred until 1979 when its revival prompted further archaeological work by the Inner London Archaeological Unit in 1980. Construction did not start until 1983, when the Central Excavation Unit carried out a watching brief².

Circumstances were not favourable. Whereas the Regency frontage by Thomas Chawnor on Richmond Terrace was being retained, a modern building with deep basements was to be erected along Whitehall. Already the top 2m of deposits, containing the foundations of post-medieval buildings, had been removed, and a forest of piles had been sunk. Between these the ground was being excavated by up to 3m to the various floor levels of the basements, the piles then being cut off. Archaeological excavation was out of the question, and the operation was limited to examining and recording the sections where the new reduced level was stepped for the basements.

The results of the previous investigations had been largely negative. Historical sources suggest the area was marshy land which in the later Middle Ages was used as gardens and then from the 16th century was occupied by a series

of palaces and houses of the nobility. Similarly the ILAU excavations indicated that 'the area was marginal land at the edge of Thorney Island, frequently flooded and used as a rubbish dump'³. Despite late medieval attempts at reclamation, it remained vulnerable to flooding until a riverside wall was constructed in the later 16th century. Apart from some 12th-century sherds, the earliest finds were datable to the 15th–16th centuries. In general, relatively little is known of the early history of Westminster. There is evidence for Roman occupation of some kind on Thorney Island where Edward the Confessor founded Westminster Abbey, and there can be no doubt that the abbey was preceded by an earlier monastery (cf. Bond 1909, 3–7; Raleigh Radford 1965; Black 1976, 141–2). The various excavations that have been carried out at Westminster have revealed remains of the Roman and Anglo-Saxon periods, but so far virtually none of these have been published.

Over most of the site, the removal of the post-medieval buildings revealed deep deposits of bluish clay which tended to turn brown on exposure to the air. These clays were considered natural by the ILAU. But although deposited naturally in marshy conditions at the edge of the river, they are in fact of sufficiently recent formation to be of archaeological interest. This was only apparent at the deepest part of the excavations, at the NE corner of the site. Here a rectangular area was dug out to 2.8m below OD and enclosed by sheet piling. On its E side, the remains of a timber structure were exposed in a well preserved section (Section 1, Fig. 2). At the bottom of the section were fine gravels (11, Fig. 2) deposited in riverine conditions and apparently

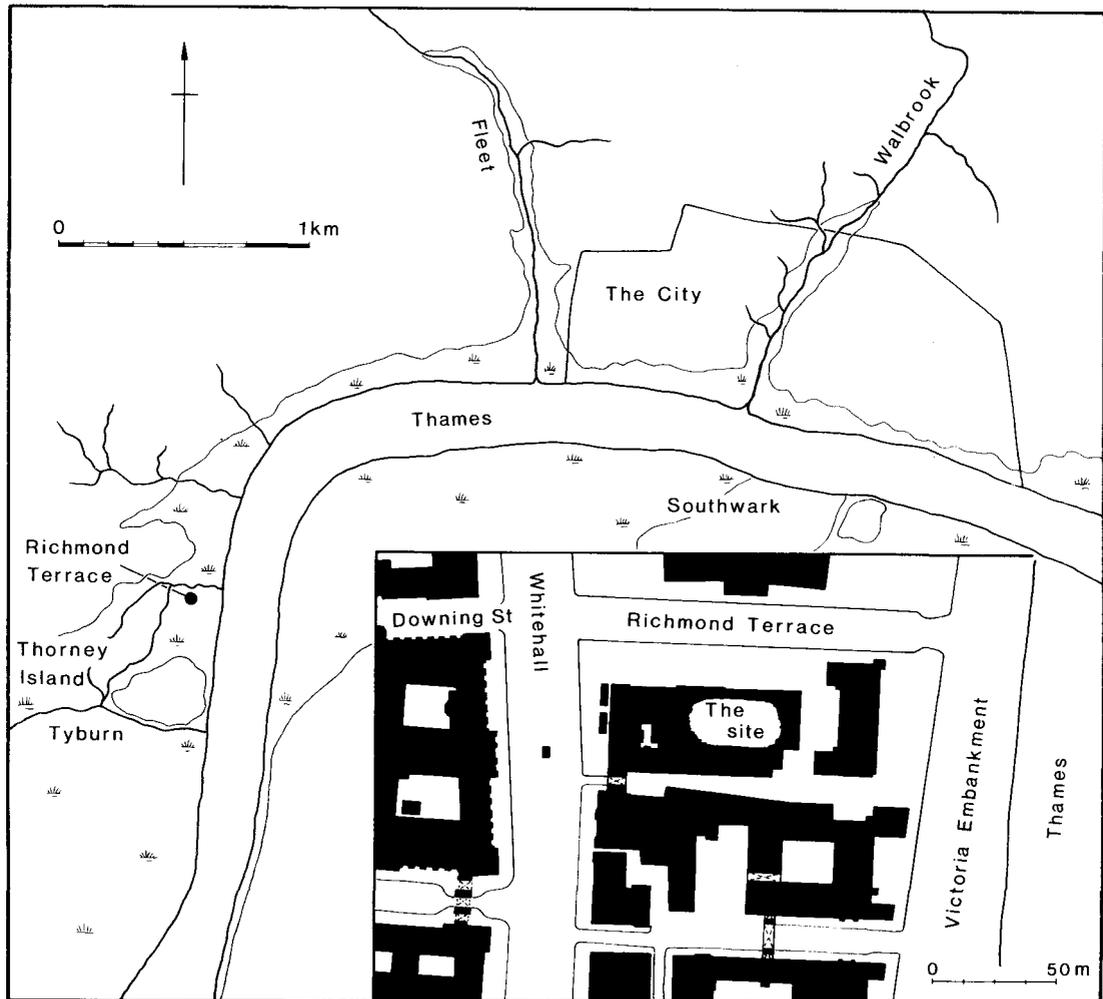


Fig. 1 Richmond Terrace: Location map (geological base map after D. Bentley and the Geological Survey)

typical of the Thames foreshore⁴. Above these was a thick layer of dark gleyed silt relatively rich in organic matter. This was overlain by a band of laminated sands and bluish clays (8, Fig. 2), probably representing a seasonal cycle of alternating rapid and slow silting, perhaps deposited in a channel. This was succeeded by another layer of gleyed silt containing less organic material, above which there was a dark peaty silt containing relatively large pieces of wood (5, Fig. 2). It was at this level (1.4m below OD) that the timber structure had been built. A base-plate (4, Fig. 2) aligned N-S had been cut through longitudinally in the course of the excavation. It was about 150mm

wide, tapering off to the S. Set into it was a post about 120mm wide (3, Fig. 2) made from an unsquared piece of wood, the bottom of which was wedge-shaped. About 800mm from this the base plate was briefly interrupted, as if for the seating of another post which had been removed. Part of the base-plate was removed for scientific examination. It proved to be a piece of alder, and radiocarbon dating gave a result of 2540 ± 70 BP, 590 ± 70 BC uncalibrated⁵. The structure was buried beneath a deep deposit of gleyed silty clay, the top of which lay behind the sheet piling.

Elsewhere, the depth of the excavations corresponded roughly with the level of the peat

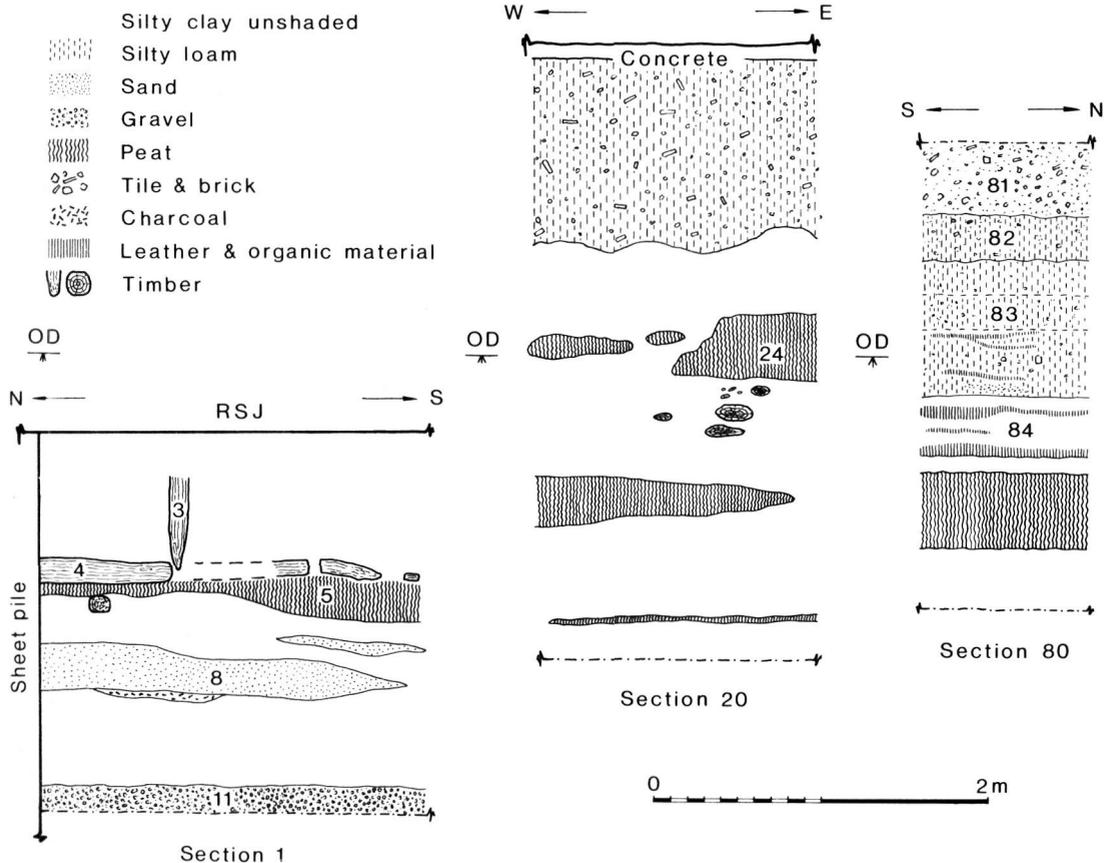


Fig. 2 Richmond Terrace: Sections 1, 20 and 80

immediately below the base-plate. The sections consisted predominantly of silty clays in which only a very few poorly differentiated layers could be discerned, apart from deposits of peat of varying thickness. A band of peat near the base of one of these sections, at approximately 2m below OD, gave a radiocarbon date of 8580 ± 110 BP (6630 ± 110 BC uncalibrated)⁶, whilst another layer of peat at a higher level (approximately 0.5m below OD) was dated to 4110 ± 80 BP (2160 ± 80 BC uncalibrated)⁷. Particularly conspicuous was layer of peat about 300mm thick which was present along much of the E and S sides of the development area (24 in section 20, Fig. 2). This was at about OD, and possibly equivalent to a similar layer at the same level found at New Palace Yard⁸. Radiocarbon dates ranging from the 3rd century BC to the early 5th century AD were obtained for this peat (noted in Evans n.d.). The

most westerly (i.e. the nearest to Whitehall) of the sections presented a rather different picture, with made ground occurring from a depth of almost 1m below OD, a sequence of the type recorded by the ILAU. The clays and peats were overlain by a mixed layer of clay and organic material (84, Fig. 2), the latter being conspicuous for the presence of large quantities of leather scraps, but also containing household refuse such as bone and mussel and other shells. This can be equated with the 'leather layers' noted by the ILAU and dated by them to the 15th or 16th century. Above, there were layers which had clearly been dumped (83, 82, Fig. 2), consisting mainly of dark loam with silty and clay lenses, and containing brick, mortar and stones. Horizontal layering evident in these deposits suggests that they may have accumulated over a period of time, and that there may have been surfaces within them. At the top of the section

there was crushed brick and mortar with rubble (81, Fig. 2). Layers of this kind had extended over much of the site, and were presumably make-up for the houses and palaces of the 17th and 18th centuries.

These observations hardly add much to our knowledge of the origins and development of Westminster, but do provide a tantalizing glimpse of the sort of activity taking place on the N bank of the Thames in prehistoric times. It is only possible to speculate on the nature of the timber structure. Ground level when it was constructed may have corresponded with the peat at about OD so conspicuous in the sections at the E and S sides of the site, whilst the laminated sand and clay deposits beneath it could indicate that it was situated at the edge of a creek or inlet. If so, it no doubt formed part of a waterside revetment or quay.

DISCUSSION OF THE RICHMOND TERRACE TIMBER STRUCTURE

By NICK MERRIMAN

The discovery of a timber structure of apparent Late Bronze Age/Early Iron Age date under at least 80cm of silt potentially holds important implications for prehistoric archaeology in London. However, the dating of the structure must be viewed with caution. A single radiocarbon date may be subject to error through contamination of the sample or through laboratory errors which cannot be checked on one date alone. Furthermore, in this case, particular problems are encountered in calibration. The core date of 590 BC (2540 BP) has a date range from 830–414 Cal BC with a sample precision of ± 120 years⁹. The broadness of this range is due to certain kinks in the calibration curve around this point which mean that two samples with different calendar ages can produce identical radiocarbon dates.

If for the time being it is assumed that the sampling and dating are reliable, then the calibrated date for the structure would put in the Late Bronze Age or Early Iron Age. This dating immediately invites comparison with the Runnymede Bridge site further upstream on the Thames (Longley 1980, Needham and Longley 1980). However, at Runnymede most of the timbers are sharpened stakes of oak *c.* 20cm in diameter driven vertically into the underlying deposits. The Richmond Terrace find is quite different, consisting not of driven piles but of a post set into a base-plate. It is however not totally dissimilar from some of the structures uncovered at Flag Fen near Peterborough, for which a similar date of 660 ± 60 BC (uncalibrated) is published (Pryor *et al* 1986, 5), although these structures are of oak, while the Richmond Terrace base-plate is of alder¹⁰.

The structure would therefore not be out of place in a Late Bronze/Early Iron Age context. Its function, however, is difficult to determine. The site appears to be outside the extent of the gravels which form Thorney Island, so it may not be indicative of a settlement, but perhaps of a revetment to a stream channel¹¹. The range of dates from the structure place it either during Nunn's Thames IV incursion or in the subsequent period which he characterises as the formation of the Borough and Bermondsey eyots (Nunn 1983, 209). However, our knowledge of environmental conditions in this area during the early first millennium BC is not sufficient to determine whether the area was dry or wet during this time.

The Richmond Terrace find supplements various discoveries of prehistoric flint, pottery and cut features already made in the Westminster area. These have included a number of poorly-provenanced finds of Late Bronze Age metalwork from the Thames at West-

minster, and, more recently, sherds of Iron Age data from sites at Westminster Abbey and Cromwell Green, the latter also producing evidence of contemporary postholes and gullies¹².

The main implication of the Richmond Terrace find is that, even in Central London, there is a strong possibility that *in situ* prehistoric structures still survive beneath deep deposits of silt that have accumulated in areas such as Southwark, Chelsea and Westminster which have been subject to flooding since the last glaciation. Demolition and redevelopment work in these areas would therefore merit close investigation even where previous work has not indicated prehistoric activity.

NOTES

1. Mr Davison's records are held by him at Fortress House, 23 Savile Row, London W1.
2. The watching brief archive has been deposited at the Museum of London. A microfiche copy is held at the NMR and by the Central Excavation Unit.
3. See Mills 1980, and LAMAS Trans 32, 1981, p. IV.
4. Information from Venessa Straker.
5. HAR—6393.
6. HAR—5741.

7. HAR—5742.
8. A suggestion made on site by Harvey Sheldon.
9. The calibration is based on tables supplied in Stuiver & Becker (1986).
10. The use of alder is however attested at Flag Fen, and a split alder log is illustrated in Pryor (1986, 20).
11. The location of the timber structure appears to coincide with one of the arms of the River Tyburn illustrated in Barton (1962). However, there is no evidence that the stream took this course in later prehistory.
12. These finds are generally discussed in Merriman (1987).

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THE EXCAVATION OF AN AREA WITHIN A ROMAN CEMETERY AT WEST TENTER STREET, LONDON E1

ROBERT WHYTEHEAD

SUMMARY

Excavation of part of a, probably roadside, Roman cemetery uncovered at least 120 inhumation graves, 14 cremation burials apparently in situ, and at least 7 redeposited cremation urns. The earliest activity on the site appears to have been the excavation of two gravel pits in the late 1st and early 2nd centuries and the digging of a ditch. The earliest burials, both cremation and inhumation, may have been made in the early 2nd century, cremation was practiced into the early 3rd century and inhumation burials continued into the mid 4th century and perhaps later. Traces of what were probably two roadside tombs or monuments were identified. Seventeen inhumation and two cremation burials were accompanied by grave goods, many of the inhumation burials lay in wooden coffins, two reinforced with lead strips. The 'plaster burial' rite was adopted in eight probably 4th-century graves. A deep pit, possibly a tank or well, dated to the third quarter of the 4th century, may have been associated with the 'plaster burial' rite.

I. THE EXCAVATION ORGANISATION OF THE EXCAVATION REPORT

The excavation report commences with a description of the location of the site, the geology, and the topography in the Roman period. The excavated features are described in chronological order, two early gravel pits are described first, followed by the burials, a mid-4th century 'ritual' pit, and the post-medieval disturbance.

The burials are individually listed in a summary catalogue (Figs 5, 6), presented in tabular form, of all the burials from the site, full details of which lie in the archive report. The cremation and inhumation burials are listed separately in numerical order by the original context numbers ascribed to their graves during the excavation. This is to facilitate reference to the site archive. In addition the inhumation burials have separate numbers for the skeletons which are referred to in the

human bone report and archive. The grave goods are cross-referenced to their illustrations in the pottery and small finds reports.

In the catalogue the dates ascribed to the grave goods and coins are shown as an indication of the dating of the individual graves. The figure numbers of the phase plans indicate to which phase the burial has been ascribed and on which its position has been illustrated (Figs 9, 12, 13, 15, 16). The broad area of the site in which the burial lies is indicated to facilitate its location on the phase plans.

The phase plans illustrate some of the details from the burial catalogue including the position of each inhumation grave or *in situ* cremation urn, the orientation of the skeleton within the grave, the sex of the skeleton, the certainty with which the grave has been phased, and the position of any ceramic and glass vessels within the grave. All the excavated features are illustrated on one site plan.

The discussion of the burials is introduced by an assessment of the evidence from which they have been dated and tentatively phased. There follows a detailed discussion of the cemetery layout and the burials with particular reference made to the following three major urban Roman inhumation cemetery reports: Trentholme Drive, York [Wenham, 1968], Lankhills, Winchester [Clarke, 1979], and Cirencester [McWhirr *et al.* 1982]. All three produced significantly more inhumation burials than at West Tenter Street as the comparative table (Fig. 1) shows:

Site	No. of Cremations	Date Range	No. of Inhumations	Date Range
Trentholme Drive	50	C2 – mid C3	350	C2 – ?late C4
Lankhills	7	310 – 370+	451	?310 – ?410
Cirencester	3	? – C4	450	? – 395+
West Tenter	14	C2 – mid C3	120	C2 – 340+

Fig. 1 West Tenter Street: Comparative table of Romano-British urban cemeteries.

Reference is also made to the major cemetery at Poundbury, Dorchester, Dorset, summarised in articles by C. Sparey Green [see Green 1977, Green 1982], where 1,118 inhumation burials of the 1st and 3rd–4th centuries were excavated; and to the cemetery area at Kelvedon, Essex, which contained 35 cremations of the late 1st–4th centuries, and 60 inhumation graves dated to the 2nd–4th century [Rodwell 1988]. The only recent excavation in a London cemetery is that of 20 inhumation burials from St. Bartholomew's Hospital, dated to the 3rd–4th centuries [Bentley and Pritchard 1982], that report also contained a discussion of the evidence for the cemetery to the west of the city walls.

The excavation report concludes with a description of a deep pit which appears to have been the latest dateable Roman feature on the site, and the extent and

nature of the post-medieval activity which disturbed the Roman levels.

CIRCUMSTANCES OF EXCAVATION

Excavation of the block bordered by West Tenter Street, Scarborough Street, St. Mark Street and South Tenter Street, London E1 (TQ 3390 8101) was undertaken by the Department of Greater London Archaeology (DGLA) of the Museum of London between March and June 1984. The site was owned by the Greater London Council who generously

funded the excavation. The archaeological work was carried out in conjunction with the building contractors Llewellyns (Eastbourne) who undertook the machine stripping of the overburden.

ROMAN SITE LOCATION

The site lies approximately 330m east of the Roman city wall (Fig. 3). The burials and a ditch subdividing the cemetery appear to be aligned on a Roman road first discovered at 9 St. Clare Street, 137m from the Roman city wall [Ellis 1985, 117]. Its course has been confirmed at 63–72, Mansell Street (*pers comm.* S. Haynes).

Roman burials have been uncovered from the area east of the City wall over many years. The RCHM survey of 1928 quotes Strype in his edition of Stow's Survey of London II where he states that building around Goodman's Fields (marked on William Morgan's map, publ. 1682, and defined by the present-day streets Mansell Street, Alie Street, Gowers Walk, and Chamber Street, E1) in about 1678 uncovered 'vast quantities of urns and other Roman utensils' [RCHM 1928, 157]. A

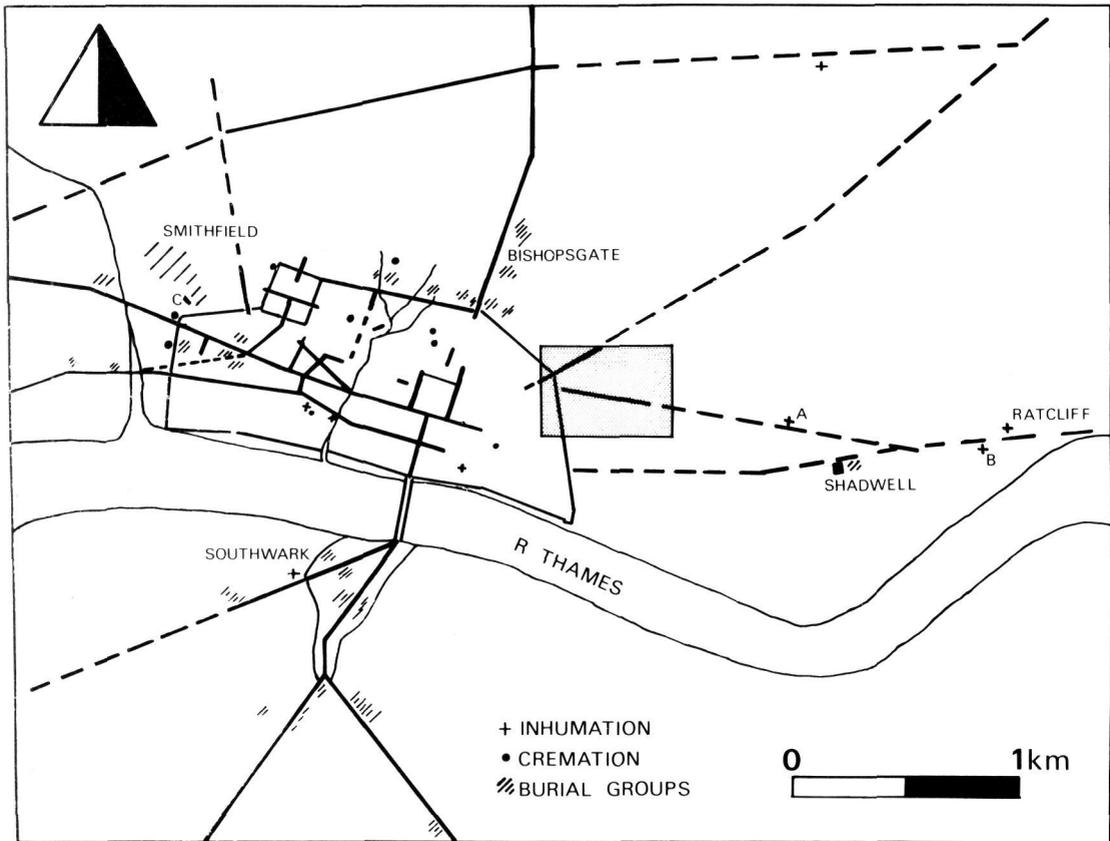


Fig. 2. West Tenter Street: Roman London: Roads and Cemetery Areas.

tombstone to Flavius Agricola, a legionary in the 6th Legion, was found at a depth of 7 feet beneath Goodman's Fields in 1787 [*ibid* 171].

The 1928 RCHM volume contained a complete inventory of the known Roman burials from east of the City but more recent discoveries can be added to that list, at 9 St. Clare Street [Ellis 1985], on the adjoining site 14–18 St. Clare Street (Mowbray House) (Fig. 3, A) [VCH 1969, 74], 28–35 The Minories (St. Clare House) (Fig. 3, B) [Marsden 1968, 39], 13 Haydon Street (Fig. 3, F) [DGLA Excavation 1986], Goodman's Yard (Fig. 3, G) [Whytehead 1980, 31], 37–43 Mansell Street (Fig. 3, H) [DGLA Excavation 1987], 46 Mansell Street (Fig. 3, C) [Collingwood and Taylor 1932, 213], 49–55 Mansell Street (DGLA 1988) and others from Mansell Street [Wheeler 1930, 41–2],

between Prescott Street and South Tenter Street [Museum of London Accession No. LM 37 167/1–2], Hooper Street (DGLA Excavation 1988) and from the Co-Operative Society site at the Leman Street junction with Prescott Street (Fig. 3, D) [Collingwood and Taylor 1932, 213].

The gravel surface and ditch discovered at St. Clare Street has been interpreted as a previously unknown Roman road (Fig. 3) [Ellis 1985], this interpretation is accepted for the purpose of this report. The road can be seen to have provided a focus for the seemingly random distribution of burials in this area. Late 1st-century and 2nd-century roadside burials and tomb foundations were found aligned with the road at St. Clare Street. Two plaster burials, one on the St. Clare Street site and one from nearby at 27 Minories

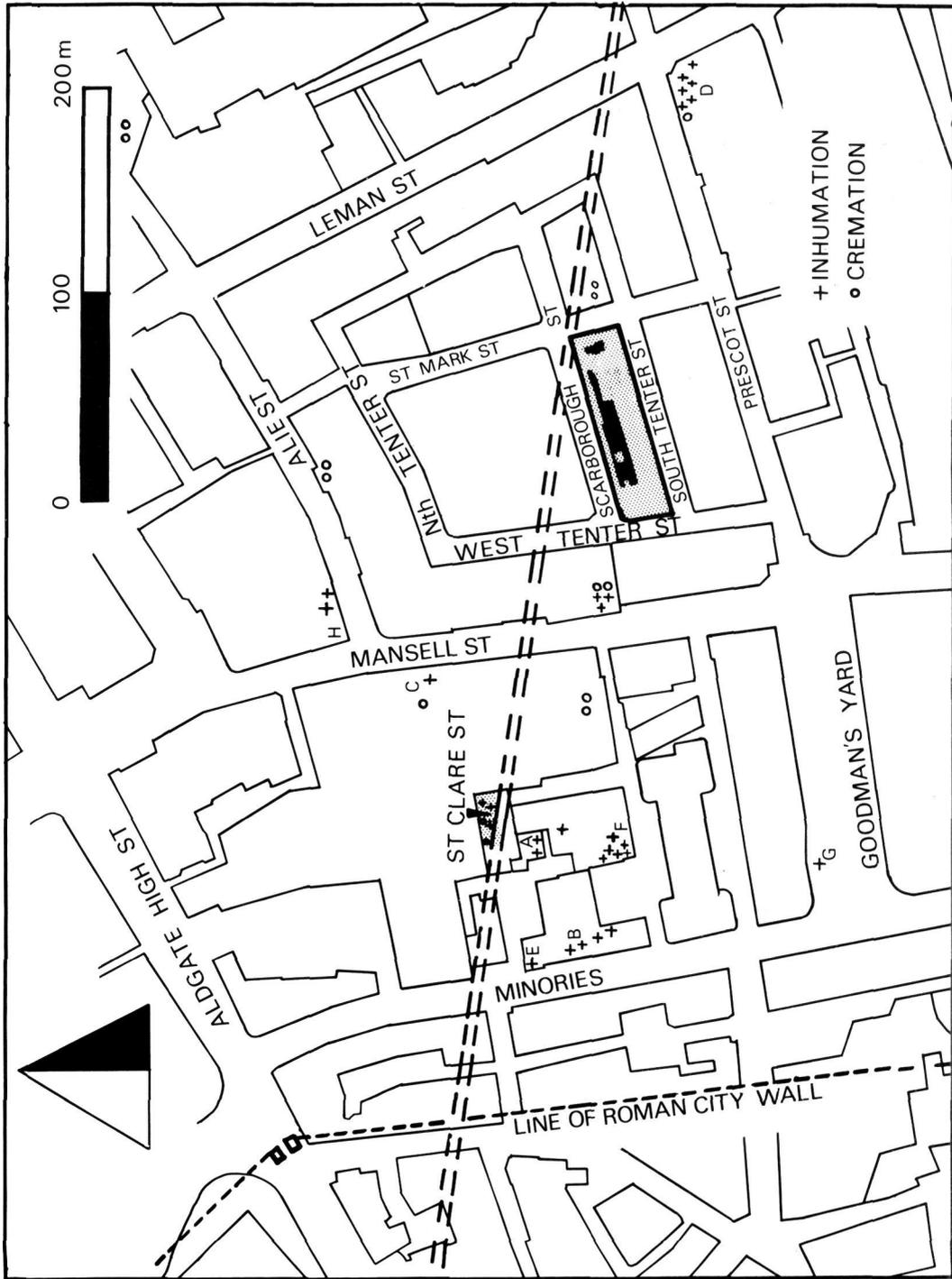


Fig. 3 West Tenter Street: Site Location, East London, marking known burial findspots and projected roadline from St. Clare Street.

(Fig. 3, E), point to burial continuing into the 4th century there as at West Tenter Street.

The ultimate destination of the St. Clare Street road is uncertain. Burials recorded from the junction of Love Lane and Cable Street (Fig. 2, B) [RCHM 1928, 163], and 41 Cannon Street Road (Yeatman's Factory), E1 (Fig. 2, A) ['The Star' (London) 18/12/1919, 12], show that the road and its attendant cemetery may have stretched at least half a mile (0.8km) from the Roman city perimeter, in the direction of Ratcliff. The St. Clare Street road may have been simply a cemetery service road, or in the light of the early gravel and brick-earth pits at West Tenter Street originally have been constructed to supply the raw materials for the construction of Londinium. Another road may have run due east from the Roman city on the line of the Highway, E1, to serve the signal tower at Shadwell (Fig. 2) [Johnson 1975, 278–80, discussed by Merrifield 1983, 191–4] a group of five late 1st or early 2nd-century cremation urns found to the east of the signal tower [D. Whipp *pers. comm.*] suggest use of the area predating the erection of the tower.

THE EXCAVATION

Work was limited to the area that was to have a long terrace of houses built upon it. The consequent excavation area was an eight metre wide strip sixty nine metres long bordering the northern edge of the site, starting *c.* 28m from the western perimeter, avoiding an area in which trial-trenching had shown that the Roman deposits were removed by medieval gravel workings. Overburden approximately 2m deep overlying the entire excavation area was removed by machine.

The excavation progressed from west to east across the site. The most complex stratigraphy and densest concentration of burials were encountered at the western end, as a consequence inadequate time was available for a total excavation of the features to the east, particularly in the area of the central Roman gravel pit. However all the burials made there were recovered by excavation.

GEOLOGY

The geology of the site comprised London Clay overlain by Post-Pliocene gravels, a mixture of sand

The catalogue is a summary of the archive catalogue. It can be compared to that for the Roman cemetery at St. Bartholomew's Hospital [Bentley and Pritchard 1982, 157]. The following sections and abbreviations have been used.

Burial No. number ascribed to cremation burial.

Grave No. inhumation catalogue arranged in numerical order by grave number.

Skele. No. the skeletons each received a separate number to that of the grave. These are used in the human bone report.

Level m OD the average level of the base of the grave or cremation urn expressed in metres above Ordnance Survey Datum.

Sex sex of adults if known.

Age estimated age in years, otherwise A = adult, D = adolescent, J = juvenile, I = infant.

Urn fabric type of cremation urn.

Orientation orientation of skeletons by points of the compass, expressed as direction from head to foot.

Hand Positions probable position of left and right hands on which the position of the arms is dependent: a = arm and hand straight by side, b = hand on left side of pelvis, c = hand on centre of pelvis (pubis), d = hand on right side of pelvis, e = hand on stomach, f = forearm flexed at right angles to upper arm, hand rests on opposing ribs or elbow, g = hand on opposing upper chest, h = hand on left shoulder, i = hand on right shoulder, j = hand on face.

Coffin Yes = coffin present, pos = possible evidence for coffin, – = no evidence to preclude an all-wood coffin, No = definitely no coffin, Ld = Lead strip reinforced coffin.

Grave Goods objects accompanying burials: B = birdbones, C = coin redeposited in grave fill, L = burial packed with lime, Charc = charcoal, G = glass vessel, H = hobnailed shoes, J = jewelry, P = pottery vessel.

Fig. No. illustration of cremation urn or grave good, SF = small find number reference in coin catalogue.

Date date ascribed to cremation urn or pottery and glass grave goods or date range of redeposited coins.

Dating other evidence on which dating of grave is based: S = stratigraphy, R = residual pottery or glass, – = no residual pottery in grave fill.

Phase Plan phase to which burial has been ascribed and the figure number on which it is illustrated: Fig. 9 to AD 150, Fig. 12 = 120–180, Fig. 13 = 180–225, Fig. 15 = 225–300, Fig. 16 = 300–400 or later. ? = not confidently phased and could be much later.

Area broad area of site in which burial lay: A = west of ditch 206; B = east of ditch 206, west of central gravel pit; C = area of central gravel pit; D = east of central gravel pit.

The north points are orientated to Ordnance Survey Grid North.

Fig. 4 West Tenter Street: Key to summary catalogue Figs. 5 and 6.

and gravel including bands of pure sand, capped by a layer of brickearth surviving to 0.20–0.30m in depth being truncated by post-medieval ploughing at approximately 11.0–11.10m OD.

THE EARLY TOPOGRAPHY OF THE SITE

The brickearth lying immediately above the sands and gravels appeared to be relatively clean and undisturbed, but its upper levels, which predated the cemetery activity, were stained and may have been disturbed by pre-Roman as well as Roman occupation. Although no pre-Roman artefacts were found a possible watercourse and group of stones resembling post packing apparently set within the upper brickearth may be evidence of prehistoric activity.

The Roman ground surface probably lay at c. 11.15–11.25m OD, this is deduced both from the staining of the natural brickearth (*pers. comm.* R. Mcphail) and the evidence of the more shallow cremation urns which might have had their necks set close to ground level. The surface itself had been ploughed away by the 17th century but may well have risen during the Roman period with the

accumulation of soil upcast from the excavation of the graves.

In the area of the central gravel pit (see below) the ground level must have been reduced as the graves were dug to a lower level, on average 0.50m deeper, than elsewhere on the site. A distinctive ground surface might therefore have been expected to survive there unaffected by later ploughing. Despite the presence of a layer of dumping (633) which sealed the graves and must presumably have been dumped on the surface of the graveyard no distinctive occupation horizon or surfaces were observed.

THE GRAVEL PITS

The even ground surface of the cemetery was interrupted by the digging of two gravel pits (Fig. 9). The earlier, 'eastern' gravel pit (see below) lying closest to the line of the road from St. Clare Street may have been dug before burials had commenced in this part of the cemetery. The excavation of this gravel pit may therefore be the earliest Roman activity on the site.

The 'central' gravel pit (see below), dated by finds from its backfill to some 20–30 years after the

Burial No.	Level m OD	Sex	Age	Urn	Fig. No.	Date	Grave Goods Fig. No.	Date	Phase Plan Fig.	Area
Cremations found <i>in situ</i> :										
69	10.73	—	—	TSK	27.4	150–200	—	—	13	B
224	11.04	—	A	BB2	26.6	150–200	—	—	12	A
255	11.13	—	35+	VRW	24.3	150–200	24.1–2 Pl.2	180–?	13	A
442	10.85	—	A	BB2	27.1	150–200	Tile Pl.3	—	13	A
497	10.75	—	A	—	—	—	—	—	13?	A
675	10.61	—	A	VRW	25.2	120–160	25.1 Pl.4	?	9	A
696	10.66	—	A	TSK	26.4	180–225	26.3	?	13	A
979	9.94	—	A	HWC	25.5	100–140	—	—	9	C
988	9.85	—	—	VRW	26.1	100–200	—	—	12	C
1002	10.28	—	<16	VRW	24.7	150–200	24.6	?	12	C
1092	10.00	—	A	VRW	24.5	120–180	24.4, 38.1–5	64–2ndC	9	C
1121	10.04	—	—	TSK	27.2	180–250	—	—	13	C
1145	9.91	—	—	AH/SU	27.5	100–150	—	—	9	C
736	10.74	—	—	Pit	—	—	—	—	13?	A
Redeposited Cremation Urns:										
610	—	—	—	VRW	27.6	100–200	—	—	—	—
735	—	—	—	HWC	26.2	100–150	—	—	—	—
834	—	—	A	BB2	26.5	150–200	—	—	—	—
1088	—	F?	A	VRW	25.3	120–180?	—	—	—	—
1095	—	—	—	HWC	25.6	120–180?	—	—	—	—
1123	—	—	—	VRW	25.4	100–200	—	—	—	—
1131	—	—	—	BB1	27.3	120–250	—	—	—	—
1157	—	—	—	BB2	26.7	170–220	—	—	—	—

Fig. 5 West Tenter Street: Key to catalogue of burials.

Grave No.	Skele No.	Level m OD	Sex	Age yrs	Orient-ation	Hand		Coffin	Grave Goods	Fig. No.	Date	Dating	Phase Plan	
						L	R						Fig.	Area
66	644	10.69	—	J	S-N	a	—	Yes	—	—	—	S—	9?	B
68	629	10.23	M	35-39	N-S	a	a	Yes	—	—	—	S R	12	B
75	659	10.35	F?	A	N-S	—	—	—	—	—	—	S	12	B
141	484	10.62	F	45+	N-S	—	—	Yes	C	SF419	340-7	—	16	A
143	—	10.57	—	—	—	—	—	pos	—	—	—	S R	12?	A
261	263	10.37	—	A	W-E	—	—	Yes	H	—	—	R	12?	A
270	—	10.98	—	—	—	—	—	Yes	P,G	29.8,40.11	325+	—	16	A
273	536	10.60	F	25-30	E-W	c	d	pos	—	—	—	S R	15?	A
282	281	10.45	M	A	W-E	b	d	pos	—	—	—	S	16	A
285	289	10.60	—	A	N-S	—	—	pos	—	—	—	S	13?	A
290	291	10.39	M	25-35	S-N	—	—	Yes	—	—	—	S	13	B
307	308	10.90	A	—	N-S	—	—	—	—	—	—	—	12?	A
311	345	10.71	M?	25-35	N-S	h	f	Yes	H	—	—	R	13?	B
313	304	10.04	—	J	S-N	—	—	Yes	C	SF95	81-96	—	9?	B
321	319	10.42	M?	45+	W-E	d	d	Yes	—	—	—	S—	15?	A
326	325	11.01	—	A	S-N	—	—	—	—	—	—	S	9?	A
328	415	10.97	—	J	E-W	—	—	Yes	J,J	39.4,40.4	—	R	9?	A
333	—	10.72	—	—	—	—	—	Yes	—	—	—	R	13?	A
346	348	10.83	F?	25-35	N-S	b	—	—	—	—	—	S	12?	A
349	350	10.70	—	J	N-S	—	—	pos	—	—	—	S	9?	A
355	354	10.52	F?	25-35	N-S	—	—	Yes	—	—	—	S	15?	A
358	360	10.94	F	45+	W-E	e	e	—	—	—	—	S	16	A
349	363	11.01	—	I	—	—	—	—	C	SF515	—	—	16	A
373	375	10.97	—	I	W-E	—	—	Yes	—	—	—	S	13	A
376	406	10.39	F	D	N-S	b	b	Yes	—	—	—	S R	13	A
380	381	10.95	M?	A	N-S	f	—	Yes	—	—	—	S	13?	A
383	408	10.73	F?	A	N-S	—	—	Yes	—	—	—	S R	15?	A
387	481	10.77	—	J	?W-E	—	—	pos	J,J,J,J	39.2/5,40.10	—	R	13?	A
396	467	10.0	M	45-50	S-N	c	c	Yes	H,F	29.4	150-200	—	12	B
398	400	10.71	—	A	N-S	—	—	—	—	—	—	S—	15?	B
428	477	9.94	—	8-13	N-S	b	d	Yes	—	—	—	S	16	A
431	432	10.50	F	35-45	N-S	d	b	Yes	—	—	—	S R	15	B
435	483	10.38	—	8-10	S-N	c	c	Yes	J,L	39.7 (Pl.14)	—	—	16	A
447	446	9.95	—	J	N-S	—	—	—	—	—	—	S	13?	A
458	503	10.05	F	25+	N-S	b	a	Yes	C	SF399	64-8	S	12	A
459	502	10.45	M	30-35	S-N	d	b	Yes	H,L	— (Pl.11)	—	—	16	A
459	443	11.04	—	I	S-N	a	a	—	—	—	—	—	16	A
487	541	10.66	M	25-35	W-E	i	c	Yes	—	—	—	S R	12	A
489	474	10.58	—	8-10	N-S	a	a	Yes	L	— (Pl.10)	—	R	16	A
(493)	478	10.99	—	I	E-W	—	—	—	C	SF407	287-90	—	16	A
506	—	10.76	—	—	—	—	—	Yes	P,J	29.10,40.5	240-280	—	15	A
516	534	10.73	—	4-6	N-S	c	c	Yes	—	—	—	—	16	A
518	520	10.69	F?	A	SW-NE	—	—	pos	lamp	37.2	L2nd	—	13	A
523	525	10.50	—	J	W-E	a	a	Yes	P,Charc	29.9	150-250	—	13	A
528	589	10.20	M	A	W-E	b	f	Yes	C,C	— (Pl.7)	268-280	—	15?	A
535	—	10.82	—	—	—	—	—	pos	—	—	—	R	16	A
538	569	10.68	M	25-35	N-S	h	i	—	—	— (Pl.5)	—	S	12	A
548	547	9.96	M	45+	N-S	—	—	Yes	—	—	—	S	9?	A
549	596	10.40	F	30-40	W-E	a	a	Yes	J	39.1	—	—	16	A
349	444	10.87	—	I	S-N	—	—	—	—	—	—	S	16	A
551	532	10.15	M	25-35	W-E	b	e	Yes	—	—	—	R	16	A
553	555	10.71	—	4-6	N-S	a	a	Yes	L	—	—	—	16	A
558	608	10.30	M	15-19	N-S	c	c	pos	—	—	—	R	16	A
570	707	10.00	F	20-25	S-N	—	—	pos	C,C,C,	SF527,530,531	270-300	S R	16	A
593	609	10.21	F	14-19	N-S	f	a	pos	H,H	—	—	—	15	A

Fig. 6 West Tenter Street: Catalogue of cremation burials.

Grave No.	Skele No.	Level m OD	Sex	Age yrs	Orientation	Hand			Grave Goods	Fig. No.	Date	Dating	Phase Plan	
						L	R	Coffin					Fig.	Area
601	602	10.97	—	I	E-W	a	a	—	—	—	—	S—	15?	A
605	604	10.00	M	35-45	W-E	b	d	Yes	—	—	—	R	16	A
621	635	10.05	F	40+	E-W	f	b	Yes	P	29.3	120-180	—	12	C
626	628	9.90	M	30-35	E-W	a	a	Yes,Ld	—	(Pl.12)	—	S R	12	A
637	624	10.35	—	10-12	W-E	f	b	Yes	—	—	—	S	15?	A
647	667	10.56	—	<14	N-S	f	h	Yes	—	—	—	S R	9	A
654	652	10.40	F?	A	W-E	—	—	—	P,H	29.5	150-220	—	13	B
664	663	10.45	—	<12	W-E	—	—	Yes	—	—	—	R	12?	A
678	676	9.99	F	A	N-S	a	—	—	—	—	—	S—	9	B
689	688	9.91	M	40-45	N-S	b	c	Yes	P,P	29.1-2	140-180	—	12	A
694	701	10.32	M	25-35	N-S	a	a	Yes	L	—	—	—	16	A
710	—	10.73	—	—	—	—	—	Yes	P,J,G	29.6,40.5/11	300-400	—	16	A
720	719	9.46	M	30-35	S-N	f	c	Yes	—	—	—	R	12?	C
723	725	10.70	—	A?	S-N	—	—	—	—	—	—	S	9	A
726	728	10.43	—	A?	S-N	—	—	—	—	—	—	S—	9?	A
733	732	10.04	F?	45+	N-S	—	—	Yes	P	28.1	180-225	—	13	A
741	742	10.01	M	40-45	N-S	—	—	Yes	C,P,J	28.4,40.1-2	190s,C3	—	15	A
744	748	9.98	M	40-45	N-S	b	d	Yes	L	—	—	—	16	A
768	767	9.66	M	40-45	S-N	g	g	pos	C	SF849	85-96	R	13?	C
774	773	9.88	M	15-18	N-S	b	d	Yes	—	—	—	S—	9	A
792	791	10.25	—	J	W-E	a	a	Yes	—	—	—	S	12	A
804	918	9.65	M	25-30	E-W	g	g	Yes	—	—	—	R	12	C
837	860	9.30	M	45-50	N-S	b	d	Yes	—	—	—	R	13?	C
863	?	10.19	?F	?18-20	—	—	—	pos	—	—	—	S—	15?	A
864	865	9.28	M	A	N-S	f	f	—	—	—	—	R	13	C
900	927	10.46	F	25-30	N-S	c	c	Yes	—	—	—	R	12	D
904	906	10.70	—	15-18	W-E	—	—	pos	?C	—	—	S	16	A
907	806	10.08	M	35-40	W-E	—	—	Yes	—	—	—	S R	13?	C
919	921	9.60	M	40-45	S-N	f	a	Yes	P,P	29.11-12	200-275	—	15	C
926	925	9.60	F	25-35	N-S	f	f	Yes	P	28.7	180-220	—	13	C
932	931	9.85	M	20-25	W-E	j	b	pos	—	—	—	R	12	C
935	937	9.43	M	19-20	N-S	d	b	Yes	—	—	—	S	13	C
939	938	9.60	F	35-40	S-N	c	c	pos	—	—	—	R	13?	C
943	947	9.39	M	45+	S-N?	g	—	No	J	39.6 (Pl.8)	—	S R	12	C
955	972	10.20	M	35-45	N-S	f	d	Yes	—	—	—	R	13?	D
964	967	9.53	M	25-35	W-E	a	—	Yes,Ld	—	—	—	R	12?	D
968	1000	9.75	M	25-30	W-E	h	i	Yes	—	—	—	R	15	D
975	974	9.48	M	35-40	E-W	—	—	No	—	(Pl.9)	—	R	12?	C
993	992	9.13	M	45-50	N-S	c	c	No	—	—	—	S R	12	C
1019	1018	9.90	F	40-45	N-S	c	—	Yes	—	—	—	R	13?	C
1029	1031	10.10	M	A	E-W	d	b	pos	—	—	—	S	13?	D
1042	1041	9.80	M	30-35	S-N	g	d	—	—	—	—	R	15	C
1047	1052	9.80	M	30-35	N-S	b	d	Yes	—	—	—	S	15	C
1050	—	10.52	—	—	—	—	—	Yes	B,P,P,P,P	28.8-11	180-220	—	13	D
1062	1061	10.10	M	18-19	W-E	d	a	Yes	—	—	—	R	12	D
1071	1053	9.93	M	45+	N-S	b	d	Yes	—	—	—	R	13	C
1079	1078	10.31	—	3-4	N-S	—	—	Yes	—	—	—	S	15?	B
1085	1087	9.22	F	35-45	S-N	b	j	No	—	—	—	R	13	C
(1093)	1110	10.09	M	35-45	NE-SW	b	d	No	P	29.7 (Pl.6)	150-250	—	13	C
1096	1098	9.99	M	19-23	E-W	a	b	Yes	—	—	—	R	13?	C
1113	1112	9.60	F	25-35	E-W	f	f	Yes	—	—	—	R	15	C
1117	1116	9.52	M	25-35	W-E	c	c	—	P	28.2	240-300	—	15	C
1126	1125	9.70	M	35-45	N-S	c	b	pos	—	—	—	S	15	C
1135	1134	9.46	F	25-35	W-E	—	—	—	—	—	—	S—	12?	C
1137	1136	9.80	—	10-12	W-E	f	a	pos	—	—	—	R	13?	C

Fig. 6 continued

Grave No.	Skele No.	Level m OD	Sex	Age yrs	Orient-ation	Hand			Grave Goods	Fig. No.	Date	Dating	Phase Plan Fig.	Area
						L	R	Coffin						
1138	1141	9.25	F	40-45	S-N	e	a	pos	B	—	—	R	12	C
1148	1147	9.55	—	4-6	S-N	c	d	No	—	—	—	R	15?	C
1151	1150	9.64	M	25-35	S-N	c	c	No	—	—	—	R	13?	C
1154	1156	10.46	M?	A	E-W	—	—	pos	—	—	—	R	12	D
1161	1163	9.80	M	45-55	W-E	c	c	Yes	—	—	—	R	13	C
1167	1166	9.67	M	25-35	E-W	—	—	—	—	—	—	S	13	C
1169	1171	9.54	M	25-35	E-W	a	d	pos	—	—	—	S	15	C
1173	1160	10.21	M?	A	W-E	—	—	—	—	—	—	S	12	D
1193	1059	10.10	M?	A	W-E	—	—	pos	—	—	—	S	13?	D
1201	1200	9.05	M	A	SE-NW	a	a	—	P,P	28.5-6	?180-225		13	C

Fig. 6 continued

backfilling of the eastern gravel pit, had, however, apparently cut through an inhumation burial (678) and must have been dug once the cemetery had started in use.

EASTERN GRAVEL PIT

A pit, presumed to have been dug to extract gravel, lay at the easternmost limit of the site (Fig. 9). Its full extent was not determined, it had been cut on the western and southern sides by post-medieval pits, and it extended beyond the limits of the site to north and east. The pit was not excavated to its full depth. It had been backfilled with sandy clay brickearth containing Trajanic pottery (layers 1128/9, Figs 30, 31 pottery report below). Graves and a possible tomb structure (Fig. 17) were subsequently dug into its fill.

CENTRAL GRAVEL PIT

A large gravel pit was dug in roughly the centre of the excavation area, probably in the early 2nd century (Figs 9, 14). It extended beyond the northern and southern limits of the site and the western and eastern sides of the gravel pit were partially removed by 17th-century gravel pits. It appeared to have had irregular edges but measured at least twenty metres east to west.

The gravel pit was entirely excavated along the southern edge of the excavation where it was shown to have been dug out in a series of irregular pits to between 9.00 and 9.50m OD. Some one and a half to two metres depth of sand and gravel had been extracted over all the area.

The sequence of backfilling seems to have taken place by AD 130 although there was much 1st-century material incorporated into the fill (Figs 30, 32, pottery report below). Burials, both cremation and inhumation, commenced in this area when the

backfilling was near completion. In particular a mature horse, 1044 (Fig. 9, Plate 1) was buried in a cut in the lower gravel pit fill, perhaps before the initial filling was completed (its skull had been removed by the cutting of a later grave). There was no evidence to suggest that the horse was a ritual deposit, the gravel pit may have simply been considered a convenient hole in which to inter the carcass. However horse skeletons have also been recorded in close association with human burials in the South West Region Cemetery at York [RCHM 1962, 79] and F. Cumont mentions an ancient Roman tradition in which the sacrifice of a horse as a part of the funeral ceremony might take place to soak the grave soil in blood [Cumont 1922, 51].

The uppermost layers of backfill, which immediately sealed some of the graves, contained five redeposited cremation urns (610 section E-F, Fig. 14, 735, 1088, 1123, 1131) dated to the 2nd century. The presence of these urns might suggest that nearby cemetery topsoil was used to raise the ground level in this area. A late 2nd or early 3rd-century pit, 1093, into which an inhumation burial (1110) had been placed, also had two cremation urns (1095, 1157) amongst a large amount of pottery and some glass redeposited in its fill.

The ground level in the area of the gravel pit remained approximately half a metre lower than the surrounding cemetery into the late 3rd century when burial here, and possibly everywhere east of the graveyard ditch, 206, ceased.

In the late 3rd or perhaps early 4th century, the ground level was finally raised by the dumping of a layer of soil, 633 (Fig. 14), which incorporated two concentrated dumps of burnt daub, 562, fragments of which were spread throughout the layer. This sealed all the graves cut into the backfill of the central gravel pit, but was in turn cut by a deep pit (169) which is described below.



Plate 1 West Tenter Street: Horse 1044 in central gravel pit (scale 0.5m).

DATING

The evidence from which the burials can be dated and its reliability is discussed below.

BURIAL GOODS

'Burial Goods' as primary evidence for the dating of the burials are here taken to include both cremation urns containing cremated bone and any vessels used to contain or act as lids to those urns, and the objects placed inside the cremation urns; and ceramic and glass accessory vessels, jewelry and other objects clearly deliberately placed with inhumation burials whether inside or outside the coffin.

Of these the ceramic vessels (see S. Pierpoint: 'The Romano-British pottery', below) are the most closely dateable, although it must be accepted that the dating of any particular type may change. The dates of the ceramic grave goods are indicated in the catalogue (Figs 5 and 6) and these have been used as a basis for the phasing below.

The possibility should be considered that some of the vessels, particularly the cremation urns, might have been redeposited and thus do not lie in a primary position. Cremation urns could have been recognised and formally reburied by later grave diggers. Thus the dating of some features in

relation solely to cremation urns may be unreliable. The two accessory vessels lying above the coffin in grave 919 may well have been inserted into the grave fill some time after the burial was made.

Twelve deliberately buried cremation urns were contained in identifiable ceramic vessels (Fig. 5), these had a total possible date range of 100–250, the earliest (979) being 100–140, the latest (1121) 180–250. The eight clearly redeposited cremation urns (Fig. 5) belonged to a similar range of dates.

The amphora which contained the Verulamium White Ware cremation urn (255) suggested that the cremation could not have been interred before *c.* 180, the urn itself is unlikely to have been in use much after *c.* 200.

The jewelry from two cremation urns is of an earlier date than the urns as might be expected of precious personal objects which may well have been lifelong possessions. The iron intaglio ring (903, Fig. 41) from cremation burial 675 is dated to the 1st century or early 2nd century and lies in a Verulamium White Ware urn dated *c.* 120–160. The personal objects (Fig. 38, 1–5) placed in the urn with cremation burial 1092 include Neronian items which are unlikely to have been deposited before *c.* 120.

The earliest ceramic grave goods accompanying inhumation burials were probably interred *c.* 150–

180 (Graves 621 and 689). A further seven graves (518, 654, 733, 926, 1050, 1110, 1201) contained vessels dated between *c.* 180 and *c.* 225, and three graves (506, 741, 919) were probably so furnished between *c.* 200 and *c.* 280. Two graves (270 and 710) had paired ceramic and glass vessels, dated to the 4th century by the glass. None of the jewelry from the inhumation burials could be closely dated. These ceramic vessels provide the basic dating framework on which the dating and phasing of the site has had to be based.

THE COINS

(SF references in brackets are to small-finds numbers in the coin catalogue)

No surviving coins from the inhumation burials could be confidently shown to be in a primary position and thus a precise guide to dating. Eight graves contained coins in their fills, and fragments of two infants lay in two pits both of which produced coins from the backfill. One grave (570), only a small proportion of which was excavated at the head end, produced three coins all apparently redeposited. Two were minted in the later 2nd century (SF 527,530) but the third was minted in the late 3rd century (SF531). The pottery sherds from the same fill were dated to between the mid 3rd and mid 4th centuries.

Two graves contained coins clearly deposited some time after they were in circulation. Grave 458 contained a coin of Nero (SF399) but pottery sherds no earlier than the mid 2nd century in date, and in grave 741 a coin of Septimus Severus (SF767) lay under the left arm of the skeleton which had been furnished with a BB1 beaker dated 250–300. The worn coin of Domitian (SF849) lying in grave 768 could have been in circulation when the burials in the central Roman gravel pit area were first made, probably after 120, but may have been derived from the gravel pit fill.

The partial infant skeleton which lay, perhaps redeposited, in pit 493 was in backfill containing a coin of Carausius (SF407) as well as pottery dated to the second half of the 3rd century. As the coin is less worn than others from the site the dating of this feature can perhaps be ascribed with greater confidence than most.

The five other inhumation burials associated with coins had no pottery evidence whatsoever to aid in their interpretation. Thus the coin of Domitian (SF95) lying close to the skeleton in grave 313 might indicate an early 2nd-century date for the burial but as the grave is not in a stratigraphic relationship to other Roman features and contained no pottery sherds in its fill the evidence of the coin must be treated with caution.

The two coins from grave 528, Victorinus or Tetricus I 268–273 (SF474) and a Victorinus copy 270–300? (SF478) would appear to offer a confident basis for dating this feature. It is, however, the latest in a sequence of three graves and the coins could have been derived from the fills of either of the two earlier graves. The proximity of grave 528 to grave 570 in which two 2nd-century coins were redeposited over 100 years after their manufacture should be noted.

It is assumed that the plaster burial rite is a 4th century one from parallels with similar burials in cemetery 3 at Poundbury [Green 1982, 64]. At West Tenter Street the coin evidence is particularly important in helping to date the plaster burials, none of which have closely dateable grave goods. Grave 459 is the only plaster burial to have a coin in its backfill, a copy of a coin of Constans (AD 340–7) with “average” wear (SF296). It lies close to a heavily truncated grave (141) which, although it cannot be shown to have been a plaster burial, certainly overlay a sequence of three others. It too contains a mid-4th century coin (SF419).

The partial remains of two infants were placed in the upper grave fill above the head and feet of the skeleton in grave 549. The one over the feet appeared to be simply laid in the grave fill, but the one over the head may have been inserted at a later date, the layer in which it lay contained a coin of Gratian (AD 367–375, SF155) only slightly worn and the latest to be associated with a burial from the site. Whether this coin is lying in the initial fill of the main grave, or is possibly derived from it, is uncertain.

A worn coin of Carausius found inserted in calcium carbonate packed around a skeleton at Spital Square, E1 [*pers. comm.* G. Evans] indicates the possibility that the rite emerged at the end of the 3rd century, and an argument for such a date at West Tenter Street could be made from the stratigraphy.

Indirect evidence for a date of not earlier than the mid 4th century, however, could be made from one interpretation of the function of the ‘deep pit’, 169, cut in the area of the central Roman gravel pit. The dating for the ‘deep pit’ is discussed below, its construction being later than AD 340 and backfill probably by AD 375. Traces of calcium carbonate on the gravel at the base of this pit could be waste from the enactment of the plaster rite, although the burials themselves are found well to the west of this feature. The period in which the ‘deep pit’ appears to have been in use fits precisely with the three coins found in association, albeit in stratigraphically late contexts, with the plaster burials.

The copper stain of a coin was found in the mouth of the skeleton in grave 904. The coin itself did not survive. This grave cut a chalk burial and is assumed to be at least 4th century in date.

REDEPOSITED POTTERY

The great majority of the graves are not directly dated by grave goods or coins. Some lie in clear stratigraphic relationship to ones that are so dated, but for many graves the only dating evidence is redeposited sherds in the fill, if any were recovered.

There is a predominance of 2nd-century pottery sherds throughout the site, although there are rarely very many in any one grave. Taken with the incidence of redeposited human bone the stratigraphic evidence suggests activity which must have taken place over a longer period than one century. It does however mean that for many graves it is not possible to phase them any more accurately than to the second century at the earliest—in the case of those cutting the backfill of the Roman gravel pit after *c.* AD 120.

STRATIGRAPHIC EVIDENCE

A number of graves can be roughly dated by their stratigraphic relationship to those furnished with dateable grave goods. The relative dating of intercutting graves at Lankhills has been discussed by G. Clarke [Clarke 1979, 119]. There a 'rule of thumb' was suggested of 20 years before the site of a grave was re-used or even where graves were dug side by side. Where no other evidence is available this has been tentatively used as an aid to dating and phasing the burials (see below).

A grave may have been re-used, however, for a particular reason, within 20 years. At West Tenter Street two graves overlying one another had collapsed into a third beneath (516, 694 into 744). Here both the two later burials must have been inserted before the lower coffin collapsed, and as they themselves were encased in coffins, must have lain in the ground long enough for their own coffins to have rotted through and the weight of the superincumbent soil to have brought them down with it as it filled the void beneath (for another example of a partially collapsed grave see Ellis 1985, 118). All three graves contained chalk burials, which faced south and apparently respected one another. The second burial, 694, was offset to the side of the first but partially overlapped the earlier grave cut, 744. The third burial, a juvenile, 516, lay well above and partially overlapping the head of the earliest grave. The proximity of the graves and similarity of burial rite might suggest a family relationship although no common genetic traits were identified on the skeletons. It seems unlikely

that this group was interred over much more than twenty years, and possibly less, thus closely grouped burials were made within quite short intervals of each other.

Burials significantly dated by their stratigraphic relationship to burials with grave goods include those which predated two cremation urns. The cut for cremation 442 (Fig. 12) cut the fill of inhumation grave 647 which in turn cut a probable grave 723 (Fig. 9). Cremation 69 (Fig. 13) was set in a shallow pit which cut through the fills of graves 68 and 75 (Fig. 12 and section C–D Fig. 11), grave 68 cut the fill of an earlier inhumation burial (66, Fig. 9). The suggested dating sequence here, working backwards from the dateable cremation urn, is that the urn is dated 150–200, but the 11 sherds of pottery in grave 68 are likely to have been deposited after 150, therefore if 20 years are allowed between burials the cremation urn may have been interred in the latter quarter of the century, grave 68 dug in the third quarter, and grave 66 *c.* 150. It is, of course, quite possible that all three burials could have been made over a much shorter time if deliberate re-use was made of the burial plot.

The most complex sequence of intercutting inhumation burials lay in the north west area of the site. Within this sequence three graves, each furnished with a ceramic vessel, were directly related to one another. The earliest, 689 (Fig. 12), dated 140–180, was cut on one side by grave 733 (Fig. 13) dated 200–250, which in turn was cut at its foot by grave 506 (Fig. 15) dated 240–280. This sequence of relatively well dated graves would suggest that a gap of as much as 20–40 years might be allowed between burials in the life of a cemetery in use as long as that at West Tenter Street.

Inhumation burial 278 (Fig. 9) may be the earliest burial on the site on the basis of its stratigraphic relationship to the central gravel pit which apparently cut it. The grave contained no dating evidence but the initial backfilling of the gravel pit is suggested to have taken place by *c.* 130.

PHASING

Burial can be shown to have taken place on the Tenter Street site from either very late in the 1st century or early in the 2nd century AD continuously through into the mid 4th century and perhaps later.

The frequency of burial at different periods is less certain but a phasing is suggested and illustrated on Figs 9, 12, 13, 15, 16. The greatest reliance has been

placed on burial goods, the most closely dateable being ceramic vessels which as complete grave goods or complete cremation urns are assumed not to have been deposited outside their conventional date range. No identifiable coin was found in a position which could be described as that of a 'primary' grave good. The phasing periods are consequently tied to date ranges commonly accepted for pottery types.

Seventeen inhumation graves (14%) contained ceramic vessels as grave goods, in addition 12 of the *in situ* cremation burials were in dateable urns, four with dateable lids, and one encased in the base of an amphora. These provide the basis of the phasing sequence and to them can be added the 8 graves containing coins in their fill. The only distinctive burial rite, that of plaster burial, can be dated (by analogy) to the 4th century; evidence from the site (see below, the deep pit) could suggest a date in the third quarter of the 4th century for this ritual.

The remaining graves can only be dated by their stratigraphic relationship to those more precisely dateable and to one another. Little or no residual pottery was encountered in many graves and where they were not lying in stratigraphic relationship to more securely dated features they cannot be dated with any confidence. The phasing plans therefore show many graves at the earliest date at which they are likely to have been dug.

PHASING SUMMARY (Figs 9, 12, 13, 15, 16)

The site probably came into use after the construction of a road running in an easterly direction from the Roman town in the latter half of the 1st century AD. A gravel pit was dug and backfilled by *c.* 100 by the roadside at about the time that the first inhumation burials might have been made. A larger gravel pit was

dug slightly away from the road, cutting an inhumation, and largely backfilled by *c.* 130. Cremation and inhumation burial practices continued simultaneously across the whole site with tombs marking inhumations constructed along the road side.

The precise number of burials made during the 2nd century is uncertain but the bulk of the cremations and possibly a majority of inhumations were made during this time. Cremation may have continued into the early 3rd century but not thereafter. Inhumation burial continued to be practiced, apparently without interruption, into the second half of the 4th century and perhaps later.

In the late 3rd or early 4th centuries a major landscaping took place. The ditch (206) was filled in, the ground level in the area of the central gravel pit raised by dumping, and a deep pit, perhaps associated with the rite of plaster burial, dug in mid 4th century only to be destroyed and filled up by *c.* AD 375. At least one tomb was robbed of its stone in the 4th century.

TOMBS AND MARKED GRAVES

Traces of stone foundations respecting graves were found at the eastern end of the site (Fig. 12). They followed the general alignment of the cemetery (as described below) and are interpreted as lying beside a Roman road. Disturbance in this area was extensive and none of these features were completely recovered in plan.

The easternmost tomb cut a gravel pit (1128) which had been backfilled by *c.* AD 100. A length of one east-west masonry wall, 1014 (Fig. 17), which extended beyond the eastern limit of the excavation, survived. It was cut at its western end by a post medieval pit. A *c.* 3.0m length of foundation trench was exposed in the excavation. It had straight vertical sides and a slightly curved bottom, measured 0.70–0.75m wide and bottomed at *c.* 10.10m OD. The trench was filled with ragstone rubble laid roughly in courses and packed

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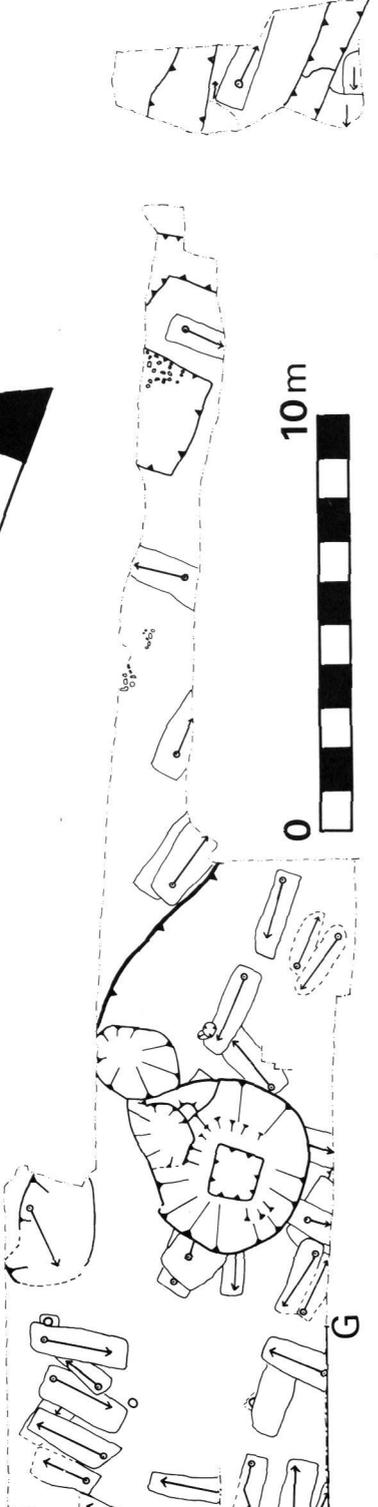
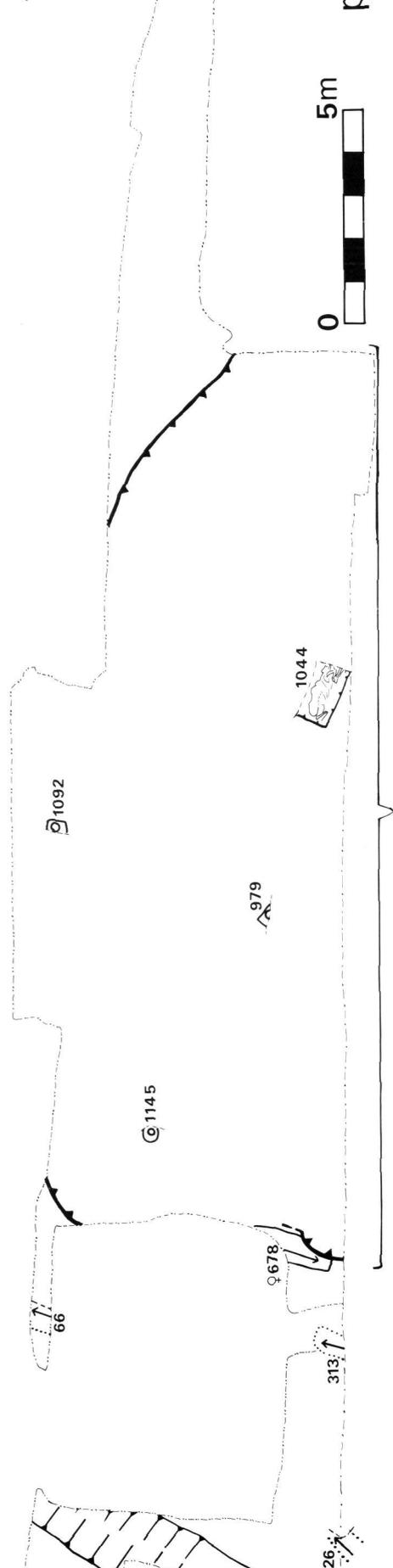


Fig. 8 West Tenter Street: All phases plan.



Area of gravel pit dug and backfilled by AD 120

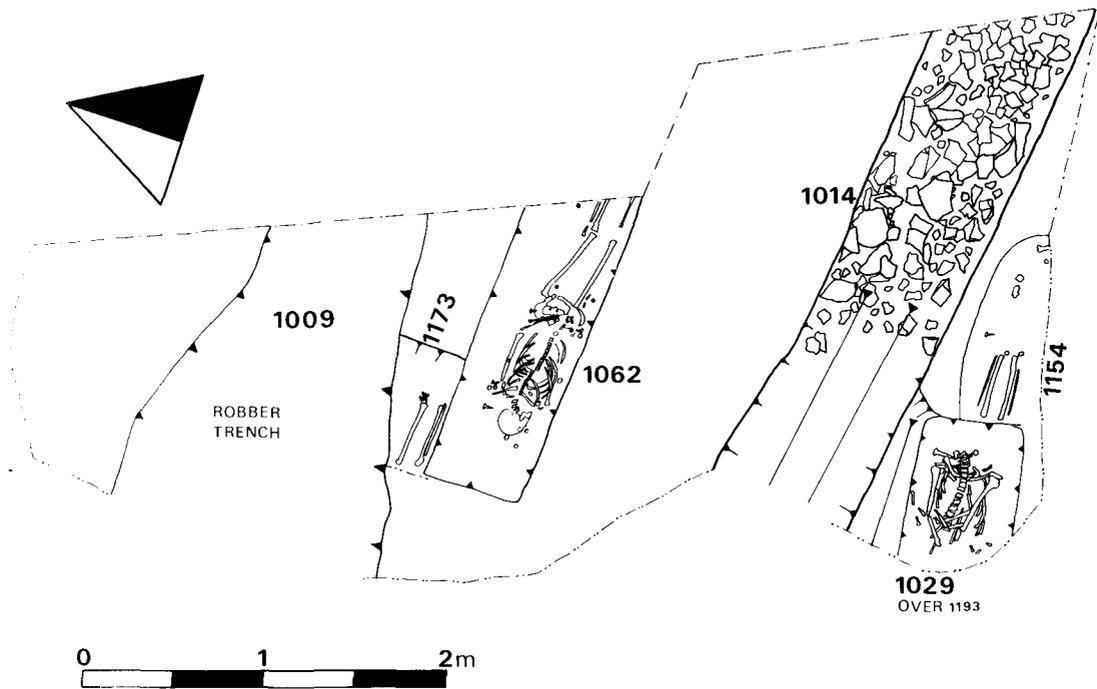


Fig. 17 West Tenter Street: Plan of tomb 1014 at eastern end of site.

with coarse grey mortar, surviving to *c.* 0.50m in depth.

Two burials were recovered from north of the wall foundation. The earlier one, grave 1173, dug to 10.20m OD, had been severely disturbed by post-medieval intrusions and only the two lower legs of an adult, probably male, survived. It had been cut by a gravecut, 1062 at 10.10m OD, for an eighteen to nineteen year old male interred in a coffin and orientated west to east although the skull lay on its right side and the body was slightly twisted so that it appeared to be arranged to face south.

A spread of ragstone rubble and cream mortar, 1074, sealed grave 1062 and spread south to the edge of wall trench 1014. It appeared to have either filled a shallow scoop or been compressed into the soil beneath. It contained pottery sherds dated to the late 2nd to mid 3rd centuries and a votive painted ceramic eye (Fig. 37.3).

An irregular trench, 1009, 1.5m wide at its western end and tapering to 0.85m wide at its eastern end led eastwards from the post medieval intrusion immediately to the north of and cutting the edge of the earlier grave, 1173.

A small island of stratigraphy lay on the south side of the wall foundation trench, 1014. It was cut on its west and south by post medieval pits. Three inter-cutting graves, none complete, survived here. The earliest, 1154, dug to 10.46m OD, lay to the east of the other two and only the lower legs of an adult, possibly male, orientated east to west were recovered.

Grave 1154 was probably cut at its foot by a west-east burial, 1193 at *c.* 10.10m OD. It too contained an adult, probably male, of which only the feet were found. That burial was immediately overlain by another adult male in grave 1029, oriented east-west with the torso preserved. The skull was, however, missing, the neck vertebrae were pushed upwards slightly against what appeared to be coffin nails. Parts of a mandible were recovered from the grave and it is possible that the skull had been propped up in the coffin, only to be subsequently sliced off by the cutting of the post-medieval gravel pit. An alternative suggestion is that it was a decapitation burial, examples of which were found at Lankhills [Clarke 1979, 342-4].

The only dating evidence is a few 2nd century

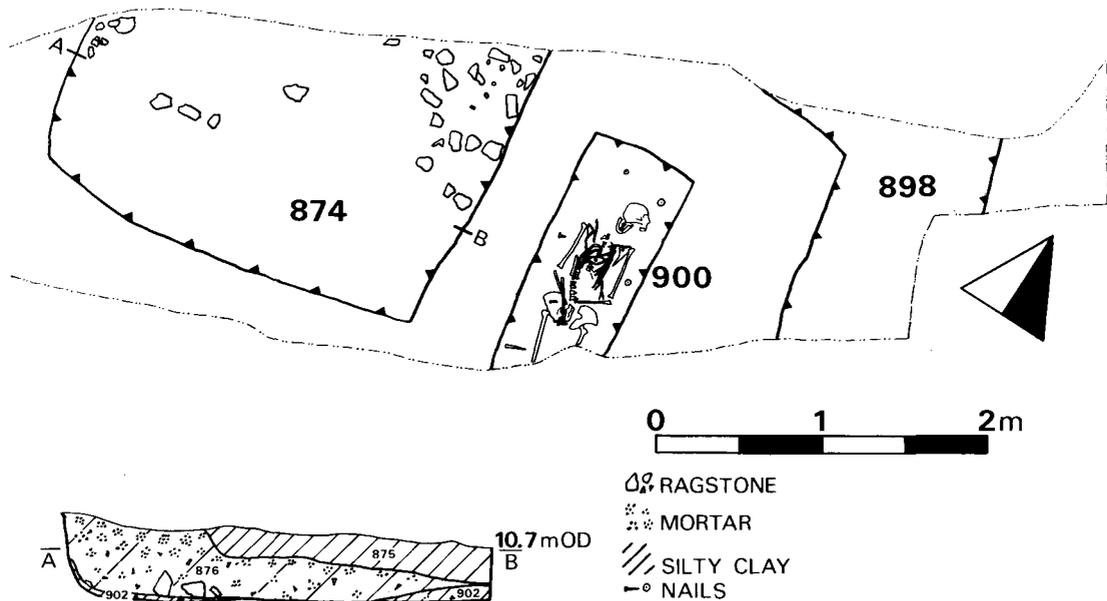


Fig. 18 West Tenter Street: Plan of tomb structures 898 and 874, section through robbing debris of 874.

sherds from the graves both north and south of the wall. The ragstone rubble (1074) may be interpreted as demolition rubble, but the pottery from it and the votive pottery 'eye' might only indicate the period of active use of the structure rather than the date of its destruction, which must remain open to conjecture.

The features are interpreted as the remains of a tomb. The irregular trench, 1009, to the north appears to be a medieval or post-medieval robber trench which may well have robbed a stone wall parallel to 1014 to the south. If so, grave 1062 would be a roughly central burial, the tomb probably being constructed after grave 1173 had been dug and possibly forgotten. The three burials on the south side of the wall would therefore have been made as closely as possible to the standing wall.

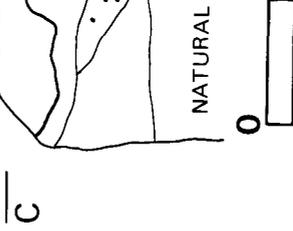
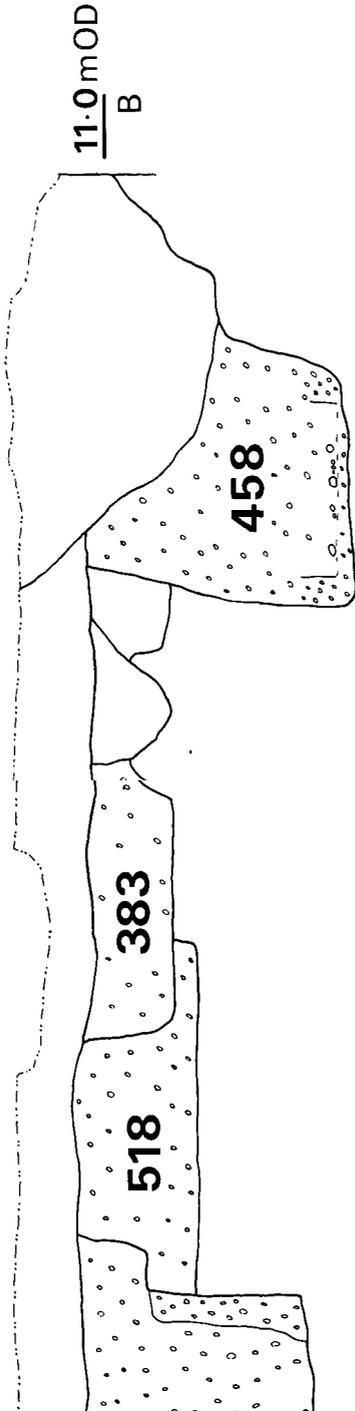
It is equally likely that wall 1014 was the northern wall of an enclosure for which we have no other evidence. If so the three tightly packed burials would suggest the intensive use of the enclosure's interior.

To the west of the most easterly tomb but also close to the roadline, structural remains lay around a grave, 900. They are two distinct cut features which did not entirely surround the burial. (Fig. 18). The grave was enclosed on its east and north

by a right-angled, square profiled trench, 898, measuring 0.90m wide and cut to a depth of 10.24m OD. It was filled with a lower layer of sandy clay with few inclusions, which contrasted with the bulk of the fill containing mortar and building debris fragments. The grave was dug to 10.46m OD and contained an adult female orientated north to south, the grave fill contained 2nd-century pottery sherds.

On the west side of the grave a broad flat bottomed trench, 874, measuring 2.5m wide and dug to *c.* 10.43m OD, was cut on its north side by a post-medieval intrusion. It was filled with a sandy silt which contained some gravel, small chips of ragstone, and mortar, a layer of ragstone debris had accumulated along the eastern edge. The lumps of mortar were particularly large in its surface, where post-medieval disturbance had truncated it. Fourth-century pottery was recovered from it.

Although cut to north and south by gravel pits grave 900 was apparently not entirely enclosed at least by features dug well into the brickearth. The right-angled trench may have been a wall foundation trench, but if it contained a stone wall no trace survived unless the mortar in the backfill is robbing debris. The trench might have contained a substantial wooden sill beam for a timber construction. It appears too regularly cut to be a



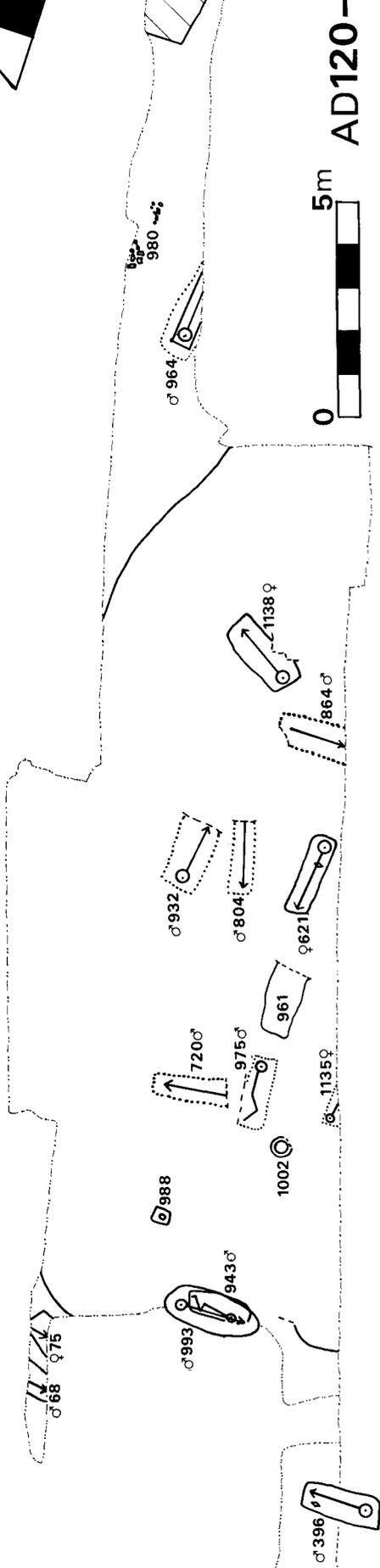
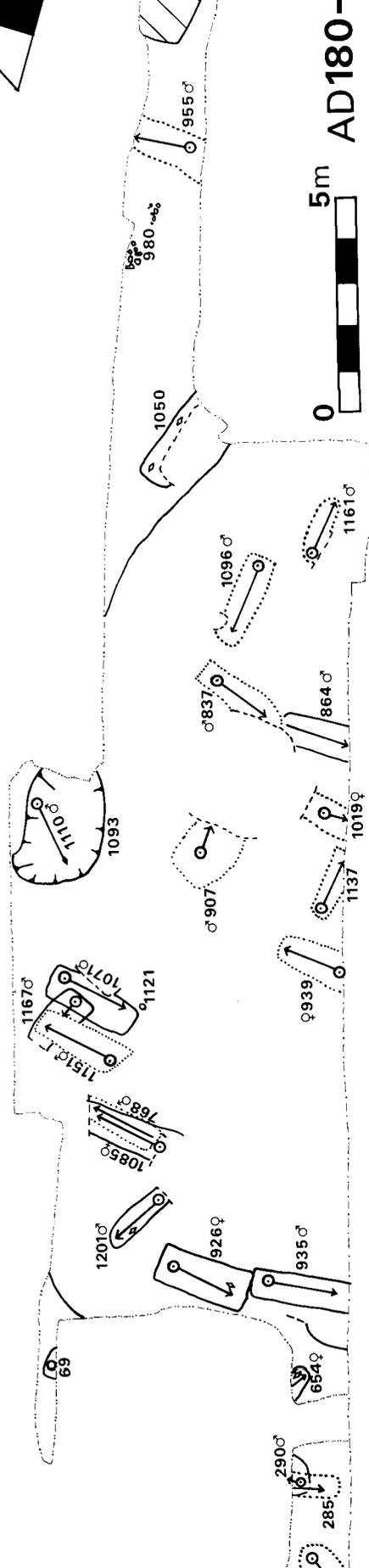


Fig. 12 West Tent



hedge ditch, an interpretation proffered for ditches around graves at Lankhills cemetery [Clarke 1979, 98 and 106].

The building rubble debris in feature 874 to the west of grave 900 bears the hallmarks of robbing trench backfill. If this is a foundation trench it could be interpreted as the base of a monument of one of the types known from the roadsides of Roman towns in Italy and elsewhere in the Empire [Toynbee 1971]. It could have been the base for a tower tomb [*ibid* 164–72] or a raised altar surrounded by an enclosure wall [*ibid* 123–5] which could have cremation urns or inhumation burials placed in or near them. If this monument was destroyed in the 4th century it may have been at the time of the construction of the bastions on the east side of the Roman city wall, dated to between 341 and 375 [Maloney 1983, 108], when several funerary monuments were incorporated in the foundations [Merrifield 1983, 228–235].

A grave, 955, lay *c.* 1.80m to the west of foundation 874 and contained an adult male buried in a coffin, orientated south to north with skull facing east (Fig. 13). The backfill of the grave contained frequent small fragments of pink, yellow and grey mortar in the fills over the coffin and had the appearance of more robber trench backfill. Assuming that this is not a re-used robbed foundation trench, the mortar may be derived from the construction or destruction of a nearby tomb. The grave is dated to the late 2nd century or later from pottery sherds in the fill.

To the west of grave 955 a loose linear spread of ragstone rubble, 980 (Fig. 12), incorporating one tegula fragment, lay at the base of the ploughsoil no deeper than *c.* 11.0m OD. The rubble was in two patches 0.5m apart and not mortared, although two course of smaller stones survived at its western end, suggesting that it was the base of a drystone foundation rather than demolition rubble. No dating evidence accompanied the rubble.

WOODEN GRAVE MARKERS

The most substantial traces of a grave with wooden superstructure were found around grave 428 which belongs to the latest phase of cemetery use (Fig. 16). It was not completely excavated because of its depth and because it extended beyond the southern edge of the excavation, the half excavated being the head end of the grave.

The grave (Fig. 19) was dug to 9.95 OD and a 50mm deep layer of gravel laid over the floor. The coffin, containing an 8–13 year old, was placed with the head at the north, on the grave floor. The sides of the grave were lined with gravel mixed with some silty sand. This was held in place along

the inside by wooden shuttering, slight traces of which survived as a dark grey clay stain. The shuttering appeared to rest on the coffin lid on the east side of the grave and retained the lining against the vertical side of the grave. The west side of the grave had been cut away to about the depth of the coffin lid to form a ledge on which the lining rested. The lining was apparently constructed after the coffin had been placed in the grave. The gravel extended along the full excavated length of the grave's east edge where it was 120mm thick, but apparently ran out at *c.* 1.5m from the head end along the west edge which was *c.* 60mm thick. This lining was carried up to a depth of *c.* 10.85m OD at which an irregular lip *c.* 100mm wide was cut out around the edge of the grave, forming square corners, and packed with the gravel. Two projections a further *c.* 100mm at their widest were dug roughly opposed to one another on the west and east sides *c.* 0.90m from the head end of the grave, these were also filled with the gravel. The grave cuts a chalk burial and contains a few late 3rd-century sherds in its fill, it is dated to the 4th century or later.

The gravel is interpreted as forming a foundation for a wooden superstructure with post pads for two projecting upright timbers. The resulting construction could have imitated more substantial, and presumably more expensive, masonry ones, the external uprights perhaps imitating stone pilasters. At a time when stone monuments were being robbed for their construction material it might have seemed that a timber structure would have a better chance of survival.

Three other graves, all in the south west corner of the excavation, had postholes associated with them which are interpreted as grave markers:

Grave 548 (Fig 9) extended beyond the southern site edge and was excavated at the head end only. The grave appeared to have been dug to a depth of 10.44m OD, at which level a *c.* 0.5m long shelf was left at the head end and the cut for the coffin dug 0.5m deeper. The coffin contained a 45 years or older male facing south, the burial being made possibly as early as the mid 2nd century on stratigraphic grounds. A posthole, 574, was cut into the grave fill, its rectangular cut tapered to a 120mm square flat bottom at the base. The posthole was subsequently truncated by a chalk burial, grave 553. Lying immediately to the north of grave 548 was an east-west grave, 626, with a posthole, 337, at its western end (Fig. 12). The grave contained a thirty to thirty five year old male, lying in a wooden coffin reinforced around its inside edges with angle-strips of lead (Fig. 20), and was dated to the late 2nd century. The sides tapered in slightly

to the base of the grave, over a distance of *c.* 0.40m at the foot end which was cut by a posthole, 337, in its north west corner. The posthole measured 0.10 × 0.15m, and had vertical sides and a flat bottom, it was dug down to 10.55m OD, *c.* 0.65m higher than the grave floor. The ground above the posthole was cut way by a post-medieval pit and it was not possible to be certain that the posthole had been dug through the grave fill and was not cut by the grave.

A later grave 376 (Fig. 13), which cut grave 626, had two small postholes set in a shallow scoop cut out of its eastern edge. The grave contained a female adolescent facing south and dates to perhaps the early 3rd century. The posthole feature appeared to be integrated with the edge of the grave, although the southern part was cut by grave 321. The scoop, *c.* 0.80m long and up to 0.25m wide, was cut to 10.88m OD and it incorporated one posthole at its northern end. The posthole measured *c.* 0.10m square and was flat bottomed, dug to 10.83m OD. The other posthole lay at a different angle to the first and may have cut through the southern end of the scoop. It measured 0.20m north-south and was cut by a later grave on its western side, it was flat bottomed and dug to 10.81m OD. It is assumed that these postholes are part of some sort of grave marker. There might have been others around the grave, particularly on its western side which had been recut for the insertion of a juvenile's burial. It is however poss-

ible that the postholes belonged to an earlier feature removed by the digging of grave 376.

