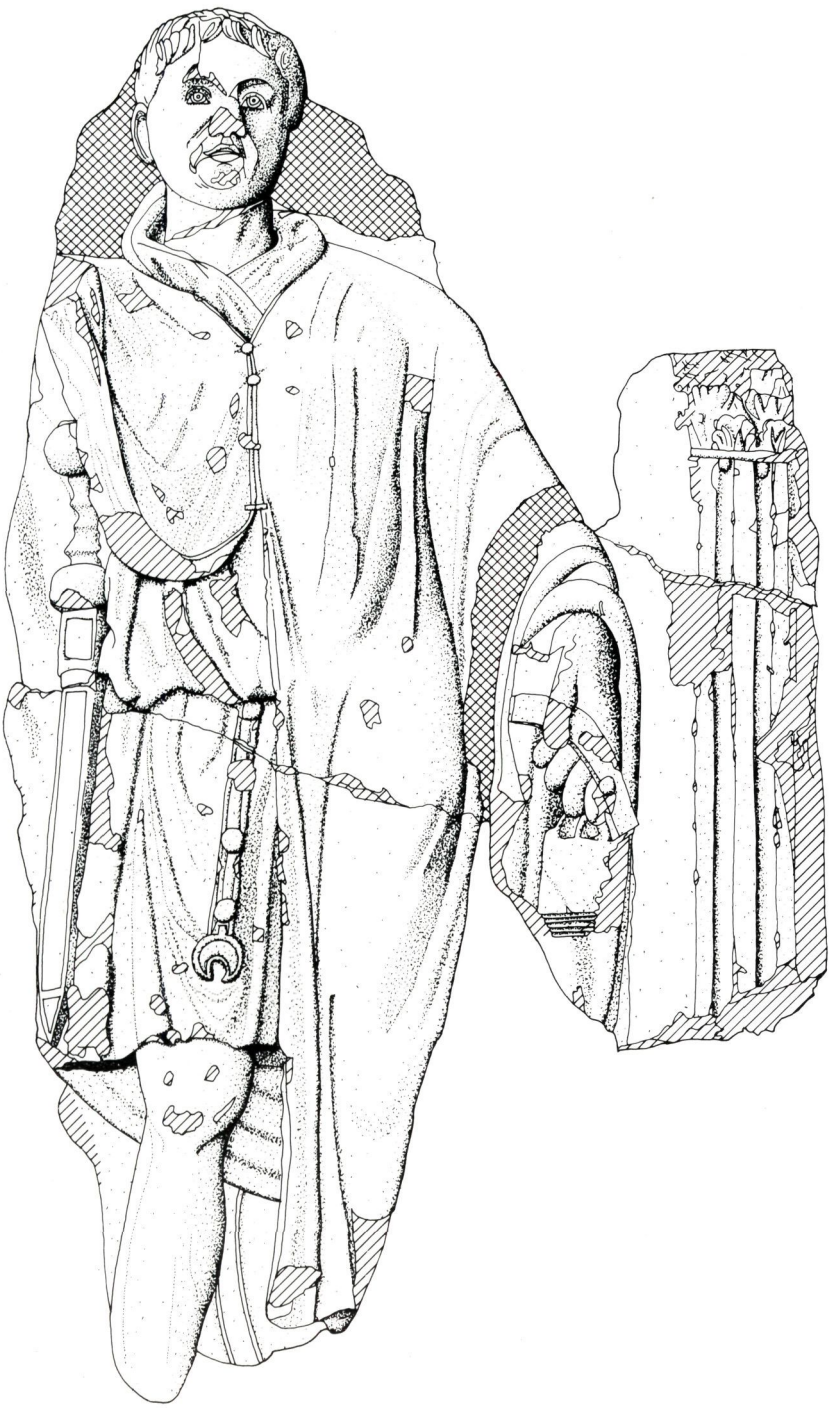
Transactions
Volume 34 1983

London & Middlesex Archaeological Society



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Editor's Note:
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: Roman military tombstone, Camomile Street, London.
(Drawing: M. C. Bishop)

Transactions of the

London & Middlesex Archaeological Society

incorporating the

Middlesex Local History Council

Volume 34

1983

Museum of London, London Wall, London EC2Y 5HN

LAWRENCE SNELL
and
ALLAN TRIBE

It is perhaps only natural in the life of any organisation that a period of administrative stability coupled with impressive advances in a variety of fields should be looked back upon as 'a golden age'. So it seems to me that much of the last decade and a half of this Society's history can be thus described.

In 1967 the hiatus caused when the posts of Honorary Editor and Treasurer (two of the three key positions in the Society) fell vacant, was soon overcome. The new incumbents quickly picked up their roles to play a decisive part in the flowering of the Society, which may be measured by the doubling of its membership over these last sixteen years.

It is therefore with great regret that I have to record the resignations of Lawrence Snell and Allan Tribe who have contributed so much to this Society's development.

When Lawrence Snell took up the post of Editor, the Society's *Transactions* were appearing only in alternate years. He at once brought about their publication on an annual basis again. Under his editorship the then decidedly thin volume gradually swelled over the years to four times its previous thickness and the Newsletter was transformed. The number, diversity and quality of the articles which have appeared in *Transactions* testify to the ability, effort and enthusiasm of Lawrence Snell.

During his term of office Allan Tribe both reorganised the basic finances of the Society and took on the new and very heavy burden of managing the Department of the Environment's funds for rescue archaeology in London, not only for the Society but also on behalf of other organisations. His skilful employment of these monies before their disbursement led to a very welcome boost to the income of the Society, which was largedly expended on the publication in *Transactions* of those articles not otherwise funded. The calm and competent handling of various crises, such as the late arrival of expected funds from the Department, has earned Allan Tribe an especial and affectionate respect, particularly among archaeologists.

While rendering their years of devoted service, of which so much passed publicly unnoticed, both officers were able to use their own professional skills to the substantial benefit of the Society. On behalf of Council and the members of the Society I would record our deep gratitude to two of the main architects of that golden age, Lawrence Snell and Allan Tribe.

N.F.

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The Society is grateful to the Museum of London for help with the publication of several papers in this volume.

London & Middlesex Archaeological Society

incorporating Middlesex Local History Council

ESTABLISHED IN 1855

London & Middlesex Archaeological Society

incorporating Middlesex Local History Council

127th ANNUAL REPORT OF COUNCIL FOR THE YEAR ENDING 30th SEPTEMBER 1982

At the Annual General Meeting on 19th February, Professor John Wilkes was elected President in succession to Dr. Valerie Pearl, and Dr. Pearl gave her retiring Presidential Address on *The Environment and Social Change in 16th and 17th-century London.* Seven other lecture meetings, ten day outings and two long weekend visits were arranged. The lectures included local history— *County Archaeological Societies and Local History in the 19th Century* by Philippa Levine on 20th November and *London in the Exclusion Crisis* by Dr. John Miller on 22nd January; archaeology—a Film Evening on 16th October, *Animal Bones and Explanations in Archaeology* by Anthony Legge on 23rd April and *Clean and Decent in Welwyn; the Roman Bath-house* by Tony Rook on 24th September; architecture and history—*Ightham Mote* by Dr. David Starkey on 4th December; and documents and history—*Illuminated Manuscripts, from Roman to AD 800* by Dr. Richard Reece on 19th March.

The Stow Service at St. Andrew Undershaft on 21st April was addressed by Dr. Marc Fitch on *Historical Reflections on Stow's own locality;* an innovation was the presentation to the Lord Mayor of a quill pen. At St. Olave Hart Street on 3rd June the Lord Mayor, Sir Christopher Leaver, gave the address at the Pepys Service on the subject of *Samuel Pepys and Wine.*

Seven of the day outings were within the Greater London area, to *Rotherhithe and Shadwell* on 3rd October, to *Eltham* on 31st October, to *Church Farm Museum, St. Mary's Church and the RAF Museum, Hendon* on 14th November, to *the Landward Defences of the City of London* on 12th December, to Wren churches (*17th-century Woodwork in London Churches*) on 13th February, to the *Horniman Museum and Crystal Palace* on 6th March, and to *Richmond, Petersham and Ham House* on 8th May. Coach outings visited *the Surrey/Kent Border* on 24th April and *Ely and District* on 26th June. A successful innovation was the ramble to Ightham Mote on 13th June; a further innovation was a continental long weekend, based on *Amsterdam* from 28th May to 1st June. Another long weekend visited *Hadrian's Wall,* from 17th to 20th September.

The views of Members on the content of the lecture programme were sought during the year and as a result the proportion of archaeological lectures is to be increased and some visits are to be arranged for days other than Saturdays.

The delayed volume of *Transactions* Volume 31, appeared during the year, together with, as usual, three issues of the Newsletter.

Council

At its meeting in March Council elected Mr. Nicholas Fuentes as its Chairman in succession to Mr. Cecil Farthing; Mr. Farthing continued as Deputy Chairman.

Considerable time during the year was devoted to discussion of the Government's proposals for the re-organisation of its responsibilities for ancient monuments, historic buildings and archaeology. Following the meeting of a sub-committee to consider the recommendations contained in the consultation paper *Organisation of Ancient Monuments and Historical Buildings in England,* that many of the functions at present the responsibility of the Department of the Environment should be transferred to a specially created independent agency, Council wrote expressing the view that these functions were better retained by the DoE—a view shared by the Working Party on Greater London Archaeology, but not by the majority of the CBA. Further discussion followed the publication of more detailed proposals under the title *The Way Forward,* and comments on the details of the organisation of the proposed commission were sent to the DoE.

Archaeological Research Committee

The Committee met four times during the year. Among the issues discussed were the re-organisation of the archaeological coverage of Greater London proposed by the GLC and the DoE's consultation paper on the *Organisation of Ancient Monuments and Historic Buildings in England.*

The new project-funding basis for grants from the DoE for excavations was the subject of a special sub-committee, following difficulties encountered with the scheme by units working in London, and representations were made to the DoE.

The Nineteenth Annual Conference of London Archaeologists was held at the Museum of London on 27th March. The morning session was as usual devoted to aspects of current work in London, and the afternoon to the theme *Environment and Man.*

Inner London (North) Archaeological Unit

Three major excavations of religious houses were planned for 1982. These were at the Royal Mint (St. Mary Graces), Clerkenwell (St. Mary's nunnery) and Spitalfields (St. Mary's hospital). Delays in demolition meant that only in the case of Spitalfields, where medieval walls and Roman burials were located, could work begin.

The report on excavations in Stepney High Street (Bronze Age and medieval) was ready for publication early in the year, and work was nearing completion on reports on Tottenham Court Manor House, on Gardiners Corner (a post-medieval industrial site) and on the Palaeolithic finds from Northwold Road.

Considerable discussion took place on the future of the Unit under the proposed re-organisation of archaeology in Greater London; a number of regional archaeological teams are envisaged, one replacing the existing Inner London unit, the Museum of London taking responsibility in most cases for their organisation and the handling of GLC funds.

Historic Buildings and Conservation Committee

During the year the Committee considered 148 listed building applications, compared with 89 in the previous year. In 11 cases where objections were raised the planning authority refused the application; in two cases permission was granted and 5 cases remained unresolved.

The main areas from which applications came were:

Camden	21
Westminster	19
Tower Hamlets	16
City	12

19 boroughs produced only one or none each.

In February a very successful meeting was held with the Historic Buildings Committee of the CBA to discuss the procedure for dealing with listed building applications and how it could be made more effective.

Local History Committee

The year was generally quiet, with no special meetings for local society representatives. The Sixteenth Annual Conference was held in November 1981. The main speaker was Beatrice Shearer on *the History of the Population of London,* who gave many insights into the sources and their problems. Dr. Dore spoke on the history of *Trent Park, Enfield,* and Keith Wyncoll and Ken Kiss on *Crystal Palace* and the work of the Crystal Palace Foundation. There was the usual crowded array of exhibits and publications from more than 20 local societies.

In February a meeting on research into the historical demography of London was organised by Mrs. Shearer under the Committee's auspices; it is hoped to set up a clearing-house for research and publications in this subject.

One change in the membership of the Committee was the resignation of Dr. J. Burnby, who had made a useful contribution during her time on the Committee. It was learnt with regret at the end of the year that Mr. A. J. D. Stonebridge had died, a long-serving member of the Committee until his resignation a few years ago. He will be remembered in particular for his work on the Middlesex Portrait Survey, which he administered virtually singlehanded.

Youth Section

As usual two Newsletters were issued in Spring and Autumn, advertising and reporting on the Section's programme.

The annual *Summer Special,* a four-day course allowing members to participate in some archaeological work as well as local history activities, this year included a visit to Greenwich, Eltham and the Royal Victoria Docks. Earlier in the year some members travelled to Colchester, where they explored a Roman drain and other features of the historic town under the guidance of Mike Corbishley of the Young Archaeologists Club.

The winter meeting concentrated on Roman coins, their identification and importance, and the art of making plaster casts from coins.

Membership at present stands at 82.

Membership and Finance

The Society's membership figures show little change from recent years, though total membership has now once more passed 900. Membership at 30th September 1982 (with 1981 figures in brackets) was 915 (896), made up as follows:

Ordinary Members	691	(668)
Life Members	47	(49)
Student Members	23	(23)
Honorary Members	7	(7)
Institutional Members	107	(109)
Affiliated Societies	40	(40)

The accounts for the year to 30th September 1982 show that we have again relied heavily on investment income to support our activities and, in particular, our publication programme. This must be a matter of concern as there is now a firm indication that we shall in future be holding much smaller sums on deposit, which, taking into account also the lower interest rates available, points to an inevitable increase in the rate of annual subscription with effect from 1st October 1982. The present rates have applied for six years and we have therefore to face the effects of inflation over that period. It seems likely that an increase in subscription from £5.00 to £7.50 for ordinary membership will be required if we are to maintain the standard of our publications and other activities.

By direction of Council

N. M. D. FUENTES,
Chairman of Council

J. A. CLARK,
Honorary Secretary

LONDON & MIDDLESEX ARCHAEOLOGICAL SOCIETY

INCOME AND EXPENDITURE ACCOUNT for the year ended 30th September 1982

1980/81 £	*1980/81* £	**Expenditure**	1981/82 £	1981/82 £
		Publications		
4,000		Transactions: Volume 31	3,570	
		32 (Reserve)	4,000	
8,952		Special Paper No. 4	—	
720	*13,672*	Newsletter	861	8,431
79		Lectures and Visits	225	
200		Parish Boundary Marks	450	
		Committees:		
—		Local History	45	
—		Youth Section	110	
37		Historic Buildings	40	
110		Commemorative Services	176	
34		Library	36	
331		Postage, Printing & Stationery	1,065	
1,000		Secretarial Assistance	1,000	
25		Subscriptions and Donations	193	
20		Sundry Expenses	23	
1,050	*2,886*	Contingency Fund	1,500	4,863
	16,558			13,294
	85	Excess of Income over Expenditure		175
	£16,643			£13,469

1980/81 £	*1980/81* £	**Income**	1981/82 £	1981/82 £
	3,646	Subscriptions		3,632
	54	Income Tax reclaimed on Deeds of Covenant		79
	3,854	Dividends and Interest		4,653
	541	Sales of Publications		782
		Grants for Publication:		
4,565		Museum of London	1,661	
3,728		Dept. of the Environment	1,619	
—	*8,293*	Miscellaneous	513	3,793
	255	Donations		530
	£16,643			£13,469

LONDON & MIDDLESEX ARCHAEOLOGICAL SOCIETY
BALANCE SHEET as at 30th September 1982

1981 £	*1981* £	**Liabilities**	1982 £	1982 £
		Accumulated Funds		
	1,329	Subscriptions compounded		1,379
		General Fund:		
791		Balance at 30.9.81	876	
85	*876*	Surplus for the year	175	1,051
	2,000	Contingency Fund		3,500
	4,205			5,930
		Youth Section		
48		Balance at 30.9.81	56	
23		Income this year	123	
71			179	
15	*56*	Expenditure this year	79	100
100		G.E. Eades Memorial Fund	100	
42	*142*	*Add:* Accumulated Income	42	142
		Grants Unexpended		
1,686		Future Publications	7,002	
38,415		Archaeological Projects	42,469	
316	*40,417*	Wheatley Bequest	247	49,718
	5,104	Sundry Creditors		15,463
	£49,924			£71,353

1981 £	*1981* £	**Assets**	1982 £ *Cost*	1982 £ *Depreciation*	1982 £
		Equipment			
	—	Projector & Screen	—	—	—
	—	Proton Magnetometer	—	—	—
	—	Library Shelving	—	—	—
	—		—	—	—
			Market Value		
		Investments at Cost:			
1,127		£2,524.49 4% Consols	953	1,127	
100	*1,227*	£100 8½% Savings Bonds	100	100	1,227
			£1,053		
	1,398	Sundry Debtors			693
	21,453	Bank and Cash Balances			21,105
	25,846	Building Society Deposits			48,328
		Note: No value has been attributed to the Society's library, stock of publications or sundry equipment.			
	£49,924				£71,353

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, R. R. P. Smith, BSc(Econ), AIB
Honorary Auditors

EXCAVATIONS AT NORTHWOLD ROAD, STOKE NEWINGTON, NORTH-EAST LONDON, 1981

PHILIP HARDING and PHILIP GIBBARD

SUMMARY

In 1981, during the redevelopment of a house site adjacent to Stoke Newington Common, excavations were undertaken to relocate deposits known to contain Lower Palaeolithic implements. The sequence exposed provided evidence of a transition from an initial periglacial climate to warmer conditions. The undulating London Clay bedrock surface has been deeply eroded during gravel and sand deposition by a braided stream. The gravel contained two derived handaxes and waste flakes from handaxe production, which were mostly in a sharp condition. Overlying the gravel was soliflucted clayey silt, initial deposition of which accompanied formation of immature periglacial polygons in the upper part of the gravel. Further accumulations of clayey silt subsequently covered and overfolded these polygons. Examination of the structure and grain size distribution of the clayey silt indicates that the upper part of the deposit is alluvium, probably deposited by the Hackney Brook. A disturbed Mesolithic flint industry, with some blade production, was contained within the alluvium.

The gravel and clayey silt probably date from the Late Devensian period, the alluvium from the succeeding warmer early Flandrian (Postglacial).

INTRODUCTION

Since the late 19th century, a so-called 'buried Palaeolithic land surface' has been known to underlie Stoke Newington in north-east London. This apparently undisturbed surface, first described by Smith (1894: see especially pp. 189–306), has yielded a large assemblage of Palaeolithic implements, many of which were in a fresh condition. The redevelopment of a house site near Stoke Newington Common provided an opportunity for a detailed investigation of the deposits in the area. As a result of this study it was hoped that this archaeologically-important surface could be relocated and related to the regional geology.

Deposits of 'brickearth' and gravel lying between 30–60m O.D. cover much of the area, and were penetrated during construction of houses in the late Victorian period, most of which are still standing. Smith collected and recorded from numerous sections, and a narrow horizon containing artifacts at the base of the 'brickearth', and overlying sands (the Stoke Newington Sands, Gibbard and Harding, in preparation), represented a working floor. He recognised this feature from Abney Park Cemetery in the west to the Lea Valley in the east. Associated with handaxes, side scrapers, and conjoinable flakes was a rich assemblage of faunal and floral remains.

Between 1893 and 1894 Warren (according to Roe, 1981, 175) relocated the 'floor' at Geldestone Road (TQ 343870) and collected handaxes, but his work was not published. Later excavations were restricted by a lack of suitable sites, but some have been made. Sampson and Campbell dug on the north side of Stoke Newington Common in 1971 (Campbell & Cook, in preparation) but did not find the 'floor'. In 1976, foundation trenches on the north side of Cazenove Road (TQ 33958697) were studied by members of the Inner London Archaeological Unit (unpub-

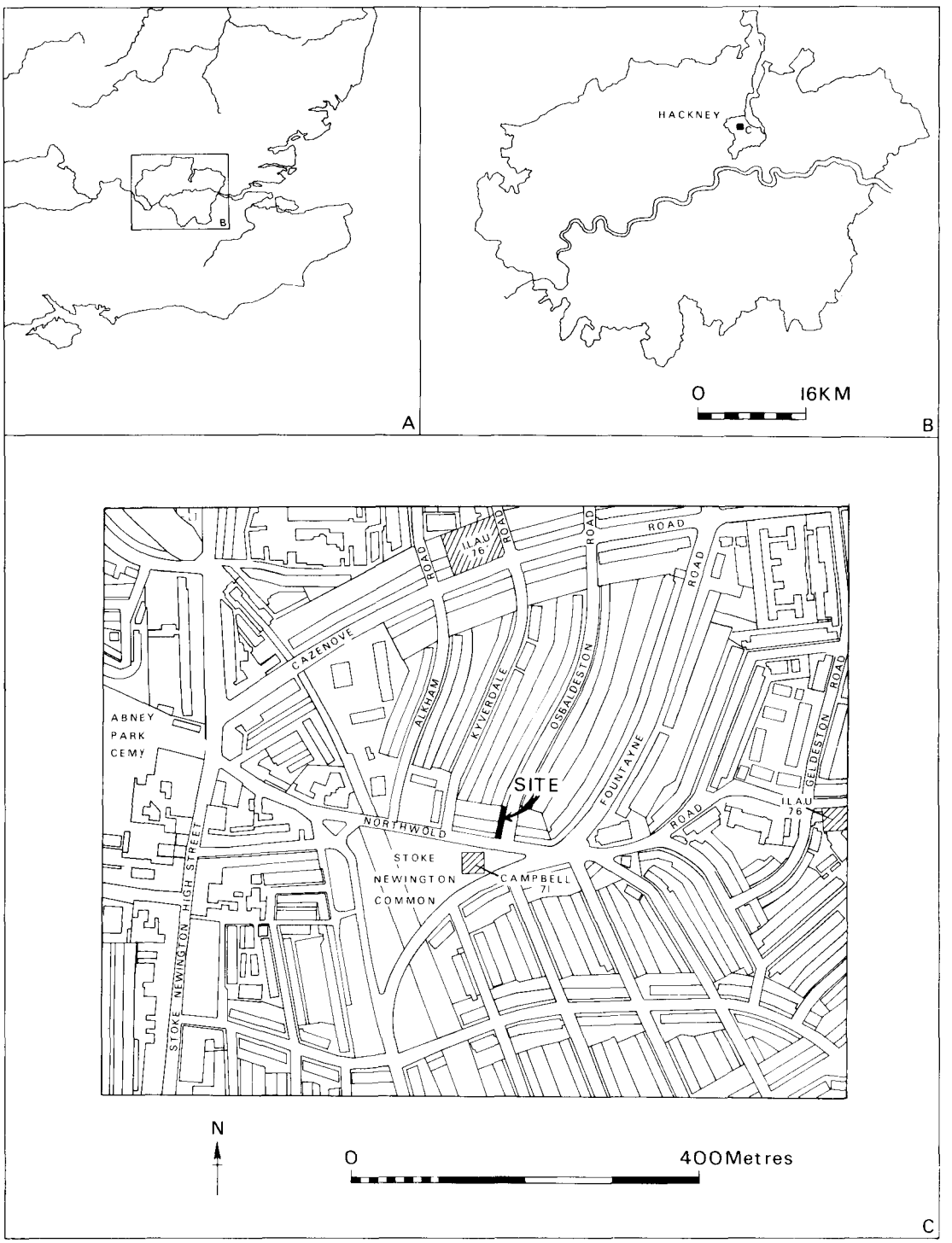


Fig. 1. Northwold Road 1981: site location plan.

lished I.L.A.U. report) to establish the northern extent of the 'floor'. A series of trenches showed London Clay rising to within a metre of the surface and in places cut into by isolated gravel patches. 'Brickearth' was present above the clay but not above the gravel, and at the southern end of the site was underlain by yellow sand (Stoke Newington Sand). A channel 2m deep filled with coarse red and grey gravel ran across the site in a north-south direction. No artifacts were recovered. Additional work by the Inner London Archaeological Unit, later the same year, at 66–76 Northwold Road (TQ 34378663) revealed only ground disturbed by 19th-century brickpit excavations.

The Pleistocene geology of east London is still poorly understood. In spite of numerous reviews of the Thames terrace sequence, there is no clear consensus of opinion regarding the age of individual units. Dating and correlation of the deposits in which the 'floor' occurs is made even more difficult because the area is located close to the confluence of the Rivers Lea and Thames. However, a regional study of the Stoke Newington-Hackney area is now in preparation by the authors and will be published elsewhere. Recent attempts to date the 'floor' using typology of the artifacts, the terrace sequence or palaeontology (Wymer, 1968, 317–319; Kerney, 1971, 81; Roe, 1981, 172–175) have achieved no definite results.

EXCAVATION: SITE AND METHODS

The excavation described was on the site of 55 Northwold Road at the junction with Osbaldeston Road, Stoke Newington (TQ 33988663), where the modern ground surface is at 22m O.D. (Fig. 1). This site is within 200m of both Alkham Road and Kyverdale Road, where Smith made many of his finds. After a test pit established that the deposits were intact, a larger excavation was made in the southern half of the plot (Fig. 2). A trench 11.5m by 4.5m was dug within the area available. Modern demolition rubble covered the excavated area to a depth of approximately 0.5m. At the southern end additional disturbance caused by drainage trenches prevented extension of the workings in this direction. Disturbance of the upper part of the silty clay (see below) was restricted to several shallow modern trenches, and a basement 3.5m by 1.5m adjoining the neighbouring house, penetrated the deposits to a depth of 0.5m. All sections adjacent to buildings or roads were stepped in order to prevent collapse. The trench was excavated manually using picks to the base of the silty clay.

A single metre square was excavated by trowel through the upper flint industry (see below Fig. 10) in order to determine whether small knapping preparation and retouch flakes were present. The underlying gravel was totally removed with trowels, except that a pick was used where the material was sieved. Throughout the excavation a sample of $4m^2$, sited to recover a complete profile through the deposits, was sieved using a 10mm mesh (Fig. 2). The material extracted from the hand excavated metre square suggested that the loss of artifacts through this mesh was minimal. All finds were, where possible, three-dimensionally recorded using a 1m grid. The main section was extended to the north by mechanical excavator (Fig. 2) to obtain a more complete section through the deposits.

The finds and site archive are housed at the Museum of London.