CEMETERY ORGANISATION

Some ordering of the overall layout of the cemetery and a general respect for other graves is evident at the West Tenter Street cemetery. Although there are many cases of cremation and inhumation burials being cut by later burials they can be partly explained by the long period over which the cemetery was in use and the inevitable loss of grave markers over such a period.

D. Bentley has identified apparently deliberate clustering of the Roman burials at St. Bartholomew's Hospital [Bentley and Pritchard 1982, 157–8]. The clearest example of such a practice at West Tenter Street is in the grouping of the plaster burials, all perhaps dated to the 4th century (Fig. 16). The densely packed burials in the north west corner of the site appear to have been made over a long period and their concentration may not be deliberate.

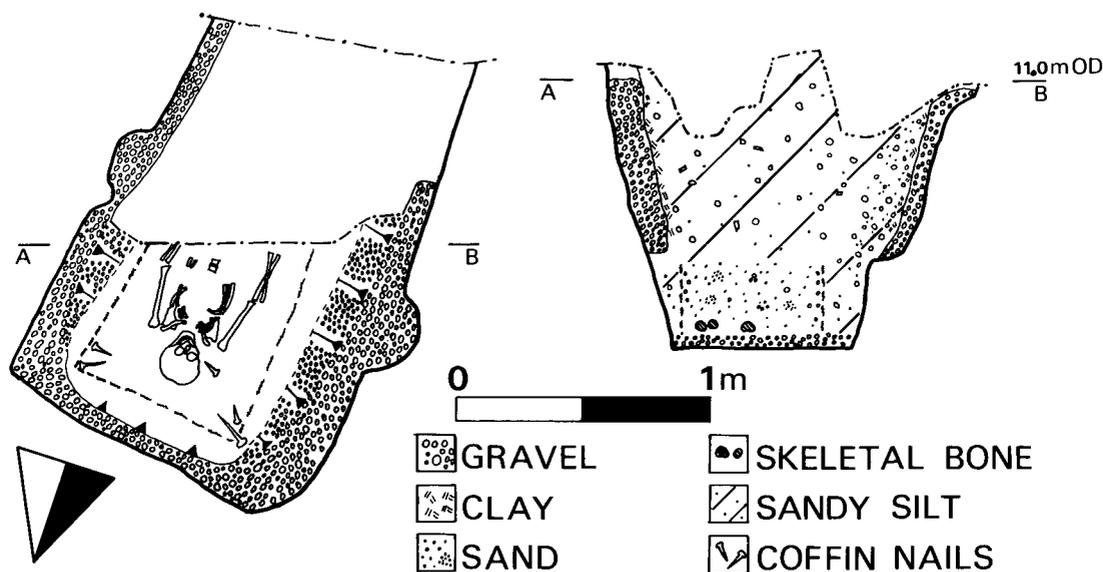


Fig. 19 West Tenter Street: Plan and section of grave 428.

There was no distinctive pathological evidence to suggest clustering by family groups.

Some graves cut the ends or sides of earlier graves, as if later burials were being squeezed in between known grave plots. In one instance, grave 447 cutting grave 376 (Fig. 13), it appears that the later burial, a juvenile, was deliberately inserted alongside and on the same orientation as a female adolescent. Although the right side of the earlier burial was disturbed, the bones were redeposited over its skull, showing that it had been deliberately uncovered before the second burial was made. The earlier grave was also associated with traces of what may have been a structure to mark it (see 'Tombs and Marked Graves').

A probably 4th-century grave, 744 (Fig. 16), containing an adult male, had apparently exactly re-cut an earlier burial as numerous bones of an 18–20 year old female were found packed outside the head and foot of the coffin. Dark staining presumed to come from an earlier coffin was found on the edge of the grave cut.

Three cremation urns were cut by Roman features, but many of the others survived although a number of graves were cut close to them. As these were mostly shallow burials it is possible that they were visible protruding through the Roman ground surface. One cremation urn, 69 (Fig. 9), was positioned exactly between two graves although its cut dug through the fills of both graves.

Some graves, particularly the early ones, were badly disturbed, and redeposited human bone was found generally throughout the cemetery. This may suggest that more burials were made than have been identified. If exact re-cutting of graves took place, as in the case of grave 744, where the earlier occupant had been redeposited in the fill, then the evidence for the earlier burial could be entirely

missing. Grave 968 (Fig. 15) completely removed the occupant of the much shallower grave 1050 (Fig. 13) none of whose bones had been redeposited in the later grave. It is only because the later grave was slightly offset from the earlier, which had two urns (Fig. 27, 10, 11) lying beside the coffin, that the earlier grave was noticed. Two near complete pots (Fig. 27, 8, 9) had been redeposited in the fill of the later grave suggesting that it had cut an unusually well furnished burial.

Several 'ghost graves'—deep cuts and shallow pits which contained no evidence for burials—were difficult to interpret. One large feature in the area of the central gravel pit, 961 (which cut a cremation urn) (Fig. 12) was large enough to contain an inhumation burial but contained no evidence for one. Feature 341 at the west end of the site might have been the end of a grave but was cut by a post-medieval pit (Fig. 12).

A number of shallow scoops in the surface of the cemetery may have been the remains of infants' graves from which the bone evidence has been lost. Of these only those graves with clearly laid out coffin nails or grave goods have been illustrated on the phase plans.

Two cuts containing fragmentary bones are interpreted as inhumation burials *in situ*. Feature 726 containing one fragment of a left tibia cut feature 723 in which were the fragments of a left radius and ulna and a rib (Fig. 9). Both were cut by two post-medieval trenches which removed any further evidence for these graves.

Two intercutting pits (429, 493, Fig. 16) were dug in the north west corner of the site. Pit 493 was an irregular oval shape *c.* 1.10m wide, steep sided, and was dug to expose the leg bones of the burial in grave 605. The pit fill contained the articulated bones of the spine and right ribs of an infant. A coin of Carausius

(287–90) was found in the fill together with some late 3rd century pot sherds.

Pit 493 was cut by pit 429, which had an irregular square shape measuring *c.* 1.40m square. It had steep sides, and had uncovered the legs of the burial in grave 551. The backfill contained sherds of 4th-century pottery. The dating material from the pits could have all been derived from the graves which they cut if they were backfilled with the same material.

Graves 605 and 551 were placed side by side 0.5m apart on roughly the same alignment (Fig. 16). They both contained adult males orientated west to east. The skeletons were noticeably stained a dark purplish red, the only ones from the site to be so coloured.

The purpose of the pits cutting these graves is uncertain. The distinctive colouring of the skeletons may be the result of an unusual burial rite, but J. Evans suggests that it might be the result of manganese salt replacement of the coffin wood affecting the bone; he detected traces of manganese salts in a sample of soil accompanying one of the skeletons as well as low levels of liquid materials tentatively identified as adiposea, no traces of dyes or other unexpected elements were detected. The pits could have been dug to re-establish the position of the two graves which might have been lost after a period of neglect, or simply dug by later grave diggers to ensure that they were not disturbing earlier graves. The latter interpretation would be further evidence of respect shown for earlier burials. The excavation of the pits may have created the right conditions to cause the manganese reaction with the human bone.

ALIGNMENT

The graves (Fig. 8) were by and large aligned either parallel to or at right angles

to a north-south ditch (206, Fig. 9). This ditch, which was possibly banked on both sides, appears to have been respected by the earliest burials, and remained in use until at least the mid 3rd century. It would have made an impressive boundary, measuring over 1.8m wide and *c.* 1m deep, and must be considered an important element in the organisation of this part of the cemetery. The ditch may, however, have been secondary to the Roman road, which ran from west to east across the cemetery area, and would have been at right angles to it. The ditch sloped downwards to the north towards the presumed road, the length excavated having a fall of some 0.13m over *c.* 6.5m, and could have fed into a roadside ditch.

The only evidence for the date of the construction of the ditch is that what might be 2nd-century burials apparently respected it. It appears to have been well maintained and kept clean. No silting-up layers were observed, and it had been backfilled in one episode. Two coins certainly stratified in the fill were both slightly worn coins of Tetricus I dated to AD 270–273. The accompanying pottery sherds were also dated to the second half of the 3rd century. The latest coin from the site, one of Arcadius dated 388–402, was found in the very surface of the ditch: the distinction between the fill and the overlying ploughsoil being there hard to make, it must be assumed that this coin was derived from the ploughsoil or had become lodged in the surface of the ditch backfill. The grave, 282, which cut through the ditch backfill, contained no dating evidence. As it also cut through where the western bank would have lain it indicates that any bank may have been removed and perhaps used to backfill the ditch before the grave was dug.

The foundation trenches of what appear to be tomb structures at the east end of the excavation are on a common

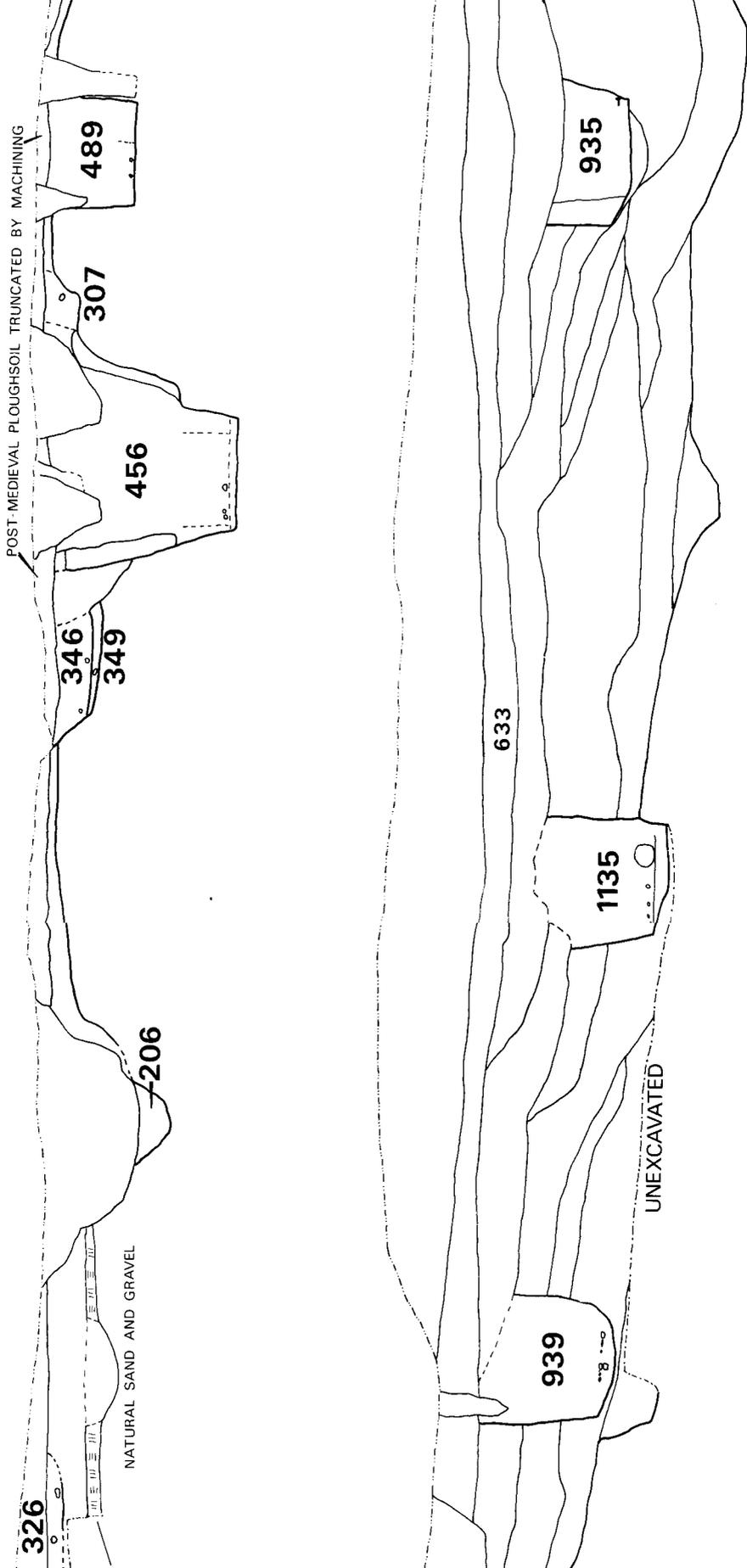
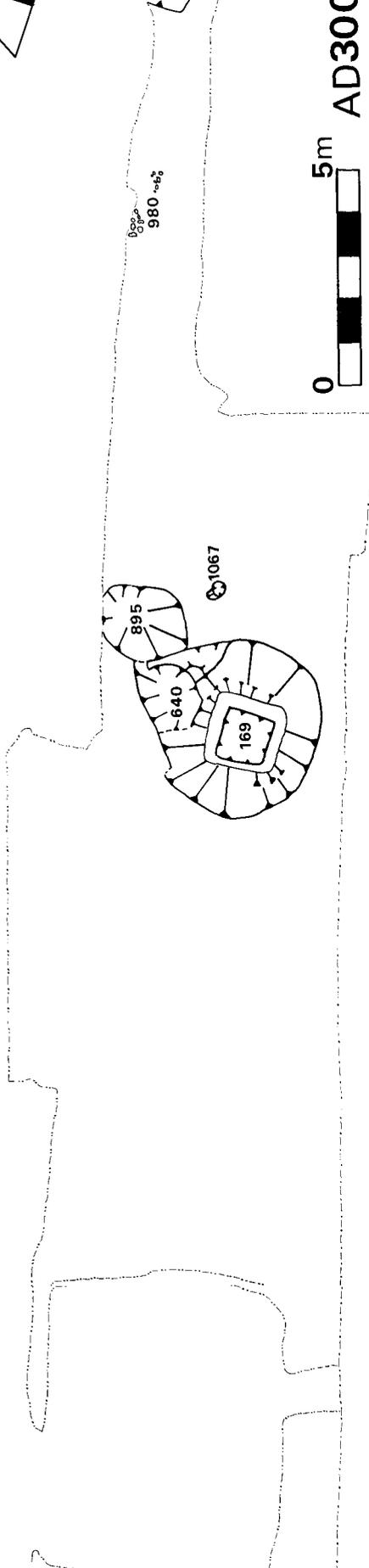
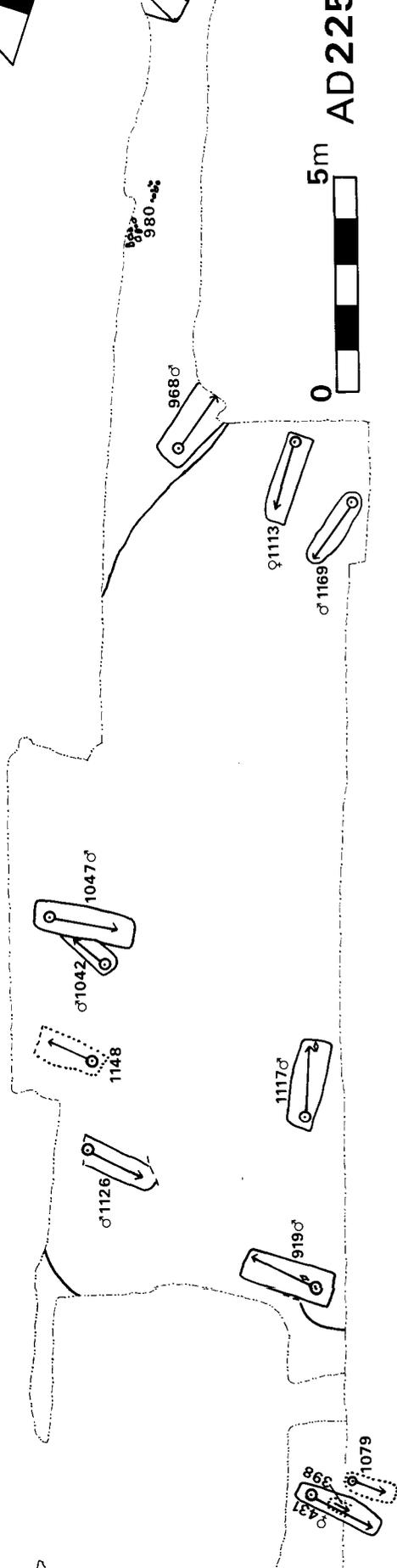


Fig. 15



AD225

AD300

orientation to one another and to the line of the road. The placing of tombs by roadsides was common Roman practice, and can be seen for instance at Pompeii, both along the major road, the Street of Tombs [Toynbee 1971, 119–26] and the minor extramural road the Via Nuceria, the size of the tombs reflecting the status of the roads.

The axes of the ditch and road are clearly respected by most of the graves throughout the life of the cemetery. Even the grave cut through the backfill of the ditch respects the general alignment as does the skeleton (1110) laid in a circular pit (1093, Fig. 13). A few graves do appear to have departed from this alignment, in particular a number of graves in the south west corner of the excavated area appear to disregard the others. Grave 321 (Fig. 15) cuts through two earlier burials in what appears to have originally been a marked grave (376, Fig. 13). No respect is shown for the earlier grave edge or the skeletons, and it is possible that this is a late grave inserted long after the earlier ones had been forgotten and perhaps when the organisation of the cemetery had broken down, although there is no independent dating evidence to support this interpretation. Two earlier graves in the immediate vicinity of grave 321 (328, 487 Figs 9, 12) also stray slightly from the common alignment. This part of the excavation was furthest from the Roman roadline and it may be that the further from the road graves were dug the less its line influenced them.

The graves at West Tenter Street appear quite orderly in that most were dug with a concern to follow one of two alignments. This can be contrasted with the apparently random nature of the burials at Trentholme Drive [Wenham 1968, 33], made over a similar period of time. The 3rd–4th-century cemetery, 2A and 2B, at Poundbury also had graves

laid out according to local boundaries [Green 1982, 63 and C. Sparey Green *pers. comm.*], but the later 4th-century cemetery, 3A, had all the burials organised to a common alignment and orientation. Similarly the 4th-century cemetery at Lankhills had most graves organised in rows, with the burials all to a common orientation [Clarke 1979, 13, Fig. 10].

ORIENTATION

Whilst the alignment of the graves appeared influenced by the local topography, the orientation of the skeletons in the graves may have been affected by other factors. An examination of 108 burials of which the orientation is quite clear (Fig. 6) shows that twice as many (45) were buried with head at north and feet to south, apparently facing south, as those with head at south, facing north (22). 28 skeletons were interred with head at west and feet to east, facing east, slightly more than those facing north and twice as many as those with head at east, facing west (13).

No pattern could be discerned in the phases of cemetery usage, the areas of the cemetery, the age or sex of the skeletons, or even burial rite, to suggest any variations in approach or belief in the orientation of burials. The eight plaster burials faced south and north with only one facing east. This lack of common orientation is in marked contrast to the 'special burials' at Poundbury which were all on the same west-east alignment and are thought to be Christian burials [Green 1982, 64].

THE CREMATIONS

The cremation burials were all recovered from the areas intensively used for inhumation burial and it is in some ways remarkable that they had not been disturbed. This may have been due to the shallow depth at which most of them were buried. The necks of some of the urns

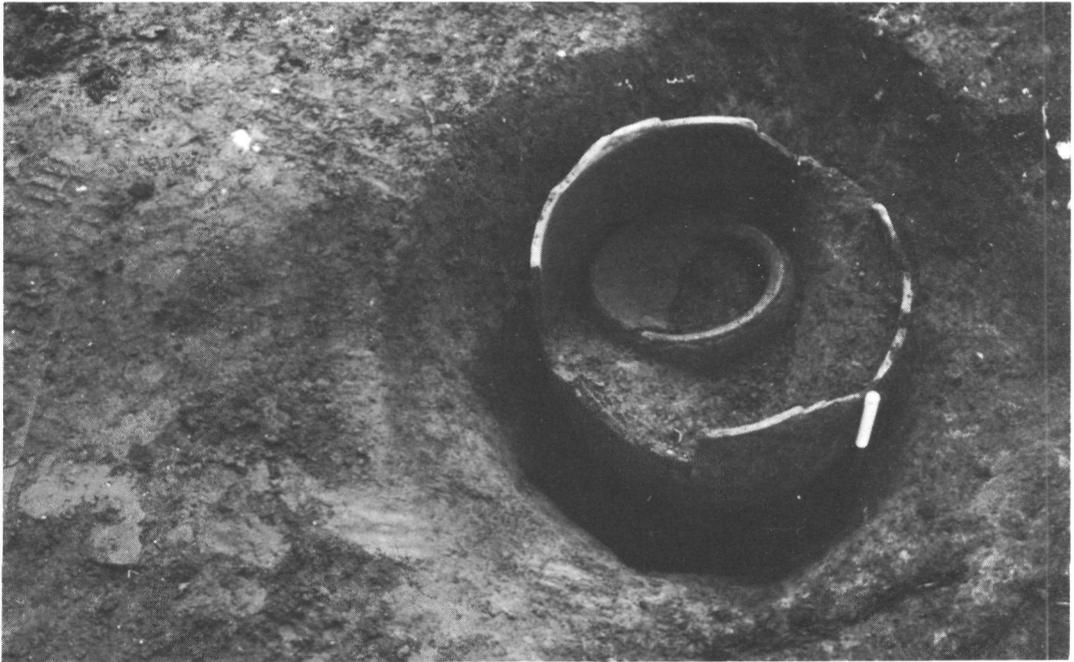


Plate 2 West Tenter Street: Cremation burial 255, VRW urn in amphorae with inverted dish lid (scale 0.2m).



Plate 3 West Tenter Street: Cremation burial 442, with tile lid (scale 100mm).

must have been close to or protruding from the ground surface so that they were recognized, and in some cases respected, by later gravediggers. It is also possible that the urns were marked by surface monuments which have left no trace below ground. Only two urns were found cut by graves, and one other by a Roman feature, as well as one by a post-medieval trench. Some of the urns were respected by later graves: three apparent grave cuts of varying dates cut the pit dug to contain the urn of burial 675 without disturbing the urn itself (Fig. 9). The post-medieval ploughing had truncated four particularly shallow burials. The shallow burial of cremation urns was particularly noticeable in a walled cemetery at Colchester [Hall 1944, 81–85].

Cremated bone was, however, found in many contexts throughout the site suggesting that a number of cremations must have been disturbed and redeposited over the life of the cemetery. Any cremated remains not contained in urns may have been particularly vulnerable to disturbance. Obviously redeposited cremation urns were found only in the upper backfill of the central Roman gravel pit and it is assumed that they were derived from nearby cemetery topsoil which had been used for one final levelling-up of this area.

Three cremation urns (988, 1121, 1145) appeared to have been deliberately buried as they lay in cut pits, and are entered as *in situ* in catalogue, however the fragmentary remains of the urns (Figs 26.1, 27.2, 27.5) might suggest that they had been disturbed and deliberately reburied. In the area of concentrated burials at the west end of the site a number of sherds of urn forms usually associated with cremation burials were found redeposited in the grave fills, but none directly associated with cremated bone. If they were cremation urns they may have been disturbed and redeposited so many times that they had

become entirely divorced from their contents, however they might have been simply derived from food vessels left lying on the cemetery surface.

The limited range of urn types used for cremation containers and their similarity to those used to furnish inhumation burials is noted in the pottery report below.

The urn in burial 497 was of particularly low quality, with a very poorly fired fabric which was unidentifiable. The use of pottery seconds for cremation burials was noted at Kelvedon, Essex [K. Rodwell 1988, 47] and M. Millett found urns which were too poorly fired to be lifted at Alton, Hampshire [Millett 1986, 75, 79–80].

Five undisturbed cremation urns had lids, one using a broken dish inverted as a lid, 255 (Fig. 24.2–3, Plate 2), another a tile, 442 (Fig. 27.1, Plate 3), and two others with inverted lids. The inverted lids are thought to have been placed to collect token libations poured on the grave (see pottery report below).

A small, square-ended, pit (736, Fig. 13) measuring 0.5m wide and at least 0.25m deep, cut on its south side by grave 435, contained a significant amount of charcoal in its base and cremated human bone around the sides. This was possibly a burial in a pit of a cremation without a container, for which there are parallels from Cirencester [Reece 1962, 70], or it could have been a wooden box burial as a box constructed without nails need not have left any trace. Box containers, distinguished from caskets, have been discussed by Borrill [Borrill 1981].

Two cremation burials (979, 1145, Figs 25.5, 27.5) are contained in urns which can be dated to the first half of the second century AD, and a further two (675, Fig. 25.2, Plate 4, 1092, Fig. 24.5) fit into the second and third quarters of the second century. Five (224, 988, 442, 69, 1002,



Plate 4 West Tenter Street: Cremation burial 675, VRW jar with inverted tazza lid (scale 100mm).

Figs 26.6, 26.1, 27.1, 27.4, 24.7) are dated to the second half of the 2nd century. A further three (255, 696, 1121, Figs 24.3, 26.4, 27.2) are no earlier than the later second century, two of these (696, 1121) were in urns which were in manufacture as late as the early 3rd century. The overall date range is paralleled at Trentholme Drive, York [Wenham 1968, 27]. The pit containing cremated bone (736) also contained pottery sherds dated to later than AD 200. The redeposited cremation urns found in the upper fills of the central Roman gravel pit fall into this range of dates.

The most richly furnished burial from this site was a cremation (1092). The grave goods consisted of a yellow glass ring, squat glass jar, a rectangular bronze mirror, a circular box mirror with a head of Nero copied from a coin on the lid and figure on the base, rather worn but probably copied from a coin reverse,

together with a worn coin of Nero with a hole drilled through it (Fig. 38.3). These objects were placed in a Verulamium White Ware urn with a perforated inverted lid in the same fabric (Fig. 24.4–5). The Neronian objects at least may have been in the possession of one person from youth through to later middle age or even passed down as heirlooms, presumably from mother to daughter. The burial demonstrates the care which has to be taken in assigning a date to a burial derived solely from precious objects, including coins. It is assumed that the urn, which is characteristic of the period 120–180, was used early in that date range, but only on the basis of the objects which were already long-lived by that period.

In the context of heirlooms in graves it is worth noting in relation to the intaglio ring (Fig. 41) from a cremation urn (675, Fig. 25.1–2), dated 120–160, that M.

Henig has commented on the lack of engraved gemstones found in London and other major cities, probably because they were needed to prove wills and so passed down through families [Henig, 1978, 52]. If signet rings are present the symbolism on them may be important [Henig 1984, 201].

From the limited evidence it seems that, at least in this cemetery area, the cremation rite was contemporary with that of inhumation.

THE INHUMATION BURIALS

The Graves

The graves were mostly rectangular with vertical sides and square or rounded corners. The graves were cut to differing depths, on average *c.* 0.5m deeper in the area of the central gravel pit, which had not been backfilled to quite the level of the surrounding cemetery. The deepest grave in the gravel pit area was cut to 9.05m OD, outside the gravel pit the deepest grave was dug to 9.53m OD. The shallowest graves lay at *c.* 11.00m OD and cannot have been much below ground surface, which it is suggested may have been at *c.* 11.20m OD. Shallow burials, 6–9in (0.15–0.23m) below Roman ground surface, were noted at Trentholme Drive [Wenham, 1969, 37].

Bone Survival

There was a wide variety in bone survival, in some cases no bone survived at all although evidence for a coffin or grave furniture was present. However there were several well preserved skeletons with nearly all bones present. The high percentage of missing smaller bones may partly be due to poor preservation but also to inadequate excavation recovery. The need to collect the smallest hand and foot bones, by sieving if necessary, is stressed in the human bone report below. Whilst we can be fairly confident of near

complete recovery of the surviving skeleton in the greater part of the excavation, the later stages were more rushed and the recovery rate consequently probably fell. This affected burials in the central gravel pit area particularly.

Preservation was not directly affected simply by the size of the bones. Some adults were very poorly preserved yet some infants survived almost in their entirety. The absolute depth of the burial did not appear significant, but skeletons lying in graves which cut into the brick-earth topsoil seemed to be in poorer condition than those in graves which penetrated the better drained sand and gravel subsoils. Those graves in which no skeleton survived at all were all shallow ones cut into the surface of the brickearth. Burials at the same level in the backfill of deeply dug graves were by contrast well preserved, as were those packed with calcium carbonate, which was almost certainly packed in a wet state as lime around the body or parts of it.

A clear example of copper alloy as an inhibitor of bacteria was seen in grave 328, a shallow grave dug into the brick-earth, in which the skeleton of a child of less than 8 years was poorly preserved. Although only the major limb bones and part of the skull survived, one phalange entirely stained green from a simple copper alloy ring around it was recovered. Many of the skeletons were extremely brittle and although uncovered whole the bones broke upon lifting. Post mortem damage was extensively recorded in the pathological report.

ATTITUDE

The common position for nearly all the skeletons was supine and extended. Two exceptions were skeletons which had been deliberately laid on their left sides with their legs flexed, one, grave 975 (Plate 9),

as a result facing south and the other, grave 943 (Plate 8), west.

When considering the alignment of the graves it was pointed out that the orientation of the skeletons was significantly biased so that more faced south or east than north or west within the predominant alignments. Thirty two of these skeletons were lying with the head facing upwards. However in 31 cases the skull lay on one side or the other. No pattern could be discerned in the numbers of heads so aligned as to suggest that this was the result of deliberate arrangement of the body, and it seems that the heads may have merely fallen within the coffin space during the natural corruption of the cadaver. Some skeletons were in positions which could be interpreted as laid with the body slightly tipped to one side or the other. It is not clear how deliberate this positioning was, as the bodies could have moved during the carrying and interring of the coffin.

ARM POSITIONS

The significance of the burial positions of arms and legs in the Roman period is not altogether clear. They have been tabulated in different ways in different excavation reports [e.g. Clarke 1979, 140 and McWhirr *et al*, 1982, 85]. It is here argued that it was the position of the hands which may have been of significance, but as the hand bones are often missing it is the resultant arm attitude which is noted. The arm positions are tabulated in the catalogue (Fig. 6) by the position of the hands, as the upper arms were invariably straight by the side (in supine burials) the amount the forearm was flexed at the elbow can be deduced from the position of the hand.

A comparison of the arm positions of all the inhumation burials showed that the West Tenter Street burials compared closely with those from Cirencester

[McWhirr *et al ibid*] in that the most common arm position was with both resting on the pelvis, the hands being either on the same side as the arms, together on the pubis, or with the arms crossed and the hands on opposite sides of the pelvis. This was evident in 45 cases at Cirencester and 27 at West Tenter Street. The second most common position on both sites was with the two arms straight by the side (Cirencester 31, West Tenter St. 11). A combination of the two above positions was noted in 6 cases at West Tenter Street and in 22 at Cirencester. Cirencester also had a significant number (23) with both arms flexed at the elbow at right angles whilst there was only one such at West Tenter Street. The skeleton survival was too poor to deduce the arm position for 37 skeletons at West Tenter Street and 214 at Cirencester.

In the 4th-century cemetery at Lankhills the most clearly predominant position was with arms straight by the sides [Clarke, 1979, 140, Table 12, 353]. The number of burials with both hands on pelvis was relatively small but some had their arms in a combination of the two positions. Whilst certain variations could be detected between the sexes at Lankhills, no such could be confidently stated from the West Tenter Street sample, nor was any significant change in attitude detectable over the three centuries in which the cemetery was in use.

Unusual arm positions at West Tenter Street included two examples of arms crossed on the chest with hands resting on the breast (768, 804), these were both adult males on different orientations buried in the mid 2nd to 3rd centuries. Two further adult males had the left arm resting on the right breast and right hand on the pelvis, one (487) probably mid to late 2nd century and the other probably mid 3rd century (1042). The adult male in grave 932 (mid 2nd–3rd century) had

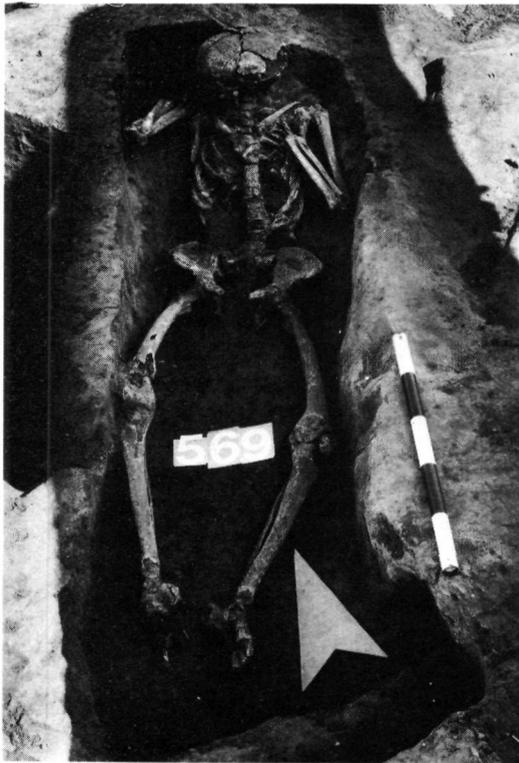


Plate 5 West Tenter Street: Inhumation burial 538 (scale 0.5m).

the right arm lying across the waist but the left was flexed across the chest so that the hand rested on the mouth. An adult female (1085) had the right arm flexed back with the hand behind the head and elbow pointing outwards although the left hand was placed conventionally on the pelvis.

The most unusual attitude was that of the adult male in grave 538 (Plate 5) which had both arms flexed backwards, the right with hand behind the head causing the elbow to be pushed upwards and outwards, the left flexed across the chest with the hand probably resting on the collarbone. The legs were extended but slightly akimbo with the knees pushed upwards. There was no clear evidence for a coffin.

LEG POSITIONS

Almost all the skeletons had their legs fully extended, apart from that in grave 538 mentioned above and the two skeletons on their sides (see below). Of the exceptions one grave (487) had been cut across the lower leg and this action appeared to have pushed the right leg under the left at the knee. Two burials could be seen to have been deliberately arranged so that the legs were drawn together. The partially excavated and fragmentary burial in grave 313 seemed to have the lower left leg resting over the lower right leg. A pit, 1093, dug into the central gravel pit fill had a skeleton, 1110 (Plate 6), laid in it with the right knee drawn against the extended left leg so that the lower right leg lay along the lower left leg. A white slipped bowl (Fig. 29.7) lay inverted over the ankles. The burial, which was not in a coffin, is dated to the first half of the 3rd century.

Grave 1113 contained an adult female in a coffin. Although undisturbed coffin nails demarcated the ends of the coffin the lower left leg was missing. No intrusion was seen to explain this loss, but no pathological evidence for amputation (which is unlikely to have been made at the knee) was observed either.

A more bizarre case of what must have been human interference was seen in grave 528 (Plate 7), dated to the late 3rd century or later. The torso was only partially excavated as it extended beyond the limits of the site, however the right arm appeared to be laid at right angles across the stomach, and the vertebrae and ribs properly articulated. The legs, by contrast, had been completely rearranged by being turned upside down, the ball joints of the femurs pointing away from the pelvis, the right hand one resting on the pelvis, the left slightly below the pelvis. The tibiae and fibulae appeared to be articulated normally with the femurs



Plate 6 West Tenter Street: Inhumation burial, skeleton 1110 in pit 1093 (scale 0.5m).

but the feet and ankles were missing. The sacrum was placed in the correct anatomical position but inverted. The whole skeleton was contained in a coffin and no clear signs of later disturbance of the grave were noted. As no cut marks appeared on the bones, dismemberment must have taken place well after the body had corrupted. It would seem that the burial was arranged or rearranged in the coffin when it was in a skeletal state, by someone with slight anatomical knowledge.

BURIALS ON THEIR SIDES

Two bodies had been laid on their left sides (943, 975). Both were adult males dated to the 2nd century. One, 943 (Plate 8) lay in an oval pit, with the knees tightly flexed so that the humerus was at right angles to the body and the feet drawn up under the pelvis. The left arm was flexed with hand on the breast, the lower right

arm rested on the left shoulder with the hand projecting beyond it. The second burial was in a rectangular grave, 975 (Plate 9). The legs were only slightly bent at the knee, both arms were bent at the elbow, the right across the pelvis and the left thrust out away from the body.

A correlation was suggested between osteo-arthritis and such burials at Cirencester [McWhirr *et al* 1982, 81]. However, the two burials at West Tenter Street had only mild osteophytosis and Schmorl's nodes which would not have affected the individuals in life. Fasham has interpreted an adult female burial lying on the left side with legs drawn up as being in a sitting position [Fasham 1979, 60].

THE PLASTER BURIALS

Eight burials (Fig. 16), all in wooden coffins, with calcium carbonate packed completely or in part around the skeleton, were recovered from the site. They are

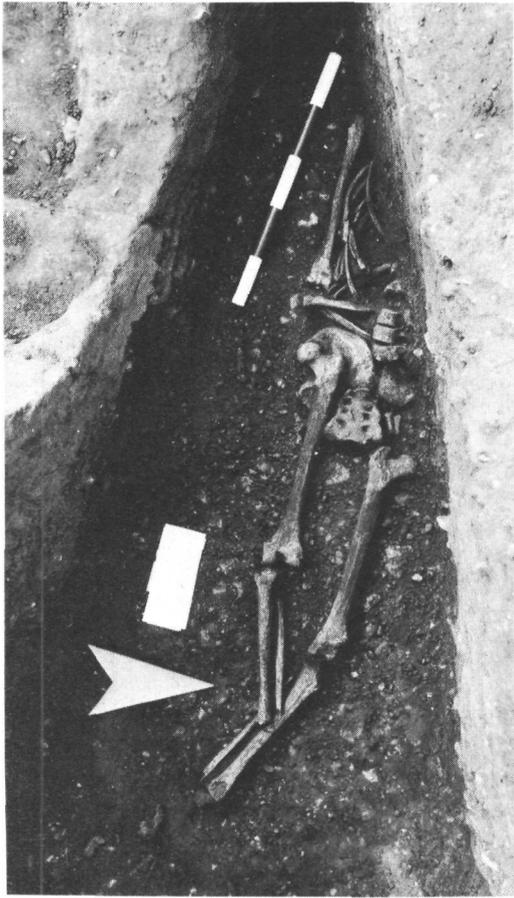


Plate 7 West Tenter Street: Inhumation burial 528 (scale 0.5m).

dated broadly to the 4th century and at least one to the later 4th century. The samples, of what was effectively recrystallised calcium carbonate from all the graves, were analysed by J. Evans who concluded that the material seemed to have been slaked or quick lime which had subsequently reacted with carbon dioxide to produce calcium carbonate. The generic term for these burials as 'plaster' burials has been adopted here.

Four plaster burials were of juveniles, two 4–6 years old (516, 553), and two 8–10 years old (435, 489), the other four

were adults, three males, (459, 694, 744) and one female (549). All the skeletons were fully extended, with arms straight by sides or slightly bent with the hands resting on the pelvis. Five faced south, two north and one east. No ceramic grave goods accompanied the burials. One adult (459) had a hobnailed shoe placed near his right foot, and the female in grave 549 had a copper alloy bracelet (Fig. 39.1) placed in the lime under her left foot. The juvenile burial in grave 435 (Plate 14) had a hexagonal jet bracelet (Fig. 39.7) placed in the grave beside the coffin.

Only two skeletons were entirely encased in the lime, an adult, 549, and a juvenile, 489, (Plate 10), although the slumped skeleton of a juvenile, 516, may also have been fairly well covered when originally interred. Of the other two juveniles one, 553, had lime over the knees, lower legs and feet, a patch over the left hand, and another on the right pelvis. The second, 435, had one block of lime extending from the upper chest to the ankles but the skull, shoulders and feet uncovered.

The three adult males were only partially covered in lime, although the one in grave 694 was almost entirely encased, with the lime packed right into the head end and sides of the coffin, yet the lower half of the lower legs and feet were left exposed. In grave 459 (Plate 11) the body had been provided with a pillow of lime under the head, it was then covered over the lower arms, which were crossed on the pelvis, and down to the knees although the right leg was partially exposed. Grave 744 had lime spread in patches over the base of the grave in the area of the coffin. This grave had been re-used and it is just possible that the lime was derived from an earlier burial, the bones of which were packed at either end of the grave outside the coffin.

The purpose of the calcium carbonate

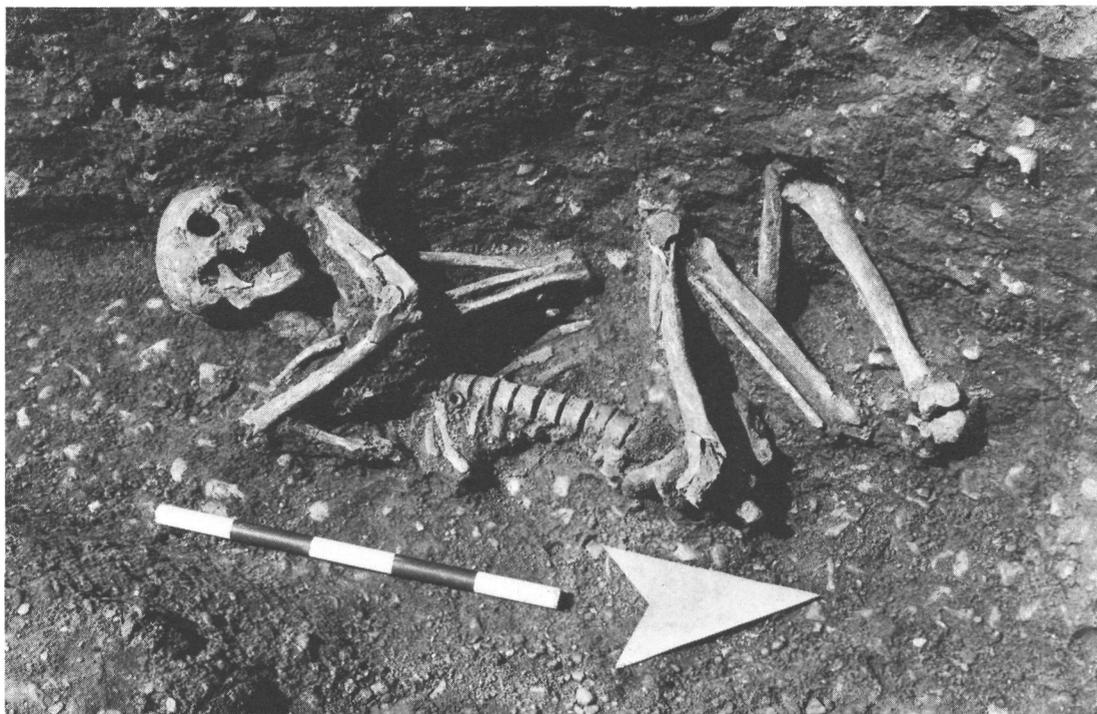


Plate 8 West Tenter Street: Inhumation burial 943, with shale ring (scale 0.5m).



Plate 9 West Tenter Street: Inhumation burial 975 (scale 0.5m).

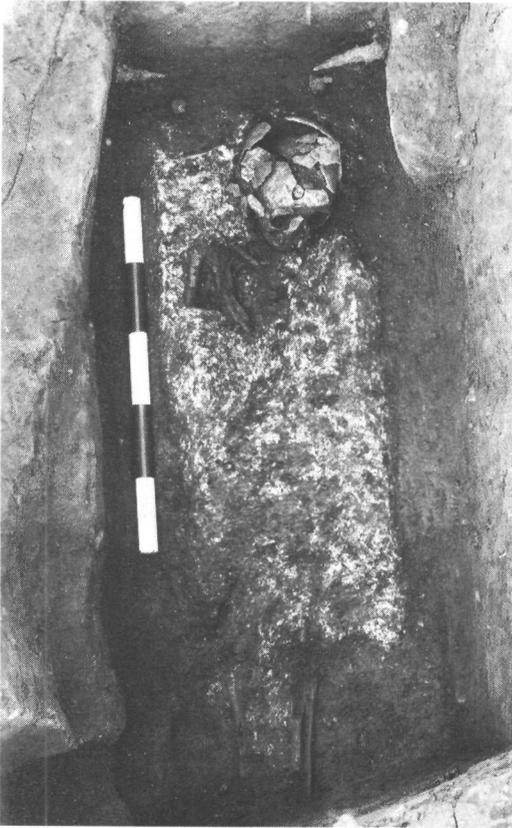


Plate 10 West Tenter Street: Plaster burial 489, note coffin nails at head (scale 0.5m).

or lime is open to conjecture, it has been suggested that calcium carbonate powder if placed in dry could have absorbed the liquids given off by the decay of the body [Green 1977, 48]. If wet lime was used at West Tenter Street it would have accelerated the breakdown of the fleshy tissues, although ultimately it inhibits the decay of the bone. This would have presumably been most effective where the body was entirely surrounded in the material and it is surprising that all the bodies had not been covered in this way. It is particularly noticeable that three burials had the lower legs uncovered whilst one had only the lower legs covered. It may be that the

symbolism of the white material, perhaps as an earthen shroud, held the most significance for those carrying out the burial ritual, and not the amount used. The coverage of specific areas of the body might relate to their perceptions of which parts of the body were 'infected' or caused the death of the individual.

A convincing argument has been made by C. S. Green [Green 1977, 46–53] that the plaster burials at Poundbury are indicative of Christian burial in the 4th century. The lack of grave goods with the



Plate 11 West Tenter Street: Adult burial in plaster 459.

West Tenter Street burials might support his argument, and the lack of common orientation need not be an obstacle to this interpretation [Green 1977, 49–50].

The presence of articulated fragments of two infants in the upper fill of grave 549—one, 363, above the head and the other, 444, above the feet of the adult female burial—should be noted as should the infant, 443, in the upper fill of grave 459. Infants have only been recovered from late contexts and this may be interpreted as an indication of a later Christian concern not previously shown for them in Roman Britain.

COFFINS

The coffins in which the inhumation burials were placed were usually identified by the presence of coffin nails. No wood survived but occasionally a stain from decayed wood was detected. Four samples of wood stains were analysed by J. Evans and found to be mainly manganese salts; he writes: 'The process, by which manganese salts replace wood, tends to cause the wood to fragment in a similar manner to that observed when wood is burnt. Such replacement is thus often mistakenly termed charred. It is probable that many of the so-called charred coffin fragments mentioned in the literature are in fact manganese salt replacements (at least in part)'.

In three graves a wood stain only was present, suggesting that the coffins were constructed solely of wood, being pegged or jointed (a dovetail jointed coffin was observed at Harlow [VCH 163, 142]). The stain could simply be residue from blocks of wood arranged like a tile cyst [Price 1866, 37], or a hollowed out tree trunk could have been used [Crummy 1980, 265]. In some cases only a few nails lay in the grave fill and it could not be determined if a coffin had been used or not, as the corpse might have been simply

placed on a wooden bier. No traces of a coffin were recorded for twenty one burials, including all five infants.

Eighty one graves had some or all of their coffin nails in position and the way in which they were constructed and their dimensions could be recorded. This information was restricted by the number which had been disturbed and the way in which the coffin collapsed. The evidence of upper nails which had been dislodged by the weight of soil in the grave was particularly difficult to interpret. The cross-section of grave 774 (Fig. 10) preserved a coffin stain which showed that the coffin had collapsed along the west side although the east remained vertical. The interpretation of displaced nails must therefore be treated with some caution.

The widths of 50 adults' coffins could be calculated with confidence, showing an average of 0.45m, most falling into the range 0.37–0.48m. The lengths of only 20 adult's coffins could be measured, most falling into the range 1.70–1.75m although the longest was 2.12m. Measuring the depths of the coffins is somewhat subjective, as the distance the upper nails might have been pushed downwards by the overlying soil burden is uncertain. Most measurable coffins were in the range 0.20–0.40m deep, many within the range 0.20–0.30m. The two coffins re-inforced by lead angle-strips were 0.38m and 0.39m deep, the lid nails which accompanied the complete coffin (Fig. 20) were displaced along the long sides and would not have indicated such a deep coffin if taken on their own. The general coffin depths measured may therefore be too low.

The coffins from the excavation at Kelvedon, Essex [Rodwell 1988] were recorded in some detail. There the full size coffins averaged 2.0m long by 0.57m wide by 0.24m deep, and were considered larger than necessary [*ibid*, 37, Table 1].



Plate 12 West Tenter Street: Inhumation burial 626 in lead strip reinforced coffin (scale 0.5m).

The method of construction of the coffins can be deduced from the position of the nails, the evidence for which is particularly well preserved in the case of the coffin in grave 626 which was reinforced with lead angle strips along the length and width of the base and as uprights in the corners (Fig. 20, Plates, 12, 13). The internal dimensions of the



Plate 13 West Tenter Street: Detail foot end of lead strip reinforced coffin construction, 626 (scale 100mm).

coffin were 1.88m long by 0.43m wide and 0.38m deep; the external dimensions of the wooden coffin would have been about 2.00m long by 0.50m wide by 0.45m deep. The lead strips were attached to the wooden sides by lines of iron tacks at 5–6mm intervals along the edges of the strips. A second coffin of similar construction, partially survived in grave 964. Three fragments of a similar coffin were found at 46 Mansell Street [Collingwood and Taylor 1932, 213, Museum of London Accession No. LM32.2/2] but are unpublished. The foot of another has recently been excavated in Spital Square, E1 [*pers. comm.* G. Evans].

The wooden coffin sides and ends of

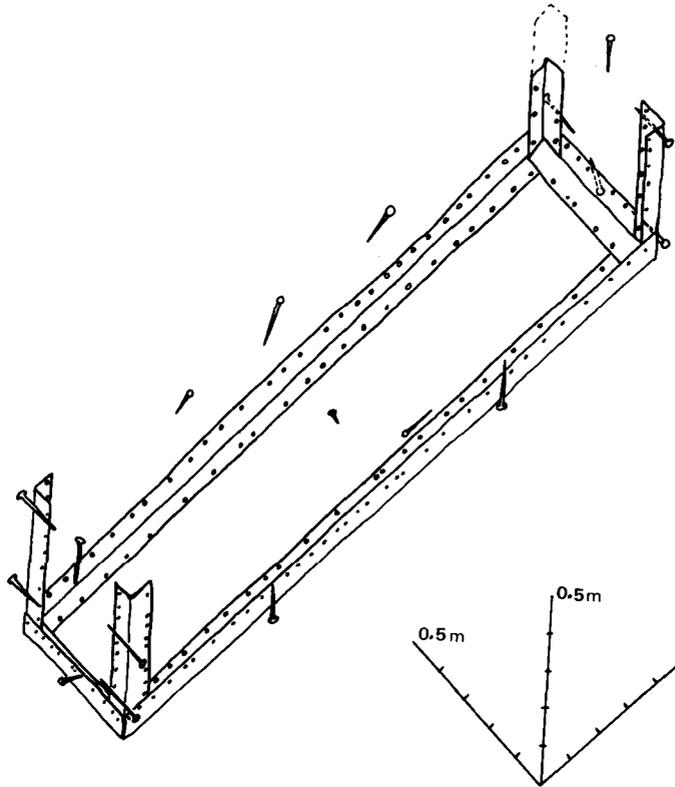


Fig. 20 West Tenter Street: Isometric drawing of lead angle strip reinforced coffin from grave 626 showing the position of the nails from which the construction of the wooden coffin has been deduced.

the lead reinforced coffin, 626 (Fig. 20), rested on the base, and a single nail was driven from the base into the centre of each end piece. Both these nails lay at angles as if they had been driven in at an angle. The side pieces rested on the base but were nailed to it on the south side only, by two nails evenly spaced driven through the base to the side piece. The side pieces were nailed to the end pieces with two nails at each corner, the nails were staggered so that they were at alternating depths on opposing sides. The upper nail and lead strip in the north east corner is missing, cut by a later grave. The lid rested over the sides and ends and was nailed onto the ends by one nail

centrally placed at each end. The lid was also nailed to the sides although these nails were somewhat dislodged. Three nails appear to have been used along the centre of the north edge spaced approximately 0.35m apart, and two nails on the south side roughly opposed the spaces between the three northern nails.

This general method of construction seems to have been the one predominantly used on the site for coffins without lead strip reinforcing. In many instances nails were only found at the ends of the coffin and the long sides must have been joined by some other means such as dowelling, for which the evidence has not survived. K. Rodwell has pointed out [Rodwell

1988, 31] that the coffins would have sagged and split apart if they were left unsupported along their length. Forty three coffins were nailed with sides overlapping ends but the evidence was often ambiguous as to whether the sides rested on or against the base.

Twelve coffins were apparently nailed with sides against the base, which was the normal practice in the Kelvedon cemetery [Rodwell 1988, 31], but at least thirteen coffins seemed to have the sides laid on the base. In one instance, grave 311, one side apparently lay against the base whilst the other rested on the base. Careful attention to the way in which the nailing was carried out can be seen in the lead reinforced coffin above and in the child's coffin in grave 328 where the sides resting on the base had been attached unconventionally with pairs of nails on either side neatly opposed to one another, close to either end of the coffin and exactly half way down it. What is presumed to be the coffin of a child, although no skeleton survived, in grave 333, was nailed in the four corners with two nails in each, one driven from the base and the other from the side into the end piece so that their points touched and they had become fused together in the ground.

A lack of evidence for coffin lids was noted at Lankhills [Clarke 1979, 339–41] and only one lid was confidently claimed at Kelvedon [Rodwell 1988, 31]. Twelve Tenter Street coffins had clear evidence for lids and a further fourteen may have been so fitted. It was not always possible to tell if a lid had been attached to the coffin or not. Simple cross struts to brace the sides might have been used as at Kingsholm [Frere 1985, 301–2] and there was some ambiguous nail evidence to suggest that struts could have been used in a few graves. The number of planks used to construct a coffin is uncertain. It cannot be taken for granted that only one plank

was used for the sides, base or lid; in many cases two planks could have been employed [see Rodwell 1988, 31].

The lengths of 276 coffin nails were analysed. No significant variation in their average size was noticeable over the three centuries in which they were used, although nails of various lengths were used in any one coffin. Most nail lengths fell into the range of 50–100mm, compared with 40–110mm at Lankhills [Clarke 1979, 332]. I am grateful to C. Orton who carried out statistical tests to see if there was any standardisation in the lengths of the nails. It is interesting to note that the results suggest significant lengths based on 50mm, equivalent to two *unciae* (one *uncia* is 1/12 of a *pes*, about 24.7mm), and increasing in 18mm intervals, equivalent to one *digitus* (1/16 of a *pes*, about 18.5mm). No analysis was made of the shapes of the nail heads or shanks.

GRAVE GOODS

Grave goods comprising pottery objects, glass objects, worn and unworn shoes, worn and unworn jewelry, and metal personal objects (the individual objects are described in the finds report below), were found accompanying 2 out of 13 *in situ* cremation burials and 26 out of a total of 120 inhumation burials.

The goods from inhumation graves were found accompanying juveniles and adults, both males and females, and ranged across the cemetery, although they were absent from the tombs.

POTTERY

The burial of ceramic vessels does not appear to have been adopted as a rite before the mid, and probably later, 2nd century, although as there are few fully intact earlier graves this evidence should

be treated with caution. This practice continued through the 3rd century, and ceramic vessels were found paired with glass vessels in two presumably juvenile 4th-century graves but were not found with the plaster burials.

Seventeen inhumation burials in all were accompanied by ceramic objects. The vessels are two sorts, smaller beakers or cups and larger cooking pots which are only found with adults. It is argued in the pottery report that the vessel types placed with inhumation burials are those also used to contain cremation burials.

They were usually placed upright in the grave, both inside and outside the coffin, at the head or foot. Exceptions to this were a few placed on their sides, one vessel was inverted over the ankle of an uncoffined male adult, 1110 in pit 1093 (Fig. 29.7, Plate 6) and an inverted pottery lamp, 476 (Fig. 37.2) was found placed between the ankles of an adult female. Unusually positioned urns included a truncated Verulamium White Ware urn (Fig. 29.3) which had apparently been placed on the breast bone of an adult female in grave 621, and two pots (Fig. 29.11–12) one inserted mouth first into the mouth of the other, seemingly placed in the grave fill above the coffin of grave 919 and perhaps inserted into the grave after it had been backfilled.

The soils found in 16 burial vessels were analysed by J. Evans in an attempt to identify what the vessels might have contained. The tests were designed to detect dried fats, oils or resins, and proteinaceous material. No biological debris (such as grain) or manganese salt replacements were observed. This negative evidence might suggest that the vessels contained some aqueous systems as such materials tend not to leave any detectable traces under these circumstances. The vessel bodies have not been submitted for analysis.

POSITIONS OF CERAMIC GRAVE GOODS

- 270 Colour-coat beaker (Fig. 29.8) and glass flagon (Fig. 40.10) opposite one another outside an apparent child's coffin. Dated 4th century.
- 396 BB2 jar (29.4) inside coffin beside left ankle of adult male. Dated 150–200.
- 506 Early Oxford bowl (29.10) apparently inside one end of a child's coffin. Dated 240–280.
- 523 Colour-coat beaker (29.9) outside the end of a juvenile's coffin slightly to the right of the head. Dated 150–250.
- 621 VRW jar base (29.3) on chest of adult female in coffin. Dated 120–180.
- 654 KOLN beaker (29.5) beside left ankle of adult, possibly female, no evidence for coffin. Dated 150–220.
- 689 Upchurch Ware bowl and miniature cup (29.1–2) outside coffin of adult male to right hand side of head. Dated 140–180.
- 710 Alice Holt/Farnham flagon (29.6) and glass flagon (40.11) inside an apparent child's coffin. Dated to the 4th century.
- 733 BB2 jar (28.1) inside coffin by right knee of possibly female adult. Dated 180–225.
- 741 BB1 miniature jar (28.4) inside coffin by right shoulder of adult male. Dated 3rd century.
- 919 Triere beaker with inverted jar base as lid (29.11–12) in grave fill above coffin, roughly over upper chest of adult male. Dated 200–275.
- 926 TSK jar (28.7) inside coffin on left foot of adult female. Dated 180–220.
- 1050 Two TSK vessels (28.10–11) placed outside side of coffin, one at end, one at roughly half way along length (containing bird bones). Two Nene Valley beakers (28.8–9) also possibly derived from this burial. Dated 180–220.
- 1110 White slipped bowl (29.7) inverted over ankles of adult male laid in a pit (no coffin). Dated 200–250.
- 1117 BB1 jar (28.2) beyond feet of adult male, no evidence for coffin. Dated 240–300.
- 1201 TSK jars (28.5–6) one from grave fill, one from beside upper left leg of adult male. Dated 180–225.

THE JEWELRY

Beads were found with juvenile burials, two of which were very poorly preserved skeletons and the third identified solely by incomplete coffin evidence. In only one case could the beads be shown to be worn, as a necklace in grave 328 (Fig. 39.4), this individual under 8 years old also wore a



Plate 14 West Tenter Street: Child plaster burial 435 with jet bracelet beside it (scale 100mm).

simple copper alloy ring (Fig. 40.3) on the left hand and is dated to the 2nd or 3rd century. The fragmentary remains of two juvenile femurs were the only evidence for a skeleton near a complete shale bracelet (Fig. 39.5) in grave 387. The bracelet was entwined with beads of various colours which had been arranged on at least two threads deduced from jet spacer beads (Fig. 40.9) and which were presumably also a bracelet. The burial is dated to the late 2nd century or later. The small collection of beads (Fig. 40.4) from disturbed grave 506 may also have been a bracelet as they lay against the probable side of the coffin although no skeleton survived. The accompanying early Oxford bowl (Fig. 29.10) dates to 240–80.

A simple shale ring (Fig. 39.6) lay near the left hand of the adult male burial lying

on his left side in a 2nd-century grave, 943 (Plate 8), and may have been worn on the left hand, as was the ring in grave 328.

Two unworn items of jewelry, both from 4th-century graves, were the hexagonal jet bracelet (Fig. 39.7) found lying in the grave beside the coffin containing an 8–10 year old partially covered in lime, 435 (Plate 14). The bracelet would have been too large for the child and may have been placed in the grave as an act of mourning by a relative. The Romans had a superstitious belief that jet could ward off evil [Alcock 1980, 52]. Another plaster burial, grave 549, contained an adult female who had been entirely covered in lime; from the lime under the left foot was recovered a copper alloy bracelet (Fig. 39.1), it was noted at Poundbury [Green 1982, 65] that the 4th-century burials

there had few ceramic grave goods and that jewelry, where present, was rarely worn.

The tweezers and cosmetic applicator/remover (Fig. 40.1, 2) found on the neck of an adult male in grave 741 dated to the second half of the 2nd century, may have been worn in a bag or suspended around the neck by some organic material which has not survived.

SHOES (Fig. 42, Finds Catalogue)

The hobnails from shoes were found in six graves but were only worn in two cases. The two individuals wearing shoes, one male and one female, were both accompanied by a pot resting by the ankles and were dated to the later 2nd century. The male, 396, was wearing two stout boots, the female, 654, had only a small pattern of corroded nails, perhaps to reinforce a heel piece, by the right foot.

The unworn shoes were placed in a variety of positions; grave 261, an adult, dated 2nd century or later, had one shoe placed on top of the other within the coffin beside the right foot. Grave 311 of an adult male, late 2nd century or later, had the shoes placed side by side with toes pointing in opposite directions outside the coffin near the left shoulder. An adolescent female in grave 593 had a pair of shoes placed upright side by side as a pillow under her head in the coffin, mid-late 3rd century. The adult male with a pillow of lime in grave 459, dated post-340, was furnished with only one hob-nailed shoe placed in the corner of the coffin by his right foot.

No clear indications of clothing were found on any of the skeletons; the few shoes found are distinctive because their iron element survives.

M. Rhodes comments: 'According to the classical writers, the Romans observed a strict division between indoor and outdoor shoes. In broad terms, this

seems to be reflected in footwear from Roman London, where the nailed varieties (interpreted as *caligae* and *calcei*) seem to have been intended for outdoor use, the unnailed varieties (interpreted as *socci* and *carbatinae*) being worn indoors [Rhodes 1980]. Sandals (*soleae*) were sometimes reinforced with nails, and despite the literary evidence, may have been worn outdoors during the summer. All of the nail patterns from West Tenter Street are from nailed shoes. As soil conditions were unfavourable to the preservation of leather, one reason for the apparent absence of footwear in some graves may be that the dead were buried with indoor shoes; a pair of ornate slippers is known from a burial at Southfleet, Kent [Rashleigh 1803].

The type of footwear placed in a grave might reflect beliefs about death. The dead were sometimes thought to be making a journey to the afterlife [Toynbee 1971, 38], for which outdoor shoes would be required. On the other hand, they were sometimes envisaged as dwelling in the grave [*ibid*, 37], for which indoor shoes would be appropriate.'

ANIMAL BONES

Animal bone was found in the backfill of many graves but in only two graves were bones identified as a deliberate deposit. They were both incomplete domestic fowl (see animal bone report below), one from grave 1138, mid 2nd century, placed beside the skull of an adult female, and one, in grave 1050, late 2nd/early 3rd century, placed approximately half way down the grave, outside the coffin, inside a jar (Fig. 28.11). The carcass of a 'domestic chicken' was found in a pottery cooking vessel accompanying burial 719 at Cirencester [McWhirr *et al* 1982, 129], domestic fowl at Lankhills are discussed by D. Brothwell in Clarke 1979, 239-44.

C. Wells has suggested that bird bones may only be found with females [Wells, 1981, 302], although at least one male was found accompanied by bird bones at Lankhills [Clarke 1979, 26 No. 25, 150].

The animal bone redeposited in many grave fills may well have derived from cemetery rituals and feasting. No complete catalogue has been made of these bones, but a catalogue of animal bones submitted with the human bone has been made by T. Waldron and lies in archive.

CHARCOAL

A rectangular block of charcoal, 539, measuring 0.22m by 0.16m and 0.10m deep, appeared to straddle the south side of the coffin in grave 523 (Fig. 13). It is difficult to interpret the position of the charcoal, it seemed to have been built into the side of the coffin but quite how is unclear, if it was placed into the side of the grave a light it could have burnt its way through the side of the coffin if it was forced against the coffin wood. Burning charcoal appears to have had a religious significance, serving both to light the darkness of the grave and as a symbol of 'change and durability' [Alcock 1980, 60].

DEEP PIT

A deep pit, 169 (Fig. 16), was dug through the late 3rd/early 4th-century dumping (633) which sealed the central gravel pit. The pit cut a number of earlier graves, and penetrated through the fill of the gravel pit to bottom at 8.70m OD on the natural sand and gravel beneath. The pit (Fig. 21) was roughly circular, its diameter 4.2m where truncated by the post-medieval ploughsoil. Its edge was cut at a 45 degree slope changing to a near vertical slope at the base, which was roughly square, measuring 1.65m by 1.75m, with a flat bottom. The whole feature would have been *c.* 2.5m deep in the Roman period.

The base of the pit was lined around the edge with a layer of grey clay mixed with sand, in which was found a coin of the house of Constantine dated 340-7. The clay formed a packing underlying a

wooden frame comprising two *c.* 0.25m wide planks laid flat on the north and south sides of the pit, the northern one apparently 1.65m long, the southern one *c.* 1.45m long. They overlapped and were perhaps jointed to two thinner struts to form a roughly square structure. The western strut was *c.* 60mm wide, the eastern *c.* 100mm wide. The internal measurement of the structure was *c.* 1.10m square. The wood had been reduced to a dark stain on the clay and its exact shape is not certain. The north and south planks projected *c.* 20mm east of the eastern strut and *c.* 5mm west of the western strut.

Irregular ragstone rubble blocks, incorporating one fragment of tile, lay on all four sides of the base structure. The stones rested on the wood flush with the internal edge on three sides, but on the eastern edge the blocks were set back slightly resting on the clay behind the wooden strut. A thin spread of calcium carbonate, 20-30mm deep, lay in a square, 0.57 by 0.65m, placed centrally within the square structure on the flat surface of the natural gravel bottom of the pit.

The pit seems to have been backfilled by *c.* 375 on the pottery evidence which shows that although a broad range of 4th-century pottery types were present, no Porchester 'D' wares were represented (Figs 33, 34). Much stone rubble as well as domestic refuse lay in the lowest layer of fill, the upper layers contained relatively little building material.

Two smaller and shallower intercutting pits, 640 and 895 (Fig 21), led from the northern edge of the larger pit. They had apparently been backfilled at the same time as one another and the larger pit (169) and are interpreted as cut to provide access into the deeper feature.

The interpretation of the large pit (169) is difficult and no close parallels from cemetery areas have been found. The construction at the base is not unlike that of some Roman wells, but there was no evidence that the pit penetrated to the water table and it does not appear that it could have functioned as a well. The presence of stone rubble in the backfill would suggest that the stones *in situ* were the remnants of a larger stone structure, perhaps the discarded debris as a result of robbing of better quality stone from the structure.

The position of the stones on the edge of the timber on three sides of the base

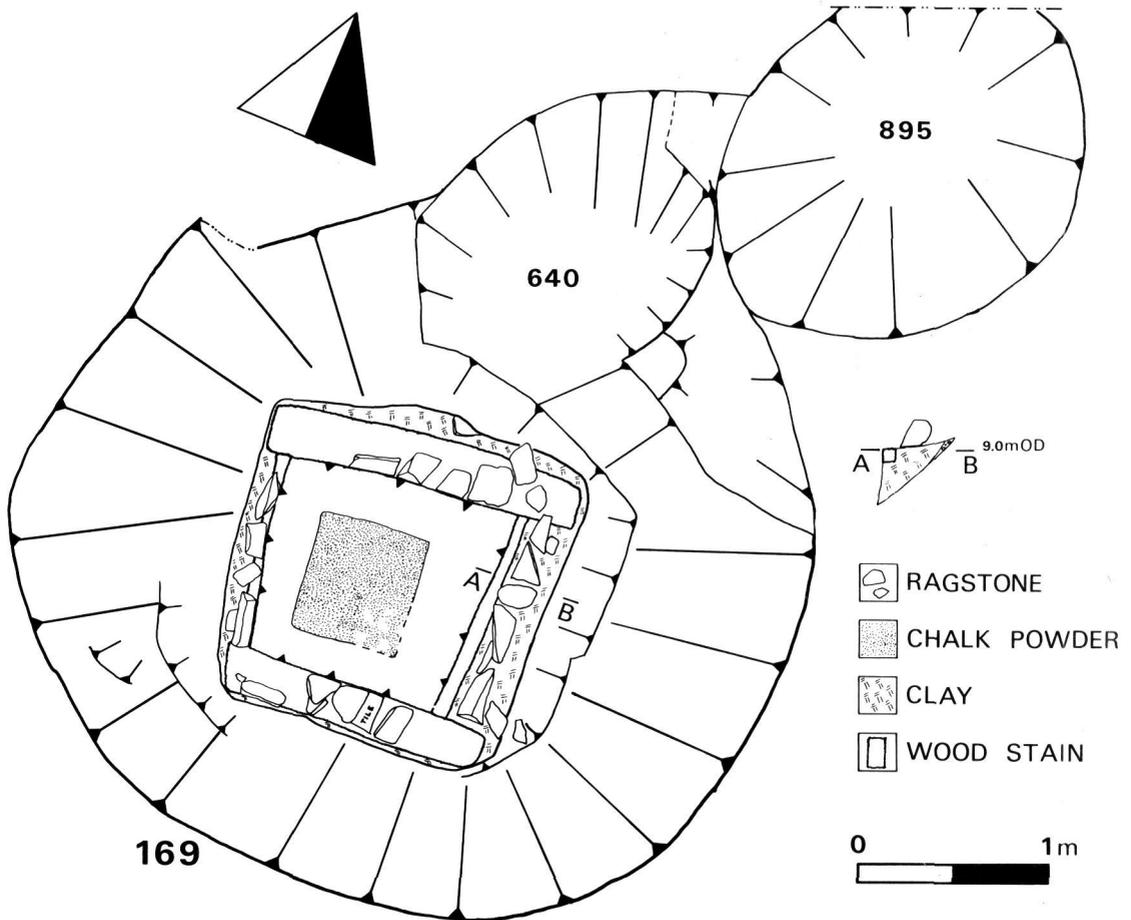


Fig. 21 West Tenter Street: Plan of Deep Pit.

is more suggestive of deliberate packing around some internal feature. It is therefore possible that the wooden frame enclosed some form of tank either constructed of wood or lead or other material which has left no trace or been robbed when the pit went out of use. The tank may have been used to hold rain or ground water, and the calcium carbonate spread on the floor of the pit could be interpreted as having been spilt from or drained out of the tank and accumulated where trapped under its base.

A connection can obviously be made

with the plaster burials which as stated above appear to have been covered in slaked or quick lime. It is therefore tentatively suggested that the pit might have been used in the rite of plaster burial, as a source of water to slake the lime. Additional support for this interpretation can be taken from the evidence of the raising of the level of the gravel pit area to that of the surrounding cemetery and the backfilling of the cemetery ditch which would have stood between the ritual pit and the area in which the plaster burials were located.

Although no square tanks have been recorded, circular lead tanks, with Chi Rho symbols on their exteriors, are well known and a connection has been made between them and cemetery sites [Guy 1981, 274]. It has been suggested that they were used for 'ritual ablutions' as distinct from baptismal fonts [West and Plouviez 1976, 120–1]. These tanks are all found apparently deliberately destroyed by the late 4th century, perhaps as the result of a revival of anti-Christian paganism [Guy 1981, 275].

Guy [*ibid* 274] has also shown that the tanks have been found in or near wells or near rivers suggesting that they were used as water troughs. He quotes Augustine of Hippo (354–430) who in *Confessions* VI, 2, describes a pagan custom followed by Christians in which water was used to dilute wine for graveyard meals in cemeteries where martyrs were buried.

A stone-lined pit which did function as a well, measuring 3m wide at the top, 0.9m diameter at the bottom and 2–3m deep, was found on a ritual site at Norden, Corfe Castle [Hughes 1973, 76–7]. The drystone lining was constructed in two phases, the first in rough undressed local stones of varying size, the second more elaborate with shaped stones of similar size and steps leading to the base [Hughes 1973, Fig. 2]. The site was occupied between the late 1st and early 5th centuries.

No evidence for a building or structure was found associated with pit 169. A single undated posthole, 1067 (Fig. 16), 0.47m in diameter and dug to at least 1.20m below Roman ground surface, lay to the north east of the pit and cut grave 1098.

If the interpretation of pit 169 at West Tenter Street as a container for the water supply for the enactment of the plaster burial rite is accepted, and assuming that all the plaster burials from the site were

supplied by it, then these burials could be dated to a range of about thirty five years, between AD 340 and 375.

POST-MEDIEVAL DISTURBANCE

Traces of what might have been late medieval or early post-medieval robbing were found of one wall of a Roman tomb at the east end of the site. All later levels here had been truncated by a World War II static water tank. The 17th-century plough-soil covering the entire site was cut in places by trenches of various depths, some containing tile rubble, these may have been plant bedding trenches.

In the late 17th century large, deep pits were dug with regular straight edges and square corners into the underlying sand and gravel layers. These extensive pits were backfilled with black ash containing large quantities of later 17th-century pottery and animal bone; occasional tip-lines of roof tile lay within the ash matrix.

These pits probably result from the clearance and rebuilding activities following the Great Fire of London. It is interesting to note the relatively neat and orderly way in which these pits were dug suggesting that at ground level boundaries may have been clearly demarcated perhaps as a result of subdivision into smallholding plots for market gardening.

The block bounded by the modern day Tenter Streets was part of a substantial open area to the eastern side of the City of London in the 17th century named Goodmans Fields (see Faithorne and Newcourt's map publ. 1658 and Ogilby's 1676). The soft fill of the ash pits may have left the area as poor building land which was used as a tenter ground in the 18th century (Rocque's map publ. 1745) and certainly remained open land into the 19th century (Horwood's map publ. 1819), it was subdivided and developed as late as the 1850s.

Two rows of terrace houses were constructed along the northern (Scarborough Street) and southern (South Tenter Street) street frontages of the block. A drain which served these houses ran along the southern edge of the excavation area, sloping down from west to east and cutting Roman features in the area of the central Roman gravel pit. Bomb damage and slum clearance left the site flattened but occupied by a few pre-fabricated houses until 1980. Trees and scrub including large *budlia* bushes caused extensive root disturbance which together with worm action carried 17th-century ash in small channels down to the Roman layers.

II. THE FINDS

THE ROMANO-BRITISH POTTERY

By S. J. PIERPOINT

SUMMARY

The Romano-British pottery from West Tenter Street is the largest recorded assemblage recovered from a cemetery site for the city of *Londinium*. Any understanding of the assemblage must encompass consideration of the processes that brought such material to site. The bulk was secondary material, redeposited in the acts of filling in pits and ditches, ritual feasting(?), levelling and the disturbance of earlier interments by later grave digging.

Less than 17% of the pottery could certainly be recognised as burial furniture, either containing cremated bone or placed in graves with inhumation burials. These were usually cooking pots and jars for adults, both male and female, or miniature beakers for children and juveniles. Cooking pots played a dual role as a container for the ashes of the deceased or accompanying an unburnt corpse.

In the 2nd century in particular, the cemeteries may have been a place of pilgrimage, involving the carrying of pottery vessels out from the city to the places of burial. Flagons, beakers, amphorae and Samian bowls seem to have been brought to the site, perhaps in the activity of feasting, and broken.

The custom of interring the cremated human remains in pottery urns and the deposition of vessels during 'feasting', seem to have been abandoned at about the same time, *c.* AD 200–250. On the other hand pottery grave furniture continued to be deposited well into the 4th century.

West Tenter Street thus gives an insight into the use of pottery vessels in burial ritual over three centuries of the occupation of *Londinium*. The assemblage of the pottery comprises 161 rim estimated vessel equivalents (EVEs), from 10580 sherds weighing 201.5kgs (Fig. 22). It can be divided into those vessels which are part of the intact grave furniture (27.24 rim EVEs; 44.06 base EVEs; 17% and 20% of the assemblage respectively) and those which are not. Burial furniture includes both cremation urns and accessory vessels to cremation and inhumation burials and ranges in date from the Hadrianic period to the 4th century AD. The remainder of the assemblage consists of secondary or redeposited sherds ranging in date from the mid 1st century to the end of the 4th.

Most of the pottery types are well known and thoroughly described elsewhere [Museum of London, Dept. of Urban Archaeology, Catalogue].

However the site of West Tenter Street does provide new information in specific areas. In addition some of the fabrics regularly and particularly occur on London's cemetery sites.

THE FABRICS

The Trajanic/Hadrianic assemblage

Pottery of the Flavian/Trajanic period seems to be associated with the early backfilling of the gravel pits, but is frequently redeposited in later contexts. Material included: terra nigra imitations, London ware, London micaceous wares as well as coarse ware jars of Alice Holt/Surrey and Highgate origin together with similar forms of sandy wares (e.g. GW5). Substantial assemblages of contemporary material of this period were represented (Fig. 30). Also present are so-called "feeding-bottles" and Sugar Loaf Court ware [Davies and Tyers 1983] of pre-Flavian/Flavian date.

Thames-side Kent sources

Black burnished 2 wares have long been recognised as major elements in the pottery trade to *Londinium* in the 2nd and 3rd centuries [Williams 1977]. By the Hadrianic period sources in Kent and Essex were supplying London's markets with ranges of typical jars and bowls imitating hand-made black burnished vessels from Dorset. Recent research [Moynihan 1984 B] indicates the importance of the Thames-side sources on both sides of the estuary. It is possible to recognise differences between the Kent and Essex wares, although there is still some ground for uncertainty. The classification adopted here is that all vessels categorised 'TSK' are from Kentish sources such as Cliffe. The vast majority of vessels classified 'BB2' are from Essex, but a proportion remain uncertain.

Much of the TSK pottery at the site is very distinctive, as well as very popular in the Roman period as burial furniture. Dozens of these vessels are known to have been used as cremation pots or accessory vessels. Jars seem far more common than dishes (Fig. 23), with grouped lattice the regular form of decoration. Indented beakers are another popular form, one (Fig. 28.11) occurring as an accessory to an inhumation.

Lids (Fig. 27.9–13)

Lids were very common, several being associated with cremation urns. Indeed all intact cremation urns had lids of one kind or another. There were a number of sources in the 2nd century including oxidised (OX2, etc) and reduced types (LD2, LD3, etc). The former are frequently placed with Verulamium white ware urns in the east London cemeteries (RCHM 1928).

Pottery type	DGLA code	Burial furniture Rim & Base		EVEs × 100		Sherds number	Weight in gms	% site Rim	% site Base
		EVEs	EVEs	Rim	Base				
Verulamium white ware	VRW	390	600	2315	2870	1674	37284	14.4	12.9
Thames-side Kent	TSK	643	900	1436	2266	854	16878	8.9	10.2
Black burnished 2	BB2	296	563	1314	1627	1108	14024	8.2	7.3
Highgate C ware	HWC	41	200	1080	784	864	8703	6.7	3.5
Black burnished 1	BB1	327	364	1025	763	370	6957	6.4	3.4
Samian	SAM			937	1394	448	4650	5.8	6.2
Alice Holt/Farnham	AHFA	100	100	628	706	290	4671	3.9	3.2
Oxidised fabric 2	OX2	92	100	510	784	266	3125	3.1	3.5
Verulamium white-slipped	VCWS	97		420	231	100	1469	2.6	1.0
Alice Holt/Surrey	AHSU	0	177	389	533	214	2815	2.4	2.4
Nene Valley colour-coat	NVCC	233	300	357	763	140	1209	2.2	3.4
Sandy fabric 'LD2'	LD2			238	330	78	807	1.5	1.0
Oxford red-colour coat	OXRC	100	100	220	405	84	914	1.4	1.8
Verulamium grey ware	VRG			194	33	61	941	1.2	0.1
Grey ware 5	GW5			173	426	267	3207	1.1	1.9
Oxidised fabric 3	OX3			157	28	84	1373	1.0	0.1
Dressel 20 amphorae	DR20			135	100	221	25042	0.8	0.4
Moselle keramik	MOSL	96	100	119	121	28	152	0.7	0.5
Colchester colour coat	COLC	?100	?100	113	200	7	164	0.7	0.9
London micaceous ware	LOMI			107	90	43	749	0.7	0.4
Sandy fabric 'LD3'	LD3			106	300	23	375	0.7	1.3
Oxford white ware mortars	OXMO			106	142	26	1300	0.7	0.6
Cologne colour-coat	KOLN			100	500	23	378	0.6	2.2
Oxidised ware 30985	30985			100	0	16	589	0.6	—
Oxidised fabric 10	OX10			93	100	41	479	0.6	0.4
Ring & dot beakers	RDBK			91	2	18	102	0.6	—
Mortaria (TY97)	TY97			86	39	11	1751	0.5	0.2
Verulamium red ware	VRR			79	139	102	1269	0.5	0.6
Fine micaceous ware	FMIC			69	23	16	237	0.4	0.1
Terra Nigra & imitations	TN			63	79	12	207	0.4	0.3
Sandy fabric S1	S1			60	20	5	91	0.4	0.1
Sandy fabric SP44	SP44			58	38	24	332	0.4	0.2
'London ware'	LOND			55	372	142	844	1.3	1.7
Highgate B ware	HWB			54	54	64	998	0.3	0.2
Oxidised fabric 8	OX8			45	123	52	594	0.3	0.6
Sandy ware GW4	GW4			40	0	5	104	0.2	—
Amphorae PE47	PE47			37	246	391	4984	0.2	1.1
Groggy fabric 1	GR1			33	0	5	107	0.2	—
Sandy ware SP43	SP43			31	0	2	83	0.2	—
Sandy ware GW1	GW1			30	48	22	230	0.2	0.2
Storage jar fabric 123	SJ123			30	0	9	379	0.2	—
Sandy ware SP100	SP100			25	0	3	127	0.2	—
Eifelkeramik	EIFL			25	0	2	38	0.2	—
Oxford parchment ware	OXPA			21	0	3	42	0.1	—
Porchester D ware	PORD			19	26	7	105	0.1	0.1
Oxidised fabric 7	OX7			19	0	3	42	0.1	—
Colchester 306 bowls	C306			18	0	3	75	0.1	—
Sandy ware S5	S5			17	0	4	64	0.1	—
Oxidised fabric 9	OX9			16	58	16	58	0.1	0.3
Sandy ware GW7A	GW7A			16	2	3	38	0.1	—
Sandy ware GW6	GW6			15	0	16	154	0.1	—
Sandy ware S3	S3			12	0	1	14	0.1	—
White slipped ware 1	WS1			11	173	50	589	0.1	0.8

Fig. 22 West Tenter Street: Pottery fabrics in order of importance.

Pottery type	DGLA code	Burial furniture Rim & Base EVEs		Sherds number	Weight in gms	% site Rim	% site Base
		EVEs × 100 Rim	EVEs × 100 Base				
Sandy ware GW3	GW3	11	0	2	83	0.1	--
Sandy ware S7	S7	10	0	3	43	0.1	---
Oxidised fabric 1	OX1	10	0	2	74	0.1	---
Storage jar fabric 127	SJ127	9	0	1	63	0.1	---
Sandy ware GW2	GW2	9	0	9	105	0.1	---
Sandy ware S8	S8	8	0	1	20	—	---
Oxidised fabric 6	OX6	7	0	1	1	—	---

Other fabrics include (Rim Eves and code in parenthesis): Hoo flagons (Hoo, 6); Storage jar fabric 125 (SJ125, 6); Gillam 238 mortaria (G238, 4); sandy ware S4 (S4, 4); storage jar fabric 123 (SJ123, 3); sandy ware GW12 (GW12, 2); sandy ware GW9 (GW9, 1). Fabrics with rim EVEs of 0 include: Camulodunum 185A, late Roman calcite gritted ware (CALC), Central Gaulish other fabrics (CGOF), Gallo-Belgic white ware (GBWW), London egg-shell ware (LOEG), Late Roman cylindrical amphorae (LRCA; lower half of one a grave furniture), Lyons ware (LYON), Southern Spanish amphorae, Sugar Loaf Court ware (SLOW), storage jar fabric 31985 (31985), Fine ware 1 (FW1), groggy fabric 2 (GR2), storage jar fabric 124 (SJ124), storage jar fabric 126 (SJ126), sandy wares 7, 10, 11, 13, S4 (codes GW7, GW10, GW11, GW13, S4), oxidised wares 5 & 13 (codes OX5, OX13) and North Kent Shelly ware (NKSH), Dressel 2-4.

Fig. 22 continued.

Third century jars

Besides the miniature vessels and cooking pots which were deposited as burial furniture during this period, a certain amount of residual material was represented. This seemed to include some early Oxford material, but the main forms were cooking pots (in sandy wares like GW3 & GW4 as well as BB1) and storage jars (fabrics 31985, SJ123-127). The sandy ware cooking pots were distinctive with constricted and sometimes decorated necks and angular and flattened rims.

Fourth century sandy wares

The site produced an interesting range of mid/late 4th-century sandy wares. Most of the forms are hooked and rolled rim jars (Fig. 33.8-10) and occasional flanged bowls (fabrics: 30985, sp44, S1, sp43, etc). The jars often have horizontal rilling, especially at the neck. At West Tenter Street they are regularly associated with Alice Holt/Farnham wares [Lyne & Jefferies 1979] and late forms of BB1.

THE FORMS

The forms show a range as wide as the fabrics. Jars are by far the commonest broad category range (42.2%, 33.2% rim/base EVEs) with the necked jar (14.2%, 8.3%) and the lattice burnished jar (9.9%, 10.7%) most common of these. A substantial proportion are present in the form of burial furniture, others may be disturbed burial furniture and the rest consist of miscellaneous secondary material. Bowls/dishes make-up the second largest

category (17.0%, 6.5%) with the black burnished style pie-dishes (3.3, 0.9%) and dog-dishes (3.2%, 1.1%) most common of these. One example of each of these occurs as lids for 2nd century cremation urns. Lids (and plates) are the next largest category (11.7%, 12.0%), several occurring on cremation vessels. Indeed all intact cremation urns have lids, although in one case a tile is used and in others bowls and a broken tazza are pressed into service. Beakers (8.8%, 16.9%) and flagons (8.6%, 5.1%) are the next categories. Many sorts of beakers are found, a few as accessory vessels in all periods. Two particularly interesting groups occur. The indented beakers from a Thames-side Kent source (TSK) are a regular feature, although only one occurs as part of the burial furniture. However three identical pots found nearby may be from burials too (Aldgate MoL 2814, Fenchurch St. MoL 2815, and Liverpool St. BM acc. no. 1856-97). There are also a number of miniature oxidised baggy beakers. They are probably of mid-1st to 2nd century date and none occur as grave goods. For the flagons, only one intact example occurs in a grave context and that a 4th century accessory vessel. This correlates with our knowledge of London's cemeteries as a whole. Although 1st and 2nd-century flagons are known from the cemetery areas hardly any are definitely from burial groups. Several fragments of 1st or 2nd-century ring-neck flagons and disc-mouthed flagons occur on site. Other forms include: samian (5.8%, 6.2%), mortaria (2.9%, 1.3%), amphorae (1.1%, 2.9%), storage jars (0.1%, -) and miscellaneous items

Form Fabric	Rim EVEs	Site %age	Cum site %age	% as grave furniture	% of grave goods
VRW necked jar	11.01	6.8	6.8	35.4	14.3
TSK lattice jar	10.89	6.8	13.6	53.5	21.4
Misc oxid. lids	10.72	6.7	20.3	9.3	3.7
VRW flagons	8.57	5.3	25.6	—	—
Misc sandy jars	8.40	5.2	30.8	—	—
BB2 lattice jar	7.99	5.0	35.8	28.0	8.2
HWC necked jars	6.74	4.2	40.0	6.1	1.5
Misc sandy lids	5.39	3.3	43.3	—	—
BB1 lattice jars	5.35	3.3	46.6	42.4	8.3
White slipped jars	4.38	2.7	49.3	18.2	2.9
BB2 pie-dishes	3.93	2.4	51.7	20.1	2.9
Samian Dr18-31	3.10	1.9	53.6	—	—
NVCC beakers	3.04	1.9	55.5	76.6	8.6
HWC poppy head Bkr.	2.74	1.7	57.2	—	—
VCWS flagons	2.63	1.6	58.8	—	—
AHFA flanged bowls	2.54	1.6	60.4	—	—
BB1 flanged bowls	2.54	1.6	62.0	—	—
Samian Dr.27	2.31	1.4	63.4	—	—
AHSU necked jars	2.12	1.3	64.7	—	—
TSK pie-dishes	2.09	1.3	66.0	—	—
Alice Holt jars	2.09	1.3	67.3	—	—
OXRC bowls	1.89	1.2	68.5	52.9	3.8
GW5 necked jars	1.73	1.1	69.6	—	—
Bead rim jars	1.67	1.0	70.6	—	—
White slipped flag	1.51	0.9	71.5	—	—

Fig. 23 West Tenter Street: Catalogue of inhumation burials.

(1.6%, 15.7%). The major forms at West Tenter Street are listed in Fig. 23.

THE BURIAL FURNITURE

The Cremations

Pottery as burial furniture can be divided evenly between cremation pots (22) accessory vessels to inhumations (23). The cremation vessels seem to have been placed upright close to or at the surface of the ground. Consequently later activities including post-medieval ploughing has damaged their tops in particular and removed lids. All intact vessels had lids. Most common are Verulamium white ware (VRW) vessels of which there are 6 necked jars and two flagon bases (Figs 24, 25.2-4, 26.1). Two of the former had pottery lids (both inverted), one a BB1 dog-dish and a fourth a tazza minus base (Plate 4). The other two had the tops removed. Stratigraphically, in the area of the central gravel pit (Fig. 9), the earliest of these cremation pots would be a little after AD 120. The latest, dating to the last quarter of the 2nd century, was inside a late Roman cylindrical amphora (LRCA) (Plate 2). This was also the largest of the VRW urns. The use of an amphora to contain the urn is a well-known London phenomenon and the

grave group from Great Alie St. [RCHM 1928 158-9] has similarities as does one from Liverpool St [RCHM 1928, 160 no 33] (there are at least three other well-recorded examples). The latter comprised both BB2 grouped-lattice decorated jar and VRW necked jar. Both contained cremated bones and were placed inside the same amphora. The only cremations with jewellery burial goods are both contained in VRW necked jars (Figs 24.4, 25.2).

A further 8 vessels were lattice decorated jars of BB2 type, half of which were from a Thames-side Kent (TSK) origin. These seem to range in date of deposition from the mid-2nd century to the mid-3rd (Figs 23, 26-29). Five of these are of plain lattice style burnish, three have so-called 'grouped-lattice' (e.g. Fig 26.4). All London parallels with clear dating evidence belong to the later 2nd century. There are local parallels for the use of such cremation jars at Aldgate Station, Liverpool St., Bishopgate [RCHM 1928, 156-60, nos 18, 33 & 29] and many others. Interestingly the best parallels come from the burial furniture at West Tenter Street itself. Indeed there is little difference between the style of fabric of the cremation pots and grave goods, except a little in size. The cremation vessels

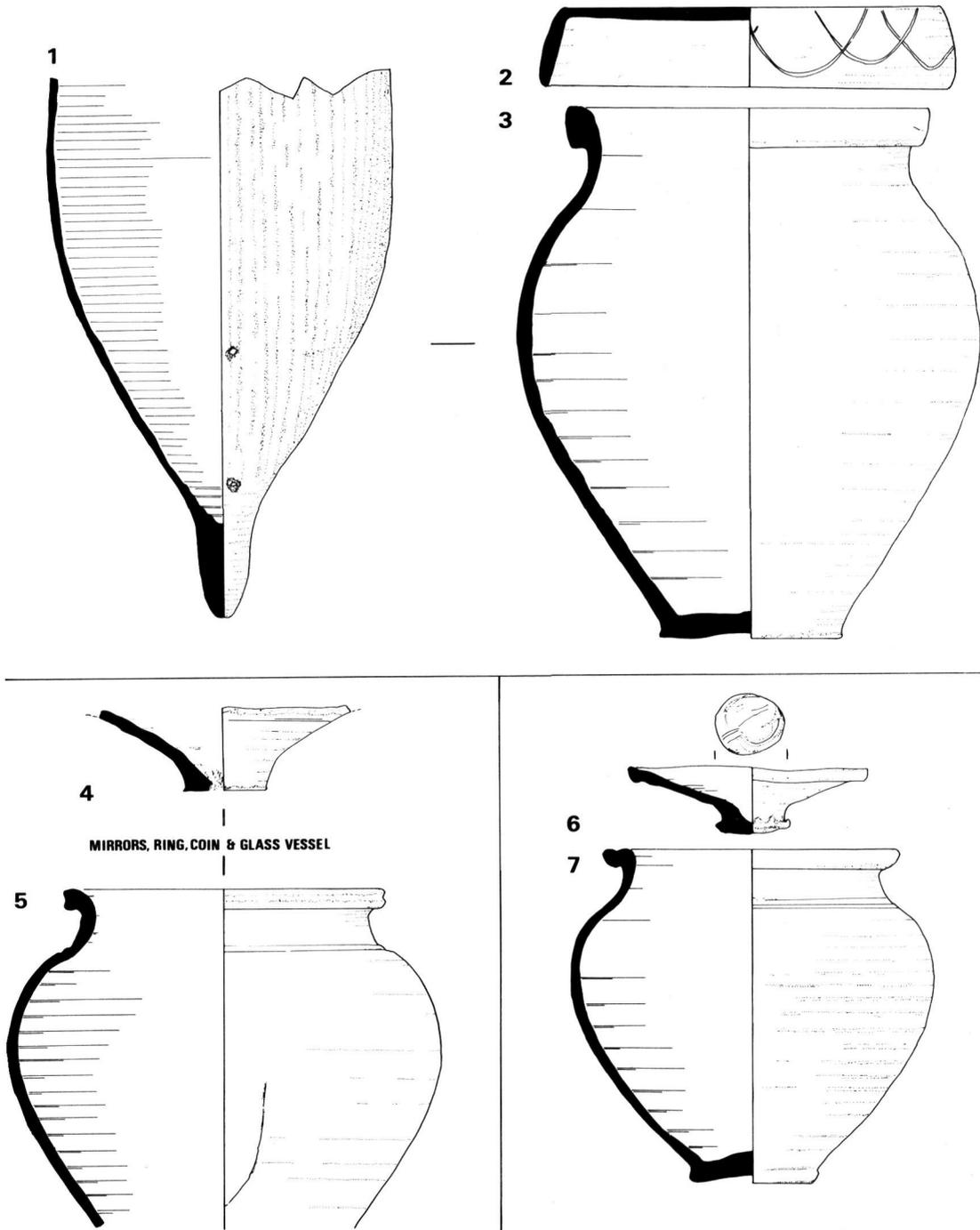


Fig. 24 West Tenter Street: 2nd-century Verulamium white ware cremation vessels. 1-3 Vessels cremation 255 include Verulamium white ware urn with BB1 dog dish lid contained in a Tunisian cylindrical amphorae (LRCA); 4-5 VRW urn and inverted/perforated lid from 1092 (see Fig. 34); 6-7 VRW urn and inverted lid from 1002.

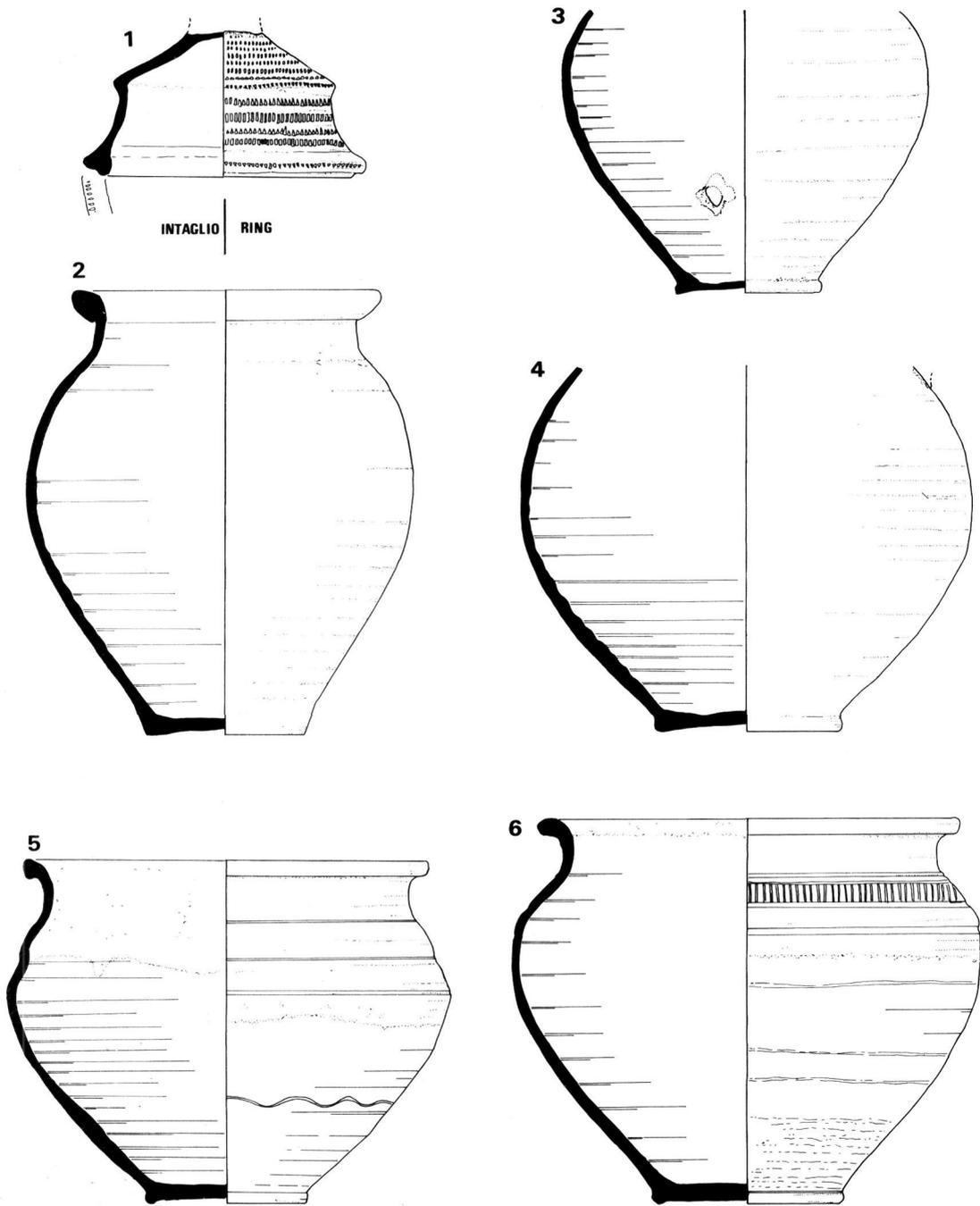


Fig. 25 West Tenter Street: 2nd-century cremation vessels from Verulamium (VRW) and Highgate (HWC). 1–2 VRW urn with broken tazza as lid 675; 3 VRW necked jar base 1088; 4 VRW flagon base 1123; 5 HWC necked jar 979; 6 HWC necked jar 1095.

average 275mm the accessory vessels 195mm in height. Only two vessels have survived with their lids more or less intact. One was a plain BB2 pie-dish (Fig. 26.3–4, Plate 2), the other a tile (Fig. 27.1, Plate 3). There is a single BB1 jar cremation vessel (Fig. 27.3) with acute lattice decoration, presumably no later than the mid-3rd century, of which only the base survives.

The necked and shouldered jars of Alice Holt/Surrey and Highgate sources are likely to be the earliest cremation vessels from the site. There are two of each, none intact. The best parallels for these as cremation vessels comes from close by. Necked and shouldered jars like these were common as cremation vessels on the Mowbray House site at St Clare Street (unpublished). All the vessels at West Tenter Street should date to the Hadrianic or early Antonine period, AD 120–160 (Fig. 25–5–6; 27.5). These types would have probably run chronologically parallel to the earliest VRW urns. The latest VRW urns would be contemporary with the earliest black burnished ones.

One interesting feature is the use of inverted and/or perforated lids (Figs 24.4; 24.6). Indeed a number of perforated lids, some of which may have come from displaced cremations, occur in residual contexts (Fig. 27.10–11). One suggestion is that an inverted lid would provide a receptacle into which libations could be poured (see the example at Great Alie St [RCHM 1928, 158]) and the perforation would allow liquids to run through. One cremation at Caerleon was provided with a lead pipe leading the ground surface [Wheeler 1929, 1] and continental examples had libation pipes attached to altars [Liversidge 1968, 476].

One other interesting phenomenon is the use of very large urns, much larger than would have been required to contain the amount of cremated remains collected. This seems to have been a popular fashion *c.* AD 200 as we see from the groups illustrated (Figs 24.1–3; 26.3–4) and the Great Alie St. group [RCHM 1928 & above]. Two of these were contained within amphorae, although the use of amphorae was an earlier feature too [RCHM 1928, 152 no. 13]. For the eastern cemetery this seems to have been more or less the end of the cremation tradition. Only one example is significantly later (probably post 250), that from Mansell St. [RCHM 1928, 156 no. 22].

The Inhumations

The 23 accessory vessels with inhumations show a far greater range of type and date than the cremation pots. By far the most common though are BB2 lattice decorated jars, most of which originate from a North Kentish source (five) (Fig. 28).

There are seven in number. Six of the seven have grouped-lattice decoration, the other appears to be plain (Fig. 28.6). This group dates to the last quarter of the 2nd century or the beginning of the 3rd century. A close parallel is the accessory vessel at St Clare St [Ellis 1985] closely dated to the last quarter of the 2nd century. The pair of urns inside an amphora at Liverpool St. [RCHM 1928, 159, Fig. 66, i, ii] included both a BB2 grouped lattice jar and a VRW necked jar which must be of similar date. The dating of these vessels has been discussed recently by Moynihan [1984 A]. The use of such pots, as accessories to inhumations rather than as cremation pots, seems to be restricted to the cemetery east of the city wall. It hints that the cremation vessels themselves were not just containers for the human remains, but had other significance in the burial rite. Three further vessels were BB1 lattice jars with obtuse lattice decoration (*c.* late 3rd century in date). At West Tenter Street such cooking pots were only placed with adults at burial. With one exception Verulamium white ware jars do not occur with inhumations. One broken base, probably reused as a bowl, was apparently placed on an individual's chest (Fig. 29.3). Broken flagons probably reused as bowls are a feature of the 'ritual pit' at St. Clare Street nearby [Ellis 1985] and from other cemetery areas.

Although inhumation burials may have been interred at West Tenter St. from *c.* AD 100, no grave goods were deposited with burials until the mid-2nd century. One early example from West Tenter Street is a pair of small vessels, the sandy ware bowl and black burnished handled cup (Fig. 28.1–2) dated 140–180. Of similar mid-2nd century date were two Highgate poppy-head beakers placed with a burial at St. Clare Street [Ellis 1985, 119]. In fact these two inhumations present two recurrent features of the London cemeteries, particularly east London burial practice. The use of pairs of vessels is well-known and occurs elsewhere at:

Mansell St [RCHM 1928, 156 No. 20]; Broad St [RCHM 1928, 156, No. 17]; Bank Station [RCHM 1928, 152 No. 13] and the Mowbray House site at St. Clare Street (unpublished). It seems to be popular in the mid-2nd century both for cremations and inhumations. In one grave (1051) at West Tenter St. a large pottery group including a pair of small Nene Valley beakers and a pair of BB2 jars (Fig. 28, 8–11) may have been disturbed. Large groups of vessels in one grave have been recognised nearby on the Mowbray House site.

The second feature is the use of small and miniature vessels, particularly beakers as accessories. Six small beakers occur as accessories (Figs 28 & 29),

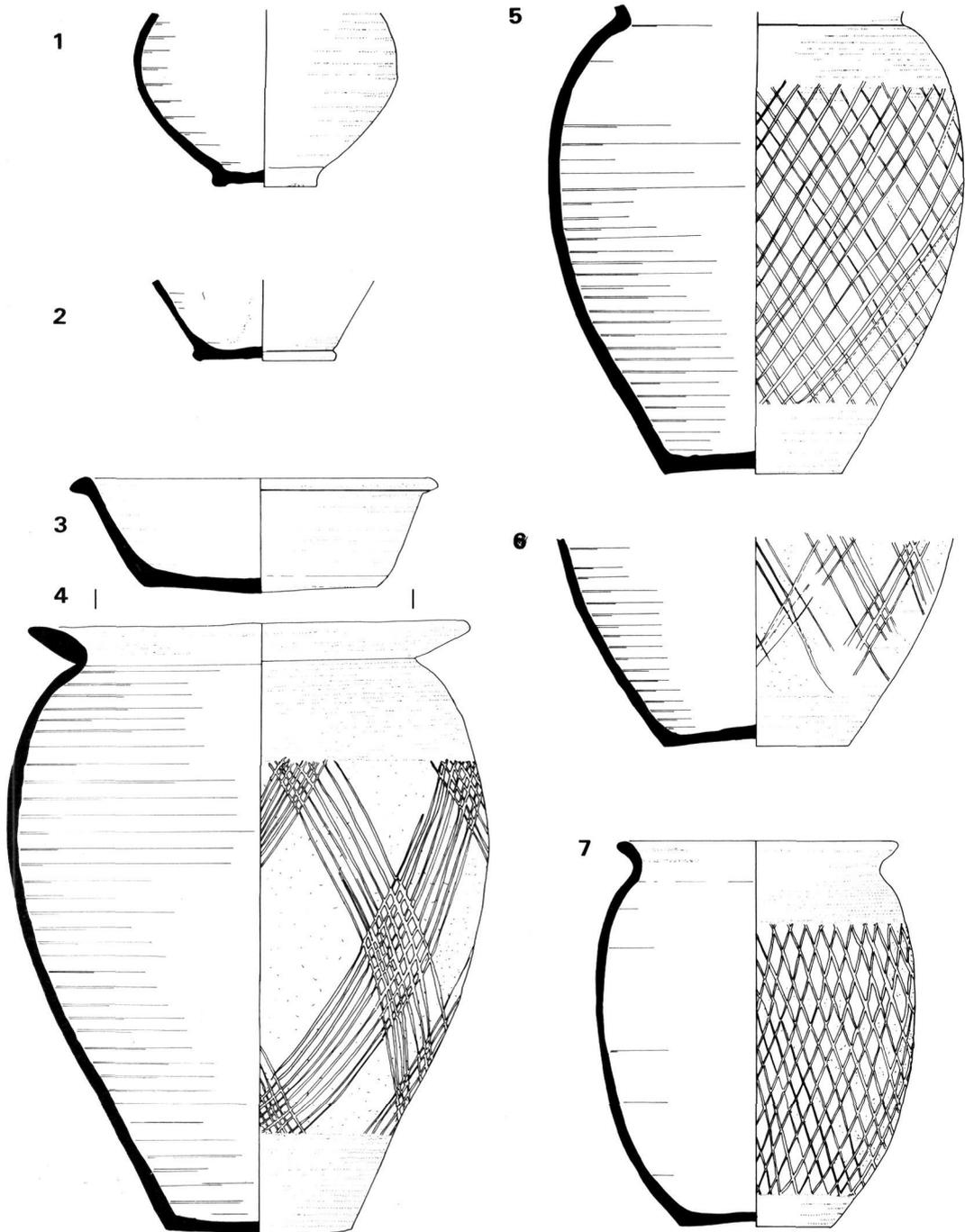


Fig. 26 West Tenter Street: Cremation vessels. 1 VRW flagon base 988; 2 HWC necked jar base 735; 3-4 Large TSK jar and BB2 pie-dish as lid 696; 5 BB2 jar 834; 6 BB2 jar base 224; 7 BB2 jar 1157.

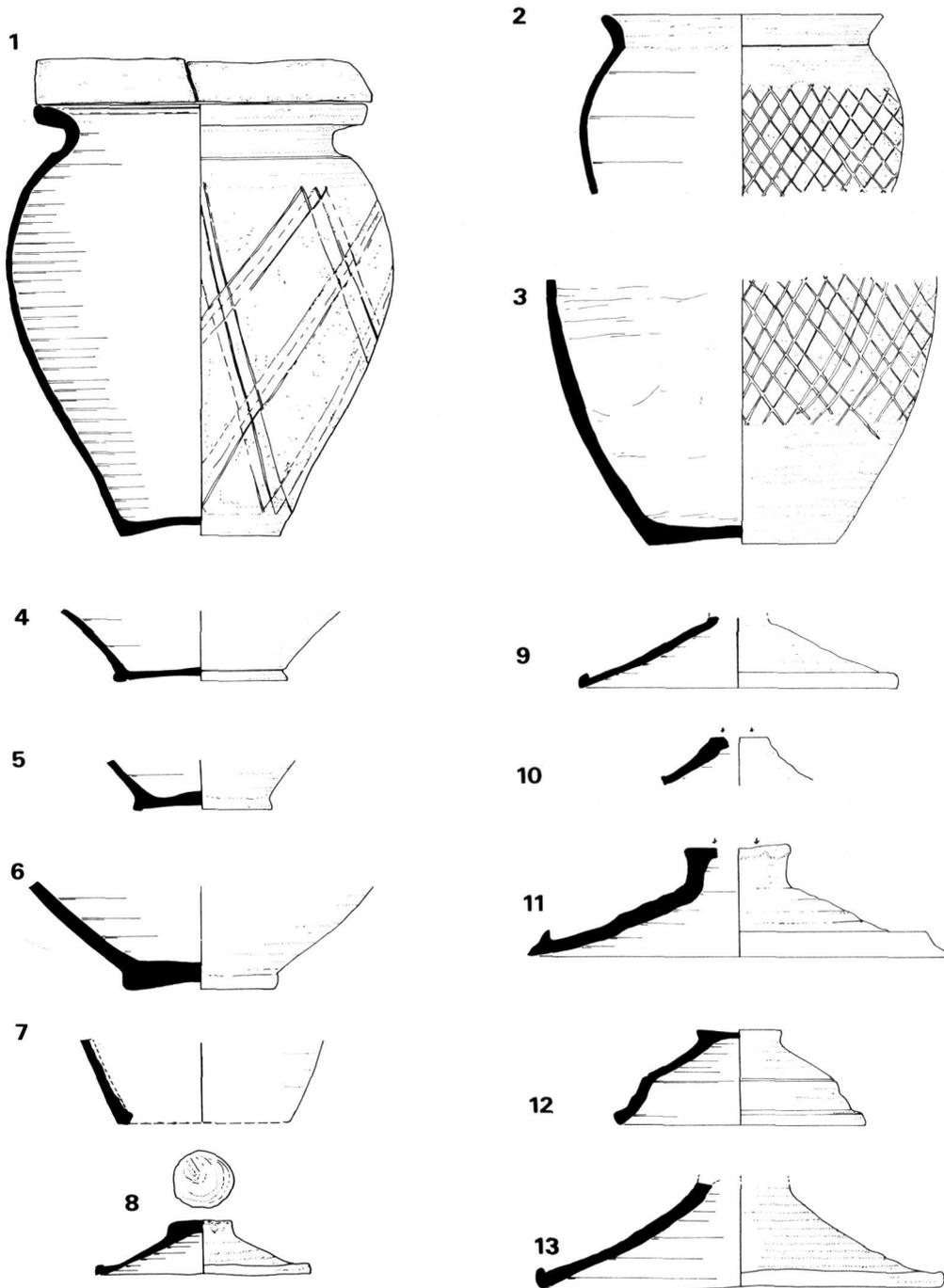


Fig. 27 West Tenter Street: Cremation urns and lids. 1 BB2 urn and tile lid 441; 2 TSK urn 1121; 3 BB1 jar base 1131; 4 TSK jar base 69; 5 Alice Holt/Surrey jar base 1145; 6 VRW urn 610; 7 491 jar base 491; 8–13 residual perforated and unperforated lids.

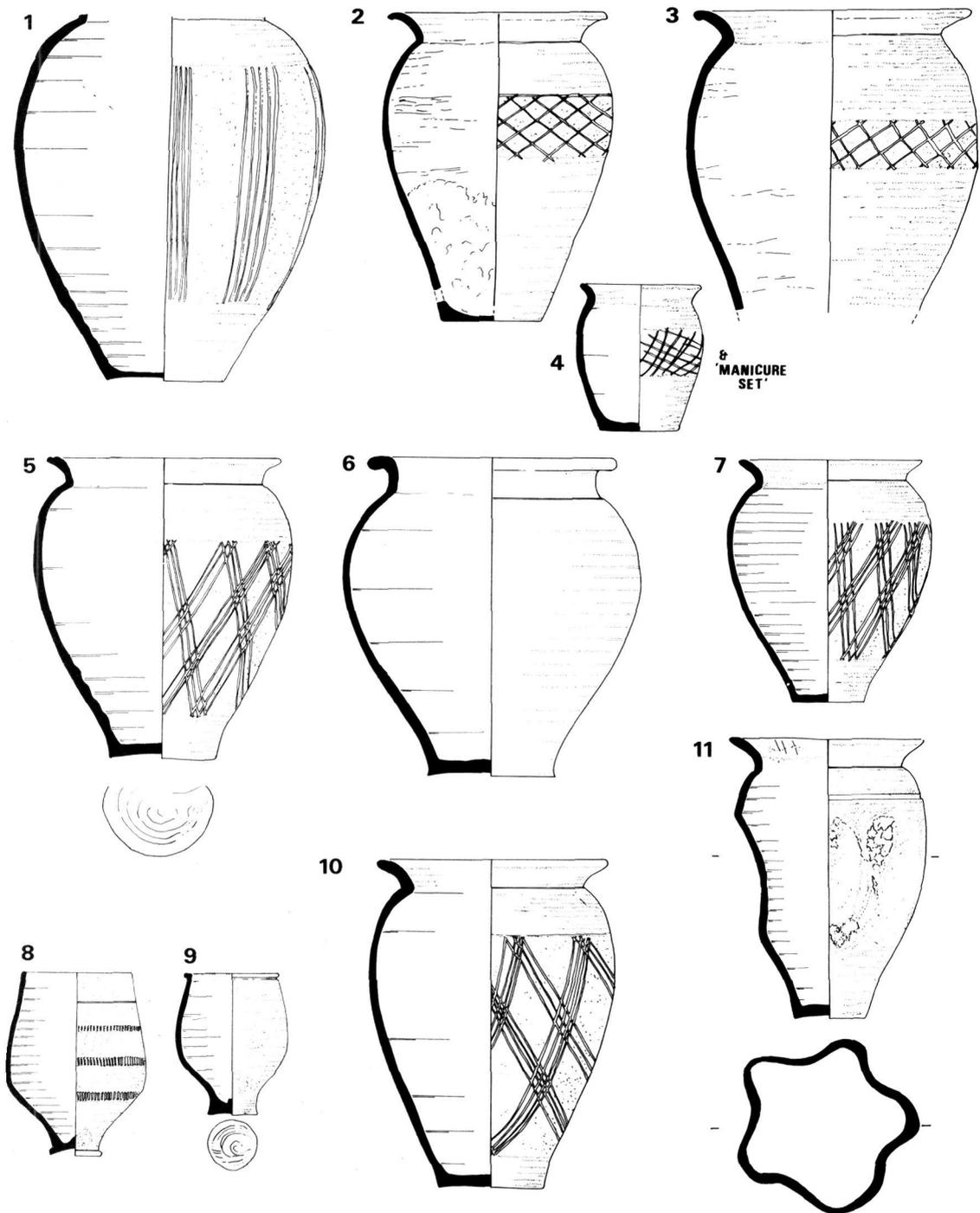


Fig. 28 West Tenter Street: Accessory vessels. 1 BB2 jar 733; 2 BB1 jar 1117; 3 BB1 jar 970; 4 BB1 miniature jar 741; 5-6 TSK jars 1201; 7 TSK jar 926; 8-11 Probable large burial group of two Nene Valley beakers and two TSK vessels from 1050, 8-9 redeposited in 970.

three are Nene Valley, one from Cologne, one from Trier and one possibly a Colchester type. These small vessels are generally, though not exclusively, placed with children and juveniles. They seem to cover a wide date range, from the late 2nd to the early 4th century. One, that from Trier (Fig. 29, 11–12), has a jar base as lid. For the rest, there is a single early Oxford red colour-coated necked bowl (Fig. 29.10), a white slipped jar/bowl (placed over the feet of an inhumation Fig. 29.7, Plate 6), and one of the latest pottery grave goods is a simple 4th-century Alice Holt flagon (associated with a late glass flask Fig. 29.6).

The burial ceramics seems to divide between cooking pots (9) and small/miniature vessels (9). All the former are buried as accompaniments to adults, but three of the latter are also placed with adults. It is significant that both groups can be closely paralleled as accompaniments to cremations. The lack of pottery grave goods for the stratigraphically earliest burials is of interest, but this does not mean that pottery vessels were not brought to and deposited at the cemetery during and after the burial rites. A good example of this is the 'ritual pit' at nearby St. Clare St [Ellis 1985] containing two complete and several incomplete pottery flagons of Antonine date. If vessels were left or deliberately deposited on the ground surface near graves, the continuing digging of graves would bring such items into the archaeological record. Of interest in this respect are the miniature oxidised baggy beakers (Fig. 29.13–16) and a similar group from St. Clare St., in both cases redeposited in later contexts. Could these have formed part of 1st-century burial rites in the area? Interestingly a substantial number of Highgate poppy-head beakers also occur in secondary contexts (according to Fig. 23 the 14th most common vessel type on site). Some of these too could be part of burial ritual or less likely disturbed grave groups. Small oxidised beakers, unguentaria and other miniature vessels are a regular feature of the cemetery areas of Londinium [Evans and Pierpoint 1986]. Samian vessels are known from burial contexts, but none here. However Samian vessels are often very common at cemetery sites in residual contexts and the implication is that they performed a role in burial ritual.

One other interesting aspect is the use at cemeteries of incomplete/broken vessels and even 'seconds'. Certainly incomplete at deposition at West Tenter St. were the following:

1. The Late Roman cylindrical amphora (Fig. 24.1, cremation 255, Plate 2) cannot have possessed a top when buried, but one should note the cremation amphorae from Great Alie Street [RCHM 1928, 158 No. 26i] where the top of a

dressel 20 amphorae had been smoothly cut away to contain an urn, but replaced as a lid. The BB1 dog dish inside the LRCA amphorae was also incomplete.

2. The Tazza (Fig. 25.1) used as a lid (cremation 675, Plate 3) was buried minus base. (Directly comparable is the urn from Regent Street; RCHM 1928, 166 No. 50).
3. The VRW jar base (Fig. 29.3) was placed on the chest of an inhumation (621), but may still have been useable as a bowl. It may however have been broken by post-medieval disturbance.

Redeposited Burial Furniture

Some residual material on site is very likely to have been redeposited grave goods or cremation pots. A number of displaced cremation pots still associated with cremated bone could be recognised. Scraps of cremated bone and disarticulated human bone occurred in many contexts on site. Graves intercut. We can expect that some grave items were broken and removed from their original contexts. If all sherds of vessels similar to cremation urns can be interpreted in this way, we could expect at least 7 VRW necked jars, 11 BB2/TSK lattice decorated jars, 3 BB1 jars and 2 necked jars of sandy ware for cremation or accessory pots. There would be at least two dozen pottery lids suitable for such vessels not to mention the various bowls that could be pressed into service. In addition fragments of various small beakers, which were recovered in residual contexts (see above and Fig. 29.13–16), could be interpreted as displaced grave furniture. However, the disturbance of earlier burials by later features and graves seems to be considerably less than this, at least within the excavated area. Nevertheless it is likely that considerably more vessels than the 17% of pottery on the site, which was reliably recognised as grave furniture, played a part in the burial rites.

The Secondary Pottery

The fill of features which were not directly part of the cemetery activity contained a large proportion of the site pottery, especially the initial filling of the central gravel pit, the final raising of the ground level there, and the filling of the deep pit.

The earliest pottery from the West Tenter Street assemblage is of mid-1st century date and consists of amphorae, samian and coarse wares. At nearby St. Clare Street, the roadside ditch and adjacent features were filled with similar material [Ellis 1985]. Such material is thus likely to be connected with the earliest history of the road which probably passed the West Tenter Street cemetery as well.

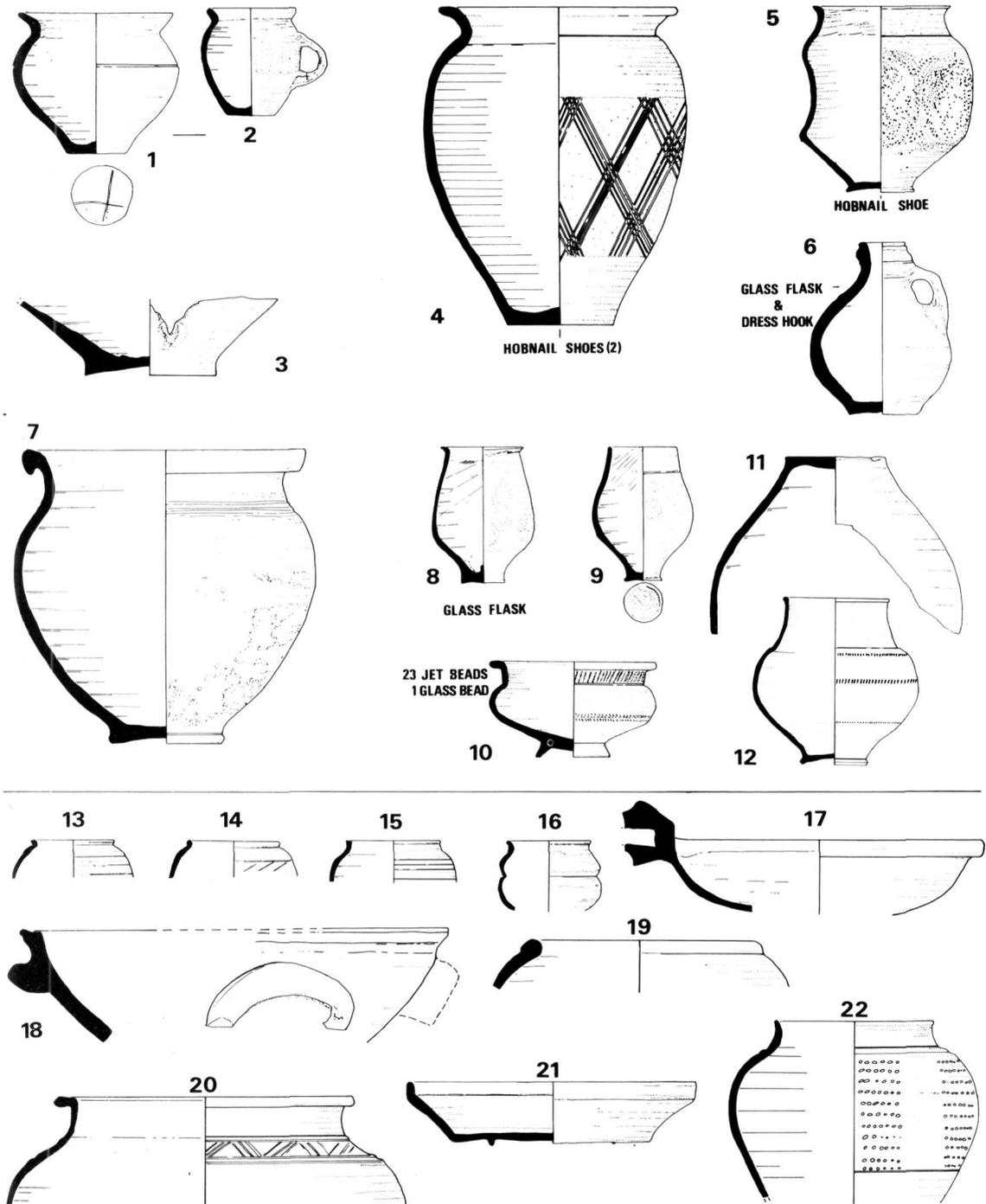


Fig. 29 West Tenter Street: Accessory Vessels. 1-2 Upchurch ware bowl and miniature handled cup; 3 VRW jar base 621; 4 BB2 jar 396; 5 KOLN indented beaker 654; 6 Alice Holt/Farnham flagon 710; 7 White slipped bowl inverted over burial's feet 1093; 8 Nene valley beaker 270; 9 Colour-coat beaker 523; 10 Early Oxford bowl 505; 11-12 Beaker from Trier with inverted jar base as lid 919. Flavian/Trajanic and Pre-Flavian material 13-16 miniature beakers (436, 436, 450, 460); Material redeposited in the central gravel pit includes: 17 London micaceous spouted bowl; 18 strap handled bowl; 19-20 Alice Holt/Surrey wares; 21 Imitation Terra Nigra; 22 Fine micaceous beaker.

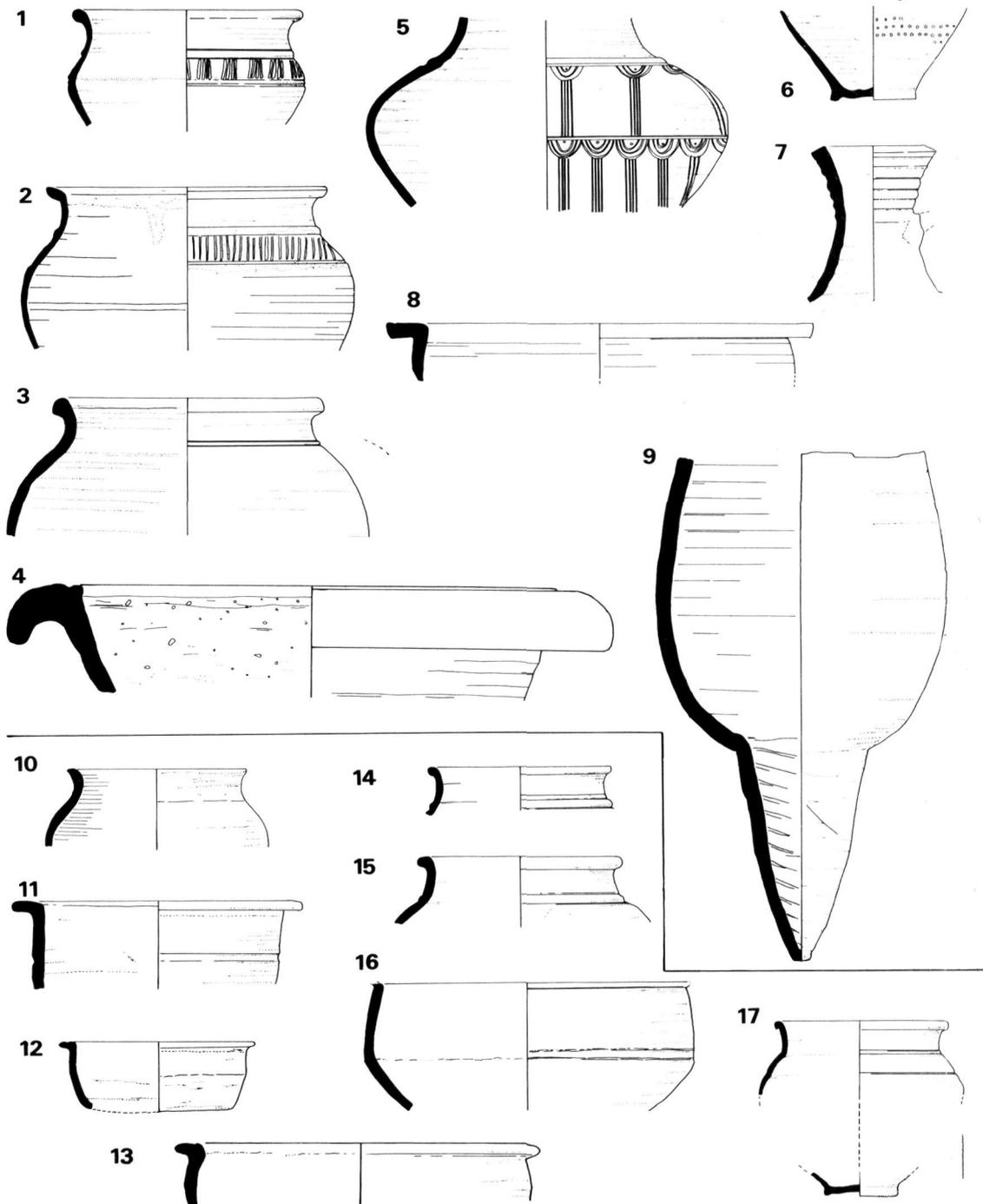


Fig. 30 West Tenter Street: 1-9 Pottery assemblage from the eastern gravel pit (contexts 1128/9). 1-3 Sandy ware necked jars; 4 Bead rimmed mortaria; 5 London Ware; 6 Highgate 'C' beaker; 7-8 Verulamium white ware; 9 Haltern 70 amphorae. 10-17 Pottery assemblage from the central gravel pit. Sandy wares and Alice Holt/Surrey.

The most characteristic fabric type is Sugar Loaf Court Ware (SLOW). Most of the forms here are small beakers in a bright orange fabric. Other oxidised beakers from the site may be of similar date (e.g. Fig. 30.10), together with some sandy ware jars.

The Gravel Pits

The earliest major group of contexts on the site belong to the filling of two gravel pits, underlying the burial area. These contexts provide a vital TPQ for succeeding cremation and inhumation burials. Unfortunately because of the difficulty of excavation in the area some contamination has taken place. However we know some contexts are uncontaminated and these provide a date for the filling of the gravel pits to AD 100–130.

A small deposit of pottery infilling a gravel pit occurred at the extreme east end of the site (contexts 1128/9, Fig. 30.1–9, Fig. 31). This typical dumped deposit was of similar or slightly earlier date to the main gravel pit fill, but contained no BB2. The assemblage here is small but the date is probably Trajanic.

The central gravel pit dump made up 19.5% of the site's pottery, slightly more than the recognised burial furniture (Fig. 32). A few sherds of black-burnished ware do occur in apparently uncontaminated contexts and therefore some of the filling of the gravel pit probably continued after AD 120. A cluster of coins of Domitian and Trajan in the gravel pit area, are related to the fill. The presence of London ware, London micaceous, imitation terra nigra, Alice Holt/Surrey and Highgate wares, which are all significant elements in this assemblage, would be typical of such a period, as would the forms illustrated (Figs 29.17–22, 30.10–18), including shouldered and necked jars, numerous lids, the peculiar spouted bowl (Fig. 29.17) and even late forms of bead rim jar. One peculiar form recognised is the large bowl with ribbon handles (Fig. 29.18) from an uncontaminated context.

The range and proportion of the wares from the grave fills in the central gravel pit area is very similar to that of the gravel pit fill itself, implying that graves cut into the central gravel pit were refilled with the same material.

The Grave Fills

The residual pottery in all graves represents almost 20% of the site's pottery, slightly more in fact than the grave goods themselves. The graves range in date over some 300 years and it is not surprising that the residual material should reflect this. The presence of Trajanic material in graves outside the immediate gravel pit area may suggest

that the dumping and filling activities *c.* AD 100–130 stretched right across the site. The graves in the gravel pit area contain on average 0.3 rim EVEs of pottery, the other graves contain only 0.15 rim EVEs.

Some of the material clearly comes from displaced grave goods and cremation urns. Indeed some sherds from the graves do join with adjacent urns. Most of the pottery residual in the graves is second century in date; some must have been brought to the site in the form of urns and accessory vessels. However, if we eliminate vessels that regularly occur as grave goods on site and the redeposited material from the gravel pits, there is still one large group of material that cannot be explained. Approximately 3–4% of the pottery here is samian later than the gravel pit fill and a slightly larger amount is ring-neck and disc-mouthed flagons. In addition as much as 25% by weight of the residual pottery in the graves is amphorae. There are also a few lamp sherds. It is not a new suggestion to propose that such items were part of rites and feasting at the time of or later than the burials themselves. Such material if broken would be readily redeposited in later contexts. If this is the case it is either a mainly 2nd-century practice, or the later rites did not lead to the actual deposition of pottery vessels. One very good parallel for this suggestion is the 'ritual pit' at St. Clare Street nearby, where a substantial group of Antonine flagons and amphorae were deposited in a pit [Ellis 1985].

Third and Fourth-Century Activity

Third and fourth-century fine wares are conspicuously absent from the site except as grave furniture, and it may be that the custom of ritual feasting, if there had been one, was abandoned. One large pit (1093) had been used for burial and the deposition of miscellaneous rubbish. It contained 3.34 rim EVEs of pottery. It appears to also contain the remains of several cremation urns deliberately cleared from the site. Also present was a small amount of contemporary material including late angled-rim jars (GW3, GW4) and storage jars (SJ123–127) deposited *c.* 200–250.

The levelling-up of the backfilled gravel pit area in the late Roman period, (contexts 562, 630–4) clearly displaced a large amount of pottery. Sherds in these contexts are generally small, quite well-abraded and broken up. Levelling activity may well have displaced earlier cremation urns and their lids and particularly broken away their tops. Indeed vessels identical to the three major urn types represent about a quarter of all the sherds in the deposit, even though they are probably a cen-

Type of fabric	DGLA code	Rim EVEs	Base EVEs	sherds count	Feature %age
Verulamium white	VRW	1.02	—	20	41.8
Verulamium grey	VRG	0.80	—	20	32.7
Highgate C mortaria TY97	HWC	0.29	0.49	20	11.9
Alice Holt/Surrey	TY97	0.15	—	1	6.1
London Ware	AHSU	0.05	1.98	35	2.0
Camulodunum 185	LOND	—	2.00	27	—
London micaceous	C185	—	1.00	16	—
	LOMI	—	—	2	—
Total		2.44	6.47	169	100.0

Also present: SAM; 55 sherds per rim EVE
Amphorae made up 81% by weight. Av sherd weight: 17.8gm

Fig. 31 West Tenter Street: Major pottery forms.

ture earlier than the levelling activity itself. Of these types (VRW, TSK and BB2) rims outnumber bases by 3:2, mirroring the figure for the medieval and later ploughsoil features. This material is likely to be, at least in part, broken and displaced cremation urns.

The Deep Pit (Fig. 33)

Garbage dumped in the fill of the deep pit feature represents 6.2% of the site's pottery (10.06 rim EVEs, Fig. 34). This fill took place after AD 340 according to coin evidence, but probably earlier than AD 375.

Type of fabric	DGLA code	Rim EVEs	Base EVEs	sherds count	Feature %age
Verulamium white	VRW	4.32	5.15	272	13.8
Highgate C ware	HWC	3.53	2.53	229	11.2
Samian	SAM	2.61	5.22	130	8.3
Oxidised ware 2	OX2	2.06	2.40	57	6.6
Verulamium slipped	VCWS	2.00	1.00	17	6.4
White slipped OX3	OX3	0.96	—	22	3.1
Sandy ware LD2	LD2	0.95	—	15	3.0
Sandy ware LD3	LD3	0.88	1.00	12	2.8
Alice Holt/Surrey	AHSU	0.65	0.36	65	2.1
Sandy ware GW5	GW5	0.58	1.41	67	1.8
Terra Nigra etc.	TN	0.55	0.71	9	1.8
London Micaceous	LOMI	0.52	0.32	19	1.7
London Ware	LOND	0.47	1.21	185	1.5
Verulamium mortars	VRW	0.34	—	6	1.1
White slipped 8	OX8	0.33	—	21	1.0
Highgate B ware	HWB	0.30	—	29	1.0
Dressel 20 amph.	DR20	0.29	1.00	70	1.0
Ring & Dot beakers	RDBK	0.20	0.02	4	0.6
Total		31.38	42.48	2180	100.0

Also present: C185B;GBWW;HA70;KOAN;NKSH;VRG;VRR
Average sherd weight: 8.9g 69 sherds/rim EVE
Amphorae: weight 17.5kg 39% of gravel pit pottery by weight.

Fig. 32 West Tenter Street: Pottery fabrics from eastern gravel pit.

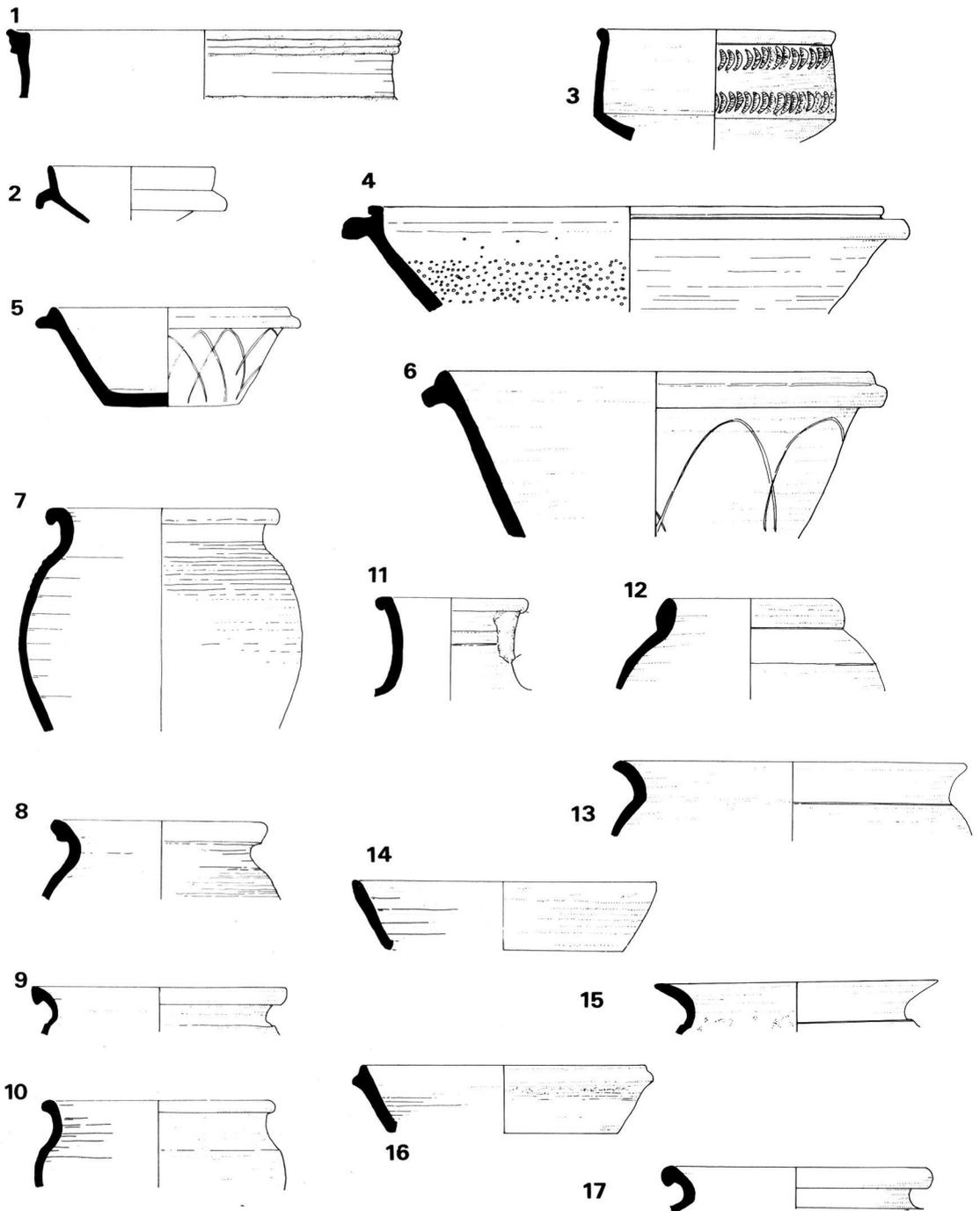


Fig. 33 West Tenter Street: Pottery assemblage from the 'deep pit' (169). 1-4 Oxford wares; 5-6 BB1 flanged bowls; 7-10 Late sandy wares; 11-17 Alice Holt/Farnham wares. Date 340-375.

Type of fabric	DGLA code	Rim EVEs	Base EVEs	sherds count	Pit %age	Approx. %age less residual
Alice Holt/Farnham	AHFA	2.42	1.72	96	24.0	32
Black burnished 1	BB1	1.41	0.94	48	14.0	19
Sandy ware 30985	30985	1.00	—	12	10.0	13
Sandy ware SP44	SP44	0.53	—	4	5.3	7
Misc mortaria	—	0.49	—	4	4.9	7
Oxford colour-coat	OXRC	0.26	—	14	2.6	4
Sandy ware SP100	SP100	0.25	—	0	2.5	3
Nene Valley CG	NVCC	0.10	—	2	1.0	1
Oxford parchment	OXPA	0.10	—	1	1.0	1
Oxford WW mortars	OXMO	—	0.19	3	—	—
Misc 1/2nd c. resid	—	1.87	4.00	173	18.6	—
Misc 2/3rd c. resid	—	0.66	0.14	62	6.3	—
Other	—	0.97	1.23	80	9.9	—
Total		10.06	10.50	499	100.0	

Amphorae represent 17% of feature's pottery by weight
Mean sherd weight (amphorae excluded) 20.2gms.
Shattering 43 (43 sherds per rim EVE)

Fig. 34 West Tenter Street: Pottery fabrics from the central gravel pit fill.

The substantial amount of residual material is not surprising on a site with so much pottery in and around the topsoil. The range of contemporary types is typical of that found in 4th-century London. A wide range of Alice Holt/Farnham (AHFA) types including: dog-dishes, everted rim jars, flanged bowls and flagons is present in this relatively small assemblage (Fig. 33.11–17). Excluding obviously residual material, AHFA forms some 30% of the complete assemblage. The second largest group is Dorset black burnished ware, both flanged bowls and exaggerated everted rim jars being present. Next in order of importance are the late sandy ware fabrics (Figs 33, 30.7–10) produced in typical 4th-century hooked rim and triangular rim forms, some with horizontal rilled decoration (Fig. 33.7). Late colour-coats are quite rare, Oxford and Nene Valley sources making up only 3.6% of the group.

The lack of Porchester D and calcite-gritted ware as well as the late forms of Nene Valley and Oxford suggest that this is not one of the latest 4th-century groups. The relatively high proportion of BB1 would also suggest this. A date not long after AD 340 and certainly not later than AD 375 for the group and therefore the filling of the feature is highly likely.

Although burial cannot be proven after this date there is evidence for activity later than the filling of the deep pit; it is confirmed both by coin evidence

and pottery. The assemblage from the plough-soil is mixed, but contains a substantial proportion of late Roman material including many of the types represented in the deep pit, but also calcite-gritted ware and Porchester D. Almost 7% of the site's RB pottery comes from such contexts.

Clearly some of the broken tops of urns would have been incorporated in this plough-soil, hence the preponderance of rim sherds over bases. The other interesting feature is the relatively intact nature of the later pottery in these contexts. On the basis of sherds to rim EVEs, the average 4th-century pot is broken into 38 sherds, the average 2nd-century one into 127 sherds.

By contrast the other medieval and post-medieval contexts produced only 5.12 rims EVEs of pottery (3.1% of the site's pottery). The implication of the high proportion of later 4th-century pottery in the ploughsoil is that the ploughing had removed later 4th-century contexts present on the site, but done considerably less damage to earlier more deeply buried contexts.

THE AMPHORAE by D. F. WILLIAMS

About 600 amphorae sherds were recovered from the site. 90% of these sherds belonged to the Gallic wine amphorae (Pelichet 47) or Spanish olive oil jars (Dressel 20).

Dressel 20

About one third of the sherds from the site belonged to this type. Seven Dressel 20 rims were recovered all of which can be roughly paralleled with examples from August illustrated by Martin-Kilcher (1983) in her scheme for the development of rims. All 7 belong to the period between the mid-1st century and the early 2nd century AD.

Camulodunum 185A

There were six sherds of this amphorae type from the Spanish province of Baetica [Tchernia 1980]. They probably originally contained defrutum a sweet liquid made from boiling down the must. They date from the mid-1st century BC to the mid-1st century AD.

Pelichet 47 (PE47)

Well over half the sherds were from amphorae of this kind. This is a flat bottomed wine amphorae predominantly made in southern France. The type was produced from the mid-1st to early 4th centuries AD. In Britain the form is not known from pre-Boudiccan levels.

Dressel 2-4

The site produced 14 sherds of this form which was made in Italy, France, Spain, The Aegean and Britain during the period from the late 1st century BC to the mid-2nd century AD. The principal content was probably wine. Eight of the fourteen sherds at West Tenter Street have dark-coloured augite inclusions [Peacock 1971]. Peacock [1977] has argued a Campanian origin around Pompeii-Herculaneum.

Southern Spanish

There were 8 such sherds. They probably derive from the coastal regions of southern Spain between Cadiz and Malaga and seems to have been mainly used to carry fish based products from the late 1st century BC to the 2nd century AD.

CONCLUSIONS

The pottery assemblage from West Tenter Street is important because of its large size and long chronological range. However, it is equally significant because of the insight it gives into the use of pottery during burial rites in ancient Londinium.

The site confirms the preference for two types of vessels as burial furniture: miniature vessels and cooking pots. For

the inhumations there is an equal divide between the two types. Virtually all the cremations on the other hand were placed in cooking pots or jars. Elsewhere in Londinium's cemeteries miniature vessels are also placed with cremations. It seems likely that the use of jars as burial furniture has a ritual and symbolic purpose as well as a strictly utilitarian one. In the late 2nd and 3rd centuries vessels identical to cremation pots are placed with inhumations as accessories. It seems tolerably clear that this is a ritual use directly analogous to the cremation pot. As the fashion for cremation declines so does the use of cooking pots with inhumations. By the mid-3rd century the cremation rite has almost died out in the eastern Londinium cemeteries and with it the use of cooking pot accessory vessels with inhumation burials. On the other hand, the second tradition, that of miniature or small vessels, continues right through to the 4th century.

North Kent and the Verulamium region seem to have produced pottery vessels particularly popular as burial items.

It seems likely too that pottery vessels played a part in ritual and festivity that did not directly result in their burial. In the 2nd century in particular, the cemeteries may have been places of pilgrimage, involving the carrying of pottery vessels out from the city to the places of burial. The secondary assemblage of sherds shows a strong bias towards flagons, beakers, samian bowls and amphorae that cannot be explained simply by the displacement of grave goods. It is very likely that such vessels were brought to the site during ritual feasting and broken. Libations may have been poured into the urn of the deceased relative. Also part of the activity connected with the cemeteries, judging from accessioned finds at London's museums, were pipe-clay figures and pottery lamps.

The final element in the assemblage seems to be city garbage. Rubbish may have been tossed on to the site by passers-by or dumped on the roadside site convenient for tipping. There appear to have been two major phases when city rubbish was dumped on the site. The first was at the beginning of the 2nd century when gravel pits were infilled, either to establish a new cemetery area or simply as convenient areas for tipping. Two and a half centuries later city garbage disposal may have been responsible for the filling of the deep pit.

Pottery assemblages such as this one can only be understood in terms of the human actions that brought material into the archaeological contexts. West Tenter Street shows that it is not easy to understand cemetery assemblages in terms of burial furniture alone. On the other hand the site gives important clues to changing pottery styles in the city and to the human processes that brought pottery beyond the city bounds.

ROMAN GLASS

by C. E. E. JONES

Fragments of some 93 glass vessels and one piece of window glass were recovered by the excavations. 51 of the vessels could be identified as to form as well as forty fragments of indeterminate form. In this latter group are fragments of thin, blown glass of various vessels of the first 3 centuries AD as well as thicker pieces that may have been part of bottles (Isings 50 and 51) or oil flasks (Isings 61) manufactured during the late first and second centuries.

Some glass vessels are deliberately coloured, others are naturally produced from unmodified ingredients. In this latter group the following terms

are used in this text: natural blue (NB, a translucent light blue with no trace of green); natural green (NG, a translucent light green with no trace of blue); and natural green-blue (NGB). The predominance of natural green-blue is made clear in the figure (Fig. 35).

Only two deliberately coloured vessels are represented, a cup in green (No. 7) and a bowl or jar in amber (No. 13). The site lacks any early millefiori glass and the majority of recognisable vessels fall within the late 1st and 2nd centuries. Only five vessels are certainly later; the jug (33) commonest in the 3rd and 4th centuries; the colourless beaker (18) is a typical third century product with incised decoration; the colourless flask (26) probably of 4th century date and the 2 flagons (28 & 31) which are early to mid-4th century in date. Nine fragments were burnt, one after breakage (1039).

THE VESSELS

A number of interesting forms were recovered from the site. Fragments of four pillar-moulded bowls (PMB, Isings 3) were found. All were of natural green-blue glass showing traces of rotary polishing on the inner surface, while the ribbed-surface was fire polished. This form was produced between the mid-1st and early 2nd century.

Number 13 is a thick-walled bowl or jar in amber glass. It has foliate tendril decoration. The whole appearance is similar to a samian bowl (Dr 29 or 37). Vessels from Balkan Lane, Colchester; Bell Yard, Fenchurch St., London and Whitton have similar decoration and probably represent similar forms. The Colchester example came from late 1st-early 2nd century contexts. The type was probably manufactured in the mid-1st century.

Number 18 is a single beaker sherd, a colourless fragment of thick glass. The geometric decoration consists of circular facets and triangles cut in broad lines on surface. Such decoration is typical of Rhinish workshops in the 3rd century. Similar forms are known in London (MoL A28278 & A27279).

Number 26 is a number of fragments of flask with globular body and outplayed neck. These forms are known from the 3rd century but are

	Green-Blue	Green	Blue	Coloured	Colourless	Total
Identifiable	31	8	2	2	10	53
%	58%	15%	4%	4%	19%	
Miscellaneous	24	6	5	0	5	40
	60%	15%	13%	—	13%	

Fig. 35 West Tenter Street: Comparison of the frequency of the various coloured glass fragments.

Cat no.	context	Glass	Date	Form	Isings no.	height
1	228	C	L1-2	Jar	67A	
2	855 & 861	NGB	2-3	Jar	94	
3	1075	NB	L1-2	Jar	?	
4	1090 (Crem)	NGB	M-L2	Oil Jar	68	
5	810	NGB	L1-2	Jar	67b or C	
6	1039	NGB	—	Jar	?	
7	633	TG	L1	Cup	36A or 38	
8	196	NGB	M1-E2	PM Bowl*	3	
9	204	NGB	M1-E2	PM Bowl*	3	
10	436	NGB	M1-E2	PM Bowl*	3	
11	684	NGB	M1-E2	PM Bowl	3	
12	131	C	L1-E2	Bowl	?	
13	685	AMB	M1	Bowl	—	
14	1056	NGB	L1-2	Bowl	—	
15-16	269, 276	C & NGB	L1-2	Beakers	—	
17	562	C	L1-2	Beakers	52	
18	562	C	3	Beaker	—	
19	562	C	L1	Beaker	29	
20	100 & 155	C	—	Beaker	—	
21	269	NB	2	Flask	28B	
22	590	C	2	Unguentarium	82(A?)	
23	633	C	—	Flask	—	
24	812	NGB	L1-E2	Flask/flagon	—	
25	948	NGB	L1-E2	Flask/flagon	52a/82a	
26	1094	C	3	Flask	104	
27	1155	NGB	L1-E2	Flask	8	
28	269(Grave)	NGB	EM4	Globular Flagon	—	107
29	579	NGB	—	Flagon	—	
30	634	NB	L1-2	Flagon	—	
31	709(Grave)	NG	EM4	Globular Flagon	—	106
32	269	NGB	L1-3	TM Jug*	56 or 88	
33	373	NGB	2-4	Jug	99	
34	1038	NG	—	Jug	56 or 88	
35	1075	NGB	2-3	Jug	—	
36	61	NB	—	Bottle	52	
37	378	NGB	—	Bottle	50	
38	422	NB	—	Bottle	50	
39	562	NGB	—	Square Bottle	50	
40	562	NB	—	NB	50	
41	845	—	—	Square Bottle	50	
42	911	NGB	—	Bottle	50	
43	1035	NGB	—	Bottle	50	
44	1039	NGB	—	Bottle	50 or 51	
45	1048	NGB	—	Bottle	50 or 51	
46	1060	NGB	—	Square Bottle	50	
47	1060	NG	—	Square Bottle	50	
48	1094	—	—	Square Bottle	50 (Dec)	
49	154	NGB	2?	Globular?	—	
50	835	NB	L1-2	Globular?	—	
51	1060	NGB	L1-2	Globular?	—	
52-53	207 & 562	TUR	—	Tesserae	—	

Fig. 36 West Tenter Street: Catalogue of Roman glass.

commonest in the 4th. This particular context is early to mid-3rd century. The form is rare in Britain. Harden [1978] only mentions two (Bladock and Chilgrove), but two more local examples are known. One from St. Clare House is very close geographically and in terms of quality. It has been redated to the 3rd century [Harden and Green 1978]. This example has bands of incised lines as decoration unlike the West Tenter Street example. Another example is known from Shadwell. The distribution of all known examples in south-east England probably reflects trade of the period.

Some of the finest pieces of glass at West Tenter Street are the flagons. Numbers 28 and 31 are particularly noteworthy single-handled types (Figs 40.10, 11). Only 8 other examples of this form are recorded in Britain. Bushe-Fox [1932, 85, No. 62] mentions one from Richborough from a pit infilled in the 4th century. A pit at Burgh Castle contained 11 vessels including two one-handled flagons of natural green glass [Harden 969, Plate XI, E]. Harden [*ibid.*, 76] dates these to the late 4th or 5th centuries. Three further examples came from the Lankhills cemetery. They are also of natural green or pale olive green glass very similar to the London finds. No. 28, from grave 270, is very close to Lankhills No. 551 with the handle taken from the shoulder and drawn upwards to end in a scissor fold at the rim and not the neck as usual. A mid-4th century date is likely for the West Tenter Street examples. Number 31 is a complete flagon of green glass from grave 710. The handle is trailed over the shoulder ending and decorated with four tooled knicks. The rim is formed by outward, upward and then inward folding of the glass. Height 106mm.

SMALL FINDS

by S. J. PIERPOINT

with contributions from F. JENKINS,
C. JONES, G. LLOYD-MORGAN,
and others

CLAY LAMPS

440 (972) Fragment of factory lamp in white ware with a cream/yellow slip probably of Gaulish origin. Loeschcke type 10. From Trajanic gravel pit fill.

476 (519, Fig. 37.2) Factory made lamp in soft orange fabric with a blocked channel on the nozzle and a raised rim around the discus. It is Loeschcke type 9B with an illegible stamp on the base. It is of Gaulish origin *c.* AD 100–150. It was laid in grave 518.

900 (627) Fragment of factory lamp in oxidised fabric. Some traces of red slip. 2nd century probably British manufacture. From fill of grave 626.

902 (633, Fig. 37.1) Loeschcke type 9B factory lamp in a hard grey fabric stamped 'Attusa F' (*ecit.*). It is probably of Gaulish origin. Attusa seems to have been active in lamp production in Gaul *c.* AD 75–125. It has a blocked channel and a raised rim around the discus. From the dumping sealing graves in the central gravel pit.

914 (550). White clay factory lamp with a raised rim around the discus and a blurred mask at the centre. Only the upper part of the discus is present. The filling hole is off centre. Loeschcke type 10(?), 2nd century. From fill of grave 549.

915 (810) Open lamp in white ware with a cream/yellow slip. Fragment only present. Loeschcke type 12. From fill of grave 907.

918 (695) Factory made lamp of Loeschcke type 9B or 10 of Gaulish origin. Handle and part of discus only present. There is a raised rim around the discus. The fabric is orange with a brown slip. Early–mid 2nd century. From fill of grave 694.

921 (1075). Factory made lamp in orange fabric probably of North Italian manufacture. Tip of nozzle only present. Probably Loeschcke type 9B or 10. Late 1st or 2nd century. From gravel pit fill.

952 (207). Factory made lamp in grey fabric with a grey slip probably of Gaulish manufacture. Form is Loeschcke type 10. Fragment of discus only present. 2nd century. From post-medieval ploughsoil.

953 (1046). Factory made lamp of Loeschcke type 10 in orange fabric, probably of North Italian manufacture. Part of discus only present. 2nd century. From fill of grave 1047.

CRUCIBLE

912. Base of ceramic crucible with copper alloy smelting waste inside and out. The base is flat and 32mm diameter (562), from dumping sealing graves in central gravel pit area.

CERAMIC EYE

948 (1072). Trimmed base of Verulamium White ware vessel painted with red and white pigments. Probably symbolic eye used in the Roman period in ritual treatment of illnesses [Barker 1982, 15–16]. Associated with 3rd-century pottery (Fig. 37.3), from demolition rubble in eastern tomb.

PIPE-CLAY FIGURE

by F. JENKINS (Fig. 37.4)

913 (129). A portion of the front half of a moulded pipe-clay statuette of the Venus type. All that remains are the bare legs of the goddess to the right of which are the folds of the robe which covered her back. It is virtually certain that the statuette was produced in the Rhineland because the robed type of Venus was apparently not included in the repertoire of the Central Gaulish manufacturers of moulded pipe-clay statuettes.

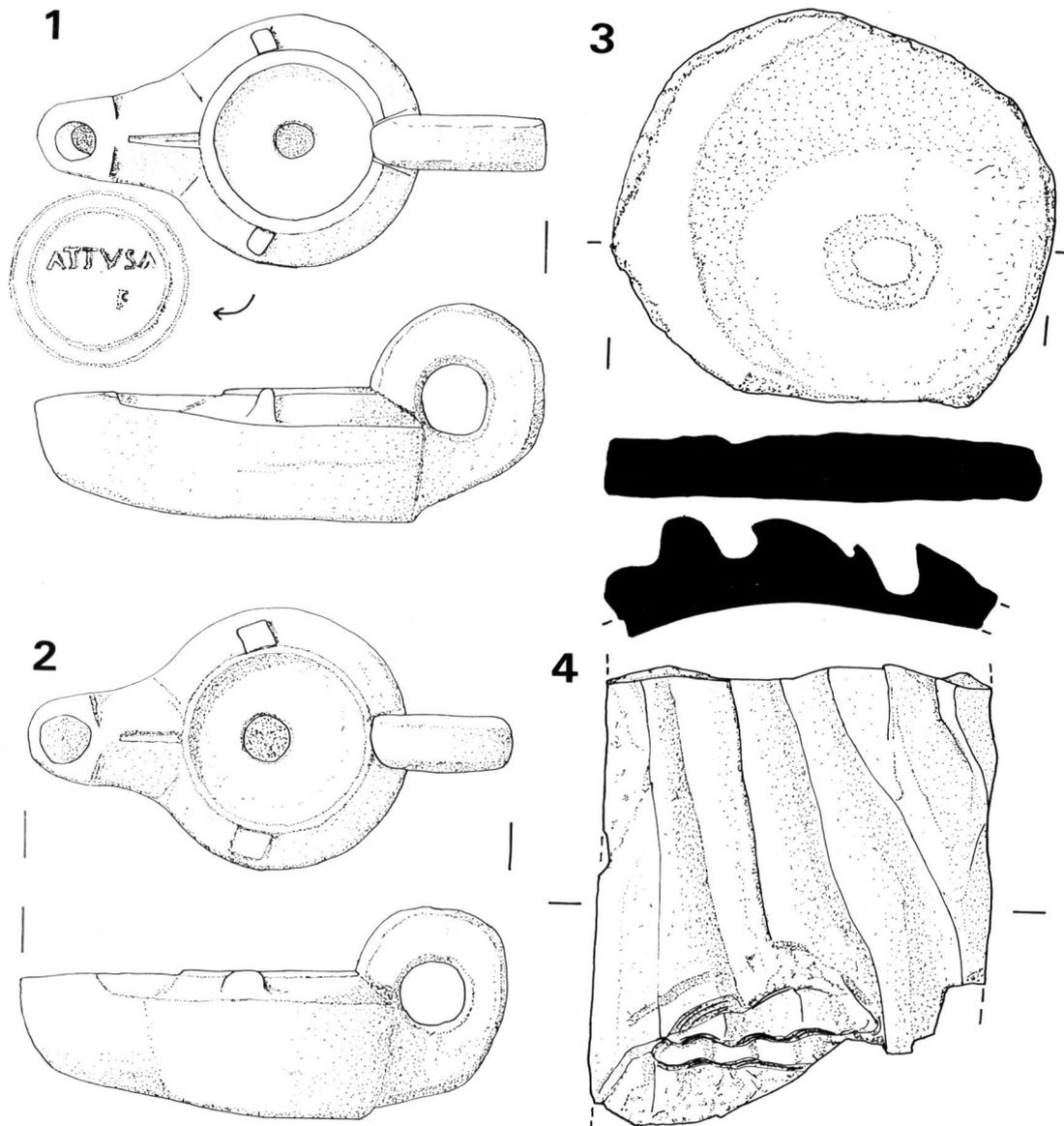


Fig. 37 West Tenter Street: Small Finds. 1 Clay lamp (440); 2 Clay lamp (476) used as a grave good; 3 Painted pottery 'eye' (1072); 4 Fragment of clay pipe Venus figure with painted decoration (129). 1:1

The brown and pinkish red pigments are evidently vestiges of paint. Several coloured statuettes are known indicating that the makers followed the Roman convention of painting sculptured figures [Jenkins 1958]. The cults using Venus figures seem to have been civilian in character and popular in Londinium as well as Gaul. From a post-medieval pit.

JEWELLERY GRAVE GOODS

GROUP OF GRAVE GOODS FROM CREMATION 1092

Burial 1092 contained a Verulamium White Ware urn with perforated lid (Fig. 24.4-5). Inside the urn was a group of personal items (Fig. 38, 1-5). These comprised a box mirror (38.1) a rectangular mirror (38.2), a per-

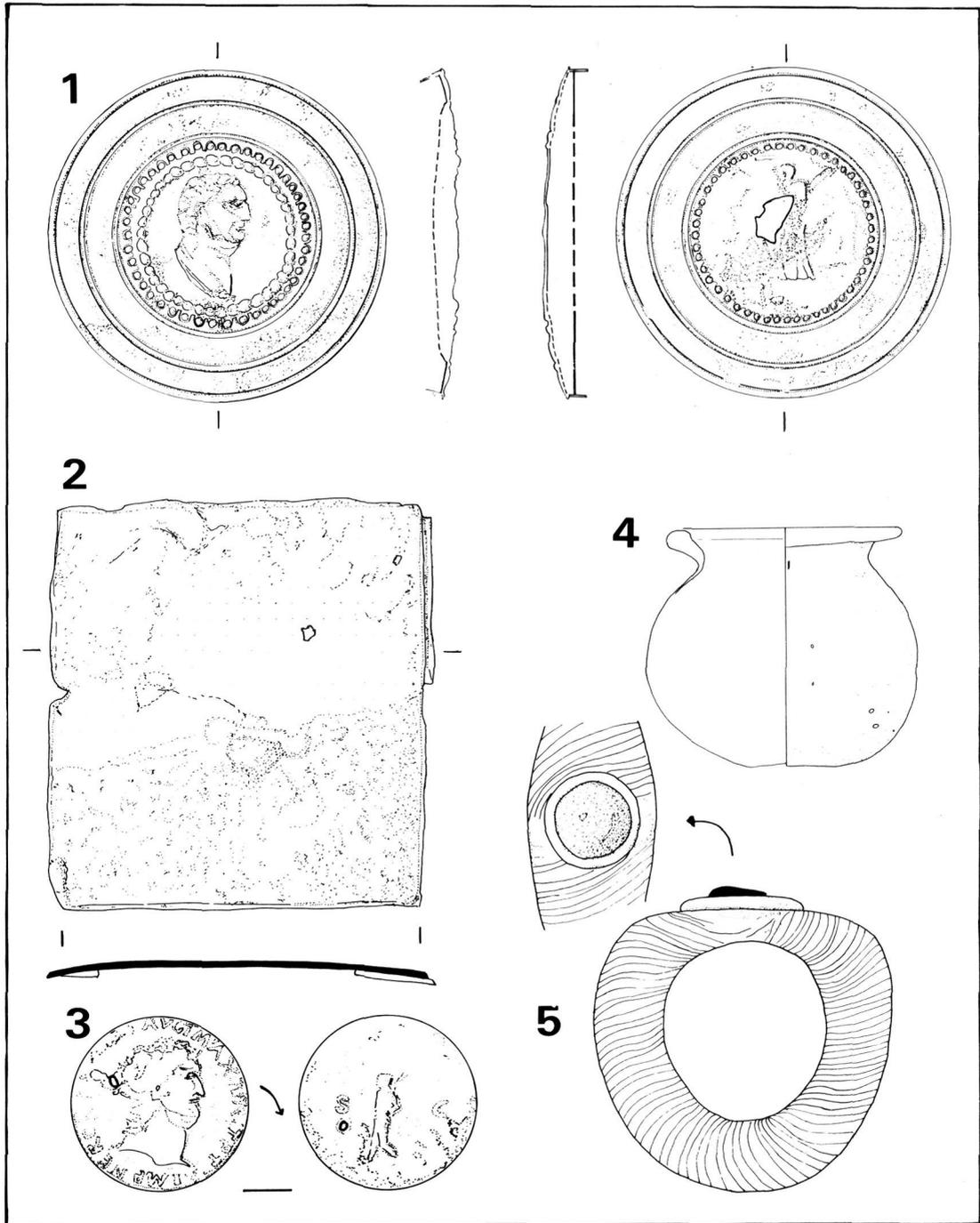


Fig. 38 West Tenter Street: Grave group from cremation 1092. 1 Box mirror with head of Nero and figure of Victory; 2 Rectangular mirror; 3 Perforated coin of Nero; 4 Glass perfume/unguent pot; 5 Glass ring with stone setting. Antique group deposited AD 120–140. 1–3 at 1:1. 4–5 at 2:1.

forated coin of Nero (38.3), a glass unguent pot (38.4) and a glass ring (38.5).

THE LID MIRROR

by G. LLOYD-MORGAN

868, 906.

This comprises the two sections of a lid mirror. Each is decorated with a plaque identical to the obverse and reverse of coins produced by the mint of Lyons during the last four years of Nero's reign (orichalcum issues of AD 64–68) where the emperor's head terminates in globe [Lloyd-Morgan 1981 Group Sa 78–81]. Some of these have well-prepared legends comparable with published coin types. In this case and others the lettering has been replaced by beading around the edge of the plaque. The only other British example is the well-known mirror from Coddenham, Suffolk discovered in 1823 [Toynbee 1964 384–5 pl. LXXVIII]. This example is not in the pioneering corpus by Froehner [1889, 395–405] though he does cite one other example without inscription from the Feaurdent collection. A further example has come to light at a cremation cemetery at Kastel Celeusum—Pflörring, Lkr. Eichstätt in the upper Danubian Limes area. The coin plaques at West Tenter Street and elsewhere are extremely thin sheet metal and in many cases this part is heavily corroded. The example here is in very good condition. The Coddenham mirror shows an 'adluctio' scene where the emperor addresses a group of soldiers. Another type is the 'Decursio' with two cavalry men seen on a mirror at Stahl bei Bitburg [Menzel 1966, No. 108'52 Taf. 47 Abb. 6]. The West Tenter Street example provides a welcome addition to this small subgroup decorated with uninscribed imitations of Neronian coinage and a figure of Victory.

904. A rectangular mirror (Fig. 38.2), with traces of ash (*Fraxinus sp*) in the corrosion on the reverse (identification: J. Watson).

The rectangular mirror is one of the common forms found throughout the Empire [Lloyd Morgan 1981, Group A, 3–20]. Early examples have been found at Hayling Island [Lloyd Morgan 1980, 98, 104] and at Usk [Usk 1967] as well as Bagendon [Clifford 1961, 152, 194, Plate 1]. Relatively complete examples in London have come from Harper Road, Southwark [Dean and Hamerson 1980, 20] and Moorfields Marsh in 1865 [Cuming Museum, Southwark No. C912]. Such mirrors were made of a high percentage tin bronze (*speculum*) and would have been protected by a wooden frame which may have been highly painted [Brogan and Smith 1984, 282–3, Plate 150]. One of the mirrors from Nijmegen still has fragments of the wooden backing still in situ [Lloyd Morgan 1981, 4, Plate 1, No. 2, Frag. iii] and a report from Chichester talks of a rectangular mirror with a wooden frame secured by iron studs [Down and Rule 1971, 80, Grave 87c 100].

905. The Perforated coin (Fig. 38.3)

Copper alloy as. (IM)P(NER)O CAESARAUG(pm). AD 67–8. Reverse SC Victory 1. Corroded as RIC 329.

906. The perfume flask (see glass report & Fig. 38.4)

907. The glass ring (Fig. 38.5)

The glass ring comprises a number of elements. The ring itself is very small, more suited to a child than an adult. It is of clear glass with a trailed yellow glass decoration of c. 87 twists encircling the ring. The bezel is flattened with a circular setting of white glass to contain the cornelian stone. A number of similar rings are known generally with 1st–2nd century associations. They come from as far apart as Caerleon and Kirkbride, Cumberland [Charlesworth 1975, 88]. The British Museum lists 8 continental examples [Marshall 1907, 231–2] and one [ibid 1578, 231] from Orvietto is a particularly close parallel. A continental, particularly Rhineland, origin is likely for the West Tenter Street example. Wheeler [1930, Fig. 30] notes two London examples, one from Smithfield the other from Moorgate Street. Neither are dated but both are in locations which have produced Roman burials.

DISCUSSION

The group of finds from grave 1092 is a particularly fine one. Many of the items are likely to have been produced in the 1st century, yet the deposition of the burials took place in the period AD 120–150, based on the dating of the urn and on stratigraphic grounds. The group is unusual and quite outstanding.

The mirrors are particularly fine. It is unusual to have two mirrors associated with a single burial, but not unparallelled. Excavations at Kempton-Keckweise produced mirrors from a number of graves. One of Claudian date had a total of four, one rectangular and three disc mirrors [Mackensen 1978, 256, Grave 202, No. 5–8, Taf. 79]. One at Hufingen in southern Bavaria [Biegel 1981, 45–8] had a hand mirror and a hinged lid form normally found in southern France. There are also several examples from Ljubljana including one grave which had fragments of a rectangular mirror and a hand mirror also poorly preserved, but quite distinct from its companion [Petru 1972, 29, 152, Taf. XVI, No. 2].

THE OTHER MIRRORS

24, 34, 55, 917, 947. Four further fragments of plate mirrors, 24, 34, 55, 917, were recovered on site, all from residual contexts. Nos. 24 and 55 may be the internal portions of rectangular or simple disc mirrors. All had one finished reflecting surface, and an unfinished underside. These can be classified as group Za [Lloyd-Morgan 1981, 107–8], all are likely to be 1st century in date. No. 947 is the corner of a rectangular mirror of group A [Lloyd-Morgan 1981, 3–20] and similar to the complete example from the cremation group No. 904 (above).

OTHER JEWELLERY AND ORNAMENTS (Figs 39–40)

Bronze armlets, bracelets and anklets were popular burial accoutrements by the 3rd and 4th centuries.

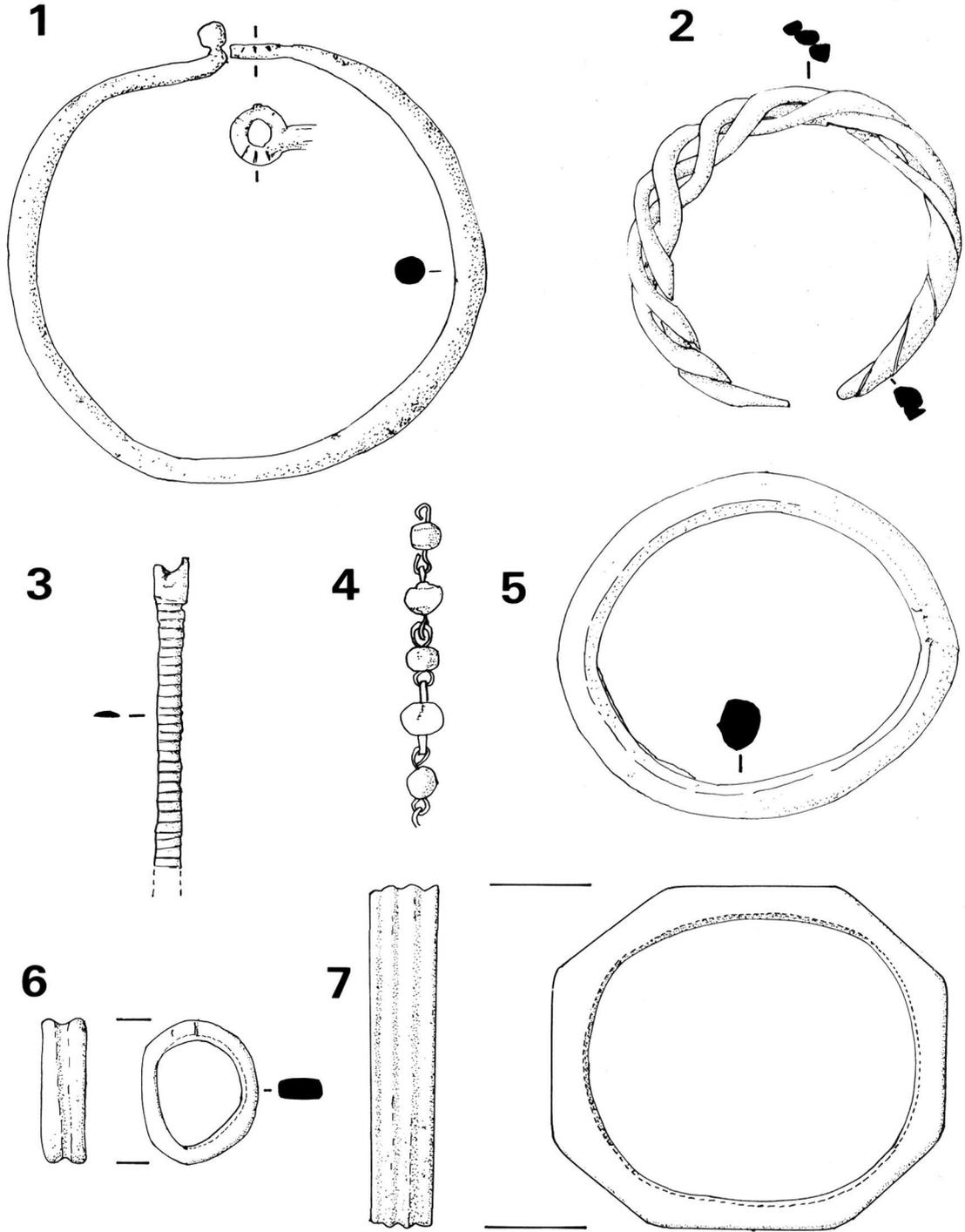


Fig. 39 West Tenter Street: Grave Goods. 1 Copper alloy bracelet (549); 2 Twisted wire copper alloy bracelet (387); 3 Copper alloy anklet (217); 4 Necklace of alternating green and blue glass beads with copper links (328); 5 Shale oval bracelet (387) with glass bead necklace (see Fig. 36.9); 6 Shale ring (943); 7 Octagonal bracelet of jet or canal coal (435). All 1:1.

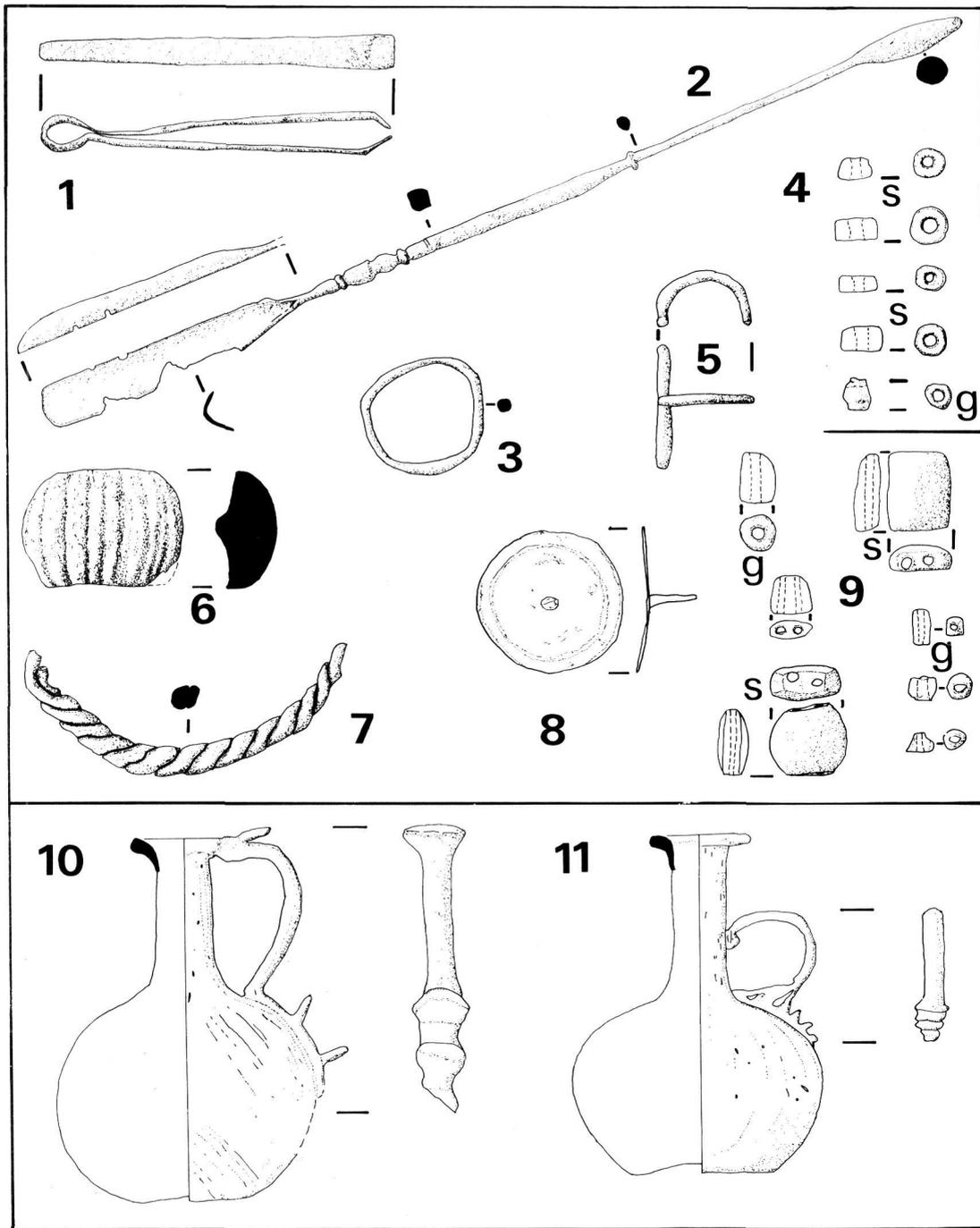


Fig. 40 West Tenter Street: Grave Goods (1-5 and 9-11) and small finds (6-8). 1-2 Manicure set of tweezers, ligula and scoop (740); 3 Copper alloy ring (328); 4 Shale(s) and glass (g) bead necklace (506) with pottery vessel (Fig. 26.10); 5 Copper alloy dress hook (710); 6 Melon bead (835); 7 Twisted wire bracelet fragment (169); 8 Copper alloy stud (633); 9 Shale(s) and glass bead necklace (387) associated with shale bracelet (Fig. 35.5); 10 Glass flask (270) with miniature beaker (Fig. 26.8); 11 Glass flask (710). All drawn at 1:1 except 5 (2:1) and 10-11 (1:2).

Significant numbers have been found in Colchester [Crummy 1983, 36–45] as well as one or two examples from graves in London [Bentley and Pritchard 1982, 148–50, Burial 12, Fig. 20].

561. Plain copper alloy armlet (Fig. 39.1) with a hook and eye clasp, but with some hint of decoration around the eye. *c.* 75mm × 70mm with a circular cross-section with thickness of 5mm. A very similar example from Colchester [Crummy 1983, 1651] is of 3rd–4th century date. Hook and eye clasps [Wheeler 1930, 102] are known in London, but bracelets of this type are unusual. Grave good from a 4th-century chalk burial (549).