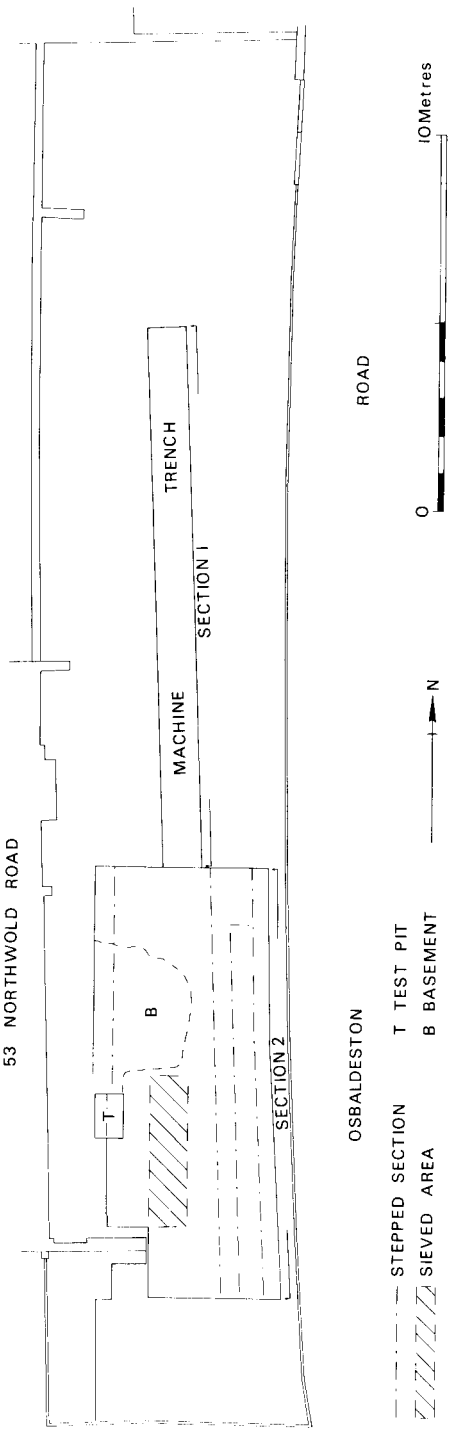
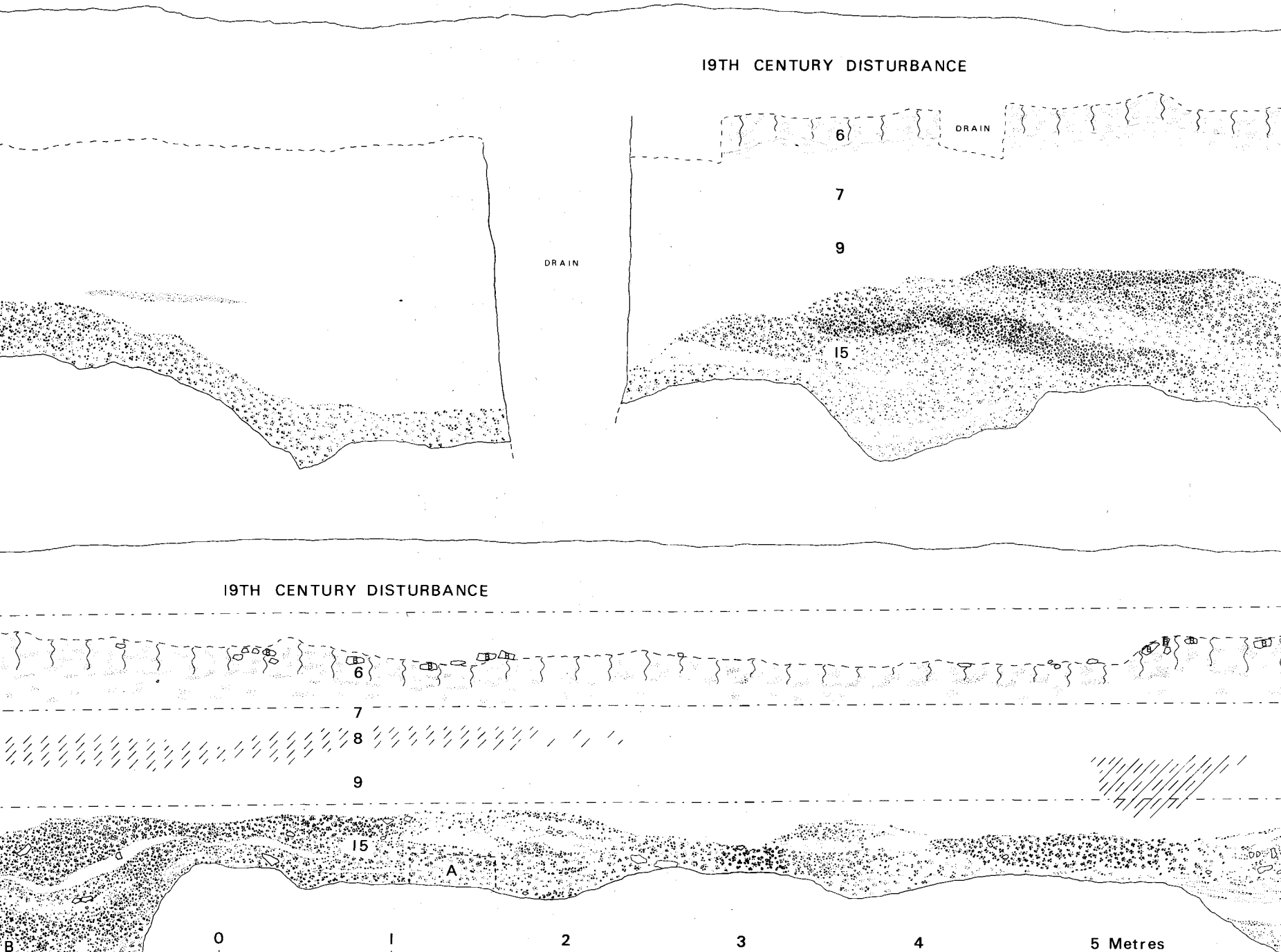


Fig. 2. Northwold Road 1981: plan of excavated trench.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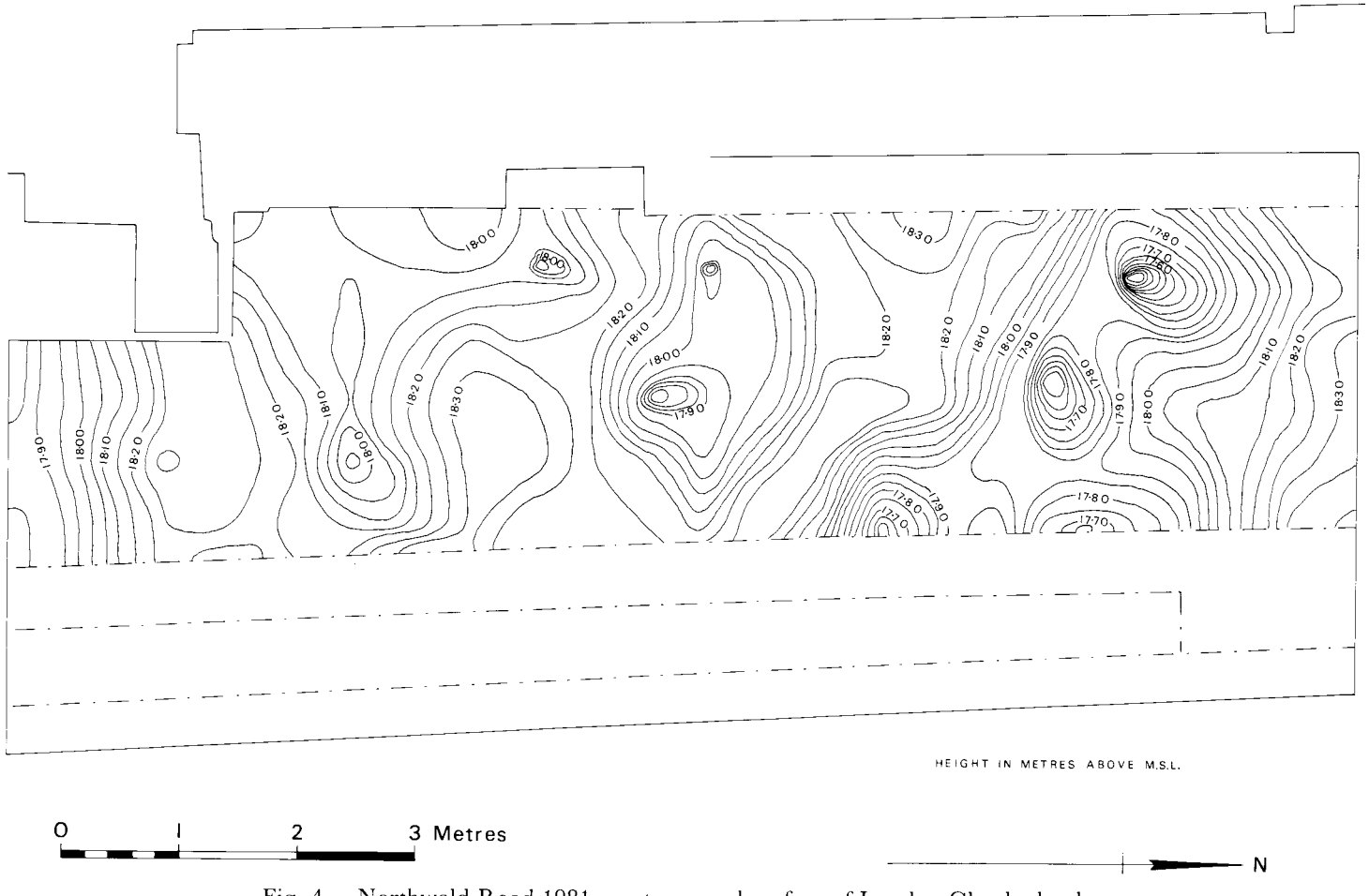

Fig. 4. Northwold Road 1981: contours and surface of London Clay bedrock.

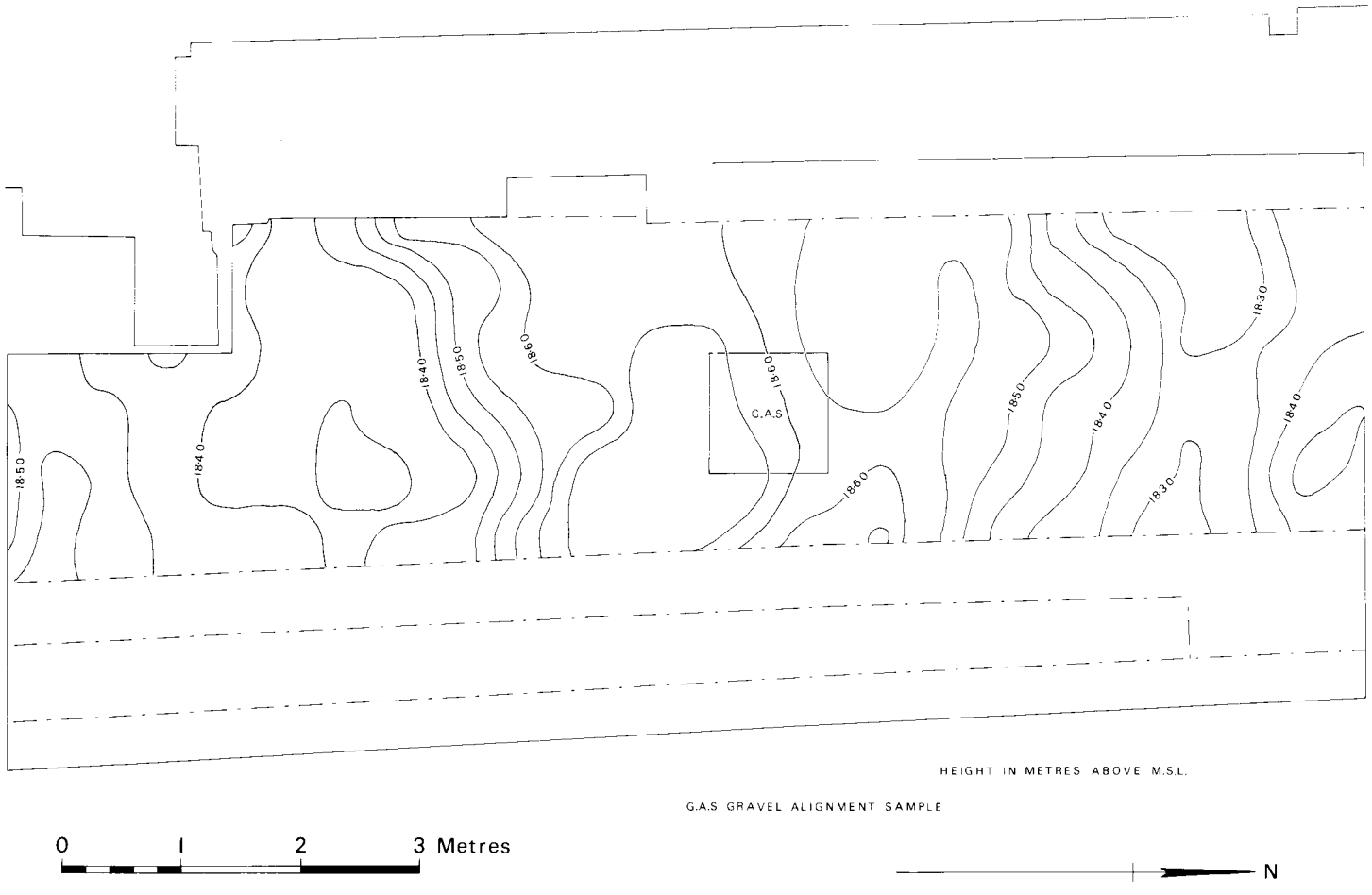

Fig. 5. Northwold Road 1981: contours on the gravel surface showing the location (GAS) of the gravel fabric analysis (Fig. 6).

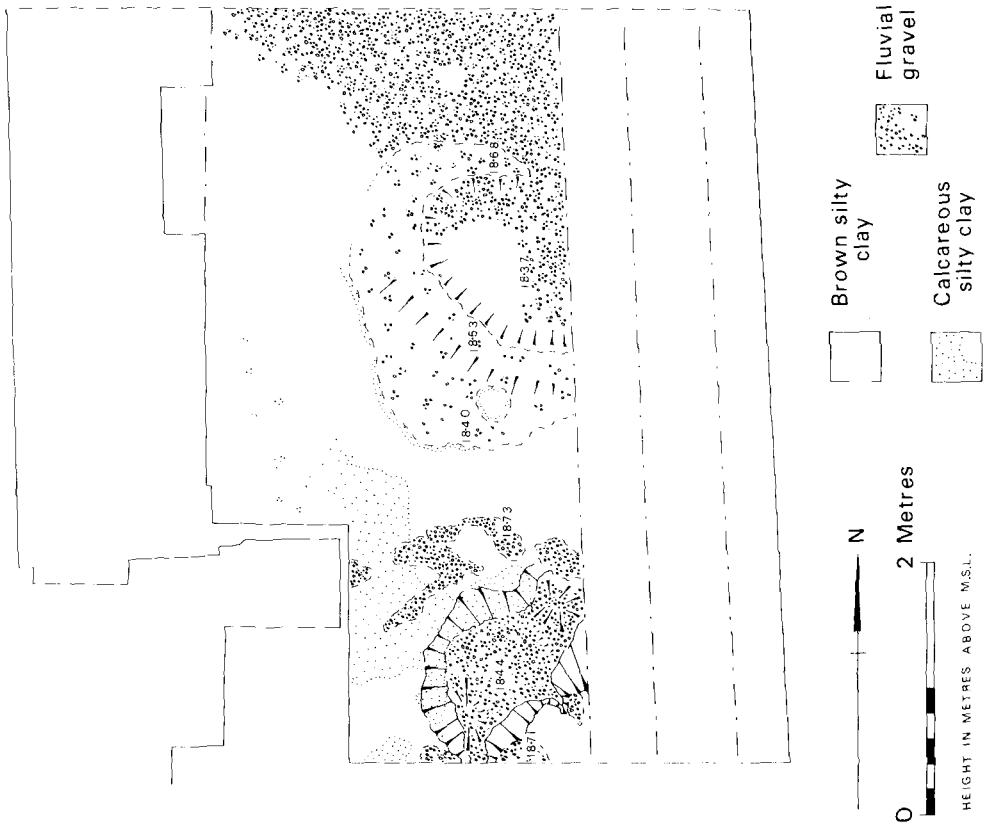

Fig. 7. Northwold Road 1981: plan view of immature periglacial polygons.

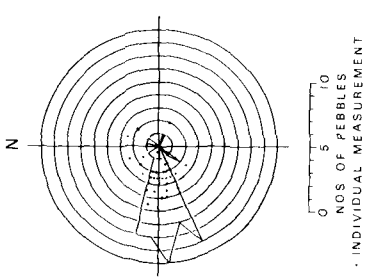

Fig. 6. Northwold Road 1981: gravel surface fabric from point GAS (Fig. 5).

GEOLOGY OF THE SITE

(a) The sedimentary sequence

Fig. 3 summarises the sequence of deposits exposed by the excavation. Broadly it comprises yellow brown flint-rich gravels and sands (layer 15) resting on London Clay and overlain by brown to black silt and clay ('brickearth': layers 9–6) containing irregularly distributed clasts. The latter underlay demolition rubble.

The bedrock surface (Fig. 4) was exposed by removal of the gravel and sand above. It was highly irregular and comprised 3–4 elongate channels trending west-east across the excavation. In the basal parts of the channels a number of deeper 'scour-hollows' resembling pot-holes penetrated as much as 0.40m below the general channel floor level. The inter-channel areas had a smooth, rounded form and reached a maximum surface elevation of 18.30m O.D. This resulted in a surface amplitude of over 1m in places. The surface was clearly erosional in origin, probably having been formed during deposition of the overlying gravel because London Clay clasts and fossils were found in the gravel. The erosion had been concentrated in the channel-like features, as the pot-holes were present only in their floors and the channel sides were markedly undercut on the outside of bends, as seen particularly on the eastern side of the northern-most channel. However, the elevated areas had also undergone a little erosion to judge from their form. To the authors knowledge this type of erosional bedrock has not previously been described.

The overlying gravel and sand unit comprised 0.20–1.10m of yellow brown, fine to medium gravel with occasional larger clasts and sand lenses (layer 15). The gravel was supported in a sandy, and near the top of the unit, a clayey matrix. The latter resulted from downward migration of clay derived from the overlying sediments. As can be seen in Fig. 3 the gravel and sand were interdigitated. The gravel bodies were generally massive, but sandy areas were stratified. They were frequently lenticular in form, individual beds reaching a maximum of 0.60m in thickness. The sands also formed lenticular channel-fill or drape-like beds 0.15–0.25m thick. Several of the sand lenses exhibited tabular cross-bedding indicating a palaeocurrent flow towards the east.

The gravel and sand unit varied considerably in thickness. Its upper surface exposed during the excavation (Fig. 5) formed two parallel shallow channels 1.5–2m wide trending west-east. An intervening flat bar-like feature showed imbricate structure on its upper surface. Similar channel patterns were detected on young terrace gravel and sand surfaces in the Thames system by Hare (1947) and Cheetham (1980). Fig. 6, based on long-axis measurements of 50 pebbles from site GAS (Fig. 5), shows that the elongate clasts have a strong preferred orientation, a feature commonly found in the bars of gravel bed rivers (Teisseyre, 1975; Potter & Pettijohn, 1977); it indicates a palaeocurrent flow from slightly south of west.

The overall facies arrangement of the gravel and sand indicates deposition in a complex environment of migrating channels. High flow velocities are necessary to transport and sort gravel which could have eroded the channels and scour hollows in the bedrock surfaces. Much lower velocities would have prevailed during deposition of the sand. These observations indicate that the stream had a braided habit (Williams & Rust, 1969; Rust, 1972; Miall, 1977; Bryant, 1982). The sediments described above can all be recognised in the facies models of Rust (1972) and Miall (1977). Such streams typify cold climate environments in lowland Britain (Castleden, 1980; Bryant, 1982).

The upper surface of the gravel was generally undisturbed, but in some places, particularly towards the southern end of the excavation, some evidence for folding and overturning of the surface was seen. This was especially clear at the extreme southern end where poorly developed polygonal features were preserved. These features were formed of narrow gravel ridges standing up to 0.31m above the surrounding gravel surface (Fig. 7). In plan the polygons were up to 1.25m across. In section the ridges included a number of elongate pebbles with long axes pointing towards the ridge crest. All the ridges were overturned towards the south, the strike of folds trending approximately east-west. The polygons were of the 'small sorted type' of Washburn (1956) and according to this author would originally have had a border of stones surrounding finer material. For this reason they were probably formed after or during deposition of part of the overlying clayey silt, which would have filled the central depression of the polygons. Such polygonal features result normally from annual freezing and thawing of the ground under a periglacial climate (Washburn, 1972). The absence of polygons further to the north in the excavation suggests that the latter area was unaffected presumably because it was more deeply buried by the deposits above.

The overlying deposit (layers 9–6) comprises an unbedded clayey silt 0.80–1.50m thick. The basal 0.30–0.50m of this unit (layer 9) was strong brown (7.5 YR 5/6) clayey silt with some light grey streaks possibly of London Clay. It contained irregularly distributed clasts mostly of flint. This sediment was calcareous throughout the exposure, but it was particularly so at the southern end, where it was paler in colour. It included the upstanding gravel ridges at the southern end of section 2 and a body of gravel incorporated from beneath near the northern end of section 1. As already stated, at least the basal 0.30–0.40m of this sediment had been deposited when the polygons were forming. Later movement of the overlying sediment subsequently overfolded the gravel ridges.

Above the yellow brown clayey silt was an irregular, discontinuous bed of dark grey brown to black clayey silt containing some pebbles (layer 8: Fig. 3). The colour of this bed was caused by deposition of manganese dioxide which also coated the pebbles. The bed was well developed in section 2 and increased in height above the gravel surface towards the northern end of the exposure. The manganese dioxide was probably precipitated from ground water after deposition of the clayey silt.

The remaining upper 0.50–0.80m (layer 7–6) comprised massive yellow brown (10 YR 5/8) clayey silt with occasional flint pebbles and artifacts. This sediment became progressively more dry and crumbly in the upper 0.20–0.30m (layer 6) where it was finely mottled with

dark reddish brown (2.5 YR 3/4) and grey along root channels and other structural surfaces. These structures and colours result from soil formation (pedogenesis), though the soil profile was subsequently truncated and buried by demolition rubble.

SEDIMENT ANALYSES

In order to obtain more detail regarding the origin and composition of the sediments they were analysed in various ways.

(b) Pebble lithology

To determine the composition of pebbles in the gravel (layer 15), two samples were taken and analysed by Dr. D. Bridgland (City of London Polytechnic), the first (A) from the bar gravel close to the south end of section 2 and the second (B) from the base of the northern-most channel (Fig. 3 and Table 1). Both counts, obtained using the size range 32–11.2mm, showed over 92% total flint, together with a range of minor constituents. The variability of flint types and other components suggests that sediment mixing was not very efficient. Similar amounts of total flint contrasting amounts of different types have been noted previously by Gibbard (1979). Lithologies exotic to the district include Lower Greensand chert, vein quartz, quartzite, Carboniferous chert, *Rhaxella* chert and igneous rock. All of these are, however, present in gravels of the Rivers Thames and Lea, and their presence can be explained by derivation from one or both of these sources. Since River Lea gravel is known to cap the high ground to the north (Stamford Hill Gravel: Gibbard & Harding, in preparation), this seems to be the most likely source for the material. The gravel also contained clay clasts, (some pyritised), pyritised bone and septarian nodules, all undoubtedly derived from local London Clay.

TABLE 1

Samples	*A*	*B*
Non-Tertiary flint	55.34	30.47
Tertiary flint	36.74	64.86
Total flint	92.08	95.32
Lower Greensand chert	2.66	0.81
Vein quartz	0.56	1.01
Quartzite	3.37	1.61
Carboniferous chert	0.45	0.67
Rhaxella chert	0.22	0.20
unknown sandstone	0.08	—
others	0.08	—
Clay casts	0.38	0.46
Septarian material	1.67	8.72
Total pebbles	1158	991

Table 1. Northwold Road 1981: pebble lithological counts from Section 2 (Fig. 3) in the 32–11.2mm range by D. Bridgland.

(c) Particle size distribution

Two separate sequences of samples were taken through the clayey silt unit (layers 9–6) to determine grain size distribution. The first from site T (Fig. 2) represents a continuous vertical sequence through the whole deposit. It was analysed using standard hydrometer and sieve techniques by P.L.G. A second series of three samples from the northern end of section 2 (Fig. 3) was analysed by Dr. J. Catt (Rothamsted Experimental Station) using the pipette and sieve method. Both sets of samples gave comparable results (Fig. 8) and will therefore be discussed together.

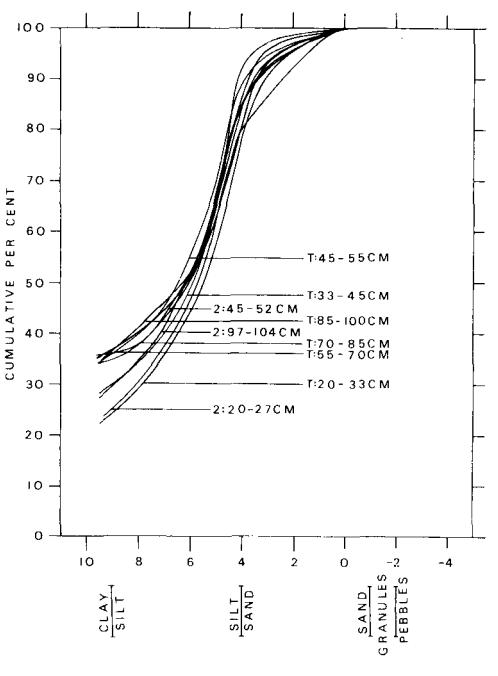

Fig. 8. Northwold Road 1981: clayey silt (layers 9–6), grain size distributions of samples from Section T and Section 2.

All the samples are composed mainly of coarse silt (16–63 μm), a feature suggesting that loess is a major component. However, they also contain more sand and more clay than usually occurs in pure loess. The clay content of weathered loess can be increased mainly by translocation from overlying horizons, but the micromorphology (see below) shows that there is little clay in the form of argillans or bodies of translocated clay (Brewer, 1964). In the higher samples (section T, 0.20–0.45m; section 2, 0.20–0.27m and 0.45–0.52m), the additional clay and most of the sand are probably alluvial components subsidiary to the loess. However, the even

greater content of clay in the lower samples (section T, 0.45–1m; section 2, 0.97–1.04m) results partly from inclusion of large clasts and streaks of clay, as seen in thin section (below). The accumulations of manganese occur immediately above this clay-rich sediment, i.e. at the base of the relatively more permeable sediments.

(d) Micromorphology

Two samples were taken at the northern end of section 2 by Dr. Catt to examine the micromorphology of the clayey silt in thin sections prepared from air dried blocks impregnated with Crystic resin. His examination showed that the first sample from the alluvium (0.45–0.52m) was well fissured with diffuse ferrans (Brewer 1964) along the fissures, probably due to periodic waterlogging. Some incorporation of topsoil by burrowing fauna was also evident and the fabric was homogeneous with no translocated clay. The second sample, from the lower clayey silt (0.97–1.04m) was also well fissured, but had fewer diffuse ferrans and contained approximately 1% of translocated clay. The argillans had been disrupted and largely reorientated by stress, probably shrink-swell in wetting and drying cycles. In the second sample, the sediment fabric was very inhomogeneous with patches of strongly stress-orientated clay, probably small London Clay blocks, in a silty and slightly sandy matrix with a skel-in-ma-sepic fabric (Brewer, 1964), i.e. the clay content of the matrix had been almost completely reorientated in various ways by stress. The clay patches formed about 10% of the sample.

Apart from the clay inclusions in the lower part of the deposit, the morphological features noted above are quite typical of soil profiles formed on Flandrian alluvium. This is especially true in southern England where the sediment often includes a large silt component derived from loess. The patches of London Clay were probably incorporated by down slope mass movement from clay exposures nearby. They have fairly sharp boundaries, suggesting that the clay blocks were either dry or frozen and were not dispersed during transport or deposition.

(e) Silt mineralogy

Coarse silt fractions (16–63 μm) were separated from the three particle size analysis samples from section 2 and analysed mineralogically by Dr. J. Catt. The results (Table 2) show that in silt mineralogy the Northwold Road samples differ from Devensian loess from many parts of S.E. England (Sussex, Kent, Essex, London, Huntingdonshire, Berkshire etc.) in the following ways:

(i) They contain more chert and flint, which probably indicates that some of the silt was derived from the underlying gravel and sand.

(ii) They contain more muscovite at 0.97–1.04m, which is probably due to the incorporation of London Clay, noted above.

(iii) Among the heavy minerals, they contain more tourmaline, kyanite and green hornblende, but less zircon and tremolite/actinolite. Although these differences may not be very significant, they could also have resulted from incorporation of local Tertiary material.

(iv) They lack glauconite, collophane and apatite, which is probably due to weathering of the loess component either before or after deposition of the sediment.

However, after allowing for these differences, the silt mineral assemblage in the Northwold Road samples is similar to that of Devensian, rather than any earlier loess (see Avery *et al.*, 1982). This agrees with the micromorphological evidence that the soil profile developed only during the Flandrian and does not show any features (e.g. those of palaeoargillic horizons listed by Avery, 1980) that may have been formed at an earlier stage.

TABLE 2

	0.20–0.27 m	*0.45–0.50 m*	*0.97–1.04 m*	*Mean of 32 Devensian loess samples*
a) *Light Fraction*				
Quartz %	77.7	79.0	78.2	81.9
Chert + flint %	4.9	2.2	2.1	0.9
Alkali felspar %	16.5	17.4	15.7	15.1
Muscovite %	0.9	1.4	4.0	1.4
Glauconite %	—	—	—	0.7
b) *Heavy Fraction*				
Zircon %	8.3	10.0	8.7	12.7
Tourmaline %	7.3	6.5	3.8	3.2
Yellow Rutile %	3.8	4.8	2.8	3.3
Brown Rutile %	1.5	1.3	1.5	1.5
Anatase %	0.7	1.3	0.9	1.8
Brookite %	0.1	0.2	0.4	0.3
Kyanite %	1.7	1.6	1.1	0.4
Sillimanite %	0.1	0.1	—	—
Staurolite %	0.6	0.3	0.4	0.6
Garnet %	5.2	3.9	6.3	4.5
Epidote %	28.3	22.3	21.0	28.8
Zoisite + Clinozoisite %	15.8	15.4	17.5	11.9
Chlorite %	8.6	11.3	15.6	14.1
Green Hornblende %	17.4	19.1	19.2	11.0
Brown Hornblende %	0.4	0.8	0.6	0.7
Tremolite + Actinolite %	—	0.1	0.2	2.8
Collophane + Apatite	—	—	—	0.5

Table 2. Northwold Road 1981: silt mineralogy of samples from Section 2 (Fig. 3) in the 16–63 μm range.

(f) Summary

In summary, the upper deposit (clayey silt) appears to represent remobilised loess which has incorporated material from both bedrock and underlying gravel and sand. The laboratory analyses and sedimentary structures of this deposit all suggest that the lower part (layer 9–8) was formed by solifluction down

the valley side to the north. The upper part (layer 7–6) of the deposit in which the upper flint industry occurs, represents the alluvium of a small stream, possibly the local Hackney Brook (Greenhill, 1883). A soil developed in the alluvium is of Flandrian (Postglacial) age, suggesting that the alluvium itself dates broadly from the early Flandrian. In view of these conclusions, the lack of evidence for prolonged weathering elsewhere in the sequence, and the preservation of the original gravel surface topography, we suggest that the lower part of the clayey silt unit and the gravel and sand beneath date from the end of the last cold stage i.e. Late Devensian. The gravel and sand were laid down by a bed-load dominated braided stream (probably the precursor of the brook which deposited the alluvium) that was eroding its banks and floor and probably incorporating slope material transported by solifluction. The implements found in the gravel were probably also derived by solifluction from the Stoke Newington Sands, which rest on the London Clay on the hill side immediately north of the site.

THE FINDS

Evidence of two flint industries was recovered, one of the Lower Palaeolithic period from the gravel, the other of probable Mesolithic date from the upper part of the sandy clayey silt. In addition burnt flint and bone was also found. All recorded finds are shown on the plans (Figs. 9 and 10), those from the Mesolithic industry are located precisely (Fig. 10), but a minority of those from the gravel, found in the sieve, are located within the respective metre square. All small flakes and chips similarly recovered were not catalogued as recorded finds and have been omitted from the plan to avoid distorting the overall distribution.

(a) The Lower Palaeolithic Industry.