651. Three strand copper wire armlet (Fig. 39.2) with inhumation 387. There is no closing device, other examples have loops, hooks or elaborate 'terminals'. A similar bracelet comes from nearby Mansell Street [Wheeler 1930, Plate XL.5], Crummy [1983] lists a number from Colchester cemeteries, 53mm × 52mm.

65. Fragment of similar copper alloy twisted cable armlet (Fig. 40.7) from a residual context in deep pit 169.

106. Copper alloy anklet or armlet with transverse grooves (Fig. 39.3). From a residual context (217). Similar bracelets are known from Colchester cemeteries [Crummy 1983; 1676–1684]. It probably had some form of hook and eye clasp.

JET AND SHALE BRACELETS

Two bracelets of jet or shale were certainly deposited with burials at West Tenter Street. Several other fragments were recovered from redeposited contexts. Virtually all examples are of post AD 250 date in terms of deposition.

300. Plain oval shale bracelet 63mm × 54mm (Fig. 39.5) The cross-section is ovoid. From inhumation 387 found with bracelet of shale and glass beads (Fig. 40.9 and below).

377. Also with inhumation 387 a fragment of a second almost identical one (not illustrated). Probably also associated with this burial was copper alloy bracelet (No. 651) described above. Shale bracelets of this kind are relatively common [Lawson 1976 and Crummy 1983, p. 36–7] particularly in the 2nd and 3rd centuries.

389. Bracelet of jet or canal coal (Fig. 39.7) with inhumation 435 (Plate 14). Bracelets of this kind have parallels from the late 2nd to the 4th centuries [Lawson 1976, 254]. This example should be 4th century in date. Octagonal bracelets of this kind normally have grooving around the edge. One from Colchester [Crummy 1983, No. 1568] is almost identical. Internal diameter 53mm × 43mm. The best local parallel comes from Borough High Street, Southwark [Wheeler 1930, Fig. 31] although this a much cruder example.

68. Fragment of circular or oval shale bracelet similar to No. 300 with similar ovoid cross section. Found in grave fill of 262 (not illustrated).

256. Fragment of shale bracelet similar to No. 68 but section is flattened on one side. Found in fill of 4th-century pit (429) (not illustrated).

404. Large fragment of circular shale bracelet of 47mm internal diameter. The cross section is identical to No. 300 (Fig. 39.5). Found in pit of date later than AD 287 (493) (not illustrated).

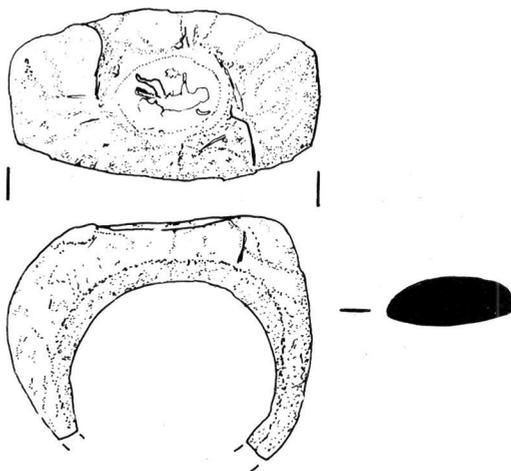


Fig. 41 West Tenter Street: The Intaglio Ring.

541. Fragment of poor quality shale bracelet similar to No. 300 but of considerably smaller diameter. The cross section is identical. Found in dump of 4th-century date (not illustrated).

FINGER RINGS

856. Irregular shaped shale finger ring (Fig. 39.6) from inhumation 943 (Plate 8). Shale rings are quite rare only two are listed from Colchester [Crummy 1983, 45], neither from cemetery groups. Wheeler [1930, Fig. 30.19] illustrates one from 'London'. The date of this example is early or mid 2nd century.

251. Simple circular cross-sectioned copper-alloy ring (Fig. 40.3) 20mm in external diameter. Worn on the left hand of inhumation 328 together with a necklace of green and blue glass beads (Fig. 39.4) connected by copper hooks. Rings of this sort occur during all phases of the Romano-British period.

764. Fragment of copper alloy hair ring 14mm external diameter from post-hole 743 (not illustrated).

Iron ring with intaglio from cremation 675 (from notes by M. Henig, Oxford, and Jobbins and Harding of Geological Museum).

903. Burnt iron ring with an intaglio setting (Fig. 41). The ring had been burnt with a cremation and placed in a Verulamium white ware urn with a broken tazza as a lid (Fig. 25.1–2). The gemstone is composed of jasper or sard onyx and is a maximum 14.5mm long. The iron is in the form of a broad flat ribbon of 18mm maximum internal diameter. The device on the intaglio is a 'satyr on a rock' in profile to the right. In his left hand he holds a *pedum* or *lagobolon*, in his right hand a bunch of grapes. Crummy [1983, No. 1793] illustrates a ring similar to this with identical D-shaped section. Wheeler [1930, Fig. 30. 16–18] notes three from London from Westminster (Aquarium site), Moorgate Street and Miles Lane (City of London). Normal associations for London and other examples [Henig 1978, 71, 156, 157 App 109, 161–70

App 37, App 41] 1st century or early 2nd century. The example from West Tenter Street must have been deposited *c.* AD 120–150.

COPPER ALLOY ‘MANICURE SET’

766, 777, 778. Tweezers and spoon-probe (Fig. 40.1–2). From inhumation 741 together with a BB1 miniature jar and coin which was interred in the period AD 250–300. The tweezers are typical of the Roman period with loop at the top and a very slight expansion towards the jaws. Some examples have a suspension ring through the loop as on some Dark Age examples. An alternative feature is a bar and loop toilet-set holder [Crummy 1983, 1885]. One probable example was discovered in the ‘deep pit’ fill at West Tenter Street (No. 63, not illustrated). The spoon probe is quite fine comparing with similar examples from Colchester [Crummy 1983, 1296]. Frequently these items have been deliberately bent at the probe and/or spoon end. This example is quite straight. Such items are normally interpreted as cosmetic extractors and applicators. A partial example was discovered redeposited in a nearby context (No. 778, not illustrated),

bent both at probe and spoon ends. A fragment of a 2nd pair of tweezers was redeposited in the late Roman dumping (No. 911, not illustrated).

BEADS AND CLOTHING ATTACHMENTS

A number of beads were discovered from many parts of the site in residual contexts. However there were three inhumations with bead necklaces or bracelets. All three are unsexed juveniles. The two dated examples are of mid to late 3rd or 4th century in date.

250. Set of 23 alternating blue and green glass beads (Fig. 39.4) worn as a necklace on inhumation 328 together with a plain copper alloy finger ring (Fig. 40.3). The glass beads have a complete perforation through which has been passed copper alloy wire wrapped over at each end so as to engage with similar devices on adjoining beads. The beads are globular in shape with circular cross-sections.

439 (Grave 387). String of 30 glass and jet beads (Fig.

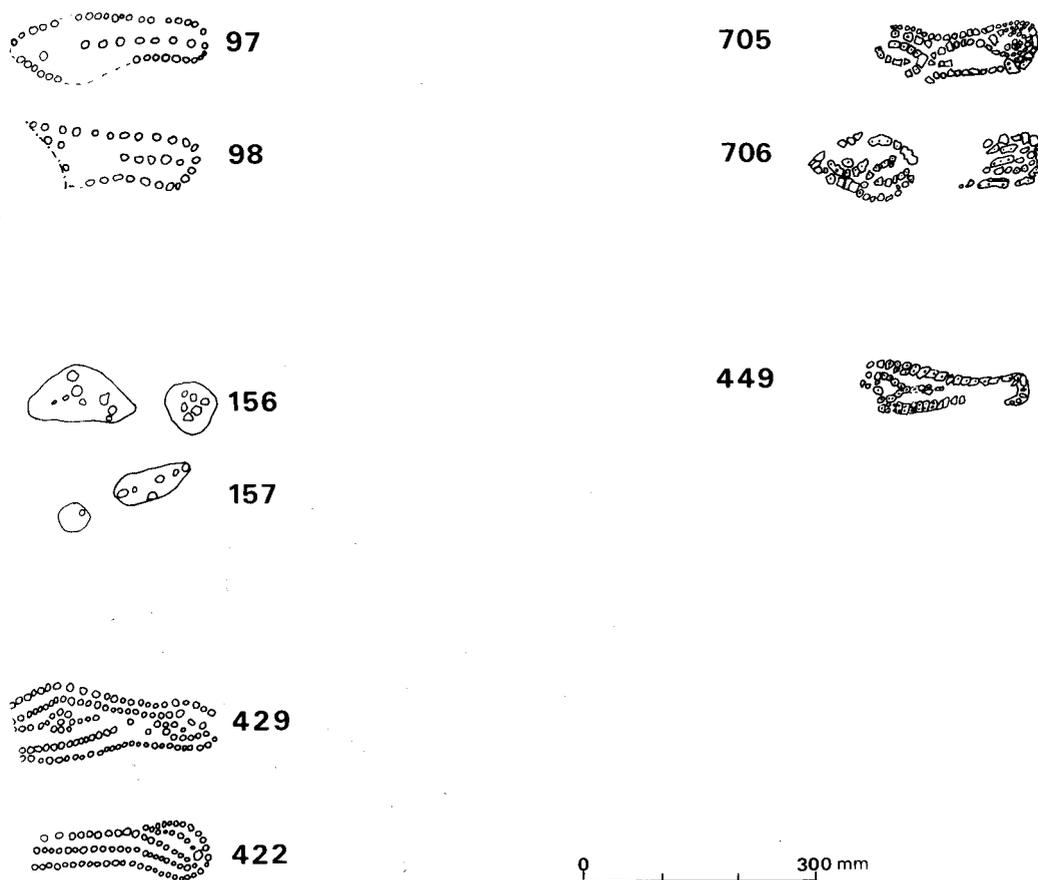


Fig. 42 West Tenter Street: The hobnail shoes.

40.9) they were found with a shale bracelet (Fig. 39.5) and were probably also a bracelet. There are four jet 'spacers' with perforations for a double string. There are 7 cylindrical beads (4 green, 2 turquoise and 1 blue); 4 elongated blue beads with a square cross-section and 15 globular beads (8 blue, 1 red and 6 of no definite colour). All these forms are noted by Guido [1978, 91–102]. The beads are all opaque. The blue and red ones are of uniform colour, the green ones are often stripey. None are very distinctive as to date, but the square sectioned types are normally 3rd or 4th century in date [Guido 1978, 96]. Large numbers of cylindrical beads were recovered from cemetery deposits at Lankhills [Guido 1979, 292–300]. The circular double perforated jet beads occur in late third century contexts at Verulamium and Brough-on-Humber [Lawson 1976, 244].

496 (Grave 506). A set of 24 jet beads and one glass bead (Fig. 40.4) were found together with an Oxford bowl (Fig. 29.10) in one grave group. All the jet beads are of simple disc type and the glass bead of plain globular type. Neither the glass [Guido 1978] or jet [Lawson 1976] beads is very distinctive as to date. The group however dates to the mid to late 3rd century on the basis of the pottery vessel and stratigraphy. There was no surviving skeleton and it is uncertain if these were a necklace or bracelet.

HOBNAILED SHOES (Fig. 42) by M. RHODES

Unless otherwise stated, the nail-pattern types are those defined by Rhodes (1980, 105–7). The sizes are given according to the English Shoe-Size Scale for adult shoes, rounding up for half sizes. The nails were too corroded for the excavators to determine whether their heads were up or down, although for the purpose of the following catalogue, it has been assumed that the shoes were placed in the graves the right way up. If this were not the case, right shoe nail patterns would have the appearance of left shoe patterns, and vice versa.

Grave 261, adult, 2nd century or later

97–98: Matching pair of nailed shoes. Type A nail patterns having a nearly continuous line of nails around the edge, with a more widely spaced row along the centre line. The foreparts of 98 were missing, but 97, the right shoe of the pair, was complete: length *c.* 260mm, Adult Size 6. A late 3rd–4th century shoe from London has a similar nail pattern (MacConnoran 1982, 51, No. 106), although it is not dissimilar to the Type B pattern from 1st–2nd century contexts, and such a simple design might perhaps recur at any date.

Grave 311, Adult ?male, 2nd century or later

156–157: Two shoes. Corroded patches of hobnails indicated shape of the heels and foreparts, although were apparently absent from the waists. Nail patterns could not be distinguished.

Grave 396, adult male, AD 150–200

A pair of shoes worn at the time of burial.

422: Right shoe, foreparts missing. Two parallel outer nail rows curved around the heel and appeared to terminate at the back of the arch. A single row of nails along the centre line. Overall length >240mm.

429: Left shoe, pointed toe. Hybrid A/C nail pattern—two rows followed the outer edge, the innermost ending in a leaf(?) motif at the heel. Two shorter lines of nails crossed the tread diagonally from the great toe; the inner line being interrupted in the middle of the tread by a circle of nails with a central nail. A pattern of somewhat similar character occurs on a shoe from an early–mid 3rd century deposit at New Fresh Wharf (MacConnoran 1986, 218 top left). Length 316mm, Adult Size 11.

Grave 654, adult ?female, AD 150–200

Cluster of nails from heel of right shoe, worn at the time of burial (not illustrated).

Grave 593, adolescent female, late 3rd or 4th century

705: Right shoe, most of forepart missing. Hybrid A/C nailing pattern, nails in waist follow line of arch; cluster of nails at the heel.

706: ?Left shoe. Type A or hybrid A/C nailing pattern, with apparently pointed toe. Arrangement in tread unclear; cluster of nails at heel. Length *c.* 256mm, Adult Size 5.

Grave 459, adult male, AD 340 or later

449: Right(?) shoe with Type A nailing pattern, toe missing. Motif in tread could be a Y or a circle around a central nail. >230mm long, greater than Adult Size 2.

THE COINS

by M. HAMMERSON

SUMMARY OF COINS

The 43 coins from the site may be summarised as follows:

Nero, AD 54–6	3
Domitian, AD 81–96	4
Trajan, AD 98–117	1
possibly Hadrian, AD 117–138	1
Antoninus Pius, AD 138–161	1
Marcus Aurelius, AD 161–180	1
Septimius Severus, AD 192–211	1
Severus Alexander, AD 223–235	1
Central and Gallic Empires, AD 253–273	7
Irregular antoniniani, <i>c.</i> AD 270–300	7
Aurelian, AD 270–276	1
Carausius, AD 287–296	4
House of Constantine, AD 320	1
AD 330–348, regular	2
irregular	5
AD 350–355	1
<i>c.</i> AD 355–365, irregular ...	1
House of Valentinian, AD 367–375	1
House of Theodosius, AD 388–402	1

THE COINS AND THEIR CONTEXTS

Since this appears to be primarily a cemetery site, the coins should first be looked at in regard to their contexts before any comment may be made about what they may signify. The bracketed numbers with the coins are their small-find numbers.

Coins from Graves

- (399) Nero—in association with pottery of *c.* AD 250–300, and redeposited with grave backfill.
 (905) Nero—in a cremation urn dated to AD 120+, together with a box mirror decorated with Neronian coin patterns.
 (849) Domitian—in association with pottery of *c.* AD 120–200.
 (95) Domitian—within coffin fill of otherwise undated grave.
 (530) Antoninus Pius, (527) Marcus Aurelius, (531) Tetricus I—all in same layer of fill of a grave, with pottery dated *c.* AD 300–400.
 (767) Septimius Severus—under left humerus of inhumation buried with a BBI jar of *c.* AD 250–300.
 (428) Irregular Victorinus, (474) Victorinus or Tetricus I—sole dating evidence for grave.
 (155) Gratian—from a pit containing an infant burial. This cut the surface of an earlier “chalk burial”, probably of 4th century date, and could have derived from its fill.
 (419) Irregular 340’s—beneath the skull; uncertain whether originally deposited in mouth.
 (296) Constans—from a “chalk burial”.

Coins from other Roman features

A gravel pit containing redeposited cremation urns, and possibly backfilled by *c.* AD 120, contained several coins: (876) Nero, (858, 854) Domitian, (861) ?Hadrian, (855) Trajan, and (872) Claudius II. The contexts of most of these coins were insecure, and they may have derived from later Roman graves or other features cutting the gravel pit fill. Only the coin of Nero was securely sealed on the floor of the pit.

The deep pit F.169 had (756), an irregular coin of *c.* AD 340–347, sealed at its base, while two coins of Carausius (689, 47) were from the ploughsoil above it; conceivably they derived from its backfill. Other pits were associated with the deep pit; the features all seemed to be backfilled with pottery of the 4th century, perhaps as late as AD 380; the coins from these other pits—(587, 674, 655)—were mainly residual, dating to *c.* AD 260–275, though (588), an irregular issue of *c.* AD 355–65, gives the earliest backfilling date.

Dumping levels apparently immediately predating the deep pit contained coins (945) of Severus Alexander (unlikely to have circulated after *c.* AD 250) and (551) an irregular copy of the 340’s. The latter gives some support to the evidence of coin (588) from the deep pit itself. The two coins (59, 71) of the early 270s, together with pottery of *c.* AD 250–300, from the ditch (F. 206) seem to provide some mutually consistent evidence for

the date at which it may have been filled, though the precise context of coin (58) of Arcadius from the uppermost fill is uncertain and leaves the date of the backfilling of the ditch in a little doubt, perhaps.

Of the remainder of the coins, some derived from ploughsoil over the graves (15, 417, 32, 3, 418, 35, 70, 816, 61); all dated from AD 258–375, and all or some may have derived from the backfill of graves, though this is quite uncertain. Others (1, 16, 46) were from post-medieval contexts. Whether they derive from the use of the area as a cemetery, or from dumping of other occupation material from elsewhere, it is not known.

COIN EVIDENCE AND THE DATING OF THE CEMETERY

The analysis of coin and ceramic evidence in (II) above suggests that, of the ten graves containing coins, seven were dated AD 250–400; three of those contained coins dating to AD 194 or earlier. A further two contained single coins—one of Nero (905), fairly heavily worn, and one of Domitian (849), very heavily worn—but were associated with pottery of *c.* AD 120–200; the state of wear of the coins suggests that the graves should date later rather than earlier within that time bracket, and may even be later, as much 1st century bronze coinage remained in circulation, in an extremely worn state, until at least *c.* AD 260. In the tenth grave, the only dating evidence present was a coin of Domitian (95); this was fairly heavily worn, and although wear cannot be interpreted in terms of absolute years, it is possible that the coin circulated well into the 2nd century.

It would appear, therefore, that most graves in which coins were present, whether as ritual offerings or redeposited, do not date earlier than the mid–late 2nd century, whilst several are definitely mid–3rd century or later.

Although the coin of Nero (905), buried in a cremation urn of AD 120+ with a box-mirror bearing Neronian portraits, showed fairly heavy wear, it is pierced for suspension and the two objects may have been heirlooms buried with their owner. The coin may have been worn as a talisman from the time it was minted, and regularly polished, both of which processes could have accounted for its state of wear in a relatively short time; alternatively, it may have been used as a pendant after seeing some circulation. By itself the coin’s evidence is ambiguous; it is not perhaps sufficiently worn to suggest use or circulation into the 3rd century, although the vessel in which it was placed suggests a deposition date of at least AD 120.

Although the coins from other Roman features provide useful dating evidence, it is uncertain whether they are from primary deposition or



407



419



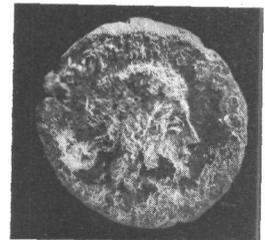
551



46



296



588





587



478



32



531



30



674



418

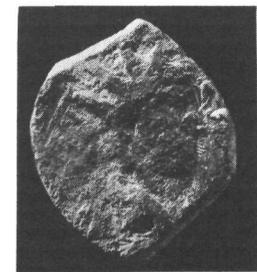


Plate 15 West Tenter Street: Coins (407, 419, 551, 46, 296, 588, 587, 478 (obverse corroded), 32, 531, 30, 674, 418).

whether they are redeposited in the backfill of features. However, these and the remainder of the coins from the site present a coin pattern where the greatest number of coins date to the second half of the 3rd century, and where there is a secondary 'peak' during the later Constantinian period and a rapid tail-off in numbers thereafter. This is a normal pattern of coin-loss on many occupation sites. On a cemetery site, its significance is perhaps less clear; on the rather tenuous assumption that they all derive from funerary contexts, the coin pattern is more likely to depend on fashions or practices in burial rites than on any loss of coins from everyday trade.

DETAILED LIST OF WEST TENTER STREET COINS

As a guide to the length of circulation coins might have seen a grading letter is added in brackets. Thus (A) = unworn, (B) = slight wear, (C) = medium wear, (D) = fairly heavy wear, (E) = very heavy wear; a question mark indicates uncertainty due to corrosion. Rev. = Reverse; Irr. = Irregular copy.

RIC = Roman Imperial Coinage 10 vols., London, 1920–

LRBI, 2 = R. A. G. Carson, P. V. Hill, J. P. C. Kent, "Late Roman Bronze Coinage", London 1965, Parts 1 and 2

Context	SF	Identification		Date (AD)
475	399	Nero, <i>as</i> , RIC 318; rev. SC, Victory	(D)	64–68
1183	876	Nero, <i>as</i> , RIC 329; rev. SC, Victory	(C?)	c.67–68
1091	905	Nero, <i>as</i> , RIC 329; rev. SC, Victory	(D)	67–68
941	858	Domitian, <i>as</i> , as RIC 301; rev. Moneta	(D)	95–96
766	849	Domitian, <i>sest.</i> , as RIC 279; rev. Jupiter	(E)	85–96
264	95	Domitian, <i>as</i> ; rev. illegible	(D)	81–96
944	854	Domitian, <i>as</i> ; rev. illegible	(D/E?)	81–96
922	855	Trajan, <i>as</i> , RIC 402; rev. Victory	(C)	98–99
1035	861	possibly Hadrian, <i>as</i> .	(E)	120–140?
571	530	Antoninus Pius, <i>dp.</i> , RIC 990 or 1015; rev. Fortuna	(D)	157–159
571	527	Marcus Aurelius, <i>sest.</i> , RIC 1033; rev. SC, Roma	(D)	172
740	767	Septimius Severus, <i>dp.</i> , RIC 664 (variant); rev. Saeculi Frugifero	(C)	194
945	632	Severus Alexander, cast copy <i>den.</i> , as RIC 139; rev. illegible	(?C/E)	c.222–235
1104	872	Claudius II, <i>ant.</i> , as RIC 13; rev. Aequitas	(B)	268–270
55	15	?Postumus or Victorinus, <i>ant.</i> ; rev. uncertain; coin clipped in half	(?C)	c.260–273
491	474	Victorinus or Tetricus I, <i>ant.</i> ; rev. Pax	(C)	268–273
205	71	Tetricus I, <i>ant.</i> , RIC 88; rev. Laetitia	(B)	270–273
205	59	probably Tetricus I, <i>ant.</i> , RIC 125; rev. Salus	(B)	?270–273
207	417	Tetricus II, <i>ant.</i> , RIC 270; rev. Spes	(B)	270–273
34	16	probably Gallic Empire, <i>ant.</i> ; rev. illegible	(?)	?258–300
641	587	Irr. Cladius II, AE 14.5 × 13mm; copy as RIC 259 (Consecratio) (Plate 15)	(D)	c.270–300
527	478	possibly Irr. Victorinus, copy as RIC 112ff. Rev. has INVICTO, Sol, whereas RIC has INVICTVS. Corroded (Plate 15)	(?C)	c.270–300
167	32	Irr. Victorinus or Tetricus I, AE 15.5 × 14mm; rev. uncertain, possibly Mars Ultor (Plate 15)	(C)	c.270–300
571	531	Irr. Tetricus I, copy as RIC 87; rev. Laetitia (Plate 15)	(D)	c.270–300
167	30	Irr. Tetricus I, AE 17.5mm, copy as RIC 100; rev. Pax (Plate 15)	(C)	c.270–300

Context	SF	Identification		Date (AD)
665	674	Irr. Gallic Empire, AE 11.5mm, copy as RIC (Victorinus) 112 or Tetricus I (82), rev. Invictus (Plate 15)	(B)	c.270-300
220	418	Irr. Gallic Empire, AE 16 × 14mm, copy as RIC (Tetricus I) 110; rev. probably Pietas (Plate 15)	(B)	c.270-300
666	655	Aurelian, <i>ant.</i> , RIC 140; rev. Restitut Orientis	(C)	270-276
679	689	Carausius, <i>ant.</i> , variant as RIC 48; rev. Laetitia	(B)	287-293
494	407	Carausius, <i>Ant.</i> , RIC 665, rev. Salus Aug (Plate 15)	(B)	287-290
186	47	Carausius, <i>ant.</i> , as RIC 118 ff, rev. Pax	(?)	287-293
189	35	Carausius, <i>ant.</i> , as RIC 119; rev. Pax	(?B)	287-293
260	70	Crispus, AE3, RIC(Trier) 261; rev. Virtus Exercit	(C)	320
184	816	Constantius II, AE3, LRB1.57; rev. 2 standards	(C)	330-335
+	1	Constans, AE3, LRB1.138; rev. 2 victories	(B)	347-348
150	419	Irr. Constantinopolis, AE 14mm, copy as LRB1.52 (Plate 15)	(C)	340-347
562	551	Irr. Urbs Roma, AE 14.5mm, copy as LRB1.376 (Plate 15)	(B)	340-347
113	46	Irr. Constantine II, AE 17mm, copy as LRB1.48; rev. 2 standards (Plate 15)	(B)	340-347
683	756	Irr. Constantinian, AE 14mm, copy as LRB1.87; rev. 1 standard (Plate 15)	(?)	340-347
460	296	Irr. Constans, AE 14mm, copy as LRB1.401; rev. 1 standard (Plate 15)	(C)	340-347
760	791	Constantius II, AE3, LRB2.257; rev. Fallen horseman	(D)	353-354
641	588	Irr. Constantius II, AE 16.5mm, copy as LRB2.72; rev. Fallen horseman (Plate 15)	(B)	c.355-365
362	155	Gratian, AE3, LRB2.517; rev. Gloria Novi Saeculi	(B)	367-375
220	61	Gratian, AE3, LRB2.500; rev. Gloria Novi Saeculi	(D?)	367-375
204	58	Arcadius, AE4, as LRB2.566; rev. Victory	(B)	388-402

III THE HUMAN BONES FROM WEST TENTER STREET by TONY WALDRON

PART 1: THE INHUMATIONS

INTRODUCTION

The human bones from the cemetery at West Tenter Street comprised 112 discrete burials, a quantity of disarticulated bone which had been recovered mostly from grave fills, and 27 discrete

groups of cremated bone from both *in situ* and redeposited cremations; the cremations are dealt with in part 2 of this report. Bones in three of the disarticulated contexts (405, 488 and 747) could be matched with some certainty to discrete inhumations (406, 541, 667) and have been considered as part of those skeletons.

PRESERVATION OF THE MATERIAL

The site had clearly been considerably disturbed over the years, one sign of this being the number of inhumations which contained intrusive

human or animal bone. There were four inhumations (3.6%) which contained intrusive human bone only, ten (8.9%) which contained only intrusive animal bone and a further four which contained both intrusive human and animal bone. In total, therefore, eighteen—16.1%—of the inhumations showed this evidence of disturbance. The number of disarticulated contexts which contained animal bone was considerably greater, as might be expected (archive Appendix 1). Thus, of the 109 contexts, 36 (33.0%) had animal bone mixed with the human material. In addition, thirty three of the contexts contained fragments of burnt bone; in nine cases, the context contained *only* burnt bone. Finally, fifteen contexts contained both burnt bone and animal bone. This high proportion of what one might call 'mixed-bone contexts', suggests a considerable degree of disturbance and this is borne out by the number of graves which show evidence of having been cut into.

The bones themselves had suffered from much post mortem damage and only a small number of the inhumations contained more than one or two long bones from which a complete range of measurements could be taken. In the majority of the inhumations, the skulls had taken a good deal of punishment after burial and could not be measured (archive Appendix 2). The number of skeletons in which more than 75% of the bones had survived was small and this greatly affects the quality of the information, both anthropological and pathological, which can be derived from them.

ANTHROPOLOGICAL EXAMINATION SEX, AGE AND HEIGHT

1. The burials

The bones from the inhumations were examined in order to determine the sex, age at death and height. Standard methods were used (Workshop of European Anthropologists, 1980) and the results have been included in the catalogue of the remains contained in archive Appendix 2. The examination of the bones included standard measurements; some of these were used to determine height and, occasionally, probable sex of the skeleton. The measurements are contained in the archive material.

Sex and age: The sex of a skeleton is best determined from the morphology of the bones of the pelvis. When the pelvis is absent or too fragmentary for the distinction to be made, the next most reliable means of differentiation is to be made from the shape and form of the skull. From either skull or pelvis (and preferably both), sex can be assigned with reasonable, but never complete confidence.

(The bias in sexing the skeleton has been reported as being both towards over-diagnosis of males (Weiss, 1972) and females (Meindl *et al*, 1985b) suggesting that this is as yet a far from exact science.) If neither the pelvis nor the skull is present (or are in too poor a state for examination) then sex may be assigned from certain bone measurements but since there is a considerable degree of overlap between male and female measurements (Stewart 1979) sex can not be attributed with such a high degree of certainty and where measurements form the basis for sexing, I have generally assigned a 'probable' sex to the skeleton.

In the fully mature skeleton, that is, one in which all the epiphyses have fused and all the teeth have erupted, age can be estimated from the degree of tooth wear; this is most usually done by reference to the charts published by Mills (1963). An estimate of age may also be made from the fusion of the cranial sutures and from the morphology of the pubic symphysis (see, for example, Meindl and Lovejoy 1985, Meindl *et al* 1985a). In the immature skeleton, age can be estimated with more precision from the state of epiphyseal fusion or from the pattern of dental eruption if the skeleton is reasonably complete. None of the methods used for ageing adult skeletons is precise, however, and at best, a range of age can be derived; in this report I have expressed the age of the adult skeletons in ten year age groups.

For incomplete, immature skeletons, it is possible (from amongst other things, a consideration of size) to categorise them as either infant (under five years of age) or juvenile (five to fifteen years). I have not attempted to assign sex to either of these groups.

Amongst the burials at the site there were seven infants, seventeen juveniles, fifty seven adult males and twenty six adult females; five adult skeletons were too fragmentary for a sex to be assigned. Sixty-nine skeletons had an age assigned to them and of these, the majority were below 45 years of age at death (see Fig. 6).

Height: The height of skeletons was calculated from the formulae published by Trotter in 1970 which are based on the length of the long bones. In the results (archive Appendix 2) the height is given in metres with the standard error of the measurement. The standard error is an estimate of the range within which the 'true' height is likely to fall and its magnitude depends upon which bone length is used in the calculation. A height of 1.70m with a standard error of ± 0.0299 (as might be obtained in a male skeleton using the combined lengths of the femur and tibia) means that the 'true' height

is likely to lie within the range 1.67 to 1.73m; the greater the standard error, the greater the range. Heights were always calculated from whichever of the surviving bones had the lowest standard error in Trotter's tables.

The mean height of the 44 male skeletons in which it could be calculated was 1.71m (standard deviation 0.05m) with a range of 1.59–1.84m. For the 15 female skeletons the mean was 1.57m (standard deviation 0.04m) and the range was 1.50–1.66m. The two means are approximately equal to 5ft 7ins and 5ft 2ins respectively. The distribution of height by sex is shown in Fig. 43.

Cranial index: The cranial index (Brothwell 1981) compares the breadth and length of the skull and gives an indication of the round-headedness or long-headedness of an individual or a population. Only fifteen skeletons (nine males and six females) had skulls which were sufficiently intact to permit this index to be calculated. Of the males, five were in the dolichocephalic range and four mesocephalic; of the females, two were dolichocephalic and four mesocephalic. That is to say, all tended to be round rather than long headed (archive Table 4).

Platymeria and platycnemia: These indices describe the shape of the proximal part of the femur and tibia respectively. The femoral index could be calculated on fifty skeletons (forty male, ten female) and the tibial, on thirty eight (twenty nine males, nine females). There was no significant difference between the results in males or females (archive Table 4). Most of the femoral indices fell into the platymeric range (that is, below 85) and most of the tibial indices within the mesocnemic range (above 63). That is, the femora tended to be relatively flat in the transverse plane and the tibiae rather flat in the anteroposterior plane.

2. The disarticulated bones

Sex and age: Amongst the disarticulated material it was possible positively to identify one infant and thirteen juveniles. Of the remainder, seven males and three females could be distinguished with some certainty.

A reasonably precise age could be assigned to seventeen individuals amongst this group but in many cases the bones were too fragmentary to be assigned either age or sex (archive Table 6).

Heights: These were determined for three individuals only. Two of these individuals were female (557, 687) and their heights were 1.68 and 1.60m respectively; the height of the single male (684) was 1.70m.

Height (m) and sex distribution of skeletons from West Tenter Street

Metres	Sex		
	Male	Female	Unknown
1.50–		4	
1.55–	1	7	
1.60–	5	3	
1.65–	15	1	
1.70–	14		
1.75–	7		1
1.80+	2		
Total	44	15	1

Fig. 43 West Tenter Street: Skeletons, height and sex.

NON-METRIC CHARACTERISTICS

Wherever possible, the skeletons were examined for the presence of cranial and post-cranial non-metric traits using the descriptions of Berry and Berry (1967) and Finnegan (1978) as a guide. Because the skeletons were often relatively incomplete or, frequently damaged when complete, in many cases it was not possible to carry out this determination (archive Tables 7 and 8).

Few of the cranial traits were common, but in the skulls in which the observations could be made, metopism was present in 8 of 48, and ossicles were present in the lambdoid suture in 8 of 35 and the supra-orbital foramina were open in 33 of 42. In the 50 intact mandibles, a mylohyoid bridge was present in 9, 2 of type 1 and 7 of type 2 (Arensburg and Nathan 1979).

Amongst the post-cranial traits, the most notable was the fact that a substantial number of the taluses had a single facet on the anterior joint (16 of 44 examined) and this was mirrored by the observation that many of the calcanea had a single facet on the corresponding articular surface (17 of 45).

DENTAL HEALTH

Number of teeth present

The fact that many of the skulls and mandibles had suffered post mortem damage or were missing meant that many of the total number of adult teeth were missing. There were no teeth present at all in 25 of the 88 adult (15 years or more) skeletons present. Of the remainder, 1–8 teeth were present in 7 skeletons, 9–16 in 9, 17–24 in 19 whilst the other 28 skeletons had between 25 and 32 teeth. Had the full complement of teeth been present in all the adult skeletons, then a total of 2816 (88 × 32) teeth would have been expected. As it was,

only 1370 were present. There were, in addition, however, 200 empty sockets and 29 unerupted teeth. This total (1599) represents 56.8% of the total expected. Amongst the adults, 117 teeth had been lost antemortem and there were a further 42 teeth with caries and four dental abscesses (archive Table 9). Four juvenile teeth had also been lost before death, perhaps as the result of dental disease. The overall diseased and missing index (Diseased + Missing teeth/total number of teeth \times 100) in the adults is 8.2%.

Dental wear

As mentioned earlier, dental wear was assessed using the charts published by Mills (1963). The results were used either to age the skeleton or to confirm the age arrived at by other means.

Caries

The 42 caried teeth came from a total of 21 individuals; twelve with one, four with two, three with three and one each with five and eight caried teeth respectively. The type of caries was noted using the classification of Moore and Corbett (1983). As expected, the majority of caried teeth were molars or premolars; the predominant types of caries were those affecting the contact areas between the teeth and massive caries, that is, where the tooth had been largely destroyed by the disease (see Fig. 44). In one case (484) the dental caries had developed in relation to a small super-numerary tooth which had pushed the lower right first incisor forward. The accessory tooth was in contact

Number of teeth with caries and type of caries in skeletons from West Tenter Street

	Caries Type					
	1	2	3	4	5	6
Incisors	0	0	0	0	0	2
Canines	0	0	0	0	0	2
Pre-molars	0	6	0	0	0	8
Molars	0	4	0	1	2	17
Total	0	10	0	1	2	29

Key:

- 1 = caries at interstitial enamel/cementum junction
- 2 = caries at contact areas
- 3 = caries at buccal enamel/cementum junction
- 4 = caries in buccal fissure
- 5 = caries in occlusal fissures
- 6 = massive caries

Fig. 44 West Tenter Street: Teeth and Caries.

with both right lower incisors and all three teeth were caried, presumably because food debris had become lodged between them.

Dental abscess

Four skeletons had a dental abscess. In two (748, 1141) the abscess had developed in teeth affected by massive caries (the right lower second molar and the right lower first molar respectively). In the two other cases (1053, 1163) the teeth around which the abscesses had developed had fallen out (the right lower first molar and right lower canine respectively).

Alveolar disease

The presence of alveolar disease was scored on a four point scale, following the description given by Brothwell (1981). There is an obvious relationship between the degree of alveolar disease and age, with a general tendency for it to become more pronounced with increasing age (archive Table 11). There is also a clear relationship between alveolar disease and other aspects of dental disease. The DM index increases considerably as the staging of alveolar disease increases (archive Table 12). This is to be expected, of course, since disease of the gums is a consequence of poor oral hygiene and, when severe, will result in the loss of teeth even in the absence of caries.

The interaction between alveolar disease, tooth disease and age is examined in archive Table 13. It would be expected that the DMI would not only increase with increasing proportion of alveolar disease but with increasing age. There is some suggestion that this does occur in the 25–35 and 45+ year age groups so far as alveolar disease is concerned and with age for the second category of alveolar disease, but generally the trends are weak. This is probably a reflection of the small numbers in many of the cells.

Dental calculus

The degree of calculus on the teeth was also scored on a four point scale, again using Brothwell's classification as its basis. Extreme degrees of calculus were noted only rarely, but there was a trend for the amount of calculus on the teeth to increase with increasing age (archive Table 14).

Other dental disease

Supernumary and vestigial teeth: Three skeletons had supernumary teeth; as described above, one had contributed to the development of dental caries. In one of the two other cases (541), a small accessory tooth had pushed the left second incisor laterally whilst in the third case (1018) an accessory tooth

Summary of pathological findings by aetiological category in skeletons from West Tenter Street

Congenital 10	Traumatic 13	Infective 4	Metabolic 0
Degenerative 39	Malignant 0	Circulatory 0	Dental 43
Other 9	None 12	Unknown 41	

Fig. 45 West Tenter Street: Pathology by aetiological category.

in the right maxilla had pushed the canine infero-laterally so that it no longer occluded with the tooth below.

One skeleton (1052) had a vestigial right upper third molar which was probably of no significance to the individual during life and the dentition was otherwise unremarkable.

Impaction: In one skeleton (502) both the upper third molars were impacted and in one other (1134), the upper left wisdom tooth was impacted. There was no other dental disease in either case.

Dental disease in the disarticulated material

There were few teeth amongst the disarticulated material, only 65 permanent and 6 deciduous teeth. Of the permanent teeth, two were caried (in contexts 342 and 849); a further twelve teeth (from four contexts, 94, 228, 708, 767) had been lost antemortem, presumably as the result of dental disease.

PATHOLOGY

The only diseases which it is possible to recognise in skeletons are those which produce changes in the bones or teeth and these are amongst the minority which may affect man during life. Thus any inves-

tigation of skeletons from archaeological contexts will tend to underestimate the prevalence of disease amongst them. This tendency will be exaggerated if the bones themselves are in a poor state of preservation or where the skeletons are fragmentary. The examination of the inhumations from West Tenter Street showed that about two-thirds of the adult skeletons had some pathological change ranging from rather minor dental disease to widespread disease affecting many bones and joints.

Each of the pathological changes found in the bones or the teeth was attributed to a 'most probable' aetiological category and the number of cases within each of these categories is shown in Fig. 45. It should be noted that the numbers within the table exceed the total number of inhumations since a single skeleton might have more than one category of pathological change. From the table it will also be noted that only 12 skeletons were considered to be free from any pathology and that in 41, it was not possible to say whether any pathology was present or not because the skeletons were too fragmentary. Where sufficient of the skeleton is preserved, some pathological change is more likely to be found than not. For example, as may be seen from Fig. 46, in three quarters of the adult skeletons which were sufficiently intact to allow an age to be derived there was some pathological change and it was possible to be certain that five (7.2%) were free from any signs of disease. By contrast, about 60% of the adult skeletons in which age could not be derived were put within the 'pathology unknown' category.

It is also of interest to note that the likelihood of finding pathological change in the skeletons is age-related. None was found in any of the infant or juvenile skeletons although (as may be seen in Fig. 46), many had to be placed in the 'unknown' category because they were poorly preserved. Nevertheless, this observation is in line with what is known about disease in modern infants and

Proportion of skeletons from West Tenter Street with pathological changes by age

	Infant	Juvenile	Adult	
			Age unknown	Age known
No pathology	1 (14.3)	6 (35.3)	0	5 (7.2)
Pathology unknown	6 (85.7)	11 (64.6)	11 (57.9)	13 (18.8)
Pathology present	0	0	8 (42.1)	51 (73.9)

Figures in parentheses are percentages.

Fig. 46 West Tenter Street: Pathology by age.

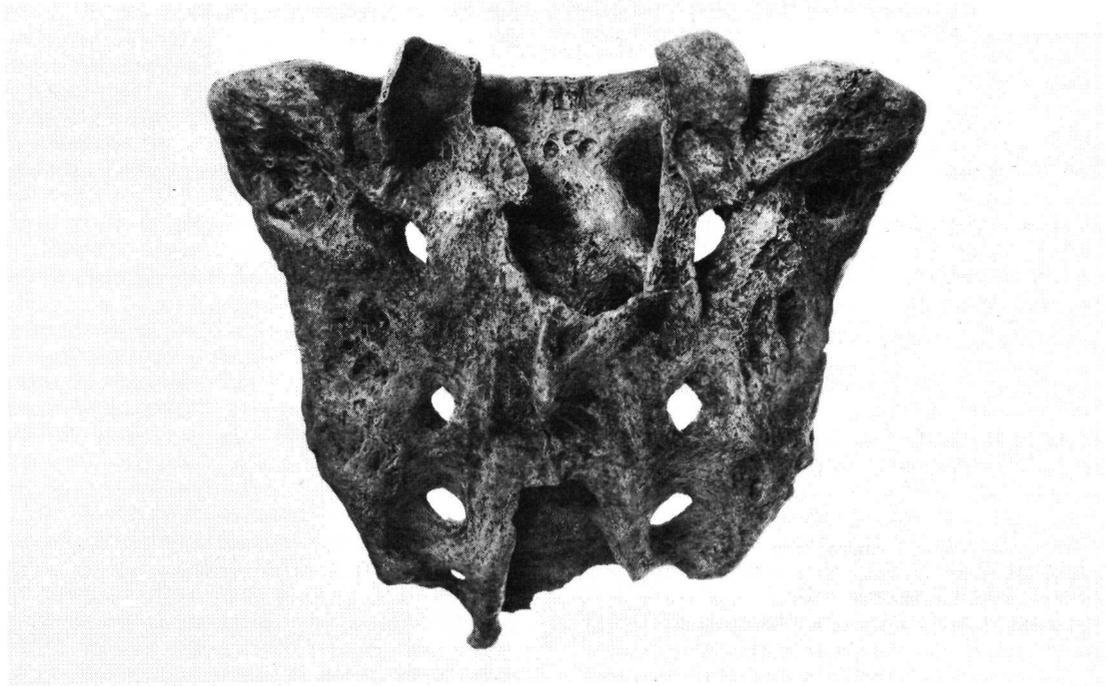


Plate 16 West Tenter Street: Spina bifida, unfused first two segments of sacrum (767).

juveniles amongst whom one would not expect to find a high prevalence of diseases which affect the skeleton.

The largest number of changes was attributed to dental disease which has been discussed above. The next largest category is of the degenerative disorders in which I have included all the so-called arthropathies, the diseases which directly affect the joints. Thirteen skeletons showed signs of trauma, mostly fractures of one or more bones, ten with some form of congenital abnormality, four with

evidence of infection and nine skeletons with changes which would not readily fit into any of the major categories. (The changes found in each of the skeletons are summarised in archive Appendix 3.)

Congenital abnormalities

Four conditions accounted for all the cases under this head, spondylolysis (4), spina bifida occulta (1), lumbarisation of the sacrum (4) and cervical rib (1).

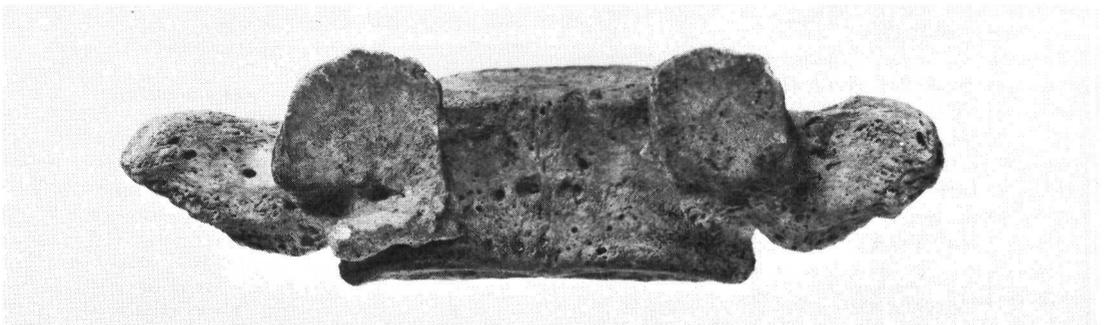


Plate 17 West Tenter Street: Spondylolysis of the fifth lumbar vertebra.

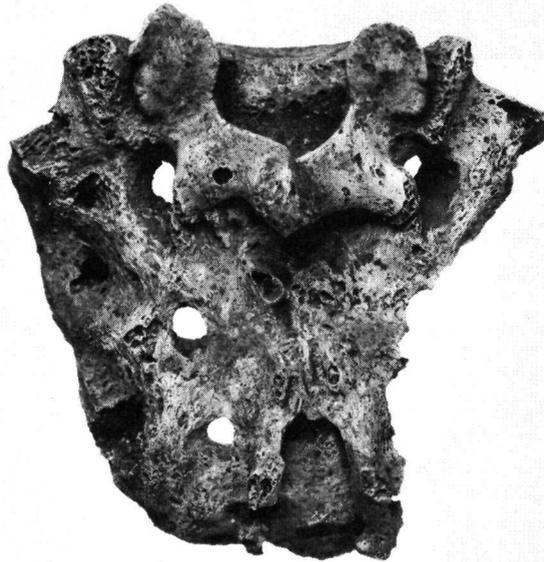


Plate 18 West Tenter Street: Lumbarised first segment of sacrum.

Spina bifida occulta: In the single case of spina bifida (767), the first two segments of the sacrum had failed to fuse posteriorly (Plate 16). In this form, the condition does not declare itself clinically (and for this reason it is described as being 'occulta') and the individual would have had no symptoms or signs during life.

Cervical rib: This is an elongation of the transverse process of the seventh cervical vertebra. During life there are usually no signs associated with the condition unless the cervical rib is sufficiently long to interfere with the nerves in the cervical plexus in which case neurological abnormalities may be noted in the arm on the same side. In the present case (860), the cervical rib was not sufficiently elongated for this to have occurred.

Spondylolysis: Spondylolysis is a relatively common condition in which the laminae of the fifth lumbar vertebra become separated from the body (Plate 17). Although I have included it amongst the congenital conditions, since it is often referred to as being a congenital anomaly of the spine, there is actually some debate as to its true aetiology and there is some suggestion that it may be caused by trauma (Hensinger and MacEwen 1982). Again, the condition may not cause any problems during life unless the vertebral body, which is unsupported posteriorly by the facet joints, slips forward on the

sacrum. There was no evidence on the affected vertebrae or their related sacra to suggest that this had happened in the four cases here (1087, 1098, 1110, 1150) and the condition was almost certainly silent during life.

Lumbarisation of the sacrum: It is relatively common to find abnormalities at the lumbro-sacral junction (Timmi, Wieser and Zinn 1977). Either the fifth lumbar vertebra may become incorporated into the sacrum (sacralised) or, as in the four cases here (974, 992, 1125, 1163), the first segment of the sacrum has an appearance more like that of the fifth lumbar vertebra; that is, it has been lumbarised (Plate 18). This condition, like those described above, usually has no clinical effects.

Infective lesions

None of the skeletons had the distinctive signs of specific diseases such as tuberculosis or leprosy but in three cases, there were fusiform swellings of one or more bones, sometimes accompanied by periostitis, which were most probably the result of a low grade osteomyelitis. The swellings were found in the middle of the left ulna (676), at the distal end of the left tibia and fibula and right fibula (732) and affecting the whole of the right fibula (1052). The diagnosis in 732 is supported by the presence of a sinus in the anterior surface of the



Plate 19 West Tenter Street: ? low grade osteomyelitis, sinus in the anterior surface of tibia (732).

tibia through which pus probably drained (Plate 19).

In one case (1150) a proliferative lesion was noted on the tip of the spinous process of the seventh cervical vertebra (Plate 20). The cause of this lesion is not immediately obvious, but the most likely is that it represents a bony reaction to an infection in the overlying soft tissues.



Plate 20 West Tenter Street: Proliferative lesion on tip of process of seventh cervical vertebra (1150).

Trauma

There were ten skeletons with clear evidence of fractured bones. Amongst the group, fractures were most commonly found in the ribs (five cases—688, 1041, 1110, 1112, 1163). Three fractured clavicles were present (in 541, 604 & 1110), two fractured fibulae (992, 1163), a single fracture of the radius and ulna (1053) and a single crush fracture of a lumbar vertebra (931). In addition, two skeletons (701, 860) had lesions which were almost certainly the consequence of trauma.

The majority of the fractures were well healed and well aligned. One of the clavicular fractures (604) had not been well set, however, and the clavicle was shortened and had osteophytic lipping around its sternal end. There were proliferative bony changes on the sternum around the clavicular articulation caused by the alteration produced in the normal relations of the sternoclavicular joint by the badly healed fracture.

The fracture in the radius and ulna was in the classic position of a 'parry' fracture and had probably been sustained when the individual (1053) had been protecting his head from a blow. The injury had been inflicted some while before death but the bones had never united probably because the arm had not been properly immobilised and a false joint (pseudarthrosis) had developed between the broken ends of the bones (Plate 21). This would have caused the forearm to have been unstable since it would have bent at that point during movement and the individual would have had to learn a strategy to cope with his flapping arm.



Plate 21 West Tenter Street: Ununited parry fracture with false joint (pseudarthrosis) (1053).

In three cases (931, 1041, 1163) the skeletal evidence suggests that the injuries followed a fall or some other major trauma. In the first case, the first lumbar vertebra was flattened in the antero-posterior plane and the radiograph of the bone suggested that a crush injury had been sustained such as might occur as the result of a fall. The second skeleton (1041) had two fractured left ribs but also had osteophytosis around the first phalanx of the left hand and the distal articulation of the

right talus; the most conservative explanation of these changes is that they were secondary to trauma experienced at the same time as the ribs were fractured. Fractured ribs were also a feature in the third case (1163). Here they were accompanied by a fracture of the fibula and by signs of osteoarthritis in the right wrist which could have resulted from trauma. Again, it is reasonable to suppose that all the bony injuries occurred together.

In one skeleton (860) the bodies of the second and third lumbar vertebrae were fused together around their anterior and lateral margins (Plate 22). There was no other spinal pathology and it is most likely that these changes resulted from trauma, such as that which might have followed a fall. The radiographs did not show any certain evidence for a crush fracture.

Two lesions in fragments of bone from 701 were probably also caused by trauma. The first phalanx of the right foot had a proliferative lesion at its distal end and was probably fused to the distal phalanx (which was missing). A rib fragment also had a proliferative lesion which looked like the remnants of the callus which develops around a break.

The skeleton of a young woman (925) had transverse cuts on the second, third and fourth lumbar vertebrae (Plate 23) which looked as though they might have been made by a weapon. There was no



Plate 22 West Tenter Street: Fused second and third lumbar vertebrae (860).

reaction around the cuts and no signs of healing so that they must have been made either shortly before, or after death. If they were the result of an attack, the weapon which made them would have had to be plunged deep into the abdomen and this would have caused severe internal bleeding which would soon have caused the victim's death. One factor which mitigates against the cuts having been made during life, however, is that had they been made by a series of transverse slashes across the abdomen, then the bones of the pelvis would almost certainly have been damaged also, but the pelvis was completely unmarked. Under these circumstances, it seems more likely that the damage was somehow caused after the body had been buried.

Degenerative changes

In this category I have included all the conditions which primarily affect the joints even though the term does not fully take account of all the aetiological factors. The most frequent changes noted were calcification or ossification into tendons or ligaments other than those on the vertebral bodies. I will refer to this as 'extra-spinal' hyperostosis even though I have included some which occurs on the laminae of the vertebrae in order to differentiate from the hyperostosis which occurs in DISH; *vide infra*. Extra-spinal hyperostosis was noted in varying degrees in 17 skeletons. In four further cases (688, 748, 1031, 1110) the hyperostosis was accompanied by changes in the vertebral column which were characteristic of diffuse

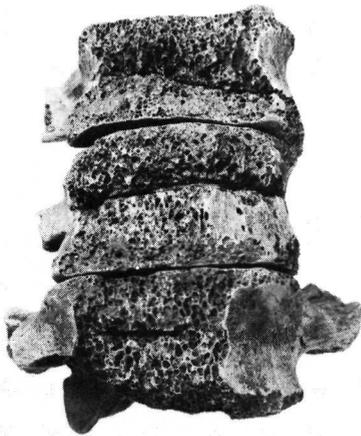


Plate 23 West Tenter Street: Transverse cuts on second, third, and fourth vertebrae (925).

Distribution of extra-spinal hyperostosis in 17 skeletons from West Tenter Street without DISH

Shoulder	Elbow	CT joint*	Pelvis
2	2	2	5
Hip	Knee	Ankle	Ligamentum flavum
1	2	3	8

*Costo-transverse joint

Fig. 47 West Tenter Street: Extra-spinal hyperostosis no DISH.

idiopathic skeletal hyperostosis (DISH; Resnick, Shaul and Robins 1975). Many of the skeletons had other spinal changes including osteophytosis, osteoarthritis and Schmorl's nodes. There were four cases of generalised osteoarthritis and a single case of periostitis which was probably secondary to an ulcer on the leg.

Extra-spinal hyperostosis: The cause of ossification or calcification in tendons or ligaments is not clearly understood. In some cases it may be related to an injury to a specific tendon or ligament but this is unlikely to be the cause of hyperostosis which affects a joint which is relatively well protected from injury (such as the costo-transverse joints) or when the hyperostosis is generalised. Hyperostosis is a feature of several diseases affecting the joints and occurs in its most extreme form in DISH. In all but one of the cases described here, however, the hyperostosis occurred in the absence of any other joint disease. In the single exception (1141), there was also evidence of osteoarthritis in the cervical vertebrae.

The sites of the hyperostosis are shown in Fig. 47. As may be seen, it was most commonly found on the pelvis, including the ischial tuberosities, the iliac crests and around the rims of the obturator foramen. The only large joint which was not affected was the wrist although two of the cases with DISH had extraspinal lesions at this site. The most common site for hyperostosis, however, was on the laminae of the vertebrae. Calcified spicules taking their origin from the superior margin of the laminae were found in almost half the cases. In life, these spicules would have been contained within the ligamentum flavum. They have been reported commonly in other archaeological specimens (see, for example, Waldron 1985).

DISH: This is a condition which is becoming increasingly recognised in palaeopathological material and has probably been much misdiagnosed in the past (Rogers, Watt and Dieppe, 1985). The cardinal feature of DISH is calcification

Distribution of extra-spinal hyperostosis in 4 skeletons from West Tenter Street with DISH

Shoulder 3	Elbow 1	Wrist 2	CT joint 1	Pelvis 3
Hip 1	Knee 2	Ligamentum flavum 2		

Fig. 48 West Tenter Street: Extra-spinal hyperostosis with DISH.

of the longitudinal ligament of the spine which eventually causes the vertebrae to fuse and extra-spinal hyperostosis. The facet joints are invariably normal and the disc spaces are not narrowed. It is a matter for conjecture as to whether extra-spinal hyperostosis which occurs in the absence of any other joint changes represents an early form of DISH but it is probable that this is so in some cases at least.

All four skeletons affected with DISH (748, 921, 1031, 1110) were males, two were aged at least 40, one at least 35 whilst the skeleton of the fourth case was not sufficiently well preserved to allow an age to be estimated although it was clearly adult. None of the cases was severe which is to be expected given the relatively young age of the skeletons and in only one case (1110) had the vertebrae fused (Plate 24). The sites of extra-spinal hyperostosis are shown in Fig. 48. The pelvis was involved in

three of the four cases, the shoulder in three and the wrist and knee in two. These proportions are similar to those found in modern populations with DISH (Resnick, Shaul and Robins 1975). Each of the skeletons also had Schmorl's nodes present and in one (1110), spondylolysis was present. In two of the cases (748 & 1031) there were changes around the right shoulder which may have been caused by osteoarthritis (see Kerr *et al* 1985) Osteoarthritis of the cervical spine and wrist was present in a third case (921). The left facet joints of the second and third cervical vertebrae were fused and there were proliferative changes and eburnation on the third and fourth facet joints.

Osteoarthritis: There was one case of particularly severe osteoarthritis (865). Many of the bones of the left wrist were affected whilst on the right side, the capitate (the only one of the right carpal bones to survive) and the metacarpals and one proximal phalanx were also involved. The right patella showed marked eburnation and its posterior surface was deeply scored (Plate 25). The left patella had not survived but the patellar surface of the left femur was eburnated and there were osteophytes around the joint margin. Of the bones of the foot, only the right cuboid had been affected and showed eburnation on the surface which articulated with the lateral cuneiform.

The osteoarthritic changes affecting the right wrist of skeleton 1163 have already been referred to and may have been secondary to trauma to the wrist. Those in the wrist and cervical spine in 921 have also been mentioned above. Osteoarthritis in the cervical spine was also noted in 992 with new

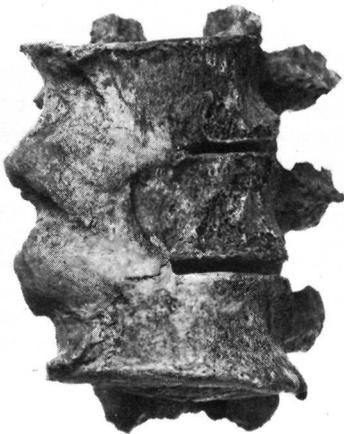


Plate 24 West Tenter Street: DISH: fused vertebrae (1110).

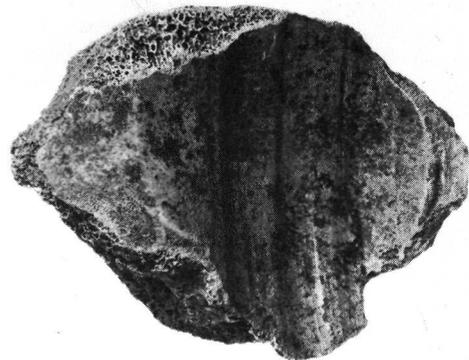


Plate 25 West Tenter Street: Deeply scored posterior surface of right patella (865).

bone growth and eburnation affecting the facet joints of a number of cervical and thoracic vertebrae. Finally, in skeleton 927, both sternal ends of the clavicles showed degenerative changes and there was proliferation around the margins of the sterno-clavicular joint on the right sternum with focal eburnation.

Spinal pathology: All the spinal changes present were noted in adults. This is probably a reflection of the better state of survival of the vertebrae in adults than in infants and juveniles rather than an indication that the younger age groups were entirely free of disease. Each of the surviving vertebrae was examined for the presence of Schmorl's nodes, osteophytosis and osteoarthritis. Schmorl's nodes are depressions in the superior or inferior surfaces of the vertebral body which are caused by the herniation of part of the inter-vertebral disc. They are common in the thoracic and lumbar vertebrae and are sometimes considered to be the result of repeated minimal trauma; they apparently cause no ill effects. In the present series 19.3 and 13.2% of the thoracic and lumbar vertebrae respectively had Schmorl's nodes (archive Table 19).

Osteophytes are growths of new bone which develop around the margins of a joint. They may be present in the absence of any other joint changes and since they are found more frequently in older than in younger individuals, they are sometimes considered to be a normal concomitant of ageing. Their presence in the spine is sometimes used to age a skeleton if there is no other means of doing so. Osteophytes were found in all parts of the spinal column but most frequently in the lumbar and least frequently in the cervical vertebrae (archive Table 19). Osteoarthritis can be said to be present only if osteophytes are found in conjunction with other changes such as eburnation, scoring of the joint surface, sclerosis, bone cysts or—in the spine—signs of degenerative disc disease. A small number only of the vertebrae were affected by osteo-arthritis and in this case, the cervical vertebrae were the most commonly affected (see archive Table 19).

Other lesions

The lesions under this head included four cases of osteochondritis dissecans, two of periostitis and one unusual osteophyte.

Osteochondritis dissecans: This is a common lesion, but commonly overdiagnosed (Burkett 1982). It results from a defect in the articular cartilage and manifests itself as a small pit in the joint surface beneath which the bony trabeculae can be seen. In the four cases here the lesions affected the proximal articulation of the left and right first phalanges



Plate 26 West Tenter Street: Oval lesion on medial surface of tibia, ? reaction to ulcer in the superficial tissue (1052).

of the foot (767 and 1098 respectively), and the proximal ends of the first right metatarsal and the left third metatarsal (1156 and 1200).

Periostitis: In one skeleton (1052) the left tibia and fibula had severe periostitis and on the medial surface of the tibia, there was a roughly oval lesion which had probably been caused by the reaction to an ulcer in the superficial tissue (Plate 26, 11). In the second case (1141), there was a much less severe periostitis affecting the distal ends of both tibiae on the lateral surface around the fibular articulation.

Unusual osteophyte: A large smooth osteophyte was attached to the head of the right femur of skeleton 1053 (Plate 27). Its cause is completely unexplained.

In inhumation 947 a proliferative lesion was present within and around the posterior border of the right acetabulum. Most of the rest of the pelvis was missing as was the head of the right femur. However, a small part of the surgical neck was



Plate 27 West Tenter Street: Large smooth osteophyte on head of right femur (1053).

present which also had some new bone growth on it (Plate 28). Although it is not possible to be certain about the cause of these lesions, they most likely resulted from alterations in the normal anatomy of the hip joint such as might have followed a fracture of the femoral neck of a slipped femoral epiphysis.

The disarticulated bones

There was little pathology in the disarticulated material and most of what there was was dental disease. Ante-mortem tooth loss occurred in four contexts (94, 228, 708 & 767) and dental caries in two (342, 849). Schmorl's nodes were found in vertebrae from context 342 and there was a right first metatarsal from 912 with a proliferative lesion on the posterior surface of the distal articulation. The joint surface was slightly eburnated, sug-

gesting that the individual had suffered from osteoarthritis. The superior surface of a left talus from 652 was eburnated suggesting that this individual also had had osteoarthritis.

The most interesting example of pathology from amongst this material was a tibia from a fragmentary skeleton from a young woman. The tibia, which lacked its distal third, showed a fusiform swelling on its lateral side which was probably the result of an indolent osteomyelitis.

DISCUSSION

The bones from West Tenter Street illustrate many of the difficulties which confront the palaeopathologist in his interpretation of disease in the past. Although the material represents a relatively large number of individuals—probably not less than 280—there is a much smaller number of reasonably discrete inhumations for examination. The disturbances which the cemetery had undergone has resulted in the loss of, or damage to the



Plate 28 West Tenter Street: New bone growth on surgical neck of femur, possibly resulting from injury (1053).

bones which has reduced further the information available. Finally, because the cemetery was in use for approximately three centuries, it becomes almost impossible to detect trends in, for example, the frequency of disease, in age at death or height, since when the data are stratified, the numbers in each cell (age/sex) become too small for reliable statistical analysis. This is exemplified when the age and sex of the skeletons is shown for the different phases of the cemetery. When sub-divided in this way, the numbers are too small to permit any trends to be discerned (archive Table 20).

Consequences of disturbance

In order to make the best estimate of age and sex and to classify pathological changes into their most probable cause, it is essential that the skeleton is considered *in toto*; the less complete the skeleton, the less reliable are the conclusions based upon its study. This is particularly true for the classification of the diseases of joints which are probably the most common pathological changes noted in skeletal material (Rogers *et al.*, in press). The survival of the various parts of the skeleton in the present series was extremely patchy as may be seen from Fig. 49 in which I have compared the number of bones expected from the 88 adult skeletons with the number which were actually present. As may be seen, no bone was present more frequently than 66% of the expected number. Of all the bones, those which appeared to survive best were the vertebrae whereas those which survived least well were the phalanges, carpals and tarsals. I have discussed elsewhere the various factors which may affect the survival of human bone (Waldron, in press) but recovery is clearly one which has to be considered and it may well be worth while to sieve those areas in which the small bones of the hands and feet are likely to be found. Other parts of the skeleton which survive poorly include the sternum, the pubic symphysis and the coracoid and acromion. The poor survival of the pubic symphysis is particularly unfortunate as it is an important adjunct to ageing the skeleton whilst the poor survival of the small bones of the hands and feet has serious consequences for, amongst other things, the classification of spinal abnormalities. Many changes in the spine are part of a generalised arthropathy—ankylosing spondylitis, Reiter's syndrome or DISH, for example—and the pattern of change in the small joints of the hands and feet may be crucial for its classification.

Demographic considerations

Age and sex: It is commonly observed that expectation of life in the past was considerably less than

Recovered bones as a percentage of number expected from 88 adults

	%		%
Phalanges (of foot)	5.4	Carpals	16.8
Body of scapula	14.8	Proximal fibula	19.4
Phalanges (of hand)	22.1	Body of sternum	22.7
Manubrium sterni	23.9	Patella	26.7
Pubic symphysis	29.0	Tarsals	30.4
Distal fibula	32.4	Parietal	33.0
Coracoid	35.3	Distal ulna	40.9
Occipital	41.5	Acromion	41.5
Frontal	42.1	Zygoma	42.2
Metatarsals	42.9	Proximal clavicle	43.8
Distal clavicle	45.5	Proximal tibia	46.0
Calcaneum	46.6	Talus	47.7
Occipital condyle	47.8	Distal tibia	49.6
Proximal humerus	50.0	Metacarpals	50.2
Distal radius	50.6	Mandibular head	51.2
Distal femur	51.2	Glenoid	52.9
Proximal radius	54.0	Distal humerus	56.9
Mastoid	58.0	Proximal femur	58.6
Mandibular ramus	59.1	Acetabulum	60.8
Proximal ulna	62.0	Petrous temporal	63.6
Mandibular body	64.2	Sciatic notch	66.0

Fig. 49 West Tenter Street: Percentage of recovered bones.

it is today and the West Tenter Street skeletons appear to bear this out although it must be remembered that a cemetery population is not necessarily representative of the living population and it is most certainly not a random sample. Nevertheless, the age distribution found here is similar to that found in the Romano-British cemetery at York by Warwick (1968) and at Lankhills (Clarke 1979), although the somewhat curious method used to tabulate the ages at the latter site makes comparison more difficult than it need be. At Cirencester, on the other hand, the mean age at death of the males seems to be greater than that of the females (Wells 1982) although this is probably a chance finding.

The number of juveniles in the present series is 21.4% which is similar to that found at Cirencester (17.1%), at Lankhills (29.2%) and at the very much smaller site at St Bartholomew's Hospital where the proportion was 22.2% (Bentley and Pritchard 1982). By contrast, only 8.3% of the Trentholme Drive (York) skeletons were juvenile; see Fig. 50. Whether these differences truly reflect differences in burial practice, patterns of mortality or skeletal survival is impossible to say.

Age distribution (%) of skeletons from different Romano-British sites

	Infants	Juveniles	Adults	n
Cirencester	9.4	7.7	82.8	362
Lankhills	13.0	16.2	70.8	284
St. Bartholomew's Hospital	11.1	11.1	72.2	18
Trentholme Drive	1.7	6.6	91.7	290
West Tenter St	6.3	15.2	78.6	112

Fig. 50 West Tenter Street: Age from Romano-British sites.

The sex distribution of the skeletons at West Tenter Street, as at most other large Romano-British sites is heavily biased towards males (2.2:1; see Fig. 51). As Wells says in his Cirencester report (Wells 1982, 135), this is more likely to be a cultural rather than a biological phenomenon.

On the heights of the Romano-British population, there seems to be almost complete unanimity. In the present series, the mean height of the males was 1.71m and of the females, 1.57m. At Cirencester the means were 1.69m and 1.58m respectively whilst at York they were 1.71m and 1.55m. At Poundbury the mean height for males was 1.69m and for females 1.57m (Thould and Thould 1983). These heights are almost the same as those of the modern British population.

Non-metric traits: Non-metric traits in the skeleton are commonly considered to be genetic (or epigenetic) in origin and are sometimes used to try to determine kinship amongst groups of skeletons (see Scarre 1984, for example). Amongst the West Tenter Street skeletons the most common non-metric characteristics was the presence of a double, rather than a single, facet on the inferior talar articulation and on the corresponding articulation on the calcaneum (archive Table 8). It seems reasonable to suppose that the development of joints is genetically, rather than environmentally determined, and the relative frequency of this trait may indicate a considerable degree of closeness in the relationship of the skeletons recovered from the site, but it would be impossible to be certain about this.

This particular non-metric trait does not appear to have been commented on in previous reports from large Romano-British sites so that we cannot compare its frequency with that elsewhere. Metopism, that is, the survival of a sagittal suture in the frontal bone, has been observed both at Cirencester and at York where its prevalence was 8.2% and c. 5% respectively. At West Tenter Street metopism was present in 8 of the 48 skulls in which it was

possible to make the observation, a prevalence of 16.7%. It would be curious if the prevalence of this trait were twice as great at West Tenter Street as at other Romano-British sites and it is more likely that the rate is artificially high because of the poor survival of the skull.

Dental health: Almost a quarter of the adults at West Tenter Street (21 out of 88) had dental caries and overall, 3.1% of all the permanent teeth were caried, a rate similar to that reported from Cirencester (5.1%) and from Trentholme Drive (4.6%; Cooke and Rowbotham 1968). At the St Bartholomew's Hospital Site, 4 of the 18 skeletons (22.2%) had caries and caries was found in the deciduous teeth of one of the juveniles. None of the deciduous teeth from West Tenter Street was caried.

Pathology: The most interesting and frequent pathology identified in these skeletons was that caused by the different degenerative diseases. Of these, the occurrence of DISH is perhaps the most notable.

Diffuse idiopathic skeletal hyperostosis is a relatively common disease occurring in about 3–4% of modern males and about 2–3% of females. The prevalence of the condition increases considerably with age and it is not seen in patients under about the age of 40. Although it is a disease of very great antiquity (Rogers *et al* 1985), descriptions of it have only recently begun to appear in the palaeopathological literature largely due to the work of Rogers and her colleagues (Rogers *et al* 1981). In the skeletons from West Tenter Street, DISH was present in 4 of the 88 adults, a rate of 4.5% which compares extremely well with the prevalence of 5% found by the Thoulds (1983) in their examination of 416 skeletons from Poundbury Camp.

DISH is not mentioned in the other reports on large Romano-British cemeteries, however. Wells in his report of the Cirencester skeletons does not recognise a single case but does go into considerable detail about osteo-arthritis, relating much of it either to occupational tasks or to the style of life. Osteoarthritis, he writes (Wells 1982, 152), 'reflects, above all, what may be called the "wear and tear" of joints as a result of minor strains and stresses inseparable from a normally vigorous and physically active life. It is the most useful of all diseases for reconstructing the life style of early populations. Its anatomical localization reflects very closely their occupation and activities . . .'. This concept of osteoarthritis as a 'wear and tear' condition has been called into question by some modern rheumatologists (Huskinson *et al* 1979) and it is doubtful that the notion of a simple relationship to physical activity would gain much support nowadays.

One of the skeletons from St Bartholomew's Hospital (Bentley and Pritchard 1985, 155) was reported to have 'advanced osteoarthritis in the lower spinal column, the hip joints and both wrists' (p. 155). DISH is not mentioned and it would be of interest to have a more detailed description of that skeleton in order to characterise the lesions more closely. Warwick, in his York report, refers to rheumatoid arthritis, although the changes described are not consistent with that diagnosis, but not to DISH although the pair of fused vertebrae in Plate XXVIc could well be such a case. It is possible that some cases of DISH were mistakenly diagnosed as ankylosing spondylitis, as has probably happened frequently in the past (Rogers *et al* 1985).

In view of the fact that DISH is almost never diagnosed in living patients before the age of 40, it is of interest that the three cases in the present series to which an age could be given were all relatively young; one at least was probably under 40 and the other two were almost certainly not much older. It is more likely that the disease begins at an earlier age than present clinical experience would indicate than that the natural history of DISH has changed since Roman times. DISH is frequently asymptomatic and the condition may be found incidentally when radiographs are taken for other purposes. When it does produce stiffness or pain the changes are often severe. Thus in modern clinical practice, the early changes of DISH are not noted, either because the patient has no complaints until the condition is in a relatively late stage or because minor changes are not observed on radiographs. The palaeopathologist is in the privileged position of being able to observe change in the skeleton at whatever stage the disease happens to be at the time of death. In this way he may be able greatly to add to the knowledge of the natural history of some diseases which affect the skeleton and this is probably the case in DISH. This may be yet another example of the truth of the motto which used to adorn the entrance to many autopsy rooms, *Mortui viventes docent*; the dead teach the living.

PART 2: THE CREMATIONS

Twenty seven discrete groups of cremated bone were recognised at West Tenter Street. Each of the cremations was examined in order to determine which parts of the skeleton were represented and, where possible, positively to identify individual bones. The weights of each of the separate anatomical groups of fragments (skull, pelvis, long

bone, for example) were recorded together with the total weight of the unidentified fragments.

GENERAL CONDITION OF THE CREMATIONS

The majority of the cremations were fragmentary, as may be judged from the weights and number of attributable fragments (archive Appendix 4). In virtually every case the bones were white in colour, only lightly charred and not very distorted, suggesting that the bodies had not been subjected to very great heat during the cremation.

Animal bone: Six of the cremations contained animal bone or shell. Sheep bones were found in four contexts (255, 901, 1002, 1092), a pig molar in one (1092). None of the animal bones was burnt and it seems most likely that their presence is an indication that the site had been disturbed.

AGE AND SEX

Age and sex were determined as described in part I. Because of the fragmentary state of most of the cremations, it was possible to make a positive assessment of age in only two cases and in only one case for sex (Fig. 51). Cremation 1002 contained the largest number of identifiable bones, many of which were unfused. From the pattern of epiphyseal fusion it was evident that this individual could have been no more than 16 years at death but there were no parts of the skeleton present which could be used for sexing. The second cremation which could be aged (255), contained a relatively large number of identified fragments including some from the cranium. From the degree of closure of the cranial sutures the age was estimated to be at least 35. There is a considerable amount of variation in the age at which the cranial sutures close, however, and the confidence which can be placed in this estimate is much less than for the previous case. There was no indication of the sex of this individual.

Cremation 1088 contained only thirty identifiable fragments but amongst them was a reason-

Sex distribution (%) of skeletons from different Romano-British sites

	Male	Female	Unknown	n
Cirencester	57.2	25.7	17.1	362
Lankhills	42.5	30.0	27.5	200
Trentholme Drive	80.0	18.0	2.0	290
West Tenter St	50.9	23.2	25.9	112

Fig. 51 West Tenter Street: Sex from Romano-British sites.

ably intact sciatic notch which had the wide angle which is more characteristic of female than of male skeletons. This was the only feature on which to make an assessment of sex. It was not possible to assign an age to the individual beyond saying that she was an adult.

Of the remaining cremations, nine had clearly come from adults. This assertion is based either on the fact that identifiable bones were fused or of such a size that they were obviously fully grown. In the final fifteen cases, both sex and age remain unknown.

PATHOLOGY

Traces of pathological change were noted in only two contexts. The unburned mandible in 696 had lost a single tooth (the right lower second molar) before death most likely as the result of dental disease. There was no sign of caries in the remaining teeth, however. Two thoracic vertebrae from 442 had Schmorl's nodes and, in addition, one had slight osteophytosis.

PART 3: LEAD LEVELS IN BONES FROM WEST TENTER STREET

Bone samples were taken from 53 adults from the West Tenter Street site for lead analysis. Two (628 & 967) were from lead coffins and will be considered separately. The samples (all ribs) were dried to constant weight, taken up into weak hydrochloric acid and analysed by atomic absorption

spectrophotometry; the results are expressed as micrograms of lead/gram dry weight.

The results were all within the range 29–271 µg/g and, as can be seen in Fig. 54, the levels were not normally distributed; there is a considerable tail to the right and some suggestion for a bimodal distribution. Since the sample is in no sense random, the lack of a normal distribution is not surprising. What is more surprising, however, is that there is no difference between male and female levels (Fig. 52) since, in general, men have higher body burdens of lead than females. In the West Tenter Street bones, the mean lead level in the females (124.1 µg/g) is slightly *higher* than that in the males (107.8 µg/g); this difference is not statistically significant, however, ($t = -0.91$, $p > 0.05$) and the most likely explanation for this result lies in the small number of females (12) in the sample.

There is a weak trend for increasing levels with increasing age which becomes slightly more evident when the results for both sexes are combined (Fig. 53). The fall in lead levels in the oldest group is not an anomaly since both lead levels—in modern populations, at least—decline in later life as the bones begin to become osteoporotic. The differences which are seen, however, are not statistically significant ($F = 0.94$, $p > 0.05$). Again, this is partly a reflection of the small numbers in each cell but also because the methods of ageing skeletons are not precise and there is bound to be a considerable error in the assignment of age. This would tend to minimise any apparent age dif-

Lead levels (micrograms/gram dry weight) in bones from West Tenter Street

	Age (years)				
	15–	25–	35–	45+	Unknown
<i>Male</i>					
Mean	75.0	115.3	111.4	105.7	118.5
Standard deviation	33.1	61.1	59.8	44.9	67.2
Number	5	16	10	6	2
<i>Female</i>					
Mean	99.5	110.5	141.3		
Standard deviation	0.7	61.4	56.2		
Number	2	4	6		
<i>Total</i>					
	Male	Female			
Mean	107.8	124.1			
Standard deviation	54.7	53.0			
Number	39	12			

Fig. 52 West Tenter Street: Lead levels.

Lead levels (micrograms/gram dry weight) in bones from West Tenter Street by age (both sexes combined)

	Age			
	15–	25–	35–	45+
Mean	82.1	114.3	122.6	105.7
Standard deviation	29.5	59.5	58.9	44.9
Number	7	20	16	6

Fig. 53 West Tenter Street: Lead levels by age.

ferences in lead levels and the 'true' difference is likely to be greater than that shown in Fig. 53.

LEAD COFFINS

The lead levels in the bones from the two lead coffins (628, 967) were 11,848 and 11,752 $\mu\text{g/g}$, respectively which are so great that the only plausible explanation is that the bones have become contaminated with lead from their surroundings. This post-mortem accumulation of lead is perfectly in accord with my experience elsewhere (Waldron 1983). In both cases, bones were available from two coffins in the vicinity; specimens 406 and 541 adjacent to 628 and 972 and 1,000 adjacent to 967. None of these results was unusual (100 & 90; 189 & 54 $\mu\text{g/g}$, respectively) which suggest that the lead from the coffins did not leach out for a great distance into the surrounding area.

COMMENT

Bone lead levels in the modern adult population is between 40 and 60 $\mu\text{g/g}$, approximately half those found at West Tenter Street. Levels in pre-metal working populations are considerably lower (Rogers & Waldron 1985).

Can we infer, therefore, that the population represented at West Tenter Street was more heavily exposed to lead than modern man? The answer is almost certainly, yes, although we cannot be precise as to the extent to which this was the case since we do not know the contribution made to the bone lead concentrations from lead in the soil; this can be very great at times (Waldron 1983). However, the concentrations found at West Tenter Street are similar to those found in a larger sample taken from the Romano-British cemetery at Poundbury; the mean at Poundbury is about 105 $\mu\text{g/g}$ and the contribution from the soil represents only about 9% of the total (Waldron, unpublished results). This is good confirmatory evidence that the levels at West Tenter Street are a reasonable approximation of the true levels and adds weight to the

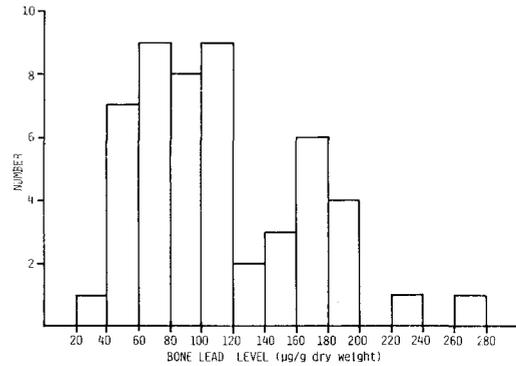


Fig. 54 West Tenter Street: Distribution of lead levels (Histogram) (micrograms/gram dry weight) in bones from West Tenter Street.

notion that the way of life followed by the Romano-Britains was conducive to a greater exposure to lead than is the case today.

THE ANIMAL BONE by TONY WALDRON

None of the non-equine animal bone found amongst the human material was of great intrinsic interest except for a right mandible from a dog which had an oblique cut mark on the internal surface towards the distal end (Plate 29). This cut is probably the result of dismemberment rather than skinning and suggests that the dog may have been eaten in the past and Harcourt (1974) refers to several dog bones with defleshing cuts in his own collection.

THE HORSES

There was evidence for two horses at West Tenter Street, an almost complete skeleton (1044) and a single metacarpal (from context 1046). The skeleton was in a good state of preservation but entirely lacked the skull and cervical vertebrae which were removed by the cutting of grave 864. The absence of the teeth is particularly unfortunate since it is from the teeth that the best estimate of age is made.

SKELETAL ELEMENTS

The elements of the skeleton which were present are shown in archive Table 1 and the measurements taken from the bones are given in archive Table 2. There were no skinning or butchery cuts on any of the bones and none had been gnawed.

AGE AND SEX

Without the teeth the age of the horse cannot accurately be estimated. It was certainly adult, however, since all the epiphyses had fused and as both the small metacarpals were extensively fused to the shaft of the large metacarpals, it must have been well into its maturity (Sisson and Grossman 1955). The single metacarpal from 1046 was also fused so the animal from which this bone came was also an adult. The small metacarpals had not fused to the shaft of the main bone, however, so that it was probably younger than the more complete horse.

The pelvis of the horse was rather intermediate in shape between that of the male and female and may, therefore, have been a gelding, castrated before the sexual differences in the pelvis had been established.

Withers height

The height of the horses was calculated from the formulae given by Boessneck (1970). For 1044, an estimate of height could be made from the right

metacarpal and both metatarsals. The results were 148.1, 143.4 and 144.0cm respectively (14.6, 14.1 and 14.2 hands); the height of 1046 was estimated as 145.5cm (14.3 hands). These horses, therefore, were on the large side for Romano-British horses and certainly much larger than the pre-Roman Iron Age ponies for which a height of about 124–132cm (12–13 hands) was common. Luff (1982) in her account of Romano-British horses comments on the increase in their size and speculates as to whether this was caused by gelding, by better breeding or by imports. In the case of 1044, it seems most likely that this was a gelding, especially given the intermediate shape of the pelvis.

Slenderness index

Bökönyi's (1968) slenderness index, defined as minimum shaft width/total length \times 100 was calculated for both complete metacarpals. For 1044 the result was 14.3 and for the single metacarpal, 13.6, suggesting that both horses were stocky in build.



Plate 29 West Tenter Street: Dog's right mandible, oblique cut mark on internal surface arrowed, possibly as a result of dismemberment for eating.

Comment

Although the remains of these two horses are far from complete, we can, nevertheless, gain some information from them. They were both stocky animals standing substantially taller than their Iron Age predecessors and that the more complete skeleton may well have come from a gelding.

Unfortunately there is no knowing to what use the horses were put during their life but there is certainly no evidence to suggest that they were used after death. There were no butchery marks and no skinning cuts on the skeleton so that we may assume that they had been neither eaten nor skinned.

THE DOMESTIC FOWLS

There were two skeletons of domestic fowls which had obviously been buried intact at West Tenter Street although they were by no means complete when recovered. Both were examined and compared with type specimens in the collection of the Extra-Mural Department of the University of London. The bones which were present are listed in the table (in archive).

Some of the bones had unfused epiphyses indicating that the birds were both juvenile although they were not of the same age, 1051 being at an earlier stage of development than 1140. Neither bird had developed a spur scar on the tarsometatarsus (West 1985).

The more mature of the two birds (1140) was smaller in size than a modern bantam hen whereas the younger was intermediate in size between a bantam hen and a bantam cock. This bird may thus have been a young cockerel or a hen bird from a large breed.

There were no signs of butchery on any of the bones which supports the view that the birds had been buried whole, almost certainly as part of a ritual.

IV. CONCLUSIONS

The excavation at West Tenter Street has provided the largest group of Roman burials to be recorded from the vicinity of Roman London. The 13 distinctive cremation burials and 120 inhumation burials probably represent a significantly larger usage of the site. Clear evidence was found for the recutting and re-use of some inhumation burials and seven cremation urns had obviously been disturbed and discarded in dumped material. In

addition cremated and uncremated human bone was found scattered throughout the area.

The nature of the site, a long narrow strip running at an acute angle to a probable Roman road, has provided a sample trench which indicates the possible layout of the cemetery and the distribution of burials within it. The substantial tombs at the east end of the site are likely to have been built by a roadside, and burials grouped around them. Whilst post-medieval disturbance may have distorted the picture, it appears that the burials may have been quite widely spaced behind the tombs, their density increasing some distance from the road.

The frequency and grouping of the burials may have been affected by social factors such as family plots, burial club plots, or religious groupings. The only distinctive evidence for such practices was the close grouping of plaster burials in the western part of the site. The apparent dip in the ground which would have been left in the area of the central gravel pit in what was otherwise probably a fairly flat and even landscape may have influenced the choice of burial there. It is possible that gardens may have been planted and enclosed specific parts of the cemetery although no trace of such was discovered.

In the absence of inscriptions we cannot be certain of the origins or occupations of the inhabitants of the graves. They can be said to have been living in Londinium when they died but that does not necessarily mean that they were native inhabitants of the town which must have had a sizeable transient population. A wide range of occupations would have been followed by the town's populace and a likely mix of merchants, soldiers, and government officials with their families and an attendant population of craftsmen and servants, freedmen and slaves [see *eg* Merrifield 1983], drawn from throughout

the Roman Empire, might be expected to have been buried in the cemeteries.

No burial goods indicative of an occupation were found, nor was there pathological evidence from the skeletal material for any distinctive occupational injuries. The single case of a 'parry' fracture could have been sustained by a soldier, however the damaged limb had not been properly set and the injured person had evidently not received the medical attention which would have probably been available to a professional Roman soldier.

The paucity of evidence for traumatic injury, and the nature of the injuries that were noted, are indicative of a civilian population. The apparently high levels of lead in the bones could be taken to indicate an urban population taking its water from lead water pipes, although the preparation of food and drink in lead lined vessels, or its consumption from pewter vessels may have been a contributory factor as well.

The incidence of caries and the few cases of DISH noted here may point to a population that ate well, DISH being possibly a sign of obesity [Waldron 1985], certainly no signs of malnutrition were found. This might be some indication, therefore, of city dwellers living in a certain degree of comfort. This interpretation is in contrast to that of the Roman population of Cirencester who were considered hard-working on the apparently uncertain basis of the incidence of osteoarthritis there [Wells 1982, 152].

The close parallels that can be drawn with the pathological evidence from the other published urban Roman cemeteries would again suggest that a 'typical' urban population is represented at West Tenter Street. The age ranges at death, height of the population, and the greater numbers of men than women are remarkably similar from all these sites.

The burial practices encountered at

West Tenter Street are also well paralleled elsewhere and seem to have been common to Romano-British cemeteries with little sign of regional variations. The wood coffins constructed with lead strip reinforcing appear to be unique to London, but this is probably indicative of the work of a particular craftsman or workshop rather than a burial rite.

The small proportion of burials furnished with ceramic or glass vessels, or other grave goods, suggests that this practice was "the exception rather than the rule" [Evans and Pierpoint 1986, 206]. However of those burials so furnished it has been possible to detect patterns in the deposition of vessels and to suggest that larger vessels in a limited range of forms may have been selected either to contain cremated bone or to accompany adult inhumation burials. This practice was followed in the 2nd century but cremation ceased by the mid 3rd century and no adults were accompanied by ceramic vessels in the 4th century. A few child burials were furnished with miniature vessels, and this practice continued into the 4th century. Jewelry also appears to have been considered appropriate for child burials.

The 'richest' burial, in terms of the largest number of burial goods of intrinsic interest, was a cremation. The group, consisting of a rare circular box mirror decorated with a head of Nero, a rectangular mirror, a pendant coin of Nero, yellow glass ring, and small glass jar, are particularly interesting as evidence of heirlooms, or items some of which had long been held of value, being deposited in a Verulamium White Ware jar at least 60 years after their likely date of manufacture. The iron signet ring, also found accompanying a cremation, was an unusual find from a cemetery.

The small number of burials accompanied by distinctive dating evi-

dence in a primary context has inevitably caused difficulties in dating and phasing the cemetery area. The greatest reliance has been placed on the dating of the ceramic vessels which contained or accompanied the burials and this must be qualified by the assumption that the vessels themselves were not long-lived before they were used, and that the accepted dating for them may change. On the strength of this evidence alone it can be suggested that cremation burial on the West Tenter Street site commenced in the 2nd century and finished by the mid 3rd century. Inhumation burial started in the 2nd century and continued into the 4th century. Secondary coin evidence points to inhumation burial being practiced after 340, and the area was probably at least being visited, if not used for burial, at the end of the 4th century.