This industry was examined by C. Bergman, M. Newcomer, K. Ohnuma and P. Robinson as well as one of the authors (P.H.) in an attempt to separate flakes resulting from natural processes from those considered to be genuine Lower Palaeolithic material. Opinions were in agreement for most of the flakes, but specimens were also included as flakes when only a majority of the experts agreed on this. A total of sixty-one pieces were recovered of which thirty were thought to be part of the Palaeolithic industry. The remainder comprise predominantly small flakes and heavily rolled pieces. These often have small narrow butts, cortical or thermally fractured dorsal surfaces and heavily crushed platform edges, typical of flakes removed by natural gravel stream abrasion.

(i) Distribution

The material shows no marked concentration in plan or section (Fig. 9). The grouping suggested in the northern channel is accentuated by the inclusion of fossil bone derived from the London Clay. Despite a slight apparent increase of material towards the upper parts of the gravel, flakes were recorded throughout the deposit. This broadly random distribution suggests that no single artifact is in its primary position and is therefore likely to be derived. This is also suggested by the absence of conjoinable flakes (as found by Smith, 1894, 251–258 and Fig. 186–189) and small knapping chips and debris, the average length of all measured flakes being 47mm (cf. also Schick, 1980, 129–130 for comparable example on residual flake size in water sorted flakes).

(ii) Condition of raw material.

Details of the condition of the artifacts are given using Wymer's (1968, Pl. XI) system; mint, sharp, slightly rolled, rolled and very rolled. Most of the flakes, (twenty-one pieces) can be classified as sharp, with five slightly rolled, one rolled and one heavily rolled. The generally sharp condition of the majority suggests that transport and secondary resorting within the gravel were limited. The presence of the more heavily rolled material, which is also patinated, indicates that some of the pieces have been subjected to considerably more resorting than others. The heavily rolled flake has a light mottled patina, whereas the rolled flake has a dense white to light green patina on its ventral surface. The remainder survives as black through dark brown to grey flint with scattered coarser cherty inclusions and some orange staining. The flint was probably obtained as large nodules of good quality flint with heavily weathered cortex probably from the gravels underlying Stamford Hill. It is possible that the finds were derived from the Stoke Newington Sands which outcrop just north of the site, and with which Smith's 'floor' is associated (Smith, 1894; Fig. 138). The material could therefore have been derived from the same source as those recovered by Smith. If this is so, although the majority does not represent a single knapping unit, there is no reason why it should not be considered as a single technological tradition.

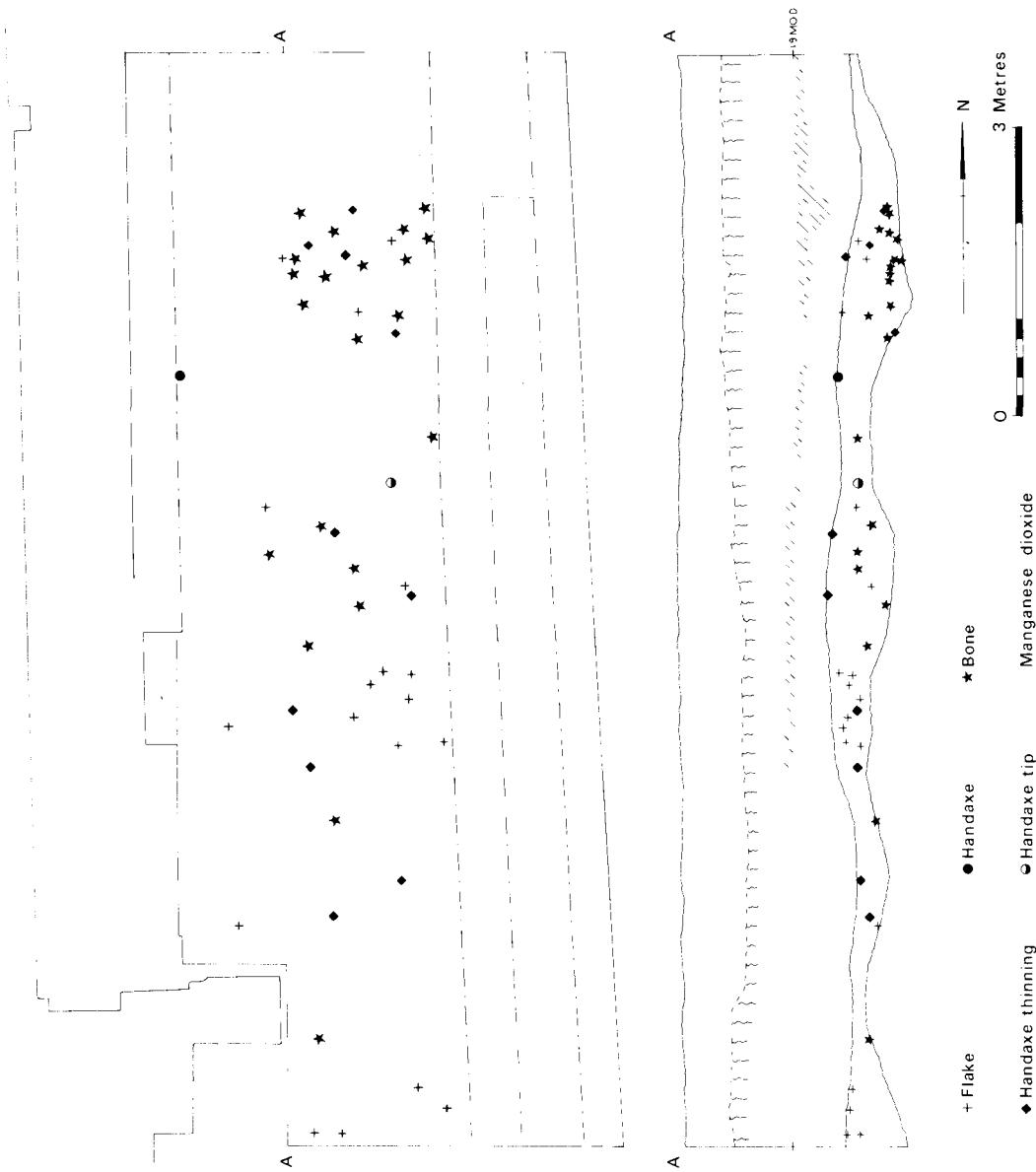

Fig. 9. Northwold Road 1981: distribution of Lower Palaeolithic material in plan (above) and section (below).

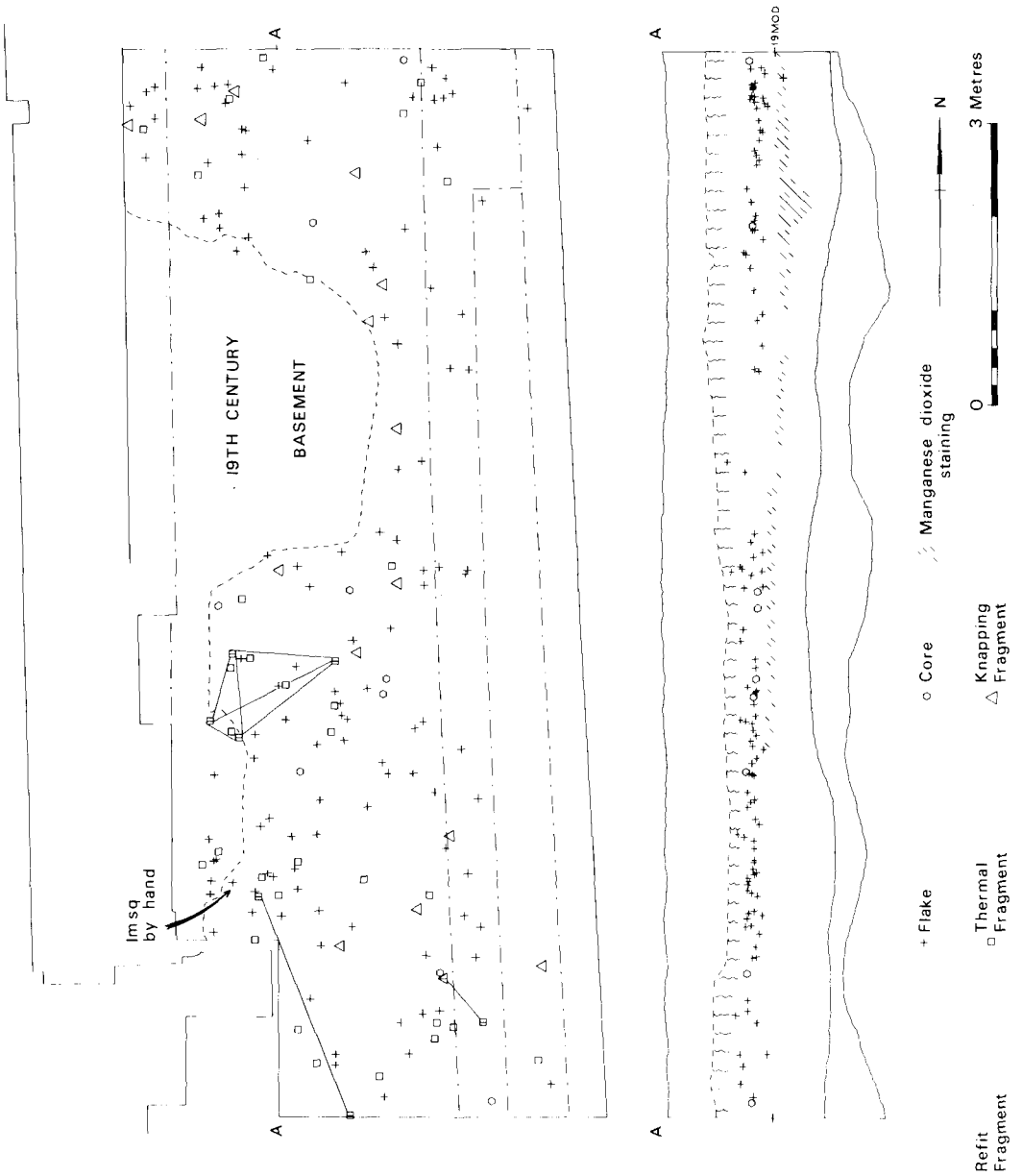

Fig. 10. Northwold Road 1981: distribution of Mesolithic material in plan (above) and section (below).

(iii) The flakes.

The twenty-eight flakes have been examined and may be classified into two groups:

(1) Eighteen flakes, including the two rolled examples, probably from the initial stages of handaxe manufacture but which may result from some form of core preparation.

(2) Ten flakes produced in handaxe manufacture.

Each group is considered separately but is also tentatively discussed using the system adopted by Sampson (1978, 108–110) at Caddington. Here the flakes were classified according to the sequence in which they were produced in handaxe manufacture. Flakes of group one were mainly produced by blows to modify the shape of the nodule. They were struck from a single direction with all but two pieces showing some cortical cover on the dorsal surface. Classification by the Sampson method shows two nodule protrusion flakes, totally cortical, with six nodule shaping flakes, large semi-cortical flakes with broad plain butts, and ten handaxe shaping flakes. These phases of production were apparently conducted exclusively using a hard stone hammer, ten of the thirteen pieces showing characteristics described by Ohnuma & Bergman (in press): well defined point and cone of percussion, conchoidal ripples on the bulb of percussion, and unlipped butt plus pronounced bulb of percussion.

Butts are dominated by broad plain forms, ten of the thirteen complete being both plain and exceeding 5mm in width. Broader butts tend to reduce the need for careful platform preparation and both forms of preparation, abrasion to remove edge overhang on the dorsal surface or faceting of the platform to modify the flaking angle, are consequently absent.

The flakes of group two almost certainly result from the thinning and finishing of handaxes, and have been described by Newcomer (1971) and Sampson (1978, 109). They are characteristically broad, thin, dipping flakes with minimal cortex, multi-directional flake scars, feathered edges and narrow butts (Fig. 11.3 and 11.4). Ten pieces have been classified, of which six may be considered as handaxe thinning flakes and the remainder handaxe finishing flakes. Four flakes have broken proximal ends and of the remainder the narrow butts make identification of hammer mode and preparation difficult. The use of a hard stone hammer remains prevalent, only one flake showing characteristics consistent with the use of a soft hammer (Ohnuma & Bergman, in press): lipped butt and diffuse bulb, vague point/cone of percussion and diffuse bulb. There is, in addition, a *burin de Siret* (Bordes, 1979, 40 and Fig. 4, No. 2), a feature found more commonly in industries using hard hammers. Platform preparation remains rare, only one flake showing signs of an abraded platform edge.

(iv) Tools.

A large lanceolate handaxe (Bordes, 1979, 69 and Fig. 50.5) (Fig. 11.1) in a sharp condition was found in the upper surface of the gravel. The edges are well finished and slightly convex in plan. The butt is thick with a crude, battered, sinuous edge, although the tip has been extensively thinned. It measures 190mm long, 103mm wide and is 55mm thick. It is made from a large nodule of dark grey-brown flint of good quality. Two patches of dark, creamy grey, weathered cortex remain towards the butt. Large parts of both sides of the implement are stained a deep orange brown. This staining exists on areas of the handaxe which protruded through the gravel surface and may therefore have formed since the deposition of the implement in the stream. A large thermal fracture on one side may similarly be a more recent feature.

The tip of a second handaxe (Fig. 11.2) was found within the gravel in a rolled condition and stained dark brown. Very little can be said of the original size or form of this piece.

No retouched flake tools were found, nor was there any evidence of Levallois technology.

(b) The Mesolithic Industry.

This industry (Fig. 10) is represented by nine cores, 116 flakes, fifteen pieces of knapping debris and thirty-eight thermally fractured fragments. A blade core (Fig. 11.5), three core rejuvenation tablets (Fig. 11.6 and 11.7) and a few blade fragments (Fig. 11.8) suggest that blades/bladelets formed an important part of the total blank production.

(i) Distribution.

The industry was found as an evenly distributed spread dipping slightly towards the north between 19.10–19.30m O.D. It also occurred at a similar depth in the trenches excavated by Campbell (J. Cook, pers. comm.). Vertical displacement has occurred together with probable horizontal movement which has resulted in the removal of some small flakes and all chips. The presence of refitting pieces however suggests that the dispersal may not have been extensive. Many flakes appear to have originated from a limited number of cores.

(ii) Condition and raw material.

The material was recovered in mint condition. The heavily weathered cortex suggests that it has its origins in the local gravels where it occurs as small nodules. Six broad groups have been recognised.

(1) 1 flake, 1 knapping fragment of Bullhead flint. Brown-black flint with a thin orange band below green cortex.

(2) 6 cores, 59 flakes, 6 knapping fragments, 12 thermal fragments. Dark red-brown mottled orange-brown flint with flecked cherty inclusions. Cortex ranges from hard, thin, weathered, chalky to worn, pitted, patinated. Generally of good quality but contains thermal fractures.

(3) 1 core, 19 flakes, 6 knapping fragments, 15 thermal fragments including refitting pieces. Flint as group (2) above. Dark grey, worn, pitted, patinated cortex with some hard, thin, weathered chalky cortex.

(4) 13 flakes of good quality black flint with thin, worn, pitted dark grey cortex and some residual hard, thin, weathered, chalky patches. Includes 2 blade core rejuvenation tablets.

(5) 1 flake, 2 thermal fragments of light brown flint with small cherty inclusions. Cortex worn, patinated, hard, pitted.

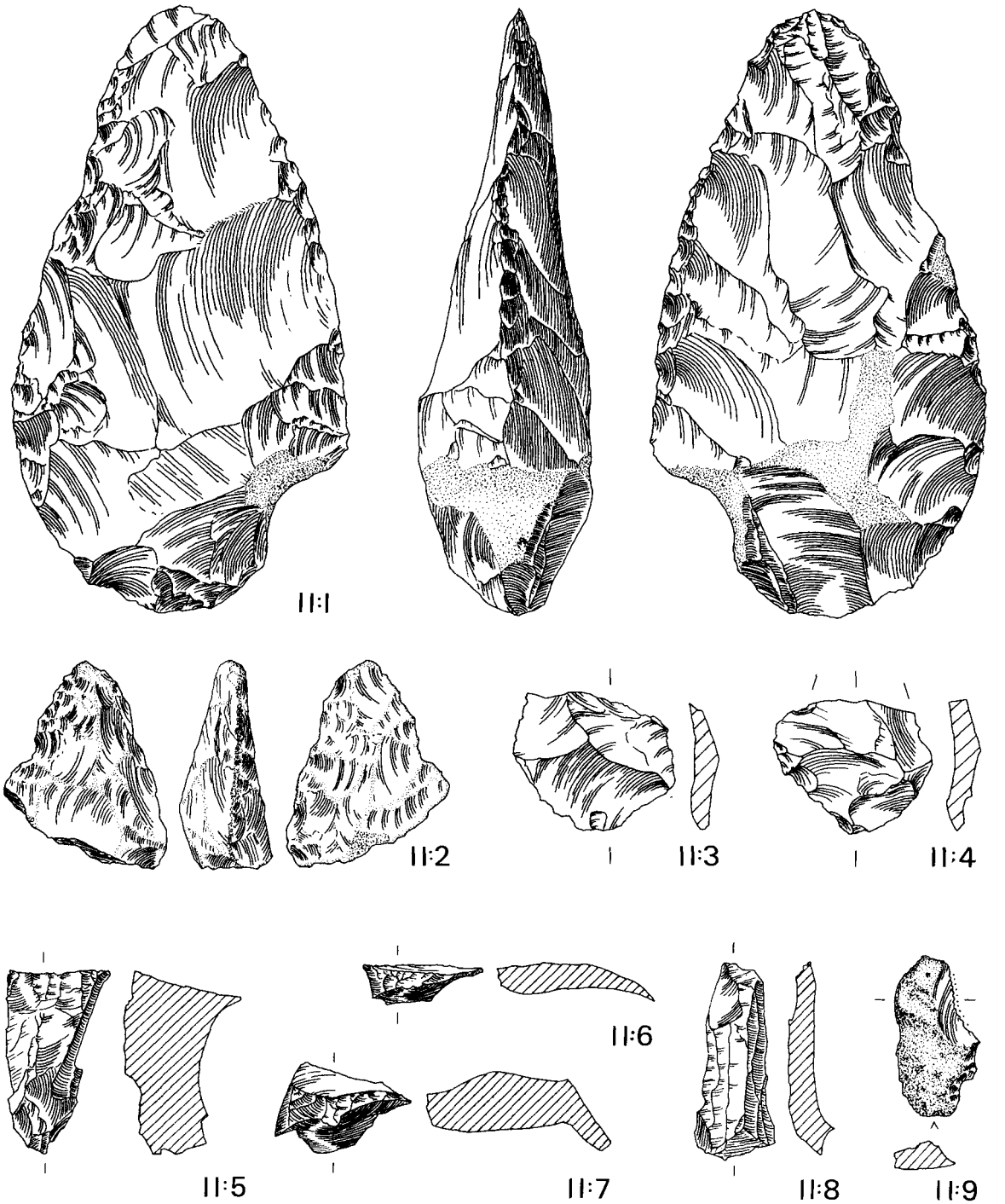

Fig. 11. Northwold Road 1981: Lower Palaeolithic 1–4 S.F. nos. 441, 412, 376, 379. (½) and Mesolithic flint 5–9: 175, 137, 159, 210, 179. (2/3).

(6) 2 cores, 8 flakes, 2 knapping fragments, 9 thermal fragments of miscellaneous worn, patinated, dark brown gravel flint.

Also present were 6 burnt flakes, 1 blue patinated flake and 8 chips too small for classification.

(iii) The cores.

Although not numerically sufficient to warrant detailed analysis these are informative about the technology involved. The nine cores range in weight from 170gm to 26gm averaging 73gm. At least seven show signs of having been made on nodules rather than fragments. Striking platforms were prepared by truncation of the top of the nodule and flakes removed down the axis of the core. Six cores have flaked platforms, two have thermal surfaces and one a cortical platform.

Rejection of seven cores resulted from the loss of a suitable flaking angle associated with some platform edge recession. Core tablets indicate that rejuvenation could occur at this stage. Additional cores were discarded due to hinge fractures or thermal fractures resulting in core breakage. Evidence for the production of controlled blades is restricted to a single exhausted blade core (Fig. 11.5). The remaining cores are mainly failed pieces limited to the removal of a few broad cortical and semi-cortical flakes.

The technique of cresting (lame à crête) was employed in core rejuvenation on the blade core and as a preparatory procedure on a single flake.

(iv) The flakes.

Despite the small quantity of complete flakes, they have been measured for length and breadth and the breadth: length ratio has been calculated for forty-five pieces. Where possible flake classification (Gingell & Harding, 1979, 73–76), cortical cover and butt type and width have also been recorded.

Flake length is clearly determined by overall size of the raw material, and it is therefore understandable that only two flakes should exceed 50mm. The largest proportion, eighteen flakes, measure 20–29mm; similarly twenty-five flakes measure 20–29mm in breadth. Elongated flakes of 3:5 or 4:5 breadth:length ratio contribute twenty-nine flakes. This general shape is reflected in the flake classification where flakes with a dominant ridge account for half those examined.

The flakes recovered may best be described as products of core preparation, at least half of those examined showing not less than 50% cortical cover as well as others possessing thermal surfaces.

Despite the absence of hammers from the industry, hard stone hammers were used exclusively, ventral surfaces conforming to features outlined above, together with eleven *burins de Siret*. A sample of seventy-seven flakes show a trend towards unmodified, plain narrow butts (35% up to 3mm), although 28% of the total have broader cortical or thermal butts, probably associated with core preparation stages. The trend towards narrow butts on prepared cores is reflected by platform edge abrasion to reduce overhang and allow percussion near the core edge. This feature is found on the prepared blade core, the blade fragments and platform remnants on core rejuvenation tablets.

(v) Tools.

No retouched tools were recovered from the industry with the exception of a flake which had its distal end removed to provide a Clactonian notch and a micro-denticulate (Fig. 11.9). This was made on a flake of Bullhead flint. Ten small serrations have been made along the concave right edge from the ventral surface.

(vi) Conjoinable fragments.

Eight thermal fragments and a core fragment, all from flint from group (3) above, were refitted into three separate groups (Fig. 10).

(1) Five thermally fractured fragments, two found together, forming a nodule 863gm in weight. The nodule could not be completely restored; the missing fragments were probably removed in the construction of the adjacent basement passageway. The nodule may have broken naturally as no negative facets were present. A thermally fractured nodule can however shatter on impact without leaving signs of percussion. The general absence of natural flint from the clayey silt makes it likely that these fragments are associated with the industry.

(2) Two small thermally fractured fragments found 2.5m apart, weighing 45gm. One fragment has negative flake scars which may be deliberate and which were removed following the intial fracture.

(3) Two fragments, one a core fragment, found 0.6m apart, weighing 73gm. The core fragment shows use as a bi-polar core producing long cortical flakes. It is not possible to determine whether fracture followed or preceded the use as a core.

Despite the presence of negative flake facets on two of the pieces, none of the conjoining surfaces can definitely be shown to have resulted from percussion.

(vii) Burnt flint.

A total of 166 pieces of burnt flint were located throughout the upper clayey silt. There was a slight increase in the distribution towards the southern end but this may have accumulated during resorting. An apparent concentration within the metre square excavated by trowel was probably accentuated by the excavation technique. The majority of pieces were small, 61% weighing less then 5gm, and were of fractured gravel flint. It is likely that this material is related to the associated flint industry and was produced in domestic fires, but intense natural fires or controlled forest clearance (Evans, 1975, 80 ff.) cannot be excluded.

Five pieces of burnt flint of similar type were recorded from the gravel. No charcoal survived.

(c) Bone.

Twenty pieces of bone and a tooth fragment were recovered from the gravel, located mainly in the northern channel of the stream (Fig. 9). All were heavily pyritised and none could be positively identified. The material almost certainly represents bone derived from the London Clay during the erosion of the stream bed. A piece of bone from the lower part of the clayey silts similarly shows signs of pyritisation and was probably redeposited during solifluction.

CONCLUSIONS

Since the 19th century it has been thought that implements could be found around Stoke Newington on an occupation surface or working 'floor'. Following the systematic excavation at Northwold Road it is now possible to suggest that many of the Palaeoliths in the area appear to be derived, despite the fact that Smith did find some evidence of *in situ* knapping. The gravel and sand at the base of the sequence probably accumulated in a variable energy, bed load dominated braided stream, in a cold, probably periglacial, environment. The eastward flowing stream, possibly the Hackney Brook, was transporting locally derived gravel which could have been partly introduced into the river by solifluction. This process would have supplied gravel by denudation of that underlying Stamford Hill. Artifacts known to occur in the Stoke Newington Sands, which outcrop on the sloping ground north of the site, would have been incorporated during the downslope movement of material. On the basis of a regional study (Gibbard & Harding, forthcoming) the Stoke Newington Sands and also their contained artifacts are thought to be of Wolstonian age. The occurrence of artifacts in the gravel indicates that reworking and active slope degradation was in progress at the time of deposition of the gravels and sands. The pyritised bone present in the gravels is of a type found in the London Clay and was therefore probably derived by fluvial erosion of local bedrock from the base and side of the channel or was incorporated by solifluction from the valley sides.

Wymer (1968, 318) and Roe (1968, 61 and Fig. 11) showed that the implements from Stoke Newington are dominated by generally small pointed handaxes, together with some finely finished side scrapers. Levallois technology is apparently absent. The results of the current excavation cannot confirm or deny this. Larger handaxes were however recovered by Smith similar in form to that found in the gravel. J. Cook, who examined this handaxe, is currently reassessing the implements from the area.

The artifacts contained within the gravels undoubtedly represent individual finds. Although they do not form a complete group, they do appear, technologically, to be the product of an industry producing handaxes. Early stages of production are represented by large cortical and semi-cortical flakes with broad plain butts. Secondary stages can be demonstrated by broad flakes with narrow butts, no cortex and multidirectional flake facets. Hard stone hammers appear to have been commonly used in both phases of production, although there is evidence for the use of a soft hammer in the later stages when thinning became important. Platform preparation too was apparently more important during thinning when it was preferable to produce an accurate blow near the tool edge.

The lower part of the clayey silt deposit is archaeologically sterile and overlies the gravel and sand surface. The undisturbed nature of this surface suggests that a relatively short period of time elapsed before deposition of the overlying clayey silts. Minor realignment and smearing of some gravel surface features together with overfolding of immature polygons at the south end of the site resulted from southward solifluction flowage of the clayey silt. Fine sediment deposition appears to have continued at the site for an indeterminate period. The upper part of this unit is richer in sand and proportionally poorer in clay; the sediments have also been modified by later weathering. The deposit resembles alluvium of a type

aggraded during low energy, overbank flooding by the stream, the Hackney Brook. Mesolithic flint waste in this sediment was probably manufactured on the stream bank nearby. Refitting pieces suggest that dispersal was slight. The movement of clasts and pebbles into the stream sediments may have been achieved by rolling on a smooth, fine sediment surface by sheet flow during flood events. The sparse archaeological material implies that occupation was probably only temporary. Local gravel flint was used as raw material.

The general lack of diagnostic material amongst the Mesolithic finds makes interpretation and dating difficult. The large proportion of cortical flakes with broad butts suggests that core preparation may have been the predominant activity. Blank production of flakes and blades, removed by hard hammers, can be demonstrated by the find of an exhausted core and blade fragments. The narrow plain butts on these pieces are associated with platform preparation in the form of edge abrasion to the core edge allowing a deliberate blow near the core edge. Core rejection could be forestalled by the removal of a rejuvenation tablet. The general absence of finished implements may mean that any domestic activities were conducted elsewhere. The inclusion of deliberate blade production in the technology, together with the recovery of a micro-denticulate within the assemblage, suggests that this was probably the product of a Mesolithic industry. Diagnostic material of this period is rare from the area although an assemblage of probable Mesolithic date is known from the Hackney Brook (Lacaille, 1961, 123–125 and Fig. 4; 1970, 24) near its confluence with the River Lea. Tranchet axes also exist from Hackney (Wymer, 1977, 188).

No absolute dating evidence was found at the site; however, relative dates may be proposed on the basis of the site geology. The gravel and sand, together with the lower part of the clayey silt contain features indicative of a cold periglacial climate and therefore date from a cold stage. There is no reason to suppose, however, that the alluvial silts accumulated under a cold climate. The alluvial sediment is weathered and has undergone pedogenesis during the Flandrian. The presence of a soil in this sediment indicates that deposition ceased at some time in the Postglacial. It seems likely therefore that the alluvial silts, which contain the Mesolithic industry, were laid down early in the Flandrian. The suggested dates for this deposit and the archaeological contents may therefore be seen broadly to complement one another.

Since no hiatus has been found within the clayey silt there is no evidence that a long time period intervened between the deposition of the alluvial silts and the soliflucted sediments beneath. There is also apparently no great interval between the accumulation of the basal clayey silt and the underlying gravel and sand. The cold climate affinities of these deposits suggest that they are of immediately pre-Flandrian age, i.e. Late Devensian.

APPENDIX

THE POTTERY

Lyn Blackmore

In all a total of eighty sherds was recovered from the site, representing a minimum of seven vessels. Of these seventy-six sherds, of which sixty-nine are from the same vessel, are of 13th/14th-century date. Four very small sherds are possibly of pre-historic or Saxon date. The general condition of the entire assemblage is poor. Many sherds are small and abraded, some have the appearance of being waterworn, and a large number bear a reddish-brown concretion over all surfaces, including the fractures. No sherds merit

illustration; even in the case of No.7 only a small portion of the vessel is represented, and it has not been possible to reconstruct a complete profile. The following fabric types are represented:

1. ?Prehistoric or possibly early medieval. Three small sherds, possibly from the neck of a handmade vessel. Soft micaceous ware tempered with very finely crushed flint, reduced throughout. Layer 7, Small Find No.96.
2. ?Saxon or possibly medieval. One small sherd (8 × 8mm) very fine micaceous ware, almost totally reduced, but having a dark reddish-brown outer surface. Possibly overfired or burnt London medieval ware. Layer 7.
3. ?13th century. One small sherd (15 × 15mm) very coarsely sand-tempered oxidised ware with external white slip. Probably from North London or South Herts. Layer 6/7.
4. 13th/14th century, London ware, Three joining sherds from a thumbed jug base, and one body sherd. Very fine micaceous fabric with occasional red haematite inclusions, largely reduced, with external white slip and very thin, patchy green glaze. Layer 6, Small Find No.6, Layer 6/7, Small Find No.93.
5. 13th/14th century, London ware. One small sherd fine, slightly sandy ware, oxidised throughout, with external white slip and vestiges of external green glaze. Layer 6, Small Find No. 5.
6. 13th/14th century, South Herts grey ware. One sherd very coarsely sand and grit tempered pale grey ware, with average wall thickness of 6–7mm. Layer 6/7, Small Find No. 265.
7. 13th/14th century, South Herts grey ware. Sixty-nine sherds, several joining, from a large jug with groups of multiple (?triple) thumbing around the slightly sagging base angle, and at least two parallel bands of horizontal rilling (*c.*10mm wide) around the girth and shoulder. Coarse sandy fabric with occasional fine inclusions of black and white flint, and some round grains of rose quartz and milky quartz. Pale grey core, orange margins, and pale grey to pinkish-brown surfaces, very eroded. Layer 6, Small Find Nos. 7, 8, 9, 10, 11 and 13 (sixty-four sherds found in a close group).

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THE RIVER THAMES IN LONDON IN THE MID 1ST CENTURY AD

G. MILNE, R. W. BATTARBEE, V. STRAKER and B. YULE

1. Introduction

There has been much discussion recently regarding the nature of the River Thames and its banks in London[1] during the mid 1st century AD (Willcox 1975, 285–92; Bird, Graham *et al* 1978, 46 and 512–3; Willcox 1980, 24–8). The debate is of considerable interest because of the influences of bank topography and river levels on Roman engineers and surveyors laying roads, bridging the river and establishing settlements in the area, while the position of the tidal head is of primary importance in assessing 1st-century *Londinium* as a port. Previous attempts to determine Roman river levels are contradictory because of the uncritical use of archaeological data, poor liaison between archaeologists, geographers and other research workers, and because of inaccuracies and false assumptions in relating data from the outer to the inner estuary (eg. Akeroyd 1972, 160–162). Likewise the associated question of the tidal head in Roman times has also been the subject of dispute. Akeroyd (1972, 155) claimed that freshwater conditions prevailed not only at London, but as far downstream as Dagenham and Crossness (Fig. 1). This position was cautiously supported by Willcox (1975), in a paper which was accorded general acceptance, at least by archaeologists working in the City (eg. Marsden 1980, 12).

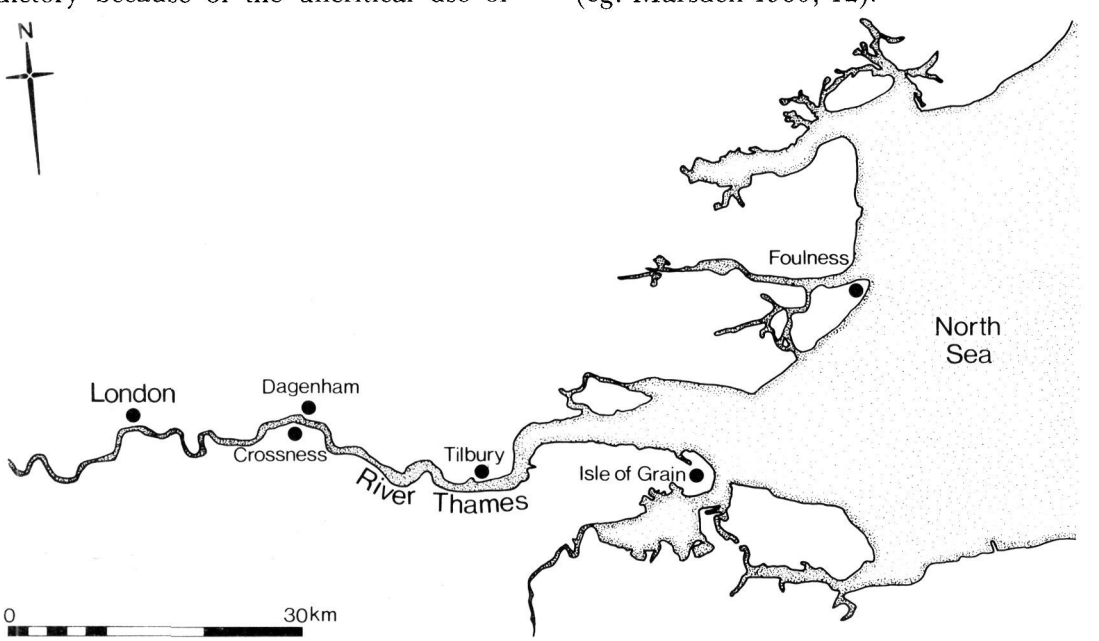

Fig. 1. Sketch map of River Thames, showing inner and outer estuary and places mentioned in text.

In this paper new evidence from excavations on both banks of the Thames is presented that allows 1st-century river levels to be fixed more confidently and demonstrates that, contrary to the accepted view, the River Thames in Roman London was tidal.

In conclusion, some of the topographical, nautical and engineering implications of these findings are discussed.

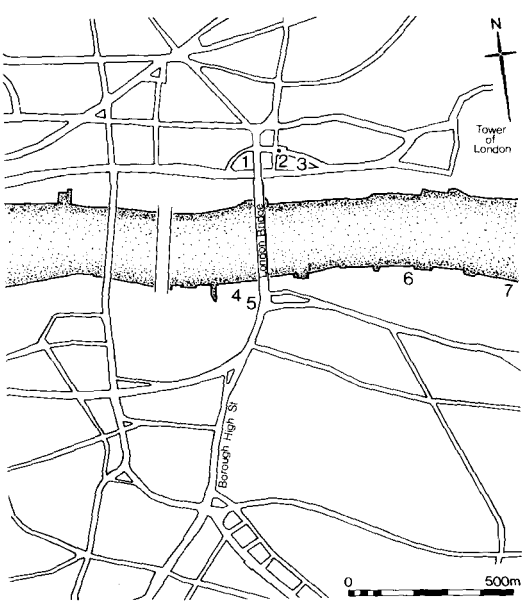

Fig. 2. The present-day River Thames (stippled) in London. Archaeological excavations numbered 1) Miles Lane; 2) Pudding Lane; 3) Peninsular House; 4) Hibernia Wharf; 5) Bonded Warehouse; 6) Willson's Wharf; 7) Mark Brown's Wharf.

2: Post Glacial Changes in River and Sea Levels: the Background[2]

The level of the River Thames relative to the land has been subject to continuous and considerable change over at least the last 10,000 years. This was, and still is, a result of changes in sea level (eustatic change), as well as uplift (isostatic change) or subsidence (tectonic change) of the land. A significant factor responsible for changes in sea-level relative to the land in the temperate zones of the northern hemisphere was eustatic rise, largely brought about when great quantities of ice began melting after the last glaciation 10 – 14,000 years ago.[3]

During the Holocene there were also changes in the level of the land relative to that of the sea associated with isostatic uplift in parts of the British Isles and subsidence in part of the North Sea Basin, including the Thames estuary (West 1972, 87). The evidence for subsidence in south-east England has been summarised by Dunham (1972, 81 – 6); Devoy (1979, 393) has discussed subsidence within the Thames area together with east-west subsidence in southern Britain,[4] and north-south subsidence trends, while D'Olier (1972, 121 – 130) has examined subsidence and sea level variations in the Thames estuary itself. This situation is further complicated by the fact that factors influencing sea-level change and subsidence are all potentially interactive, and as a consequence it is difficult to establish an absolute datum level.[5] However, it is possible to measure net change. Across most of the London Basin, compensatory isostatic uplift has occurred in association with subsidence throughout the Quaternary, thus the inland areas show net uplift, the coastal areas net subsidence.

Recent work by Devoy (1977, 712 – 5; 1979, 355 – 407; 1980, 134 – 48) has helped to clarify the situation. A stratigraphic study was made of post-glacial biogenic[6] and inorganic deposits in the Thames estuary between Crossness and the Isle of Grain (Fig. 1), and the heights of relative sea-level movements calculated from this work. By plotting these values against

time, the rate of sea-level change relative to the land in south-east England was tabulated and compared with evidence from south-west England. As a result Devoy (1979, 348) tentatively suggested that south-east England had subsided 2 to 3m relative to the south-west in the last 10,000 years, while the sea level had risen by a figure in excess of 25m over the same period.

The relative increase in sea-level is not, however, a smooth progression but appears to involve five marine transgressions (periods of sea-level rise) and five phases of regression (periods when the sea-level dropped). The transgressions are indicated by depositions of inorganic muds with silt and clay-size particles. The regressions are recognised in a series of biogenic deposits including peats representing the decayed remains of such material as riverside marsh plants. Radiocarbon dates for the changes were obtained from samples at the point of contact between the transgression and regression deposits. The five regressive phases were identified at Tilbury, and are therefore termed Tilbury I to V.

The present paper is concerned with the period before the latest of these events, the transgression marked by sea-level reaching +0.4m OD at Tilbury in *c.* AD 200 (*c.* 1750 BP). Subsequently, the Tilbury V regression occurred, represented by a thin silty peat at this level (Devoy 1979, 391). This could suggest that during the first and second centuries AD, the river was approaching its maximum level in London before the onset of the Tilbury V regression (Fig. 3). However, since the data concerning the transgressions and regressions were collected outside the City reach (Fig. 1) the results cannot be directly related to areas upstream. Even within his area of study Devoy (1979, 394) noted differential down warping (localised contortions in the strata) of about 1.5m between Crossness and Tilbury for the post-glacial period. He stresses that it may be hard to correlate the timing and amplitude of relative sea-level movements between the inner and outer estuary owing to possible differences in the environmental, geological and sedimentological histories of the areas and in the sources of information used (Devoy 1977, 714). For these reasons, the curve for the river level in the inner estuary (Devoy 1977, 714) does not parallel the sea-level curve compiled by Greensmith and Tucker for the outer estuary (Greensmith and Tucker 1973, 193–202) as shown in Fig. 3.[7]

The course of the Thames has also changed, as Nunn's study of the river in central London during the post-glacial period has demonstrated (Nunn 1983). Five chronological stages in the predominantly northward movement of the river are identified. Nunn argues that the five stages are possibly compatible with the Tilbury I–V regressions, implying that the regressions caused a halt in the lateral migration of the Thames, and initiated downcutting. Clearly, with such profound changes in the course and level of the Thames, the position of the tidal head of the river must also have fluctuated. Diatom analysis[8] of sites in the Thames estuary (Devoy 1977, 1979, 1980) indicates an early and increasing degree of salinity in the post-glacial period, and implies movement of the tidal limit upstream towards London.

3: Evidence for the level of the 1st-century Thames—The South Bank[9]

The evidence both for the topography of north Southwark and for a river level at *c.* +1m OD in the mid-1st century has recently been published by Graham. He showed that the river flowed as much as 700m south of the modern Southwark waterfront along braided channels intersecting islands of relatively high ground (but mostly below +1.5m OD) and mud flats. Roads providing access to London were constructed in *c.* AD 50–55 across this very marginal ground (Graham 1978, 501–17; Fig. 4). The estimation of river levels was based on what appeared to be the original tops of 1st-century revetments, and on the heights of water-laid deposits, which are difficult to relate to actual river levels.

Although Graham's topographical map of the south bank (Graham 1978, Fig. 4) has since been modified to take account of information from recent excavations and borehole

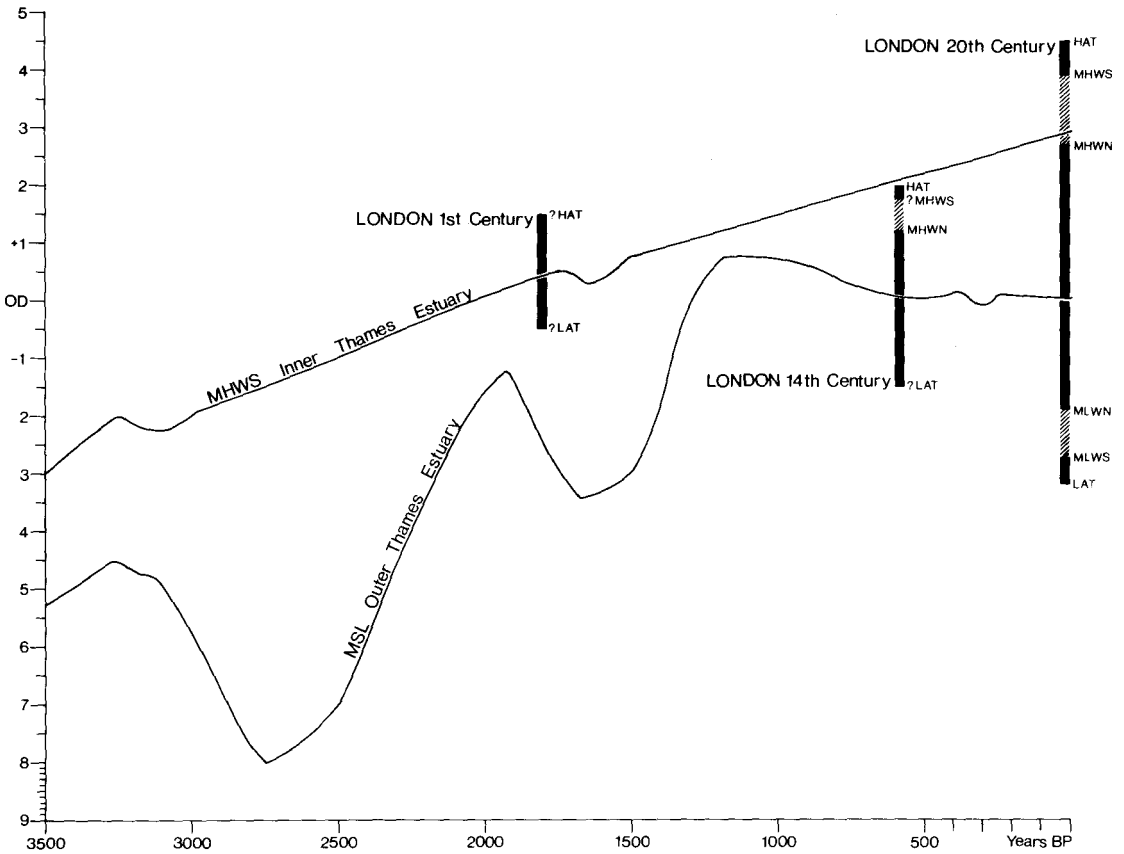

Fig. 3. The changing level of the Thames over the last 3,500 years. Curve for the inner estuary at Tilbury (after Devoy 1979) and curve for outer estuary near Foulness (after Greensmith & Tucker 1973) plotted with levels of River Thames in London in 1st, 14th (after Milne & Milne 1982) and 20th centuries AD (PLA 1983). LAT = lowest astronomical tide; MLWS or N = mean low water spring or neap tide; MHWS or or N = mean high water spring or neap tide; HAT = highest astronomical tide; MSL = mean sea-level.

records, the exact edges of most of the higher ground and of the channels shown on Figs. 7 and 8 still remain conjectural. It should also be noted that medieval river erosion removed the northern limits of the Roman settlement (Graham 1978, Fig. 5).

Two Southwark waterfront sites provide evidence for a late Bronze Age marine regression, which may be equivalent to Tilbury IV (See Fig. 3 and p. 00), when the river was probably not tidal and may have reached a level of just above Ordnance Datum. At Willson's Wharf (Fig. 2 No. 6) samples from the bottom and top of a peat horizon between +0.10m and +0.38m OD had radiocarbon dates of 1060 +/- 70 bc and 620 +/- 80 bc respectively. Wood from the top of a peat horizon between -0.5m and -0.15m OD at Mark Brown's Wharf (Fig. 2 No 7) had a radiocarbon date of 860 +/- 80 bc.

The marine transgression which followed Tilbury IV may have reached its height by the mid 1st century, when extensive areas of the higher sands and gravels in Southwark had been subject to the flooding evidenced by inorganic sandy clays deposited at up to

+ 1.4m OD close to the modern riverfront, though generally up to *c.* + 1.2m or *c.* 1.3m OD further south. This flooding may have been of relatively short duration, and Roads 1 and 2 were laid over what appeared to be the recently exposed surface of the clay. North of the southern channel (see Fig. 7 a, b) Road 1 was laid across the highest available ground, much of it *c.* + 1.25m OD, and over infilled channels (Sheldon 1978, 22). Road construction involved the laying of a timber raft over which sand and gravel metalling were packed. The resulting road agger may have stood *c.*0.5m high and represented a raised causeway, its surface between *c.* + 1.50m and *c.* + 1.75m OD, across the low-lying land. At the Bonded Warehouse site (Fig. 2 No. 5), Road 2 was constructed of gravel without a timber corduroy foundation, with the primary road surface at *c.* + 1.8m OD, *c.* 0.4m above the surface of the clay (Graham 1978, 239; Fig. 105).

With the exception of two sites north-west of Road 2, there is no evidence for flooding subsequent to road construction. At the Bonded Warehouse site (Graham 1978, 239) and Hibernia Wharf (Dennis forthcoming) (Fig. 2 Nos. 4,5) the clay which filled the road gravel quarry pits may represent inundation to a level of at least + 1.4m OD. George Dennis has suggested (personal communication) that the bridge to the City (presumably constructed at the same time as Roads 1 and 2) may have partially dammed the river leading to flooding upstream in this area, while Road 2 would have presented a barrier to flooding further south. In the absence of proven Roman flood defences protecting the southern approach roads to London, the evidence indicates that the river level was not expected to exceed + 1.5m OD, the height of the lowest operative road surfaces.

4: Evidence for the levels of the 1st-Century River Thames: the North Bank[10]

Work on the material from the sites near Pudding Lane and Miles Lane excavated in 1979–81 (Fig. 2) provided clear evidence for the level of the Roman river, when a late 1st-century quay was recorded surviving to its full height (Fig. 4).

Plate 1. Pudding Lane Excavation, Area C. Late 1st-century timber-faced quay; looking north; high tide. 5 × 100mm scale on working surface, 10 × 100mm scale in waterfront warehouse building. River level at *c.* + 1m OD, flowing into dugout drain.

A gravel bank *c.* 0.8m high with its top at *c.* + 1.6m OD was found on the Pudding Lane site,[11] to the north of the quay mentioned above. It had been raised earlier than the quay, whose infilling deposits sealed it (Fig. 4). It was aligned E–W on the southern edge of what had originally been the 'natural' north bank of the Thames, over 100m north of the present day river channel. On the adjacent site,[12] a post and plank revetment was recorded 15m to the east of the bank but on the same alignment, the surviving top of which was at *c.* + 1.7m OD. It too was earlier than the late 1st-century quay, and both bank and

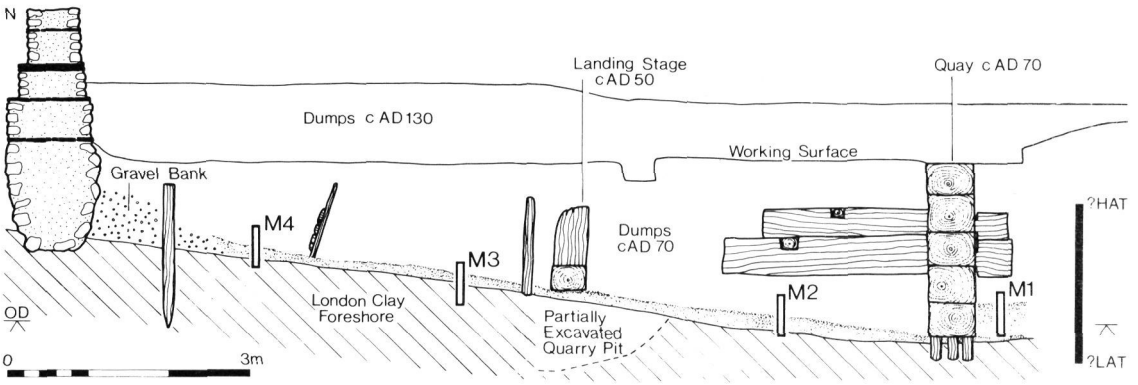

Fig. 4. West-facing north-south section across Pudding Lane excavation, showing 1st-century timber quay and associated features. Position of samples (monoliths) taken from foreshore sediments marked M1 – M4.

Plate 2. Pudding Lane Excavation, Area C. Late 1st-century timber-faced quay; looking north; low tide. 10 × 100mm scale rests in dugout drain set in facing of quay between protruding heads of tiebacks. River level at Ordnance Datum.

revetment are interpreted as part of an early Roman attempt to strengthen and straighten the river and to curb flooding, up to a level of *c.* + 1.6m OD (Bateman and Milne 1983).

Several well-preserved timber waterfront structures were also found on the Pudding Lane site one of which was a timber faced quay provisionally dated to the late 1st century[13]. Sandy waterlaid deposits had accumulated up against its south face and were also found to the north of it,[14] showing that the structure had been built out over the foreshore into the open Roman river (Fig. 4). The analysis of these foreshore sediments is discussed in Part Five p. 00).

As at Miles Lane,[15] the base plates were laid at *c.* Ordnance Datum, and the original top of the structure survived at *c.* + 2m OD, approximately level with the contemporary working surface to the north (Plates 1 and 2; Fig. 4). It is argued that when this structure was built and these surfaces were laid, the river was not expected to rise above + 2m OD, except perhaps in unforseen circumstances. A mean high water level of between + 1 and + 1.5m OD[16] in the mid 1st century would therefore be consistent with the structural evidence from the Pudding Lane and Miles Lane sites. This also agrees with the evidence from Southwark.

5: Evidence for the tidal nature of the Roman Thames

Evidence that the River Thames was tidal in the early Roman period is based on both archaeological and palaeoecological data. Excavators on the Miles Lane and Pudding Lane sites found clay quarry pits on the foreshore. At Miles Lane (Miller 1982, 143–4) a pit *c.* 12m by 9m had been cut from Ordnance Datum to a depth of – 1.28m OD. At Pudding Lane, a much smaller pit at least 1.5m in diameter had been dug into the London Clay at Ordnance Datum (Bateman and Milne 1983) to a depth of – 0.8m (Fig. 4). Pottery from the fill of the pits showed that they had been exposed—and presumably dug— in the 1st century AD. Although it has already been argued that the contemporary river must have risen to a height of between + 1 and + 1.5m OD, it must also have receded below Ordnance Datum in this period to facilitate the quarrying activity. Such a fluctuating level suggests that the river was tidal, and had a tidal amplitude (range) in excess of 1.5m.

Diatom analysis of the 1st-century foreshore sediments confirms this inference.[17] Four column samples (monoliths) up to 560mm in height were taken from the foreshores exposed on the Pudding Lane site, to north and south of the late 1st-century quay (see Fig. 4). The foreshore sediments themselves varied from 420mm thick in Monolith 1 to 110mm thick in Monolith 3. These sediments were sub-sampled at consecutive 10mm intervals, and sub-samples for diatom analysis prepared at 40mm intervals using standard procedures (Battarbee 1979). Fig. 5 shows the relative contributions of the most common taxa from the samples in Monolith 1 both stratigraphically and as a composite spectrum.[18] The dominant taxon at all levels was the mesohalobous (brackish water) species *Cyclotella striata,* a very common planktonic diatom in European river estuaries (Hustedt 1957). It occurs in the contemporary Thames, and has been found in other early sediments of the River including deposits on the Swan Lane site (Battarbee, Unpubl.) and the medieval sediment from the River Fleet (Boyd 1981). In the Pudding Lane material it is exceptionally well preserved with both valves of the frustules often occurring together. This, as well as its numerical dominance, suggests that it was derived directly from the adjacent river. Other brackish forms include *Nitzschia sigma, Synedra tabulata* var. *affinis* and *Bacillaria paradoxa.*

There is a small number of euhalobous (marine) taxa in the sediments such as *Cymatosira belgica, Raphoneis surirella, R. amphiceros* and *Cocceneis scutellum.* These are infrequent and either small forms or small fragments, but nevertheless they demonstrate the tidal nature of the river.

The majority of the taxa in the assemblages are oligohalobous (freshwater) forms, although many of the dominants e.g. *Fragilaria pinnata, Surirella ovata, Cocconeis placentula,* are often also found in weakly brackish environ-

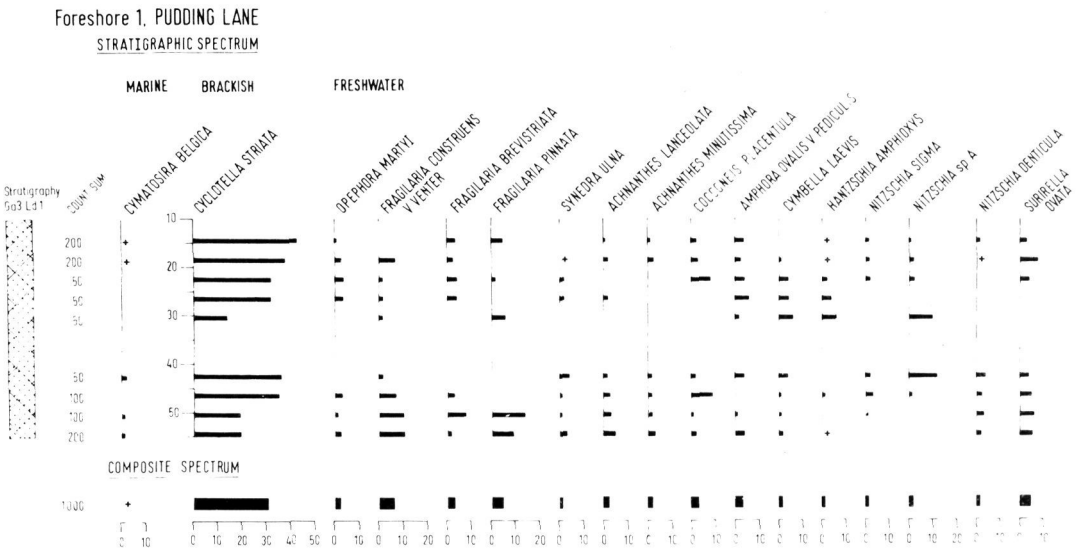

Fig. 5. Diagram of diatoms from Monolith 1 from foreshore sediment at Pudding Lane: see Fig. 4.

ments. Consequently they could have been growing close to the site of deposition. Other freshwater forms are likely to have carried down the river from sites upstream above the tidal head. No freshwater plankton was observed.

The nine samples examined from Monolith 1 cover 400m of foreshore accumulation. Fig. 6 shows variations in the salinity spectrum after grouping the individual taxa according to the halobian (salinity) classification (Hustedt 1957). It can be seen that there are no clear stratigraphical trends in the data indicating, as would be expected over such a short period, no significant changes in the salinity of the river during the thirty year period of deposition. The variations that do occur are more likely to be related to statistical artifacts associated with the relatively large standard errors of small sample counts and to such factors as short term variations in flooding and river discharge. Because of this it is probably valid and environmentally more representative to regard the data as a single assemblage. Fig. 6 therefore, also shows mean values for each salinity group.

The samples examined from Monolith 2 material showed assemblages not significantly

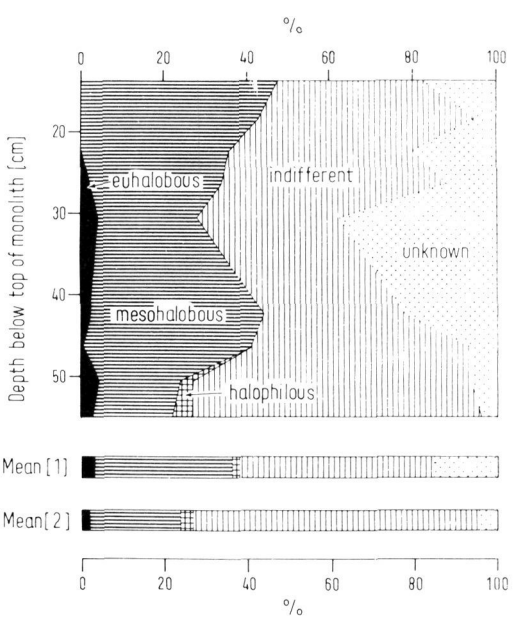

Fig. 6. Salinity spectra for diatoms from Pudding lane foreshore sediments.

different from Monolith 1 either in relation to the pattern of dominance or range of flora. As in Monolith 1 the results were combined to form a single assemblage and Figure 6 shows the salinity spectrum.[19] The palaeoecological analysis clearly demonstrates that during the period the sampled foreshore sediments were accumulating, the river adjacent to the Pudding Lane site was estuarine. In other words that it was influenced by tides, and that the tidal head lay further upstream to the west. It is difficult to estimate likely salinities of the water with accuracy, although the Pudding Lane spectrum, with 2% marine forms, is less saline than that from the early medieval Swan Lane site, where 11% of the assemblage was marine. This may indicate that the tidal head of the river was closer to the City in the first century than in the medieval period.