The frequency of burial during any one period is not easy to quantify and various assumptions have had to be made to suggest a phasing of the site. The presence of a preponderance of 2nd-century pottery sherds in many grave fills may be coincidental but means that many of these graves can only be dated to the 2nd century or later and it is quite likely that the number of 3rd-century burials has been underestimated. The predominance of cremation urns and inhumation burials dated by grave goods to the 2nd and early 3rd centuries, and the number of graves so dated by stratigraphic evidence, may however suggest a greater use of this area of the cemetery in that period than in later periods.

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Jan Scrivener photographed the bones and coins.

The full site archive is held at the Museum of London, site code WTN 84, the human remains have been reburied in the East London Cemetery.

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THE ROMAN FEATURES AT GATEWAY HOUSE AND WATLING HOUSE, WATLING STREET, CITY OF LONDON (1954)

JOHN D. SHEPHERD

SUMMARY

An examination of the records compiled in 1954 by Ivor Noël Hume for the archaeological features on the sites of Gateway House and Watling House, Watling Street, shows three main periods of development. The Neronian-early Flavian Period I is represented only by pits—which included evidence for glass working—and no associated structures were noted. Period II, from the Flavian to the Hadrianic period, followed the contemporary development at Watling Court (Period IV) to the immediate east. Substantial buildings with mortar and opus signinum floors were destroyed in the Hadrianic fire. There followed, at an unknown date, the construction of larger buildings (Period III) which might represent a single structure. Rooms were decorated with plain red and decorated mosaics and one room at least was fitted with a hypocaust system. A 4th century pit cut through the floor of one room and 'dark earth' accumulated on parts of the site.

In the north of both sites, the constant adherence to an east-west alignment suggests a road or thoroughfare outside the areas examined. Encroachment on this line at Gateway House might suggest a realignment slightly north-westwards.

Post-Roman features were not examined in detail.

INTRODUCTION

The two adjacent sites of Gateway House (TQ3227 8107) and Watling House (TQ3231 8105) are located on the south facing slope of the river terrace to the west of the Walbrook stream (Fig. 1) The Gateway House site, the westernmost of the two, is situated between New Change and a public garden on the west and Bread Street on the east. Friday Street, which once separated the two bomb-damaged plots on which Gateway House was built, ran north-south through the site but is now relegated to the status of a pedestrian access route. The Watling House site, also a bomb-damaged site prior to re-development, lies between Bread Street on the west and Watling Court on the east. Both sites are delimited north and south by Watling Street and Cannon Street respectively (Fig. 2).

Between April and November, 1954, Ivor Noël Hume of the Guildhall Museum maintained a regular watching brief and conducted some limited excavations on both sites. In addition, in the previous February, he examined the site of the church of St. John the Evangelist, at the corner of Friday Street and Watling Street, following the clearance of interments from the overlying graveyard by the Corporation of the City of London¹.

On the two sites in question, archaeological features dating from the 1st century AD to the 19th century were recorded, mainly during and after the excavation by contractors of trenches to accommodate the retaining-wall which surrounded each site. At Watling House (WH) additional features were recorded in two of three foundation trenches to the north of the main area of the site (Fig.

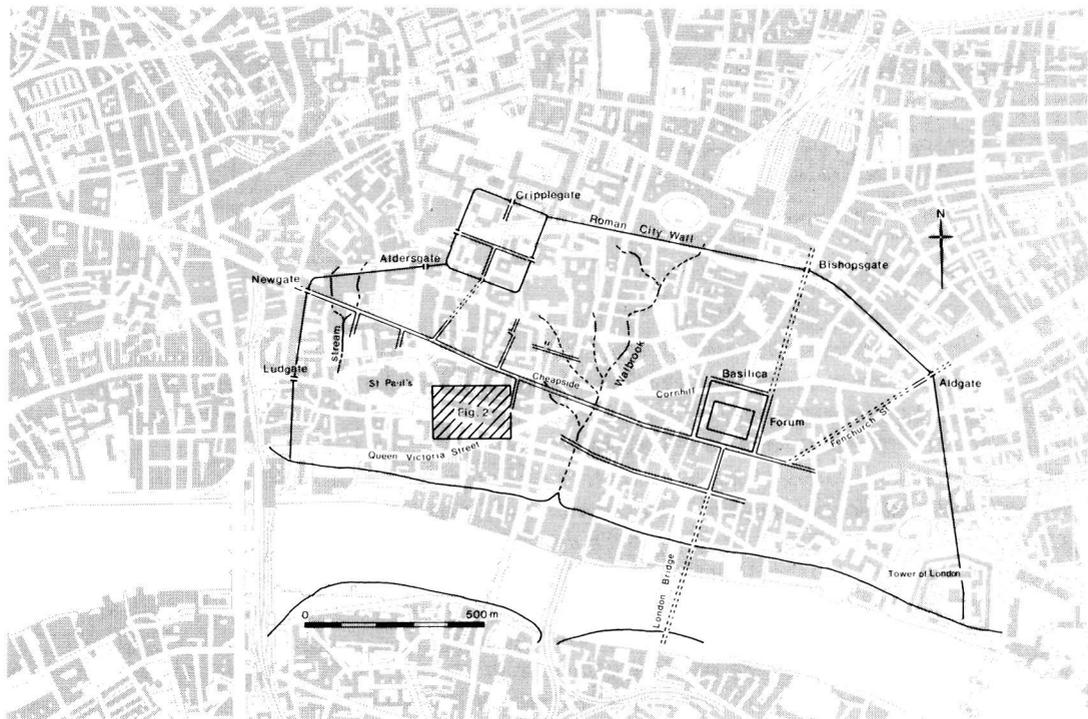


Fig. 1 Gateway House and Watling House, Watling Street, 1954; Site location map.

3), and in one of two to the west. The subsequent removal of the basement slabs within the retaining-wall trench brought further features to light, especially in the north-west and south-west corners of the site². Unfortunately no record of archaeological features is available for the central and eastern sections of this site, even though the basement slab was removed there also³. At Gateway House (GH) (Fig. 3), in addition to observations made within the surrounding retaining-wall trench, archaeological features were recorded in foundation trenches inside the site and also in areas where the basement slab had been removed and lowered. This occurred especially on the east side to accommodate the cellars of 'The Dandy Roll' public house⁴.

The adverse conditions with which Ivor Noël Hume had to contend during this period in the history of archaeological research in the City of London have been well-documented⁵, and it is hardly surprising that the archaeological documentation of these two sites is often brief and lacking in detail. The records of the observations are in the form of Excavation Notebooks containing Excavation Register (ER) entries (namely the information regarding the location and context of specific groups of finds currently stored in the Museum of London and differentiated by individual 'ER' numbers) and a site file of miscellaneous records including photographs and contractors' dye-line plans for both sites showing pre-development basement details with

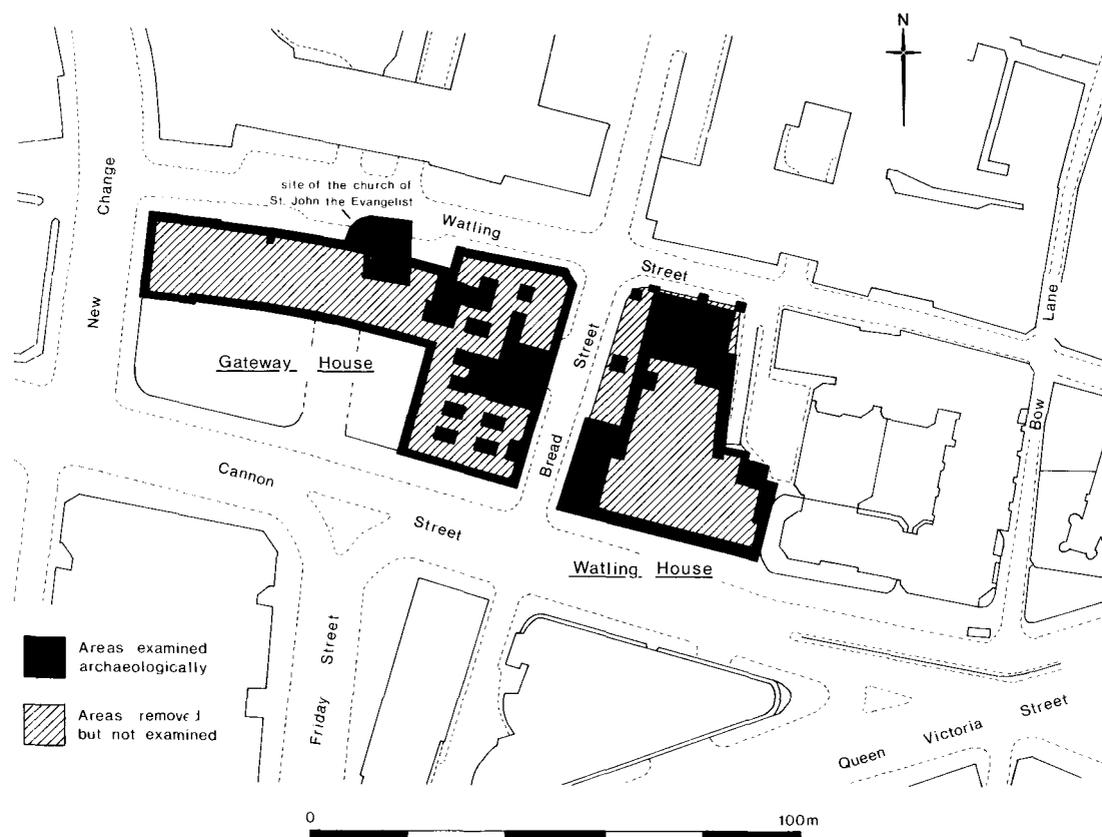


Fig. 2 Gateway House and Watling House, Watling Street, 1954; Site location showing areas examined in 1954.

archaeological annotations⁶. The records indicate the existence of numerous lengths of mortared ragstone walls, often with tile courses, as well as associated floors of *opus signinum*, decorated and plain red mosaic and mortar. The fills of eight pits were also recorded as well as horizontal stratigraphy in many locations on both sites. Levels consisting of rubble or burnt debris are more numerous.

This apparent bias towards the more solid and visible features results from the excavator's need for haste and his consequent succinctness.

Using such documentation alone, any attempt to interpret these sites might

appear too subjective for consideration. However, the results of more recent excavations conducted by the Department of Urban Archaeology, Museum of London, in the immediate vicinity—namely on the site of St. Mildred's church, Bread Street (1973) to the south of Cannon Street and, in particular, at Watling Court (1978) to the immediate east of Watling House—allow the two sites of Gateway House and Watling House to be considered in a wider context.

The following, therefore, is an account of the Roman features recorded on the sites of Gateway House and Watling House, Watling Street, derived from the

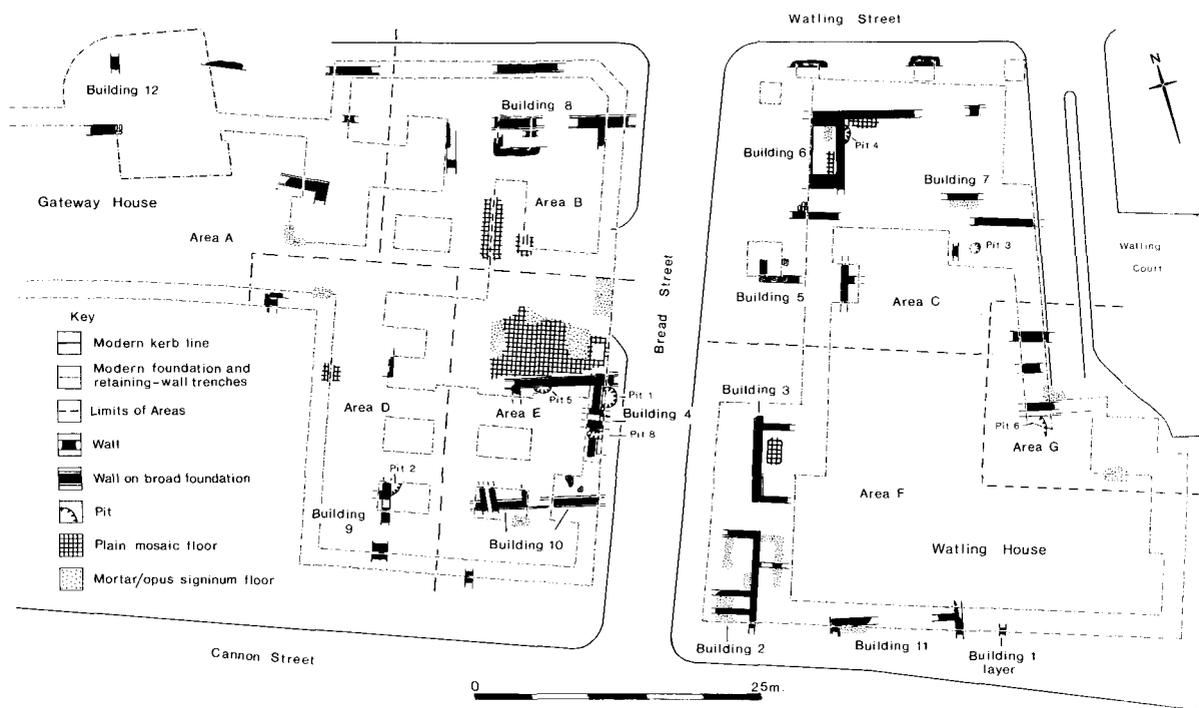


Fig. 3 Gateway House and Watling House, Watling Street, 1954; Site plans.

records of observations made in 1954⁷. The interpretation of these features takes full advantage of known archaeological sequences on nearby sites.

GEOLOGY

The sites of Gateway House and Watling House are situated on the west side of the Walbrook stream on a river terrace of the Thames above the flood plain terrace. The modern ground surface slopes slightly downwards towards the south at Watling House and towards the south-south-east at Gateway House and, though now less pronounced, probably conforms in general to the natural topography. At Watling Court, to the immediate east, the modern surface slopes both southwards towards the Thames and eastwards towards the Walbrook⁸. The natural subsoil consists of brickearth at varying thicknesses overlying sandy gravels.

The natural pre-urban landscape at Gateway House and Watling House cannot be ascertained—the records give insufficient information. Also, no bore-hole sections are available for either site. At

nearby Watling Court, a bore-hole sample at the north-west corner in the angle of Watling Court itself and Watling Street, revealed the top of natural brickearth to be at 10.55m OD while in the south-west corner of the site excavation revealed its height to be at an average of 9.8m OD.

At Gateway House, however, contractors' sections⁹ give the level of 'ballast' (natural gravel) as being between 9.13m (30.00ft) OD and 10.35m (34.00ft) OD in the sides of the west, south, and east retaining-wall trenches of the eastern section of the site (Fig. 3 GH, Areas D & E).

PERIOD I: NERONIAN/EARLY FLAVIAN

The earliest identifiable human activity on both sites is represented by four pits; two in the southern part of the eastern section of Gateway House (Area E, Pit 1 and Area D, Pit 2) and two in the northern part of Watling House (Area C, Pits 3 and 4). All contained pottery datable to the Neronian–early Flavian periods.

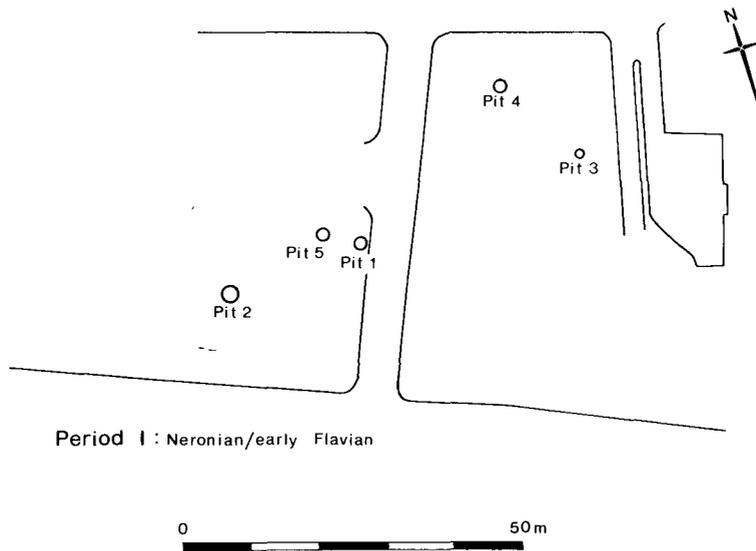


Fig. 4 Gateway House and Watling House, Watling Street, 1954; Period I features (NB. Pit 5 is Period I or II).

Pit 1. Gateway House—Area E, ER.151, Fig. 4.

This pit was revealed in the eastern side of the eastern retaining-wall trench and was cut by a later (Period II) wall (GH, Context 13) of Building 4. Only a small part could be examined. No details of the nature of the fill of this pit are available.

Pit 2. Gateway House—Area D, ER.169, Fig. 4.

This pit was revealed in a modern foundation trench. It was cut by the wall (GH, Context 6) of Building 9 which cannot be assigned precisely to either of the subsequent periods of activity.

Pit 3. Watling House—Area, C, ER.181, Fig. 4.

This pit on the east side of the northern area of Watling House was revealed in the west face of the eastern retaining-wall trench. It was not associated with any nearby features and so relative dating is not available. It measured 0.76m (2ft 6ins) in diameter, the base terminating at 11.25m (37.08ft) OD¹⁰, and contained in the lower levels a deposit including a large quantity of glass-working waste material (furnace fragments, moils, droplets, cuttings, trimmings and possible cullet—see Appendix) which is well-dated by the associated Neronian-early Flavian ceramic material. The deposit which contained the glass waste was sealed by a 'deliberate filling of brown clay, 1.52m (5ft) thick' (WH, Context 8)¹¹, which must represent a deliberate backfilling associated with, perhaps, a levelling of the area immediately around the pit

itself (see Period IIa below). The layers above this 'clay' layer were obscured by shoring.

Pit 4. Watling House—Area C, ER.225, Fig. 4.

This pit was only partially seen. It was cut by a north-south wall (WH, Context 58) in the northern area of Watling House.

On the evidence of just four scattered features with few details concerning them there is little that can be said of them. It is evident that, on ceramic evidence alone, all four can be grouped together by date—though the date range is broad enough to allow for numerous changes in activity on these sites. One important question is whether any or all of them could be contemporary with any of the buildings recorded on either site. The final answer remains unclear but the indications are that they are earlier than any of the buildings recorded here.

Pit 1 was evidently not contemporary with any recorded buildings in its immediate vicinity. As stated above, it was cut by a substantial wall foundation (GH, Context 13) of a building (Building 4) which was most probably a Period II structure. This building was itself sealed by the walls (GH, Contexts 9 and 35) and mortar floors (GH, Contexts 16 and 17),

of the only other recorded structure in the immediate vicinity (see below, Period III, Building 10, Fig. 12).

The precise relationships to the rest of the site of Pits 2 and 4 are vague, though both were cut by walls of buildings which, unfortunately, cannot be securely dated. It is probable, however, that the wall which cut Pit 4 (WH, Context 58) is a Period III construction (see below, Period III).

As stated above, Pit 3 was not associated with any other features. However, in the light of the evidence from Watling Court¹², it seems that this pit can be relatively dated to a phase before the construction of any well-founded structures. The brickearth dump which underlay the Watling Court Period IV buildings would seem to be represented by the 'deliberate filling of brown clay' (WH, Context 8. See below, Period IIa) which sealed Pit 3.

Considering the intrinsic importance of the glass material from this pit, it is unfortunate that it cannot assist in dating more precisely the deposit from which it came; in fact, on the contrary, it is the deposit which must date the glass. The vessel fragments, which may well be cullet (see Appendix), came from forms which continued to be manufactured well into the second century. The importance of this

group, however, cannot be underestimated. The relative dating of this pit and the actual Neronian-early Flavian date indicated by the pottery is sufficient to identify this glass waste as being the earliest evidence not only for glass-working but, specifically, for glass-blowing in Roman Britain. Unfortunately the location of the glass workshop itself must remain unknown. Presumably it was in the immediate vicinity—Watling Court revealed no likely candidate for a structure of this function—and Pit 3 was simply part of the workshop arrangements. It should be noted, however, that glass furnaces and their accompanying structures would probably leave very little evidence (see Appendix for a brief discussion on this glass-working waste and the probable nature of the workshop).

PERIOD I or II: NERONIAN-FLAVIAN

Pit 5. Gateway House—Area E, ER. 173, Fig. 4

This pit, recorded *c.* 5.50m to the west of Pit 1, cannot be associated positively with either Period I or II since the finds from its fill no longer exist in the Museum of London. The excavator recorded 'a quantity of amphora fragments' from a deposit within the pit which he dated to the Flavian period¹³. The pit was cut by a Period III wall (GH, Contexts 9 and 35, Building 10, Fig. 12).

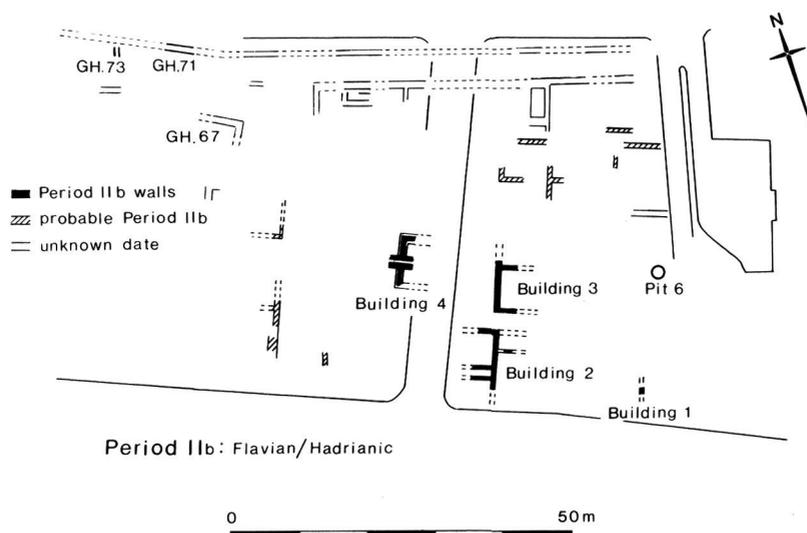


Fig. 5 Gateway House and Watling House, Watling Street, 1954; Period IIb features.

PERIOD IIa: FLAVIAN

Any Period I structures contemporary with the pits described above must have been destroyed to make way for the substantial buildings of Period II. How this destruction was carried out is unknown. No layers of building debris or any deposits of burnt material were recorded which could pre-date Period II.

As mentioned above there does appear to be some evidence for the dumping of brickearth, termed 'clay' by the excavator, to infill and level off areas of the sites before the period during which the first well-founded buildings were constructed (Period IIb at Gateway House and Watling House). A similar sequence was seen both at Watling Court¹⁴ and St. Mildred's, Bread Street¹⁵ and it is on the basis of these two analogies that the Period IIa activity here is dated to the Flavian period.

The dumping of brickearth can probably be seen in two places, both in the eastern half of the Watling House site, closest to Watling Court. It is, therefore, possible that the examples recorded here may not reflect what occurred across the whole of the Watling House and Gateway House sites.

Pit 3. Watling House—Area C, Fig. 4.

The relation of the 1.52m thick 'deliberate filling of brown clay' to the layer containing the glass waste sealed immediately below it (WH, Context 7, ER.181) and the significance of the latter have been discussed above. It is possible that the dumping of this glass material, of a type one would normally expect to have been recycled, might itself be indicative of a rapid clearance of a nearby building or structure in advance of redevelopment. The thickness of the clay deposit, seen in proportion to the width of the pit (0.76m), then implies an intent, even if only local, to level off and reclaim this part of the site for another purpose¹⁶.

Layer 43. Watling House—Area F, Below Building 1.

This layer of 'dirty clay' was seen in the south face of the southern retaining-wall trench. Since the top of the layer was at *c.* 11.00m OD it was perhaps too high at this point to be considered as natural brickearth¹⁷. It was at least 0.25m thick.

The construction technique used for the wall of Building 1 which rested upon

this layer was exactly the same as that employed for a building at St. Mildred's, Bread Street¹⁸ and Structure 4 at Watling Court¹⁹. In both of the latter two examples, foundation trenches were cut into a redeposited brickearth dump, the extent of which appears to have conformed, in the main, to the maximum dimensions of their respective buildings. These trenches had been backfilled with a mixture of ragstone rubble and mortar and were smoothed off to the same level as the dump. It is therefore possible that the plan of a specific building was laid out in foundation form in the brickearth dump. Upon this were then built the dwarf walls and walls proper (see below Period IIb). Such a procedure is precisely matched by that recorded for Building 1 at Watling House.

PERIOD IIb: FLAVIAN TO HADRIANIC (Fig. 5)

Following the clearance and preparation of the sites, the construction of substantial buildings was undertaken, covering at least the southern area of Watling House (WH, Area F) and the south-east corner of Gateway House (GH, Area E). It is probable that part of the complexes in the northern areas of both sites (GH, Area B; WH, Area C) also belong to this period of development (see below).

Building 1. Watling House—Area F, Fig. 6.

This building is represented by the single wall recorded in section in the south face of the southern retaining-wall trench at Watling House²⁰. A section through this wall (Fig. 6) shows well the construction technique employed. A foundation trench (WH, Context 42) was cut into the 'dirty clay' layer, interpreted above as Period IIa brickearth make-up. This foundation trench was back-filled to the level of the make-up dump with ragstone, mortar and gravel (WH, Context 41). Upon this foundation was constructed a well-dressed ragstone wall, standing to a height of *c.* 0.55m and 0.55m in width. On this was laid, and mortared

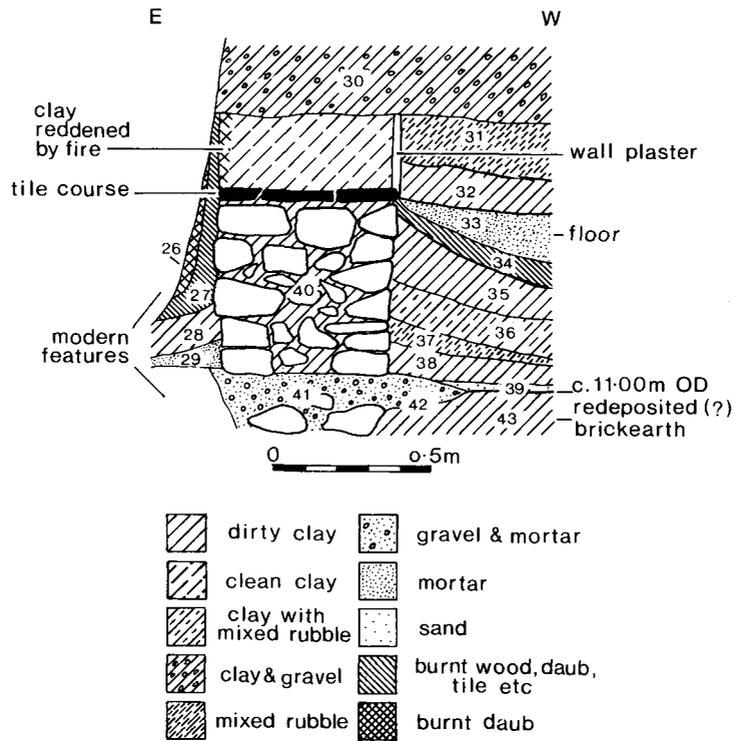


Fig. 6 Gateway House and Watling House, Watling Street, 1954; Section through the wall of Building 1 (Period IIb).

a single tile course (c. 11.6m OD). This construction acted as the foundation or dwarf wall to a clay superstructure, c. 0.5m in width, with no visible wattling or timber framing. Only the western face of this clay wall was covered with wall plaster. No plaster was recorded on the stone dwarf wall, which appears to have been concealed by a succession of layers on the western side and with a lesser number on the eastern side.

On the western side, a mortar floor (WH, Context 33) sealed a series of make-up layers (WH, Contexts 34–38) which raised the level of the floor to that of the single tile course. A similar practice was recorded at Watling Court for Structure 4²¹ where the area above the brickearth dump contained by the dwarf walls was made up with other brickearth dumps. Here, however, probable brickearth dumps (WH, Contexts: 35, 36, 38) were interspersed with layers containing building debris (WH, Contexts: 34 and 37)²². The source for these is unknown since they were obviously redeposited.

The mortar floor was sealed by a layer of 'dirty clay' (WH, Context 32), which might represent a

floor, or the preparation for a subsequent floor or even the debris from a destroyed clay wall (no plaster fragments were recorded, however). This was, in turn, sealed by 'clay with mixed rubble' (WH, Context 31) which perhaps represents the destruction of this building. This general sequence, i.e. a mortar floor sealed by, first, a dirty clay layer and then by destruction debris, is mirrored on the eastern side of the wall (WH, Contexts: 26–29). However, the mortar 'floor' rests immediately upon the foundation, c. 0.5m below the floor on the west side of the wall. Also, the destruction debris is described specifically as 'burnt wood, daub, tile etc' and 'burnt daub' (WH, Contexts: 27 and 26 respectively) and the eastern face of the upstanding clay wall was severely reddened by fire. It would appear, therefore, that fire played a major part in damaging this building if not actually destroying it.

The different levels on either side of this wall are of interest since, rather suggesting simply two rooms at different levels, this might be an indication that the wall was an external feature of the struc-

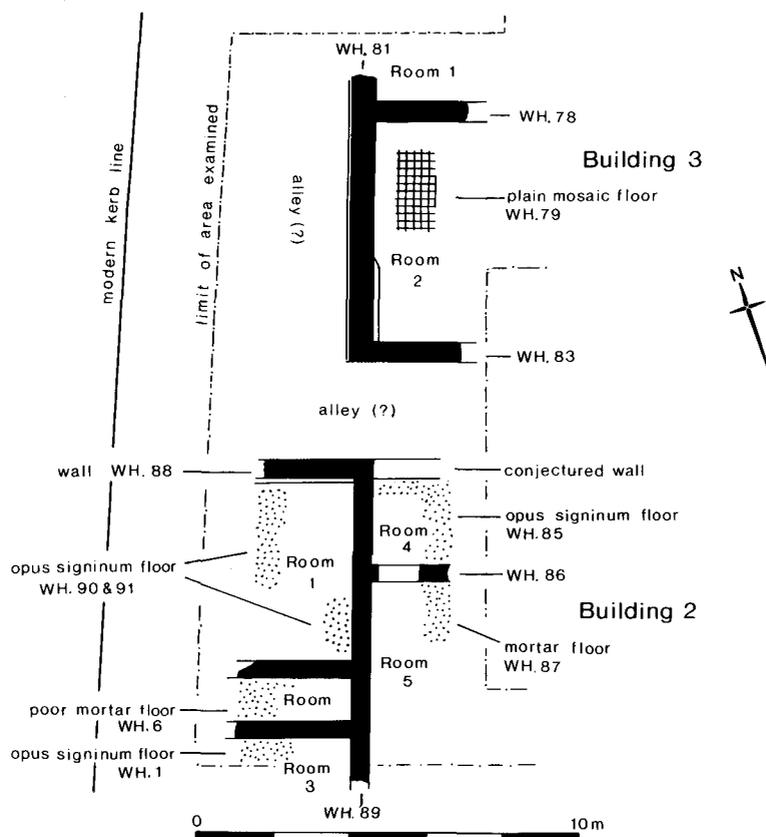


Fig. 7 Gateway House and Watling House, Watling Street, 1954; Detail of Buildings 2 and 3 (Period IIb).

ture—the east side being outside the building and the west inside. If this were so, in view of the scale of the building at Watling Court to the east, it might be possible that this wall was the eastern limit of Watling House Building 2.

Building 2. Watling House—Area F, Fig. 7.

This structure was recorded in the south-west corner of the Watling House site. Although none of its features were recorded in detail, on the basis of its ground plan, the technique of construction of its walls and some limited datable deposits sealed beneath floors, the date of its construction is almost certainly contemporary with that of Building 1 to the east and of the period IV buildings at Watling Court—especially Structure 4, and at St. Mildred's Bread Street.

There is no reference to any layer in the available record which can be interpreted as pre-dating Period II. The earliest recorded features on this

part of the site appear to be the foundations for the building itself²³. The most complete section through the wall which can be compiled from the excavator's notes was seen across the northernmost wall of this complex (WH, Context 88). When reconstructed, the wall was *c.* 0.50m wide and as high as it was broad. This was then topped by a single course of tiles. The whole stood on a foundation, which was slightly broader than the wall itself, at *c.* 11.60m OD.

At least five rooms can be identified; three to the west of a north-south wall (WH, Context 89), and two to its east (Fig. 7). Room 1 measured internally *c.* 4.7m north-south and at least 2.60m wide. The westernmost wall was not seen. Within this room were two areas of *opus signinum* flooring 0.10m thick (WH, Contexts 90 and 91) both at *c.* 11.94m OD and *c.* 0.13m below the uppermost level of the tile course on the north wall (WH, Context 88) described above.

To the south of this, a narrow east-west orientated room perhaps functioned as a corridor. Its width was only *c.* 1.00m but its minimum length was *c.* 3.20m. A poor, yellow mortar layer (WH, Context 6) within this room might have been a floor surface. It sealed a layer, of burnt clay (WH, Context 7, ER.179) *c.* 0.10m thick, which contained a cone-shaped millstone²⁴ and, according to the excavator, 'fragments of a large olla of hard grey-brown ware with slight vertical combing. Probably AD 50–70'²⁵. The westernmost extent of this room was not recorded.

The west and south limits of Room 3 to the south of Room 2 were not recorded. It measured at least 3.20m east-west by 1.10m. An *opus signinum* floor, *c.* 0.10m thick (WH, Context 1), with a surface at *c.* 11.80m OD, sealed a layer containing wall plaster and ragstone rubble (WH, Context 2, ER.178) which probably acted as an aggregate in the preparation of the floor²⁶. This layer was dated by pottery to the Flavian–early Trajanic periods. This layer and that recorded below the poor mortar floor of room 2 might suggest a slight refurbishment following a partial destruction of the building during its lifetime. It should be noted that the mortar floor of Building 1 to the east, which is suggested above to be part of this Building 2, also sealed a deposit of burnt rubble (WH, Context 34).

All the walls dividing and delimiting the rooms of this western range were *c.* 0.50m in width. On the east side of the central north-south wall, however, an east-west wall of notably narrower width (0.38m) but unknown construction (WH, Context 86) separated Rooms 4 and 5. Room 4, to the north, cannot be delimited on its northern side even though that area was opened in the course of excavation. The probability that a wall, since robbed or of a less well-founded construction, once existed there is high. A Floor recorded within the room terminated with a straight east-west edge and did not extend beyond the projected east-west line of the wall to the west (WH, Context 88). The maximum north-south measurement of this room was 2.20m, its east-west measurement 2.16m. The floor referred to above (WH, Context 85) consisted of a thin skin of *opus signinum*²⁷ on a mortar floor, the latter 0.10m thick. All of this was overlaid by a layer of burnt clay and wall plaster (see Period IIc below) of unknown thickness.

Room 5 was poorly preserved. Its minimum east-west width was 2.15m. However its minimum north-south dimension was 5.35m. A poor mortar floor (WH, Context 87) was recorded against the northern wall at the same level (*c.* 11.85m OD) as the *opus signinum* and mortar floor in Room 4 to the north.

Building 3. Watling House—Area F, Fig. 7.

Walls to the north of Building 2 shared exactly the same orientations. This might suggest contemporaneity but the different construction methods employed indicate that the walls belonged to separate buildings. The walls of Building 3 were of ragstone and tile throughout (see below for details) rather than of a clay superstructure on a ragstone dwarf wall and foundation. The similar alignment of the north-south walls of Buildings 2 and 3 might indicate that they were parts of the same wall but the available evidence indicates the opposite; they were of slightly different dimensions and were built in the two different techniques.

The similarity between the construction technique employed for this building and that used for these walls identified below as belonging to a Period III phase of construction should be noted. However, the technique for this building was also the same as that used for Building 4 on the Gateway House site to the immediate west. Building 4 was sealed by a Period III structure (Building 10), (Fig. 12).

That Building 3 respected the alignments used also by Building 2 justifies, in the absence of strong evidence which would prevent this, its discussion here as a Period IIb structure. However, the plan as recorded might be that of a later phase, though probably still pre-dating Period III.

The walls of Building 3 were constructed on a foundation *c.* 0.85m in width with its top at *c.* 11.10m OD. On this was built the wall, 0.55m wide. At the north end, the wall (WH, Context 81) survived to a height at 12.19m OD, and at the south end to a height of 12.03m OD indicating an average total surviving height of 1.00m. This was at least twice the height of the dwarf walls recorded for Buildings 1 and 2²⁸.

A similar east-west wall recorded at the south end (WH, Context 83) was severely truncated by later features. Since the north-south wall probably did not extend south to connect with Building 2, it is likely that this was an external wall to Building 3 and that the area between it and the north side of Building 2 was a small alley or lane passing between the two structures. Because the east-west walls of Building 3 did not appear to extend westwards it is possible that another such alley or access route ran north-south on the west side of the north-south wall.

Two rooms of Building 3 could be identified. Only a small part of the corner of Room 1, to the north, was noted and no details are available for it. Within Room 2, measuring 5.80m north-south by at least 2.20m east-west, was recorded a small area of plain red mosaic floor (WH, Context 79)

which sealed a 0.30m thick layer of burnt wall plaster, daub, tile etc in yellow-brown clay (WH, Context 80). How this floor, of a type associated more with the Period III buildings, overlying a major destruction deposit can be related to the building is not at all clear.

Building 4. Gateway House—Area E, Figs 8, 9 and 12.

This building overlay Pit 1 (Period 1) and had a complex and confusing history which cannot be satisfactorily interpreted from the available record. The ragstone foundation which cut the pit was built with a well-dressed vertical face (GH, Context 31, Fig. 8). On this was built the wall (GH, Context 13) 0.62m high with six courses of ragstone. Above this, another course was sandwiched between two single courses of tiles. The maximum height of the wall, excluding the foundation was *c.* 0.80m. A floor was indicated by the scorching of a clay layer which sealed the foundation (GH, Contexts 25 and 26) and coincided with *in situ* wall plaster. (Fig. 8, Floor 1). After this, a hard brown mortar floor (GH, Context 18), only *c.* 0.05m thick was laid on a bed of ragstone chippings (GH, Context 23) *c.* 0.30m thick which raised this floor to a level between the two tile courses. Sadly no dating evidence at all is available for this sequence.

The wall of this part of the building was then overlaid by a mortar floor (GH, Context 17) suggesting that it had been demolished. This floor probably relates to the Period III structure which overlay this building.

The plan of this building (Fig. 9) shows that subsequently a stonelined drain was constructed

across the north-south wall (GH, Context 13), and that the wall itself was partly cut away to accommodate this. Sadly, the construction and use of this feature cannot be related to the sequence recorded in the section though it was overlaid by a mortar floor of Period III (Fig. 8, Floor 3 or 4).

Pit 6. Watling House—Area G, ER.197, Fig. 5.

This pit was located on the eastern side of the Watling House site and contained material dated to the early 2nd century. It was overlaid by the foundation of an east-west orientated wall (WH, Context 21) which is in close alignment with Period III structures. Only a short length of this wall was recorded.

Pit 7. Watling House—Area C or F, ER.198.

This pit, containing material of the early 2nd century, was found on the west side of the Watling Court site but cannot now be located on plan.

Buildings 5 to 9 inclusive and 12. Gateway House and Watling House Areas A, B, C and D; Fig. 3.

The complexity of walls in the northern areas of both sites defies interpretation into individual periods—a problem accentuated by the lack of details concerning construction techniques and associated floors etc.

It is, however, significant that all the walls in the northern areas of both sites were on a different orientation from the Period IIb structures in the southern areas. It has been noted elsewhere²⁹ that this northern pattern probably indicates the line of an east-west aligned thoroughfare running beneath the modern Watling Street³⁰. No trace of such a road appears in any of the records for either site³¹.

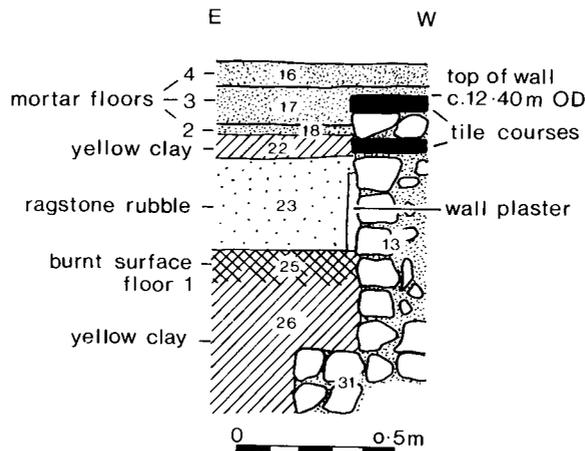


Fig. 8 Gateway House and Watling House, Watling Street, 1954; Section through the wall of Building 4 (Period IIb). For key see Fig. 6.

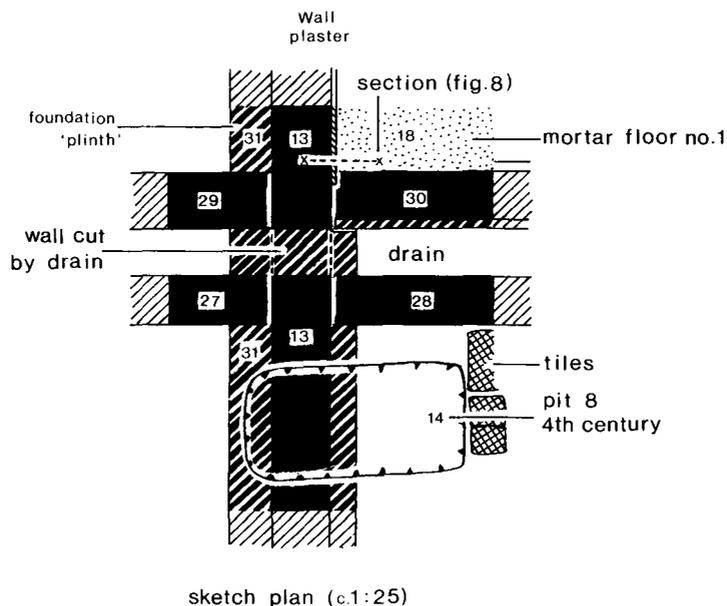


Fig. 10 Gateway House and Watling House, Watling Street, 1954; period IIc features.

However, the continuity of the east-west walls, extending over 50m, suggests that they respected a fixed line of the same orientation immediately outside the areas examined. At what date this line became established is uncertain.

A gravel surface recorded in the extreme north-west corner of the Gateway House site (Area A, Context 74)³² was too insubstantial to be a road³³. The presence of two substantial walls (GH, Contexts 71 and 73) encroaching upon the western projection of this east-west alignment³⁴ might, however, suggest a realignment of this line to the north-west.

If this realignment is then projected, it falls within the immediate area of the cambered road recorded in section, but believed to be oriented east to west on the site of St. Paul's Choir School³⁵.

PERIOD IIc: HADRIANIC (Fig. 10)

The record of these two sites is insufficient to detail any possible phases of refurbishment of the Period IIb buildings. However, they were severely damaged, probably destroyed, by a major fire. This was represented by many layers composed of burnt clay, wall-plaster, brick

and tile etc, which “appeared all over the site at approximately the same depth”³⁶.

The most extensive of these fire deposits was recorded in the south-east corner of Watling House (WH, Area F, Context 44, ER.209). It was found for a total of c. 6.00m along the southern retaining-wall trench at the level of c. 11.75m OD. Pottery dating to the ‘first decades of the 2nd century’ came from the east end only³⁷. Seen in section nearby (Fig. 6) were deposits of burnt wood with tile and daub (WH, Area F, Contexts 26 and 27) on the east side of the wall (WH, Context 40) which, if not the same layer, is probably contemporary with it. Other burnt deposits sealing directly Period IIb floors and surfaces were:

Layer. Watling House—Area F, Building 2, Room 2, Context 5; Fig. 10.

Burnt daub mixed with yellow clay which overlaid the yellow mortar floor (WH, Context 6). Thickness unknown.

Layer. Watling House—Area F, Building 2, Room 4, Context 84; Fig. 10.

Burnt clay and wall plaster which overlaid the opus signinum floor (WH, Context 85) of this room. Thickness unknown.

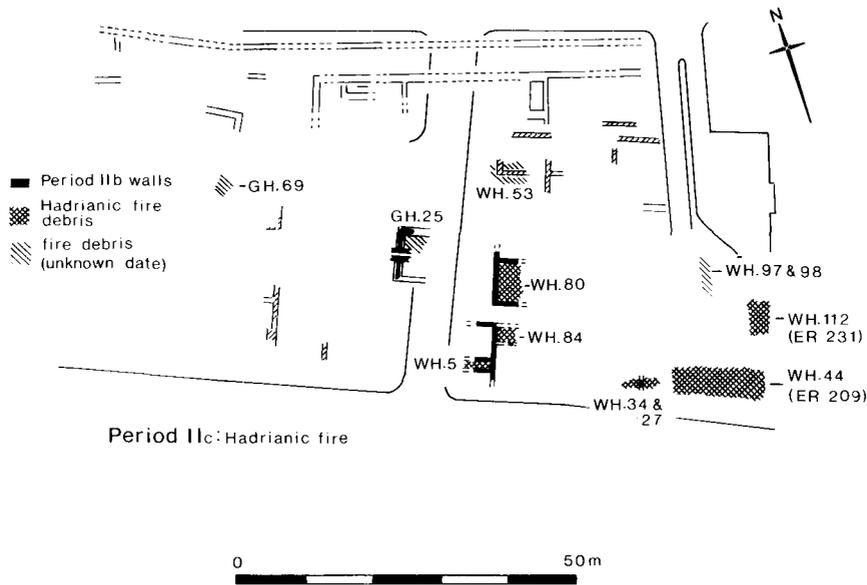


Fig. 9 Gateway House and Watling House, Watling Street, 1954; Sketch plan (after Noël Hume) of Building 4 (Period IIb).

Layer. Watling House—Area F, Building 3, Room 2, Context 80; Fig. 10.

c. 0.30m thick layer of burnt wall plaster, daub and tile in yellow-brown clay sealed by an area of plain mosaic floor (WH, Context 79).

Layer. Watling House—Area G, Contexts 97 and 98; Fig. 10.

Yellow clay and ash overlying a layer of burnt wood and soil. These cannot be directly related to any Period II structure. Their proximity to the other burnt deposits, described above, in the south-east corner of Watling House and at nearby Watling Court suggests that they too are of Hadrianic date. These include a layer of burnt building debris (WH, Area F, Context 112, ER.231)³⁸ which overlay a deposit of burnt clay and wall plaster in the eastern retaining-wall trench of Watling House (Area F). These could not be precisely located on plan. The presence of a mortar floor *in situ* nearby suggests the existence here of another building not seen in detail by the archaeological investigator³⁹.

At Gateway House, the burnt surface of the clay floor in Building 4 (GH, Area E, Context 25) cannot be satisfactorily related to this event. Elsewhere on this site other references to fire deposits are sparse and cannot be satisfactorily related to any known sequence. Just two are worthy of note:

Layer. Gateway House—Area D, Context 69; Fig. 10.

A layer c. 0.10m in thickness comprising burnt debris with tiles was sealed between two floors of opus signinum (GH, Contexts 68 and 70). These floors cannot be related to any nearby walls.

Layer. Gateway House—Area A (extreme west end). Context 80.

This layer of burnt wood 'etc' lay on top of a mortar floor (GH, Context 81) and is sealed by the gravel surface (GH, Context 79) referred to above. There were no walls in the vicinity to associate with this floor or destruction level.

Naturally it would be unwise to assign every fire deposit on these two sites to a single event. However, that the Period IIb buildings met the same fate as their apparently contemporary structures of Period IV at Watling Court leads to the obvious and acceptable interpretation that they were destroyed by the same fire of Hadrianic date⁴⁰. To these deposits associated with Period IIb structures can be added that 6.0m spread in the south-east corner of Watling House (WH, Area F,

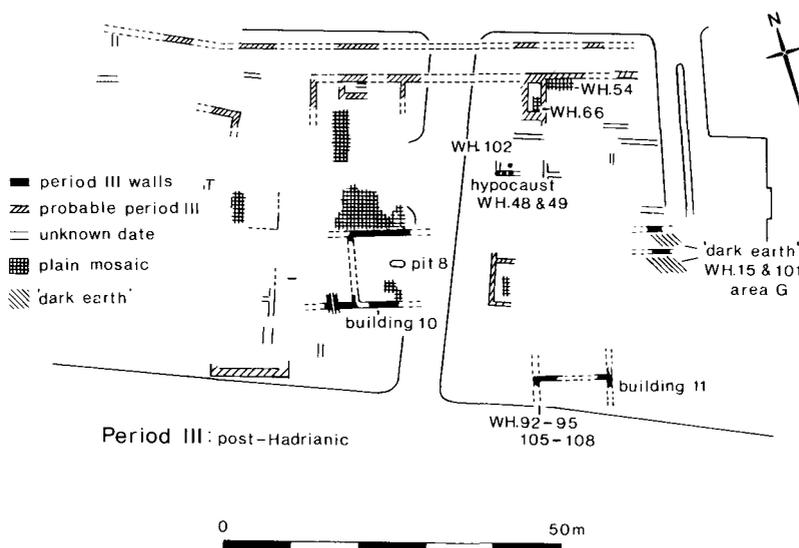


Fig. 11 Gateway House and Watling House, Watling Street, 1954; period III features.

Context 44, ER.209) which Ivor Noël Hume dated, on pottery evidence, as being 'a relic of the Hadrianic fire'⁴¹.

PERIOD III: POST-HADRIANIC (Fig. 11)

The next major activity which can be interpreted was the construction of a series of structures, apparently with large rooms, across both sites. It is possible that they were all originally part of a single building, but in the absence of any firm evidence to support this, groups of walls and their associated floors are described and discussed below as if they represented individual buildings.

Building 10. Gateway House—Area E, Fig. 12.

This is the best recorded building which can be assigned to Period III. Its relatively late date is confirmed by its relationship with other features (Pit 5 and Building 4 were sealed by its walls and floors; Pit 8, of 4th century date, cut through its floors). Two parallel walls⁴², each 0.60m wide, were well constructed with mortared ragstone with at least one single tile bonding course. Each stood on a foundation *c.* 0.75m in width and the height of the surviving remains above this exceeded 1.00m⁴³.

These two walls were orientated east-west with a connecting north-south wall, only 0.45m wide, between them forming at least two rooms. It should be noted that this wall was not recorded along its total length and, furthermore, very little on its west side could be recorded (Fig. 12). Also the area to the south of the southernmost of the two east-west walls could not be examined. However, a third 'room' can be postulated to the north for which a large expanse of its floor survived.

Room 1 was *c.* 9.6m north to south and at least 4.10m wide. Neither a western wall or any floors were recorded. Passing through the south wall was a drain orientated north to south for which there is no indication of its pitch. The drain itself was well built with a tile base and 0.40m wide ragstone walls which had been rendered with plaster (GH, Area E, Context 39–41). Whether it was an original feature of this building or a later addition cannot be discerned.

To the east of this room, and separated from it by the north-south wall, was Room 2. This large room measured 9.60m also north-south but at least 7.70m wide. The floors of this room were probably the mortar floors which overlaid Building 4 (Period IIb). (GH, Contexts 17 and 18; Fig. 8, Floors 3 and 4). In the south of the room, however, with a green and white chequered pattern mosaic floor was found (GH, Context 12) suggesting that internal partition walls, in timber or clay, might have divided the mortar floors from this mosaic.

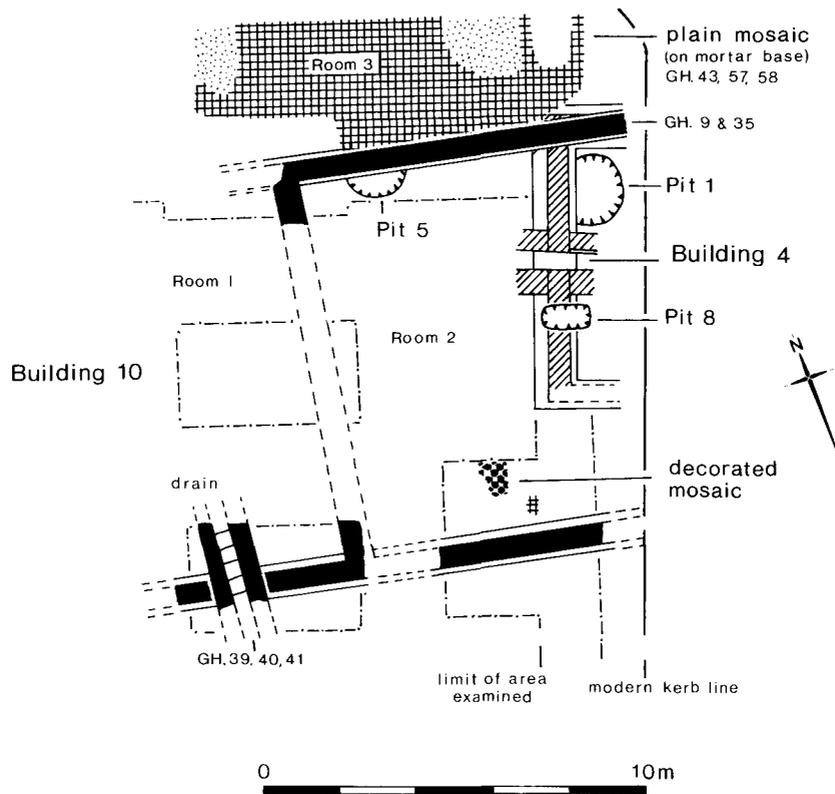


Fig. 12 Gateway House and Watling House, Watling Street, 1954; Detail of Building 10 (Period III). For key see Fig. 3.

To the north of these two rooms, the area up to the complexity of walls in the northern part of Gateway House (Area B) would appear to have been covered by one large expanse of plain red mosaic pavement set on a mortar base (GH, Contexts 43, 57, and 58). It is possible that this area was also sub-divided into smaller units by partition walls.

Buildings 5 to 9 inclusive and 12. Gateway House and Watling House. Areas A, B, C and D; Fig. 3.

Just as these areas might contain features which can be assigned to Period IIb (see above) so they are likely also to contain Period III structures. Again, however, the picture is confused but it is more probable that the available plan represents the buildings of a late period. Two specific features might indicate this. Firstly two small areas of plain red mosaic floor were recorded, one within a small rectangular room, 2.15m by 4.30m (WH, Area C, Context 66) and the other against the northernmost

wall of the same complex (WH, Context 54, Fig. 11). The other feature was a small expanse of hypocaust which overlaid mortared ragstone walls of an earlier structure (WH, Context 102). The hypocaust was constructed of tile *pilae* on a mortar base (WH, Contexts 48 and 49; Fig. 11) which may have been an earlier floor.

Building 11. Watling House—Area F, Fig. 11.

This structure, in the southern retaining-wall trench of the Watling House site, was on an orientation different from that of Buildings 2 and 3 in its immediate vicinity but similar to that of Building 10 and the east-west alignment of the long walls in the northern areas of the sites. It had three successive mortar floors within a corner formed by two walls (WH, Area F, Contexts 92–95, 105–108).

The demise of these Period III buildings is difficult to interpret. No evidence for their

destruction or demolition was recorded though this does not, of course, exclude such activity.

Three specific points should be noted. Firstly, the floor of Room 2, Building 10, was cut by a 'Fourth century pit' (GH, Area E, Pit 8, Contexts 14 and 15; Fig. 12)⁴⁴. This suggests that this room had gone out of use by that date.

Secondly, on the east side of the Watling House site, the presence of 'dark earth' was indicated in two sections in the eastern retaining wall trench. In one section the 'dark earth', described as 'black filling' by the excavator, was 0.65m in thickness (WH, Area G, Context 15). This overlay two layers which sealed a wall foundation (WH, Context 21) post-dating the late 1st or early 2nd century (see Period II, Pit 6). Whether this layer also covered the wall itself is not certain. To the north-east from this, at a distance of c. 1.20m, the other layer (WH, Area G, Context 101) which was also described as 'black filling' rested directly on a mortar floor of unknown date (WH, Area G, Context 104) and was sealed by 'clay and medieval debris'⁴⁵. Whether these deposits accumulated during or after the life of the building in this area cannot be decided.

Finally, it should be noted that medieval walls took advantage of two lengths of these Period III walls as foundations. These occurred at the east end of the southern wall of Building 10 (Room 2), where a north-south orientated medieval wall butted against it on its north side⁴⁶, and at Building 11 where the entire east-west length was employed as a foundation by a medieval chalk block wall⁴⁷. Although this might suggest that the Period III buildings survived in part as visible ruins long after the Roman period had come to an end, it is more likely that their reuse was entirely fortuitous—the walls being 'discovered' during the digging of medieval foundations.

CONCLUSION

Although the records for these two sites are, in many respects, unspecific and confused—through no fault of the exca-

vator—this examination of the two sites has shown that three main periods of occupation can be reconstructed for the Roman period.

The earliest human activity which can be identified was represented by the cutting and infilling of pits during the Neronian–early Flavian period. Unfortunately no associated buildings were recorded but it should be stressed that at Watling Court, the Period II buildings there, contemporary with Period I at Gateway House and Watling House, were slightly founded with timber frames infilled with clay, daub or mudbrick. The walls of these buildings 'could only be determined from the extent of the floor surfaces'⁴⁸. This would explain the absence of Period I buildings at Watling House and Gateway House.

The construction of more substantial buildings (Period II) exactly comparable to Structure 4 at Watling Court and a building at St. Mildred's, Bread St. indicates a more intensive use of the sites, especially in the eastern part of Gateway House and on all of the Watling House site. This merely reflects what was happening at Watling Court. The similarities in construction techniques, plan, use of access routes between structures⁴⁹ and the eventual destruction by fire of these buildings indicates that the Watling Court development may not have been an isolated unit but one of at least two similar plots facing southwards towards the Thames. The different alignment of the Watling House buildings (Buildings 2 and 3) is probably due to natural topography. There is no evidence here to suggest an east-west thoroughfare south of these sites.

At a later date, following the destruction of the Period II buildings by a major fire which occurred during the Hadrianic period, substantial buildings were constructed which had no regard for the

Period II alignments in the southern areas of both sites. Rather, the east-west wall alignment to the north was retained and was followed by all Period III buildings.

The nature of these buildings, which can only be dated to between the Hadrianic period and the 4th century, is not too clear. It is possible that the 'buildings' discussed above (eg 10 and 11) are in fact part of one large premises on the scale of that recorded at Lime St. in 1952⁵⁰ with long corridors, large possibly partitioned rooms with plain red and decorated mosaic floors and private hypocausted suites. It is also a possibility, however, that they represent a number of individual properties.

The possible existence of a Roman street beneath modern Watling Street has been considered, together with the alignment of the Roman walls in the northern areas (see Period IIb).

The coincidence of the wall alignments with the Roman street section at St. Paul's Choir School, and the earlier sighting of a roadway built with a chalk foundation and flint surface at a depth of c. 6.10m *somewhere* in Watling Street would make the presence of a road here a strong possibility (Fig. 13).

APPENDIX (Fig. 14)

Pit 3, ER.181 (Watling House, Watling Street, 1954, Area C). *Glass working waste.*



Fig. 13 Gateway House and Watling House, Watling Street, 1954; Location of other Roman features in the immediate area.

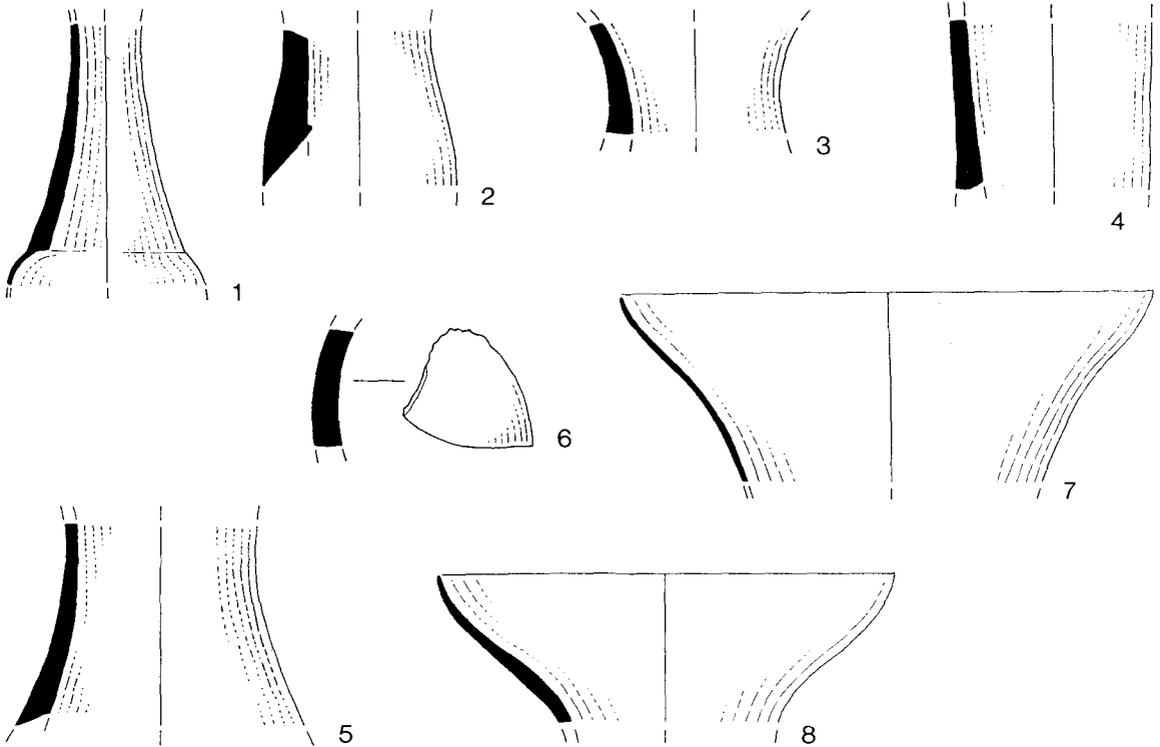


Fig. 14 Gateway House and Watling House, Watling Street, 1954; Pit 3. ER.181. Glass working waste.

In addition to a small group of pottery datable to the Neronian/early Flavian period, this pit contained one hundred and twelve fragments of glass. Ninety-six are vessel glass fragments, two are window glass fragments and the remaining fourteen are waste fragments from the manufacture of glass vessels and include positive evidence for glass-blowing.

The ninety-six vessel fragments include only fifteen which can be identified with certainty as coming from particular forms—six from mould-blown square-sectioned bottles⁵¹ and nine from the free-blown cylindrical variety. It is perhaps surprising that from so many fragments so few could be identified. Not a single rim or base fragment which could give assistance was present. The reason for this strange bias is unknown. The group, however, is peculiar for two other reasons not connected, presumably, with the absence of identifiable fragments. Not only is every fragment of a similar colour, namely naturally-coloured greenish-blue, but among these ninety-six fragments no two join

together. The implication, therefore, is that they do not represent the remains of a group of vessels discarded into the pit but the residue of a larger group of broken vessels. It would seem likely, therefore, that, along with the moils and trimmings, these fragments represent cullet—the fragments of broken vessels collected from any possible source to be re-cycled.

The fourteen waste fragments are, unlike the 'cullet', pieces which have been discarded during the course of a vessel's manufacture—but still with an intent to recycle them. The fragments are of three sorts. Moils—the waste fragment of glass from the end of the blowing-iron which, once the vessel being made has been removed from the end of the iron for the fashioning of the rim, is knocked-off the iron. It is possible that such pieces, while still on the blowing-iron, could be used as the pontilwad attached to the base of a vessel while it is being removed from another iron for subsequent treatment. Six examples of moils can be identified, one virtually complete.

Because once removed from the blowing-iron, the rim of a vessel could be fashioned in many different ways (eg folded in to form jars or splayed out to make bowls or plates) the shape of the moiil gives very little indication of the form of the vessel being produced. However, this almost complete example (Fig. 14, No. 1) is so narrow that it is certain that the vessel taken off of the end was equally narrow-necked and was probably an unguentarium. In addition to the blowing-iron ends of moiils, there are two fragments from larger examples⁵⁵ from immediately above the cut-off rim of a vessel (Fig. 14, No. 7–8). Such fragments have the appearance of knocked-off, rough rims but such rim types are not common during the first century and in an assemblage where no other rims occur at all, their presence would be even more extraordinary. These lip ends of moiils do allow a better interpretation of the form being produced. Their thin walls and their very forms suggest beakers, bowls or cups.

The remaining fragments are simple droplets and trimmings from the process of manufacture. The identification of the latter is still problematical since trimmings—pieces cut from the rims of vessels to level up the lips—can easily be interpreted as fragments simply distorted by fire and vice-versa.

In addition to these, a quantity of heavily burnt clay, two fragments bearing traces of glass runlets and droppings was recovered. This material probably represents furnace fragments. Whether they come from the glass furnace itself or from a structure near to it can not be ascertained. Nowhere on the Watling House site was a structure recorded which could be a glass-furnace. This is not really surprising because a furnace would leave very little evidence. Although no Roman glass furnace has been found intact, they were probably small multi-tiered structures, fire-box below, main chamber for the melting of glass immediately above and, nearby or attached, an annealing oven to allow the completed vessel to cool under a controlled temperature and so not suffer stress on cooling. From such structures, therefore, only the fire-box might survive.

Waste is also a rarity in a glasshouse—all available waste or discarded fragments or vessels being returned to the crucible at a later stage.

These fragments, therefore, indicate glass-blowing probably in the vicinity of the pit in which they were found. The date of the associated pottery and the location of the deposit, sealed beneath probable make-up for Flavian buildings, would make this group the earliest evidence for glass-blowing in London⁵³. Whether glass-making—the preparing

of glass metal from the raw materials—was conducted here cannot be ascertained from the available evidence⁵⁴.

ACKNOWLEDGEMENTS

I would like to thank my colleagues in the Museum of London who through their advice and knowledge contributed much to this study: P. Allen, D. Bentley, G. Dunn, F. Grew, J. Hall, A. Jenner, C. Jones, R. Lea, P. MacConnoran, J. Schofield, A. Shepherd and P. Tyers. Tracy Wellman gave much useful advice on the preparation of drawings, Patrick Allen's knowledge and assistance is gratefully acknowledged.

Mr Ivor Noël Hume's records acknowledge the assistance given by Messrs Trollope and Colls, the contractors for both sites. I would like to offer my thanks to one of their present employees, Mr D. Powell, who kindly allowed me access to their archives and helped much in sorting out basement levels and modern building orientation problems.

Finally, I would like to thank T. Dyson, P. Marsden and D. Perring who each read earlier drafts of this paper and have offered much useful advice. I fear I must still remain responsible for any errors or opinions stated therein.

NOTES

1. Only the Roman features recorded on Gateway House and Watling House are discussed in this report. The information regarding medieval and post-medieval archaeological features on these two sites and also on the site of the church of St. John the Evangelist, Watling Street, exist in archive form only and can be examined in the Department of Urban Archaeology, Museum of London.
2. Pre-development basement levels vary considerably across this site (see note 3) and relate to individual properties. Depth of archaeological features are often given in the original record as measurements 'below basement' or 'BB'. Often some confusion can arise when a feature passes from one property to another, from one basement to another. Reference is made when any possible discrepancy occurs—where an Ordnance Datum is given without comment then no confusion exists.
3. The potential for future archaeological work at Watling House is very poor. The entire area within the retaining wall was lowered to an overall 8.60m (28.25ft) OD from basement levels of 12.30m (40.42ft) OD to 12.79m (42.00ft) OD in the southern part of the site, from 13.24m (43.50ft) OD in the centre and from 13.47m (44.25ft) OD to 14.01m (46.00ft) OD in the north. (Information obtained from the archives of Messrs Trollope and Colls Ltd. Ref: Watling House Plan 10901/1C).
4. At Gateway House, basement levels of the properties prior to development are available, but since many depths of archaeological features are given in the original record as 'below working level' or 'BWL' as well as 'below basement' or 'BB', the former data cannot be computed with accuracy. The excavator differentiated between 'BWL's' and 'BB's' but, sadly, gave no indication of working level depths below respective basement levels.

Little potential exists for future archaeological work on the site, especially in the western carved 'arm' of the building where basement levels are at 10.15m (33.34ft) OD. On the eastern section of the building, basement levels were lowered to 12.30m (40.42ft) OD—allowing some opportunity for future examination, whenever possible, of the southern part of this section (GH, Areas D & E), already much disturbed by modern foundation trenches. The northern area (GH, Area B) must be severely truncated. (Levels obtained from the archive of Messrs Trollope and Colls Ltd. Ref: Gateway House, Plans 740/22A and 3173.

5. Noël Hume I., 'Into the Jaws of Death Walked One' in Bird J., Chapman H. and Clarke J. (eds), *Collectanea Londiniensia: Papers presented to Ralph Merrifield*. London Middlesex Archaeol. Soc. Special Paper 2 (1978) 7–23.

6. These records, including an archival account of the Roman features, are located in the Department of Urban Archaeology, Museum of London.
The archive also includes details of the finds from both sites. Sadly their content and the very nature of their retrieval cannot justify their full publication here. All the dates for individual groups referred to in the text are pottery spot-dates (DUA Finds Department). Where the finds are missing, which is often the case, Noël Hume's dating is used.
7. The method adopted to analyse these records is essentially that employed by Mr A. Wilmot (See 'Queen Street 1953–60'. Department of Urban Archaeology Level III Archive Report: Introduction). By these means the Excavation Register (ER), entries have been broken down into a more manageable system based upon the 'context'—thus making subsequent records more compatible with the existing Department of Urban Archaeology archive.
8. All information relating to the geology at the site at Watling Court can be found in WAT 78, Department of Urban Archaeology Archive Report.
9. Messrs Trollope and Colls Ltd. Archive. Ref: Gateway House, Plans 740/13B, insets C, D and E and 740/15A, insets K, L, M, N and P.
10. This level is suspiciously high. Even an alternative nearby basement level of 13.79m (45.25ft) OD gives a level of the base of this pit as c. 11.00m OD.
11. Excavation Register notebook II, p. 18. Department of Urban Archaeology Archive.
12. Perring D., 'Excavations at Watling Court. Part 1: Roman'. *The London Archaeologist*, 4, No. 4 (1981), 103–108. Also WAT 78 Department of Urban Archaeology Archive Report and *pers. comm.* D. Perring.
13. Excavation Register notebook II, pp. 14–15. Department of Urban Archaeology Archive.
14. Perring (*op. cit.* in Note 12), p. 106.
15. Marsden, P., Dyson T. and Rhodes M., 'Excavations on the site of St. Mildred's Church, Bread Street, London, 1972–4'. *Trans. London Middlesex Archaeol. Soc.* 26 (1975), 171–208.
16. Even though a depth below basement and the thickness of this layer were recorded, an approximate level for the top of the latter, even acknowledging potential thicknesses of sealed deposits, is again suspiciously high (see Note 10). An error on the contractor's basement plans is assumed (the archive copy already has a 1954 alteration).
17. In the south-west corner of Watling Court, natural subsoil was observed at an average of 9.8m OD. Most other levels were between 10.10m and 10.20m OD (WAT 78, Department of Urban Archaeology Archive report. Natural Topography).
18. Marsden, Dyson and Rhodes (*op. cit.* in Note 15), p. 175.
19. WAT 78, Department of Urban Archaeology Archive Report.
20. Merrifield R., *The Roman City of London* (London, 1965), p. 213–3, No. 80.
21. WAT 78, Department of Urban Archaeology Archive Report.
22. One layer, context 37, contained ER.204. The excavator suggests a Claudian date for this group (Excavation Register notebook II, 35) and, therefore, a destruction date at this level of AD 60. Recent analysis, however, indicates that the date of this small group could be as late as the early 2nd century AD (DUA Finds Section).
23. This does not exclude the existence of earlier occupation.
24. MOL. Aoc. No. 18845. It is not known if this object was fragmentary or complete. It is no longer available for study.
25. Material not available for study.
26. *Pers. comm.* D. Perring.
27. Information recorded on contractor's basement plan.
28. See Note 27.
29. Merrifield (*op. cit.* in Note 20) p. 126.
30. The modern Watling Street in the City has no connection at all with the great Roman highway of that name.
31. c. 1833 observation of a road surface c. 6m below modern Watling Street might indicate this road. However, the evidence is vague.
32. Merrifield (*op. cit.* in Note 20), p. 209, No. 68.
33. This gravel surface is only c. 0.10m in thickness and is said to have contained 'one fourth century sherd' (from note on contractor's basement plan).
34. The difference in the alignment of these walls was noted by Merrifield (*op. cit.* in Note 20), p. 209, No. 69.
35. Marsden P., 'Archaeological Finds in the City of London', *Trans. London Middlesex Archaeol. Soc.* 22, pt 1 (1968), pp. 2–3, Fig. 2.
36. Excavation Register notebook II, p. 42.
37. ER.209 (see Note 36) not available for study.
38. The Excavation Register group comprises an undatable fragment of ironwork.
39. The fact that at Watling House all the detailed observations were in the southern part of the site is probably more a reflection of the nature, of the record for that area compared to that for the area comprising the complex of walls in the north.
40. Perring (*op. cit.* Note 12), p. 105 and 108. This evidence for a fire of probable Hadrianic date on the Watling House site was not noted by Merrifield (*op. cit.* Note 20) in his gazetteer. The use of this by later researchers lead them to believe that 'earlier observations of the same buildings to the west (of Watling Court, ie Watling House) make no mention of the fire, either because it was undetected or had been removed by later intrusions'. (Roskams S. and Watson L., 'The Hadrianic fire of London—a reassessment of the evidence'. *The London Archaeologist*, 4, No. 3 (1981) 62–66). This current study has shown the necessity to refer, wherever possible, to original excavation records.
41. See Note 36.
42. See Note 27.
43. All levels on the contractor's plan are 'Below working level' and so are of little use. The approximate height of surviving wall is taken from photographs (Excavation Register notebook II, Ser II, 53, 61a and b).
44. Excavation Register notebook I, p. 8.
45. Recorded on contractor's plan.
46. Excavation Register notebook II, p. 48, Ser II, 61.
47. Excavation Register notebook II, Photographs ser II, 58–60.
48. See Note 12.
49. Another alleyway running north-south might have existed on the Gateway House site (Area D), the three lengths of walls in this area being the western side of it. However, these walls cannot be dated as much of this area was unexcavated. Likewise, the possibility that other features existed is high.
50. Lime Street (Lloyds site). See Marsden P., *Roman London* (London 1980), 151.
51. Isings C., *Roman Glass from Dated Finds* (Groningen, 1957), 63–9, forms 50 and 51.
52. Larger examples were found in Merida, Spain. Price J., 'Some Roman Glass from Spain', *Annales du be Congres de L'Association Internationale pour l'Histoire du Verre*, Cologne, 1973, (Liege 1974), 80–83.
53. Other sites with similar evidence for glass-blowing in London (ie moils) are at 2–3, Cross Keys Court (OPT 81); Inmost Ward, Tower of London (1955) and Moorgate Street (MOG 86 and MGT 87).
54. None of the London sites showed evidence of glass manufacture from raw materials. Only Watling House had firm evidence for cullet. At OPT 81 and Inmost Ward, Tower of London 1955, was found evidence for pot-metal—ie pre-prepared glass ingot or crucible form—which can, if need be, be transported over great distances before being remelted and fashioned.

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A ROMAN INTAGLIO FROM LONDON

MARTIN HENIG and CHRISTINE JONES

One of the smaller items recovered from the commercial spoil tips following the archaeological excavation at Billingsgate Lorry Park¹ is a red jasper intaglio brought into the Museum of London for recording.



Fig. 1 Roman intaglio from London.

The oval stone measures 11mm × 9mm and is flat on both surfaces (Henig type 1). The device is Mercury standing to the front, facing right². He holds his caduceus (upper part removed by chip) in the crook of his right arm. His money bag is suspended from his outstretched left hand. A short cloak (*chlamys*), is draped around his right arm.

The type, based on a Greek sculptural prototype, is a very common one³, but it is nevertheless satisfying to have at last a gem from Roman London, depicting this deity, for Mercury was pre-eminently a god of trade and commerce, to which London was devoted in Roman times as now⁴.

The use of red jasper for the intaglio and the attractive patterning employed in the rendering of Mercury's hair and the musculature of his body, suggest that the object should be dated to the middle of the second century AD when London was still at its apogee. The intaglio remains in private ownership⁵.

NOTES

1. For details of other Roman artefacts recovered from the Thames waterfront at Billingsgate Lorry Park, see Jones 1984; Henig and Chapman 1985.
2. Description is of actual gem.
3. *cf.* Henig 1978, Nos 38–47, App 32, App 95.
4. A variant of the type is represented by a small bronze in the BM from the Thames at London Bridge see Merrifield 1969, 172–3, Fig. 49b.
5. Since writing this article, the intaglio has been acquired by the Museum of London, accession no. 87.128. The authors wish to thank Sue Goddard for the illustration.

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The Society is grateful to the Museum of London for a grant towards the cost of publication of this article.

FROM THE TEMPLARS TO THE TENEMENT: A MEDIEVAL AND POST- MEDIEVAL SITE AT 18 SHORE ROAD, E9

LYN BLACKMORE AND IRENE SCHWAB

SUMMARY

The excavation revealed three walls of an early 14th-century building, the north end of which was constructed over a stream or ditch and contained a drain; this channel was backfilled in the mid 14th century following modifications to the structure, which was probably demolished in the late 16th century. Two phases of ditch were later cut across the levelled site. The documentary evidence suggests that in the 14th–15th centuries the building formed a part of Grovehouse, the Hackney estate of the Shoreditch family. In 1517 this passed to the Savoy hospital, and in 1553 to St. Thomas' Hospital. The history of the site and tenants of Shoreditch Place from 1572–c.1800 are also discussed.

INTRODUCTION

In August 1978 the Inner London Archaeological Unit (now part of the Museum of London, Department of Greater London Archaeology) was contacted by the owner of 18 Shore Road, E9 (TQ351840) about a wall he had uncovered whilst digging a fish-pond in his back garden. On investigation the wall appeared to be of medieval date, and because the site lies near that of the 16th-century house of Shoreditch Place (Figs 1–3), it was decided to mount a small excavation in order to establish the nature of the building associated with the wall (site code SHR78). This took place between August and October 1978 under the direction of Irene Schwab. An area of c.38.17 sq.m was excavated in two adjacent trenches (Areas 1 and 2), within which three sides of a medieval stone building were exposed (Fig. 4). It was not possible to extend the excavation further to the south because of trees within the garden and the factory next door. The site archive and finds will be housed in the Museum of London.

THE DOCUMENTARY EVIDENCE by LYN BLACKMORE

Little has been written about the history of Shoreditch Place, and there has been much confusion between the sites and names of Shoreditch Place, Shore Place, Jane Shore's (supposed) house, and Shore House, and the roads Shore Place and Shore Road. The name Shore Road derives not from Jane Shore (mistress of Edward IV), but from the mansion of Shoreditch Place. The property is not referred to by this name until c.1553, but until the late 15th century it was probably held by the Shoreditch family, who had extensive lands in Hackney. The family name is variously quoted as Sordig, Sordich, Soresditch, Shoredych, and Shorediche (Ellis 1798, 87–94). The place-name of Shoreditch is thought to derive from the Anglo-Saxon 'Sordig', possibly a ditch dug by 'Sceofr' or 'Scorre' to drain the local marshes, but Mare Street, near Shore Road, probably owes its name to a boundary between two parishes rather than to stagnant water (Gover *et al* 1942, 107). In the following,

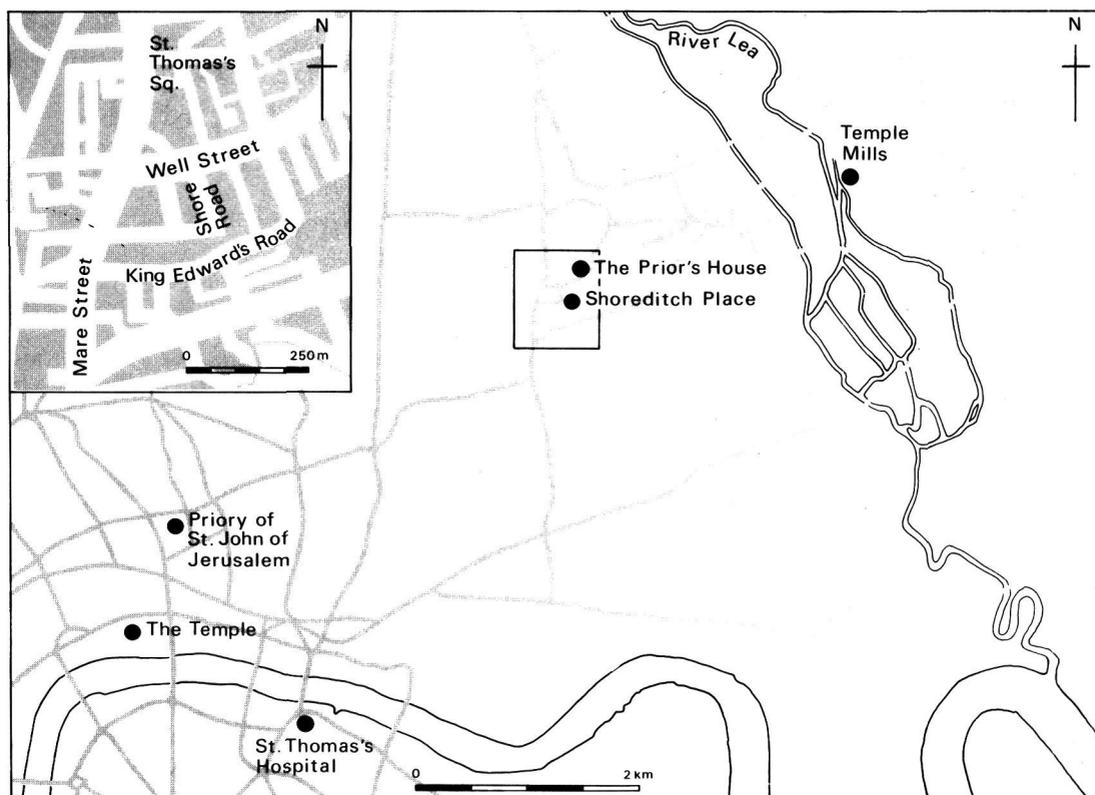


Fig. 1. Shore Road. The location of places mentioned in the text. Inset, the location of the site in Hackney.

references commencing H1/ST or L/ are all in the Greater London Record Office; those commencing HAD are in Hackney Archives Department. The original spelling of the family name and place names has been retained.

The site of Shoreditch Place lies in the manor and parish of Hackney, Ossulstone Hundred. In the 12th–13th centuries this was held by the Knights Templar, whose order was founded in England in the early 12th century (Chew 1969, 194). The estate included six acres which Alice de la Grave relinquished in 1230–31 to Brother Robert of Saunford, Master of the Knights of the Temple, for half a silver mark (Cotton MSS Nero E vi Fol.63). Following the suppression of the Knights Templar in London (1308–12), the estate passed to the Knights Hospitallers, or Knights of St John of Jerusalem, although in the 1331 Inquisition of

their Hackney property only the water-mills at Temple Mills are identifiable (Cotton MSS Nero E vi Fol.64a, b; Lysons 1811, Vol. 2, pt.3 297). The Templars' House, which stood near Hackney Church, has no known connection with that order (Robinson 1842, 77–81; contra Clarke 1894, 113, 182), but the building in Well Street known variously as the 'Priory', Pilgrim's House or St. John's Palace, may as Clarke (1894, 113; 182–3) suggests, have belonged to the Knights Hospitallers. On scant evidence, some writers have taken the Prior's Mansion to be the property referred to in 1350 as 'Beaulieu', and/or Beaulieu to be the site of Shoreditch Place (Stow 1633, 474; Strype 1720, Bk.4, 53; Appendix, 123; Clarke 1893, 11, 25; Robinson 1842, 83), although neither the archives of St. John's Clerkenwell, nor the many deeds relating to the estate of the Shoreditch family (H1/ST/E65; E67, dating to 1324–1478; HAD M283, dating to 1332–1517), contain any other reference to Beaulieu; the latter, moreover, apparently make

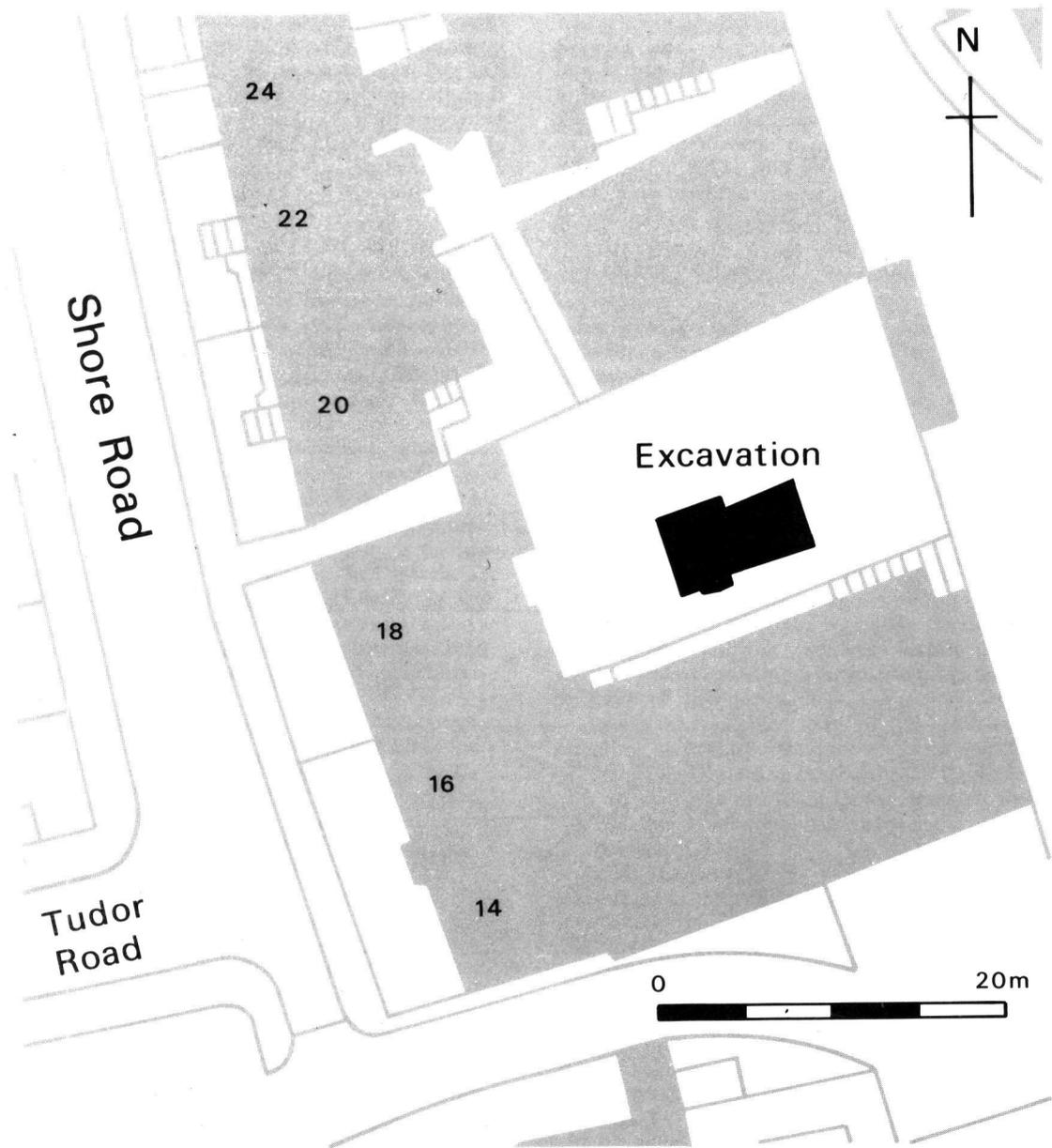


Fig. 2. Shore Road: The location of the site in Shore Road.

no reference to the Knights after 1353. This more detailed examination of the documentary evidence does, however, support a close connection between the Knights, the Shoreditch family, the messuage De La Grave, which a deed of 1324 shows was

near, and to the west of, Well Street (L/11/1/5), Grovehouse and the later property known as Shoreditch Place.