6: Discussion and conclusions

The structural, stratigraphic and environmental evidence from 1st-century sites in London on both banks is consistent with the suggestions that the contemporary River Thames was tidal, that it reached a height of at least + 1.25m OD but was not expected to rise above *c.* + 1.8m to + 2m OD, though receded below Ordnance Datum, and had a tidal amplitude of at least *c.* 1.5m. The figures of + 1.25m OD and Ordance Datum do not represent the highest and lowest tides, or Mean High and Mean Low Water, or any other specific water level, but are levels which it can be argued the Roman river attained, although it almost certainly exceeded them.

If it is accepted that the 1st-century tidal river attained at least the levels suggested, then a width of the river *during* high and low tides can be calculated by plotting the 1.25 and Om contours for both banks, as on Fig. 7a and b. Though this exercise

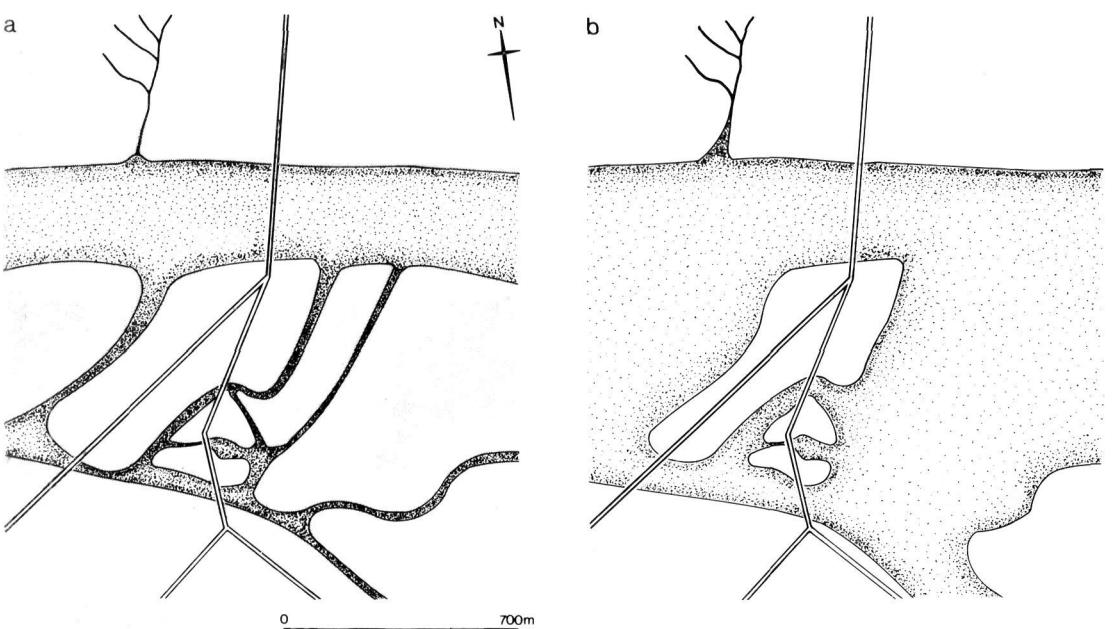

Fig. 7. Sketch plan of mid 1st-century River Thames showing conjectured edges of banks, islands and channels and suggested line of Road 1 and Road 2 (to north), and early bridge. cf Fig. 2.
a) river during ebb tide at OD, with inter-tidal mud flats shown tinted;
b) river during flood tide at *c.* 1.25m OD.

does not depict the situation associated with the highest and lowest tides, it suggests that the river may have been up to 1000m wide (including marshland) at high tide to the south of *Londinium*. At low tide, it would have decreased to *c*. 275m wide at its narrowest point, substantially wider than the present day channel which is *c*. 200m across (cf Fig. 2).

Although Fig. 7a and b represent a change in river level of only 1.25m, the effect of even this modest tidal range on the topography of the south bank is dramatic. Clearly much of the foreshore was inter-tidal marsh land,[20] a situation recalling the description by Cassius Dio which may refer to the London area during the advance of the Roman army in AD 43:

'Thence the Britons retired to the River Thames at a point near where it . . . at flood tide forms a lake. This they easily crossed because they knew where the firm ground . . . (was) . . . to be found . . . But the Romans . . . got into swamps from which it was difficult to make their way out, and so lost a number of men.' (Dio Cassius LX.20; RCHM 1928,2)

The problems facing the Roman engineers who considered bridging the Thames in *c*. AD 50, and the crucial importance of the 'islands' on the southern shore to that project are obvious. The narrowest part of the river was east of the tributary River Walbrook, north of the largest southern 'island' (assuming that there were no other islands in mid stream), a distance of *c*. 300m in the 1st century. This point is due south of the 1st-century timber feature recorded on the Pudding Lane site just east of Fish Street Hill (Milne 1982) thought to represent a pier base for an early timber bridge.[21]

The first bridge over the Thames at London was a major road crossing, and can now be shown to have spanned a tidal reach of the Roman river. This suggests that *Londinium* was deliberately founded as a major distributive centre, ideally situated to exploit river and sea-bourne traffic as well as the road system. Of the two bridgehead settlements, the northern one was destined to become the more important, a reflection of the unfavourable natural topography to the south. Nevertheless it was precisely because dry land was so limited on the southern shore that Southwark's topography dictated where the roads, the bridge—and therefore ultimately the City—would be built.

A brief assessment of Roman London's potential as a port may be attempted, now that the general range of 1st-century AD river levels and of the tidal amplitude is known. Apart perhaps from the northern edge of Southwark's island (which no longer survives), the inter-tidal marshland on the southern shore was unsuitable for the unloading of goods. However, the firmer ground on the north bank with its shelving foreshore of London Clay could have accommodated shallow-draught flat-bottomed river craft similar to that found at New Guy's House in 1958, (Marsden 1965) and barges of the Zwammerdam 2, 4 and 6 type and size (the latter may have been up to 34m long) (de Weerd, 1978) as well as coastal craft of similar dimensions to the Blackfriars I ship (Marsden, 1966). All these types of vessel could have floated in 1.5m of water or could be successfully beached at low tide, so were ideally suited to the tidal conditions prevalent in 1st-century AD London. Deep draught round-hulled sea-going vessels larger than the 3rd-century County Hall ship (Marsden, 1974) could not have berthed directly against the London harbour works of the 1st century AD (Fig. 4. Plates 1 and 2) since the water would be less than 1m deep for most of the day. Vessels of this size would have had to moor in midstream

or at the end of jetties from where their cargoes would have been transferred to lighters.

It is suggested that the harbour of *Londinium* in the 1st century AD was not developed to accommodate the largest contemporary sea-going ships directly (cf. Marsden, 1981, 10). However, the harbour was capable of accommodating the smaller river and coastal craft, some of which presumably carried cargoes collected from, or destined for, larger vessels which may have been berthed in mid-stream near London; or between Poplar and Barking if a suggestion by Morris (1982, 269–270) is accepted; or even in the channel and east coasts ports serving the *Classis Britannica* (Cunliffe 1968, 255–60; Cleere 1977, 16–19; Cleere 1978, 32–8). These smaller vessels could therefore be the equivalent of the *lenunculi auxiliarii* and *naves codicariae* which transported merchandise transferred from the larger sea-going merchantmen (berthed in the deep water port outside Ostia) up the River Tiber to Rome (Casson 1965, 31–9).

The figures argued above for the level of the highest and lowest 1st century tides as yet identified do not represent as broad a range as those suggested for the 14th century (Milne and Milne 1982, 60–62), and are considerably less than the present-day values (PLA 1983). On Fig. 3 columns displaying the suggested tidal range in the 1st and 14th centuries AD and one showing the present day values have been plotted against curves for Mean Sea Level and Mean High Water Spring Tides in the Outer and Inner estuary respectively. Although the basis on which the information was gathered is different in each case, some general statements are possible.

The pattern of the changing water level exhibited in the inner and outer estuary curves is broadly similar (with the noteworthy exception of the most modern data) although the outer estuary readings are more exaggerated. The suggested difference in the absolute heights of the two curves is to be expected: present day Highest Astronomical Tide at Tilbury (inner estuary) is *c.* 0.9m higher than at Southend (outer estuary), which is itself 1.6m below the corresponding level at London Bridge (PLA 1983, 41). The 1st-century data seems broadly compatible with the inner estuary curve, although it must be stressed that the latter is dated by radio carbon determinations, and cannot therefore be plotted precisely. The 14th-century data does not match so well, suggesting that either it (Milne and Milne 1982, Fig. 43) or the curve (Devoy 1979) need modification at that point.

Results from more Roman and medieval waterfront sites are now needed before a curve for London can be established for comparison with the inner and outer estuary curves, and to plot the changing level and salinity of the River Thames over the last 2,000 years.

NOTES

1. In this paper, 'London' refers specifically to the area of the Roman town of *Londinium* and the contemporary settlement of Southwark.
2. By Vanessa Straker, DUA, Museum of London.
3. Changes in the volume of water in the river channel could also result from alterations in climate or drainage pattern, as well as from artificial projects such as reclamation, bridge building, dredging etc. causing changes in the tidal amplitude.
4. Other relevant factors such as compaction and consolidation of desposits; progresive increase in tidal amplitude; freshwater discharge upstream and differential downwarping are also considered.
5. West (1972, 88) questioned the possibility of finding 'any part of the earth's crust, in a coastal area or otherwise, that has been stable long enough for it to be used as a reference point for assaying sea-level changes'.
   The levels in this paper are all related to *Ordnance Datum* (OD), the mean Sea Level calculated by the Ordnance Survey at Newlyn in Cornwall from observations made since 1915. However, it has been suggested that a better reference level for calculating Mean Sea Level movements in Europe during the last 15,000 years may be the *Normaal Amsterdam Peil* (NAP), since records of Mean Sea Level change have been kept in Amsterdam since 1682 (Jardine 1976). NAP is the zero for the Unified European Levelling Network (UELN). Port of London Authority and Admiral;ty charts calculate water levels relative to *Chart Datum* a figure which coincides approximately with the level of the Lowest Astronomical Tide, which varies from place to place. *Trinity High Water* (THW) on the other hand, is taken as being at + 3.475m OD, and approximates to a Mean High Water level at London Bridge
6. Biogenic deposits are derived from biological material but need not have an entirely organic content.
7. Some of the differences between the curves may be attributable to the differences in methodology employed.
8. Diatoms are microscopic unicellular algae.

9. By Brian Yule, Southwark and Lambeth Archaeological Excavation Committee.
10. By Gustav Milne, DUA Museum of London
11. The Pudding Lane excavations (PDN 81) were funded by English Property Corporation and National Provident Institution. The material in this article is discussed in the archive reports for Area C (N. Bateman) and Area F (G. Milne). See also Bateman and Milne (1983).
12. The Peninsular House excavations (PEN 79) were funded by Vitiglade and Verronworth. See archive report for Areas B and C by N. Bateman and G. Milne, and Bateman and Milne (1983).
13. All pottery dates are provisional, and were kindly supplied by Dr P. Tyers, DUA Museum of London.
14. For the position of the samples, Monoliths 1, 2, 3, and 4, taken from these foreshore sediments, see Fig. 4.
15. Excavations funded by Land Securities (Management) Ltd at Miles Lane (ILA 79). Archive report by L. Miller. See also Miller (1982).
16. Excavations in the Tower of London recorded waterlaid silts containing 1st-century material up to a height of *c.* + 1.7m OD sealed by Roman surfaces. The sites in question are Salt Tower 1976 and Inmost Ward, 1955–77. G. Parnell (DoE), personal communication.
17. Diatom analysis by Dr R. Battarbee, Department of Geography, University College, London. For detailed archive report, see Battarbee (1983).
18. For complete list of taxa, see Battarbee (1983), Table 1.
19. The diatoms found in Monoliths 3 and 4 deposits were insufficient to make percentage counts, but their general similarity with Monoliths 1 and 2 diatoms was clear, *Cyclotella striata* being the dominant.
20. V. Straker suggests that this zone could have supported the growth of such plants as salt marsh grass, (*Puccienella maritima* salt marshrush (*Juncus maritima*), sea Aster (*Aster tripolium*) or Oraches (*Atriplex* spp). These and other plants can be found growing between the low and high tide marks on flat area along estuaries (Rose 1981).
21. Fifteen to twenty such pier bases would have been required to support a timber bridge across the narrowest part of the River Thames in the 1st century.

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THE CAMOMILE STREET SOLDIER RECONSIDERED

M. C. BISHOP

SUMMARY

When studied as a source of information on Roman military equipment, the fragmentary sculptured relief known as the Camomile Street soldier proved to possess many points of interest. The figure may have belonged to a Flavian tombstone modelled on Julio-Claudian examples, erected by a member of the governor's staff in London, possibly a beneficiarius, and executed by a skilled sculptor. When the tombstone was dismantled to be used in the foundations of one of the bastions round the Roman city of London, it was buried with its head between its legs, reflecting a contemporary burial rite which is today something of a mystery. The figure of the soldier is described and considered in the context of other figured military tombstones.

Introduction

> 'In the autumn of 1876 the Rev. J.J. Kenworthy, M.A. of Clapton, called upon Mr. W.H. Overall, F.S.A. Librarian to the Corporation, and informed him that certain architectural fragments had been found in Camomile Street while removing the foundations of what proved to be one of the bastions attached to the City Wall.'
>
> Price (1880, 3)

Excavation continued, now 'under the personal direction and superintendence of John E. Price Esq. F.S.A.' (Price, 1880, 4) on behalf of the London and Middlesex Archaeological Society, and the finds were to include 'the life-size figure in hard oolitic stone of a Roman warrior clad in fine military costume and wearing the characteristic legionary sword'—the Camomile Street soldier. Within four years of the discovery of the bastion and excavation of its contents, Price was to publish an account of his findings (1880), which contains the only detailed consideration of the figure published since its discovery.[1]

For the present study, the figure was examined, photographed, measured, and 'squeezes' made of the items of military equipment. During the course of this work, and in subsequent research, it became apparent that the figure held an anomalous position in the tradition of Roman military funerary sculpture and merited detailed consideration.

Plate 1 The Camomile Street soldier: the figure as it is today (scale in 50mm & 100mm divisions)

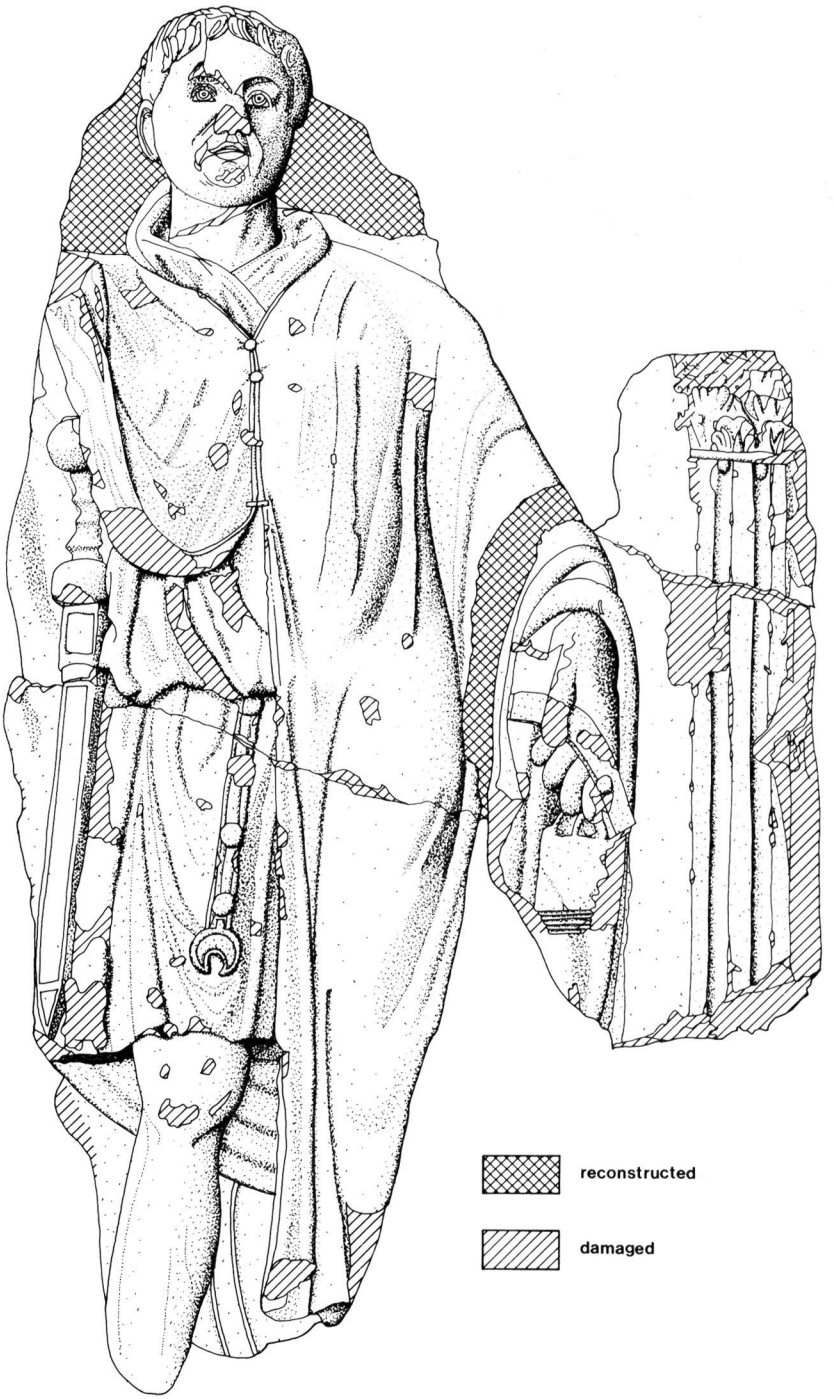


Fig. 1 The Camomile Street soldier: the figure as it is today (not to scale)

Description of detail

The figure of the soldier survives to a height of 1.32m and is 0.8m wide at the broadest point. He wears a military cloak (*paenula*) over his military tunic (*tunica*), the right-hand side of the *paenula* being thrown back over his right shoulder to display the classic Roman short sword (gladius); around his neck is a scarf (*focale*), whilst a studded strap hangs from his waist, terminating in a lunate pendant (Pl. 1; Fig. 1). He holds a scroll in his left hand, as well as several writing-tablets apparently suspended from a cord. His right arm is missing as are his feet, although his legs survive almost to the bottom of the shins. By his left side, the remains are to be found of one of the pilasters (*c.* 0.67m high) which evidently flanked the tombstone.

The Camomile Street bastion (No. 10) was one of a series with solid bases added to the eastern sector of the landward defensive wall of the City and now generally recognised as Roman and additions to the city's defences in the second half of the 4th century AD (Marsden, 1980, 171–3). The sculptured stones were found in the base of the structure, packed in with Kentish ragstone rubble. The figure was in the upper level of sculptured stones, orientated parallel to the city wall, and was found in four pieces: the body and the left arm to the elbow, with the head placed between the shins, the left forearm and ornamental pilaster, and the capital of the pilaster (Price, 1880, Pl. III). Various other decorated stones were found in the bastion, most being either of oolite or greensand (*idem,* 80–90).

The tunica, focale, and paenula

The Roman military *tunica* was distinctive and can frequently be seen on tombstones and monumental sculpture in general, particularly on Trajan's Column.[2] There are, however, two recognisable forms of *tunica* in use during the 1st century AD. The first, earlier, type is that found on most of the Rhineland tombstones and is characterised by its many semi-circular folds and curved hem, which is apparently higher at the sides than at the front or back (Pl.2). This type may also be found on the column bases from Mainz (Robinson, 1975, Pl.198). The majority of infantry tombstones showing the deceased in military dress would appear to be Tiberio-Claudian in date, while the column bases have been suggested as early Flavian.

The second type of *tunica* can be found on Trajan's Column (Lehmann-Hartleben, 1926, Taf. 9, X–XII), the Cancelleria relief (Magi, 1945, Tav. 3), and the Chatsworth relief (Pl.3), and this type has a straight hem and less pronounced folds in the material. These sculptures all date to between the Flavian and Hadrianic periods and thus this second form of *tunica* seems to be later than the first.[3]

Plate 2 The Camomile Street soldier: the tombstone of Annaius Daverzus

Although that of the Camomile Street soldier is largely hidden by a *paenula,* enough of it is visible to distinguish it as the later type. The hem hangs just above the knee, the customary position (Quintilian XI, iii, 138), it would appear, but one or two tombstones show soldiers with shorter or longer versions.[4] The *tunica* is belted about the figure's waist, although the belt is largely hidden by a fold of the *tunica.*

The soldier wears a *focale* around his neck. On Trajan's Column, auxiliary infantry can be seen wearing it in a distinctive knotted style (Lehmann-Hartleben, 1926, Taf. 14, XXIV) and it has been suggested that it was worn under the *'lorica segmentata'* to prevent chafing of the neck (Robinson, 1975, 177). On the figure from Camomile Street, the left-hand side (from the observer's point of view) is crossed over the right-hand and disappears into the cloak.

It has already been noted that the military *tunica* was distinctive and the same could be said of the military cloak. It is agreed that there were two basic types of cloak

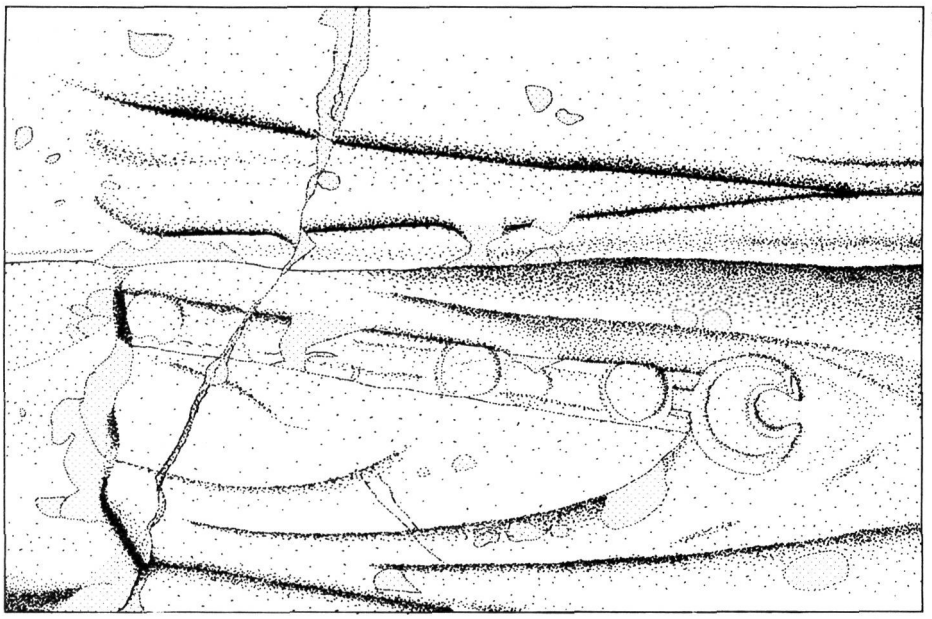
Plate 3 The Camomile Street soldier: the Chatsworth relief

used by the army, the *sagum* and the *paenula,* the former being a rectangle of material that is draped, whilst the latter is shaped to fit over the wearer's head.[5] The *paenula* appears to have been oval with an opening for the head and at the front, with a hood fitted in most cases.[6] Whilst it could be worn as a cape, as it is on the Cancelleria relief,[7] it seems to have been common practice to pull either one or both of the front sections back over the shoulder. This is shown by a relief from the Antonine Wall,[8] as well as by several of the Rhineland tombstones: soldiers are clearly depicted wearing their military equipment as a matter of pride, so the *paenula* could be thrown back to display a *gladius* and a *pugio,*[9] but the Camomile Street soldier only has his pulled back over his right shoulder.

The fastenings of the *paenula* are extremely clear on this statue (Pl. 4; Fig. 2,1): at the neck opening, there is a circular one, approximately 15mm in diameter, and there is a second, identical, fastener 40mm below it. The radial creases around these two fasteners show in a most convincing manner how the material is under tension. The only other fastener visible is just above the point below which the cloak is open and this appears to be in the form of a bar or toggle, apparently fastened *through* the border of the *paenula.* Between the second circular fastener and the bar at the bottom, it might be expected that there would be another fastening, since the cloak is not pulling apart as one might expect it to do here, but at this precise point the statue is damaged by a concave chip, some 20mm in diameter, obscuring the detail where the edges of the cloak meet.

It is clearly puzzling that there should be two different methods of securing the garment. The two circular fasteners could well be of the sort known as 'button-and-loop' (Wild, 1970), which are relatively common on military sites. If so, they would be sewn onto one side of the cloak and pass through loops sewn into the other half.[10] The 'bar' type of fastening cannot be so readily identified; the general standard of accuracy in the depiction of detail on the figure must suggest that this is a faithful representation and so some sort of brooch, however simple, would seem to be precluded, as indeed, would any form of pin.[11] A more reasonable solution could possibly be a toggle, similar to that found on the modern duffle coat. The centurion on the Chatsworth relief wears a *paenula* (Pl.5) and this is fastened by four 'bars', so the interpretation of these objects as brooches would imply that the wearer would be involved in considerable inconvenience when fastening or unfastening them. The toggle, on the other hand, would be relatively simple to manipulate and is surely a more likely candidate for the 'bar'. This does not, of course, explain why the *paenula* of the Camomile Street soldier should also be fastened by the 'button-and-loop' method, but this may be purely a matter of personal taste or a sign of ostentation.

The material of the cloak itself would appear to be of double thickness, a fact revealed by the technique of 'top-



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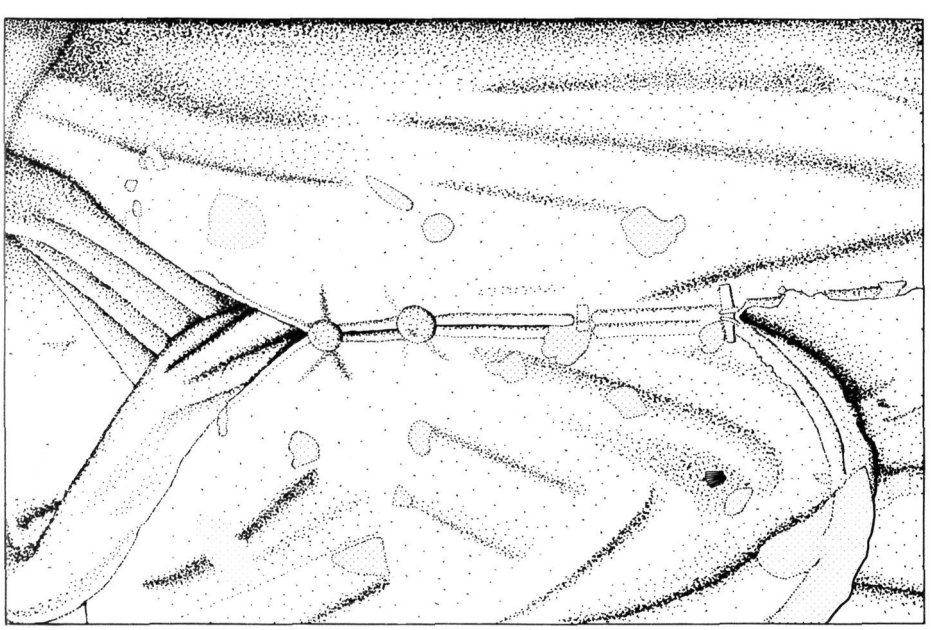

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Fig. 2 The Camomile Street soldier:
1) Detail of the paenula fastenings 2) Detail of the apron strap (not to scale)

Plate 5 The Camomile Street soldier: detail of the centurion on the Chatsworth relief

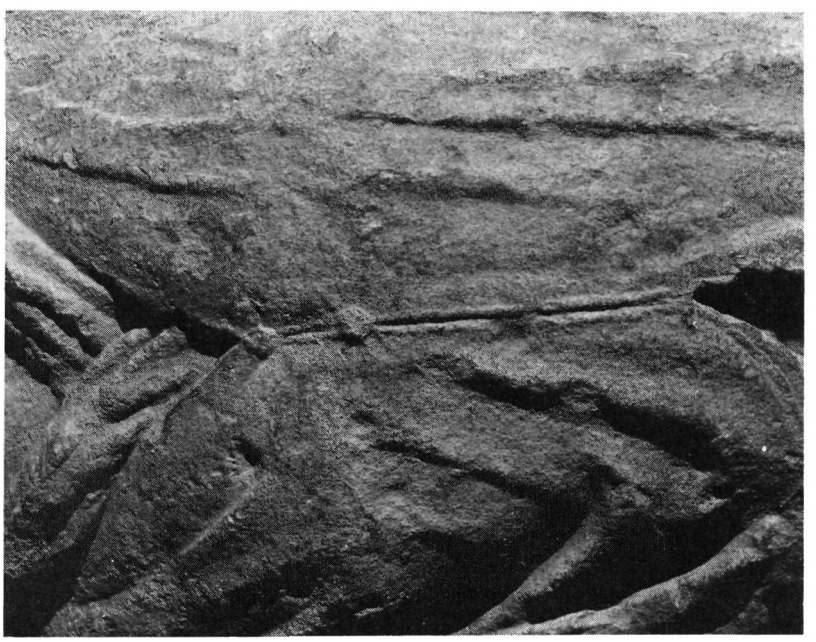


Plate 4 The Camomile Street soldier: detail of the paenula fastenings

Plate 6 The Camomile Street soldier: the gladius

stitching' seen around the area of the fasteners as a ridge at the edge of the material (Fig. 2,1); this served to ensure neatness and prevented fraying, whilst double thickness material would add 'body' to the cloak.[12]

The *paenula* would seem to have been the usual over-garment for a soldier, on- or off-duty, that marked him as a member of the military establishment by form, as well, perhaps, by colour.[13]

The gladius

The Camomile Street soldier wears the traditional Roman short stabbing sword, the *gladius,* on his right-hand side—the chape of the sheath reaching to just above the hem of his *tunica* (Pl.6). It is the *gladius,* however, that introduces the one unharmonious note in the whole statue, for it appears to be bent when viewed from the front, as the observer is supposed to see it, although this is not unknown in Roman funerary sculpture.[14] Despite this, it is easily recognisable as a Pompeii-type *gladius* (Ulbert, 1969, 119–22) with its parallel-edged blade and short point, as well as the characteristic hand-guard and pommel on the handle.[15] The sword is 590mm long, 410mm being the length of the sheath. The handgrip (usually of bone, but sometimes of ivory on more elaborate swords)[16] is octagonal in section and consists of four finger-depressions divided by three ridges (Fig. 3,1). The sheath itself has bordered metal plates indicated at the mouth and chape and it is possible that these were once decorated (as they were on real swords), either by slightly raised relief or by paint—any traces that remain are too slight for anything conclusive to be said about them. There are, however, more substantial traces of what might be raised decoration on the top border of the chape plate (Fig. 3,3) discernible in 'squeezes', and possibly consisting of opposing triangles, a common motif in 1st-century military decoration.[17]

The *gladius* on the tombstone lacks a scabbard terminal knob, but this could be because it has been damaged; similarly, the handle lacks a terminal knob at the top of the pommel (used to cap the tang of the blade, which passes through the three elements of the handle). More curious is the single scabbard mouth-plate, for most examples of the Pompeii-type *gladius* have a double-sized plate in that position.[18] The scabbard is also edged with guttering, often attested in the archaeological record.[19]

The methods of suspending *gladii* have recently come under close scrutiny by Hazell (1982), although the subject had previously been examined by Nylen (1963, 224–7) and Ulbert (1969, 115–8). Nylen distinguished two principal modes of suspension, with the sword fastened to a baldric *(balteus),* or attached directly to the soldier's belt. The former method being used in action and the latter reserved for everyday use (*idem,* 224). However, Hazell disagrees with these conclusions and prefers a method that combines a baldric with a flexible fastening to the belt (1982, 73–6).