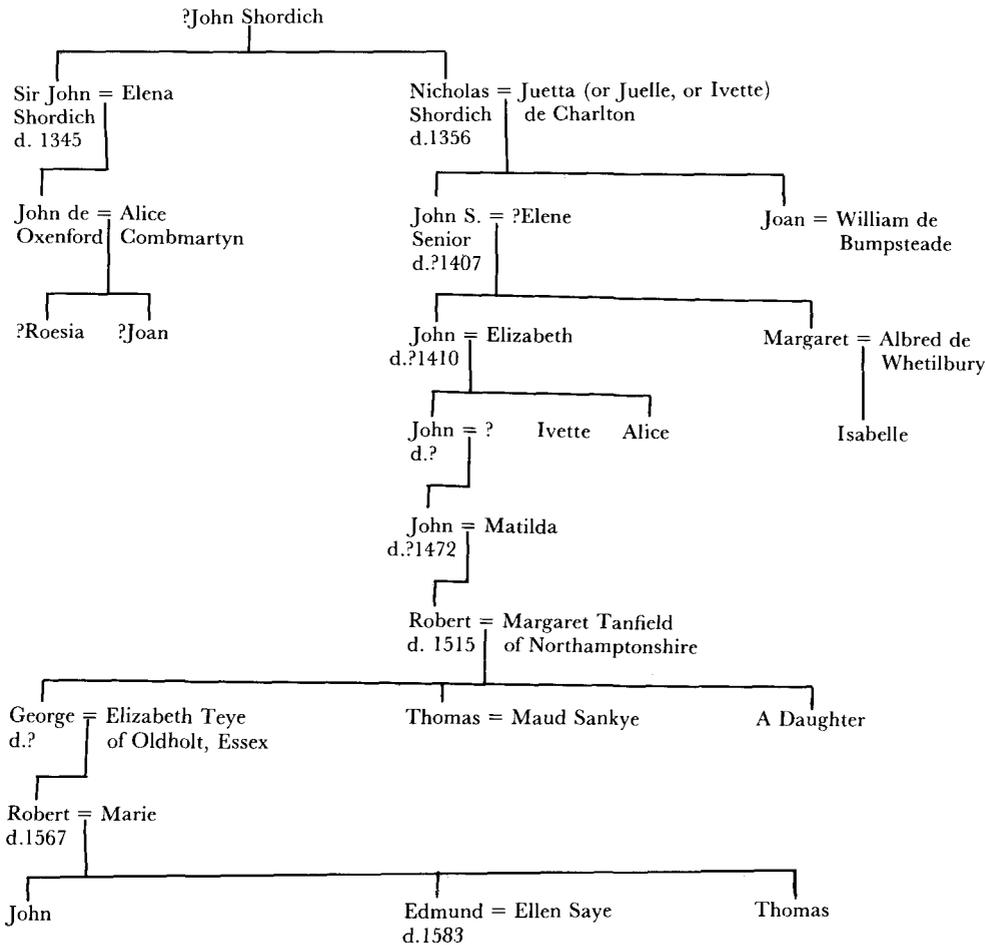
Sir John Shoreditch is thought to have been educated at Queen's College, Cambridge, since his

name occurs amongst its early benefactors. He was chief clerk of the common bench under Edward II, and served as ambassador to Edward II and Edward III. He was knighted in 1333–34, and in 1336 was appointed second Baron of the Exchequer (Ellis 1798, 87–94). Due to inconsistencies between the family tree given by Ellis (1798, 93) and the documentary sources, an alternative version of the line of descent to c.1600 (as far as it is known) is given in Table 1.

During the 1320s and 1330s Sir John and his wife

Elena acquired various plots of land in Hackney, including, in 1324, the messuage De La Grave. The following account, although patchy, shows that the property changed hands many times between c.1320–50. The first reference is a quit-claim of 1319 (L11/1/8), when John de Bodele relinquished the capital messuage De La Grave to John de Borewell and Matilda his wife; part of the estate was held by John, the younger son of John De La Grave. In 1320, however, following the death of John de Borewell, John de Bodeleye

Table 1. The Shoreditch family tree, based on Ellis (1798) and documentary evidence.



NB. In Ellis George (1798) is single and sans issue; this does not agree with documentary sources which indicate that he was the father of Robert.

granted the capital messuage De La Grave to William le Taillour and his wife Margaret (L11/1/7), keeping a messuage for the widowed Matilda. On June 10th 1324 (Trinity Sunday) Matilda and her new husband Richard de Norton granted the messuage De La Grave to John de Shordich and his wife Elene (L11/1/13), who then encoffed it to Thomas de Haselsschawe, Canon of Wells Cathedral, together with all the fruits and crops (L11/1/22). On July 8th 1324, however, the estate was granted back to them (L/11/1/14; 26). In 1326 and 1327 respectively, William le Taillour and Margaret, and John de Bodele relinquished their claims to the messuage De La Grave, which John Shordiche and Elene had acquired from Richard de Norton and Matilda (L/11/1/26; 10). In 1338, John de Oxenford, son of Lady Elena de Shordich, relinquished the messuage called 'le Grofhous' and all its appurtenances, which had been feoffed to him by Sir John de Shordich and Elene, to his uncle, Nicholas de Shordich and his cousin John (H1/ST/E67/1/115). The relationship of John de Oxenford to Sir John is unclear, but if he is the one referred to in the Calendar for the Close Rolls for 1341 (15 Ed. III, pt.1, 171, 224, 227, 230), then he also had connections with the Knights, for in that year various grants were made to him and his family by their Prior, Philip of Thame.

Sir John was closely associated with Westminster Abbey, and on May 1st 1338, he and Elena gave to the Convent of St. Peter some houses in the City of London. In return, the abbot and convent would provide chaplains to celebrate divine service and pray daily for him and his wife, in the church of St. Peter, Westminster (Cal. Pat. Rolls 12 Ed. III, pt.2, 83-4; W.A.M. Lib Nig. Quat., ff.109b-110; Westlake 1923, 398). In the same year Sir John de Sordich, together with Elena and Nicholas his brother, granted lands in Hackney to William de Corstone (or Crostone), his chaplain (Weever 1631, 427, from Cotton MSS). This has been taken by some as the earliest reference to the house in Shore Road (Maitland 1756, Vol. 2, 1366; Ellis 1798, 90; Anon, HAD M698; Robinson 1842, 84). In 1345 Sir John was smothered by four of his servants in his house at Cholve, near Ware, Herts., and William de Bumpsteade, husband of Joan, the daughter of Nicholas Shoreditch and Juetta, was hanged for his part in the crime (Cal. Close Rolls 19 Ed. III, 626). Sir John was buried in Westminster Abbey, near the tomb of Dryden (Ellis 1798, 89), so the inscribed stone memorial to John Shoreditch in Hackney Church (Strype 1720, Appendix 123) must have been to another member of the family. In the same church was a brass memorial (Weever

1631, 537) dated 1339, to one Jone Curteys, daughter of . . . Shordiche, but she does not figure on the family tree by Ellis.

On 9th October 1345, a messuage 'de la Grave' together with all its land and appurtenances, was relinquished by Willelmus le Taillour to Nicholas Shoreditch. This was witnessed by John de Bannebur (Banbury), who held various plots of land adjacent to those of Sir John (noted in numerous deeds of 1324-1335), and Nicholas Shoreditch (H1/ST/E67/119, dated 1346). In 1331 he also witnessed the Inquisition of the Knights' property in Hackney.

Early in July 1349 Nicholas de Shordych and John Blaunch were granted by the Prior of St John of Jerusalem (Brother Philip of Thame) the lease of a capital mansion and other lands known as Beaulieu, formerly the property of John de Bannebury, for a rent of 6s 8d to be paid four times a year (Cotton MSS, Nero E.vi, Fol.63b, translated in HAD D/F/TYS 70/4 T84). The date of this grant has been wrongly quoted by Lysons, Ellis, Robinson and Clark as 1352. The property comprised a building (placea edificata), 'measuring four perches and six feet long on the north side, and five perches and nine feet wide on the east side, together with the walls surrounding it; and another place measuring five perches long, by two perches and three feet wide on the north side and one perch and six feet wide on the south side, extending up to the bank on the east, and our land (ie. belonging to the Knights) on the west, together with all that adjacent place called Beaulieu with appurtenances in Hackney which belonged to John de Bannebury'.

On August 24th 1349, Nicholas de Shordych, together with John Blanche, vintner, had to give over lands (four messuages and 24 acres which they held in Hackney, Stepney and Shoreditch) to the Prior and convent of St. Mary without Bishopsgate; John de Bannebury also had to give over 28 acres (Cal. Pat. Rolls 23 Ed. III, 362-3). Whether this included Beaulieu is not known, but in 1353 Nicholas de Shorediche was able to grant an eleven year lease (H1/ST/E67/135) to Robert de Chilewell, Canon of St. Paul's, of all his land and tenements called Le Grofhous, in Hakenay, for an annual rent of 20 marks sterling, and paying accustomed services, vis. to the Prior of St. John of Jerusalem in England 42 shillings, to Sarra de Veer 6s 3d, doing repairs. Excepted to Nicholas were the steward's hall, rooms next to the hall, the kitchen and stable. Soon after this Nicholas moved to the manor of Ickenham, Middlesex, left to him in 1348 by his father-in-law Thomas Charlton (Cal. Close Rolls 22 Ed. III, pt.2, 596), which from then

on was held by the family until c.1812. Nicholas Shoreditch died c.1356. The earliest surviving family memorial in the local church is a brass of 1584 to Edmonde Shorediche and his wife Ellen, which refers proudly to his ancestors who held the manor before him (Cameron 1979, 142–7; Fig. 3).

The estate in Hackney, however, including lands at Temple Mills (HAD M283) remained in the Shoreditch family until 1491. In 1375, John Shoredyche Senior granted all his land in Ickenham and Hackney to six persons (including Walter Cotton) in commission for his heirs (HAD M283). In 1422 Walter Cotton granted the Manor of Ickenham, lands in Southall, and Grove Hous in Hackney, to John, the grandson of John Shordych senior, and his heirs (H1/ST/E65/141). The estate passed from John to his son John, and thence to Robert, who in 1478 granted lands in Hackney to his son George and his wife Elizabeth, daughter of Margaret Teye of Oldholt, Essex (H1/ST/E67/125). In 1488, however, after numerous transactions between the Shordych and Teye families (H1/ST/E67/124; /128; /120; /131; /132), the Grovehous estate was leased/mortgaged to William Teye for nine years, the rent being a red rose for the first eight years (if asked), and 11 marks for the 9th year (H1/ST/E67/129). On 11th February 1491 Robert Shordych relinquished all claim to Grovehous to Henry and John Teye (HAD M283), and on 5th May 1491 George Shordyche sold all his lands and tenements in Middlesex to William Teye for 13s 4d (H1/ST/E67/123). The Hackney estate still included land near Temple Mills, for in 1512 the Court heard that Temple Mills Bridge, or Marsh St. Bridge in Hackney Marsh was very ruinous, and that William Teye ought to repair it, being proprietor of a pasture called Wallis, formerly belonging to George Shoreditch (Cotton MSS Nero E vi Fol.64). In 1513 the estate was conveyed by William Teye of Colchester to the executors of Henry VII; the reference to Grovehous lists one messuage, 100 acres of land, 40 acres of pasture, 3 acres of wood and 20 acres of meadow (H1/ST/E67/1/82). In 1517 the estate was given to the Savoy Hospital (founded by Henry VII c.1508).

Between 1517 and 1553 little is known of the estate. Legend has it that Jane Shore, mistress to Edward IV, lived in Shoreditch Place (or the predecessor of it) in later life (Strype 1720, 123; Lysons 1811, 300), dying in poverty in c.1527 or 1533–34 (HAD M698), but there is no proof of it, and it was not until the 17th century that her name was associated with that property.

At the Dissolution, most of the Hackney estate of the Priory of St. John of Jerusalem passed to Henry Percy, Earl of Northumberland, who

retained possession of it until his death in 1537 (Lysons 1811, 297). At this point it reverted to the Crown, and became known as the Kingshold manor, so called in order to distinguish it from the Lordshold manor. Following the death of Henry VIII in 1547 the Kingshold manor passed through various hands until it was acquired in 1698 by Francis Tyssen, who had purchased the Lordshold manor in 1697; these names are now reflected in those of the local council estates.

The Savoy estate in Hackney, however, never became a part of the Kingshold manor, but was retained by the hospital until 1553, when the hospitals of Christ's, Bridewell, and St. Thomas the Apostle were incorporated by Edward VI and granted to the City of London. The Savoy and its lands were also granted by the King to the City of London in order to provide an income for St Thomas' Hospital in Southwark, this being the least endowed of the three new Royal Hospitals. The charter of 26th June 1553, of which there is a copy in the Foundation Book of St. Thomas' Hospital refers to 'all our lordship and manor called Shoreditch Place, otherwise called Ingliroweholde, with all its rights, members, liberties and appurtenances in Hackney and elsewhere in our county of Middlesex, to the said late hospital (the Savoy) formerly belonging. . . ' (H1/ST/E14); the annual rent then was £3–5s–9d. In the Latin manuscript (*ibid*, 3) the place-name 'Inglerowehold' has been amended at a later date to read Ingliroweholde, as in the English version (*ibid*, 21, 49). Elsewhere, however, the place-names are translated as 'Shodices Place' and 'Inglerowhold' (Cal. Pat. Rolls 7 Ed.VI, Part 13, 283–4), while Parsons (1932, 145–6) quotes Ingilrow-Hold. It is here suggested that the place-name may be a corruption of 'in the holding of Grovhous'. In 1560 the only thoroughfare in the manor referred to in the minutes of the Court of Aldermen held on Nov. 4th was that of Well Street (*ibid*, 217). The history of St Thomas' Hospital has been traced by Parsons (1932, 1934, 1936), Graves (1947) and McInnes (1963).

From the Savoy estate St. Thomas' acquired much landed property, which was subsequently let to various tenants (see Table 2). A survey of the estate of Shoreditch Place was apparently made in 1560 (H1/ST/E103/1), but the first mention of the manor in the Hackney rentals is not until 1572; in later years the property is often not named, but it may be identified from its position at the head of all the entries for Hackney. Stow, writing in 1598 (Vol. 2, 76) refers to Shoreditch Place as the 'Kinges mannor' but there is no known association with the crown at this time. In 1608, when the lease for Shoreditch Place was up for renewal,

James I attempted to persuade the hospital governors to grant it to a courtier, Henry Halfheid. However, as with two previous attempts to procure other hospital properties for Halfheid, the sum offered was rejected, being too low (Cal. S. P. Dom. Vol. 31, March 18th; Vol.32, May 23rd; Parsons 1934, 11), and the lease was given to John Crosse (timber excepted).

From 1612, when the manor house was held by William Crosse, there are numerous documents referring to the property in the archives of St Thomas' (H1/ST/E103/1-10; H1/ST/E67/ various), including a terrier by Bowen dated August 1628, and entitled 'a platt of all the lands apperteyning unto Shoreditch Place, lying in ye parish of Hackney, within ye countie of Middlesex, belonging unto ye Hospitall of St. Thomas in Southwark' (H1/ST/E114/2, poor condition). These suggest that, if this was the site of either Grovehouse or 'Beaulieu', any original buildings had disappeared, or were incorporated by Crosse in

a brick-built rectangular house with five projecting bays, surmounted by battlements, the central bay housing the doorway (see Pl. 1). Behind this was a square garden divided by paths into four square beds, with orchards to the north; opposite were a pond and a small cottage (to the north and south of the present Tudor Road respectively). The total estate at this time (1628) was c.121 acres; the annual rents totalled £118.0.0 (H1/ST/E103-2; -3). The property was again surveyed in 1631 (H1/ST/E103-4).

From 1634 to 1658 the house was held by the Bayley family, and in 1647 John Bayley erected brick walls around the houses, out-houses and gardens, and carried out other necessary repairs to the mansion and outhouses (H1/ST/E57). In 1645 a cottage near the house was let to one Thomas Daynty, citizen and stationer. During the Barrett tenancy, when the house was sub-let to a Captain Boulo, the property suffered during storms in 1656, 1657. 1661, which caused brick walls, tiling, the



Plate 1. Shore Place in 1736 (artist unknown); the windows on the ground floor appear to be boarded over, suggesting that the painting was made between two tenancies (Copyright © Hackney Archives Dept).

battlements, and elm trees to be blown down (H1/ST/E103–5). In 1667–8 Barrett sold his new 21 year lease to Sir Thomas Player (Chamberlain), who in 1670 was granted permission to extract brickearth to make bricks to build a house and barn to replace 'the present decayed house standing by the bowling green part of Shoreditch Place', on condition that the holes were filled in and levelled; for this and other works Sir Thomas had his lease extended by nine years at the same rate (H1/ST/E57). Following the death of Sir Thomas in 1672 the house passed to his son, Sir Thomas and his wife Dame Joyce, who died in 1685 and 1686 respectively. All the Players were buried in Hackney churchyard. In 1687–88 the lease was taken over by Thomas Cooke, who developed the gardens to include greenhouses, a coney warren, a pond or moat, and fishponds fed by waterpipes (Hamilton 1809, 186; Thomas 1832, 199–200).

In 1696–97 the estate passed to Elizabeth Cooke, who sub-let much of it undertenants, including one John Forman, who had bought a lease granted to a Mr Baxter by Sir Thomas Player. In this year,

in response to Forman's claim to a right of renewal of his lease, the Hospital Governors made several surveys of the estate, which revealed how much Player and Cooke had improved the property at the hospital's expense. The resulting document (H1/ST/E57), which also mentions several handsome new houses built by Mr Tryon 'next our lands neere our mannor house' decided that while 'the residence of the farm being the manor house called Shoreditch Place at about 29 acres and some perches of land adjoining it are fitt to be lett in one lease for 21 years', it would benefit the hospital more to let the rest of estate as a number of separate, smaller farms. The rental for 1696–97 accordingly lists both Elizabeth Cooke and Margaret Cooke, who leased 'the manor house called Shoreditch Place in Hackney and two little houses near it and c.33 acres of land for 21 years from Lady Day'. One of these little houses is shown in an undated watercolour (Pl. 2) of Shore Place by C. Bigot (HAD WP/4465). This painting is of interest in that it shows a section of free-standing wall between the cottage and the yard with an opening, possibly



Plate 2. Cottages in Shore Place, by C. Bigot (undated), showing part of a possibly earlier wall between the building and the pond in the foreground (Copyright © Hackney Archives Dept).

part of a window, in it. This is clearly older than the cottage, and has a later outbuilding constructed against it.

Margaret Cooke, however, continued to sublet the main house, and apparently failed to maintain it. By 1715–16 Shore House, as it was known to Dudley Ryder, was sub-let to a number of lodgers (Matthews 1939, 48, 50, 116), and on 25th January 1719 the house, then occupied without lease by one Jonathon Emerton, was described by the Hospital Sub-committee as old and out of repair (H1/ST/E103–9). After Mrs Cooke's lease had expired in 1720, various sub-tenants were invited to stay on

the estate, and Emerton was granted a lease of one year from Lady Day 1720 of Shore House, gardens, barn, stables, and some land for £28. Two new pumps were to be put down by the Hospital.

In the same year, when Strype (Appendix, 123) refers to the house as Shore Place, an application was made by John Hudson and Joseph Parsons to build houses on Bowling Green House and farm and likewise on Shore House, barn and stables (H1/ST/E57). This was presumably unsuccessful, for a summary of the rental in 1724 (*ibid*) shows that Emerton was still in occupation, although the main rentals show that much of the estate was unlet

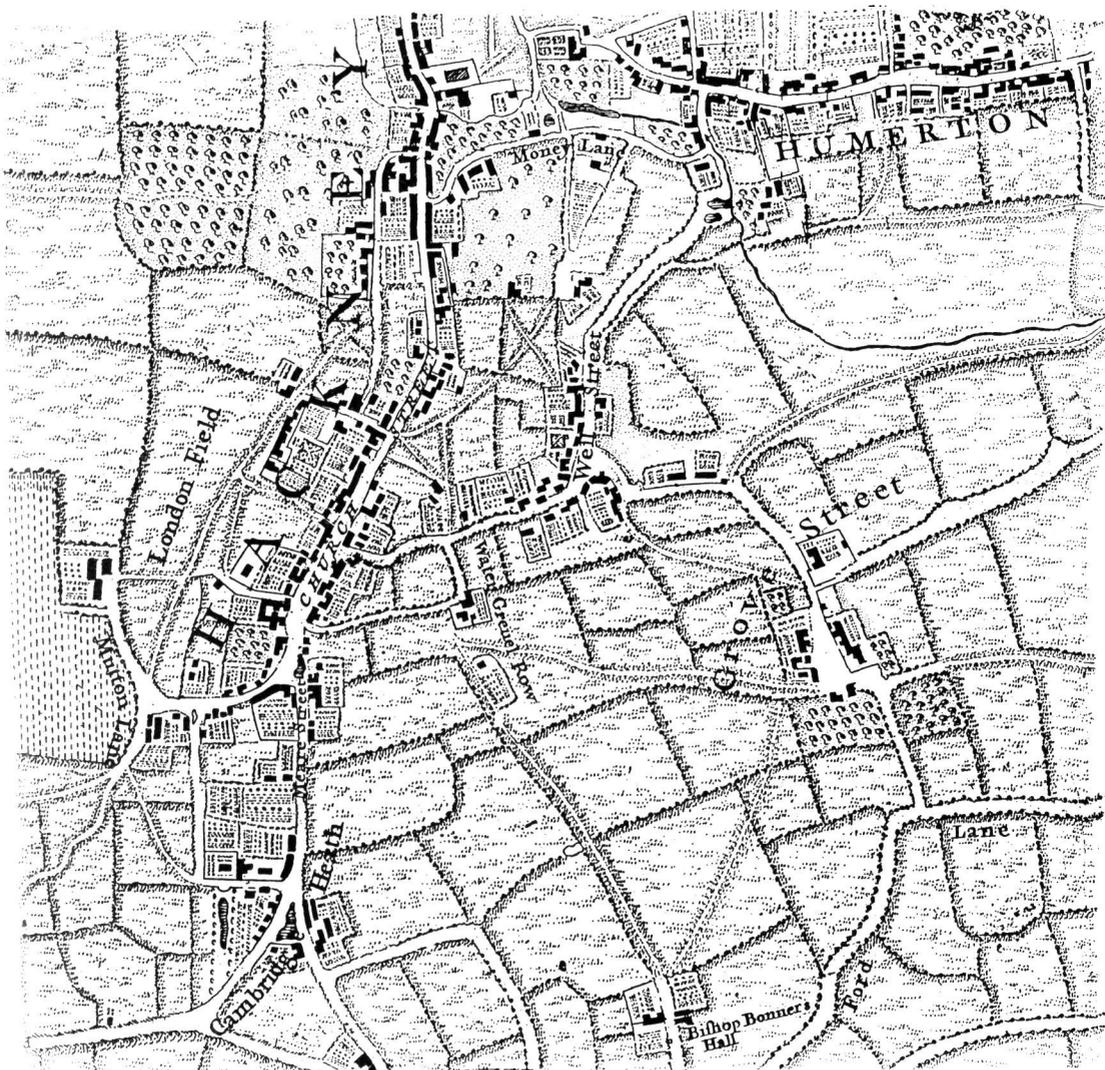


Fig. 3. Shore Road: Hackney in 1745, from Roque.

between 1721 and 1725, when Benjamin Barlow, carpenter, took over Shore House (from 1731 called Shorehouse). The property continued to deteriorate during this period, and by 1724 the decline was such that the Hospital Sub-committee for Hackney referred to the area as Water Gruel Row (H1/ST/E57); this name also appears on Roque's map of 1745 (Fig. 3).

A pen-and-wash drawing of 1736 by an unknown artist (Pl. 1), entitled 'Shore Place' (HAD WP 1005) shows a drab building, without the battlements, and apparently unoccupied. If so, it was made between the tenancies of Barlow and Nehemiah Ring (or King), who held the lease from 1736 until c.1768 (H1/ST/E103–10). During this tenancy the house changed considerably with the addition of a new wing at the north end of the facade (Pl. 3), recorded in 1740 in a survey of the property by Samuel Robinson (V and A Museum, E4703–1923). The original building, which measured 66 feet north-south by 44 east-west, with a lean-to shed at the north-west corner, was described as 'an ancient durable building of brick-

work build with abutments in which are windows and doors, ornamented of late years on the window-frames and doorcases with plaster in imitation of stonework'. Adjoining the north end of the main house was a bricked house, measuring 33 feet north-south and 18 feet east-west. To the south-west of the main house was an L-shaped barn (described as 'decayed') and ?cottage, with a stable between the two. Roque's map of 1745 (Fig. 3), although schematic, shows a similar layout, but depicts the main house as an L-shaped building with a wing at the south-west end of the facade. In 1748 one of the cottages adjoining the house was sublet, with garden, to Augustine Russell; from 1753 it was let to Lewis Davis, and by 1767 to Gedaliah Gatfield (HAD P/J/CW/62). The rental of 1763–99 is missing, but the Church rates for 1766 list R. Lawson, late King (*ibid*).

In 1768 Shoreditch Place (or Shore House), with two adjacent tenements and land was leased for 51 years to Thomas Flight, carpenter, on the understanding that he would within seven years construct five or six new brick tenements costing £6000

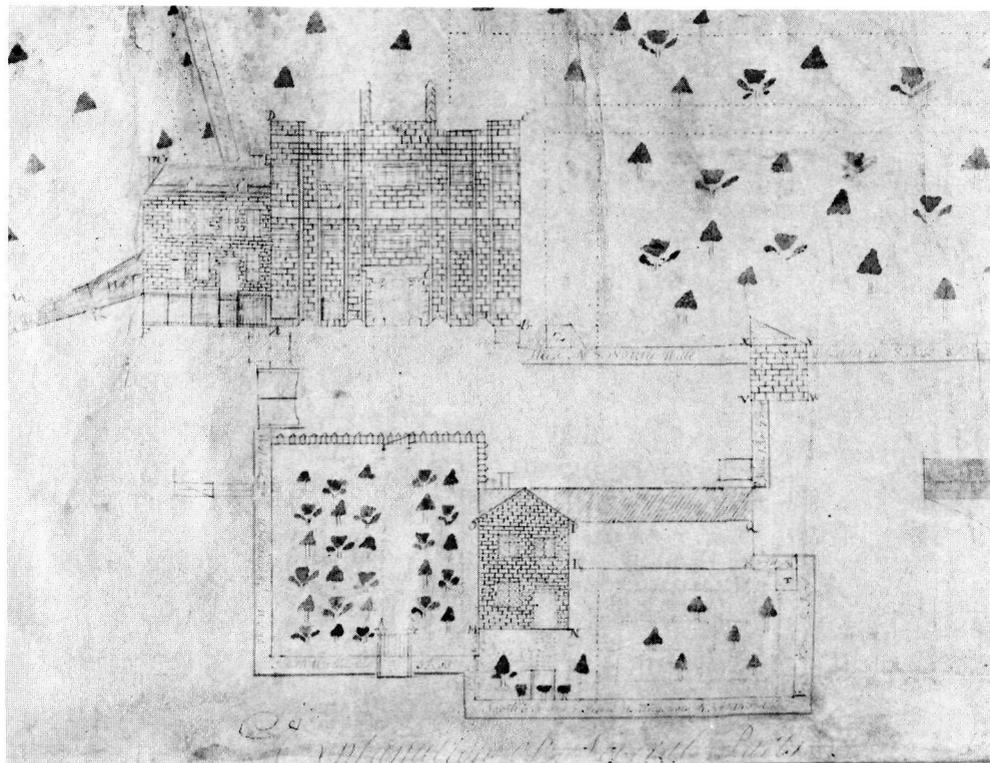


Plate 3. A survey of Shore House by Samuel Robinson, 1740, showing the barn, cottage and other outbuildings (Copyright © Victoria and Albert Museum).

(H1/ST/E65/34/8) on suitable plots within the estate. It is not known when the original house was demolished, but this was probably *c.*1769. A reference in 1770 to a tenement and garden adjacent to Shoreditch House, and ground formerly part of Shore House garden (H1/ST/38/34) leased by Flight to Gatfield, suggest that it may by then have been replaced by a new house. A late 18th-century map (V and A Museum E4532-1923) shows the new Shore House with an L-shaped building opposite it at the corner of Tryon Place; Shore Place continued south towards Bethnal Green. In 1798 four messuages (formerly three tenements and a shop) and ground in Shore Place were let by Flight to Thomas Hamilton, trimming maker of St. James

St., Picadilly (H1/ST/E67/40/5); these are probably the same as the new rectangular property and smaller house to the south shown in a map of 1808 (H1/ST/E114/4). During the 19th century more of the neighbourhood was developed, and between 1855 and the census of 1861 the name of Shore Place was changed to Shore Road. Much of the area, however, remained in use as brickfields and market gardens until 1929 when council estates were built in the present Shore Place. With the conversion of the earlier buildings to factories, these make it hard now to appreciate Maitland's description (1756, 1366) of the site of Shoreditch Place as 'one of the greatest remains of antiquity' in the parish.

Table 2. References to Hackney and to Shoreditch Place 1560-1872, from the records of St. Thomas' Hospital and Hackney Archives Department.

1560	Land in Hackney	1720/1	Estate, late Margaret Cooke, partly let to sub-tenants including Jonathon Emerton
1565-68	Richard Skallyon and John Smith: land in Hackney		Hospital rentals note estate not yet all let
1568	Richard Skallion: land in Hackney	1721/2 - 1725/6	
1571	no entry in the account		
1572 - 1575	John Warde manor of Shoredyich Place, Hackney	1726/7 - 1730/1	Benjamin Barlow: Shore House, gardens, stables and land for a peppercorn for the first year and afterwards £28 per annum
1575 - 1592/3	John Smyth: Shoreditch Place		
1592 - 1607/8	Bartholomew Smyth		
1600	John Key of Shoreditch Place buried at St. John at Hackney	1730/1 - 1734/5	Benjamin Barlow: Shorehouse
1602	Maria ?? born in barn at Shoreditch Place	1735/6	Nehemiah Ring (or King): Shore House, garden, outbuildings.
1608/9 - 1609/10	John Crosse,	1741	Ring: Shore House
1610/1 - 1623/4	William Crosse	1742/3 - 1747/8	Ring (from 1742 property is not named)
1624/5 - 1633/4	Widow Crosse: Shoreditch Place		
1634/5 - 1636/7	Mrs Bayley (Shoreditch Place not named)	1748/9 - 1752/3	Ring, sub-letting to Augustine Russell
1637/8 - 1642/3	John Baly (or Bayle)	1753/4 - 1754/5	Ring, Russell, Lewis Davis
1644/5 - 1647/8	Thomas Bayle: cottage sub-let to Thomas Daynty	1755/6 - 1760/1	Ring, and Davis
1647/8 - 1657/8	John Baly (or Bayly) house sub-let to Capt. Boulo	1766	Ring(?), Lawson (late Ring) and Davis
1657/8 - 1658/9	William Barrett	1767	Ring(?), Lawson and Gatfield (late Davis)
1659/60 - 1667/8	Elizabeth Barrett widow	1768	Thomas Flight: Shoreditch Place/Shore House; part leased to Gedaliah Gatfield, haberdasher.
1667/8 - 1672	Sir Thomas Player senior and Lady Rebecca	<i>c.</i> 1769	Flight erects new tenements costing £6000
1672 - 1686	Sir Thomas Player (d.1685) and Dame Joyce	1770	G. Gatfield: tenement and garden next to Shore House and ground formerly part of Shore House garden with stables and part of field.
1687/8 to 1696/7	Thomas Cooke, executor to Lady Player.		Flight and Thomas Hamilton, trimming maker, who held three former tenements and shop as four messuages
1696/7	Elizabeth Cooke		
1697	Margaret Cooke: manor house of Shoreditch Place and two little houses near it	1798	
1697/9 - 1698/9	Elizabeth Cooke		
1698/9 - 1718/9	Margaret Cooke	1847	J Pulman in Shore House
1715-6	Shore House sub-let	1872	C Blackith in 18 Shore Road
1719	Jonathon Emerton: Shore House (without lease) from Mrs Cooke		

THE EXCAVATION

by IRENE SCHWAB and LYN BLACKMORE

In the following, orientation is based on site north (perpendicular to wall F24, which is due north-east of magnetic north).

The surface of the 'natural' brickearth lay at *c.*14.50m OD. Approximately 0.40m beneath the brickearth, a layer of sand was exposed in the base of the Phase 1 ditch (see below), the top of the sand being at 14.16m OD.

The lower limit of excavation comprised a hard orange clay (58) in the area to the west of the building, and a reddish-brown clay (68) with chalk trodden into the surface inside the building (see Phase 2). Layer 68 was cut by the ditch and was partly overlain by the ditch fill (76). Layers 58 and 68 together produced three sherds of 13th–14th century pottery which had been trampled in to them.

PHASE 1

The ditch (Fig. 4, Pl. 4).

The earliest feature on the site was a ditch or stream (F81, F105, hereafter referred to as a ditch) with shallow sloping sides and an irregular base, which ran over a distance of 8.56m from

south-east to north-west across the site, cutting into the natural brickearth to a depth of 0.70m. Neither end of the ditch was found, and there was no significant gradient: at the east end it was 1.87m wide and the base lay at 13.87m OD; at the west end the ditch was 2.42m wide, with the base at 13.80m OD.

The first deposits in the ditch were patches of sandy clay against the ditch sides: greenish grey on the north side (80), brownish-orange on the south (70), which were interleaved with a mixed clay deposit up to 0.45m deep in the bottom of the ditch. To the east of the Phase 2 building this comprised a layer of grey-brown silty clay with flecks of mortar, chalk and tile (106); to the north of wall F24 was a yellow-flecked light grey clay (101); to the west was a clean grey clay with some iron pan (73) containing fragments of charcoal (unidentifiable) and seeds of elder (*Sambucus*); this extended inside the building, where it was sealed by a green-brown clay deposit (76). This phase is dated to *c.*1310–1330 by a Kingston-ware skillet or meat pan, the lower half of a Mill Green ware conical jug (*c.*1300), fragments of early Surrey–Hants border ware and other sherds of medieval pottery dating mainly to the late 13th–early 14th century (Fig. 12, Nos 1–7). A small amount of animal bone was also recovered.

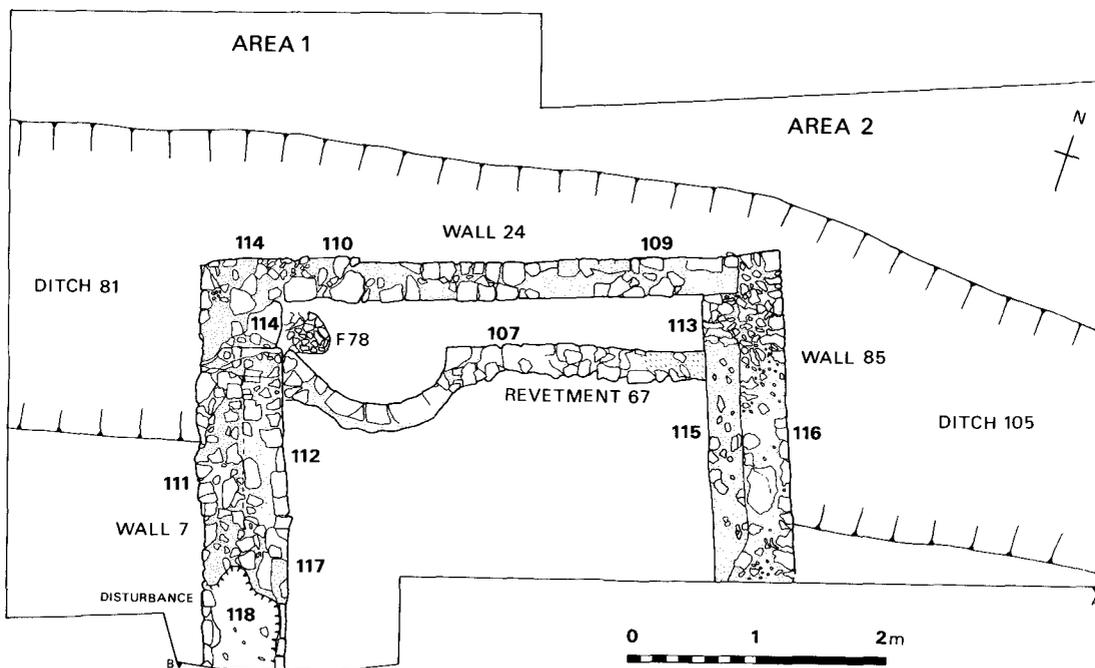


Fig. 4. Shore Road: General plan of the excavations.

PHASE 2

The building (Fig. 4, Pl. 4).

Extending into the partially filled ditch and sealing deposits (73), (76), (101) and (106) were three stone walls of a structure measuring 3.85m east-west (wall F24) by at least 3.24m north-south (walls F7/112, F85/115). All three walls were c.0.30m wide and there were gaps 0.30m wide between wall F24 and the northern ends of walls F7/112 and F85/115; the inner edge of the ditch was revetted (F67) so as to form a channel through the northern end of the building. The outer walls were presumably bonded together at a higher level, but all evidence for their relationship and the height of the apertures between them was destroyed in the post-medieval period, when the Phase 6 ditches (F21, F37) damaged the northern ends of walls F7 and F85, and robbed wall F24 to 14.70–14.78m OD. Walls F7 and F85 survived to a maximum height of 0.80–0.85 (c.15.10m OD); both had sunk slightly where they overlay the ditch. The walls were variously constructed of chalk, flint and ragstone with some greensand, brick and tile, and

display a sequence of rebuilding and modification which is supported by the results of the mortar analyses (see below).

The north-south walls F7 and F85 (Figs 4, 6, 7, Pls 4, 8).

Wall F7/112 was built predominantly of chalk, but at the base of the inner face at the southern end of the trench were two courses of large ashlar blocks, the lowest course being squared and faced (390 × 170mm and 390 × 140mm), the second more irregular. At the northern end some tiles were laid horizontally above the first course of chalk. The inner face of the wall was rendered with a hard buff mortar containing flecks of chalk, which survived as a strip c.0.45m high (to c.14.85m OD) for only the northernmost 1.34m, with uneven edges where the wall had later been rebuilt. The fill of the wall contained lumps of ragstone and tile, bonded with a buff mortar with flecks of chalk. The upper part of the wall was largely refaced internally with brick (F117), probably in Phase 4.

Wall F85/115 was well built of chalk blocks with



Plate 4. The site, after excavation, looking west.

some flint, tile and ragstone, which were bonded with a very sandy creamy-buff mortar with chalk inclusions, similar to that in Wall F24/110. The inner face, which was very even and vertical, was rendered with a hard off-white mortar similar to that on Wall F7/112, and also similar to the mortar bonding the Phase 3 outer skin of Wall F7/111 (see below). This rendering survived more or less completely for the exposed 1.77m (as with wall F7, the Phase 3 blocking was not rendered).

The east–west wall F24 (Figs 4, 9, 10; Pls 4–8).

The most complex construction was wall F24, which was apparently built in stages (F109 to the east, F110 to the west), and appears to have a blocked opening at the western end. It is not possible to assign the different features of the wall to phases, although different builds are confirmed by the mortar analyses. The line of the wall was defined by a large block of dressed ragstone ($370 \times 330 \times 180\text{mm}$) at the outer east corner, a

large greensand block ($290 \times 150\text{mm}$) at the outer west corner in line with the northern end of Wall F7/112, and a large chalk block ($290 \times 180\text{mm}$) on the inside, to the east of the possible opening. The outer corners of both F109 and F110 were squared up with numerous courses of tile, although F110 was later rebuilt with F114 (see below).

The eastern part of wall F24/109 was 2.75m long. The lowest 0.26m of the wall was neatly constructed of irregular blocks of flint, ragstone, chalk and greensand, above which were six to eight courses of roof-tile, neatly laid on the inner face, but rather haphazardly on the outer face. The tiles were overlain for the entire 2.75m by a second band of chalk, rag and flints, over which were one to three more tile courses. This wall was bonded with a buff coarse sandy mortar with quartz pebble inclusions similar to that in F24/110, but darker than that in F85/115.

The slightly thicker western section of wall F24/110 was 1.07m long. This abutted F24/109 cleanly on the inner face, but the join was less obvious on the outer face, which comprised a single course of



Plate 5. Area 1, looking south, showing walls F7 and F24, and the revetment F67, and the tile dump (10).

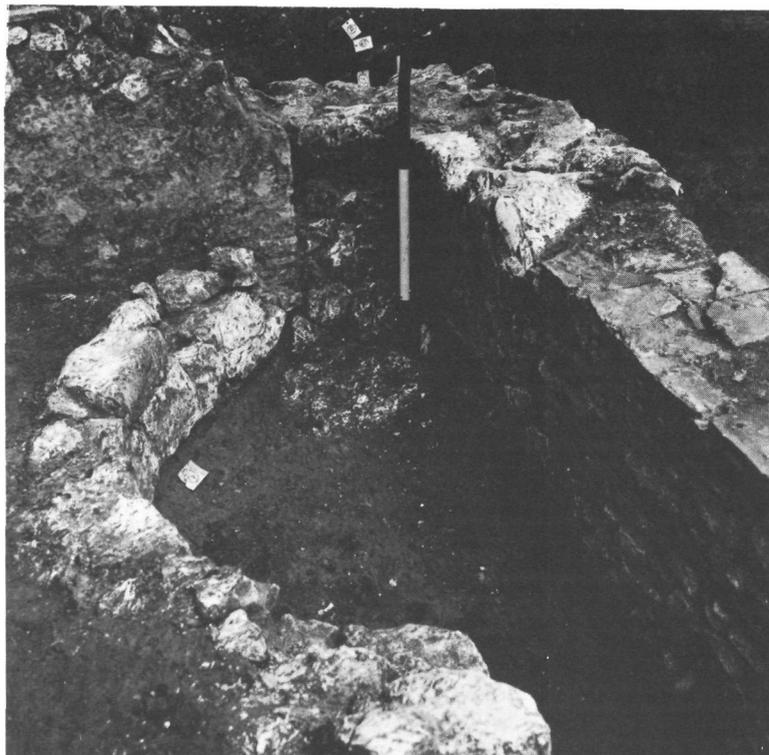


Plate 6. Area 1, inside the building, looking west at the junction of walls F7 and F24, showing the blocking F114 over F78.

three large faced chalk blocks. Above these were small, irregular blocks of ragstone and flint with occasional tile fragments in a pale creamy-yellow and white mortar. The inner face was constructed entirely of chalk blocks, of which four neatly laid courses survived. Above this both faces had been relaid (F114), probably in the Phase 3 remodelling of the building (see below). The mortar of F24/110 was similar to that in F24/109 and F85/115, but paler and with no quartz pebbles.

The revetment F67 (Fig. 4; Pls 4–6).

Constructed within the building was a revetment of chalk blocks bonded with a yellow-brown mortar with fine chalk inclusions (F67/107). The base lay at approximately the same level as that of wall F24, resting on a layer of hard greyish-white mortar (108) over the ditch fill (76). The revetment, which was 0.24m wide, abutted, but was not bonded into, walls F7/112 and F85/115. It ran parallel to F24

for 2.0m from the opening between wall F85/115 and wall F24/109, with a gap of 0.35m between the two structures. It then curved in a semi-circle to meet the north end of wall 7/112, the distance between walls F24/110 and F67 at the widest point being 0.80m. The surface of the wall sloped down slightly from 14.57 (east) to 14.46m OD (west). At the western end F67 survived as two courses of large dressed chalk blocks (c.0.30m high). East of this were three neatly laid courses of smaller, but regularly laid blocks of chalk, mostly faced. For the easternmost metre or so the blocks were smaller and more irregular in form; the two lower courses were fairly even, but above this the blocks were both few in number and randomly laid. The precise relationship of F67 to the outer wall is unclear, but since no trace of it was found either to the east or to the west of the building, it is assumed to be either contemporary with or later than the structure (ie. Phase 2 or Phase 3); the similarity of the mortar in F67/107, layer (108), F24/110 and F85/115 suggests that these walls are contemporary.

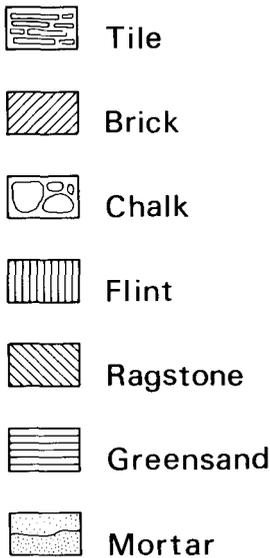


Fig. 5. Shore Road:
Key to the Section.

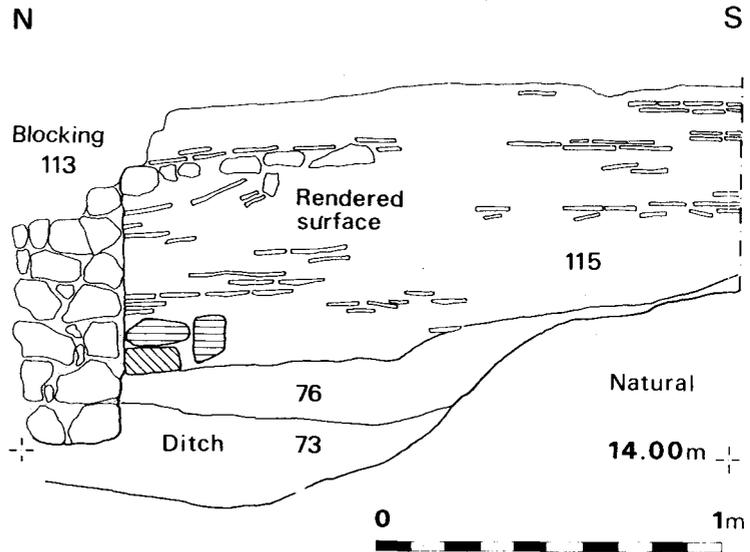


Fig. 6. Shore Road: Wall F85, inner face, showing the blocking F113.

PHASE 3a

The rebuilding.

The lack of deposits either inside or outside the building suggests that the entire area was regularly cleaned, or that the structure was remodelled soon after its completion. In this phase the openings between walls F7/F24 and F85/F24 were blocked in, and walls F7 and F85 were strengthened by the addition of an outer skin, bringing them to a total width of 0.63–0.64m.

The blocking and new external walls (Figs 4, 6, 8; Pls 4, 6).

The infill (F113) between walls F85/115 and F24/109 was constructed of irregular chalk blocks, with a faced surface inside the building, which were bonded with a greyish-yellow mortar with soil and fine chalk inclusions. The blocking was inserted to 14.02m OD, c.0.21m deeper than the base of the north end of wall F85/115, but the base of the new outer wall was at approximately the same level as that of the original wall. Wall F85/116 was apparently built in two stages. The lower part was mainly built of chalk with some ragstone, flint and ashlar blocks, bonded with yellowish-white mortar similar to that in F85/115, but slightly darker, and with fine flint and quartz inclusions and some fine

soil. Above this, the wall consisted mainly of flint with some ragstone, bonded with yellow-buff mortar. The fill of F85/116, which survived to a height of 1.00m, was of chalk rubble with a little tile.

The infill (F114) between walls F7/112 and F24/110 was also of large chalk blocks, mostly unfaced, which were inserted 0.25–0.28m deeper than the bases of walls F7 and F24, at 13.97m OD. The blocking was of the same construction as the new outer wall F7/111, although this contained some ragstone and flint, and occasional dressed stone blocks, possibly reused. Both the blocking and the new wall were bonded with a soft loose yellow-buff sandy mortar containing chalk flecks.

The rebuilding of the north-west corner of walls F7 and F24 (Figs 4, 9, 10; Pls 7, 8).

Prior to or during the construction of the new wall F7/111, the junction of walls F7/112 and F24/110 appears to have weakened, and the two walls were bonded by carrying the blocking (F114) around the corner, and over F24/110 to abutt F24/109. This may have entailed removing part of F24/110 down to 14.58m OD internally, and 14.46–

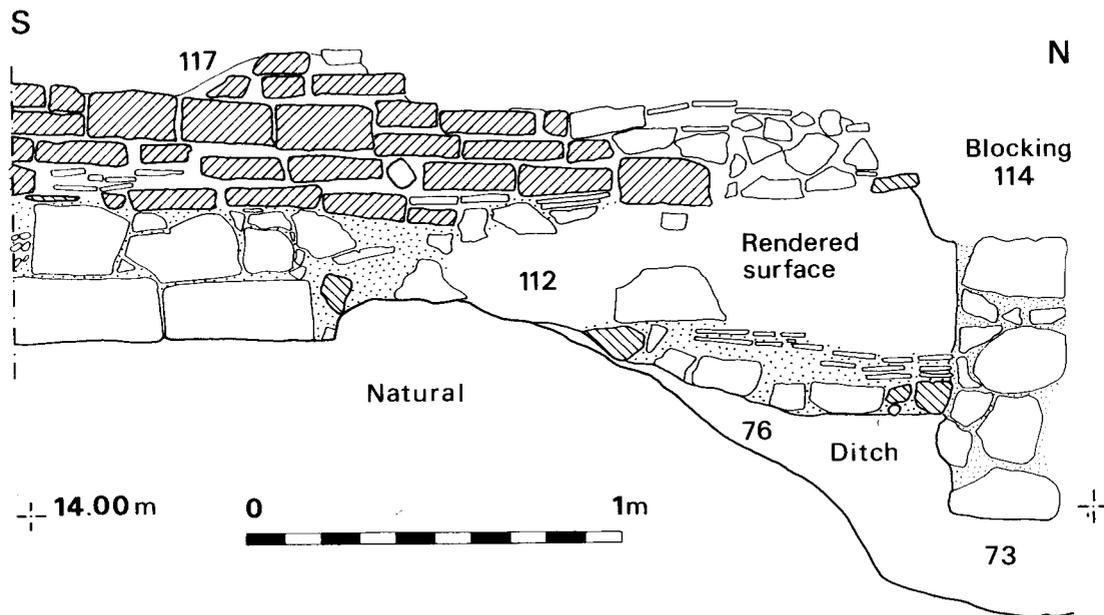


Fig. 7. Shore Road: Wall F7, inner face, showing the blocking F114.

14.51m OD externally. Internally there was little difference between F24/110 and F114, which comprised one course (0.20m high) of two large faced chalk blocks bonded with a soft greyish-yellow sandy mortar with soil, similar to F7/111, F85/113, F67/107 and (108). Externally, F114 was less neatly built, with smaller, irregular chalk blocks bonded with dark yellow mortar. The core of F114 was mainly composed of chalk rubble, with some flint, bonded with the same mortar as F7/111.

There is little evidence for any demolition or dismantling of the revetment F67 other than traces of burning on the chalk, some possible collapse at the eastern end, and a small patch of crushed chalk (79, 0.10m deep) to the south of and against F67 at the western end. It seems unlikely therefore that this feature was ever more than one course high.

Levelling inside the building (Figs 4, 11; Pl. 6).

Following the rebuilding work, the former channel between F67 and F24 was back-filled with various tips of building debris, the first being a dump (103) of chalk rubble with some tile, mortar, flint and stone in a matrix of reddish-brown clay, presumably natural clay displaced during the con-

struction of the new walls. Above this were two dumps of medium brown clay with mortar and chalk, both *c.*0.20m deep (74, 75), between which was a thin spread of crushed chalk (100). Of these only (103) and (100) produced any pottery; this was all of 13th- to 14th-century date, and mainly derived from Fig. 12, No. 3.

At the west end of the cavity (75) and (74) were apparently cut by a feature (77) which filled the space created by the curved wall of F67. At the base of (77) and possibly cut by it, was a small depression *c.*0.10m deep in the natural clay (F78). This was filled with chalk rubble, the top of which (14.12 MOD) was level with the base of wall F24, but well above the base of the blocking F114. F78 was sealed by a light brown earth with much crushed chalk (71, depth 0.04–0.10m), over which were a patch of crushed chalk (72, depth *c.*0.10m) and a thicker layer of greenish-brown clay containing fragments of chalk, mortar, flint and tile (66, max. depth 0.15m). These layers produced no finds.

Sealing these dumped deposits, F67, the ditch fill (76) and the natural clay (68) were the patchy remains of a construction surface or floor of crushed chalk with yellow sand, crushed flint and tile and some mortar (64, 65) which produced three sherds

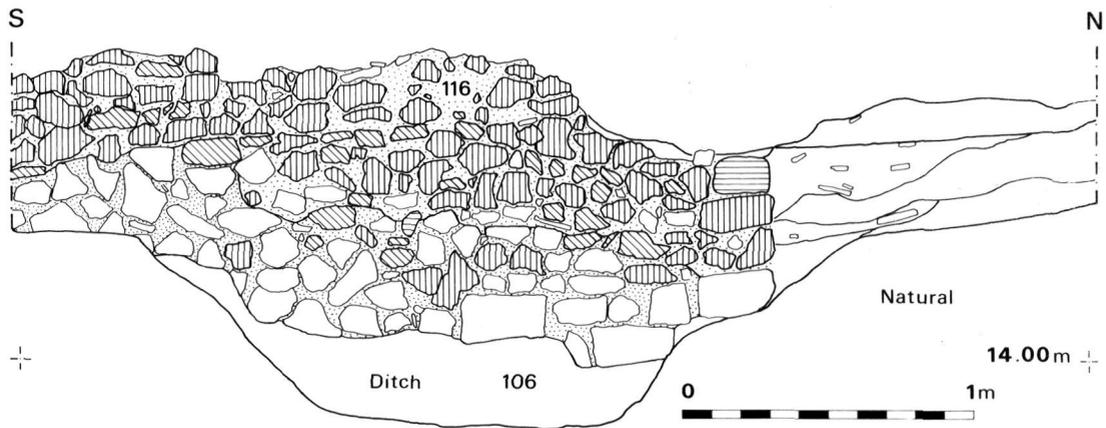


Fig. 8. Shore Road: Wall F85, outer face.

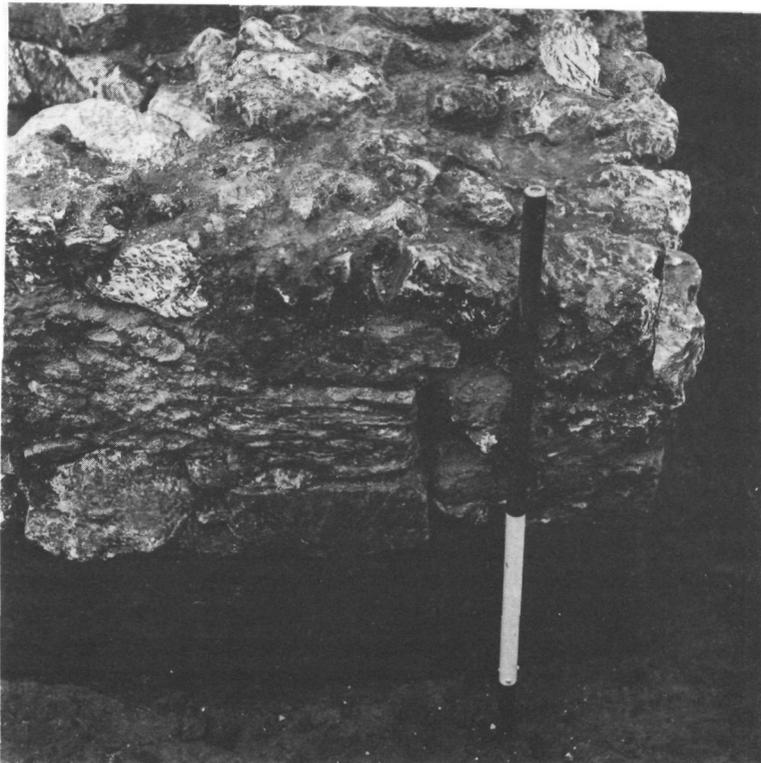


Plate 7. Close up of the junction of walls F7 and F24 (looking south), showing the continuation of rebuild F114 over F24.

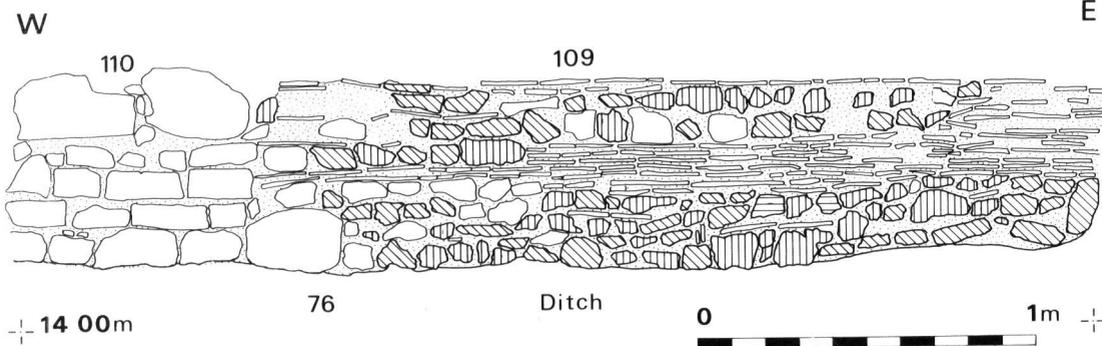


Fig. 9. Shore Road: Wall F24, inner face, showing junction between F109 and F110.

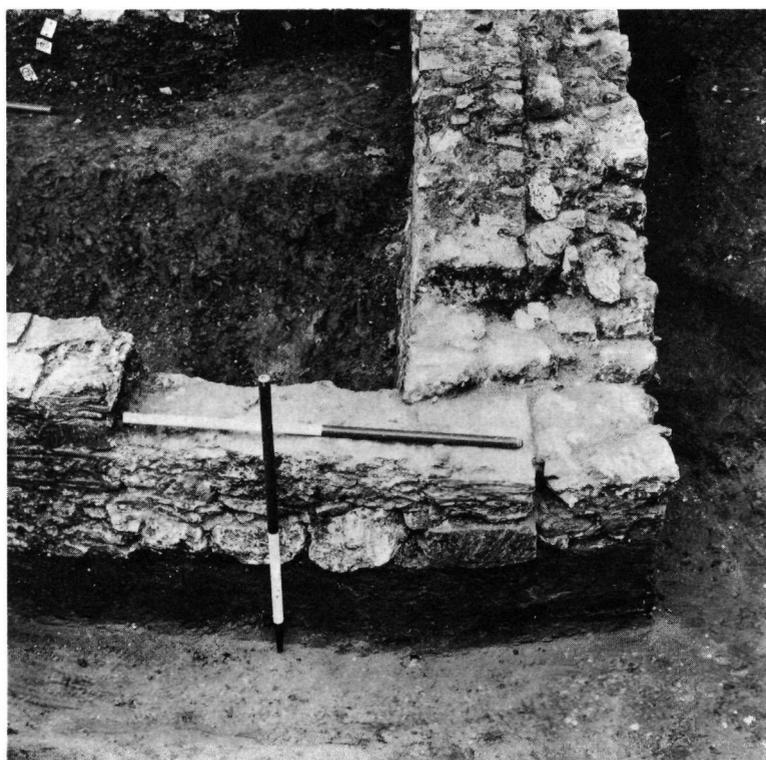


Plate 8. Close-up of the junction of walls F7 and F24 (looking south), after the removal of F114.

of 14th-century pottery. This survived best where it filled depressions in (68) and (76), and in the area between walls F67 and F24; it was thickest where it was banked up against wall F7 (up to 0.15m), but in places was absent altogether.

Floor surfaces inside the building (Fig. 11).

Within the building two spreads of loose clean gravel in an orange sand matrix were laid, raising the floor level by *c.*0.20m. The first (62) contained only one sherd of coarse border ware; the second (57), lighter in colour than (62), was sterile. Both layers were generally 0.10m deep, but (62) was deeper where it filled the irregularities in (64, 65) and a small depression (F69, depth 0.12m) of unknown date and function, which extended beyond the southern limit of the excavation. These layers, neither of which were compacted or worn, represent make-up for the second floor surface within the building (56, depth *c.*0.06m), a layer of compacted gravel in a matrix of brown sandy earth with fragments of chalk, mortar, brick and tile, which produced some important Italian vessel glass (Fig. 16). The surface of this floor, which survived into the 16th century, was worn and uneven, the hollows being filled in Phase 4, when one post-medieval sherd was trampled into (56). Layer 62 survived intact, but (57) and (56) had both been partly removed by the Phase 6 ditch.

Levelling outside the building (Fig. 11).

Outside the building, the ditch was partly filled and the surrounding area built up with dumps of clay with building debris, all containing mortar, tile, chalk, ragstone and pebbles in varying size and frequency, and most with 13th–14th-century pottery (Fig. 13, Nos 8–16). The sequence of dumping may have been rapid, or may have taken up to 150 years. The initial deposits may be associated with modifications to the building, or to an adjacent structure, or attempts to consolidate the surface of the former ditch, but later spreads of roof tile may represent some roof collapse (mainly to the north and east of the building). Joining sherds of pottery from layer 52 and the subsequent deposits, notably a small tripod pipkin (Fig. 13, No. 14) suggest that most layers were deposited in a short space of time, or that they were frequently disturbed. In the following the stratigraphy is therefore described by area of excavation with subdivisions as appropriate.

In Area 1 the ditch was partly filled with a greenish-brown clay (61) and a dark olive-green clay with sandier patches (63), possibly material

which had been removed from the ditch during the construction of the new walls. One sherd of Cheam white ware from (63) dates these deposits to the late 14th–early 15th century. Covering (61) and (63) was a patchy, but extensive spread of large fragments of roof tile, mainly lying horizontally in a greenish-brown clay (52, 60) containing lumps of chalk and cream-coloured mortar, which was tipped down against wall F24, partly filling and partly sealing the ditch. Grading into (52) was a layer of hard mottled light grey/greenish-brown slightly sandy clay with charcoal flecks (46, 47, 59), similar to (52), but with smaller and less frequent tile fragments. In the north-west corner of the site (47) was sealed by a deposit of light to medium brown sandy clay (36). Layer 52 contained part of a decorated copper alloy strip (Fig. 15).

To the east of (61) in Area 2, and sealing (106), was a spread of dull yellow clay with small round pebbles and occasional flecks of charcoal (99), which covered the entire area between wall 85 and the limit of excavation to a maximum depth of 0.20m. Grading into (99) was a tip of similar, but slightly darker brown clay (97), containing a large amount of charcoal, including oak (*Quercus* sp.) and hazel (*Corylus* sp.), and frequent large flecks of cream-coloured mortar. Banked up against the southern end of wall F85/116 was a patch of brown clay (104) containing much chalk, off-white mortar, some roof tile and several iron nails.

PHASE 3b/4

Outside the building.

Sealing the Phase 3a deposits in Area 1 were various tips of light to medium brown clay, containing mortar flecks, charcoal, brick, tile and pebbles: (50) to the south, (35), (39), (40) to the west, with a thin spread of tiles on the surface of (40). To the north and west of (40) were similar deposits of light brown to dark yellow clay (23 merging into 26), which contained abundant flecks of chalk. This also sealed a shallow feature (F29) which extended under the section. Layer 26 was interleaved with a spread of roof-tile (31), and both were sealed by a further tile dump (19/20); (23) was sealed by tile dump 17/18.

To the east of wall F85, layers (97) and (99) were sealed by a deposit of light brown to dark yellow clay (96) similar to, but finer than (97), which produced the first imported pottery, a sherd of late 15th- or early 16th-century Siegburg stoneware. Partly sealing (96) was a spread of gravel (94/95, depth *c.*0.8m), which curved from the junction of walls F24 and F85 to the south-east corner of the site (average surface height 14.63–

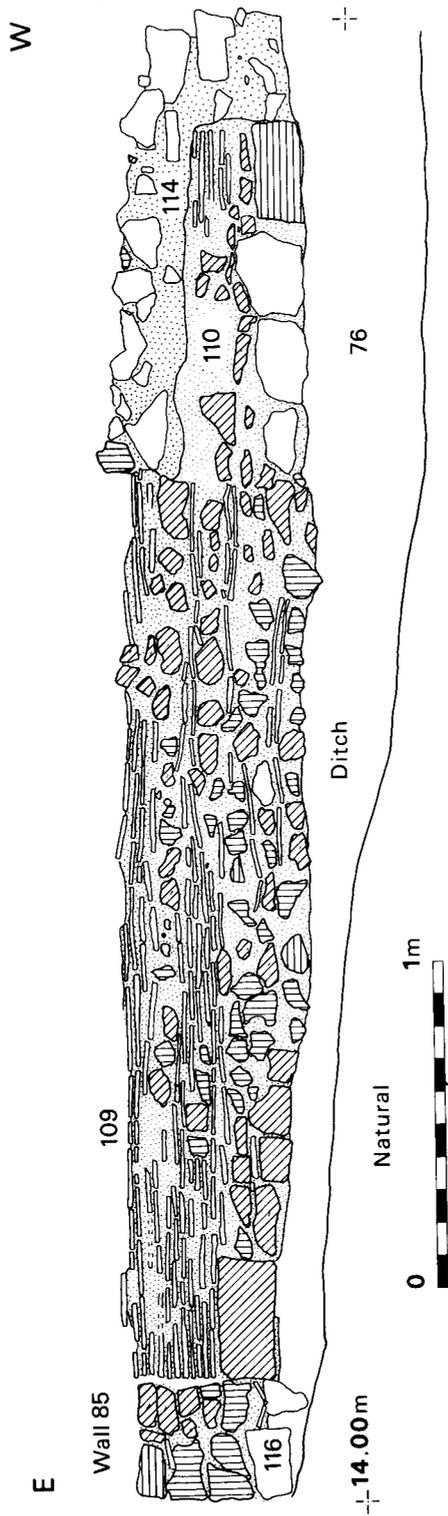


Fig. 10. Shore Road: Wall 24, outer face, showing the junction between F109 and F110 and the rebuild F114.

14.68m OD). The gravel deposit (94) was just overlapped by a layer of light brown clay with building debris (93), which also sealed (96). This was sealed by a layer of broken tile fragments, chalk and cream-coloured mortar in a light brown clay (91/92, the equivalent of 31) which contained a silver penny of Edward III, dating to 1351–1377. Fragments of decorated glass similar to that found inside the building were recovered from (20) and from (43), a clay deposit similar to (26) and (91) which also produced a number of small black, white, pink and blue glass beads. Three 15th–16-century sherds from (93), (96) and (43) suggest that some of the Phase 3b/4 deposits may belong to Phase 4 or 5, but the generally early character of the finds makes this uncertain, and these layers probably represent gradual decay and roof collapse rather than demolition.

PHASE 4

Inside the building (Fig. 11).

A brief period of activity inside the building is evidenced by a renewal of the floor surface, and it was possibly during this phase that a repair (F117) was made in the fabric of wall F7, which was internally refaced with bricks (250 × 125 × 60mm) interspersed with fragments of ragstone. Four courses survived, which were one brick deep; these were rather haphazardly laid, some flat, some on their sides, others incomplete. The depressions in the surface of floor (56) were filled in with a patchy deposit (32) of light brown clay containing a large amount of chalk (some quite large lumps), tile, charcoal, mortar flecks and pebbles (depth 0.01–0.15m), which was absent in the areas where the surface of (56) was less worn. As in Phase 3a, the greatest concentration of chalk was at the south end of the trench. Finds from (32) include post-medieval redwares (No.22), two pin fragments and a bootlace tag.

PHASE 5

Demolition (Fig. 11; Pl. 5).

The destruction of the building probably took place within a short space of time. Sealing (32) inside the building was a thick deposit of roof tiles in yellow-brown clay with earth (10/11, depth 0.12–0.30m), with mortar, shell, brick and chalk (particularly toward the southern edge of the trench). There was no trace of any roof timbers. The tiles mainly lay horizontally, the deposit being thickest at the southern and eastern edges of the excavated area; on the north side the layer was cut by the Phase 6 ditch F21/F37. The pottery includes

the base of a jug of possible Low Countries origin (Fig. 14, No. 23).

Cutting through (10/11), 1.50m to the east of wall F7 and 0.70m to the south of wall F24, was a small rectangular feature 0.14m deep with roughly vertical sides, possibly a scaffold base (F48/49). Inside the eastern part of the building (10) was sealed by an uneven spread of chalk lumps containing some lumps of flint, off-white mortar and some tile fragments (86/87). This layer, which was thickest in the south (0.15m), was not present outside the building, but extended slightly over layer 85.

Outside the building in Area 1, parallel to wall F7, was a feature of unknown function (F41), with gently sloping sides and a flat base (depth c.0.80m) which was cut from (40) and extended under the southern and western sections; it was not seen to the north of the later ditch. The pottery from the fill (42) includes one sherd of Cistercian ware (1500–1600).

Both (40) and F41 were sealed by a deposit of dark yellow to medium brown clay with occasional flecks of chalk and tile, brick and charcoal (13), (15), (25), which sealed tile deposits (17) and (19). Two sherds of 16th-century pottery were recovered from (15).

Cutting (13) and (15) was F14/44, a trench filled with compacted dark yellow sandy mortar with chalk and some charcoal (16/45), which extended northwards from the corner of walls F7 and F24 (depth 0.08m at the south end, 0.30m at the north end). This may have been a form of scaffold base, rather than a robber trench, the irregular ragstone blocks which lay in the base of the trench being used a pad or packing. There was no useful dating evidence from this feature. To the west of wall F7, (25) was partly sealed by a small spread of tiles (9/12) which extended under the western edge of the excavation.

In Area 2, layer 91/92 was sealed by a deposit of light brown clay with chalk, brick and mortar and patches of tile, (89) to the north of the Phase 6 ditch, (90) to the south. Partly sealing (90) was a layer of light brown clay with building debris and charcoal (88), and both (90) and (88) were sealed by a spread of roof tiles (83/84). This occupied the whole area to the south of ditch F21/F37, but was concentrated in the southern part of the trench. Layers (89/90) and (83/84) were all cut by the ditch, but (83/84) was not seen to the north of it. The pottery from (90), which includes sherds from a Frechen stoneware bellarmine jug and from a Dutch tin-glazed dish, shows that the final demolition of the building took place after 1550, and possibly after 1600.

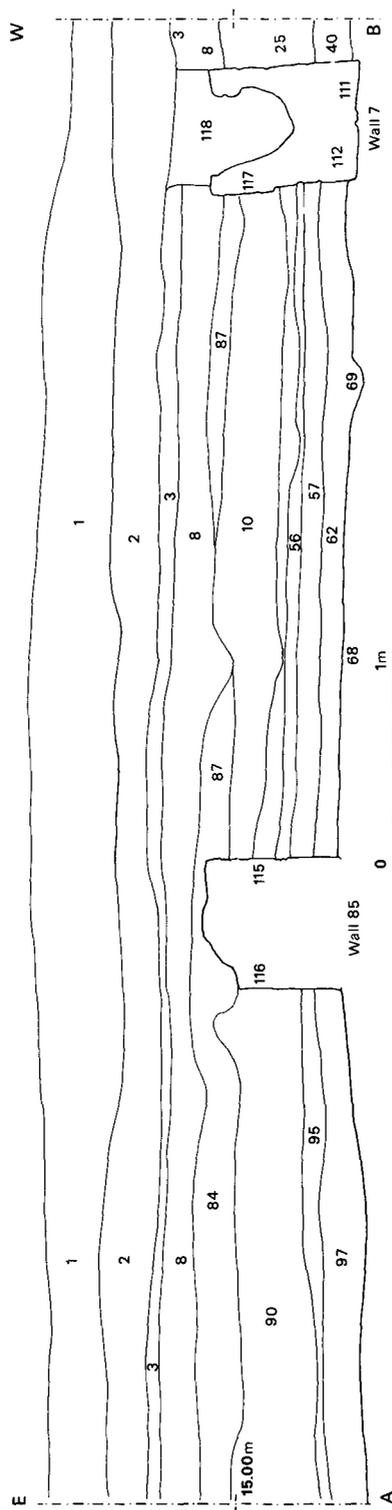


Fig. 11. Shore Road: North facing composite sections A-B through the building.

PHASE 6a

17th–18th century.

The site was levelled up with a dark yellow clay (8) containing tile and much chalk. It was thickest inside the building (*c.*0.30m), and at the south-east corner of the site, becoming thinner and more patchy to the north. Above (8) was a second deposit of yellow clay with charcoal, brick and mortar (3). The clay pipes date to 1640–1680 (layer 8) and 1680–1710 (layer 3).

PHASE 6b

17th–18th century.

An east-west drainage or boundary ditch (F33/F37) with obliquely sloping sides and a flat base was dug across the site almost directly over the medieval ditch. This cut through walls F7 and F85, and robbed out the upper part of wall F24. It was 0.80m wide at the west end, 1.20m wide at the eastern end (1.44m at the widest point). The fill (34/38) had been largely removed in Phase 6b, but was a medium brown clay with fragments of building debris and coal. The finds include Fig. 14, Nos. 24–27 and clay pipes dating to 1600–1640.

PHASE 6c

17th–18th century.

Cut into the fill of F33/37 was a second ditch, or recut, with a rounded base (F21/F27) which terminated after a distance of 6.42m from the west section. This ditch was narrower and shallower than the first (0.70m wide, max. depth 0.25m), but it became generally wider and deeper toward the gently sloping, rounded butt-end. The fill (22/28) was very similar to that of the first ditch, with fragments of clay pipe dating to 1600–1640. To the north of the ditches, cutting (3) were three oval pits (F4, F5, F6), which were probably flower beds.

PHASE 7

18th–19th century.

At the southern edge of the site was a layer of packed gravel in a yellow sandy clay (2), which probably represents the northern edge of a garden path running east–west across the site.

The penultimate deposit across the whole site was a thick layer of dark grey-brown earth (1) containing charcoal and patches of yellow clay together with chalk, brick and mortar, and 17th–19th century finds; was sealed by the topsoil.

DISCUSSION

by Lyn Blackmore

The locations of Beaulieu and of the mansion granted to Corstone are unknown; most writers have taken both to be the site of Shoreditch Place, although Ellis (1798, 90) rightly questioned whether these properties were the same. The various phases of the site correspond well with the available dates in the documentary sources. The pottery from Phase 1 fits with the acquisition of the Grovehouse estate in 1324 by Sir John Shoreditch, while the coin evidence in Phase 3a suggests that the modification of the building was completed after 1351, but probably by *c.*1380.

The construction of the building and its relationship to other structures are problematical. Was it an outbuilding or part of a larger structure? Were the walls constructed entirely of stone, or was the superstructure timber-framed? The original function of the building is also uncertain. The openings between walls F7/F24 and F85/F24 and the channel between F24 and F67 were clearly intended as a drain. The revetment F67, however, could not have supported an inner wall of any height, being insubstantial, and not bonded into walls F7 and F85. The drain must thus have been lined, or at least covered, to prevent water from penetrating into the room, although no trace of any horizontal slabs covering the channel, or support for them, was found in wall F24. This suggests that wall F24 may have been partly rebuilt during the modification of the structure, before the rebuild F114 at the junction of walls F7 and F24, which further destroyed vital evidence of the original appearance of the building.

The most likely uses of the room are as a 'necessarium', or 'sege house' (latrine or privy), a dressing-room, or a kitchen/scullery. For any of these the siting would

have been governed by the location of the best drainage facilities. This area of Hackney would doubtless have been well-watered in the medieval period, as in later times. The site lies near to the former course of Hackney Brook, while the local geology gives rise to numerous springs which were exploited for pumps and fountains in the 19th century. Shore Road, which long had a pond in it, was once known as Water Gruel Row, nearby Millfields Road was formerly known as Pond Lane, and part of Morning Lane was known as Water Lane. This led into Well Street, so named since at least 1324 (see above, L11/1/5); the street-name is said by Thomas (1832, 16–9; 213–6) to derive from a well in Cottage Place, later covered by a pump, which was almost certainly associated with the property known as the Prior's House, or Pilgrim's House (demolished in the early 19th century). This was surveyed in 1741 by Samuel Robinson, who noted '... a pump in the midst of the yard from which the inhabitants have good spring water ... This building is 80 feet to the north of the road, or Well St. and bears from Shore House north-east 100 paces, or 500 feet, or 1/10th of a mile'.

Robinson's description of the Pilgrim's House is of particular relevance to the interpretation of the building excavated in 1978: 'formerly moted round, but the moat is now stopt up ... it may further be noted that each apartment had in elder time an house of ease peculiar to itself over the moat'. This was quite a common arrangement in the middle ages, and several abbeys, such as Fountains, Gervaux, and Hailes were designed so that the dormitory and reredorter could be built out over a river or a drain, sometimes with windows and seats along the wall, as at Durham Priory (Salzman 1952, 280–1). In private houses, a privy may have communicated directly with a bedroom,

but by the later medieval period would have been situated a short distance from the main living quarters in order to be out of sight and smell (Salzman 1952, 283; Wood 1965, 381). If the Shore Road building was a garderobe, a seat may have stood over the semi-circular feature in the drain; in this model the junction of 109 and 110 in wall F24 may represent the remains of a small window or air vent (cf. Wood 1965, 384).

Alternatively, if the building was a dressing-room, it may have had a basin or laver in the corner over the drain, and possibly beneath a window, as described at the Master's House at St. John's Hospital, Northampton, or at Cottisford Manor Farm, Oxfordshire, where there is a semi-circular projecting trough beneath a window in the garderobe (Turner 1851, 156, 162; Wood 1965, 369). In this case the neater build on the internal face of F110 in wall F24 may reflect the fact that this part of the wall was intended to be visible inside the building.

If the building was a kitchen, the corner feature in F67 may have accommodated a grille through which fluids but not bones etc. could have entered the drain, as referred to at Shene in 1372, at Canterbury College, Oxford in 1440 and at Westminster Abbey in 1448 (Salzman 1952, 279–80). The 14th-century cellar scullery at Warwick castle has a projecting trough below a loop window, opening onto an external gutter (Parker 1859, 130; Wood 1965, 369). Similar, although humbler, buildings with drains were also constructed over streams, for example at Brook St., Winchester (Biddle 1970, 298–302).

If the interpretation of the original building as a privy is correct, it supports the connection of the building with a religious order, or with persons of some wealth, for water-flushing was mainly confined to monastic houses in the med-

ieval period (Salzman 1952, 269–70, 280), although Wood (1965, 377) suggests that it was more common than is generally supposed. That the Priory of the Knights of St John in Clerkenwell had its own water supply is known from a fifteenth century description of the course of the conduit, and from a plan, dated 1512, of the water conduit from Islington to the London Charterhouse, which passed over the supply pipes of the Hospitallers (Salzman 1952, 270–1). It is likely, therefore, that other property belonging to the Knights should have been similarly provided, particularly in an area such as Shore Road; the Prior's House in Well St. certainly had its own supply, although the well there may also have had a special holy significance (Clarke 1893, 179).

This last possibility, that the site was originally a dipping place near to a holy spring, also merits consideration. An example of such a structure has been found in the monastery of St. Peter and St. Mary in Exeter (Fox 1956, 202–17), where a spring was enclosed and dammed in the Saxon period, and incorporated within a building of 12th- to 13th-century date.

How long the first building continued in use is not clear, but whether due to failure of the water supply or some other reason, it was modified soon after its construction. The lack of floor levels, paucity of finds and the worn, uneven surface of the final floor suggest a non-domestic function for the later structure, which may have been used as a stable or barn. The building was probably demolished after 1553 and possibly after 1610 when the property was rebuilt in brick by William Crosse (H1/ST/E67/3/30): the map of 1628, although schematic, shows no out-buildings behind the new house. The 17th–18th century ditches probably served to divide the garden behind the later house into strips for use by the dif-

ferent tenants then living there. The excavation has raised more questions than can be solved without further archaeological work, and even this may never establish the true locations of Grovehouse and Beaulieu.

THE POTTERY

by Lyn Blackmore

Introduction

The excavations at Shore Road produced a total of 703 sherds of stratified pottery (11.41 kg), which fall into two main groups: late 13th to 14th century, and 17th to 18th century. Considering the supposed status of the medieval property, the pottery is of a generally mundane nature, with few imported wares. The fabric types represented and their distribution across the site are shown in Table 3. The pottery is discussed according to the phases described above; references to parallels for published sherds are to be found in the catalogue (Table 4), together with details of glaze and surface treatment. The pottery archive contains tables showing the wares present in each context, listed according to standard DUA/DGLA fabric codes.

Phases 1: Ditch F81/105 (Fig. 12).

A total of 204 sherds (2.83 kg) from *c.* 30 vessels was recovered, with a date range of *c.* 1150–*c.* 1325; this supports the suggestion that the property was associated with Grovehouse, the first known reference to which is in 1324 (see above).

Many sherds are small and/or worn, but some larger, joining fragments are present. Most fabrics have been found on other sites the London area; less common wares comprise:

- a. A micaceous medium sandy ware with occasional fine flint grits, which varies from brown with a grey core (Nos 1, 2) to orange-red with a grey core (jug sherds with cream slip and green glaze). Also found at Tottenham Court (Blackmore 1983, 85; Fig. 8, No. 15, fabric code GS), this resembles the developed early medieval and rough medieval wares at Northolt (fabrics i, j; dated 1100–1200 and 1150–1250), where cooking pots with incised decoration were also found (Hurst 1961, 261, 263; Fig. 69, Nos 88–94, 98–99); it is probably from Hertfordshire or Middlesex.

b. A low-fired sandy ware, usually pinkish-brown throughout, or with a pale grey core with occasional fine blue-black streaks from burnt out organic inclusions (one sherd only, but more common in 3b). This is probably fairly locally made from London clay.

The Hertfordshire-type grey wares fall into five sub-groups, of which four were present in the Tottenham Court assemblage (Blackmore 1983, 84). Types B and C contain mainly quartz and some flint inclusions (B: pinkish core/black surfaces, C: hard, pale grey throughout); type D is sandy, type E fine; type F is soft and eroded, and typical of Elstree wares (Salveson and Blackmore 1985, 90–2). Type G is soft and sandy, with a pale grey core and buff surfaces.

Kingston-type wares are represented by Nos 3, 4, 5 and 6, and include both table and kitchen

wares (for fabric description see Pearce *et al* 1988, 7–9) No. 3, possibly fired upside down, is in a micaceous low-fired pinkish-white ware with moderate very fine rose-quartz inclusions. No. 4, a 14th-century skillet or frying pan, may have been circular or D-shaped, as at the Custom House (Thorn 1975, Fig. 13, No. 202). Skillets have been found on kiln sites in Kingston, at Eden Street (Hinton, 1980, Fig. 3, No. 19, different handle) and on the Knapp-Drewett site (Pearce and Vince 1988, Fig. 97, No. 334). Similar forms were also produced at kilns on the Surrey–Hants. border; at least one open-socketed skillet handle was found with kiln waste at Park Row, Farnham (Timby 1982, Fig. 6, No. 64), dated from the mid–late 13th century to the mid–late 14th century. The coarse border ware examples, however, generally have a drooping flanged rim (Pearce and Vince 1988, Fig.

Table 3. The distribution of the pottery by sherd count.

Code	Ware	The Phases								
		1	3a	3b/4	4	5	6a	6b	6c	7
SHERB	S. Herts: b (coarse)	2	3	2						
SHERC	S. Herts: c (coarse)	3	1	1						
SHERD	S. Herts: d (sandy)	1	4	8		1	2			
SHERE	S. Herts: e (fine)	3	5	2						
SHERF	S. Herts: f (Elstree?)	6	1							
SHERG	S. Herts? coarse glazed	3	1	1						
GS	Gritty–sandy ware	25	4	3						
GSH	Gritty–shelly ware	2	3				1			
SSW	Sand + shell-tempered	8	4							
LON	London ware	4	8	7		1		1	1	
LS	London sandy	1	1						1	
OSR	Other sandy (red)	17	9	3						
MGF	Mill Green fine	89	16	25		4		1	2	
MGC	Mill Green coarse	1	2	1		3		1		
KING	Kingston-type ware	38	10	1						
CBW	Coarse Border ware	1	64	78	2	8	5			1
WEA?	Wealden ware?		1							
CHEA	Cheam		2	2				5		
LLON	Late London			1		3	4	2		
GUYS	'Guys'/Kingston redware				2	5	1	6	3	
PMR	Post-med. redware		(2)	1	6	8	11	44	13	8
BORD	Fine Border ware					2	3	3	5	9
CSTN	Cistercian ware					1				
PMBL	Post-medieval black ware						1			
TGW	Tin-glazed ware					2	2		1	5
STBU	Staffs. butterpot									1
SIEG	Siegburg stoneware			1						
SAIN	Saintonge medieval					1				
FREC	Cologne/Frechen stoneware					5		5	2	1
LCR	Low Countries redware					2				
MART	Martincamp stoneware					1	1			
Total sherds		204	148	138	10	47	31	68	29	24

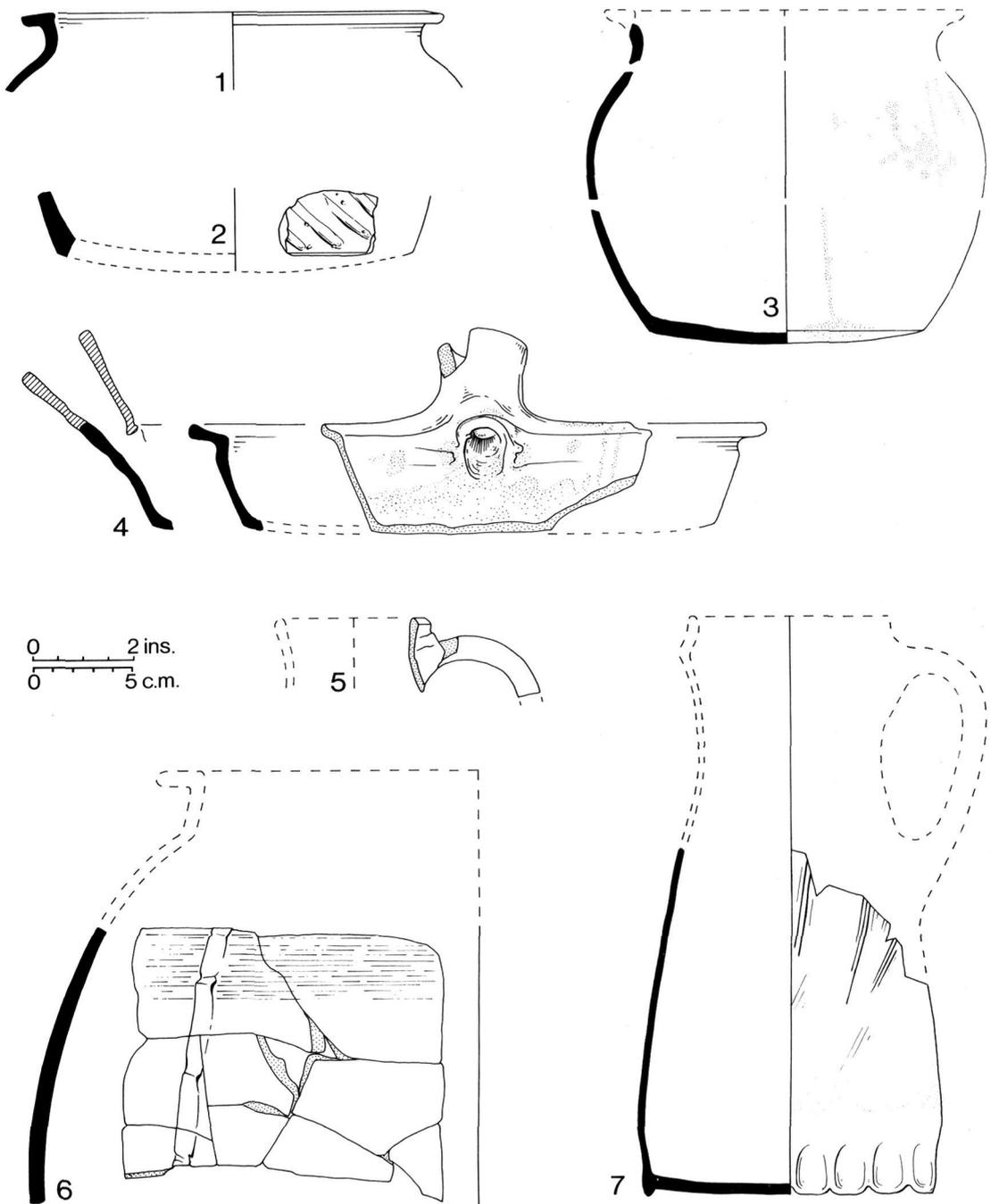


Fig. 12. Shore Road. The medieval pottery from the ditch, Phase 1.

Table 4. Shore Road: Catalogue of the illustrated pottery and tile.

No.	Layer	Phase	Fabric Code	Total Sherds	References/comments
Fig. 12.					
1	106	1	GS	1	Cooking pot; unglazed
2	76	1	GS	3=1	Cooking pot; unglazed, incised decoration
3	73	1	KING	23	Thin green glaze on base, streaks on wall show pot was inverted when fired
	76	1			
	103	3a			
	63	3a			
4	80	1	KING	24	Skillet; internal green glaze
5	106	1	KING	1	Metal copy jug; external green glaze
	99	3a		1	Pearce and Vince 1988, Fig. 12
6	73	1	KING	9	Cooking pot; unglazed, soot-blackened
7	73	1	MGF	30	Pearce <i>et al</i> 1982, Fig. 3, Nos. 1-3
	92	3b/4		1	Cream slip, green glaze, combed dec.
Fig. 13.					
8	61	3a	GS	1	Cooking pot; roughly finished
9	52	3a	SHERE	1	Cooking pot; unglazed
10	63	3a	LOND	1	Jug; cream slip, green glaze
	52	3a		1	Pearce <i>et al</i> 1985, Figs 44, 45
	40	3b/4		1	
11	59	3a	MGF	1	Jug; cream slip and green glaze
12	61	3a	MGF	1	Jug; Thorn 1975, Fig. 15, No. 246
13	47	3a	KING	1	Jug; unglazed, stabbed
14	58	1	CBW	1	Pipkin; internal green glaze, stabbed feet
	46	3a		3	
	47	3a		2	
	52	3a		17	
	31	3b/4		1	
	35	3b/4		8	
	40	3b/4		1	
	43	3b/4		1	
	16	5		1	
15	97	3a	CBW	7	Cooking pot; splash of green glaze under rim
16	97	3a	CBW	1(+2)	Cooking pot; green glaze inside/over rim
17	50	3b/4	SHERC	1	?Drinking jug; unglazed
18	50	3b/4	MGF	1	Jug; unglazed
19	95	3b/4	CBW	1	Cooking pot; patchy green glaze
20	95	3b/4	CBW	1	Cooking pot; unglazed
21	95	3b/4	CBW	4=1	Cooking pot; unglazed
Fig. 14.					
22	32	4	GUYS	2	Bowl, scarred on rim Dawson 1979, Fig. 10, Nos 144, 147
23	11	5	LCR?	2	Jug; glossy clear/orange glaze
24	38	6b	PMRA	1	Bowl; good green glaze internally
25	38	6b	PMIR	6	Bowl; thin green glaze internally
26	88	5	PMRA	1	Storage jar; thick white slip and patchy green glaze
	38	6b		27	
	22	6c		1	Pryor and Blockley 1978, Fig. 16, No. 82
27	38	6b	DUTCH?	1	Polychrome tin-glazed floor tile (blue, ochre, green) De Jonge 1971, Pl. 4 Britton 1986, 174, No. 192

117, Nos 492–8). No. 5 derives from a small metal copy jug with a sub-rectangular handle (*ibid.*, 20). These were produced from the mid-13th to the mid-14th-century, but were most popular *c.*1300; true strap handles are rare on Kingston-type ware until the later 14th-century (eg. Phase 3b, Fig. 13, No. 13).

No. 7, reconstructed from over seventy fragments, is the complete base and lower half of a Mill Green ware conical jug, dating to *c.*1270–1300; this was the main late 13th-century jug form produced at Mill Green (Pearce *et al* 1982, 272). In the 14th century this type was superseded by a squatter, more globular jug form, of which seven sherds were found in layers 70 and 73.

Phase 3a. Build-up (Fig. 13).

These dumps produced 148 sherds (1.09kg), including a number of sherds from Nos 3 and 5, a crudely made rim in a gritty-shelly ware (No. 8), a South Herts. ware cooking pot (No. 9), the rim of a conical jug from Mill Green (No. 11) and other residual material. No. 10, an internally bevelled rim sherd from a London ware conical jug is of the type found on the highly decorated wares made *c.*1275–1350 (Pearce *et al* 1985, 21, 25). A base sherd, possibly from the same jug, is of interest in having a plant impression on the underside (cf. Pearce *et al* 1985, 32, Pl. 6, virtually identical examples).

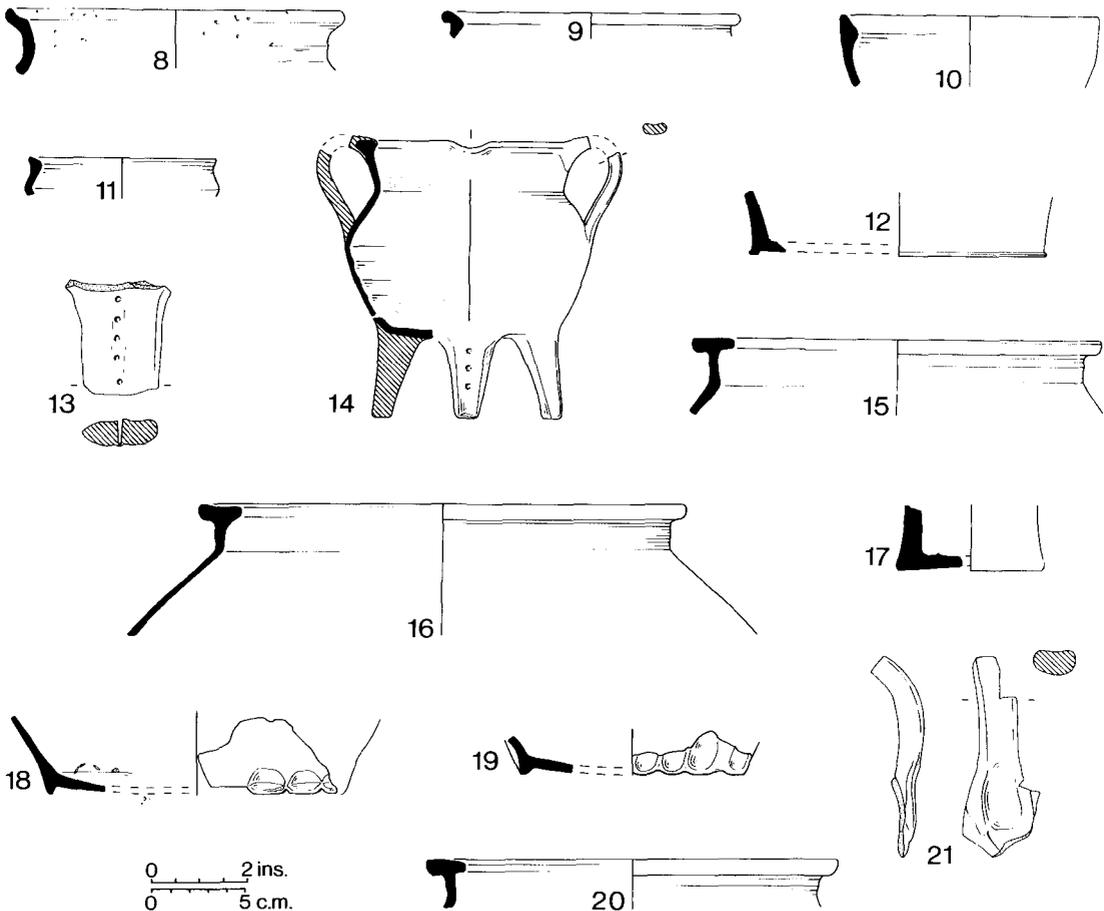


Fig. 13. Shore Road. The medieval pottery, Phases 3–4.

Of 14th-century date are Nos 12–17. No. 12 is an unusual base sherd from a large globular jug from Mill Green with a slightly raised ring foot; this form is not recorded in the recent survey of Mill Green ware from the London area (Pearce *et al* 1982), although a similar base in a red fabric (not attributed to any source) was found at the Custom House.

The dominant fabric is 'coarse border ware', the main Surrey white ware in use from *c.*1350. The large thin-walled cooking pots (Nos 15, 16) are typical of the later wares (Pearce *et al* 1988, 61). No. 14 is a small tripod pipkin, sherds of which were scattered through many dumped deposits. This vessel is problematical, being similar in fabric to Kingston-type ware, but closer to coarse border ware in terms of manufacture; the pouring lip, luting of the feet and handles to the body and rim and the stabbed feet are typical of coarse border-ware cauldrons, but are so far not known at Kingston. No such small examples have been found in coarse border ware, however (Pearce *et al* 1988, 46, 62–3; Fig. 116, No. 489, Fig. 117, No. 491). One non-local ware has a peach/orange body with rose and milky quartz and fine black sand inclusions; this may be of Wealden origin. Three sherds of Cheam ware, from layers 63, 46, and 96 date the group to post-*c.*1380 (two sherds of post-medieval pottery from layers 56 and 47 are discounted as intrusive).

Phase 3b/4. Build-up (Fig. 13).

These layers produced 138 sherds (0.73kg) of late 14th- to early 16th-century date. Of interest are the base of a small baluster type drinking jug in the London tradition (No. 17) in a very sandy grey ware (probably from South Herts.), and the base of a large globular jug from Mill Green with grouped thumbing at the base angle — the mark of the fingernails is visible inside the vessel (No. 18). As above, the group is dominated by the border wares, which include three sherds from No. 14, and Nos 19–21, the latter a cauldron handle. Also present are one sherd from an early fine red-ware pipkin dating to *c.*1500, and one sherd from a dripping pan in Late London ware (*c.*1400–1500). Sherds from the same pan found in Phase 5 (93) show that it was *c.*30cm wide and 3cm deep internally, with rounded corners, heavily knife-trimmed on the underside, and with a thin patchy green glaze inside. The first import, a sherd of Siegburg stoneware, probably from a drinking cup dating to *c.*1450–1550 (Hurst 1986, 178, Fig. 88, No. 257) also occurs in this group. The general lack of post-medieval material suggests an end date in the early 16th century.

Phase 4. Inside the building (Fig. 14).

Of the ten sherds (0.2kg) found in the final floor of the building, eight are of 16th-century date, including part of a large red-ware bowl (No. 22) with a pouring lip, external knife-trimming and internal slip under a clear glaze in the tradition known as 'Guy's ware' (Dawson 1979, 44); the coarse sandy fabric is similar to redware wasters found at Kingston, provisionally dated to the late 15th–early 16th century (Nelson 1981). The bowl would probably have had pinched feet in the Dutch style, and possibly a horizontal handle. The slip and glaze on the rim have been damaged due to contact with another vessel in the kiln. Four other sherds are from a highly fired cooking pot with internal glaze, a sherd of which was also trampled into layer 56.

Phase 5. Demolition (Fig. 14).

These layers produced only forty-seven sherds (1.07kg), mainly local post-medieval red-ware. Inside the building these include the base of a bowl with internal slip and glaze similar to No. 22, and part of the dripping pan found in Phases 4 and 7. A few sherds of imported pottery were also found here; one sherd from a 13th-century pégau (pitcher) from the Saintonge, with applied decoration, one sherd from a Type 1 Martincamp flask, and two sherds from a small jug of probable Low Countries origin, in a fine pale orange fabric with a glossy clear glaze (No. 23).

Outside the building in Area 1 the 16th-century pottery includes two sherds of 'Guys ware', and one sherd of Cistercian ware. In Area 2 the pottery appears to be slightly later; layer 90 contained one sherd from a (?Dutch) tin-glazed dish, and both 90 and 88 produced sherds joining with others from the ditch (No. 26 and a Frechen stoneware bellarmine). These deposits probably date to the late 16th or early 17th century.

Phases 6a, 6b, 6c. Levelling, ditches (Fig. 14)

The levelling dumps produced 31 sherds (0.5kg) of a mixed date, including one sherd from a black-ware tyg.

The bulk of the pottery from the earlier ditch (67 sherds, 3.57kg) was derived from the eastern part of the site (layer 38). This contained a number of later 17th-century redwares, including two bowls (Nos 24, 25) and a large storage jar (No. 26), probably from Woolwich. No. 25 is in a very micaceous, iron-rich fabric (PMIR), possibly from Harlow area, coded as type RC at Burlington Road (Blackmore 1985, 104). Also present are sherds of

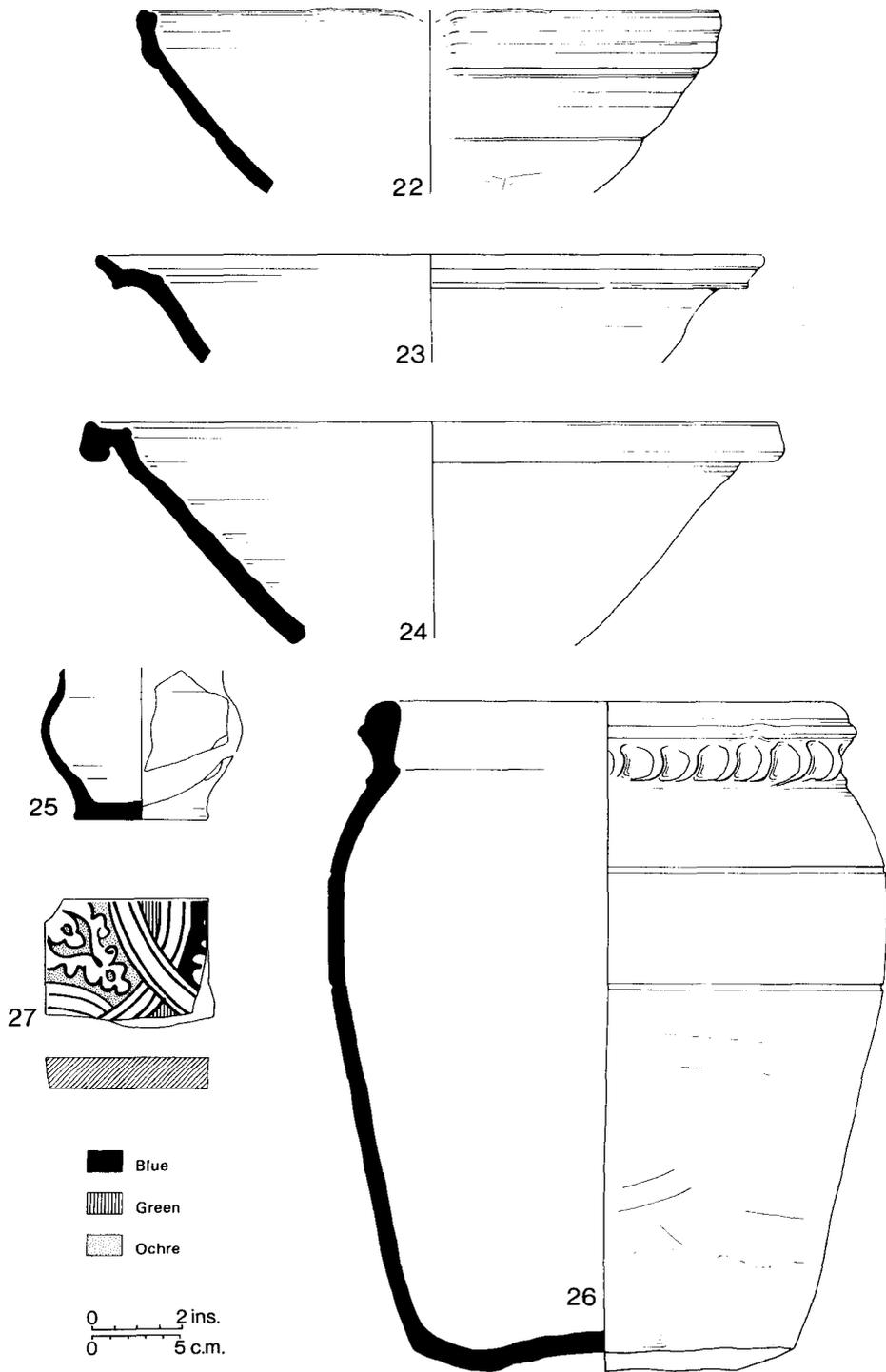


Fig. 14. Shore Road. The post-medieval pottery, Phases 5-7.

tin-glazed ware, and Frechen stoneware joining with that in Phase 5. The pottery from the later ditch (25 sherds, 0.9kg) is of late 17th-/early 18th-century date. This group includes part of a large bucket-type storage jar with horizontal strap handles, perforated base sherds and other material similar to finds from Burlington Road and Crosswall (Vince *et al* 1981).

Phase 7

The final deposits contained 24 sherds (0.45kg), including part of a red-ware storage jar with thumbbed decoration (cf. Pryor and Blockley 1979, Fig. 15, Nos 77–80; Blackmore 1985, Fig. 5, No. 8), Staffordshire butterpot, and tin-glazed ware with floral decoration in dark blue and black on a pale blue ground, probably from Liguria, Italy and of mid-17th-century date (Hurst 1986, 26–30).

THE CLAY PIPES

by RICHENDA GOFFIN

A total of thirty-six fragments were recovered, including seven bowl fragments. These have been dated according to the typology in Oswald (1975).

Phase 6a. One incomplete bowl and stem fragment dating to c.1640–80. (bore diameter 3mm) from layer 8; one incomplete bowl fragment with rouletted rim dating to 1680–1710 (bore diameter of 2.5mm) from layer 3; four stem fragments with bore diameter of 3mm, one of 2mm.

Phase 6b, layer 38. One small bulbous bowl (incomplete) with clear rouletting of the rim, dating to 1600–

1640 (possibly up to 1660); two stem fragments with bore diameter of 3mm, one of 4mm.

Phase 6c, layer 28. One bowl fragment with a slightly constricted rouletted rim dating to 1600–1640 (possibly a little later); ten stem fragments. The bore diameter is in all cases 3mm.

Phase 7, layer 1. One bowl fragment dating to 1680–1710, with the initials 'P' 'C' in relief on the sides of the bowl; several pipemakers with these initials have been recorded in the London area at this time. Also one bowl fragment dating to c.1700–1740. Unstratified: one bowl fragment dating to 1700–1740.

THE SMALL FINDS by LYN BLACKMORE

Very few small finds were recovered, the only datable object being a worn silver coin of Edward III, 1351–77, from layer 92 (Phase 3b/4). Metal finds comprise part of a copper alloy binding from layer 52 (Fig. 15), fragments of copper alloy pin and wire, a boot-lace chape, and a strip of lead (layer 96, Phase 3b/4). The glass includes twenty-seven small beads of pink, blue, black and white glass (layer 43, Phase 3b/4), of which the black beads (2mm long) are hexagonal in section, the others cylindrical (1–2mm long). Also found were a fragment of window glass (layer 32, Phase 4), and the rare and important fragments of medieval vessel glass discussed below.

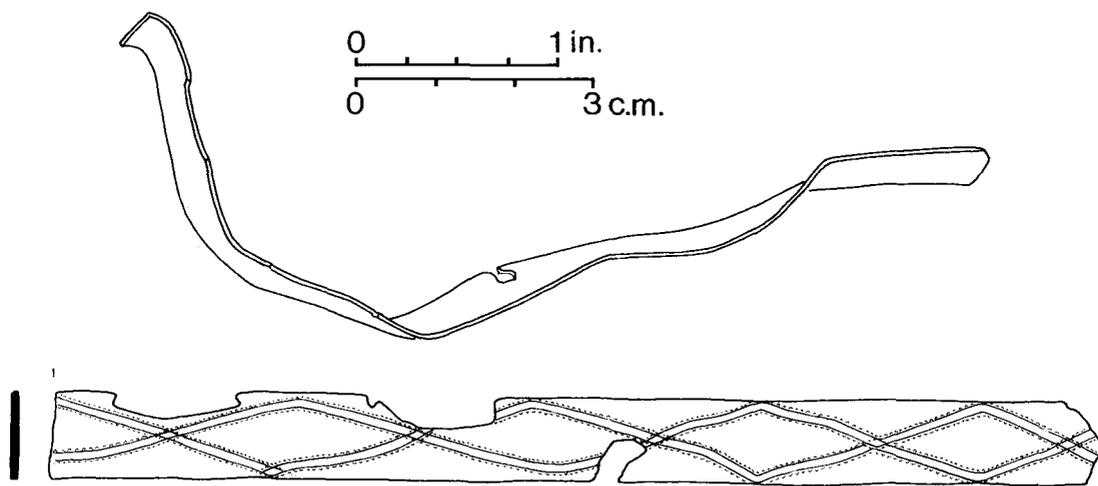


Fig. 15. Shore Road. The engraved copper alloy binding (Phase 3a).

MEDIEVAL GLASS
by JOHN CLARK

A number of fragments of glass vessels, or possibly of a single vessel, were found scattered both inside the building (layer 56 - Phase 3a) and outside (layers 20 and 43 - Phase 3b/4, and layer 11 Phase 5). The latter presumably come from an earlier context disturbed by the 16th-century demolition, since the presence of major fragments in Phase 3a and external parallels for the form and style suggest an earlier date for the vessel(s).

Fig. 16, No. 1

Rim fragment from a vessel of clear colourless glass, with a blue thread around the rim (SF. 21, layer 20).

Body fragment of a vessel of clear colourless glass, decorated with three applied blue threads and a colourless pincer trail. Though there is no join the profile appears to overlap with that of the rim fragment from layer 20, and Fig.16, No.1 is based on the assumption that they are from the same vessel (SF. 19, layer 43).

Fig. 16, No. 2

Stem and part of bowl of a wineglass of clear colourless

glass, slightly bubbled, represented by three joining fragments; a further non-joining fragment from a broad foot of identical glass found in the same context is assumed to be from the same vessel. The stem is hollow-blown for most of its length, becoming solid towards the top, and is decorated with an applied frill of blue glass. The surviving part of the bowl has shallow mould-blown ribs, and an applied and pincer trail of colourless glass around the body angle (SF. 15, layer 56).

Two joining fragments of a broad foot, of glass similar to the above. The profile is identical with that of the foot fragment in layer 56; all these fragments are presumably from one vessel, and are so reconstructed in Fig. 16, (SF. 22, layer 22).

Unillustrated

Fragment of a vessel clearly distinct from those above, of originally clear but now highly iridescent glass. Slightly fluted on the interior, it represents the junction of the vessel body with a tall folded foot (SF. 22, layer 22).

An extremely close parallel for the stemmed glass exists in the Museum of London (formerly Guildhall Museum) collections - Fig. 16, No. 3.

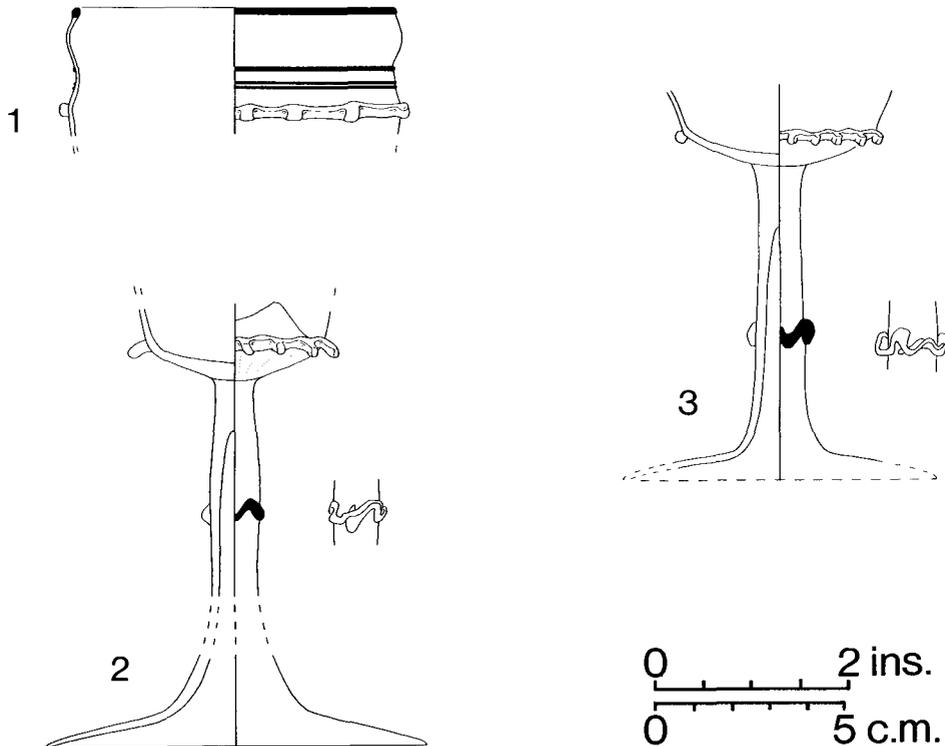


Fig. 16. Shore Road. The glass (Nos. 1, 2) with a similar vessel from Lothbury (No. 3) with detail showing the anti-clockwise trail on the stems.

This latter glass (accession number 13338) is recorded as having been found in Lothbury (City) in 1866 — a provenance that gives no clue as to its date, though Charleston (1975, 204) has suggested for it a 14th-century date, and Italian origin, on the basis of other parallels. Baumgartner and Krueger (1988, 183–4, No. 153) suggest a 13th–14th-century date for the Lothbury piece, though unable, in spite of access to an extremely wide range of European medieval glass, to quote any close parallel to the form other than the present stem from Shore Road!

High-stemmed glass goblets, presumably inspired by forms in precious metal, are widespread in western Europe from the late 13th century and throughout the 14th century, having either a hollow stem which expands to form the foot or a solid stem with a separate applied foot which is often of exaggerated conical form (Harden 1975, 36–9, Figs. 4, 9 and 10; Wenzel 1977, 71, Fig. 7; Baumgartner and Krueger 1985). The bowls of these vessels rarely survive in reconstructable form. A shallow flaring shape seems normal, but there are instances of deeper bell-shaped bowls, not dissimilar to those of the later stemmed Venetian goblets of the second half of the 15th century (Harden 1969, Fig. 17; Chambon 1975, Fig. 2, D1; cf. Tait 1979, Pls 2, 3 and 5). Although it would be unwise to reconstruct them in this way without further confirmation, it is certainly possible that the rim and body fragments from layers 20 and 43 come from the same vessel as the stem fragments. Very similar rim and body fragments found late in 1986 during Museum of London Department of Urban Archaeology excavations in Little Britain (City) assist neither with the dating nor with the reconstruction of the form; they were found with other glass of, at first sight, late medieval type in what seemed to be post-medieval demolition debris in a stone-built structure, perhaps a cellar, to which no certain date of construction or use could be assigned (information from the site supervisor, Marie Nally). The Little Britain vessel was published by Baumgartner and Krueger (1988, 184, No. 154), and assigned by them with some hesitation to possibly the 13th/14th century. Body fragments of two other similar vessels in the Museum of London collections (A25787 and A25788) came in 1923 from a cesspit in Nicholas Lane (City), unfortunately undated, but associated with a glass beaker or tumbler of clear colourless glass which itself has several parallels in a large group of 15th- to early 16th-century pottery and glass from a medieval cellar in Post Office Court, 1939 (accession number 16648—see also notes by Adrian Oswald in Museum of London (DUA) file GM1 'Notes on Excavations in the City', under Abchurch Lane).

Stemmed glasses are found in both the pale green 'forest' glass of north-west Europe and in the fine more-or-less colourless glass, like that of the Shore Road and Lothbury glasses, for which a Mediterranean, probably Italian, origin is likely (Charleston 1975, 204). The use of blue threads on these pieces may also suggest an origin in Italy, where this form of decoration seems to have been universally popular in the 13th to 15th centuries (Charleston 1972, 46; Whitehouse 1983, 116–17). Whitehouse (1981, 168, 174) reports vessels decorated with blue frills from sites in central and south Italy, including, from Lucera, a stemmed goblet with, like the London glasses, a blue frill around the stem, and it may perhaps be in this region rather than in Venice, the later source of so much fine glass, that the origin of the London finds should be sought.

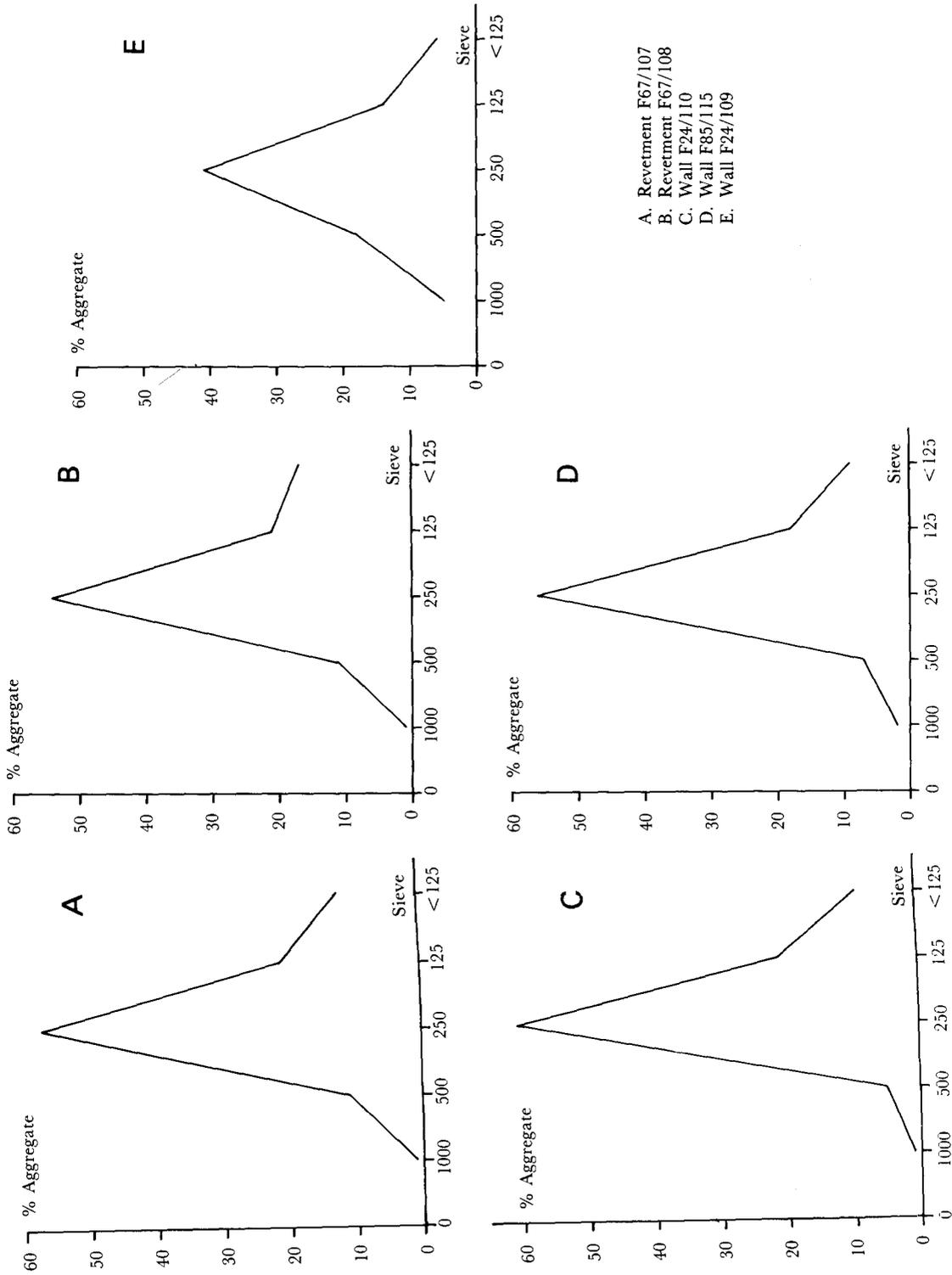
THE CERAMIC BUILDING MATERIAL AND MORTAR by SUSAN DEGNAN

Tile and brick

The Shore Road building material mainly comprises broken fragments of roof-tile, with a few fragments of brick, and a very abraded fragment of tile from layer 73 (Phase 1). The bulk of the assemblage is made up of peg-tile, c. 95% of which is in a fine red sandy fabric (2276/71). The sample from layer 52 (Phase 3a) includes a fragment of ridge tile and a near complete peg tile (272 × 155 × 13mm) in this fabric. A lesser proportion of fragments are in fabric 2587. These fabrics both span the late medieval and post-medieval periods. The sample from context 35 (Phase 3b/4) includes a fragment of hip tile with a small nail hole (6mm across), in a sandy fabric which is slightly coarser than usual, which is probably of late medieval date.

The brick sample from wall F7/117, in a red sandy fabric (3033) measures 250mm (9³/₄" long × 125mm (5" wide × 60mm (2³/₈" thick). Isolated bricks are notoriously difficult to date; in the Elizabethan period a rough standardisation of size took place at c.9 × 4¹/₂ × 2 inches, but before, and even after this, size and fabric are variable (Wight 1972, 43). All that can be said of the Shore Road brick is that it is probably of Tudor date (ie post 1485).

Only one fragment of decorated tile was found, in the fill of the Phase 6a ditch (Fig. 14, No. 27). This is probably Dutch, and of late 16th-century date, although this polychrome design, in blue, ochre and green, was also produced in England in the early 17th-century.



- A. Revetment F67/107
- B. Revetment F67/108
- C. Wall F24/110
- D. Wall F85/115
- E. Wall F24/109

Fig. 17. The mortar analysis: Groups I and Ia

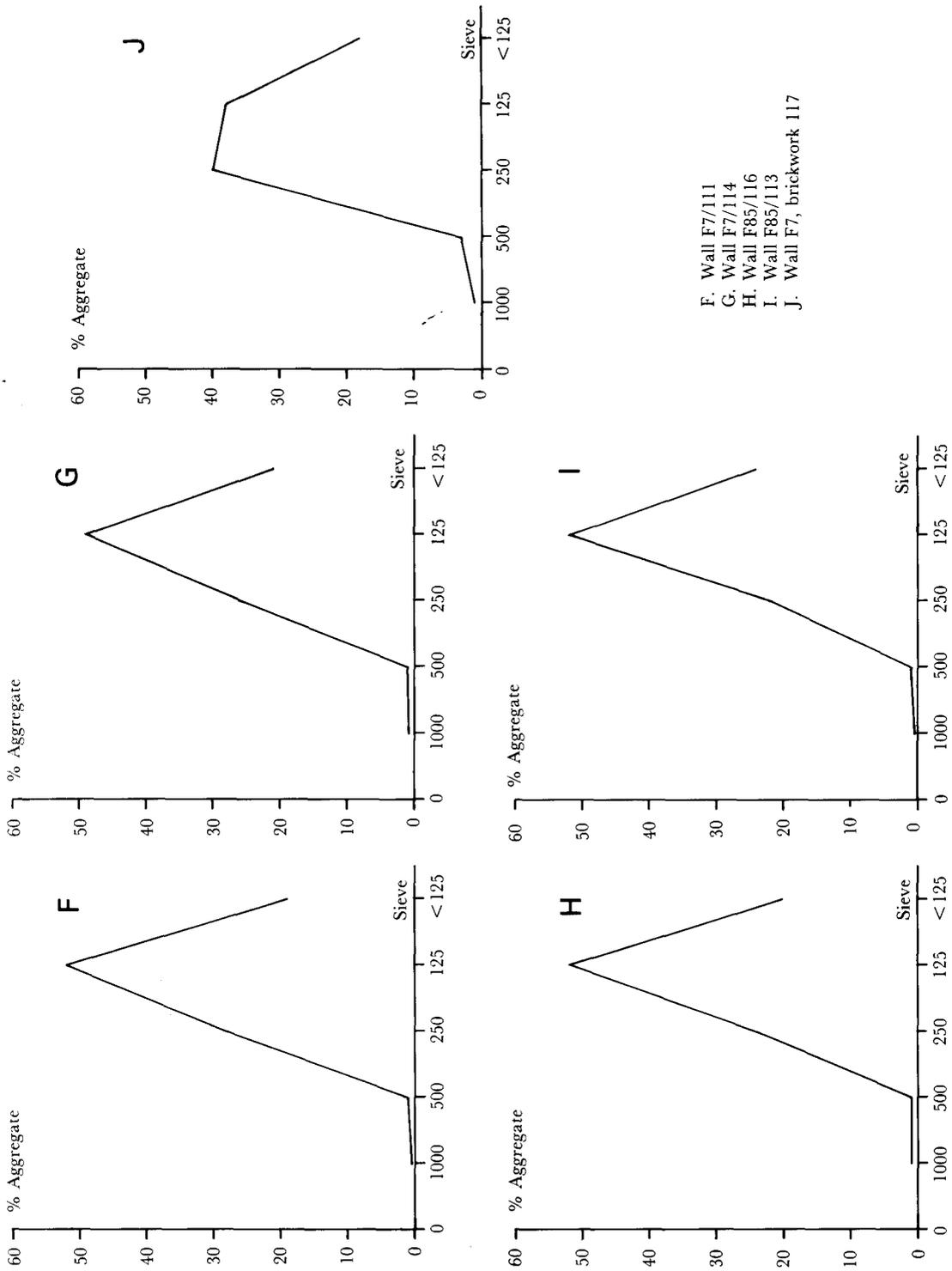


Fig. 18. The mortar analysis: Groups 2 and 2a.

Table 5. Results of the mortar analyses.

Group	Feature	Gravel	Sand	Lime	Type
<i>Group 1a</i>					
Revetment	F67/107	0.1	4	1	mortar
	F67/108	0.05	3	1	mortar
Wall	F24/110	0.1	5	1	light concrete
Inner wall	F85/115	0.2	2.5	1	mortar
<i>Group 1b</i>					
Wall	F24/109	1.9	8	1	concrete
<i>Group 2a</i>					
Outer wall	F7/111	0.5	10	1	concrete
Blocking	F85/113	0.1	14	1	concrete
Rebuild	F24/114	0.1	7	1	concrete
Outer wall	F85/116	0.1	4	1	mortar
<i>Group 2b</i>					
Rebuild	F7/117	0.02	2.5	1	mortar

The Mortar

Ten samples of mortar were submitted for analysis, which were processed at the North East London Polytechnic. The samples, each of 30gm, were treated with dilute hydrochloric acid to separate the carbonate material from the aggregate, and thus permit the proportion of lime used in the mixture to be calculated. The coarseness and quantity of the aggregate in proportion to the lime together determine the nature of the mortar or concrete. After filtering and drying, the remaining aggregate was sieved in order to grade the sands and gravels, and the residues were then weighed. These weights were converted into a percentage of the total weight of the aggregate, and plotted on a graph against the mesh size of the sieve. By comparing the patterns in these graphs, it is possible to adjudicate whether two mortars are likely to have come from the same or different mixes.

All of the mortars (some would be more correctly termed concrete) were noticeably sandy and contained a very small proportion of gravel. This would be consistent with them being used in walls of chalk, rag or brick where they were bonding relatively smooth surfaces. The distribution patterns displayed by the mortars divide quite distinctly into two main groups and two sub-groups of one sample each, which reflect the different building phases, although in the case of wall F24 the similarity between the mortar from F24/110 and walls F67 and F85 suggests that the temporal difference between F24/109 and F24/110 is not great.

Two samples, F111/24 and F113/16 proved to have a very high proportion of aggregate to lime. This may be the result of poor preservation, the lime content having leached out, or reflect an attempt to stretch the mixture, possibly for the internal fill of the wall.

THE ANIMAL BONE by ALISON LOCKER

The identifications and analyses available in the site archive. The only real group was that from the ditch (Phase 1), which was not large enough for any meaningful study.

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THE 17TH CENTURY "COCK ALE-HOUSE" AT TEMPLE BAR AND SOME FULHAM STONEWARE BOTTLES

DENNIS HASELGROVE

INTRODUCTION

In about 1672, in King Charles II's reign, John Dwight (c. 1635–1703), who was a trained chemist and ceramic enthusiast, embarked on a new career with the aim of commercially reproducing both fine china, as imported from the East, and also the non-porous salt-glazed stoneware drinking and other vessels which had long been brought to England from the German Rhineland area. He established himself at Fulham, some 6 miles up river from London Bridge. With the stoneware, at least, he achieved remarkable success and was able for the first time to establish the manufacture in England.

During the 1970s it was possible to undertake extensive archaeological excavations at the Pottery at Fulham where the business which Dwight began has been carried on. A definitive report is being completed and published separately¹. The present mainly historical essay refers to the context of one feature only of the excavations, the evidence which appeared of the making in the first phase of successful manufacture, from 1675 or 1676, of a uniquely large supply of stoneware bottles for one customer, with their decorative medallion displaying a Cock and the letters "H. C."

Some of these bottles, with the same medallion device, were already known. More than 50 years ago, discussing an example which was excavated at Oxford and 2 more from London, E. T. Leeds

readily saw them, in comparison with more or less contemporary Rhineland vessels of similar form, as products of Dwight's factory. 15 years later, in 1948, an example was excavated at the Pottery itself. Leeds had also been able to suggest that this design could well have been made for a certain Henry Crosse as the master of the Cock Ale-house at Temple Bar in London, a 17th century house for eating and drinking to which (among many such establishments) visits were recorded by Samuel Pepys in his *Diary* of the 1660s. Although, as Leeds also noted, this had long been assumed to have been the same house as the later very well known Cock Tavern within Temple Bar on the north side of Fleet Street, it had recently been shown to have been a short distance away, immediately outside Temple Bar on the south side of the Strand (Plates 1 and 2)².

Following the 1970s excavations further enquiry to seek confirmation of the context and likely period of manufacture of these bottles seemed to be important. This has led, tortuously but inexorably, into unexpected ramifications, such as activity in the brewing trade, drinking of bottled ale in Charles II's London and previously unexplored aspects of topographical and family history. There are uncertain aspects in the story, and Leeds' association of the bottles with Henry Crosse still cannot be claimed to have been completely proved, but it appears to have been put beyond reason-

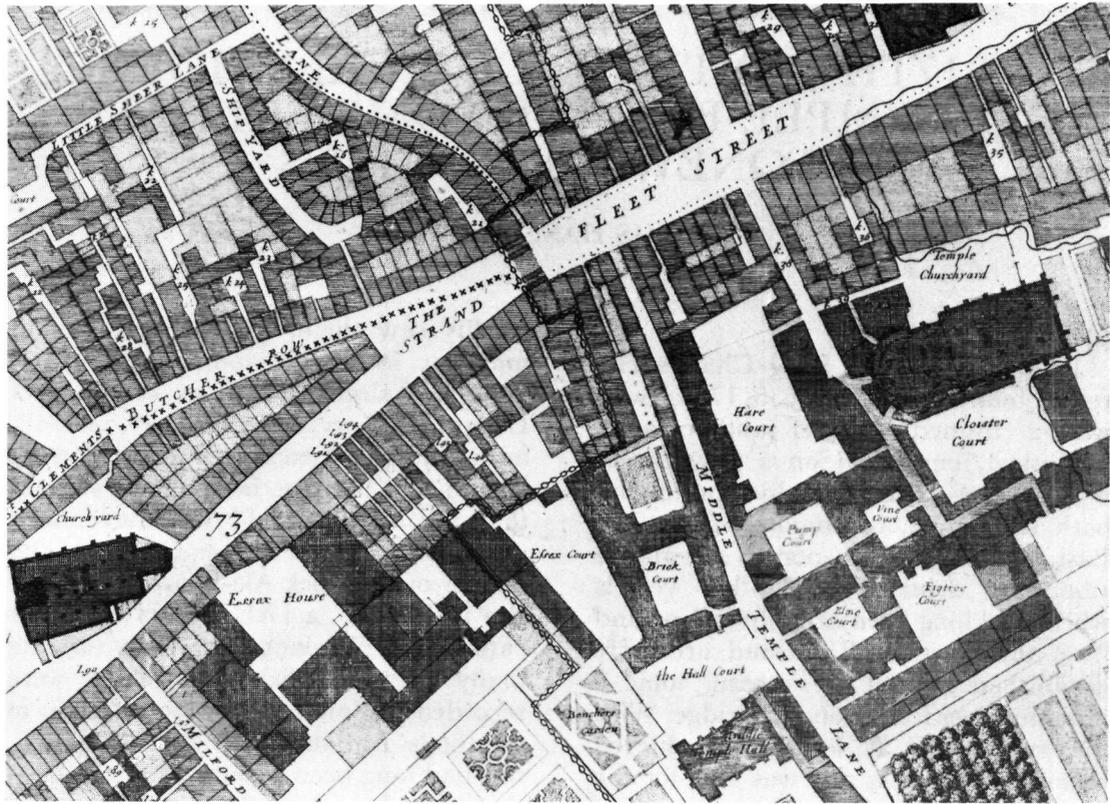


Plate 1 The Temple Bar area, from Ogilby and Morgan, *Plan of the City of London*, 1676 (Guildhall Library).

able doubt. From several points of view, a good deal of interest may perhaps be found in a fuller account of the matter than is feasible within the framework of a major archaeological report of much wider scope and importance.

THE STONEWARE BOTTLES

It is logical to begin with the bottles themselves. Historical and archaeological evidence now combines to confirm that it was not until about the beginning of 1675 that, after 2 or 3 years' difficult experimentation at Fulham with clay bodies and the required high temperature firing, as well as compelling urges towards more exotic invention, Dwight was able to establish his manufacture of the ordinary

"brown stoneware" drinking mugs, bottles and other forms for general sale. Though he and his contacts and workmen had all apparently lacked direct knowledge of the production methods in the Rhineland, the imported ware was closely and successfully reproduced. The indications are that Dwight judged initially that it would be desirable as a rule to go on providing the familiar traditional kinds of decoration and, although in fact he soon abandoned imitation of the "*Bartmann*" or so-called (by his English contemporaries) "*Bellarmino*" or "*D'Alva*" disquieting face portrayals which were usual on the necks of the German bottles, he commissioned a wide range of moulds for appealing medallion designs of excellent



Plate 2 Temple Bar, west side, showing location of the Cock Ale-house adjoining it on the south side of the Strand, after De Ram's *Views of London*, c. 1690 (Guildhall Library).

artistry. Undoubtedly this must have added significantly to the production costs, both in the large-scale provision of the moulds by specialist craftsmen and also in the increased likelihood of damage occurring to the ware during firing. Whether or not very profitably, however, Dwight was able to offer the London retailers (the members of the Glass-sellers' Company) prices which nearly enough matched the cost of the imported ware, of which at this time there was still probably a current shortage owing to Charles II's recent Third Dutch War and the continuing fighting on the Continent³. He had already in 1672 taken steps to obtain a 14-year patent for hopefully

making both the "China and Persian ware", as imported from the East, and also the stoneware, and he was later able to get this monopoly effectively extended until 1698; it was not until the 1690s that he began to encounter English competition in making stoneware⁴. By March 1676 the Glass-sellers' Company, whose members had sole rights for the retail sale of glass and all forms of pottery in London and the immediately surrounding area, were willing to make a 3-year agreement to take the whole of a Fulham output of approved forms of stoneware in preference to imported ware, channelling this through a depot on the City waterfront; this contract, assuming it came into

operation, was renegotiated with price and other refinements a year later and it will have run until 1680. Afterwards, though there is no evidence of desire by either side for further renewal of the arrangement, it is clear from both the archaeological and historical evidence that a steady output of a developing range of both the ordinary and some finer stoneware products was maintained at Fulham⁵.

The excavations produced very large deposits of stoneware waste buried on site from both the experimental and the early production phases. What was recovered had mostly been thoroughly broken up, so usually producing parts only of individual vessels in the excavated areas, but a generally detailed view was obtained of the developments up to about 1690. When production for the market began it was principally of globular-type drinking mugs and the "narrow-neck" bottles with handles which are the concern here. These latter copied the form of the mass-produced Frechen (near Cologne) bottles which had been made in large quantities for the English market in recent years, and at this stage at Fulham, while some were made in smaller and larger sizes, production was concentrated on what must have been nominally the "quart" size, relating rather to the small "Troy" quart of the market place and the wine merchant than to the larger statutory "ale quart" of Queen Elizabeth. The bottles are usually a little over 20cm in height and were used not only for table service but increasingly, with the recently developed English "green-glass" bottles also, for bottling of wine and other drink; they were designed, if required, to be corked and secured with packthread⁶.

While the Fulham use of the "Bellarmine" face masks was limited and appeared quickly to have been given up, the range of medallion designs, many of

them found to have been used on both mugs and bottles, was large, particularly in the first phase of satisfactory large-scale production. The excavations produced over 150 different designs. A relatively few included personal names, initials, arms or a date, and evidently some of these were intended to provide compliments or gifts for Dwight's personal friends and other individuals. Many more of the series, though without personal identification, were clearly designed to appeal especially to keepers of wine-taverns, inns or ale-houses, showing popular signs such as, for example, the Mermaid, Man in the Moon and Fox and Goose, but others seem to have been aimed to appeal more widely, with representations of birds and animals and a series of popular heraldic crests. Another large group was a full range of the Royal and national heraldic arms and badges, mostly incorporating the initials "C. R." or a cipher for King Charles II. This initial variety may probably have been mainly for promotional purposes rather than to meet specific orders for particular designs. In any case it was not apparently maintained for very long, and a change, which might well have resulted directly from the conclusion of the contract with the Glass-sellers' Company in March 1676, with both adequate assurance for future production and evidently agreement in detail as to what was to be produced, seems to have greatly reduced the range of designs which continued to be used; these were now predominantly the Royal and national arms and badges, still with the "C. R." initials. It nevertheless appeared that the proportion of mugs and bottles decorated with the medallions was still large (though not cylindrical-form mugs, which also began to be made in large numbers but normally without medallion decoration); and in some cases examples from many individual moulds (up to as

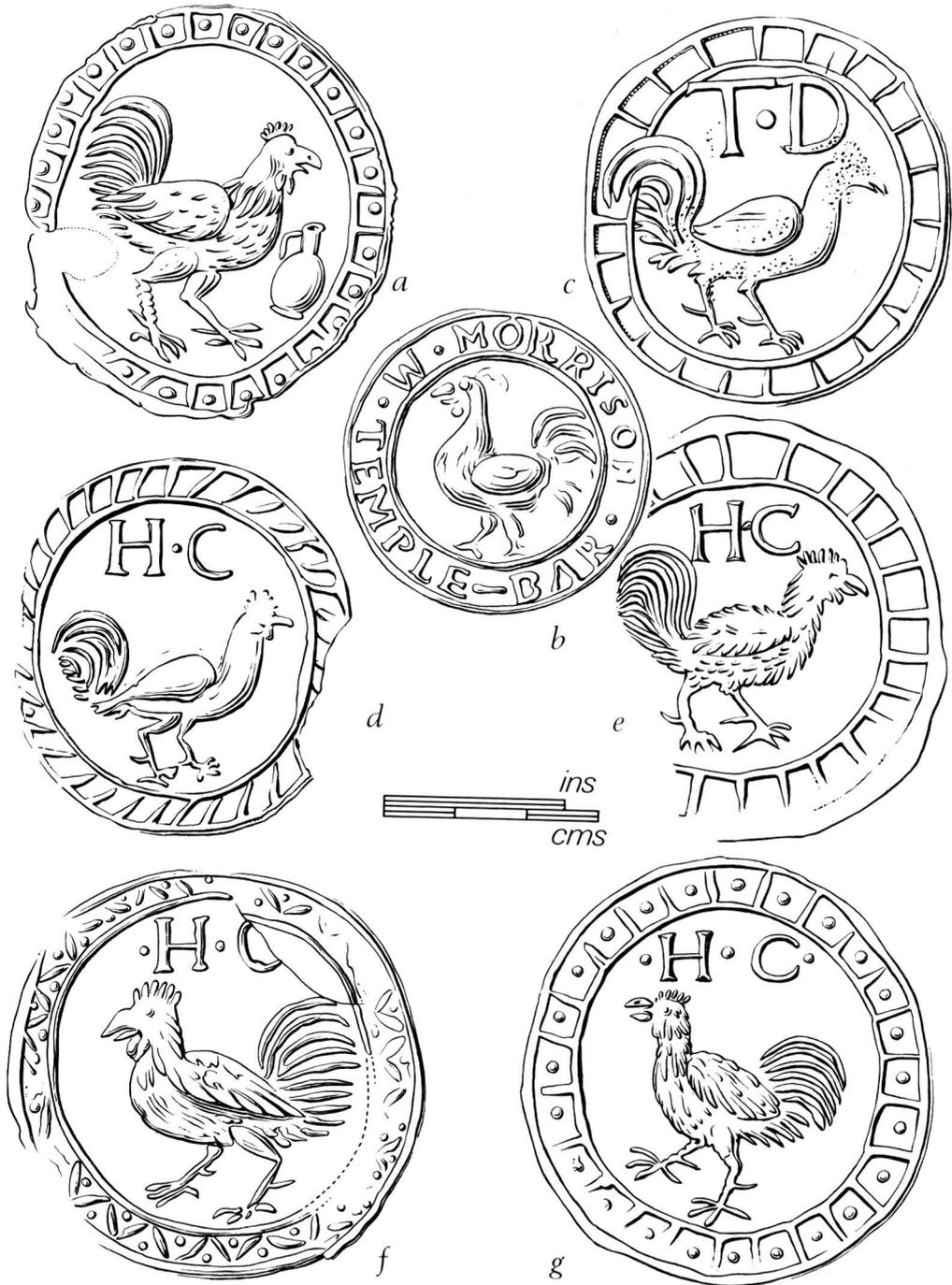
many as 20 in one case, including different sizes used on different sizes of vessels) have been identified in the same design⁷. Use of some of the designs is judged to have gone on for some years. However, within probably less than a decade, it had ceased altogether and henceforth all the common stoneware was undecorated. There are no designs with corresponding emblems for King James II, who succeeded in 1685, and there has been no indication that the decoration was revived in Dwight's lifetime⁸.

Bottle sherds with the Cock and "H. C." medallions provided an entirely unique case among the personalised examples, running on to a late stage in parallel with the continuing Royal and related designs. Of a total of some 1250 complete or part medallions from all vessel forms recovered in the whole "production phase" series approximately 70 were of this design, comparable totals being shown only by some of the Royal and national series. No combination was found of the Cocks with "Bellarmine" masks. With only very few exceptions (3 at most), all examples appeared to be clearly from bottles rather than mugs, and although there was some variation in the medallion sizes only the "quart" size of bottle has been recognised. Use was identified for these medallions of as many as 15 individual moulds, suggesting, as did also the find contexts, that quantities of the bottles were probably made in batches over a considerable time, with the individual moulds not remaining serviceable for very long. All the variants except one displayed the Cock facing to the left.

Because of probable rapid accumulation of waste stoneware on the site, irregularities in its burial and the relatively short period of time involved, there must be uncertainty in inferring any sequence. The indications are of a possible group of 6 variants with different

decorative borders beginning the series in the early production phase, at some time in 1675–76; together these account for 12 of the total (example in Fig. 1(f)). Following on would be as many as 8 variants of a single further design with a plainer "cog and dot" border (in one case without the dots) accounting for over 50 specimens (including also that found at the Pottery in 1948) (example in Fig. 1(g)). A final variant, with the Cock exceptionally facing right, produced 5 specimens and appeared only in deposits all considered to be of relatively late date, probably the 1680s, but nevertheless their plain "cog" border, without dots, is similar to some of the earliest in the Fulham series as a whole (Fig. 1(e))⁹. Two further examples were found of a left-facing Cock, without "H. C.", but have been identified as impressions made prior to cutting of the initials on 2 of the moulds. The excavations also provided a single specimen of an interesting "Cock and Bottle" design, also without initials on a mug; this was from a relatively early deposit and, as will be seen below, the design is of particular relevance in the present context (Fig. 1(a))¹⁰.

Relatively very few finds of Dwight's stoneware vessels decorated with any of the large variety of the medallions are known at present to have been recovered from sites elsewhere, though, in view of what was evidently a limited period of manufacture and sale, this is perhaps not surprising. However, of 10 examples in all at present known from various parts of the inner London area, no fewer than 4, all now in the Museum of London, have the Cock and "H. C." design. The 2 known to Leeds, both from the former Guildhall Museum and incomplete, came respectively from a site in some part of Fleet Street and from Blomfield Street in the Moorfields area; the former has the exceptional right-facing Cock from the



same mould as the variety found in the excavations at Fulham and the other is left-facing with "cog-and-dot" border¹¹. The others, both from the former London Museum and intact, and also left-facing with "cog-and-dot" border, are from another Fleet Street site and from Storey's Gate, Westminster (Plate 3)¹². The similar Oxford left-facing example, also intact, was found in 1910 during work on the north side of the Radcliffe Camera and is in the Ashmolean Museum; with this were found large parts of 2 more Fulham bottles, both showing a medallion formed from the initials "R. (&) M. F.", which Leeds identified as made almost certainly for Roger and Mary Fowler, who in the 1670s kept a cook-shop in nearby Catte Street, Mary Fowler dying in 1677¹³. Since Dwight then still had family and scientific links with Oxford, where he had grown up and studied at Christ Church and appears certainly in the 1650s to have served as an assistant to the Hon. Robert Boyle in his famous chemical laboratory, and since it was also found in the Fulham excavations that he apparently made vessels decorated with personal medallions for at least 2 more people there (Robert Plot, also a chemist, who in 1677 included an enthusiastic first account of the work at Fulham in his *Natural History of Oxfordshire*, and Edmund Brookes, master of the Cross Keys Inn, who was the then Oxford postmaster), it is not unlikely that he might himself have sent or brought these and other vessels specially to Oxford as gifts.



Plate 3 Fulham stoneware bottle with Cock and "H.C." medallion (Cock facing L.) (Museum of London).

This, however, is not the full tally of the known bottles which are relevant to the present enquiry. There are 2 further Cock and "H.C." bottles known in private collections; these both have the exceptional right-facing Cock but from a further mould which was not represented in the excavations at Fulham, though the border form appeared on other medallion designs, some of them from early contexts (Fig. 1(d)). The first-known of these was

Fig. 1 Medallion varieties.

a: Cock and Bottle. *b*: W. MORRISON. TEMPLE-BAR. *c*: T.D. *d*: H.C. (Cock facing R.). *e*: H.C. (Cock facing R.). *f*: H.C. (Cock facing L.). *g*: H.C. (Cock facing L.).
a from Fulham Pottery excavations; *b*, *c* and *d* known only in collections, not found in excavations; *e* from Fulham Pottery excavations, example found also in Fleet Street, London; *f* from Fulham Pottery excavations (1 of 6 variants with "decorative" border design); *g* from Fulham Pottery excavations (1 of 8 variants with "cog and dot" border design, examples found also in London and at Oxford). For further details see text.

Drawings: C. M. Green

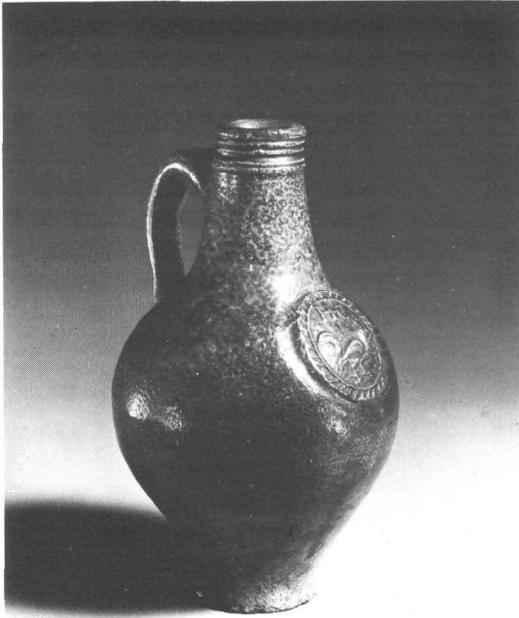


Plate 4 Fulham stoneware bottle with Cock and "H.C." medallion (Cock facing R.) (Jonathan Horne, London).

published, unprovenanced and attributed to Fulham, by J. and E. Hodgkin in 1891, when it was in their collection; it was also exhibited in London in 1933 and noted by Leeds in a footnote, and it remains in private hands.¹⁴ The other, also unprovenanced and with unknown history, was exhibited and published for the first time in 1985 (Plate 4)¹⁵. Further, when the Hodgkins published their book in 1891, they recorded that there was an almost exactly similar bottle to their own with a Cock medallion in the collection of Joseph Mayer, but having the initials "T. D." instead of "H. C.". This is known since to have been destroyed in the bombing at Liverpool in World War II, but it is on record there that at one time there was also a second example, which was sold; and this is doubtless the bottle with the

Cock and "T. D.", plain "cog" border and again a right-facing Cock, which has recently been noted in the Blakesley Hall Museum, Birmingham, after being previously unknown to students of Dwight's work (Fig. 1(c))¹⁶. Finally, 3 more Cock-medallion bottles, of which also Leeds was unaware, have been brought to notice successively during the present century; these, all also unprovenanced, have a design with a left-facing Cock and encircling it the name and place "W. MORRISON TEMPLE BAR", so also presenting a pertinent claim to consideration here; all 3 are of notably smaller capacity (Fig. 1(b))¹⁷. Regrettably, of all those in the series which it has so far been possible to measure, only the Oxford example has been found to provide anything approaching the capacity of the legal "ale quart".

While it is speculation, it seems highly probable that the source of the unprovenanced bottles (7 in all) which have been referred to was a much earlier discovery, at the Fulham Pottery itself, in the later 1860s. This was said to have been made, during rebuilding work, in "a closed chamber, arched" (most likely to have been the base of one of Dwight's kilns), and to have comprised, with a heap of debris, 20–30 examples of Dwight's stoneware vessels, apparently little damaged and mostly bottles; previously, apart from a collection of his more artistic work which had been preserved by his descendants at the Pottery, Dwight's stoneware had been entirely unknown. The cache was dispersed to collectors and others and there was no detailed record of it, but a brief later account (by L. M. Solon) said that there were, among others, examples with medallions showing "cocks and stags". It is known definitely that 4 specific extant bottles, 3 of them with varieties of "Bellarmine" masks as well as medallions and now in the British

Museum and Victoria and Albert Museum, came from the cache, together with pieces of Dwight's early "Westerwald-type" cobalt and manganese decorated stoneware, and on this basis there is good reason to suppose that the assemblage would have been brought together in about 1675–76; it could indeed have served for demonstration during discussions related to the agreement in March 1676 with the Glass-sellers' Company. As will be indicated below, this date approximately would also be the most likely for introducing the succession of the medallion designs of these unprovenanced bottles into the history of the Cock Ale-house. In this connection it is noteworthy that none of the 3 medallion varieties of these further bottles were found in the 1970s excavations; and of all of Dwight's medallion designs known up to the present time the "T. D." and "MORRISON" designs, with one other, were the only designs not so found¹⁸.

It is hardly possible to estimate with any assurance how many, in particular, of the evidently very numerous "H. C." bottles may have been made successfully with use of the 16 (or perhaps more) medallion moulds with this design. As was found from a small number for other designs which were recovered in the excavations, the moulds themselves were cut (with 2 designs back to back) on discs of a soft clunchstone, and their use would have been much less economical than the Rhineland method, at least at Frechen, in which a sandstone original served to produce working moulds as needed in clay or a form of plaster of paris¹⁹. Certainly, as appeared in the Fulham excavations, the vessel wastage in production here was considerable and, apart from other mishaps, disfiguring damage to the medallions themselves was fairly frequent. Nevertheless, the number of "H. C." bottles delivered in all to the customer

should have run at least into hundreds and perhaps well into four figures. As a comparison, as will be further referred to below, the household records in this period of the 5th Earl (afterwards 1st Duke) of Bedford show purchases from London glass-sellers during the 1670s and early 1680s totalling something of the order of 300 quart-size stoneware bottles every year, while at the same time the rival glass quart bottles were also being bought by the household in similarly large and increasing numbers. After production was begun at Fulham the Earl's stoneware would probably have been mainly Dwight's, but, while some of it may have had medallions, at least initially, there has been no indication that any of it was required to be personally identified for the Earl and no personal medallion has been found. After 1675 the stoneware price paid by the Earl settled at 3s 2d per dozen bottles, and the glass bottles also had come down to about the same level. It will have been one of Dwight's future concerns that, by the mid-1680s, with no monopoly rights to inhibit competition or increased production, the price of the glass bottles came down further to no more than 2s 6d per dozen²⁰.

As a whole, the archaeological evidence and that of the bottles shows clearly that, whatever the nature and scope of the business of the particular customer, his requirements were an important ingredient, at least so far as the provision of decorated stoneware was concerned, in the first phase of its manufacture at Fulham. The customer's business, moreover, must have been large; and, since the bottles were not cheap, he would probably not lightly, whatever may have been the practice in the household of the Earl of Bedford, have failed to ensure their continuing re-use as far as possible. Almost certainly the principal purpose would appear to have been the bottling of drink.

THE COCK ALE-HOUSE AND HENRY CROSSE

Despite a good deal of confusion in the past there has been no problem in confirming the existence and precise location in the 1670s of the house at Temple Bar called the "Cock Ale-house" and the association with it of a Henry Crosse. A few years before Leeds took up the matter of these bottles Dr Kenneth Rogers had shown, on the evidence of John Strype's updated version, published in 1720, of John Stow's Elizabethan *Survey of London*, that the Cock Ale-house with which Strype was familiar was the first house outside Temple Bar on the south side of the Strand and thus within the Duchy of Lancaster Liberty and the parish of St. Clement Danes. Rogers noted also that the name "Henry Crosse" appeared in the appropriate place in a St. Clement Danes Hearth Tax list (of 1674–75) which had been published²¹. Associated with the house, as had been well known, were examples of a trade token, of the kind used by many traders throughout

England from 1648 until 1672 (after which their use was prohibited): this shows a Cock with the inscription "THE COCK ALE HOUSE AT TEMPLE BARR", initials "H. (&) M. C." and date "1655" (Plate 5)²². Leeds pointed out the resemblance of the token to the stoneware medallions and that no other design was known which corresponded²³.

Even so, the further investigation encountered initial problems, since it was found in the continuous surviving series of the St. Clement Danes rate books and churchwardens' accounts that Henry Crosse's name appeared at the property adjoining Temple Bar only from 1658 to 1676, being last rated in March 1676, with a successor appearing the following year²⁴. Thus there was no coincidence either with the date of the trade token or with the archaeological evidence that production of the Cock and other decorated stoneware bottles at Fulham did not begin before 1675 at the earliest and apparently continued for some years. However, it was then found that Crosse



Plate 5 Trade token issued by Henry and Mary Crosse 1655. (Museum of London.) The inscription is *THE. COCK. ALE. HOVSE/*AT. TEMPLE. BARR. 1655/H.M.C.

Diameter 15.5mm. See Akerman (1849) No. 729; Williamson (1889–91) London No. 3037.

Photo: Barry Grey, Museum of London.

appeared earlier in the rate lists from 1653 to 1657 at more modest premises, which were in the Temple Bar ward on the north side of the Strand, probably more or less opposite the later premises²⁵; and, more importantly, the situation from 1676 was left more open by finding Crosse's will, written just before he died at Clerkenwell in April 1681, in which he recorded that, with other property, he possessed "a moiety of the Messuage or Inne called the Cock next to Temple Barr"²⁶. A somewhat earlier probable final date for the Fulham bottles thus appeared than had seemed likely on the basis of the archaeological evidence alone, particularly those with the right-facing Cock which were found in the latest-dated deposits at Fulham.

It was possible to establish more of the earlier history. Crosse's predecessor from 1638 to 1657 at what became the Cock Ale-house was a Richard Hyett or Hyatt, a member of the Vintners' Company, and the house was a well known wine house or tavern, the Rose, of which the name hereabouts went back at least to Elizabethan times²⁷. The terrace adjoining Temple Bar which included this, seen later to have consisted of probably 5 four-storeyed houses with attics, built in imitation of Palladian style and extending west to a narrow lane known as Cross Keys Alley (Plates 1 and 2), might have been built in about the 1630s, not long before Hyett took over. There is no sign in the rate lists of later interruption of occupation in this terrace; the area escaped in the Great Fire of 1666²⁸. Thus, when Crosse was admitted, he had changed the sign and character of the house, though carrying on a business in which he was previously established nearby, and his speciality was ale.

During the period covered by the *Diary*, throughout the 1660s, Samuel Pepys recorded at least 9 visits to the Cock Ale-

house²⁹. He did not name the master or any of the staff or say what he drank on any of these occasions. However, on one visit in 1661 there was entertainment with playing of music, in 1667 he was served with his drink in his coach, and in 1668, on St. George's Day, after a holiday outing to the Tower of London with Elizabeth Knipp, Elizabeth Pierce and her daughter and Mrs Foster and seeing the Crown Jewels, they came on here by river for a meal and he had a merry time and ate a lobster. Another diarist of the period, who recorded a visit in 1671 (during the period of the rebuilding of Temple Bar), was Jeffrey Boys, a young lawyer of Gray's Inn³⁰. Probably, as at the later Cock Tavern in Fleet Street, the lawyers from the near-by Inns of Court and Chancery would have provided a considerable part of the clientele.

A further reference which has long been well known but in the present context points forward strongly towards later association with the Fulham bottles was a notice which appeared in the *Weekly Intelligencer* at the beginning of July 1665, when the Great Plague was already seriously affecting this area³¹. It announced that "the master of the Cock and Bottle, commonly called the Cock Ale-house, at Temple Bar, hath dismissed his servants, and shut up his house, for this Long Vacation, intending (God willing) to return at Michaelmas next", and it invited persons having accounts to settle "or farthings belonging to the said house" to present themselves before 8 July. The reference to the Vacation supports the particular link with the legal profession, and there is the mention of the trade tokens as still current, but the alternative, and apparently at that time official, name "Cock and Bottle" seems especially significant. This appears, at least in London, to have been a still rare innovation of this period (this case could

indeed be the earliest recorded) and it is generally considered to have been intended to advertise the availability of ale both on tap (i.e. cock) and in the bottle³².

No surviving Hearth Tax list for this part of St. Clement's was found from the 1660s, but in the 1670s, with an exceptionally high rating of 24 hearths, Henry Crosse's premises were evidently large, and they may well have extended into the adjoining house to the west or premises at the rear which were linked by a yard with Cross Keys Alley³³. There is no sign that the property was at all affected by the grandiose rebuilding of Temple Bar undertaken in 1670–72. Although from the 1680s the available premises appear from the rate lists to have been somewhat reduced in size, Crosse's successor was assessed for the special Grants-in-Aid to the Crown of 1693–95 on an annual rental of as much as £110³⁴.

The St. Clement Danes and other records show that Henry Crosse's wife was Mary, agreeing with the initials of the trade token; she was to survive him. Their second son, Henry, died very young in 1663. By 1664 the elder son, John, was 8, and there were 3 daughters, all younger³⁵. From 1672, although Crosse continued to be rated at the Cock, he was nevertheless found to have been rated also for a large residence of 15 hearths in the fashionable Clerkenwell Close, rather less than 1 mile distant from Temple Bar, in the parish of St. James, Clerkenwell, at which he and his family had been living when he died in 1681³⁶. In fact, as will be considered further below, it then also appeared that he had been rated earlier, since about 1664, for a smaller house of 6 hearths near Clerkenwell Close. While, as was to emerge, there were other considerations, it is probable that, although maintaining his interest at the Cock, he had moved his family residence to

Clerkenwell at that time, when in any case conditions for the family at the Cock would have become increasingly cramped³⁷. Finally, after March 1676, there is the change in the rated occupier at the Cock. Crosse's name in the rate lists is replaced by that of a William Dorrington, and this remains up to and including 1694–95; Dorrington is specifically documented at the "Cock Ale-house" in 1691 in a *London Gazette* advertisement for a dinner at the Merchant Taylors' Hall³⁸. The fact that, when the Fulham bottles were made, Mary Crosse's initial did not appear with those of her husband, as on the 1655 token, would be consistent with the probability of Crosse's interest in the later part of his life being no longer that of resident master.

Unexpectedly, a number of links appeared with Fulham, any one of which might have led to direct acquaintance between Crosse and Dwight after the latter had come from Lancashire to live there in about 1672, but there is nothing conclusive. Certainly, as appeared from his will, Crosse had acquired quite extensive leases of manorial farmlands here, though they were in the eastern part of the large Fulham parish, close to Chelsea Creek and well away from Fulham village further up river where Dwight established himself³⁹. The most notable link might have been through the distinguished scholar and antiquarian, Elias Ashmole, from whose former servant, John Fox, Dwight appears to have taken over the lease of the house he first occupied at Fulham; Ashmole had chambers in the Middle Temple, close to the Cock, and had himself visited the Fulham house in 1666. But although, in association with the Hon. Robert Boyle and Robert Hooke in particular, and other members of the Royal Society, Ashmole would certainly have been later kept well informed about

Dwight's ambitious work and may have taken direct interest in it, there is nothing to prove such a link⁴⁰. A further notable coincidence was that, of 3 "loving friends" who were acknowledged and given the customary token bequests in Crosse's will, the first-named, Thomas Frewen (1630–1702), himself had a large country house adjoining Fulham village and at the north end of the lane which ran past Dwight's Pottery. He was a lawyer from a Sussex family, who from 1679 became M.P. for Rye; in 1661, at least, he had chambers in the Inner Temple, and he had acquired his Fulham house the previous year by his first marriage and it remained in his family until 1735⁴¹. However, there is no reason to think that Frewen was particularly acquainted with Dwight; it was not found, for example, that Dwight made presentation stoneware for him with a personal medallion as for another close neighbour, Captain Richard Woodward, who lived at the south end of the same lane, and indeed it seems likely, although Frewen was elected as a Fulham manorial reeve in 1674, that he did not live much here after the death of his wife in 1666 and his remarriage; most likely, perhaps, the particular help which Crosse owed to him was in connection with his acquisition of property in Fulham and elsewhere. Another lawyer and close neighbour at Temple Bar with possible Fulham connections was the leading Middle Temple barrister, Sir John Maynard, who before the Restoration was Protector's Serjeant and afterwards, with his knighthood conferred in 1660, King's Serjeant; he lived from 1657 to 1667 in the terrace which included the Cock. However, once again, it did not appear that there was any close link between him and the Maynard family which at this time owned an important Fulham property, now Sandford House, which is not far from Crosse's farmland near Chelsea

Creek⁴². Finally an intriguing possibility (with an interesting archaeological sequel) would have been a possible link through the noted goldsmith and pioneer banker, Robert Blanchard, who bought a house in Fulham, at Parsons Green, in 1666 which was his out-of-town family residence until 1681, when he died, 3 months after Crosse. Blanchard had set up in business in 1648 in the same terrace adjoining the Cock (then the Rose), and after the new Temple Bar was completed in 1672 moved his premises a short distance into a probably rebuilt house which immediately adjoined the gateway itself and the eastern side of the Cock; this established the business (which became Child's Bank) at the address (No. 1, Fleet Street) where it still remains, and in fact by 1750 the Bank had extended its premises to include the house which had been the Cock. A particular connection was that Windsor Sandys of St. Martin-in-the-Fields (son of a former courtier, Evesham M.P. and promoter of navigation schemes, William Sandys), who temporarily became Dwight's partner at Fulham during the 2 crucial years in which the stoneware manufacture was got under way, in 1674 seems likely to have taken a house at Parsons Green which was very close to Blanchard's. However, although Crosse's son and a son-in-law later had dealings with the Bank, there has been no evidence or indication that Blanchard knew Sandys or Dwight⁴³. The archaeological sequel was in about 1880, when, after the demolition of Temple Bar, the Bank's then existing property, including (though this was not known at the time) that on the site of the Cock, was pulled down for rebuilding. The senior partner, F. G. Hilton Price, who had devoted much interest to the history of the Bank and related matters and was also an archaeologist of wide interests, afterwards becoming Director of the

Society of Antiquaries from 1894 to 1909, contributed an account of the discoveries on the site to the *Transactions* in 1890⁴⁴. The finds included "Bellarmine" bottles and fragmented stoneware, and the particularly interesting feature is that some of the stoneware was very unusually described as "claret-coloured", which is now seen to have been a notable characteristic of much of Dwight's experimental early stoneware from the site at Fulham, since he used manganese for the colouring. Unfortunately, none of this particular material from Temple Bar was illustrated or has been able to be traced; and although it is recorded that the Fleet Street "H.C." bottle which was in the London Museum, referred to above, was from Hilton Price's collection it appears unlikely that it was from this site⁴⁵.

It would not, of course, have been necessary for there to have been any special contact between Crosse and Dwight. Supplies of the Fulham stoneware bottles with special medallions could have been ordered by Crosse through a local glass-seller, either before or after the making of the agreement with the Company in March 1676; and indeed the glass-seller concerned might have been supplying imported stoneware bottles for many years previously. It has not been possible, on the basis of the Fulham excavations, to identify any other public houses in the vicinity for which the Fulham stoneware was certainly made or supplied, although in some cases the signs would have been apposite; thus a new Rose, for which vessels with the English Rose badge with "C.R.", one of the most numerous of all the Fulham medallions, would have been appropriate, was opened by the mid-1670s in the terrace adjoining the Cock with a John Hazard as master and its continuing history up to the 1770s is well documented⁴⁶. From the mid-1670s also the only glass-seller supplying the house-

hold of the Earl of Bedford at Bedford House not far away appears to have been Thomas Apthorpe, whose shop was near the corner of Drury Lane and Long Acre⁴⁷. A local resident in Covent Garden for whom Dwight made medallioned stoneware, with his name in full and the date "1676", probably as a gift, was Sir Philip Mathews, who was a Fellow of the Royal Society. On the other hand, no evidence was found in the records of the Inner or Middle Temple that stoneware was bought at this period; glass bottles and cheap earthenware mugs are recorded and, although the medallions found at Fulham included the "Agnus Dei" or "Lamb and Flag" device which was used by the Middle Temple, this was also a common tavern sign⁴⁸.

The context of the "MORRISON" and "T.D." Cock bottles referred to above has not been satisfactorily established, but it is difficult to avoid seeing them as likely to have been linked with the Cock Alehouse and, in view of their probable dating to 1675-76, to have been not far removed in time from whatever event or circumstances may have led to the change in the rated occupation after the long tenure in the name of Henry Crosse. In contrast with the "H.C." bottles, it seems improbable that they were made in large quantity. Since these latter must also be assumed to have been first made at about the same period, use of the alternative identifications must quickly, for whatever reasons, have been decided to be inappropriate.

In the case of "W. MORRISON" it is quite probable that the stoneware bottles do not stand alone, for in the British Museum there is a small diamond-shaped copper plaque with the name "WILLIAM MORRISON TEMPLE BAR" engraved on both sides and in the centre (but without a Cock) the figure "3" (Plate 6). This was published as a form of trade

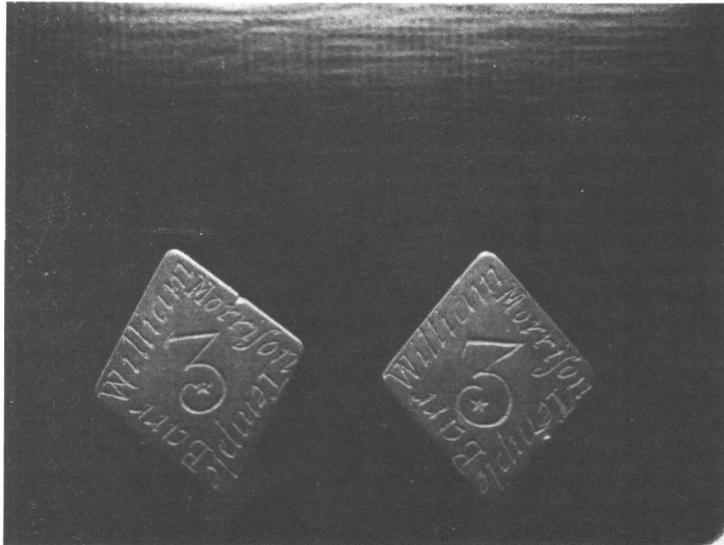


Plate 6 Copper plaque for "William Morrison, Temple Bar" (British Museum).

token, but it can hardly have been one of the usual monetary kind, and it might best be regarded as one of an identification series, such as could, for example, have been used at the Cock for identifying customers who, like Pepys in 1667, were to be served with a drink in the street. There is a difficulty in that, while there is no room for doubt as to the approximate date of the stoneware bottles, the plaque might be much later since, 30 years subsequently, from 1706 until at least 1713, the name "William Morrison" is found as that of a ratepayer in St. Dunstan-in-the-West parish, close to Temple Bar and indeed more or less at the location of the later Cock Tavern on the north side of Fleet Street. Be this as it may, the "W. MORRISON" of the bottles is most readily seen, for perhaps a considerable time up to 1676, as Henry Crosse's servant and resident deputy at the Cock, with Crosse living with his family at Clerkenwell; he does not himself appear as a ratepayer in St. Clement's or St. Dunstan's. And it might well be that he

left Crosse's service at this time to marry and work on his own account, since the register of baptisms of the parish of St. Andrew, Holborn, shows in September 1676, for the first time, the names of a William Morrison and his wife, Joan, and they continue to appear, with the baptism of further children, until 1691. It may have been the same man, or a son, William, baptised in 1680, who appears again at Temple Bar in 1706⁴⁹.

If the "T.D." bottles also were associated with the Cock Ale-house, an association might be expected with the new 1676 ratepayer, William Dorrington. No positive evidence has been found to identify him. The wealthy and prominent contemporary, Francis Dorrington (1618–93), who was elected as Alderman for Farringdon Within in 1668–69 and was later M.P. for Godalming, was the owner of a City brewery, but did not name a William Dorrington among many kinsmen in his will and was probably not at any rate a close relative⁵⁰. However, a possible identification for the new rate-

payer at the Cock is a "William Dorrington, gentleman", of the parish of St. Giles-in-the-Fields in 1671, who, with his age given as 30, obtained a licence for marriage with Hannah Graveson, widow, of Latimer, Buckinghamshire. In order to bring "T.D." into the story it is necessary to suggest that William Dorrington at the Cock might also have been the man who was named (as the last of his 5 brothers) in the will of a Thomas Dorrington, a man of substance in St. Pancras parish, who also had a house at Highgate and died in 1679⁵¹. Conceivably this man might have purchased from Henry Crosse a share in the Cock in the interest of his brother.

In order to approach a more satisfying view of the circumstances which might have accounted for the illogical appearance of Dwight's Cock and "H.C." bottles from precisely the time when Henry Crosse was apparently reducing his commitment at Temple Bar it was necessary to attempt a wider exploration of his career and background. Anticipating a little, the result was to suggest that the particular interest which he retained from about 1676 until the end of his life was in the supply and sale of the ale, whereas he had up to this time been concerned equally with the running of the establishment as a whole. This could account for a continuing proprietary interest in, not least, a special trade in bottled ale, which in view of the use of the name "Cock and Bottle" at least 10 years previously, he had probably developed himself. On this basis the essays with the "W. MORRISON" and "T.D." designs might well represent initiatives by Crosse's associates which were overtaken by the course of events or may have been vetoed by Crosse in his own interests. The reason for the change in Crosse's own position in relation to the Cock might have been the immediately impending

marriage of his surviving son, John, now aged 20, with the wealthy and socially elevated heiress to an estate in the remote Buckinghamshire Chilterns, with the consequence that John would not be interested in any future direct involvement at Temple Bar⁵². If, indeed, a "moiety" of the Cock was now sold to William Dorrington or one of his relatives, the fact that Henry Crosse, too, at his death, possessed unspecified holdings in Buckinghamshire might be accounted for by these having been handed over in part payment from possessions of William Dorrington's wife from Buckinghamshire, Hannah Graveson.

The subsequent history of the Cock may be related briefly. After his death in 1681 the moiety which Henry Crosse had still possessed was left direct to his son and may have been quickly sold. There is no further mention of it in the family; nor have any references been found to suggest that the special trade in bottled ale which Crosse appears to have developed was continued. However, the establishment was evidently well known to John Strype in the early 18th century, and he called it "a noted publick house". The rate books show that after Dorrington's departure in 1694-95 there were some brief tenures, but for the period from 1707 to 1737 the ratepayer was Anthony Moreing, who is identified as a member of a family of brewers in St. Martin-in-the-Fields. Nevertheless, no further reference has been found to the Cock, and it is not named in the lists of licensed victuallers, with the signs of their houses, which are available for the Duchy Liberty from the 1720s. From 1709, on the other hand, Moreing is recorded as having been the proprietor of the "Blue Posts" eating house in near-by Devereux Court, and the Cock therefore seems likely to have been kept going in conjunction with a major interest there⁵³. After Moreing it

was probably given up, and the rate books show that by 1750 the house was occupied as an extension of the adjoining Child's Bank. There is certainly a possibility that the business at the Cock, or at least the sign, was transferred directly to what became the famous Cock Tavern in Fleet Street, but no proof was found. By 1768, when it was celebrated in "The Art of Living in London", this house was already very well known. The earliest notice found of it was a newspaper report early in 1763, referring to the death of its master, Robert Kempton, and the remarriage of his widow. Kempton was found to have been the occupier from 1745 and his predecessor, John Walden, back to at least what may have been the crucial date of 1737, is also recorded as a licensed victualler, though the name of his house was not given. Unfortunately, there is then a gap in the rate lists of St. Dunstan's parish back from 1736 to 1713⁵⁴. After Kempton, on the other hand, there is no reason to doubt the continuity of the business, with later associations, for example, with Dickens and Tennyson, and the tradition that the gilded Cock which presided was the work of Grinling Gibbons (1648–1721), until in the early 1880s the site was required for building the Law Courts branch of the Bank of England. The business was then transferred across Fleet Street to the south side, at the present No. 22, where it is still carried on⁵⁵.

HENRY CROSSE AND HIS COUSINS AND THE BREWING TRADE

The starting point for learning further about Henry Crosse's career was his informative will and the association which it revealed with Clerkenwell. It was hardly a surprise to find that when he was buried, prominently in the chancel, in St. James's church at Clerkenwell, he was

described in the parish register, not as the keeper of an ale-house or inn, but as a brewer ("bruer"). It was also found in due course that the same description was used in a marriage licence allegation for one of his daughters in 1679 and in a family deed which was executed after the death of his widow in 1692⁵⁶. Nevertheless his will made no mention of a brewery among his properties or of a brewing partnership. This suggested that he might not have been one of the nearly 200 "common brewers" who at this period were supplying London with all but a relatively small share of its ale and beer⁵⁷ and that his brewing had been carried on in a small way, perhaps only at the Cock itself; and the pattern of his properties seemed to support this possibility. However, the further evidence which emerged for his career and those of his two cousins, John Crosse of Clerkenwell and Thomas Crosse of Westminster, though neither of them was named in the will, suggested that the situation had been different and rather more complex.

There is no doubt, from the various links that were found, of the kinship of Henry with John and Thomas. The wills of both Henry and Thomas recorded that they were born at Maulden, a village close to Ampthill in Bedfordshire. The parish register shows that Henry was baptised there in 1621, so that he was about 60 when he died in 1681, and the cousins, John and Thomas, were respectively baptised in 1632 and 1636⁵⁸. Nothing beyond the names was found as to their forbears in the village, but the family would probably have been of yeoman stock. Maulden itself was within the wide barley-growing belt in Bedfordshire and Hertfordshire from which, with extensive malt-making at, notably, Luton, Hitchin, Baldock, Royston, Hertford and Ware, London brewers had long been supplied by road and river transport with much of their malt⁵⁹.

Henry Crosse's will showed that by 1681 he had become a man of substance. He left more generous bequests than most people of not only £20 for the poor of Clerkenwell but also of £10 each for those of his previous parishes of Maulden and St. Clement Danes, and he was able to provide £500 each for his two elder daughters. The listed property in land and buildings which he left to his widow, with reversion to his son, consisted, firstly, of the "land, tenements and hereditaments" at Fulham, which are confirmed by the Fulham manorial rolls to have been partly, though perhaps not exclusively, manorial tenures from the Bishop of London as Lord of the large manor of Fulham, which were sub-tenanted⁶⁰. In addition, there was an estate at Wapping, a little way down river from London, which he recorded was recently purchased, and some houses "in or near" Trump Alley, north of Cheapside in the City; there is no sign that the latter, within the parish of All Hallows, Honey Lane, included a brewery, and these houses, whenever he may have acquired them, would have had to be rebuilt after the 1666 fire⁶¹. Further property rights, which he left directly to his son, comprised two more houses in the City in Old Change, which were leased from the Dean of St. Paul's (this lease was found to have been given in 1670 and included a house with the sign of the Green Dragon)⁶², lands and tenements at Battersea, an important agricultural area on the south side of the Thames, which were leased from the Archbishop of York, the (un-named) holdings in Buckinghamshire and, finally, the moiety of the Cock at Temple Bar. No property is mentioned at Clerkenwell, and it appears from a surviving special list of 1677 of the "house-keepers" and landlords of St. James's parish that the house he was occupying in Clerkenwell Close must have been a sub-lease⁶³. Probably,

therefore, Thomas Frewen, who was a nephew of Dr Accepted Frewen, Archbishop of York, who died in 1664, would have assisted in the acquisition of the property both at Fulham and at Battersea. The marriage of Henry's son, John, in 1676 had been with the young Elizabeth Blanck, heiress to her family's Rectory Manor of Bledlow in the Buckinghamshire Chilterns, but no indication was found as to the location of Henry's holdings in the county⁶⁴. Although the will does not show a brewery among Henry's possessions, it has nevertheless to be noted that there is a mention of a brewhouse, described as being in Soho in London, which was being operated by a son-in-law, George Meggott, who had married Henry's eldest daughter, Mary, in 1678. This was one of several grandsons of a notable Southwark brewer, also George Meggott, who himself died in 1678⁶⁵. Henry may have assisted the young George Meggott with a dowry in setting up at this brewery, doubtless that which he is later seen to have been operating in Little Windmill Street in the developing Golden Square area—he suggested in the will that it should now be vested in his daughter, with payment to Meggott of her £500 bequest—but there is no sign that he might himself at any stage have been involved in its operation⁶⁶.

The nature and location of Henry Crosse's properties is entirely supportive of an interest in brewing, and it is not excluded that this might have been carried on at the Cock, with barley or malt and perhaps also hops, with other produce for catering, being brought there by river from Fulham, Battersea and Wapping. The recent acquisition of the Wapping property and continuance also of the making of the initialled stoneware bottles seem to imply that, although Henry was now living at Clerkenwell, he

was still actively in business until a short time before his death. Nevertheless the likely extent of the involvement which was found at Clerkenwell suggests rather that his interest had become centred there, though that at the Cock still remained.

A further key figure in the life of not only Henry Crosse but also of at least his elder cousin, John, was found to have been the second of the 3 "loving friends" acknowledged by Henry in his will, who was also one of the witnesses to its signature just before Henry's death. This was Thomas Christie (1622–97), a member of a middle-class family at Bedford, the county town, who became a successful and quite wealthy lawyer with interests both locally in Bedfordshire and in London and from 1685 was M.P. for Bedford⁶⁷. In about 1650 he had married Mrs. Alice Bainbridge, the widow of Charles Bainbridge, a Yorkshireman, who had become a brewer at Clerkenwell and whose death, in 1646, might have resulted from fighting in the Civil War under the command of his patron, Sir Henry Cholmley. Bainbridge's property, listed in his will, consisted mainly of 2 breweries at Clerkenwell, the Unicorn at the "upper end" of St. John Street and another (un-named) at which he himself had resided; there were also some tenements in Turnmill Street, Clerkenwell, and lands he had bought in Bedfordshire, actually at the 2 neighbouring places already mentioned, Ampthill and Maulden⁶⁸. Christie and his wife were found at Clerkenwell in 1652, when an infant daughter was buried there, but they may not have lived there very much subsequently; and Alice Christie died in 1666. Henry Crosse's cousin, John Crosse, is recorded at Clerkenwell in 1654, when he would have been 22 and his eldest son, also John, was baptised; at the end of this year his wife died and in 1658 he remarried. As has been seen, Henry Crosse

was at Temple Bar by 1653, and, in view of the links between them, it is possible to infer that Christie had induced both of them to come to London with the object of assisting in the brewing business, and that Henry's role initially was to be set up with a profitable outlet in the legal and business quarter of London at Temple Bar. The cousin, John, was to remain at Clerkenwell throughout a long life until his death in 1713 at the age of 80, becoming a master brewer and a leading parishioner; he and his second wife, who had been a Rebecca Naylor, had many more children⁶⁹.

A major advance in the fortunes of Henry and John seems to have come, with Christie's help, in the first half of the 1660s, since it appears that they were enabled to take over from Christie the brewery in which John is found later to have been operating at Hockley-in-the-Hole, close to Clerkenwell Close, probably that which had been earlier the residence of Mrs Christie with her first husband. Henry and John do not appear in the earliest surviving Clerkenwell rate list, for 1661, but in the first Hearth Tax list, for 1664, and the later surviving rate lists from 1666, both are found, almost adjacent, at this location, Henry having premises of 6 hearths and John of 2 hearths⁷⁰. The location, as seen later, was on the north side of the lane which led down the eastern slope of the valley of the Fleet River into what was to become the popular amusement centre of Hockley-in-the-Hole, immediately to the west of Clerkenwell Close⁷¹. In various later references this brewery is still never given a name, appearing only as "the Hockley Hole brewhouse" or "Mr Crosse's brewhouse"⁷².