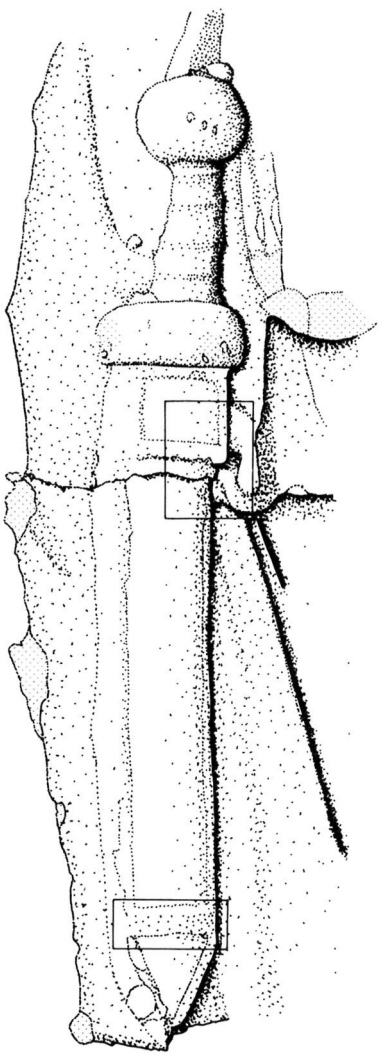
The figure from Camomile Street shows no trace of a *balteus* worn either under or over the *paenula,* but a small part of the belt may be visible between the right-hand edge of the scabbard mouth-plate and a large fold in the *tunica* (Fig. 3,2); at the same time, there is no sign of the four suspension rings usually found on *gladii.*[20]

The *gladius* is clearly designed to be observed from the front, since the rear edge of the sword is very indistinct when viewed from the side.

The 'apron strap'[21]

The single visible apron strap is 255mm long, including the lunate pendant, and 20mm wide (Pl. 7; Fig. 2,2). There are two obvious studs towards the bottom and a third is fairly easily distinguishable at the very top. The strap is damaged about one-third of the way down and there would appear to be a suggestion of a fourth stud. Intriguingly, just below the third stud from the top, there is what might be an attempt by the artist to erase a stud which was found to be in the wrong position (Fig.2,2). There is a border of 5mm on either side of the strap, possibly representing stitching in the leatherwork.

The lunate pendant at the end of the strap is of a form well-known from Roman military sites and close parallels



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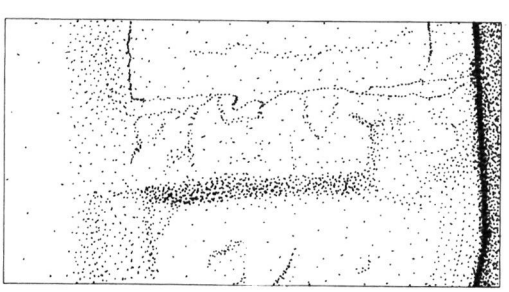

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Fig. 3 The Camomile Street soldier:
1) The gladius 2) Detail of the belt 3) Detail of the chape (not to scale)

for both size and form are not hard to find.[22] The *lunula* is 50mm high and 42.5mm wide, surrounded by a border of about 5mm. The role of the *lunula* as a powerful charm has been demonstrated (Zadoks-Josephus Jitta & Witteveen, 1977, 173–4) and it is not surprising that it is frequently found as part of harness decoration in the 1st century AD.[23] It is not clear whether the pendant is hinged to the bottom stud or to the strap itself in some way.

The 'apron', as it has become known, may have evolved from the need to protect the wearer's groin, as the developments in body armour led to shorter *loricae*. It probably originated in excess belt material being ornamented with terminals (as with the tombstone of Cn. Musius)[24] and then studs (as with Annaius Daverzus, who also wears the more elaborate form of apron),[25] but it rapidly developed into an extremely elaborate piece of equipment, with as many as eight straps, with over twenty studs on each;[26] however, it soon began to simplify once more, the numbers of both straps and studs decreasing until four straps became the norm in the Flavian and subsequent periods.[27] The terminals were always, to judge from both the sculptural and archaeological evidence, of pendant form.[28]

Although only one strap is visible on the Camomile Street soldier, it would be a reasonable assertion that there are three more concealed beneath the *paenula*.

The scroll and the writing-tablets[29]

In his left hand, the soldier is carrying what appears to be wooden writing-tablets. The scroll is held between the thumb and little finger, while the tablets are suspended by a cord from the index and middle finger (Pl. 8; Fig. 4).

The scroll is approximately 200mm long and is somewhat flattened in section. Some two-thirds of the way from its top, there is a raised circular lump which is reminiscent of a seal, perhaps as on official documents, and this is significantly held towards the observer. Many representations of deceased legionaries and auxiliaries carry scrolls of one form or another and it was clearly important for the soldier that he should be depicted in this fashion. If the scroll was indeed important, then it must inevitably be asked why this was so and what it might have signified. In the case of auxiliaries, it might be suggested that such a scroll marked the grant of citizenship, but this would obviously not apply to legionaries.[30] Again, the deeds of a land-grant or a promise of payment for a discharge bonus are unlikely, since many legionaries died before they were discharged and would not, therefore, have qualified for either the bonus or land-grant.[31]

There were several forms of discharge in the Roman army, most desirable of which was the *honesta missio*, or honorable discharge, which marked the soldier as being of good character.[32] It may well be that the scroll carried by so many soldiers on tombstones was an indication of *honesta missio* and death in service may have been considered as equivalent to such an honorable discharge, even though the deceased would only hold it in theory.[33]

The set of writing-tablets attracted Price's attention and receive detailed coverage in his monograph. Indeed, he viewed them as one of the key factors suggesting that the Camomile Street soldier was a *signifer* (1880, 57). Others have followed Price in seeing the tablets as indicative of clerical duties, but chosen to see the soldier as a member of the administration of the province, possibly even a *beneficiarius consularis*.[34] When viewing the statue, it is particularly striking that the number of tablets—six—is emphasised for the observer by staggering them. Moreover, the hand holding the scroll and tablets is proportionally larger than the rest of the body, as if the viewer's attention is to be drawn towards it. Unfortunately, the significance of the six tablets remains uncertain, but we can probably be sure of the fact that they *were* important. The frontmost tablet is 70mm square, although the staggered effect means that the set is 90mm high in all.

There are traces of a V-shaped indentation on the outermost tablet (Fig. 4), which may represent patterning on the cover or, more likely, some means of fastening the tablets when they were being carried.[35] Indeed, the tablets have fractured along the right-hand line, although Price's illustration (1880, Pl. IV) depicts the tablets as having a rounded corner instead.

Additional details

The dagger, or *pugio*, was the secondary sidearm of legionary and auxiliary infantry until the Flavian period, when it seems to have ceased to have been used as a legionary weapon.[36] It has already been noted how the *paenula* would be drawn up to display the weapons of a soldier, but in the case of the Camomile Street soldier, this is only so for the left-hand side (as it is viewed), where the *gladius* is visible. The cloak hangs freely on the right-hand side and would thus obscure the *pugio*, if one were worn. However, such is the quality of the craftsman's depiction of the drapery, that it is clear that no *pugio* was intended, for it would surely have been indicated below the drapery.

If the lowest portion of the statue is studied, the curve of the *paenula* can be discerned hanging below the *tunica* and between his legs. However, below the *paenula*, there are two concentric curved lines which clearly have little to do with any of the soldier's items of clothing (Fig. 1). These lines are a uniform 20mm apart and can be traced to some 260mm below the lowest point of the *tunica*. The curve of these lines suggests that they form a segment of an oval, the long axis of which will have run from bottom left to top right of the figure.

Many figured tombstones show legionary and auxiliary infantrymen with shields and that of Flavoleius Cordus (Esp. 5835) from Mainz is an example that is oval in shape, as is that of a possible *beneficiarius* on the Cancelleria relief (Magi, 1945, Tav. 3). However, it would perhaps be unjustified to suggest that the Camomile Street soldier has a similar shield, for these lines would imply an extremely unusual position in which to carry it; moreover, no carrying strap is visible. Similarly, although the shield could conceivably be resting against the side of the tombstone, this would seem to be rather too untidy to suit a monument of this quality. These lines therefore remain an enigma.

Reconstruction

In his monograph, Price naturally saw fit to include a reconstruction of the tombstone,

Plate 7 The Camomile Street soldier: the apron strap

Plate 8 The Camomile Street soldier: detail of the scroll and writing-tablets

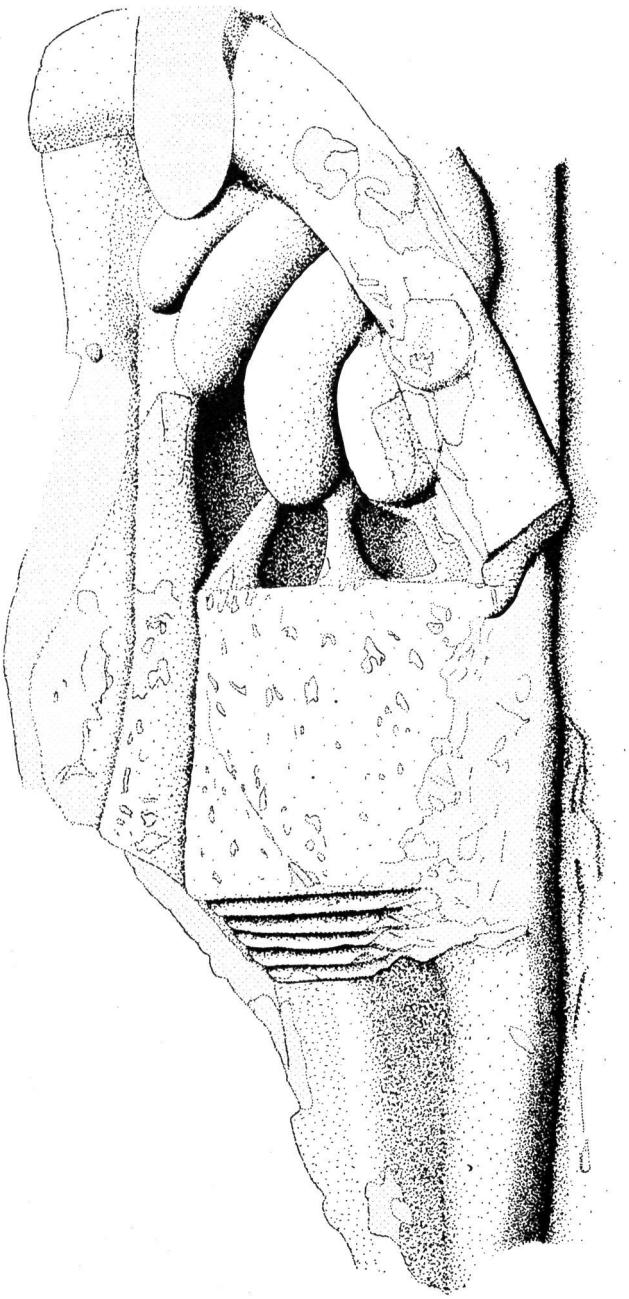

Fig. 4 The Camomile Street soldier: Detail of the writing-tablets and scroll (not to scale)

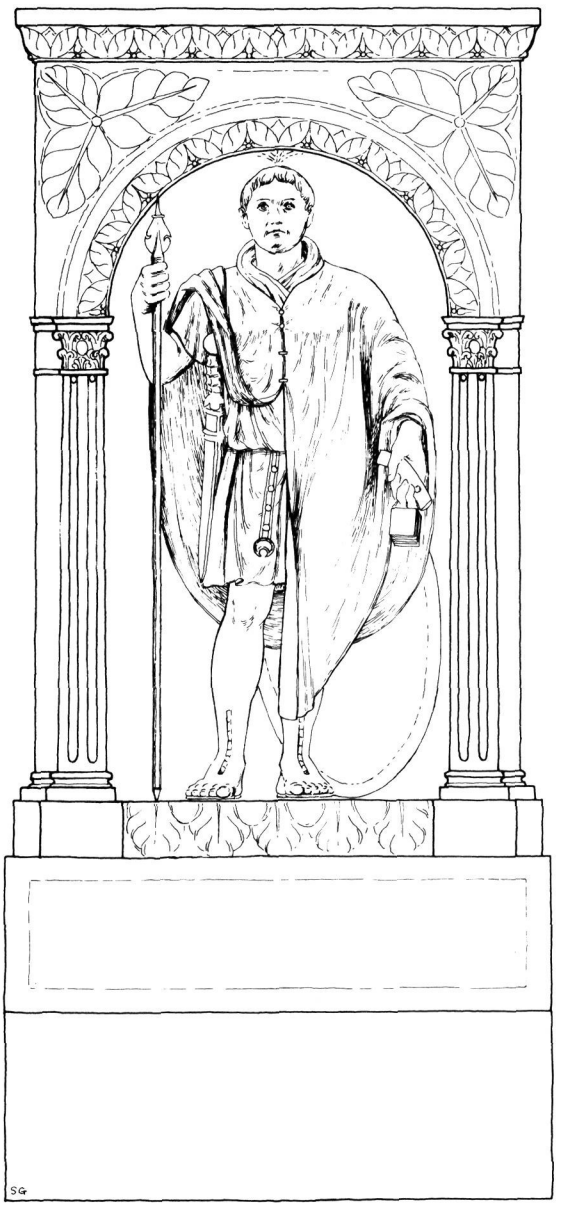

Fig. 5 The Camomile Street soldier: partial reconstruction of the tombstone (not to scale)

produced for him by Alfred White (Price, 1880, Pl. VII). Price and White selected some other sculptured pieces from the Camomile Street bastion, consisting of two fragments of an arched canopy and a possible piece of the base. Price saw this reconstruction as being fairly close to other tombstones of its type, noting the comparison with the tombstones of Favonius Facilis from Colchester and Duccius from York (1880, 57), although he does go on to suggest that the sculptural remains from the bastion belong to a larger memorial, similar to that at Igel (*idem,* 91), thus seemingly confounding his earlier reconstruction.

The coincidence of the discovery in the bastion of both the figure of the soldier and the elements of a typical military tombstone (such as the cabled arch and decorated spandrels) is clearly too close to overlook. Roman military tombstones follow a set of conventions which allow us to be reasonably certain that Price and White's reconstruction is feasible. It will be noted from the illustrations that only half of the arch was found in the Camomile Street bastion (Price, 1880, Pl. VII and Fig. 13), despite the caption in the Roman London volume of the Royal Commission of Historical Monuments' survey (RCHM, 1928, Pl. 15); the other half of the arch was found during the excavation of bastion No. 8 in Duke Street in 1881.[37] Interestingly enough, Price says the arch and possible base are of greensand (*idem,* 87), while the soldier is carved in oolite, an unusual combination upon which he comments (*idem,* 57).

The possibility that the arch does not belong with the figure must be borne in mind, but it is difficult to overlook the fact that such typically military tombstone designs must have been comparatively rare in London, while the probabilities of finding both the figure and the surround in the same context seem too convincing to pass by. As Price noted (*idem,* 90–1), the monument probably came from one of the nearby cemeteries (either Bishopsgate or Aldgate),[38] and this may also be the origin of the oolite lion which likewise came from the Camomile Street bastion (*idem,* 60–80), since this object has strong funerary connotations. Indeed, it would be very tempting to see it as yet another piece of the soldier's tombstone, since there are some well-known parallels. The overall effect of the tombstone suggests that such an adornment

would indeed be in order; the normal pattern was to have a sphinx in the centre of the top of the tomb, flanked by lions, such as the one from the bastion. This arrangement can be seen on the tombstones of the infantrymen Annaius Daverzus at Bad Kreuznach and Firmus at Bonn, as well as on the cavalry tombstones of Rufus Sita and Longinus Sdapeze from Britain.[39] These lions are frequently found in the western provinces of the Roman empire,[40] so the association of the lion with a tombstone is fairly certain, but it could well belong to another monument from the cemetery.

It should be added that, at *c.* 0.6m long, the lion could not have rested directly on top of the arch, which is only 0.3m wide. It is possible that, as with the tombstone of Firmus, there was a 'flared' capping stone above the arch which broadened to accommodate the length of the lion. Alternatively, the stone White selected as the base of the tombstone is in fact 0.74m deep, so if the whole tombstone matched this and only part of the arch survives, it would be possible to place the lion on top with room to spare.

Paradoxically, whilst we can be fairly certain how the rest of the tombstone would have appeared, when we come to reconstruct the soldier himself there are several problems. The soldier's feet were almost certainly clad in *caligae,* although, as with most military tombstones, the boots may only have been represented by the central lacing ridge, the actual straps being added in paint.[41] His right arm is clearly raised, so he must be holding some form of staff or shafted weapon, the exact nature of which is clearly crucial to any discussion of his rank or post. Price thought there was sufficient evidence to believe him to have been a *signifer,* bearing in mind the close parallels with Duccius from York (*id.,* 52–3 & 57), since the latter also wears a *paenula* over his *tunica* and holds what might be a set of writing tablets in his left hand. However, by the same token, the figure of the *optio* Caecilius Avitus from Chester bears a similar resemblance to the Camomile Street figure.[42] It would not be possible to consider the figure as that of a centurion, since he wears his sword on his right-hand side,[43] but there is a further possibility and one which has received a considerable following for different reasons. Accepting that the writing tablets imply duties of a clerical nature, it is necessary to have a garrison present for the roles of *optio* or *signifer* to be likely attributions, but London only received a permanent garrison at the end of the 1st century AD.[44] If, for reasons to be considered below, the figure can be shown to be pre-Trajanic in date, then it would be unlikely that he would be attached to a regular unit; moreover, the quality of the carving, compared with the more humble reliefs of Duccius or Avitus, suggest access to a better quality of stonemason and, necessarily, the means to pay for it.[45] The post of *beneficiarius consularis,* a legionary attached to the clerical staff of the governor and based away from his unit, would seem to provide a very agreeable solution. Furthermore, it might suggest that the soldier holds in his hand not the staff of an *optio* or standard of a *signifer,* but the lance of a *beneficiarius,*[46] his unique sign of rank. This possible explanation will be of importance when we come to consider one of the more curious aspects of this tombstone, but for the time being, it will suffice to say that the figure of the soldier from the Camomile Street bastion may have been a *beneficiarius* on the staff of the governor of Britain, possibly in the pre-Trajanic period, and that he might be restored as holding a lance of a *beneficiarius.*

The reconstruction is complete, except to add that it will, of course, have been painted when new and that the differing types of stone used (if indeed they do differ) in its construction will not have been apparent to the passer-by.[47]

General Discussion

It is constructive to begin this section by considering the circumstances in which the remains of a soldier's tombstone came to be in the foundations of a bastion belonging to the Roman wall around London and, more importantly, the inferences that might be drawn from his presence there.

The fact that elements of the same tombstone have been found in two bastions must surely point to a degree of simultaneity in the construction of at least some of them and, moreover, the use of a common source of building material – the nearby cemeteries. The Camomile Street soldier's tombstone may have been deliberately demolished by the builders of the bastion, but the result was that the statue reached its destined resting-place in pieces. Price remarked upon the care with which the large sculptured stones were arranged within the bastion (1880, 27) and noted 'The figure of the lion appears to have been most carefully fitted into the position assigned to it, as does the statue of the soldier, which was in three or four pieces. The head had been broken off at the neck and was found placed, may be purposely, between the ankles' (*ibid.*).

Price's observation of this deliberate placing of the head of the soldier between his legs is interesting in the light of recent work on one of the more unusual burial practices of 4th-century Roman Britain.[48] The discovery of inhumations of this date with their heads between their feet is increasingly widely reported and this has been suggested as possibly reflecting a punishment for criminal activities. However the arrangement in the bastion of the fragments of the Camomile Street soldier not only parallels this practice but also, because it is in a different context, suggests an alternative interpretation. It is difficult to envisage circumstances in which a 300 year-old statue could be viewed as having criminal associations or being punished for wrong-doing. It may be suggested therefore that 'head between the feet burials' represent not decapitation of a criminal, but rather the reverse, the fate of murderers' victims; the treatment afforded to the statue being a deliberate symbolic act, either in humorous vein or as atonement for damaging the memorial.

This curious tale is only matched by the rather unusual circumstances in which it seems the monument was originally erected. It is important to view the Camomile Street tomb against a background of the tradition of Julio-Claudian funerary art. Military tombstones first seem to have borne full-length images of the deceased in the early Tiberian period; at first, they were fairly crude, but rapidly developed into an extremely sophisticated provincial artform, reaching its peak with figures like Flavoleius Cordus, Annaius Daverzus (Pl. 2), and Favonius Facilis.[49] However, by the middle of the 1st century AD, the popularity of these figures seems to have declined with the infantry, although figured cavalry tombstones continue to be found until the end of the century.[50] By the Flavian period, the figured infantry tombstone was rare, although one well-known example is that of C. Valerius Crispus from Wiesbaden, a legionary from *legio VIII Augusta* who had come to be there through his unit's involvement in Domitian's Chattan war.[51] This Flavian example, unlike those from the Julio-Claudian period, shows the deceased in armour and is rather less sophisticated overall.

The Camomile Street tombstone follows the Julio-Claudian tradition very closely and would appear to fit into this context. On purely stylistic grounds, then, the tombstone might be envisaged as belonging to the period AD 43 – 70, or even AD 43 – 50. However, we must turn to internal evidence for the most reliable indications of dating.

The *tunica,* as has been shown above, is not of the sort found on Julio-Claudian tombstones and that by itself would suggest a date during the last quarter of the 1st century AD, or during the early

2nd century; similarly, the *paenula* appears to have become exclusively legionary in the Flavian period.[51] The *gladius* is of the Pompeii type, apparently introduced in the Claudian and almost universal by the Flavian era.[53] The 'apron strap', if one of four, also suggests a later Claudio-Neronian date, while the absence of a *pugio* would indicate a legionary of Flavian (or later) date. Finally, if the writing-tablets are indeed an indication of clerical duties on the governor's staff, then a Flavian date would seem to be the earliest possible.

Thus, whilst the tradition of a figured tombstone would appear to be Julio-Claudian, the evidence of the tombstone itself points to a later date, the Flavian period at the earliest. It might further be suggested that, since beards were fashionable in the army under Hadrian[54] and our soldier is clean-shaven,[55] then he may well be pre-Hadrianic, an assertion that may be supported by the evidence of the apron strap. On Trajan's Column, the Chatsworth relief, and the Cancelleria relief,[56] the apron is noticeably reduced from its original form, almost to the point of being more ornamental than functional, yet the Camomile Street soldier boasts an apron of some length.

The internal evidence of the sculpture itself suggests therefore that the statue is of Flavian date and it is therefore necessary to explain why, if this date is acceptable, the tombstone is executed in a tradition popular during the Julio-Claudian period. The tombstone of Facilis reminds us that Britain was not isolated from the tradition of military tombstones, but it must belong to the period AD 43–60, before the destruction of the *colonia* of Camulodunum by Boudica's forces, and may even date to the occupation of Colchester by *legio XX*, AD 43–9.[57] There are, however, no comparable pieces from the years succeeding the invasion period and the tradition of figured military tombstones did not survive into Flavian times (with a few poor-quality exceptions). With the decline in demand, practised artisans would be few, so that a Flavian tombstone in the Julio-Claudian tradition would most likely not have been executed by one who was familiar with the style. It can be suggested that it was a copy of that old tradition, commissioned as a result of antiquarian interest by a soldier who had seen some of the old tombstones and may well have liked the style and wished to have been commemorated in a like manner.[58] Although he would have been unable to find one of the original artists, a *beneficiarius* on the staff of the governor would have had the money and influence to commission a sculptor to execute the piece for him, especially if it is borne in mind that the construction of the governor's palace in London may have brought skilled craftsmen (including sculptors) to the city.[59]

This hypothesis may help to explain some of the unusual features of the tombstone, such as the use of two different kinds of stone in its construction (if the proposed reconstruction is accepted) and their unusual method of interlocking,[60] the Flavian military equipment on what would appear to be a Julio-Claudian monument, and the presence of a soldier in London before it was given a garrison. Most importantly, however, it makes the consummate skill of the sculptor more readily understandable: the realism, the 'tricks' to emphasise certain points, and the attention to detail. Indeed, close comparison of this tombstone with others of the genre from the Rhineland suggests that it was amongst the finest, certainly on a par with Annaius Daverzus or Flavoleius Cordus.

Conclusions

The figure of the Camomile Street soldier almost certainly belongs to a dismantled tombstone and it has been the purpose of this paper to emphasise that it was a rather extraordinary monument and one of the most important sources in any attempt to understand and reconstruct Roman military clothing.

If the soldier was a *beneficiarius consularis* in the Flavian period and commissioned his tombstone from a master craftsman, then his monument must have been as unique when it was constructed as it is now. By a quirk of fate, this unusual figure was preserved for us during the construction of the bastions around London's wall, coincidentally throwing some light on the rites connected with decapitated corpses.

However he is interpreted, the Camomile Street soldier remains one of Roman Britain's most fascinating enigmas, at the same time as he is one of its most interesting works of art.

NOTES

1. The author's interest in the soldier from the Camomile Street bastion has its origins in a wish to study the sculptural evidence for Roman military equipment in the 1st century AD, particularly in Britain and the Rhineland, with a view to assessing the accuracy of provincial artists when depicting the equipment of the army.
2. For which see either Cichorius (1927) or Lehmann-Hartleben (1926).
3. On the dating of the Cancelleria relief see Magi (1945, 141–2; *cf.* McCann, 1972). For that of the Chatsworth relief, see Strong (1907, 235–6).
4. Shorter: soldier from Mannheim (originally from Gustavsburg) – Esp. 412 (Germ.); Longer: Licaius from Wiesbaden – Esp. 16 (Germ.)
5. See Shaw (1982a,b) and Wilson (1938) for the *sagum* and *paenula;* however, neither of these consider the *paenula* to be oval, but examination of the sculptural evidence, particularly the Camomile Street soldier, proves that it was in fact so (*cf.* C. Faltonius Secundus – Esp. 5798; Esp. 5840; Firmus – Esp. 6207; Q. Petilius Secundus – Esp. 6253). Shaw's interpretation of the Camomile Street soldier's cloak is unlikely (1982b, 54).
6. On the hood, see Price (1880, 31–2); RE *Paenula* (2280,1).
7. Magi (1945, Tav.3); see Suetonius *Galba,* 6,1 – cited in RE *Paenula.*
8. Robinson (1975, Pl.201) – this relief in fact shows the *paenula* hitched up onto the shoulders, but allowed to hang to its full length at the front and rear of the soldier.
9. Pulled back over both shoulders: C. Faltonius Secundus – Esp.5798; Firmus – Esp.6207; pulled back over one shoulder: Chatsworth relief, to expose the *gladius* of the centurion (Pl.15).
10. Very few depictions of the *paenula* show the method of fastening, but the Camomile Street soldier would appear to be the only case where button-and-loop fasteners are intended.
11. Brooches are shown on the cloaks (in this case, the sagum) of Flavoleius Cordus (Esp.5835) and Annaius Daverzus (Esp.6125) – personal observation by the author, September 1982.
12. RE, Paenula, 2280, 47–66; Price, 1880, 33; I owe the comments about the likely structure of the garment to my mother, Mrs. J. M. F. Bishop, who examined photographs of the Camomile Street figure.
13. The *paenula* was generally dark in colour – RE, Paenula, 2280, 33–8; *cf.* Shaw, 1982b, 54; a sculpture showing a soldier (?) wearing a *paenula* has recently been found in Castleford, West Yorkshire, upon which there are apparent traces of green paint.
14. See, for instance, the tombstone of an unknown soldier from Bonn, the handle of whose *gladius* is offset from the blade (Esp.6252) – personal observation by the author, September 1982.
15. For handguards and pommels see Fellmann, 1966.
16. There is an example of ivory from Aldgate (Chapman and Johnson, 1973, Fig. 22, 12 & Pl. 5).
17. Common in the inlaid decoration of belt-plates, e.g. Brailsford (1962, Fig. 4, A77; A104; A108; A109).
18. See Ulbert (1969, Taf.17, 21–2; 28).
19. E.g. Brailsford (1962, Fig.1, A15 & A14); Webster (1979, Fig.30, 59 & 60).
20. See Ulbert (1969, especially 115–8).
21. Francis Grew and Nick Griffiths have suggested that the strap is not in fact an 'apron strap' as such, but merely surplus material from the belt (*cf.* below, note 25), citing the Pula relief as evidence (Ulbert, 1969, Taf.29). However, another relief from Pula (UNA No.77) shows a belt and *pugio,* but on this example the surplus material from the belt is divided into four, only one strap of which passes through the buckle. All four straps are adorned with studs and finished with lunate terminals, so it is clearly meant to be an 'apron'. Thus, whilst the strap of the Camomile Street soldier could be excess material from a belt, it could also still be an apron strap. The legionary C. Castricius wears a similar apron, but with five straps, on a tombstone from Budapest/Aquincum (Robinson, 1975, Pl.470).
22. See Zadoks-Josephus Jitta & Witteveen (1977, Pl. 33, 29 or Pl. 30, 1).
23. See Fingerlin (1981).
24. Esp.5790; personal observation by the author, September 1982.
25. Esp. 6125; this feature is also found on the tombstone of Flavoleius Cordus (Esp. 5835) – personal observation by the author, September 1982.
26. Annaius Daverzus, Esp. 6125: eight straps with sixteen studs; Flavoleius Cordus, Esp. 5835: at least six straps with at least twenty-one studs; Firmus, Esp. 6207: six straps with ten studs; Licaius, Esp. 16 (Germ.): six straps with ten studs; Largennius, Esp. 5495: eight straps, four of which have seven studs, four have eight – personal observation by the author, September 1982.
27. Unknown infantryman, Esp. 5840: four straps with seven studs; Genialis, Esp. 5850: four straps with five studs; Valerius Crispus, Esp. 11 (Germ.): four straps with nine studs; unknown infantryman, Esp. 465 (Germ.): four straps with nine studs – personal observation by the author, September 1982.
28. Personal observation by the author, September 1982; Lindenschmit (1858–1911, Bd.2, Heft 10, Taf. 4,2) for the only complete example of an apron strap; *cf.* the terminals of Annaius Daverzus' apron.
29. The scroll and writing-tablets in Roman funerary sculpture deserve detailed study, for there are a number of examples. Particularly relevant here are the memorials of Oclatius from Neuss (Noelke, 1977, 10–14), a *signifer* of the *ala Afrorum,* and C. Valerius Valens from Corinth (Kos, 1978), a *miles* of *legio VIII Augusta.* Oclatius' scroll and tablets are virtually identical to those of the Camomile Street soldier.
30. On the form of the grant of citizenship to auxiliaries, see Holder, 1980.
31. On the conditions of retirement and its benefits see Watson (1969, 147–51); it is conceivable that the bonus of a deceased soldier would be paid to his estate, but there is no evidence to support this.
32. Watson, 1969, 122–3; RE, Missio, 2052, 28 – 2053, 34.
33. This is not the place to go into the complex subject of the *honesta missio;* although the *honesta missio* and the grant of citizenship were to become inextricably linked under Claudius, grants of Roman citizenship to auxiliaries being only sporadic before his reign (Holder, 1980, 46–8). The frequent appearance of the scroll on auxiliary and legionary tombstones of the 1st century AD cannot, therefore, be put down to the grant of citizenship. Dr Kennedy has suggested that the soldiers may in fact be holding prayer scrolls, since there are difficulties in associating the *honesta missio* with death in service.
34. A similar role has been suggested for C. Valerius Valens (Kos, 1978), a legionary of *VIII Augusta* (then based in Moesia), whose tombstone was found in Corinth. Although he carries writing-tablets, he is just described as *miles* in the inscription.

    Whilst *cerae* signified clerical duties (and are therefore depicted in the possession of *signiferi, optiones,* and detached *milites*) the association of another attribute, e.g. a standard or staff, is apparently crucial to the precise definition of the status of the deceased.
35. The *optio* Caecilius Avitus (RIB 492; Webster, 1979, Pl. XI) carries a set of *cerae* with vertical lines towards either end, again suggestive of binding.
36. Unfortunately, this point is best argued from negative archaeological evidence, although Valerius Crispus from Wiesbaden – Esp.11 (Germ.)

– has not visible *pugio*, nor does the unknown infantryman from Baden-Baden – Esp.465 (Germ.) – both of which are Flavian; *cf.* the Chatsworth relief. However, C. Castricius, probably dating from the end of the 1st century, *does* have a dagger (Robinson, 1975, Pl. 470).

37. Mentioned in a report of the Library Committee, dated 7 March 1881 '. . . one of the spandrils found was the missing one from the previous excavation.'
38. Almost certainly from the Bishopsgate cemetery, Marsden (1980, 46); O S. (1981); *cf.* Morris (1982, Map 7).
39. Firmus (Esp.6207), Annaius Daverzus (Esp.6125), Rufus Sita (RIB 121), Longinus Sdapeze (RIB 201); see Gabelmann (1972, 108 – 9).
40. Esp. 5949, 6003, 6101, 6207, 6294, 6435, 6459, 6487, 6548, 6549, 6551 are a few examples taken from Esperandieu's work.
41. As is apparent on the feet of Flavoleius Cordus, Annaius Daverzus, and most other military tombstones; only in exceptional cases, as with the altogether unusual stone of Cn. Musius (Esp. 5790), were the *caligae* straps carved.
42. RIB 492; illustrated in Webster (1979, Pl. XI). Merrifield (1983, 77) suggests that the Camomile Street soldier was an *optio*.
43. All but a few centurions wore their swords on their left-hand side. Those that did include Favonius Facilis (Phillips, 1975, Pl. IX), Q. Sertorius Festus (Robinson, 1975, Pl. 442), the central figure on the Chatsworth relief (Pl.5); a possible exception is Valerius Albinus – Esp.473 (Germ.) who *may* be a centurion: he wears the *gladius* on his right and holds what might be a *vitis* in his left.
44. Marsden (1980, 83); Salway (1981, 162–3). Although there were troops stationed there beforehand at various times during the early development of the site, (Merrifield, 1983, 36–9); much of the military equipment from the Walbrook – Webster (1960, 85–6) – is Claudio-Neronian in date) and it has been suggested that the procurator may have been based in London with a small force of troops (Hassall, 1973, 234).
45. The question of the cost of tombstones is tackled by Duncan-Jones, (1974, 79–80 for Africa, and 129–30 for Italy), but note that he calculates the prices as a fraction of each soldier's pay *before* deductions; see Watson (1969), on the matter of stoppages, savings, and spending money.

    The tombstone of Classicianus (RIB 12) is one of the only examples of early funerary art in London, but no comparable figured tombstones are known. During the early post-conquest period, most such pieces can be associated with *legio XX* and its auxiliaries, whilst campaigning units do not seem to have erected tombstones (although it could just be that they have not been found). Could it be that *legio XX* brought the necessary craftsmen with it at the time of the invasion?
46. Waurick, 1971. One of the soldiers on the Cancelleria relief appears to be carrying a *beneficiarius'* lance (Magi, 1945, Tav.3).

    The post of *beneficiarius procuratoris* is also a possibility (von Domaszewski, 1908, 66–7), but the *officium* of the governor, given its size and complexity (Watson, 1969, 85–6), seems more likely.
47. Richmond (1963, 3) demonstrates that the tombstone of Favonius Facilis was painted, since traces survive.
48. Salway (1981, 706–7) considers the rite briefly; it is dealt with in greater detail by Harman *et al.*, (1981, especially 164–8).
49. Gabelmann (1972) deals with the development of figured military tombstones.
50. Gabelmann (1972, 115–8).
51. Esp.11 (Germ.).
52. The auxiliaries on Trajan's Column all wear the *sagum*.
53. Ulbert (1969, 118–9).
54. Beards were worn before Hadrianic times (RE, Bart, 33, 59 – 34, 6) so this is not really reliable evidence.
55. Although, in certain lights, there is the suggestion of a moustache at the corners of the top lip; nevertheless, there is no surviving trace of a beard.
56. Trajan's Column: Lehmann-Hartleben, (1926, Taf.10, XIII); Chatsworth: Pl.3; Cancelleria relief: Magi, (1945, Tav.3).
57. Phillips, (1975, 102; *cf.* Frere, 1978, 87).
58. I understand that Francis Grew and Nick Griffiths have reached a similar conclusion over the tombstone of C. Castricius in a forthcoming paper. (1983).
59. The date of the construction of the palace is usually described as late 1st to early 2nd century (Marsden (1980, 90); Morris (1982, 158) suggests a Flavian building initiative *c.* AD 80-90; *cf.* Salway (1981, 161-2)). The range of craftsmen who must have been employed constructing the 'palace' at Fishbourne shows that master craftsmen were in demand at this period, Todd (1981, 137); *cf.* Salway (1981, 749–50).
60. The niche being integral with the figure, but separate from the arch, is unusual, to say the least; the top of the soldier's head displays the remains of the niche in the form of a wedge shape in the soldier's hair. This tombstone clearly falls into Gabelmann's Group IV, a 'niched' stone (Gabelmann, 1972, Bild 42).

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ABBREVIATIONS

Esp.	E. Espérandieu *Récueil général des bas-reliefs, statues et bustes de la Gaule romaine* (Paris, 1907–38).
Esp. (Germ.)	E. Espérandieu *Récueil général des bas-reliefs, statues et bustes de la Germanie romaine* (Paris, 1931).
RE	G. Wissowa (ed.) *Paulys Realencyclopädie der Classischen Altertumswissenschaft* (Stuttgart, 1893 etc.)
RIB	R. G. Collingwood R. P. Wright *The Roman Inscriptions of Britain* Vol. 1 (Oxford, 1965).

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A REVIEW OF ROMAN LEAD-ALLOY MATERIAL RECOVERED FROM THE WALBROOK VALLEY IN THE CITY OF LONDON

C.E.E.JONES

INTRODUCTION

There has been a long-held assumption as to the nature of a number of Roman lead-alloy objects recovered from the early stratified deposits of the stream bed of the River Walbrook, in the City of London. This arose from entries in the accession register of the former Guildhall Museum and subsequent publications referring to the material as 'pewter'. In this paper 'pewter' is defined as a tin-rich alloy which metal analysis has shown for Romano-British tablewares of the 3rd and 4th centuries to be a mix of some 60%–80% tin and 40%–20% lead, with copper, antimony, nickel, iron and silver present in minute and variable quantities (Hughes 1977, 42; Tylecote 1962, 69; Peal 1967, 20).

When first taken into the Guildhall Museum collections the lead-alloy objects from the Walbrook received minimal attention. Some of the finer, more complete items have been mentioned since in publications (Chapman 1977, 61; Hatcher and Barker 1974, 19; Merrifield 1969, 163; Peal 1967, 19) but the group as a whole has not received detailed examination. With the assistance of both the Museum of London Conservation Laboratory and the British Museum Research Laboratory, a programme of analysis was carried out on a number of Walbrook items in order to ascertain their precise metal composition. It was hoped that these results would determine the exact nature of the metal alloy and also help resolve a dating anomaly regarding the development date of the Romano-British pewter industry.

The material under review comes from a number of different Roman deposits along the valley of the Walbrook and it has been demonstrated by a study of the coin sequence that these deposits on the Bucklersbury House site terminated *c.* AD 155 (Merrifield 1962, 48). In addition it has been argued that this area of the Roman settlement was at that time an industrial rather than residential area, and it had been assumed that the 'pewter' recovered from the lowest levels of the watercourse was either manufactured or traded in London (Chapman 1977, 61). This is some 150 years earlier than the date normally suggested for the *floruit* of the pewter industry in Roman Britain (Peal 1967, 19; Hatcher and Barker 1974, 18). With the exception of the Walbrook material, all known Romano-British pewter can be assigned to between *c.* AD 250 and the beginning of the 5th century (Peal 1967, 21, 24; Hatcher and Barker 1974, 10).

THE MATERIAL

Fifty-three objects in total were examined, of which forty-seven came from the Walbrook Valley deposits. These range from fully formed domestic ware items to pieces of scrap metal. They are listed in Figs. 1 and 2.

Acc. No.	*Object*	*Provenance*	*Date received into collection*
A94	spoon bowl	Angel Court	1911
A5098	misc. object	Angel Court	1913
A5099	misc. object	Angel Court	1913
14276	disc	Bank of England	1936
14277	disc	Bank of England	1936
14278	disc	Bank of England	1936
14280	lead solder	Bank of England	1936
14575	lamp-holder	Bank of England	1937
16459	metal strip	Bank of England	1943
16775	rod ?handle	Bank of England	1935
16776	rod ?handle	Bank of England	1935
18185	metal strip	Walbrook excavations	1954
18220	plate	Walbrook excavations	1954
18221	plate	Walbrook excavations	1954
18248	lead ?sinker	Walbrook excavations	1954
18342	scrap	Walbrook excavations	1954
18734	ornament/dolphin	RMLEC temple site	1954
19038	scrap	Bucklersbury House site	1955
19268	finger ring	Bucklersbury House site	1955
19279	canister	Bucklersbury House site	1955
19316	?weight	Bucklersbury House site	1955
19357	finger ring	Bucklersbury House site	1955
19432	spoon	Bucklersbury House site	1955
19459	fitting	Bucklersbury House site	1955
19490	spoon	Bucklersbury House site	1955
19504	misc. disc	Bucklersbury House site	1955
19634	misc. disc	Bucklersbury House site	1955
19756	misc. disc	Bucklersbury House site	1955
19759	misc. disc	Bucklersbury House site	1955
19793	patera handle	Bucklersbury House site	1955
19800	ligula	Bucklersbury House site	1955
19949	scrap	Bucklersbury House site	1955
19972	misc. disc	Bucklersbury House site	1955
20373	spoon	Bucklersbury House site	1957
20376	misc. disc	Bucklersbury House site	1957
20378	misc. disc	Bucklersbury House site	1957
20838	bowl	Bucklersbury House site	1957
20839	canister	G.M. excavation Walbrook	1957
20841	lead weight	Bucklersbury House site	1957
20853	misc. object	Bucklersbury House site	1957
20884	scrap	Bucklersbury House site	1957
20896	scrap	Bucklersbury House site	1957
20969	scrap	Bucklersbury House site	1957
21004	scrap	Bucklersbury House site	1957
21044	casket fitting	Bucklersbury House site	1957
21070	inscribed tag	Bucklersbury House site	1958
23318	scrap	Bucklersbury House site	1963

Fig. 1 Tin and Lead-alloy Material from the Walbrook Valley in the Museum of London Collections

Acc. No.	*Object*	*Provenance*	*Date received into collection*
A14690	bowl/lamp filler	unstratified from Old London Bridge site	1914
A19574	plate	foreshore find from Isleworth —instratified	1918
1421B	lamp holder	ex Smith collection	
8133	bowl		
24766	canister	unstratified from Upper Thames Street	1966
79.82	lamp base	Royal Exchange site	

Fig. 2 Non-Walbrook material included for comparison

THE ANALYSIS

A limited number of lead alloy objects was selected for two types of non-destructive analysis of their metal composition. The British Museum Research Laboratory undertook the X-ray fluorescence analysis of sixteen artefacts, ten of which came from firmly established Walbrook contexts. The remainder, included for comparison, came from unprovenanced or unstratified provenances in London. X-ray fluorescence is a surface analysis technique that reveals component elements present in the artefact. Measurement of the concentrations of detected elements was carried out and the figures obtained were compared to those for lead, tin and leaded bronze alloys of known composition. The analyses of the sixteen items revealed lead, tin, iron and copper present. Antimony, known to be an element present in ancient pewter (Hughes 1977, 42) was not detected in these tests for if present, it was present in quantities too small to be registered on the equipment used (Hughes, pers.com.). The results of the X-ray fluorescence analysis were programmed into a computer and each element recorded as a percentage of the total 100% (Fig.3).

Spot tests, the second form of analysis, involve assessing the reactions of metals to specific chemicals and this was undertaken by Conservation Officers in the Museum of London's Conservation Laboratory. This is a widely accepted method for discovering the presence of certain metal(s) in an object when the precise (and more expensive) X-ray fluorescence facilities are unavailable. The opportunity was taken to test its validity as a tool for accurately determining the nature of lead alloys and tests were carried out on the sixteen selected artefacts. Unlike X-ray fluorescence however, spot tests do not produce quantifiable results which poses a problem for precise alloy identification. In some instances the results showed disproportionate readings for the previously established tin to lead ratio. This bias derives from the fugitive nature of lead which produces a chemical reaction far more readily than tin. Thus in the chemically-based spot tests a disproportionately strong reaction may be produced from a very small amount of lead. (The results are noted in the catalogue using terms such as very strong, strong and negative). On the basis of spot testing alone therefore it is not possible to say if an item is high grade tin with a small proportion of lead, or pewter following the definition adopted by Hughes (1977) and Tylecote (1962).

Object	*Acc.No.*	*% tin*	*% lead*
Canister	19279	99.0	0.12
	20839	98.9	0.48
	24766	96.8	2.46
Bowl	20838	98.6	1.31
	8133	79.6	20.0
	A14690	0.6	99.1
Lamp base	79.82	0.4	98.4
	1421B	2.4	97.3
	14575	0.07	99.7
Plate	18220	96.2	3.54
	18221	97.9	0.41
	A19574	76.1	23.6
Spoon	19490	75.0	23.5
	20373	72.2	25.4
	A94	75.4	19.7
Ligula	19800	97.2	2.55

Fig. 3 Results of X-ray Fluorescence Analysis on Selected Objects (trace elements not included)

The readings obtained by X-ray fluorescence analysis of the London material fall into three groups: tin with a small quantity of lead (0.1%–3.5%); lead with a small percentage of tin (0.07%–0.7%); and pewter, an alloy with large proportions of both metals in the range 72%–79% tin and 20%–30% lead. It is interesting to note that the spoons are all of pewter, the lamp bases are lead and the canisters are tin with minute amounts of lead but that the bowls and plates do not form such discrete groups with one bowl made in each of lead, tin and pewter, and two plates of tin and a third in pewter.

Spoon (Acc. No. 19490) is 75% tin: 20% lead, i.e. pewter. This item comes from the Bucklersbury House site and is said to be from the streambed and therefore from a 1st to early 2nd-century context though it should be noted that stylistically it belongs to a somewhat later period (Strong 1966, 177). From the X-ray fluorescence it is shown that spoons Acc. Nos. A94, 19490 and 20373 (Fig. 7) are all pewter and a fourth spoon bowl (Acc.No. 19432) of the later cochlea form (Strong 1966, 177) could also be pewter, the lead and tin elements both showing up strongly in spot tests.

Plates (Acc. Nos. 18220 and 18221) (Fig. 6) recovered during excavations in association with 1st to 2nd-century pottery, are clearly tin with only small quantities of lead present. This accurate identification of the metal resolves the problem voiced by Peal (1967, 21, 24, 25) and reiterated by Hatcher and Barker (1974, 19) of pewter forms appearing in London's archaeological record some one hundred years or so before the generally accepted date of the beginning of pewter manufacture in Britain. However, although plate Acc. No. A19574 (Fig. 6) is pewter (the lead-tin ratio falls within the range noted by Tylecote (1962, 69),) the piece is an unstratified find from the River Thames near Isleworth, included for comparison. Stylistically it fits into Peal's 3rd and 4th-century rim types (1967, 26, 27) and as a pewter item is not therefore out of place in the dating sequence for Romano-British pewter tableware established from other stratified finds in Britain (Tylecote 1962, 68).

CONCLUSION

The results obtained from submitting a number of Roman items from the Walbrook Valley deposits to X-ray fluorescence analysis have shown them to be, not of pewter, but of either tin or lead, and it should now be considered that other stratified lead-alloy objects of late 1st and 2nd-century date that were originally thought to be 'pewter' are in fact essentially tin.

There is no evidence from the material examined to support the argument that there existed a pewter industry active in *Londinium* during the first one hundred years or so of Roman occupation. However, there is now firm evidence on which to base the suggestion that a tin industry was active until *c.* AD 155 in the Walbrook area producing or trading in domestic and tableware items, for example plates (see Acc.Nos. 18220 and 18221) and canisters (Acc.Nos. 19279 and 20839) (Figs. 5,6). The spoons subjected to X-ray fluorescence (Acc.Nos. 19490, 20373 and A94) have already been noted as being the only pewter items amongst the Walbrook material examined. However these spoons (and also a fourth Acc.No. 19432) do not in themselves constitute sufficient evidence upon which to postulate an early Romano-British pewter industry in *Londinium* especially as they are of 2nd to 3rd-century forms (Strong 1966, 177) and their find spots and stratification are open to question, being workmen's finds rather than securely dated excavated items.

The group of objects submitted for X-ray fluorescence analysis from other London sources provided valuable comparative data (see Fig. 2). The two pewter items, plate Acc.No. A19574 and bowl Acc.No. A14690, (Figs. 5, 6) are of a composition within the range of other Romano-British pewter ware (Fig. 4) with suggested mid 3rd and 4th-century dates,

Provenance	*Object*	*% tin*	*% lead*
Appleshaw (Hants.)	'fish' dish	99.18	0.14
	circular dish	90.55	8.31
	small dish	72.36	26.09
	circular dish	64.75	34.66
	cup	76.41	23.08
	flanged cup	70.58	27.62
Icklingham (Suffolk)	tableware	79.0	21.0
	octagonal dish	45.75	53.34
Mildenhall (W. Suffolk)	bowl	74.3	25.8
	bowl	57.0	43.0
Corbridge (Northumberland)	ring	66.79	33.53
	strip	94.50	4.50
High Rochester (Northumberland)	cup	97.7	2.73
Camerton (Somerset)	plate	40.5	—
Brislington (Somerset)	cup	54.8	45.38
Abington Piggots (Herts.)	dish	62.3	37.7
	dish	70.0	30.0
Southwark (London)	dish ('MARTINVS')	72.9	26.75
Walbrook (London)	circular box	99.0	0.12
	circular box	98.9	0.48
	bowl	98.6	1.31
	lamp base	0.07	99.7
	plate	96.2	3.54
	plate	97.9	0.41
	spoon	75.0	23.5
	spoon	72.2	25.4
	spoon	75.4	19.7
		97.2	2.55
London area	circular box	96.8	2.46
	bowl	79.6	20.0
	bowl	0.6	99.1
	lamp base	0.4	98.4
	lamp base	2.4	97.3
	plate	76.1	23.6
Battersea	ingot	94.0	4.59
	ingot	68.4	31.5
	ingot	67.6	30.9
	ingot	67.4	31.1
	ingot	54.0	43.9
	ingot	50.4	43.3
Corbridge (Northumberland)	ingot (1 lb)	94.78	5.37

Fig. 4 Comparison of the Composition of lead alloy material from Roman Britain

the *floruit* of pewter manufacture in Britain. The ingots from Battersea, dated by epigraphic evidence to the 4th century and the Corbridge ingot, have been similarly analyzed (Hughes 1977). Their various compositions show that ready-made alloys of fairly uniform standards were available to the Romano-British metalworker and their tin and lead content may be compared to the material analysed from the Museum of London collection. The tin canister (Acc.No. 24766) was found in association with pottery of the 2nd to 4th centuries and its tin content (96.9%) is only marginally higher than that for the ingot recovered from the River Thames (BM registration number 91, 2-27, 3) and containing 94% tin.

From the analysis of the material recovered from the Walbrook it is now possible to discount the theory that pewter was present in *Londinium* before the mid

3rd century. The results do, however, indicate lead and tin industries active throughout the Roman period and they also support the evidence obtained from other sites in Roman Britain that high tin alloys were favoured for the production of certain tableware items such as dishes, canisters and plates.

CATALOGUE (*illustrated)

Canisters

*1. Acc.No. 19279: 1st-2nd century AD. Tin.
Canister with small ridge 17mm below rim as if to take lid. Base has circular groove and turning mark.
Decoration: 2 horizontal grooves on external surface near base. Surface polished.
Height 53mm. Diameter 60mm.
Metal composition: (BM Lab 1982) lead 0.12% : tin 99%
Provenance: Bucklersbury House, Walbrook valley.
Chapman, (1977, 58).

*2. Acc.No. 20839: 1st-2nd century AD. Tin
Canister with rebate for lid (missing). Base has circular groove and turning mark.
Decoration: 9 horizontal grooves on external surface; small mark consisting of 2 lines and 2 dots.
Height 68mm. Diameter 62mm
Metal composition: (BM Lab 1982) lead 0.4% : tin 98.9%
Provenance: Walbrook, 1955 excavations.
Chapman, (1977, 58).

*3. Acc.No. 24766: 2nd-4th century AD. Tin
Canister shouldered to take lid (missing). Base shows turning mark.
Decoration: 3 groups of double horizontal grooves on rebate; 3 grooves close together on external surface near base, and groove halfway down body.
Height 81mm. Diameter 62mm.
Metal composition: (BM Lab 1982) lead 2.4% : tin 96.8%
Provenance: unexcavated find in association with 2nd-4th century pottery, Upper Thames Street, London.
Chapman, (1977, 58).

Bowls

*4. Acc.No. 20838: 1st-2nd century AD. Tin.
Small bowl shaped like a truncated cone. Base shows central turning mark. Vessel polished on both surfaces.
Depth 34mm. Diameter 84mm.
Metal composition: (BM Lab. 1982) lead 1.31% : tin 98% (MoL Lab. 1982) lead fairly strong : tin very strong
Provenance: workman's find, Bucklersbury House, Walbrook.
Guildhall Museum booklet, (1954–55, 18)

*5. Acc.No. 8133: Roman. Pewter
Hemispherical bowl on footring with thickened everted rim. Turning mark at centre of inside surface.
Depth 30mm. Diameter 107mm.
Metal composition: (BM Lab. 1982) lead 20% : tin 79.6%
Provenance: unknown.

*6. Acc.No. A14690: Roman. Lead
Small bowl with lip pulled out and down (possibly to aid pouring – a lamp-filler?).
Decoration: beading around rim. On base faint Chi-Rho has been scratched.
Depth 20mm. Diameter (base) 20mm.
Metal composition: (BM Lab. 1982) lead 99.1% : tin 0.6% (MoL Lab. 1982) lead very strong: tin negative
Provenance: unstratified from ballast material dumped at Old London Bridge site.

Plates

*7. Acc.No. A19574: Roman. Pewter.
Flat dish with small footring and wide rim (40mm) which is decorated. Central design on dish consists of 3 engraved concentric circles and punched geometric design.
Diameter 330mm.
Metal composition: (BM Lab. 1982) lead 23.6% : tin 76.1%
Provenance: from River Thames at Isleworth.
Peal, (1967, 24, 25, 27, 31). London Mus. Cat.3 (1930, 120)

*8. Acc.No. 18220: 1st-2nd century AD. Tin.
Undecorated plate with footring and rim (*c.* 10mm wide) thickened at edge. Now mis-shapen.
Diameter of footring 114mm. Diameter of plate *c* 197mm.
Metal composition: (BM Lab. 1982) lead 2.5% : tin 96.2%
Chapman, (1977, 61). Peal, (1967, 24, 25, 27, 31).

*9. Acc.No. 18221: 1st-2nd century AD. Tin.
Plain plate on footring with horizontal rim (*c.* 12mm wide). Circle and dot turning mark on centre of inner surface.
Diam. of footring 115mm. Diam. of plate 196mm.
Metal composition: (BM Lab. 1982) lead 0.41% : tin 97.9%
Provenance: Walbrook excavations 1954.
Chapman, (1977, 61). Peal, (1967, 24, 25, 27, 31).

Lamp bases

*10. Acc.No. 79.82: Roman. Lead.
Circular dish with flat base and incurving sides.
Diam. 111mm. Depth 38mm. Internal Depth 25mm.
Metal composition: (BM Lab 1982) lead 98.4% : tin 0.04%.
Provenance: Royal Exchange.

*11. Acc.No. 1421B: Roman. Lead.
Small tray on three legs (one now broken).
Length 95mm; width 53mm; depth 20mm.
Metal composition: (BM Lab 1982) lead 97.3% : tin 2.4%.

*12. Acc.No. 14575: Roman. Lead
Holder in form of spoon-like tray. Damage at end of bowl. Tapering handle of square section shows solder-line visible on underside.