It is inferred that, as the older and more experienced man, Henry Crosse had the leading role, including responsibility for management and procurement of

supplies, while John, who would already have been an experienced worker at the brewery over a period of some 10 years, concentrated on the practical side. Thus Henry might well, as suggested above, have removed his residence at this time from Temple Bar to Clerkenwell. He might also have been enabled at the same time to acquire a personal controlling interest in ownership of the Cock, but with a servant from now on, as already supposed, seeing to the day-to-day management.

The 1664 situation at Clerkenwell was found to have been maintained until 1672, when the Hearth Tax and rate lists show Henry removing to the house in Clerkenwell Close and John to the premises of 6 hearths at Hockley. This seems likely to mark a change in the relationship of the cousins, with John now assuming virtual control of the business and Henry, who had passed the age of 50, retiring more into the background, though still doubtless with a financial interest and perhaps also a particular continuing responsibility for procurement of supplies⁷³. In 1674 it was John who was given a 21-year lease by the parish of a new spring adjoining the brewery (said to have been close to the site of the original "Clerks' well") which had been provided by the Earl of Northampton as Lord of the Manor⁷⁴. In the same year, following the example of Charles Bainbridge, John also launched out with the purchase of the Manor of Hexton, near Hitchin in Hertfordshire, in the barley-growing country, which he eventually passed on to his eldest son⁷⁵. Two years later he bought the Manor of Brammingham at Luton in Bedfordshire, which at his death was left in trust to his only other surviving son, Andrew, and belonged to descendants until 1890⁷⁶. In 1677 the Clerkenwell list of "house-keepers" shows no superior landlord for the property occupied by John Crosse so

that, if it is correctly assumed that this was the brewery which had belonged, in right of his wife, to Christie, he had parted with his interest; he was still, however, shown as the landlord of property in Turnmill Street, at which a brewery was now being carried on by a John Wilcocks⁷⁷.

The career of the younger cousin, Thomas Crosse, also provided considerable interest and relevance, although no indication was found of any direct business association with Henry or John. Thomas first appears in 1663, when Henry, described as "of St. Clement Danes, gentleman", provided an allegation for his intended marriage and he was then resident in the parish of St. Martin-in-the-Fields⁷⁸. It is clear that, consistently with this, he was the Thomas Crosse frequently named between 1658 and 1667 in the household records of the Earl of Bedford⁷⁹. He was a responsible member of the staff, serving as required both in Bedfordshire at the Earl's seat at Woburn Abbey (which is not far from Ampthill and Maulden) and at the London residence at Bedford House, and he seems to have been in charge of the bakery and wine-cellar, though not, at least directly, of the domestic brewhouse at Woburn⁸⁰. His marriage was to Mary Lockwood, who had been the servant and devoted nurse until his death in 1662 of the elderly and very wealthy Benchler of the Inner Temple, financier and landowner, Hugh Audley, who had bought the extensive, still rural, Manor of Ebury embracing most of what were to become the Grosvenor Estates in the Pimlico, Belgravia and Mayfair areas of London, with adjoining land also at Millbank, Westminster. Audley provided quite generously for Mary Lockwood in his will, and after her marriage she was able to lend £600 to Alexander Davies, one of his two heirs, who had run into financial

problems over proposed housing development at Millbank and was soon afterwards to die in the Great Plague⁸¹. After 1665 Thomas Crosse left the service of the Earl of Bedford—references in the household accounts in 1666 and 1667 show him providing glasses and corks and supplying ice, but apparently independently—and he had soon set up as a brewer in Millbank. His premises appear initially in the rate lists at the "south" end of the then St. Peter Street; eventually, after probable expansion, the brewery was partly on the riverside at the south end of the present Victoria Tower Gardens, in line with the 18th century church of St. John the Evangelist, Smith Square⁸². In this brewing venture Thomas seems to have been notably successful. His will in 1682 shows that he had been able to invest in property, having a number of houses in King Street, Soho, and King Street, St. James's, and he also owned a house, let to tenants, at Hyde Park Corner, though this was acquired from Hugh Audley's heir, probably in settlement of the debt to his wife; his own residence was at the brewery at Millbank. He had been ambitious for his children and his eldest son, also Thomas, born in 1664, and probably also the second son, Robert, were placed at Westminster School under Dr Richard Busby (as also, at about the same time and later, were several of John Dwight's sons) and Thomas was led thereby to a distinguished career. Two daughters were left bequests of as much as £1500 and £1200. But when Thomas died in 1682, the year after the death of Henry Crosse, he was still only 46 and all the children were still minors, and his brother, John Crosse of Clerkenwell, was made guardian⁸³. The brewery was carried on, with the sons, Thomas and Robert, in due course jointly taking charge.

As in the case of the bills already

referred to for purchases of stoneware and glass bottles, with other items, the Earl of Bedford's household accounts and records include, from 1671 to 1694, a long and more or less continuous series of receipted bills showing the supply (in the barrel) of large quantities of ale and beer. These were obtained from Thomas Crosse's brewery, and there was no interruption after his death in 1682⁸⁴. However, similarly throughout the period, there was also a further supply, billed and paid for separately, of a more expensive ale, which was delivered almost every week by the kilderkin (half-barrel) and came specifically from John Crosse. Over the period the price, reckoned per barrel, gradually went up from 14s 6d to 19s/-. , much more expensive than what was supplied from Millbank, and on one occasion (in 1676) there is the informative note on the bill "To bottle for my Lord's drinking"⁸⁵. It seems safe to infer that, in general, this was a continuing supply from Clerkenwell of a preferred special ale which was particularly for the Earl himself. It also helps to account for the exceptionally large supplies of quart-size stoneware and glass bottles which were continuously bought for the household—it may be supposed that it was probably the stoneware that was used for the ale, rather than for wine, though the supply of the special ale continued in the early 1690s when purchase of further quart-size stoneware bottles had virtually been given up. In the present context it is of particular interest that from the beginning of the series of bills in 1671 until 1687 those for John Crosse's ale, although none of those from Thomas Crosse's brewery, were receipted by a Robert Cherry: this, with the style of "gentleman", was the name in Henry Crosse's will of the third of his "3 loving friends"; although he has not been further identified, this would probably have been a business associate

of Henry and John Crosse, perhaps particularly of Henry, who may have lived in the Strand area⁸⁶.

Further evidence on Henry Crosse's career may be provided by a reference in the records of the Inner Temple. In 1684, after his death, the Benchers belatedly approved payment of £20 to "Mr John Crosse, the brewer" for loss of ale and beer in the major fire which had involved the Inner Temple, and much more seriously the Middle Temple, in January 1679; according to Narcissus Luttrell's account of this fire, the supply had actually been used to fight the fire, since the Thames at the time was frozen⁸⁷. It was the normal practice at the Inner Temple, as indeed also at the Middle Temple, to appoint a brewer officially with a standing contract to supply the ale and beer, and while no other record has been found of the name of the Inner Temple brewer at this time—a few years later, in 1689, one "Carpender" (probably William or John Carpenter, leading brewers in Aldgate) held the post and was criticised for supplying poor quality beer, and next year Richard King of Chiswell Street was appointed⁸⁸—it appears that John Crosse of Clerkenwell had achieved the position, but he would probably have owed this in the first instance to an initiative of Henry and his status at the Cock. It seems less likely, though possible, that Henry himself had held the post and that his son received the payment as his heir⁸⁹.

There seems little doubt that from about 1664 Henry's career was fully involved in the Clerkenwell brewery, and that he had owed his advance principally to the help or encouragement of Thomas Christie, who had induced him and his cousin to come to London for employment and established him first in a responsible position at Temple Bar and afterwards provided the opportunity, and perhaps the means, for him to take over the Cler-

kenwell brewery. There is no evidence to show how matters may have developed subsequently between himself and John, but by the early 1670s he was becoming elderly by those days' standards, and he may not have felt inclined or able to resist John's ambitions. Whatever may have been his status latterly at the brewery, the business he had been able to establish for himself at the Cock should have continued to provide a far from negligible income and profit.

Certainly some, at least, of the ale brewed at Clerkenwell and available at the Cock must have gained a reputation and attracted an upper-class following, and probably it was from this source that the Earl of Bedford found that it was particularly congenial. There is no knowing, unfortunately, what precisely may have been put into the bottles. One possibility which suggests itself immediately is that of the not very attractive-sounding "cock-ale", which was ale flavoured in the barrel with the juices of a boiled cock and various herbs and enjoyed some popularity at this period and into the 18th century. There are isolated references to its having been bought, even bottled, by both Pepys and the Earl of Bedford⁹⁰. But, on the whole, it may perhaps be hoped that the patrons at the Cock preferred the ale unadulterated! It seems safe in any case to assert that at the brewery itself no more interest would have been taken in the bottling than was to be shown generally by brewers, with a few exceptions, until well on in the 19th century⁹¹.

THE LATER FAMILY HISTORY

From the standpoint of social history it may not be without interest briefly to trace the later fortunes of the members of the Crosse family whose lives were to be directly founded on the decisions of Henry, John and Thomas Crosse to move away from life in the village at Maulden

and seek careers in the wider world. There is also some insight into the next stage of development in the brewing trade.

Thanks to his wealthy marriage, Henry Crosse's son, John, was able to eschew any further interest in the trade or the need to work for a living. Probably he quickly sold his interest in the Cock, though he and his heirs retained most, if not the whole, of his father's holdings at Fulham for more than a century⁹². The families kept up links, though strangely none were found directly between John or his sisters and their relations at Clerkenwell, where their mother continued to live until her death in 1692. After his marriage in 1676, by which he acquired a good deal of property, mainly in Buckinghamshire, and apparently also capital, John at once adopted the name "Johnshall Crosse", perhaps to distinguish himself from his relatives of the same name at Clerkenwell, though his father still called him "John" in his will. After his father's death his residence was consistently given as "Bledlow", and he appears to have settled mainly to the life of a country squire, becoming a Buckinghamshire J.P. and Sheriff and in due course Deputy Lieutenant⁹³, but he also involved himself quickly in the current boom of London building development; in 1682 he and a brother-in-law, William Pym, who was also wealthy, bought from the Earl and Countess of Arlington for £4000 an area of land on the south side of Piccadilly, formerly part of St. James's Park, which was then developed by the leading builder, Richard Frith of St. Clement Danes, and associates as Arlington and Bennet Streets⁹⁴. It also appears that at this time he may have invested in a good deal of property in Clerkenwell⁹⁵. The likelihood that much of Henry Crosse's property had been sold is strengthened by the fact that in 1686 a family arrangement was made to give his widow an annual

income of £520 from the Arlington Street rents until her death⁹⁶.

Johnshall Crosse's home continued to be at Bledlow until his death in 1723. His son, Henry, studied at Wadham College, Oxford, and was placed, probably through the influence of his Westminster cousin, in administrative office in the Court of Requests, and he married the daughter of Paul Joddrell, a Lincoln's Inn barrister, who became Clerk to the House of Commons. After Henry's death in 1744 the surviving heiress was his daughter, Elizabeth, who had married William Hayton of Clerkenwell and Ivinghoe, Buckinghamshire Clerk of the Peace, and in 1757 there was a notable return to the brewery trade, with their daughter, Harriett Hayton, marrying the first Samuel Whitbread, who, like the Crosses of Maulden, had gone from Bedfordshire to London to establish himself in the trade and was already settled at the present famous brewery in Chiswell Street, close to Clerkenwell⁹⁷. Harriett died young in 1764 after the birth of her son, Samuel Whitbread II, who was to be his father's successor at the brewery and the noted Radical politician; he inherited both the Bledlow property and the Fulham lands from his grandmother but sold both soon after 1800; Bledlow was bought by the then Lord Carrington, whose heirs have since had it as their home.

Henry Crosse's three daughters had all been married before his death to eligible husbands. George Meggott, who married the eldest, Mary, was the only brewer. His brewery in Soho appears to have been carried on quite independently of his family's established business in Southwark, which was continued by his cousins⁹⁸. The Fulham manorial rolls record an interesting link in 1692 when George had evidently taken a mortgage for Margaret Hughes, the former mistress of Prince Rupert, on the "Great House" on the

riverside between Hammersmith and Fulham which the Prince had bought for her from the heir of Sir Nicholas Crispe in the 1670s. He undoubtedly prospered, and the Soho landowner, William Pulteney, gave him a new 40-year lease in Little Windmill Street in 1708⁹⁹; from this time he also had a new family home in Great Marlborough Street. He died in 1711, leaving a good deal of property in the Soho and Piccadilly areas and a country estate at Theydon Bois in Essex¹⁰⁰. His surviving son, Robert, married a granddaughter of Sir Gervase Elwes, baronet, of Stoke College, Suffolk. Her mother was a sister of the first Earl of Bristol and she brought him a further fortune, and he bought the estate of Marcham, Berkshire, from a leading fellow-brewer, Felix Calvert of Whitecross Street, Cripplegate. However, he died relatively young in 1718; his will shows every indication of great affluence and he was said to have been worth £100,000¹⁰¹. His son, John, was then only 4 years old, and Sir Thomas Crosse of Westminster, the eldest son of Henry Crosse's cousin, Thomas, became his guardian and sent him to Westminster School. Probably he never took part in the running of the Soho brewery, which was given up by the late 1740s. Having taken the surname of Elwes, he subsequently inherited the fortune and estates of his uncle, Sir Harvey Elwes; he invested in much London property development and from 1772, from his base at Marcham, was M.P. for Berkshire. More notably, he became well-known as the famous archetypal miser; when he died in 1789 he was said to be worth £500,000¹⁰².

Henry Crosse's second daughter, Diana, was married shortly before his death in 1681 to a James Whitehall. He has not been clearly identified, but may have been the son of this name of John Whitehall, a tailor of St. Clement Danes;

since Diana's husband was then living at Furnival's Inn, Holborn, and continued to do so, he may have been a practising lawyer¹⁰³. He and his wife had a share in the Arlington Street building development and their property there was sold when they left London in about 1722 to settle near to the home of a married daughter at Wisbech in the Isle of Ely¹⁰⁴.

The third daughter, Elizabeth, was married in 1679 to William Pym, son of another leading and wealthy tailor, of the same name, in the Strand, who had died in 1672; one of his regular customers had been Pepys. He had country estates at Leighton Buzzard, Bedfordshire, and Nortonbury, near Baldock, on the Hertfordshire-Bedfordshire border¹⁰⁵. After his father's death the younger William Pym invested in building development in Soho Fields in London by Richard Frith, advancing some £6500 to Frith, but he later withdrew from this project; at the time of Pym's marriage to Elizabeth. Henry Crosse had been in possession of part of this land, perhaps in connection with a mortgage transaction, and after Henry's death this part of the property passed to Pym¹⁰⁶. Pym then joined with Johnshall Crosse in the Arlington Street development, which was also undertaken by Frith. For some time after their marriage Pym and his wife had their London residence in Clerkenwell, where he is referred to as "Captain Pym", but they lived later in Holborn; he died in 1716 at Nortonbury. His family has continued to be prominent in Hertfordshire and Bedfordshire as leading landowners and citizens, and in recent years extensive archives relating to the Arlington Street development and other family property have been made available to the Record Offices concerned by the present the Rt Hon. Lord Pym, M.C.,¹⁰⁷.

The breweries at both Clerkenwell and Westminster were carried on well into the

18th century by the branches of the family concerned and close contacts were kept up between them. John Crosse at Clerkenwell became sufficiently esteemed in the brewing trade to be elected Master of the London Brewers' Company in 1691. He survived 4 of his sons who grew to manhood and married. After the eldest son, John, had retired to the country at Hitchin, another son, Harry, occupied the residence at the brewery at Hockley from the mid-1690s, but he died in 1709 and a younger son, Andrew (1677–1749), took over. The will of another son, Thomas, who died in 1712, particularly clarifies the relationships in this large family. Referring to his father as "the father and raiser of the family" he also wrote that he had lived in Clerkenwell for 50 years and had "served all offices". The will shows that Thomas himself had a villa at Mitcham in Surrey and an interest in the Horseshoe Brewery in St. Giles-in-the-Fields; he became a Middlesex J.P. and was buried at Clerkenwell and made a generous bequest to the parish, though it was unable to be carried out, for establishing almshouses for "2 workman brewers and 18 brewers' servants", with preference to be given to men from the Hockley Hole brewhouse or "any other brewhouse that shall belong to the family of the Crosses"¹⁰⁸. There is a notable memorial to Thomas and his wife, erected in 1729 and attributed to the Huguenot, Roubiliac, in the present St. James's church at Clerkenwell; further personifying the connections which the family kept up with the area of the Bedfordshire and Hertfordshire maltings, she had been the daughter of Thomas Willimott, a lawyer at Doctors' Commons, who was a Hertfordshire J.P. and had a property at Kelshall, near Royston.

The will of John Crosse, senior, Henry's cousin, when he died at Clerkenwell in 1713, shows that, apart from the Hockley

brewery, which passed to Andrew Crosse, and the Brammingham estate at Luton, for which he made his nephew, Thomas (shortly to become Sir Thomas) Crosse of Westminster the trustee, his property consisted of 2 inns at West Smithfield, the Swan and the Antelope, leased tenements in Turnmill Street, Clerkenwell, and property at Plough Alley, Wapping, which included a ropeyard; this latter might have been the Wapping property which had been acquired by Henry Crosse¹⁰⁹. Andrew Crosse carried on the brewery with some of his nephews and in his turn was Master of the Brewers' Company in 1729. At his death in 1749 it was left, together with the Brammingham estate, for which his relative, Sir John Crosse of Westminster, was now the trustee, to his son, Hammond Crosse (1703–85); his other property was now only the Antelope at West Smithfield, a leasehold residence in Clerkenwell Close and property in Christchurch Square in Southwark, which was becoming the main London centre of the hop trade¹¹⁰. Hockley-in-the-Hole, which from the beginning of the century had been a popular centre for entertainment, notably bear-baiting, was now becoming a run-down and poverty-ridden slum, and it is not clear for how long Hammond Crosse may have kept the brewery operating. Until quite recently he had been living in Westminster at Millbank and apparently helping to run the brewery there, and he had married the daughter of his father's cousin there, Robert Crosse¹¹¹. From Brammingham he had also been Sheriff of Bedfordshire in 1745. Later he lived both at Brammingham and at a town house in Islington. During the 1750s he gave up part of his property at Hockley-in-the-Hole for incorporation in a proposed new paupers' burial ground¹¹². However, when he died in 1785 although a brewery was no longer referred to, he

still owned property at Hockley and had bought more in the area. His eldest son, Thomas, received Brammingham and his second son, Hammond, who became a Middlesex Commissioner for Land Tax Redemption, inherited the Clerkenwell property. The youngest son, John, who had studied at St. Edmund Hall, Oxford, and had been ordained, became a well-known Vicar of Bradford in Yorkshire, where his father had purchased the right of presentation¹¹³.

At Westminster, although the young Thomas Crosse was not yet 18 when his father died in 1682, the brewery appears to have been continued successfully and, whether or not Thomas may have received some special help from a patron such as the Earl of Bedford, he quickly became a leading citizen. It is seen that very soon he was himself signing the receipts for payments at Bedford House. In 1693 Sir Thomas Grosvenor, who had married the young Mary Davies, the heiress to Hugh Audley's estates, requested his wife to give Thomas a new property lease at Millbank, probably for building his family mansion, which was near the Horse Ferry and conveniently close to the brewery¹¹⁴. He married the daughter of Patrick Lambe of Stoke Poges, Buckinghamshire. He had not gone to University, as did his younger brother, Robert, who studied at Trinity College, Oxford, and the Inner Temple, but in 1701 embarked on a political career, being elected as one of the Westminster M.P.s, and he served in this capacity during 5 Parliaments. He was granted arms, and the same blazon was used by the family of Johnshall Crosse and on the memorial of his namesake, Thomas Crosse, at Clerkenwell. In 1713 he was made a baronet by Queen Anne, and he held public office as a Commissioner of the Court of Requests (evidently exercising his patronage in favour of Johnshall Crosse's son,

Henry), and he was a Commissioner dealing with the consequences of the collapse of the South Sea Company in 1720. He was involved in a good deal of London property dealing and, as already noted, was prominent in acting as trustee or guardian for his relatives or their property. He was a close friend of a rival Westminster brewer, the very wealthy William Greene, and was concerned with him in building the Bluecoat School in Caxton Street, Westminster¹¹⁵; and he later played a leading part in the scheme for building the new church of St. John the Evangelist, the vaults of which were afterwards used by the brewery for storage¹¹⁶. For himself he bought the important estate of Berwick at Rainham and Aveley in southern Essex, and produce from this may have been shipped up river to Westminster from Rainham Creek¹¹⁷. Management of the brewery probably devolved mainly on Robert, the younger brother, who owned a personal share in it and had his own house close by in Millbank¹¹⁸.

Sir Thomas Crosse died in 1738 and was succeeded in his properties and the baronetcy by his only surviving son, John, who was already following a career in politics, and became M.P. in turn for Wootton Bassett, Lostwithiel and Westminster. After Robert's death in 1741 the member of the family primarily involved in the brewery was one of Robert's sons, Charles, who appears to have been joined for some years by Hammond Crosse from Clerkenwell. From 1749, when probably Hammond left Westminster, a formal partnership was established between Charles and a Robert Benson and a William Boyfield or Byfield¹¹⁹. Sir John Crosse died in 1762 without leaving children, so that the baronetcy lapsed. The brewery was given up not long afterwards, in 1767; it does not seem to have been sold as a going

concern, since the rate books in 1767–68 show that the various properties in the area which had been rated to Charles Crosse passed to a number of different people. Charles Crosse himself retired to Epping in Essex and died in 1785 at Bath¹²⁰. The Rainham estate passed first to a son of Charles Crosse's sister and then to a nephew of Sir John Crosse's widow, Dame Mary; they both in turn adopted the name "Crosse" and part of the property belonged to descendants until 1920¹²¹.

CONCLUSION

With a few notable exceptions, not least, for example, the post-Restoration Phoenix Brewery which was built in the Minories by Sir John Friend and which was valued at £11,700 after his execution in 1696 (and the subsequent exposure of his body on Temple Bar) for involvement in a Jacobite Plot, the London "common brewers" of the later 17th century did not yet operate very large concerns, and the major enlargement, with development of machinery, which was achieved during the 18th century had still to come. It has been estimated from the excise returns that a usual annual production at the end of the 17th century would have been of the order of 5000 barrels. Thus the establishments operated by the Crosses, and that of George Meggott in Soho, were all probably fairly modest in scale and, with a total of nearly 200 such "common brewers" operating in and around London, they would have been commonplace¹²². Doubtless some capital and business acumen in managing supplies of materials and distribution would have been needed; but, with ale and beer in stronger and weaker forms still providing normal everyday drink, alike for men, women and children, in a steadily growing population, there was certainly, as has seemed evident in the case of the Crosses, the

opportunity of making money and, in consequence, of social advancement. At the same time, since, at least among better-off people, tastes in ale and beer were often discriminating—apart from particular preparations such as cock-ale, it was worthwhile for some country and provincial brews and even "mum" from distant Brunswick to be brought to London—there were opportunities for enterprise, and it seems that Henry Crosse showed initiative. Even so, bottling of ale to make it more effervescent and interesting had become quite common, so that in the 1680s the temperance and health enthusiast, Thomas Tryon, though he did not think much of it himself, could describe its drinking as "a great custom and general fashion nowadays"¹²³. Henry's initiative at the Cock Ale-house can hardly have been unique, save in the association with John Dwight's large provision of identifiable stoneware bottles, of which many more may still remain to be encountered by archaeologists, in London and further afield.

Though it was to be written two centuries later, Charles Dickens' exposition, in the discussion between Herbert Pocket and Pip in *Great Expectations*, may seem already to have been to a certain extent apposite:

'Now', he pursued, 'concerning Miss Havisham. Miss Havisham, you must know, was a spoilt child. Her mother died when she was a baby, and her father denied her nothing. Her father was a country gentleman down in your part of the world, and was a brewer. I don't know why it should be a crack thing to be a brewer; but it is indisputable that while you cannot possibly be genteel and bake, you may be as genteel as never was and brew. You see it every day.'

'Yet a gentleman may not keep a public-house; may he?' said I.

'Not on any account,' returned Herbert; 'but a public-house may keep a gentleman. Well Mr Havisham was very rich and very proud. So was his daughter.'²⁴

NOTES

Dating. In the text and notes the year AD is given in accordance with the modern calendar, *i.e.* with the year beginning on 1 January.

- For the general history of English stoneware and the products, see Oswald *et al* 1982, and also Askey 1981; catalogues of recent exhibitions are Hildyard and Horne 1985. An earlier 17th century initiative for making stoneware at Woolwich Old Ferry was short-lived, see Pryor and Blockley 1978. The historical documentation for John Dwight and the history of the Fulham Pottery is assembled in Haselgrove and Murray 1979 and detailed references are not given here. The definitive report on the 1970s excavations at Fulham is being prepared by C. M. Green, Cuming Museum, Southwark; acknowledgement is owed to him for the preliminary details provided. The Fulham Pottery Ltd. has presented the finds in the excavations to the Museum of London. Although a 19th century stoneware kiln is preserved on the site at Fulham, the company's pottery manufacture and other business were transferred in 1986–7 to premises south of the Thames, at Battersea.
- Leeds 1933. See further below, and for relevant interest regarding tavern bottles at Oxford see also Leeds 1941.
- For Frechen stoneware, in particular, including the evidence for the making of the moulds for decoration and for the export trade, see Göbels 1971. The original significance of the "Bellarmine" faces has not been established.
- Relevant texts in Haselgrove and Murray 1979.
- Although the extant text of the first agreement, dated 25 March 1676, was signed by many individual glass-sellers, there were some interim provisions and it is not proved that it operated formally; the revised agreement was dated 1 May 1677. The texts are in GL ms. 5556, and are reproduced in Haselgrove and Murray 1979.
- For bottling of ale see note 32. In the 17th century the English quart (quarter of a gallon) appears for wine, oil, honey etc. usually to have been 2lbs weight (Troy), equal to 56 cu in or *c.* 0.92l liquid measure, but the quart for ale and beer (the latter being the produce made with hops) had been established at 70.5 cu in or 1.155l. Measurement of the capacity of a limited number of intact "quart-size" bottles to which this article refers has shown considerable variation (see notes 12–17 below); in no case, however, would a full "ale-quart" have been given! The pattern of capacities of imported and Fulham-made stoneware needs to be studied in a wider context.
- Dates used on the medallions (all for individuals) are only "1675" and, in one case, "1676". Any more definite conclusions about the dating of the medallion sequence must await the definitive excavation report.
- There is no historical documentation of the decision to abandon decorative medallions, but it was seen clearly in the excavations. However, this was not a "political" or religious gesture on Dwight's part, since metal moulds for fine ware decoration which included busts identified as James II and Mary of Modena (all now in the British Museum) were found at the Pottery in about the 1860s (illustrated in Bimson 1961).
- Since, however, the specimens appeared in 4 different "late" contexts, the archaeological indication, for at least a late date of use of the mould, is strong.
- See further below and note 32.
- Museum of London Nos 6445 (from Fleet Street) and 13154 (from Blomfield Street).
- Museum of London Nos A4289 (from Fleet Street) and B177 (from Storey's Gate) (see Plate 3); the latter was found with pins inside and had presumably found use as a household receptacle. The measured capacities (to top of rim) are respectively 0.85l, and 0.95l. The 6 further Dwight vessels, with medallions, provenanced from Central London were from Holborn (2), Blackfriars, Thames Street, Leadenhall Street and Farringdon.
- Leeds 1933, with illustrations. These Oxford bottles are all in the Ashmolean Museum, the Cock and "H.C." example being accessioned as 1915.55; its measured capacity is 1.1l, in this case very close to the full "ale quart".
- Hodgkins 1891, No. 624 and Vintners Company Loan Exhibition, London, 1933, No. 8. The measured capacity is 0.87l.
- Horne 1985, No. 12. The measured capacity is 0.86l.
- See Hodgkins 1891, No. 624. The bottle at Blakesley Hall was brought to notice by Oliver and Elizabeth Pearcey of Hammersmith.
- One of these is in a private collection (see Charleston and Towner 1977, No. 22). The others are in the Museum of London (No. 19195) and Victoria and Albert Museum (C59.1967). Due to poor condition of medallions the name was at first read as "Morris" (Bimson 1961), but is clear on the example exhibited in 1977. The measured capacities are notably smaller, viz respectively 0.57l, 0.68l and 0.68l.
- For accounts of the 1860s find and details, see Haselgrove and Murray 1979. The "Bellarmine" bottles are British Museum F19 and Victoria and Albert Museum Schreiber Collection, Sch. II 59 and 60; the other is in Stoke-on-Trent Museum. The Cock and "H.C." bottle excavated at the Pottery in 1948 was retained by the then proprietor; it is illustrated in Bimson 1961 and *London Archaeologist* 1 255 (1971).
- See note 3.
- Making of satisfactory glass bottles for wine and other drink seems to have developed rapidly from the 1650s and would have quickly presented a challenge to imported stoneware: see, particularly, Godfrey 1975. The first record found of their purchase by the Earl of Bedford was in 1658, and Pepys went to see his wine being bottled by his wine merchant in Fenchurch Street in October 1663. The very extensive unpublished household records and papers of the fifth Earl of Bedford are divided between the archives of the Bedford Estates Trustees and the British Library of Political and Economic Science, London. Relevant published studies are Thomson 1936 (with other works) and Thorpe 1938, but further comprehensive study is needed. The records, which extend over most of the second half of the 17th century, are of interest in relation to many aspects of contemporary life, apart from the purchases of pottery and glass, and also, as seen below, of ale and beer. From 1671 to 1694 (though with some gaps) there are receipted bills, rendered at intervals, for the purchase in London of all types of pottery and glass. The purchases of stoneware, with details of vessel sizes and price, although not of provenance, were large and predominantly of quart size bottles, with more occasional purchases in smaller numbers of larger sizes up to 3 gallons. From the late 1670s the Earl's sole supplier both of glass and of pottery appears to have been the glass-seller, Thomas Aporpor (see further below), and most of the stoneware should have come from Dwight, though there were doubtless also some continuing imports; concerning the latter there is no evidence that Dwight ever troubled himself, though in due course he was to take vigorous steps to defend his English manufacturing monopoly. From about 1685 onwards purchases by the household of the quart stoneware bottles fell off rapidly and were supplanted by the corresponding glass bottles, though a few of some of the larger stoneware sizes continued to be bought and also some of what were evidently Dwight's new "fine ware" mugs.
- Leeds 1933. See also Rogers 1928, which was part of a correspondence in *Notes and Queries* about the Cock which included notes from E. E. Newton. The Strype reference is B.IV 116–7 (1720 edition). See also Diprose 1868 and 1876. References to the Cock and other houses have usefully been brought together in the manuscript collections referring to London taverns, signs etc. of D. Foster (WL), J. P. de Castro (GL ms. 3110) and B. Lillywhite (GL L86.1).
- The token was illustrated by Akerman 1849 (No. 729) and associated with references to the Cock Ale-house and then existing Cock Tavern in Fleet Street, which Akerman noted was popular with lawyers and law students. In Williamson 1889–91 the token is London No. 3037. Apparently only 3 examples have been recorded, including one now in the Museum of London.
- Leeds 1933.
- The rate books and churchwardens' accounts are WL, B2 *et seq.*
- Since there is continuity (1657–58) the identity seems dependable.
- PRO PCC 1681 56. The will is dated 18 April 1682, 2 days before Henry Crosse was buried in (the former) St. James's church, Clerkenwell.
- References to the Rose are assembled as for the Cock, see note 21. Note, in particular, the 1641 Poll Tax return for the Vintners Company, PRO E179/251/22, and Hyett issued a trade token (undated) at the Rose (Williamson London No. 3044). However, it was not remarked that there are no actual references to the Rose in the 1650s or 1660s, and the rate books show that there was no site continuity with the Rose which was opened in the same terrace in the 1670s, see below.
- There appears to be no earlier illustration showing the situation of the Cock Ale-house, see Adams 1983. Hyett (then newly married) was first rated in 1638, but owing to the fragile condition of the earliest records it was not possible to explore the previous situation. The ground landlord has not been identified. With regard to the Great Fire, the rate books show no significant changes in near-by occupancies after 1666 either in St. Dunstan's parish within the City (GL ms. 2969) or in St. Clement's. During the Fire Temple Bar was the Duke of York's fire post (see Bell 1920, including the account by Windsor Sandys, later to be Dwight's partner at Fulham), and although it was a mainly wooden structure it appears that, contrary to some accounts, it was not

- destroyed; some 30 houses remained standing in the western part of Fleet Street.
29. See the indexed editions of the *Diary* by H. B. Wheatley 1893–99 and R. Latham and W. Matthews 1970–83 and also in the latter "Drink" and "Taverns" in Vol. X (Commentary). The first visit which Pepys recorded was on 7 March 1660 and the last that on 23 April 1668. On a different occasion Pepys and Creed went to the "tobacco shop under Temple Bar" and then up to "the top of the house", where they drank "Lambeth ale" (8 June 1661), but this would probably not have been the Cock Ale-house, which Pepys had named previously.
 30. Gray 1930. Boys' diary is limited to part of 1671.
 31. *Weekly Intelligencer*, No. 51, 1 July 1665.
 32. Some bottling of ale seems to have begun by the early 17th century, see Plat 1602; and a Middlesex tippler was accused before the Justices in 1615 of selling "bottle beer" in ale-houses at night (Middlesex Sessions Records N.S. II 340, quoted by Clark 1983). Fuller 1662 related the legend that its merits were discovered by accident by Alexander Nowell, Dean of St. Paul's in Queen Elizabeth's reign, who left a bottle filled with ale behind while on a fishing expedition and discovered it again a few days later. During the 1660s it seems to have become quite popular among better-off people. B. Lillywhite (note 21) recorded the sign of the Cock and Bottle at about this time on 3 trade tokens, viz. for Will Clarke in Soper Lane (Queen Street) (dated 1669), for William Skinner in White Cross Street, Cripplegate (also dated 1669), and for Mathew White in Aldersgate Street (undated, but White is recorded there in 1668) (Williamson 1869–91, London Nos. 2316, 3471 and 63). There is also in the Museum of London an actual sign, dated to about this period, which was said to have been removed from Cannon Street. Thus, Henry Crosse's use of the sign by 1665 could have been the earliest.
 33. The surviving Hearth Tax lists for the Duchy Liberty from the first half of the 1670s are GLRO TH (Westminster) 56, 87 and 88 and PRO E179/143/370.
 34. The only house recorded as taken by the City Corporation for the rebuilding of Temple Bar was that of a Widow Wright near-by in St. Dunstan's parish (GL mss. 184/4 and 2969). However the house adjoining Temple Bar to which Robert Blanchard moved after the rebuilding (see below) would probably have been a new or rebuilt one. The 1693–95 assessments are CLRO Assessments 83/6 and 43/16.
 35. Parish register, St. Clement Danes, original in WL.
 36. St. James, Clerkenwell Hearth Tax GLRO MR/TH 29, 72 and 79 and PRO E179/143/370, rate books (LL) and parish register (published in Harleian Society series); also Deeds WL 69/72 and GLRO E/PYM.
 37. Note 36 and see further below.
 38. *London Gazette*, 13 July 1691, noted in WL, Foster ms. As a coincidence, an anonymous advertiser in the same issue asked that a pendulum watch which he had lost while walking to Hockley-in-the-Hole, Clerkenwell, should, if found, be handed in at the Cock Ale-house. Although this was a walk which Henry Crosse must have done many times, as will appear below, it is thought that by this date there was no longer an association between the Cock Ale-house and the brewery at Hockley-in-the-Hole.
 39. See further below and note 60.
 40. Detailed evidence concerning Dwight's properties in Fulham High Street and the Ashmole connection is assembled in Murray 1981.
 41. For Frewen see *History of Parliament, House of Commons 1660–1690*, Feret 1900 Vol. II and *Calendar of Inner Temple Records*, Vol. III.
 42. For Maynard see DNB, and for the Maynards at Sandford House see Feret 1900 Vol. III.
 43. As to Blanchard and the banking business see Price 1890–91 and 1902 and Feret 1900 Vol. II. However, the moving by Blanchard of his premises a few doors along the street (and to within the City boundary), which is seen clearly in the rate books, was not previously observed. Windsor Sandys (son of William Sandys, M.P. for Evesham (d. 1669)) had a contract for street cleansing in St. Martin-in-the-Fields and St. Giles-in-the-Fields parishes. There is reference to "Mr. Sands" at Parsons Green in the Fulham 1674 Hearth Tax (GLRO MR/TH 45) and Sandys qualified to attend a meeting of the Fulham Vestry; for the dealings with Dwight, see Haselgrove and Murray 1979. Dealings with the Bank by Henry Crosse's son and his son-in-law, William Pym, are recorded in 1685 (GLRO E/PYM/20).
 44. The accounts of the finds are Price 1890 and, with some illustrations, including German "Bellarmines", Price 1902.
 45. The assumed rebuilding of the house at Temple Bar for Blanchard would have been during Dwight's experimental period at Fulham. The Fulham stoneware bottle referred to is Museum of London A4289 (note 12).
 46. There are numerous references to the Rose here from the 1670s until it was apparently pulled down with the rest of the terrace in the 1770s; Thanet Place was built at this time. The scientist, Robert Hooke, a close acquaintance of Dwight, who took personal interest in the work at Fulham, recorded a visit to the Rose in his *Diary* on 9 April 1677; he drank sack, but wrote, perhaps characteristically, that it was "poison" (Robinson and Adams 1935).
 47. Thomas Apthorpe was a leading member of the Glass-sellers' Company, one of the original signatories to the agreement with Dwight in March 1676. His will is PRO PCC 1700 149.
 48. Record Calendars. The Inner Temple bought a stamp in 1671 for marking glass bottles with "the arms of the house". Earthenware pots used for drinking in Hall cost only 1s/2d per double dozen. For an account of the post-Medieval pottery of the Inns of Court and relevant excavations, see Matthews and Green 1969.
 49. The copper plaque (Plate 6) is listed in Williamson 1889–91, London, Appendix A No. 11. The William Morrison in 1706–13 in Fleet Street (GL ms. 2988, St. Dunstan's Land Tax 1694–1713) was assessed for £120/10s stock and appears to have gone into business with a James Cotton, who was already there in 1694.
 50. For Francis Dorrington see Woodhead 1965. He acquired a country estate at Alford, near Godalming. Since a trade token issued at the Hart in Westminster Market Place is associated with him (Williamson 1889–91, London No. 2531), his early career may have been similar to that of Henry Crosse. His will (PRO PCC 1693 108) shows that he also had property at Charing Cross and that his brewery was at Fagwell Pond, *alias* Bowling Alley, *alias* Three Fox Court in St. Sepulchre's parish. He named many kinspeople in the will, but not a William Dorrington.
 51. The marriage licence reference is Faculty Office of the Archbishop, 30 June 1671. There are no surviving St. Giles rate books to show whether he might have moved from there to take up residence at the Cock. The will of Thomas Dorrington of St. Pancras (PRO PCC 1679 115) shows that his father was a Peter Dorrington, also not found as a relative of Francis. However, there was a Francis who was brother to Thomas and William, so that there may have been a more distant relationship.
 52. See below and note 64.
 53. Strype, who refers to the Cock Ale-house quite clearly as being next to Temple Bar on the south side of the Strand and on the St. Clement's parish boundary (see note 21), should have known the house some time at least after the beginning of the 18th century. The 1709 reference to Anthony Moreing is in an advertisement in the *Tatler*, cited by Price c.1900 (reprinted edition 1985); he seems likely to have been the son of Anthony Moreing, a brewer in St. Martin-in-the-Fields.
 54. There were premises in Fleet Street called the Cock which were burnt in the Great Fire and afterwards rebuilt (Jones 1966–70). The same, or other, premises, at the sign of the Cock, were occupied by Edward Marshall in 1679. However, the Cock was a common sign and these do not assist in the question of possible continuity between the Cock Ale-house and the later Cock Tavern. The 1763 newspaper report is quoted by Newton 1928, but the source is not given; Robert Kempton's widow had been left a fortune of £2000 and now married the master of Bishop Blaise's Head in the Mint. John Walden, Kempton's predecessor from at least 1737 (when the St. Dunstan's rate lists recommence) is named also as a licensed victualler in the parish (CLRO) but the name of his house was not found. It is not impossible that the sign was transferred from Moreing's house. In 1768 there is the often-quoted verse, published in *The Art of Living in London*:
*Nor think the Cock with these not on a par,
 The celebrated Cock of Temple Bar,
 Where Porter best of all bespeaks its praise,
 Porter that's worthy of the Poet's lays.*
 55. Continuity of the Cock Tavern (at No. 201, Fleet Street) from at any rate Kempton's time seems secure. On 10 January 1799 the *Morning Advertiser* reported proceedings against a lawyer said to have been drunk "in a public house called the Cock, near Temple Bar". In the 19th century it was managed as a well-known eating house by 3 generations of the Colnett family; Charles Dickens was claimed to have been a familiar figure and Tennyson celebrated it in "Will Waterproof's Lyrical Monologue". It may be added that a London clay tobacco pipe stamped with the emblem of a Cock is typologically dated c. 1730 (Atkinson and Oswald 1969, Fig. 3 No. 23) and a much later account by Percy Fitzgerald in 1881 (GL Pamphlet 4505) noted specially that clay tobacco pipes were brought to the Cock's customers.
 56. WL Deeds 69/72. See further below and note 96.
 57. Mathias 1959.
 58. Maulden parish registers, published in *Bedfordshire Parish Registers* series, Vol. 22. As far back as 1425 a John Crosse was among the burgesses at Bedford who refused to contribute to the expenses of the Bedford M.P.s (Godber 1969). The Maulden registers show that the name "Crosse" was well established there from the 16th century. No links from here to the London brewing trade have been established before Henry Crosse, but a "Crosse's brewhouse" appears in St. Margaret's

- parish in Southwark on the 1542 map reproduced by Rendle 1878 and in 1673 a John Crosse, aged about 40, appears as a brewer in Southwark (St. Olave's) (Marriage allegation, Vicar-General of Canterbury). The name, however, is extremely common in London and elsewhere; even so, there must be sympathy for the late Aubrey Toppin, who confidently identified Henry Crosse of the Cock Ale-house as the son, Henry, of a Chancery Lane victualler, John Crosse, born in 1633 and baptised at St. Dunstan-in-the-West (Toppin 1937). It did, however, seem likely, since he founded almshouses for Oxford college servants at Amptill, that there ought to be a link with the well-known John Crosse of Oxford, in whose house in the High Street Dwight and Robert Hooke would have worked for the Hon. Robert Boyle in 1650s, but none was found, though his will (PRO PCC 1698 59) also named a Thomas Crosse of London as a kinsman. The only kinsman not of his immediate family who was named by Henry Crosse of the Cock Ale-house in his will was a nephew, William, who has not been identified in London.
59. For the malt trade from Bedfordshire and Hertfordshire to London, see *VCH Hertfordshire*, Vols III and IV, and Denney 1977.
 60. The date of Henry Crosse's acquisition of the Fulham lands did not appear, since the first reference in the Fulham manorial rolls which was found was in 1682, after his death, when they passed to his son; the manorial property was agricultural and grazing land close to Chelsea Creek, which comprised 5 acres of Walters Close, North End, and tenements in Marshcroft called Plucknett's and Stonehouse's. This passed to his grandson in 1723 and then to his great-granddaughter, Mrs Elizabeth Hayton, and from her to her grandson, the politician and brewer, Samuel Whitbread II (see below and note 97). He sold it in 1802-3 to James Gunter, a noted confectioner of Berkeley Square, London, whose family acquired much land in the area for eventual development. A further 5 acres of non-manorial land close to Walham Green in the same area which Whitbread sold at the same time to the Fulham brewer, Oliver Stocken, may also have come from the Crosses and Mrs. Hayton.
 61. A surviving 1672 rate list for All Hallows parish does not name Henry Crosse or anyone known to have been associated with him (GL ms. 6026).
 62. Leases of the Dean and Chapter of St. Paul's (GL ms. 25691).
 63. BL Sloane mss 3928. Although shown as occupier in Clerkenwell Close in the Hearth Tax and rate lists, Henry Crosse does not appear in this as either "house-keeper" or landlord.
 64. Elizabeth Blanck's grandfather, James Blanck, acquired the Bledlow property by the 1640s; his family is linked by armorial bearings with Sir Thomas Blanck, a Lord Mayor of London in the reign of Queen Elizabeth, and his will is PRO PCC 1665 79. Elizabeth's father had also died, and the marriage was with the consent of her mother (Vicar-General of Canterbury, 13 May 1676). For the Bledlow property, see also PRO Calendar of the Committee for Compounding, p. 1489, and *VCH Buckinghamshire* Vol. II. Later property deeds to which Henry Crosse's son was a party were concerned with property at Monks Risborough, Wendover, Saunderton and Aylesbury in Buckinghamshire and also some property in Northamptonshire (Buckinghamshire Record Office D/LE/2/65 and D/D/8/64).
 65. The important brewery in Southwark, with premises in Horsleydown and Stoney Lane, was carried on after 1678 by the eldest of George Meggott's 3 sons, also George Meggott, who became High Sheriff of Surrey and was knighted in 1690. From 1702 the owner was his son, again George Meggott, who was briefly M.P. for Southwark in 1723. In the next generation Smith Meggott entered a partnership with Robert Hucks, a member of a Bloomsbury brewing family, who like his father, held the post of King's Brewer. The George Meggott who married Mary Crosse appears from his grandfather's will (PRO PCC 1679 7) to have been the eldest son of his second son, Robert, and his father's younger brother was Richard Meggott who, after going to St. Paul's School and Cambridge, entered the Church and was Rector of St. Olave's, Southwark and, from 1679 to 1692, Dean of Winchester (DNB). George and Mary's first child was baptised George at Clerkenwell in February 1680 but did not survive his parents and the heir was a younger son, Robert (see further below and notes 98-102).
 66. Henry Crosse's legacy of £500 to his daughter, Mary, was to pass to her husband if he made over his Solo brewery to her. In 1682 Mrs Meggott is rated in Windmill Street, then in St. Martin-in-the-Fields (WL F3670); after formation of the new parish of St. James, Piccadilly, George Meggott is in Little Windmill Street in the earliest available list (for 1687) (WL D2); see also note 99.
 67. For Thomas Christie see *History of Parliament, House of Commons, 1660-1690* and also *VCH Bedfordshire*, Vols II and III.
 68. Alice Bainbridge was the daughter of a London brewer, John Poole, who lived at Clerkenwell and left her his property, but his will (PRO PCC 1638 93) does not identify it. Charles Bainbridge's will (PRO PCC 1646 97) records that he was born at Runswick (near Whitby) and he is likely to have come to Clerkenwell in the service of Henry Cholmley, who was the brother of Hugh Cholmley, Lord of the Manor of Whitby. Both brothers were M.P.s before the Civil War and both were knighted by Charles I. In the War both become Parliamentary commanders, though Sir Hugh was afterwards to change his allegiance. Bainbridge bought the Unicorn at Clerkenwell from Henry before the latter was knighted in 1641 and could well have served in the War under him. His other brewery, which was his residence, was bought from a John Sindale.
 69. Details from St. James, Clerkenwell, parish registers (Harleian Society).
 70. St. James, Clerkenwell, rate lists 1661 and 1666 onwards (IL, Finsbury Library) and 1664 Hearth Tax (GLRO MR/TH 1). The occupier in 1661 at the premises at Hockley-in-the-Hole appears to have been a Samuel How. Although the identification here of Henry Crosse from Temple Bar from 1664 onwards seems clear in view of the further changes in 1671-72, it should be recorded that a different Henry Crosse appears in the parish register, with the baptism of 3 children between 1664 and 1668. See also notes 58 and 73.
 71. The local topography was considerably altered by the slum clearance and the works for the Metropolitan Railway in the 1860s, but see earlier maps, especially Rocque 1746. Further details in Pinks 1887, and for the Fleet River see also Barton 1972.
 72. It cannot be entirely excluded that the brewery operated by the Crosses at Hockley was newly established, in which case that of Bainbridge and Christie might have been associated with the property in Turnmill Street.
 73. See note 70 above. Apart from the proximity of the names of Henry and John Crosse at Hockley-in-the-Hole, that of Henry remains until 1671, the year before he is found in Clerkenwell Close and the Hearth Tax lists in the 1670s (see note 36) show that John Crosse then occupied the house of 6 hearths.
 74. Details from parish books in Pinks 1887.
 75. The will of John Crosse's son, Thomas, (PRO PCC 1712 250) shows that his eldest brother's wife was Dorothy Rowley of Barkway, Hertfordshire; see also *VCH Hertfordshire*, Vol. II p. 353. The Hitchin property passed to a daughter, Mrs Christine Rogers.
 76. See the wills of John Crosse (PRO PCC 1713 256) and his son, Andrew Crosse (PRO PCC 1749 275) and also *VCH Bedfordshire*.
 77. The brewery trade flourished particularly in Clerkenwell because of the good water supply; the 1677 list of "house-keepers" (note 63) emphasises this, with numerous occupiers of property recorded as "brewers", "working brewers" and "brewers' servants". There was a Cock in Turnmill Street, at least in 1545 and 1651, but there seems to be no possibility that the Crosse brewery was called the Cock. The Unicorn, formerly owned by Bainbridge, was still a brewery in 1680 (*True Domestick Intelligence* No. 83) and Thomas Christie's will (PRO PCC 1697 156) shows that he continued to own property adjoining it, but there is no sign that the Crosses were involved here. John Wilcocks (or a son) was still at the brewery in Turnmill Street in the early 1690s but, having been appointed in 1689 as one of the Commissioners of Excise, he was in trouble for retaining a brewery interest, contrary to his oath (PRO *Cal. Treasury Papers* XXXIV 20).
 78. Vicar-General of Canterbury, 17 June 1663.
 79. Bedford Estates Trustees mss.
 80. He may also have been the Thomas Crosse who appears in the accounts of the Middle Temple, signing receipts in 1663 and 1671-72 for payments in connection with plays performed during the Revels. These would probably have been on behalf of the Duke of York's players, who were based at this period at the theatre in Lincoln's Inn Fields (see Latham and Mathews 1970-83, Vol. X).
 81. For a full account of Hugh Audley and his property which, passing to his eventual heiress, Mary Davies, was to become the Grosvenor Estate, see Gatty 1921. Audley spent the last part of his life living at the old St. Clement Danes rectory in Millford Lane, close to the Temple and the Cock Ale-house, so that Thomas may well have done some of his courting at the Cock. Audley in his will (PRO PCC 1662 134) left Mary Lockwood £333/6s/8d and all his household goods.
 82. WL St. Margaret's, Westminster, rate books and Overseers' accounts, E174 *et seq.* Thomas Crosse's name appears from 1669, but his will (note 83) shows that at first there was a lease from Maurice Emmett, builder to the Royal Household, who lived near-by. For 18th century views showing the brewery and the later Crosse mansion, see Phillips 1951 and Phillips 1964.
 83. Thomas Crosse's will is PRO PCC 1682 107. There is the (unlikely) possibility that Fulham stoneware bottles with redallions "RC 1675" of somewhat amateurish quality were made for the younger son, Robert Crosse, as a school friend.
 84. As in the case of the bills for the stoneware etc., those for ale and beer are divided between the collections of the Bedford Estates Trustees and the British Library of Political and Economic Science.

85. Attention was called to the bills and the note on the bottling of the ale for the Earl in Thomson 1936. At this period, under legislation of Henry VIII, a barrel of ale was measured at 32 gallons, but a barrel of beer at 36 gallons.
86. There are no signatures by John Crosse himself or by Henry Crosse.
87. Ms. *Records of the Inner Temple*, Vol. 7 f.16 and *Calendar* Introduction p. xxxii. The records also happen to show that in a check at the Inner Temple in December 1677 there were 90 barrels of "small beer" (i.e. weak ale or beer) and 6 of "strong beer" in the cellar. Luttrell's *Narration* was first published in 1857.
88. Record calendars.
89. See next paragraph. There is no sign that Henry's Crosse's son, John, was involved at the Cock either before or after his father's death.
90. The Earl of Bedford's accounts show that in 1662 4 bottles of cock-ale were bought for 2s/- from an un-named supplier. Pepys mentions it twice: on 2 February 1663 he drank a cup of it at an un-named house which appears to have been near the Temple, and on 4 June 1666 he bought 2 bottles, again at an un-named house, while travelling in London in Sir William Penn's coach. A recipe for it was published in 1669 in "*The Closet . . . opened*", the collected papers of Sir Kenelm Digby, who died in 1665 after living during the later part of his life at Covent Garden. Lord King, in his biography of the philosopher, John Locke, related that in 1679 Locke advised a visitor to London that varieties of ale to be had at the Hercules Pillars, off Fleet Street, were "cock-ale, wormwood ale, lemon ale, scurvey grass ale and college ale" (1858 edition, p. 35).
91. An early association of Pepys with bottled ale was on 7 May 1660; while waiting at the Downs with the Fleet which was to escort Charles II back to England, he was sent 12 bottles of Margate (Northdown) ale by Captain Cuttance, and he and his companions presently drank 3 of them in their coach. In 1671 the lawyer, Jeffrey Boys, himself tried to bottle some Northdown ale sent to him from Kent by relatives, in the cellars at Gray's Inn; for this purpose he bought 2 dozen glass bottles for 8s/-, together with corks and packthread (Gray 1930). Generally, bottled ale seems to have been expensive: in 1712 Burton ale was offered in London for 7s/6d per dozen bottles (Clark 1983).
92. Note 60.
93. The name "Johnshall" is used in the Clerkenwell parish register in 1677 and, with the address "of Bledlow", in the Fulham manorial rolls in 1682 and later deeds. For the history of the family at Bledlow and memorials in Bledlow church see Lipscombe 1847 and *VCH Buckinghamshire*, Vol. II. Johnshall Crosse's will, written in 1721 (PRO PCC 1723 230), confirms that his wife, Elizabeth, and two of his brothers-in-law were now dead, but the other brother-in-law, James Whitehall, and his own 3 sisters were still alive.
94. The conveyance of the land by the Earl and Countess of Arlington in February 1682 is WL Deeds 192/2. This was a "high class" development, which immediately attracted some tiled tenants, though the standard of building was sharply criticised at the time by Sir Dudley North (North, 1826 edition, Vol. III). In addition, a Crown indemnity had to be obtained for all concerned in May 1684 owing to contravention of building covenants (*Cal. S.P. (Dom.)*). Many deeds and other relevant documents are in GLRO E/PYM; others are WL 10/356, 15/4, 15/5 and 15/113. For the career of the builder, Richard Frith, who was eventually to die in debt, see *Survey of London*, Vol. XXXIII.
95. This is an inference only from the curious circumstance that in numerous instances in the Clerkenwell rate books (II) in the first half of the 1680s "blanck" or "blank" (the family name of Johnshall Crosse's wife) is substituted as an amendment for the name of the existing occupier.
96. The surviving document, WL 69/72, is a release from the arrangement, following Mrs Crosse's death. The parties were Johnshall Crosse, William Pym and James Whitehall.
97. When William Hayton was to marry Johnshall Crosse's granddaughter in 1731 he was reported as setting forth from his father's house in Clerkenwell, and his bride was stated to be "a lady of singular accomplishments, an agreeable person and plentiful fortune" (Pinks 1887). For a study of Samuel Whitebread I's apprenticeship and early years in the brewing industry, see Harley 1958.
98. However, confusion of George Meggott of Soho (St. James's) with his relatives in Southwark goes back to the well-known biography of his grandson, John Elwes (Topham 1790).
99. The Fulham manorial rolls show Margaret Hughes and George Meggott of St. James's surrendering the house to new owners in October 1692. For the development of the Soho area, in which the brewery was situated, see *Survey of London*, Vols XXXI and XXXII (Parish of St. James, Westminster, north of Piccadilly), though evidently George Meggott's brewery was established rather earlier than there suggested (see note 66). Early in the 18th century this brewery is described as consisting of "a brewhouse, malt loft and ancillary buildings" (Vol. XXXI, p. 119). A further deed confirms that Meggott's house in Great Marlborough Street was built in 1707-08.
100. George Meggott's will is PRO PCC 1711 190. Thomas Crosse of Westminster was his joint executor and trustee, and two of his sisters-in-law, Elizabeth Crosse and Elizabeth Pym, were witnesses. His surviving son was Robert. There was a good deal of property in the present Piccadilly Circus area, though it was not specified in detail; however, messuages in George Court, Piccadilly, were left to his widow, and the Three Horse Shoes in Windmill Street was charged with a bequest to benefit poor children of the parish. The estate at Theydon Bois was that of Theydon Hall; it was in his family's possession (perhaps his own) by 1680 and was owned by descendants until 1919 (*VCH Essex*, Vol. IV, p. 252) and probably possession of this property led to his son, Robert, marrying Amy Elwes (note 101), since her family had property at Woodford in the same area. George's daughter, Mary, married an Inner Temple barrister, Robert Yard.
101. Robert Meggott died only 7 years after his father. His will is PRO PCC 1718 148. His wife, Amy, was the daughter of Gervase Elwes, eldest son of Sir Gervase Elwes, baronet. There is now an impression of very considerable wealth. Amy received £3000 by the will and their daughter (when she should come of age) £5000, and there are references to diamonds, and a coach and a chariot, and coach horses and saddle horses. Felix Calvert had bought Marcham in 1691 and had been M.P. for Reading (*History of Parliament House of Commons, 1715-1754*). Thomas (now Sir Thomas) Crosse of Westminster appears again as the young children's guardian.
102. The young John Meggott was sent by Sir Thomas Crosse to his own former school, Westminster. His career is well known from the biography written shortly after his death by Edward Topham (Topham 1790). He did not go to University, but spent some time at Geneva and gained a reputation of being among the most daring horsemen in Europe. It cannot be shown that he ever played an active role in the brewery in Little Windmill Street, and the business seems, after the expiry of the lease in 1748, to have been merged with the adjoining brewery of John Starkey, which was carried on into the 19th century. In 1750 Meggott adopted the surname of his mother and his uncle, Sir Harvey Elwes, and in 1763 succeeded to his uncle's considerable wealth, though the baronetcy passed to another line, that descending from Sir John Elwes of Fulham. The former John Meggott played a major part in the financing of London building development, particularly in St. Marylebone, and, having kept his father's estate at Marcham, was M.P. for Berkshire from 1772 to 1784. He did not marry, and two sons, who were born to his housekeeper at Marcham, inherited only the part of his property which was not entailed. His reputation as a notable miser (though this seems to apply more justly to his uncle's family as a whole) earned him the distinction of inclusion in the DNB.
103. No link was found with the family of the leading goldsmith of the period, Gilbert Whitehall.
104. WL Deeds 10/295 and 69/84.
105. William Pym, senior, was a London Merchant Taylor; no connection was found with the family of John Pym, the Parliamentarian. For references in Pepys' *Diary* etc. see Latham and Matthews 1970-83, Vols X and XI. He was buried at Leighton Buzzard and his will is PRO PCC 1672 64. The marriage licence allegation for his son, William Pym, and Elizabeth Crosse (Vicar-General of Canterbury, 26 July 1679) gives William's residence as "Wrach, co. Beds.", i.e. Reach, Leighton Buzzard.
106. This building development and the career of the builder, Richard Frith, are dealt with in the *Survey of London*, Vol. XXXIII (Parish of St. Anne, Soho). The development was initiated by the grant of letters patent to Joseph Girle, a brewer, of St. Marylebone, who assigned the rights to Frith. The part which was in the possession of Henry Crosse in 1679 was called Cooke's Croft and Billson's Close. The Soho property of Thomas Crosse of Westminster was also in this area.
107. William Pym appears at Clerkenwell as Captain Pym in the 1693-94 Grants-in-Aid to the Crown (CLRO Assessments 89.2 and 14.6). However, it appears from the collection of deeds in GLRO (E/PYM) that he and his wife moved their residence in about 1690 to Holborn. Pym's will (PRO PCC 1716 235) shows that, in addition to the Nortonbury estate, he still had the Leighton Buzzard manor and other property. A share of the Arlington Street development was bringing in £248 p.a. He made Sir Thomas Crosse of Westminster and Sir Thomas's brother, Robert, his trustees. His sons, William and John, both studied at Gloucester Hall, Oxford, and the Middle Temple. For the later descent of the family see, in particular, *VCH Hertfordshire*, Vols II and III, *VCH Bedfordshire*, Vols II and III, and Godber 1969.
108. PRO PCC 1712 250. Also Pinks 1887. Prior to becoming Master of the Brewers' Company (Ball 1977) John Crosse appears as a member in a list of 1682 (GL ms. 5878) but he is not in some earlier surviving lists.

- A Thomas Crosse appears in 1687 (GL ms. 5875A). For a lease of property in Turnmill Street see GLRO Q/HAL/47.
109. PRO PCC 1713 256. See also Pinks 1887. The property at Wapping may have been involved in the supply of hops, the use of which in brewing was fairly general by the end of the 17th century.
 110. Will of Andrew Crosse PRO PCC 1749 275. A nephew of his, Harry Crosse, lived in Red Lion Street, Clerkenwell, but passed the last years of his life at Aldenham, Hertfordshire, where the Brewers' Company had established their school; his will (PRO PCC 1741 83) shows that he too owned property at Wapping, but it was not described; he also had 2 farms in Essex.
 111. It is seen from the St. Margaret's rate books (WL) that Hammond Crosse had a house of his own at Westminster, close to the Millbank brewery. His marriage to Robert Crosse's daughter is established by Robert's will (note 118). In a bastardy deposition against one of his servants at Westminster Hammond is called "a distiller", but this might have been inaccurate (WL E2578 Vol. 5). He became a churchwarden of St. John the Evangelist in 1747-48 and his 5 children were baptised there in 1743-48.
 112. The arrangement to transfer part of the Hockley property to the parish is documented in Pinks 1887. By this time the area was becoming insalubrious and disreputable. It became known as Ray Street (said previously to have been Rag Street) and was mostly swept away in the Victorian clearance. The jingle
All the stinks that rise together
From Hockley Hole in sultry weather.
is dated back to 1717.
 113. Hammond Crosse's will is PRO PCC 1785 459. What had apparently been the brewery property, with a reference to water supply rights, was left to his son, Hammond, but the brewery is not referred to; the additional Clerkenwell property, which had been bought from a Thomas Smith, was not in Ray Street. Hammond was also left his father's residence in Lower Street, Islington, and an estate at Shenley, Hertfordshire. For the career of the third son, the Revd. John Crosse, see DNB; his father left him "£300 stock in Old South Sea Annuities".
 114. See Gatty 1921 and Phillips 1964. Sir Thomas Grosvenor, who married the heiress, Mary Davies, came from a leading Cheshire family and was M.P. for Chester. Their descendants are the Dukes of Westminster, who have continued to own the estates.
 115. Details from the wills of Thomas Crosse of Millbank and his heirs and descendants are conveniently brought together in Boddington 1908. Unfortunately the will of his son, Sir Thomas Crosse (PRO PCC 1738 145), in which everything was left to his son, John, gives no details about his possessions. For some details of Sir Thomas's career see Burke's *Dormant and Extinct Baronetcies* (1844) and *History of Parliament, House of Commons, 1715-1754*. The Crosse family vault and a memorial to Sir Thomas are in St. Margaret's, Westminster. As to William Greene and his family's important brewery at Pimlico, Westminster, see Janes 1963; after it was rebuilt in 1715 this brewery was insured for £18,000 and William Greene was said in the *Gentleman's Magazine* to have been worth upwards of £150,000 when he died in 1731; his successor, Thomas Greene, who died in 1740, was called "the greatest brewer in England, immensely rich".
 116. It was not suggested that use of the vaults by the brewery was to blame for the fire which destroyed the new church in 1742. Use continued after the rebuilding.
 117. For the estate and its later history, see *VCH Essex*, Vol. VII.
 118. Robert Crosse in his will (PRO PCC 1741 256) states that the freehold of the brewery was purchased by Sir Thomas Crosse and himself. Robert, having married (in 1694) a daughter of Sir Thomas Field of Stanstedbury, Hertfordshire, had a copyhold estate there. He disowned his eldest son, William, of whose way of life he disapproved, and his share in the brewery was left to the younger son, Charles. £2800 was left to Robert Benson, who later became a partner. Robert Crosse's sister, Mrs Mary Martin, had a memorial put up to him and to her nephew (Sir Thomas Crosse's son, Thomas, who predeceased him) in the church at Netteswell, Essex, and this is now in the Victoria and Albert Museum, having been removed there in 1969 (*VCH Essex*, Vol. VIII p. 212).
 119. The partnership is referred to in the will of Sir John Crosse (PRO PCC 1762 144). Among other legacies he made generous bequests to London hospitals and to the Westminster Bluecoat School. He left family portraits of Sir Thomas Crosse and himself.
 120. The will of Charles Cross is PRO PCC 1785 238, and that of Sir John's widow, Dame Mary Crosse, who continued to live in the mansion at Millbank until her death in 1770, is PRO PCC 1770 356.
 121. Boddington 1908, and *VCH Essex*, Vol. VII.
 122. Matthias 1959. See this also for an account of the development of the brewing industry in the 18th century. At the beginning of the 19th century the *Annual Register* was able to publish figures showing that 4

of the London brewers (including Samuel Whitbread II) were each producing more than 100,000 barrels a year, with others not far behind. A notable description of the prospects in the trade was given in 1747 by R. Campbell in his handbook of guidance for young men seeking to choose a trade or profession; to enter the trade, he said, family influence or actual experience were normally necessary, and to embark on it independently "a large stock of ready money" was required, although the profits would be "proportionably considerable" (Campbell 1747).

123. Tryon 1682 and 1691.

124. Charles Dickens, *Great Expectations*, Chapter XXII; first published in 1860-61.

ADDENDA

In comparison with the large amount of stoneware presumed to have been made for the Cock Ale-house in the later 1670s, a published inventory, dated 1644, for the Mitre Tavern in the Strand showed only, in the cellar, "10 gallon potts, 3 pottle (½-gallon) potts, 13 quarts, 13 pints, two ½-pints" (Shenahan 1961).

As a modest contribution to the history of Temple Bar, it may be recorded that one of the witnesses to Henry Crosse's will in 1681 was a Henry Meux. After the demolition of Temple Bar in 1878 it was, of course, Sir Henry Meux, whose family had become prominent in the London brewing trade during the 18th century, who eventually bought the stones and had the monument re-erected at its present site on his estate at Theobald's Park in Hertfordshire.

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Appreciation is due to the authorities and archivists concerned for access permitted to the records.

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REVIEWS

The Hon. Editor will be pleased to receive volumes on the history and archaeology of London and Middlesex and related topics for review in this section of Transactions.

D. KEENE *Cheapside before the Great Fire* (Economic and Social Research Council, London 1985) 26 pp., £2.00; and D. KEENE and V. HARDING *A survey of documentary sources for property holding in London before the Great Fire* (London Record Society, Vol. 22, 1985) xix + 248 pp., £12.00.

Not many books defy criticism, but these two do. Their merit rests not simply in their own excellence, or in the fuller studies which they promise, but in their implications for all other work of this kind in London and in other ancient towns where ideas, aims and methods of research are liable to radical re-assessment in consequence. In other words, they represent an historical landmark of the first importance; without question the most impressive achievement in the historiography of London and very likely in urban studies generally. No real comparisons spring to mind except for the huge *Survey of Medieval Winchester*, which the same main author published in 1985.

Extravagant as they may seem, these adjectives are carefully chosen: what can have provoked them? After all, the two books sound ordinary enough and at first sight look, if not ordinary, at any rate diverse and disparate. One, *Cheapside before the Great Fire* is a glossy and colourful brochure which outlines the methods, results and value of an elaborate study of a group of six parishes straddling the eastern end of Cheapside and based upon a comprehensive treatment of available historical sources. Just how comprehensive is shown in the other, titled on its spine *Sources for London property holding*, which could hardly be more different in content and style. Largely bereft of consecutive prose and austere and technical even by the standards of historical records publications, it sets out the materials upon which the study was based in such a way as to make them accessible for similar research into the rest of the City. To turn from one to the other, as from the raw material to an advanced stage in its digestion, is a disconcerting experience.

Both originate from the Social and Economic

Survey of Medieval London (SESML), a project set up in 1979 and funded, exclusively at first, by the Economic and Social Research Council and administered by University of London Institute of Historical Research. Of this project, *Sources for London property holding* represents the first substantial publication, independent of the results of the Cheapside survey itself. The latter are to appear in two forms, the first an account of the history of each of the 150 tenements of which the study area is composed, together with an index of some 8,000 occupants, to be published in microfiche. This is to be followed by a book which will draw out the general and wider significance of the tenement histories in the context of London's history and development. In a sense *Cheapside before the Great Fire* serves as a prospectus to those forthcoming publications. It is also a wholly understandable piece of self-advertisement on the part of ESRC who do not seem to have taken the opportunity of publicising many of their projects in this way. Behind these initial returns on their investment stands a whole series of similar programmes, outside the scope of this review but relevant to it. A second grouping of parishes around Poultry, adjoining the eastern limit of the Cheapside area, nears completion, while work is well advanced on the large extramural parish of St. Botolph Aldgate and yet a fourth study is planned for a group of parishes in the area of the Bank of England. Private institutions and donors have replaced ESRC in funding the second and fourth of these.

Of course, research of this kind, using the same kind of documents and sharing a basically similar purpose, is nothing new. It has been done in a number of places over the last hundred years, if usually in a rather fragmentary and desultory fashion, and over the last twenty at an ever increasing rate, largely in conjunction with urban archaeology. What is so different about the present exercise? One difference is to be seen in its approach to the sources. To say that the wider the range of evidence covered the better the results will be is a truism, but rarely can a truism have been so relentlessly applied, or such a huge volume of material have been as systematically and comprehensively identified, collected and assimilated,

as here. To produce in the course of a study of but six parishes a digest of the sources examined which is so arranged as to show precisely their bearing upon the remaining one hundred and four is a very fair measure of this.

Sources for London property holding is a *catalogue raisonnée* of some 220 pages, laid out archive by archive and class by class and supplied with inclusive dates of relevance (by century) for each item. Numerical cues identify the parish, or parishes, to which these items relate. The reverse process is made possible by means of an index which lists the sources relevant to each parish, as well as to other named places, mainly streets but occasionally tenements, quays and the like, for which the source does not identify the parish. An index of property- and archive-holders serves as a guide to the present location of records. The main contents are arranged in the order: Corporation of London, religious houses and bishoprics, parishes and chapels, colleges and schools, other institutions, private collections, Public Record Office, record offices in the UK, collections in the USA, and wills and inventories. These comprise a total of 531 'entries', an entry being a distinctive but variable body of material, whether the complete relevant holdings of an institution such as the College of Arms (457) or the collection of deeds of the Dean & Chapter of St. Paul's (70), where the entire chapter archive is arranged within entries 70 to 78. The St. Paul's deeds and the PRO Ancient Deeds, being collections of special importance, are individually listed under parish or other topographic headings. The treatment of each major record repository or substantial archive is prefaced by an account of the character and arrangement of its holdings. The value of *Sources* need hardly be elaborated: by directing attention to what is relevant to a particular enquiry (and equally important by showing at once what is not) it will place all kinds and degrees of topographical research into pre-Fire London on a completely new footing.

Cheapside before the Great Fire presents only a summary and selection of the kind of information and conclusions which are available from the sources when collected and handled on this basis. Each of the sections into which it is divided: land-ownership, the physical environment, trades and society, and the long-term development of London, contains plain, unqualified statements or demonstrations of a kind which would not previously have been possible. Thus the first of these sections is able to assert that by the Reformation more than 60% of the Cheapside survey area was in ecclesiastical ownership, and a map showing the layout of individual tenements c. 1530 illustrates

this, as well as the fact that the livery companies accounted for about a further 10%: only the remainder, less than a third of the total, were still 'private' freeholds. 'The physical environment' shows precisely the early 13th century layout of the house where Thomas Becket was born, and for the first time explains the purpose and character of the selds as 'private bazaars', hidden away behind shops on the street frontages and accommodating numerous small-scale traders in separate plots. The findings are not always limited to demonstration on plan: one illustration presents a diagrammatic elevation of a line of houses in Ironmonger Lane in the 1640s, comprising cellars and three storeys with garrets above, in which the functions of each storey are also indicated.

In 'Trades and Society' rich and poor are found to have lived side by side, the middling ranks of artisan retailers occupying the street frontages; the poor, single, upper rooms; and the wealthy, the secluded areas behind the frontages. A distinction can be drawn between the retail and distributive function of Cheapside and the manufacturing role of the side streets. Changing patterns of occupation are also charted: leather working, prominent in 1300, had slumped drastically by 1400, while textiles and the clothing trades now boomed. Perhaps most remarkable of all, in 'The long term development of London' is the histogram which presents land values between 1300 and 1650 by decades as an index of changing levels of prosperity in the area (and doubtless of wider application) during that period. At either end of the scale stand roughly equal peaks, the first lasting until the 1320s and then declining to a fairly constant trough which persisted throughout the 15th and the first half of the 16th century before a steady and very marked recovery in the decades up to 1600. Thus only at the outset of the 17th century was London again as wealthy, in these terms, as it had been in 1300, while the Black Death, previously and universally assumed to have marked a grand climacteric in the economic history of the medieval City, as of the rest of the country, is seen on this evidence to have played a negligible part in a decline which was already under way at least two decades earlier.

These findings represent only the barest summary of the more salient conclusions from the Cheapside survey: a fuller assessment must await the complete account of the study which sets out the evidence and discussion in greater detail. It will be interesting to see, for example, what account is taken of the problem of determining whether a private tenement was actually occupied by the freeholder, practising one particular trade, or was instead leased out by him to somebody else, prac-

tising quite another. Many will be curious about the basis of the maps showing the layout of the tenements at successive dates. But what is already clear, as a result of this work, is that while to a greater or lesser extent many of the phenomena noted here (with the notable exception of the sequence of property values) have previously been recognized or suspected, now for the first time they have been properly defined and quantified on an altogether wider and firmer basis. As the concluding sentence of the booklet claims, the work is itself the starting point for many new lines of enquiry, a contention subliminally reinforced by the image of a key ('Door or gate key, fifteenth century') which impinges upon the text at this point. This provides the only instance of archness in either publication, and it has been well earned.

Clearly, the SESML project has important implications for all topographical research, not least where it bears upon archaeology, which deserve consideration in these pages while the fuller publication of the Cheapside survey is awaited. Perhaps its most fundamental aspect, in the long term likely to prove its single most important lesson, is its implicit recognition of the parish as a basic, irreducible unit of study. It is the parish which provides the mode of reference for *Sources for London property holding*, just as it is on groups of parishes that the Cheapside and subsequent SESML surveys are based, because it supplies the only framework within which justice can be done to the available evidence in terms of both collection and assimilation. The larger the area of study, the wider the range of evidence which it is practicable to consult in quest of relevant material, and the more effective its final assemblage. But time was when a typical exercise of this kind tended to be confined to a single property of particular interest or, in an archaeological context, to bits of several properties which happened to fall within the arbitrary limits of a development site. Either case would represent only a fraction of the parish (or parishes) in which they lay, and the deficiencies of this type of approach are now more clearly revealed. On that basis it is rarely, if ever, possible to examine every source on the off-chance that it might bear upon a small group of tenements, and many difficulties arise from the handling of evidence available from even the most productive and accessible sources. For example, many deeds, and most 14th century ones, fortunately contain precise details of location which alone enable individual holdings to be identified and placed in relation to each other. But there was still a sizeable minority of deeds, which in fact became larger during the 15th century, where the parish alone was specified.

Though this practice evidently once sufficed as a means of identification, it hardly suffices for present purposes and such documents present the researcher of only a small portion of a parish, as represented by an excavation site, with an acute problem: it simply will not always be clear whether they relate to his home patch or not. On the grounds of ownership he may suspect that they do or do not, but will remain uncertain, not least because it was common for a citizen to hold more than one property in a single parish. Merely to set such doubtful cases aside will hardly meet the demands of the investigation: there will be too many of them. The only way to resolve these problems, or most of them, is to widen the focus to include the whole parish as an entity. To deal with only a part of it, as in a vacuum, is plain inadequate where not actually dangerous.

The awful truth that the proper study of tenements which are of immediate interest also involves some twenty or so neighbours which are not can be a difficult pill to swallow. This is no less so when, as is usually the case nowadays, the work is being done as part of an archaeological programme where the resources to cover it can only amount to a small proportion of whatever is available for the whole operation. Various compromises therefore have to be contrived in order to strike a balance between an upper limit of endeavour imposed by cash and a lower limit set by the nature of the records themselves. One of these concerns the appropriate level to which research should be pursued when once established upon parish lines. It is arguable that for the elucidation of individual sites and for contributing to general excavation strategy a treatment may be called for which, while still retaining the basic principles exemplified by SESML, is less comprehensive in its coverage and analysis. After all, documentary provision for archaeology is usually by HBMG which, like the DOE previously, itself operates within restricted resources and consequently defines the limits of its own responsibility by distinguishing between research which is immediately essential and that which, however worthy, must await other days and other subsidies. Though not without its philosophical hazards, this remains a realistic and useful distinction. When translated into documentary terms, it might indicate that priority should be given to those records, most notably title deeds, which provide the basic topographical and tenurial framework for the parishes chosen, to be supplemented, especially in the cases of that small minority of tenements which have actually been excavated, by a selection of other records, such as rentals and surveys, which often given more reli-

able information on occupation and use. Modifications of this sort can now of course be applied the more confidently by reference to *Sources for London property holding*.

But what parishes are to be chosen for this treatment? A second compromise arises from an even more starkly practical consideration than resources, one that no foreseeable increase in subvention could in any case alleviate. This is that it will not be at all clear at the start of the excavation programme, or for a considerable time afterwards, what selection of parishes will most satisfactorily coincide with the notoriously random incidence of successive development sites with which archaeologists are confronted. Here is a conundrum to which there can be no ready answer; the solution has to be allowed to emerge (in London the first choice is determined by the fact that most of the best medieval archaeology happens to be found on the Thames waterfront). Yet once the need for a longer term and more broadly based research strategy is accepted, and suitable areas for study become apparent, numerous positive benefits follow. First, in addition to the fuller and more reliable coverage of individual tenements there will be a greatly enhanced sense of local context and of general trends in topographical development, as for example in the amalgamation and subdivision of property, the evolution of shops, and in the patterns of ownership and occupation. Second, many future excavation sites, currently unsuspected, will be covered in the process, the material being available for immediate use when the occasion arises.

Third, is the matter of logistics. Although the results will not begin to be available as soon, the twenty-five or so tenements comprising a single parish can be researched more quickly, as well as more fully, than a succession of the same number of widely scattered sites. Only two conditions remain to be fulfilled, both of them crucial. One is that an order of priority among areas of interest has to be carefully considered and established. The second is that, once the choice of parishes has been made, there must be a commitment not so much to extra resources on any year to year basis as to a continued availability of present resources over a pre-defined period, or periods, of years. That is the vital issue, and not the least of the benefits of the work of SESML to archaeology in particular is that its final demonstration of the potential of parish-based documentary studies enables the real need to be identified and defined in these exact terms.

Tony Dyson

JOHN MALONEY & BRIAN HOBLEY (eds) *Roman Urban Defences in the West*, Council for British Archaeology Research Report 51 (London 1983) ix + 147 pp., £15.00.

FRANCIS GREW & BRIAN HOBLEY (eds) *Roman Urban Topography in Britain and the Western Empire*, Council for British Archaeology Research Report 59 (London 1985) xvi + 128 pp., £15.00.

The most recent of the two collections of papers reviewed here is billed as 'Proceedings of the third conference on urban archaeology organised jointly by the C.B.A. and the Department of Urban Archaeology of the Museum of London'. This preface implies that a series has come of age under the general umbrella of the Council for British Archaeology research reports. In each of the volumes much of the material is relevant to London, and specific aspects of London itself are included. The venue of the conferences means that many Society members will have attended, giving an additional justification for this review. The volumes will be referred to by their serial numbers in the C.B.A. Research Report series, as RR51 (urban defences), RR59 (urban topography).

Each volume is edited by a member of the D.U.A. staff who is experienced in the period or field concerned, along with the Chief Urban Archaeologist Brian Hobley. John Maloney has worked extensively on the Roman defences of London while Francis Grew (RR59) is experienced in urban work at London and Verulamium.

The two volumes are, to a considerable degree complementary. Whether imposed upon an existing urban plan, or part of the original conception of the town layout, defences are an important aspect of Roman urban topography, a fact which is acknowledged by frequent references to the defences in the topography volume. The fact of extensive survival into the medieval period because of their continued utility means that there is more evidence for defences than for any other aspect of Roman urban topography. So obvious a limit to a town are the defences, that they have also frequently been the limit to the study of towns, such that often suburban development, if not the extramural cemeteries of towns have been omitted from consideration of a town as a whole. This plea by Esmonde-Cleary (RR59) against this tendency is timely.

Both volumes specify that they are intended to deal with Britain and the Western Empire as well.

While both include sections containing papers which are generally relevant, on *military architecture* (RR51) and the *planning and building of Roman Towns*, drawing upon examples throughout the West, this balance is considerably better maintained in RR51 than in RR59 when more particular papers are taken into account. RR51 contains seven papers on the area outside Britain, and six on Britain. RR59, on the other hand, with its seven British papers, contains only two in its section on *Roman Towns in Italy and the West*. Further, unlike RR51, RR59 is limited to contributions by British scholars.

RR59 begins with an excellent and useful introduction giving a general history of urban topography and its study. This summarises the subject from the time of the late-5th century BC planner Hippodamus of Miletus, and the origins of orthogonal planning. Particularly good here is the fact that the section draws together some of the disparate themes of the individual contributors by frequent references to *this volume*. The unitary introduction, apparently designed after the conference, points up the lack of a similar piece in RR51 as a demerit, and was probably written with retrospect to the earlier book. The paper by Hassal, which serves the same purpose in RR51 was given at the conference, and is thus less effective as a written introduction.

In RR59, the introduction, if considered as a general survey of the genesis of Mediterranean urbanism, complements Cunliffe's opening piece on N. European urbanism. By drawing on a broad canvas, from his own work at Danebury to Lo Yong, China, Cunliffe reminds us that the Mediterranean model is not the only possible scenario for the development of settlements which contain the criteria necessary for recognition as urban. In British terms this is particularly valuable as, over recent years it has become apparent that an imposed Roman form superseded and interrupted an embryonic native "photo-urban" tradition.

The second section of the book, entitled *The Planning and Building of Roman Towns* is a set of seven papers, which is particularly well conceived, and deserves to be much referred to as a digest of information and analysis of all aspects of the building trade, survey and planning. Several of the papers have a wider than strictly urban relevance. This reviewer found the papers on *The Roman Housing Market* (Casey) and *The Funding of Public Buildings* (Duncan-Jones) especially useful in demonstrating crucial aspects of background to Roman civic life, and drawing together material from diverse sources whose relevance is obvious, but which might escape the attention of people less

familiar with classical sources. Ling and Dilke complement each other in their papers on the mechanics of the building trade and on ground survey. The papers summarise the sheer practicalities of urban layout and construction. Reece on town plans draws heavily on the justifications for medieval and later grid plans. Whatever one's attitude to the use of ethnological parallels, his extensive quotations from the ordinances used for planning in the Spanish Americas must show the value of such an approach; their relevance to the Romano-British scene is strikingly evident. The corresponding section in RR51, Part III, on *Military Architecture* is, on the whole smaller, more selective, and less thought provoking. Still the papers by Butler on the construction of town walls and by Blagg on reused stonework are interesting. The unfamiliar images of reused stonework at Neumagen, and particularly at Alzey are spectacular. The most useful paper is by Baatz, who, by the simple expedient of breaking down defences into their constituent parts and analysing their tactical utility, presents a summary of the military purposes for which the walls were used.

RR59 Part IV contains seven papers on British towns, of which two refer to London. The first two, on geography and growth (Salway) and on suburbs (Esmonde-Cleary) are general in nature and are followed by case studies. Crummy discusses the mechanics of town layout with particular reference to Colchester and the important excavations at Lion Walk and Culver Street. This summarises much which he has published elsewhere, but the merit of the summary is enhanced hugely by its appearance in tandem with Dilke's article. Dilke deals with the *mensores*, their equipment and metrological practice, finally focusing on a few British examples. Crummy demonstrates the system of the Colchester *mentor*, working back from the results of his work to his method of working. Where Colchester now provides solutions, Jones demonstrates that the interpretation of the topography of Lincoln is fraught with problems, as so few street alignments are positively known. Principal streets are of legionary origin and the work of Crummy at Colchester, and results from other towns based on a legionary layout are invoked. Jones advances a *precis* based on admittedly fragmentary evidence. Philip Barker in his plans of Wroxeter shows the continuity of plan of yet another town with its origin in a legionary fortress. The plan of the extension of Wroxeter beyond its legionary defences in the forum/baths area shows an apparent parallel with Colchester. It seems that more work might point up further similarities. It is a peculiarity of the volume that, apart from the arti-

cles on London, the British towns specifically discussed have their origins in legionary fortresses. The emphasis on the planned grids which are accessories to the legionary layout at Colchester, probably Wroxeter, and possibly Lincoln, reflects a bias towards grid planning, and indeed public buildings which is current throughout the whole volume. This bias flows from the introduction (unless the introduction reflects an existing bias in the scope of the conference papers), and the omission of papers on the *civitas* capitals, or of any consideration of the considerable element of non-grid planning in British urban places seriously unbalances the whole. Moving on to the papers on London, these are the only places where vernacular housing is dealt with to any degree, largely in Perring's summary of the 1st–2nd centuries. This draws on material familiar to members of this Society, from Newgate Street and Watling Court, showing the planned centre of the early boom town, and its zoned character. Marsden follows by describing the massive changes in Londinium in the 3rd–4th centuries, covering the continued administrative importance of the city, resulting in the major public building projects, taking place in a context of depopulation and the accumulation of the enigmatic dark earth. Though now familiar in London, this remains a remarkable phenomenon, and, as published here may be new to many, as it has not to any degree yet penetrated to the synthetic works on Roman Britain.

I have already indicated that in RR59 the Western Empire is poorly represented. Part II frequently looks to the east in search of illustrative material on general points, Part II, entitled *Roman Towns in Italy and the West* contains one article on Gaul and one which ranges from Italy through the Western Provinces. Drinkwater on *urbanism in the Three Gauls* is relevant to Britain in a similar way to the general papers, Todd, however, on Forum and Capitolium gives a detailed account of a specific phenomenon which does not occur in Britain, unless at Verulamium. I find that this article does not fit happily into the volume, not because of its content, upon which I would not presume to comment, but because of the failure of the volume as a whole to live up to the wider aspirations of its title.

I have already noted that the content of RR59 complements that of RR51. Defences occur in discussions of all specific items on the topography of British cities, being stressed in the cases of Wroxeter and London. Frere also refers to defences as a reflection of civic pride in his article on such pride as a factor in urban development.

Whereas the structural aspects of town walls

suffers in RR51 by comparison with the similar section of RR59, the international dimension wins out in the defences volume and also dovetails effectively with the British section. Here we are given digests of the defences to be found province-wide in Africa (Daniels) and Gallia Belgica (Mertens) which are good for comparisons with the British summary by Hobley. Johnson gives a period-based account of late urban defences in Europe, comparing with Casey on *Imperial Campaigns and 4th century Defences in Britain*. We also have case studies from two *coloniae* of northern Europe, Cologne (Hellenkemper) and Xanten (Precht). These can be read with Jones' article on the British *coloniae*, and Maloney's work on London. Of the international section, Daniels' contribution benefits from the fact that it was not presented at the conference, but a contribution commissioned to extend the scope of the book (introduction). Todd deals with the Aurelian *enciente* of Rome finding that the majority of its analogues are located in the eastern empire. This may be considered to extend the scope of the title too far, by drawing on defensive traditions which are found widely in the west. Plans of Palmyra and Jerash (*Gerasa*) are rather unexpected in a book dealing with the western empire.

In the section of British urban defences, the best site discussion is Maloney on London. This contains much that is published for the first time, and despite the claim that it is not comprehensive, must stand for some time as the standard work. Fulford's discussion of Silchester is the only other site-specific paper and is a good summary of a complex sequence. Jones on *coloniae* complements the accounts of town planning in Lincoln and Colchester in RR59, while suggesting that sites on the Colchester defensive circuit are badly needed for new work. Two papers by Webster and Casey on the later period of defence construction address a much discussed problem, of which the most important aspect is Casey's demonstration that the simplistic association of historical events with archaeological manifestations is not necessarily valid, certainly in the case of the usual attribution of bastions to the visit of Theodosius.

To sum up: both volumes are wide in scope, succeeding better in some areas than in others. Neither can be described as an unqualified success. The presentation, layout and illustration of both is excellent. Wide ranging conferences like the two discussed here are admirable as conferences. As collections of published papers they are notoriously variable, as a glance through any set of conference papers may show. It is unfortunate if such volumes become standard reference works for students as

they occasionally do, as this tends to give an unbalanced view of any subject. This can be very difficult if the papers do not produce a united front, or if general papers do not take account of the conclusions of the more detailed contributions. This occurs in RR51, where Wachter's concluding remarks, despite Casey's article, still gives the received theory of Theodosian bastion building. Having said this, the summaries of work in progress in particular, often appearing long in advance of full detailed excavation work or planned thematic publications, are often invaluable. Summaries of individual sites and short synthetic pieces are excel-

lent in their own right, but they can get lost in the general title of a conference volume. Conference volumes tend to fall between a number of stools, and the two here reviewed are no exception. There is a considerable argument for the production of conference papers for those unable to attend, but surely these should be produced as cheaply as possible. There will certainly be a market for these lavishly, and very well, designed and illustrated books, but the question of whether these collections actually justify such production and such a price is moot.

Tony Wilmott

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