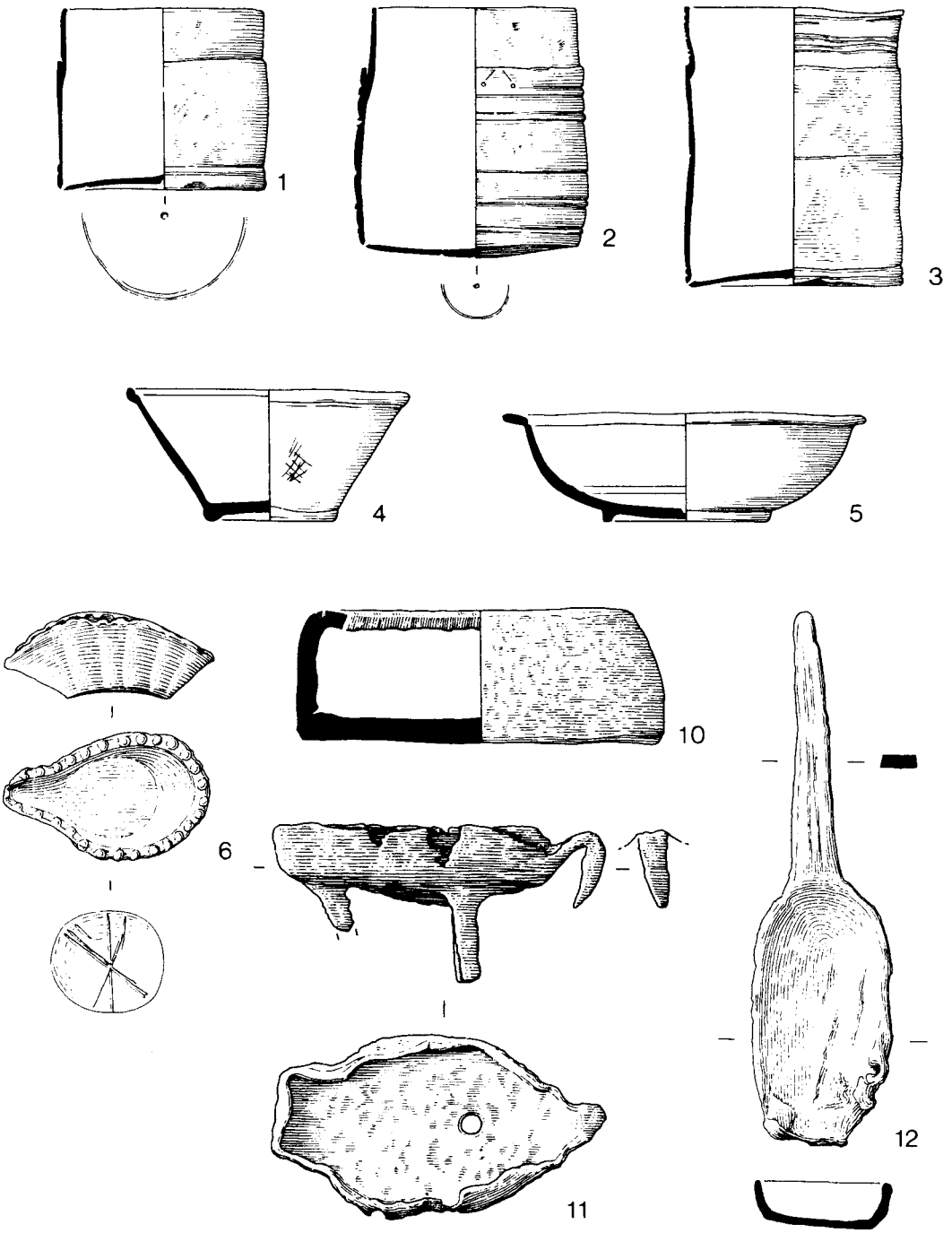

Fig. 5 Roman lead-alloy objects: Canisters, nos. 1 – 3; bowls, nos. 4 – 6; lamp bases, nos. 10 – 12 (1/2)

Overall length 160mm. Bowl width 40mm.
Metal composition: (BM Lab 1982) lead 99.7% : tin 0.07%. Provenance: Bank of England/Walbrook.

Spoons

*13. Acc.No. A94: Roman. Lead alloy.
Cochlea bowl fragment with remains of floral motif and raised knob in centre of bowl. Section of handle survives.
Overall length 68mm; width of bowl 26mm.
Metal composition: (BM Lab 1982) lead 19.7% : tin 75.4% (MoL Lab 1982) Lead very strong; tin very strong.
Slightly less lead present than normal for pewter composition, though tin present within accepted range. May possibly have been made deliberately as a low grade tin combined with lead and other elements.
Provenance: Angel Court, Walbrook.

*14. Acc.No. 20373: 2nd–3rd century AD. Pewter.
Fiddle-shaped bowl of spoon with ridge just below rim; handle missing.
Length 38mm; greatest width 25mm
Metal composition: (BM Lab 1982) lead 25.4% tin 72.2%.
Provenance: Bucklersbury House, Walbrook.
Chapman, (1977, 61). Guildhall Museum (1954–55, 18).

*15. Acc.No. 19490: 2nd–3rd century AD. Pewter.
Incomplete spoon; the bowl (damaged by heat) is of pewter; handle is of iron.
Fiddle-shaped bowl (see 20373).
Length overall 103mm; bowl length 33mm; width 26mm.
Metal composition: (BM Lab 1982) lead 23.5% : tin 75%. Provenance: Bucklersbury House, Walbrook.
Chapman, (1977, 61). Guildhall Museum (1954-55, 18).

Miscellaneous Objects

*16. Acc.No. 19800: ligula: 1st-2nd century AD. Tin.
Ligula (in 2 pieces) had point at one end and flat scoop at other. Near scoop there is grooved banding as decoration on rod.
Length 115mm (overall).
Metal composition: (BM Lab 1982) lead 2.5%: tin 97%. Provenance: Bucklersbury House, Walbrook.

*17. Acc.No. 18734: dolphin ornament: Roman. Tin.
Small dolphin; tail slightly damaged; groove beneath belly for possible attachment.
Length 77mm; body width 20mm.
Metal composition: (MoL Lab 1982) lead slight: tin strong.
Provenance: Mithraeum, Walbrook.

*18. Acc.No. 19793: patera handle: Roman. Lead alloy.
Cast handle with evidence of repair at terminal end (2 rivets visible and some solder flow). Decoration most clearly visible on sections nearest vessel bowl.
Length 118mm. Width of handle 36mm. Width of arms 79mm.
Metal composition: (MoL Lab. 1982) lead moderate: tin very strong.
Probably tin rather than pewter – see discussion on the limitations of spot testing but also note Harker (1982) who describes a patera handle from Springhead, Kent. In that case the metal alloy is 47.2% lead and 39.8% tin. Outside the percentages used in this paper to define pewter, the alloy used to make the Springhead handle may well be a similar metal mixture as the lead-tin alloy used in the London handle.
Provenance: Bucklersbury House, Walbrook.
Chapman, (1977, 61).

*19. Acc.No. 21044: ornamental fitting: 1st–2nd century AD context. Tin.
Rectangular fitting probably for a casket. One surface has decoration – frieze of arches in relief. Small projections protrude from lower edge.
Length 48mm x 26mm.
Metal composition: (MoL Lab 1982) lead slight: tin strong.
Provenance: Bucklersbury House, Walbrook.
Guildhall Museum (1954–55, 8).

*20. Acc.No. 19459: fitting: Roman. Lead alloy.
Strands of metal in lattice form; probably decoration for a box.
Length 68mm; width 20mm
Metal composition: (MoL Lab 1982) lead strong: tin strong.
Probably tin with low lead content rather than a strict pewter composition. See discussion on spot test analysis.
Provenance: Bucklersbury House, Walbrook.

*21. Acc.No. 19357: finger-ring: 1st-2nd century AD. Lead alloy. Incomplete finger-ring - band broken. Decorative design in shape of St Andrew's cross with a ridge outline and central knob.
Dia. *c.* 16mm; cross 12mm x 10mm
Metal composition: (MoL Lab 1982) lead very strong: tin very strong. Probably tin with low lead content rather than a strict pewter composition. See discussion on spot test analysis.
Provenance: Bucklersbury House, Walbrook.

*22. Acc.No. 19268: finger-ring: 1st–2nd century AD. Tin. Finger-ring formed by a length of wire of which one end if bent round to form a decorative loop.
Dia. *c.* 26mm
Metal composition:(MoL Lab 1982) lead slight: tin very strong.
Provenance: Bucklersbury House, Walbrook.

23. Acc.No. 19432: spoon: 2nd–3rd century AD. Lead alloy. Bowl of cochlea with ridge below lip on inside. Small hole in bowl. Part of handle survives.
Length *c.* 40mm
Metal composition: (MoL Lab 1982) lead strong: tin strong.
Provenance: Bucklersbury House, Walbrook.

24. Acc.No. 21004: lead strip: 1st–2nd century AD.
Strip of lead with 2 hooks protruding from one surface. Function unknown.
Length 117mm; width 13mm.
Metal composition: (MoL Lab 1982) lead very strong: tin very slight.
Provenance: Bucklersbury House, Walbrook.

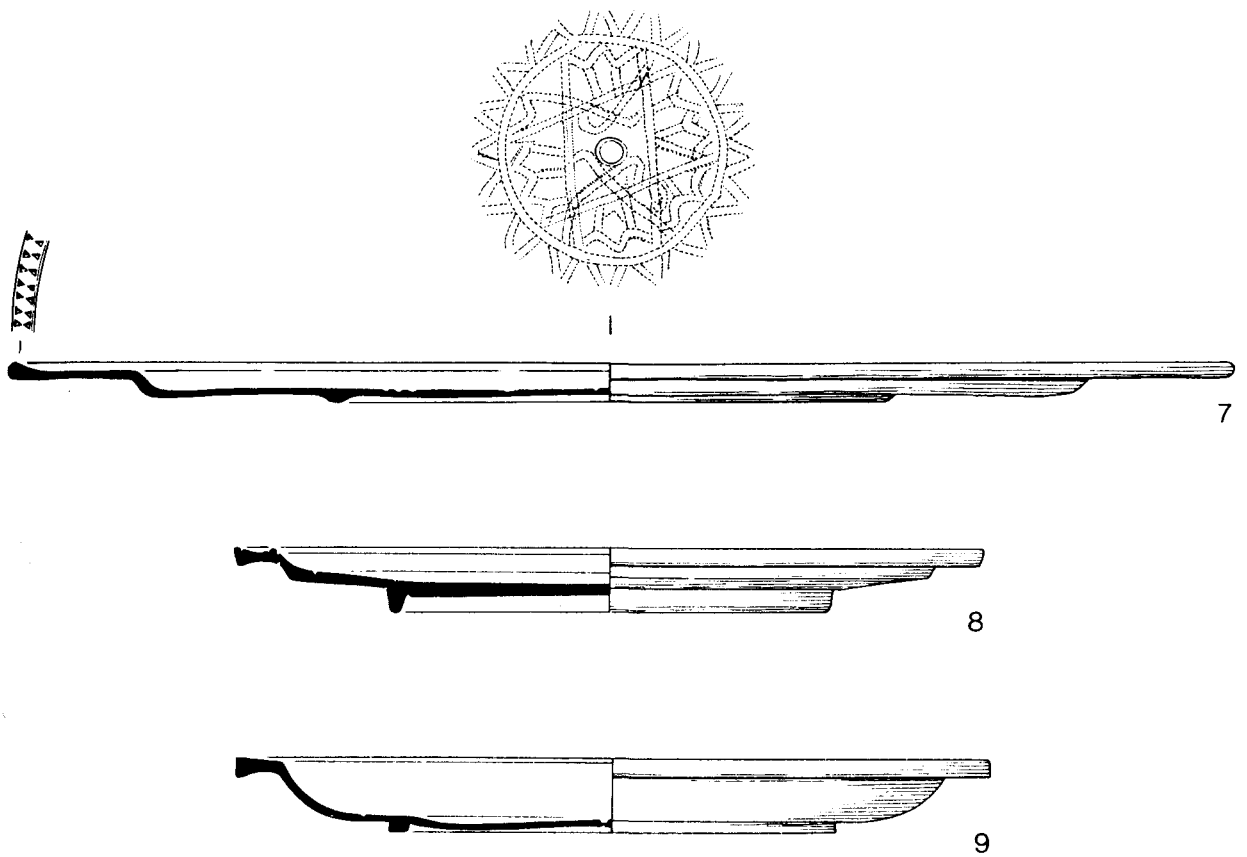

Fig. 6 Roman lead-alloy objects: Plates 7–9 (1/2)

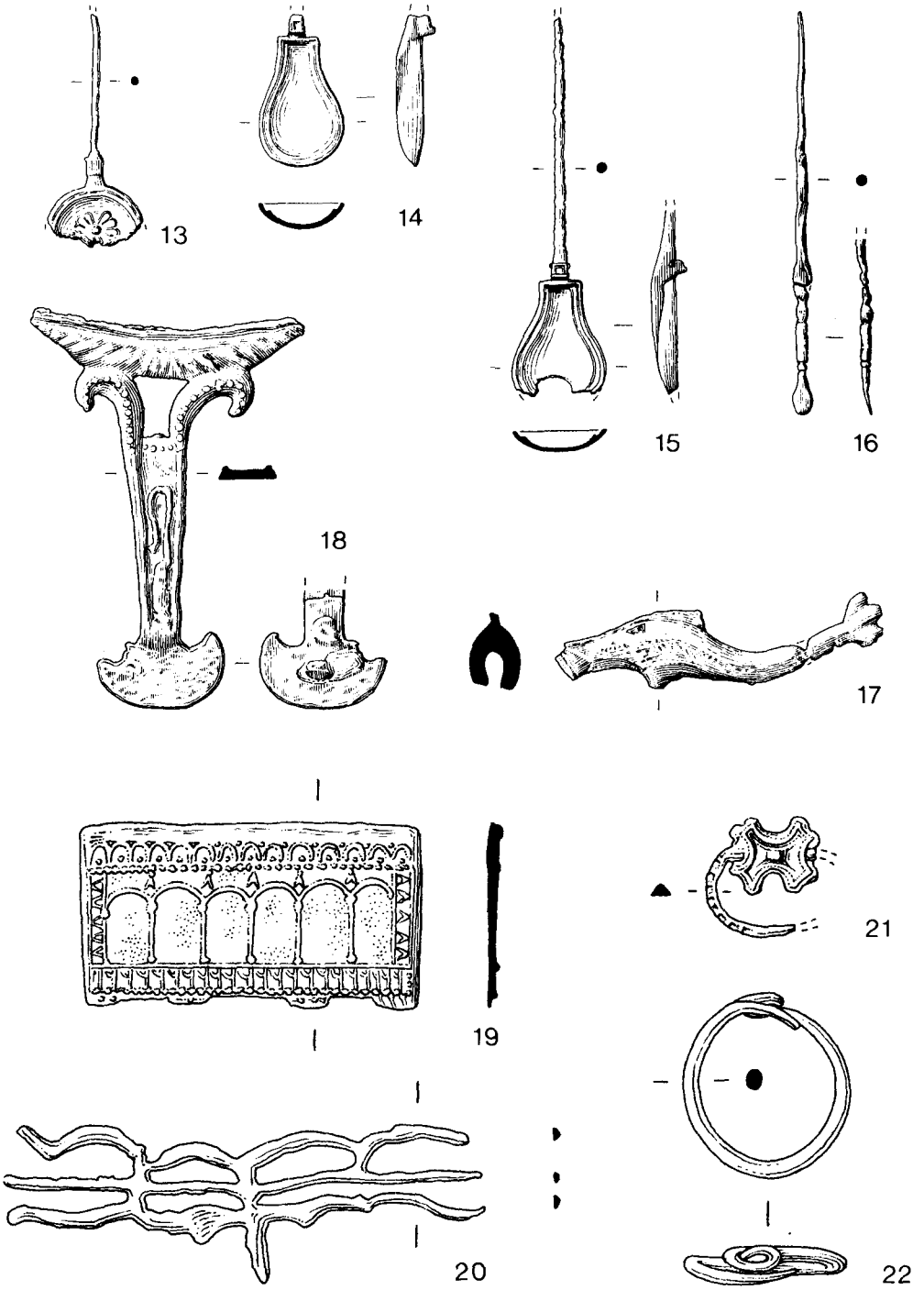

Fig. 7 Roman lead-alloy objects: Spoons, nos. 13–15; ligula, no. 16; dolphin ornament, no. 17; patera handle, no. 18 (1/2); ornamental fitting, no. 19 (1/1); fitting, no.20 (1/1); finger-rings, nos. 21–22 (1/1)

25. Acc.No. 20841: weight: 1st–2nd century AD. Lead.
'Bun-shaped' piece of lead; presumably a weight as numerals VIIII incised on base.
Weight 2.954gm (6lb 8¾oz). Diam. *c.* 5mm; depth *c.* 30mm
Provenance: Bucklersbury House, Walbrook.

26. Acc.No. 16775: rod: 1st–2nd century AD. Lead alloy.
Incomplete rod of octagonal section with ornamental terminal. Probably handle of a ladle or similar.
Length 214mm; width 6mm.
Metal composition: (MoL Lab 1982) lead strong: tin very strong.
Unlikely to be pewter – see discussion on spot tests.
Provenance: Bank of England, Walbrook.

27. Acc.No. 16776: rod 1st–2nd century AD. Lead alloy.
Similar to 16775 (26) – tapering, twisted rod of six facets. No terminal.
Length *c.* 27mm; width *c.* 5mm.
Metal composition: (MoL Lab 1982) lead strong: tin very strong.
Again, unlikely to be pewter.
Provenance: Bank of England, Walbrook.

28. Acc.No. 18248: lead object: 2nd century AD. Lead.
Squat, hour-shaped piece of lead – possibly fishing weight.
Length 25mm; greatest diam. 25mm.
Provenance: Walbrook 1954 excavations.

29. Acc.No. 20853: lead object: Roman. Lead.
Cylindrical object of cast metal; one end closed. Possibly ferrule or small flask. Mould mark visible on base.
Length 59mm; diam. of base 20mm.
Provenance: Bucklersbury House, Walbrook.

30. &31. Acc.Nos. A5098, A5099: miscellaneous objects: Roman. Lead alloy. Two objects of solid spoon shape – function unknown.
Length *c.* 70mm; width 40mm; depth 12mm.
Provenance: Angel Court, Walbrook.

32. Acc.No. 19316: miscellaneous sphere: Roman. Lead alloy.
Lead alloy sphere with 2 projecting iron loops, both of which are broken.
Function, possibly balance weight.
Diam. of sphere *c.* 21mm.
Provenance: Bucklersbury House, Walbrook.

33. Acc.No. 21070: tag: Roman (? 2nd century AD). Lead alloy.
Rectangular tag with graffito inscription.
Provenance: Bucklersbury House, Walbrook.
JRS 47(1957) 232.

34.–43. Acc.Nos. *14276, *14277, *14278, 19504, 19634, 19756, 19759, 19972, 20376, 20378: miscellaneous discs: Roman. Lead alloy.
Assorted discs of worked metal – functions unknown.
Various sizes but mainly between 20 & 50mm diam.
Provenance: mainly from Bucklersbury House site except those marked *.

44.–49. Acc.Nos. 14280, 18342, 19038, 19949, 20969, 23318: waste material: Roman. Lead alloy.
Assorted waste pieces of metal, worked but of no particular form: 14280 is a lump of lead alloy attached to a piece of sheet bronze; 23318 is a distorted piece with an iron nail in place.
Provenance: Walbrook.

50.–53. Acc.Nos. 16459, 20884, 20896: waste material: Roman. Lead alloy. Assorted strips of metal – coiled and straight – but functions unknown.
Provenance: Walbrook.

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TWO ROMAN IVORIES FROM GREENWICH PARK, LONDON

STEPHEN GREEP

The two ivories which form the subject of this short paper were among the finds recovered during excavations in 1902 on the site of a Roman building in Greenwich Park and were subsequently published by Webster in his discussion of the site[1]. Both objects are now deposited, together with a small number of other finds[2] from the 1902 excavation, in the British Museum. The site has been the subject of recent small scale excavations by Mr. H. Sheldon and Mr. B. Yule in advance of tree planting though no comparable objects were recovered[3].

The first piece consists of two parts, the front and back of a scabbard chape[4] (Fig. 1). Both are incomplete, front and back being 68mm high, the front 56mm at its widest, the reverse only 28mm. Although clearly associated by its method of construction (see below) with other two-piece box-chapes it lacks the splayed ends and decoration of the more common forms[5]. Instead it is a true rectangle in shape and decorated simply with a pair of grooves towards either edge, both front and back, rather than the central mid-rib and pelta-shaped cut-outs more normal on box chapes. Only the outer surfaces are worked to a smooth finish, the interior being left relatively rough. As with all two-piece chapes the back fits, and was presumably glued into, an internal groove on either side of the chape front (Fig. 2), effectively forming a box, constituting the complete scabbard chape. The regular shape of the Greenwich Park chape appears unique, the use of ivory unusual, but not unknown. A chape from Nettleton, Wilts.[6] is manufactured from a single piece of ivory and is of the normal sub-rectangular form, decorated with pelta-shaped cut-outs. A number of round ivory chapes, also manu-

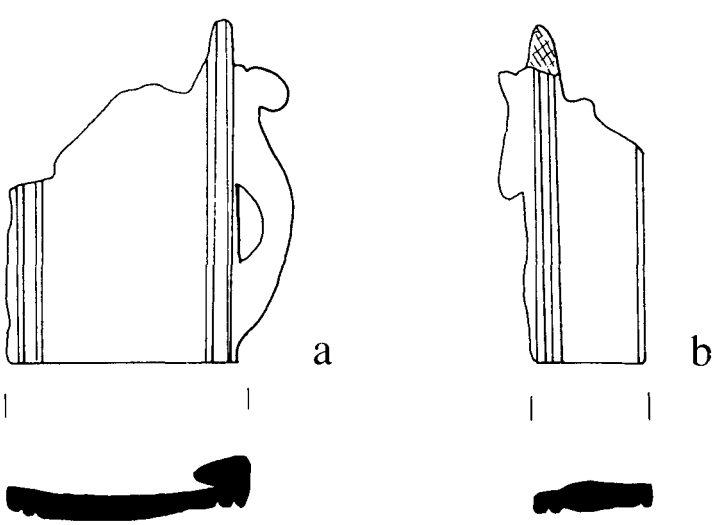

Fig. 1 Ivory scabbard chape: a) front b) back. (2/3)

factured from a single piece of ivory, are known from the Continent[7]. Whereas most bone chapes were constructed in two parts because a piece of bone wide enough for single piece manufacture could rarely be found, this was clearly not the case with ivory examples. That the Greenwich Park chape is constructed in two parts, unnecessarily, is therefore most unusual.

To the side of the chape front, and carved in one with it, is a representation of a scabbard slide with a central rectangular opening and one end terminating in a knob, a form recently discussed by Chapman[8]. Slides of this type are themselves rare British finds being limited to examples from London[9], Colchester[10], Llandough[11], York[12] and South Shields[13], and are equally uncommon on the Continent[14]. Scabbard slides such as these[15] are to be associated with the long sword and served as a method of suspension, providing a loop for the sword with a belt passing through the central rectangular opening. They were vertically fastened to the scabbard and secured by binding through lateral holes and, additionally, by the presence of a small tab at either end which could be placed under the leather scabbard covering (Fig. 3). The

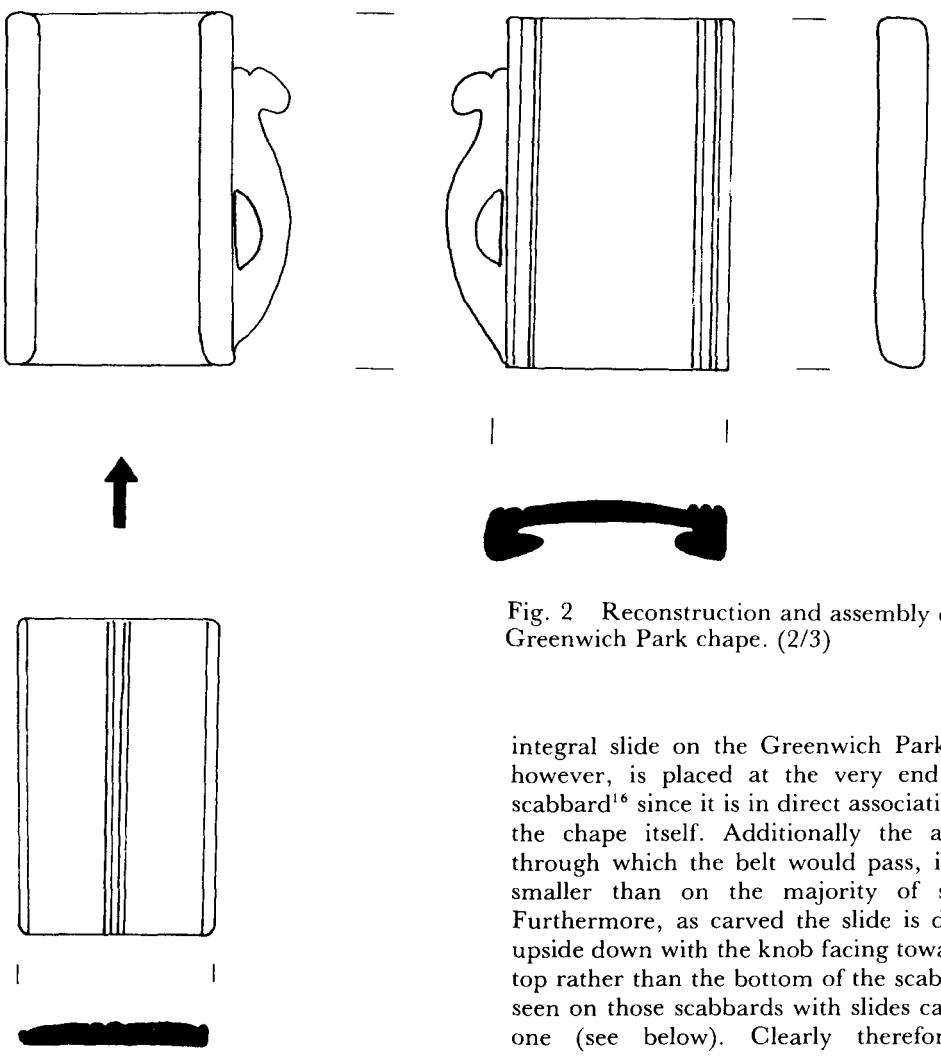

Fig. 2 Reconstruction and assembly of the Greenwich Park chape. (2/3)

integral slide on the Greenwich Park piece, however, is placed at the very end of the scabbard[16] since it is in direct association with the chape itself. Additionally the aperture through which the belt would pass, is much smaller than on the majority of slides[17]. Furthermore, as carved the slide is depicted upside down with the knob facing towards the top rather than the bottom of the scabbard as seen on those scabbards with slides carved in one (see below). Clearly therefore, the

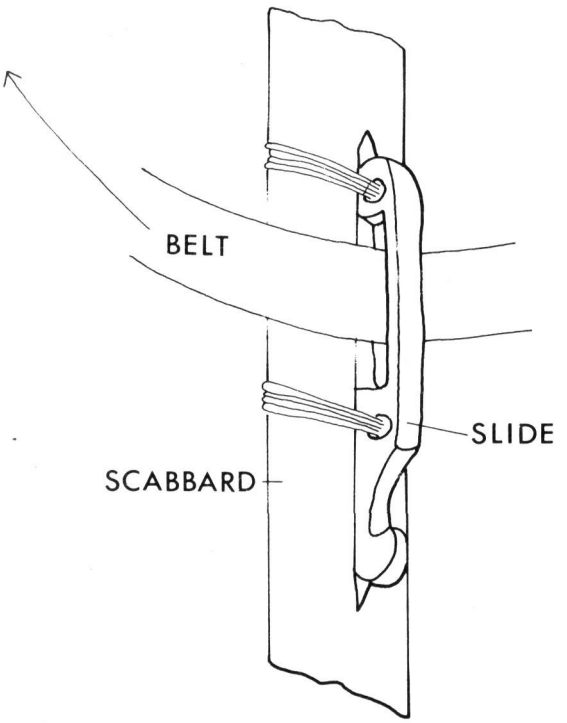

Fig. 3 Attachment and function of scabbard slides *(after Chapman, 1977).*

Greenwich Park slide must be regarded as no more than a representation.

Two further objects are relevant to the discussion. At Omal, Belgium[18] a single-piece ivory scabbard with integral slides on either side carved in a functional position was discovered in a late Roman grave. A second association of ivory scabbard with integral slide is recorded from a Roman cemetery at Khisfine near Damascus[19], this too having a slide in a functional position.

The dating of the Greenwich Park chape must rely upon the evidence for both bone box-chapes and the slides discussed above. The chronology and development of the box-chape series has been discussed by Oldenstein[20] who concluded, on continental evidence, that they belonged to the late 2nd and 3rd centuries. The evidence from Britain confirms his conclusions. There are examples from Dover[21] and Caerleon[22] which lie early in the sequence but the majority of dated pieces belong to the 3rd century[23]. The chronology of scabbard slides is less secure. There are two examples from the Saalburg[24] on the Rhine *limes* abandoned *c.* AD 260[25] and Trousdale[26] notes further examples from Nydam, Denmark, in early 3rd-century contexts and a 3rd-century piece from Novae, Bulgaria. The ivory scabbard with integral slide from the Khisfine cemetery (see above) is from a grave of the 2nd century but one of the two London examples was from a dump deposit containing coins to AD 364[27]. The evidence therefore points most strongly to a date in the later 2nd and 3rd centuries for the Greenwich Park chape.

Plate 1 Decorated ivory plaque.

The second object[28] consists of an ivory plaque 54mm long and 26mm wide (Pl. 1). The front of the plaque depicts a well executed bust of a female holding a floral decorated shield above her head and resting on her shoulders. The reverse is plain and unworked. It is broken and badly chipped below the figure's neck. The identification of the figure is uncertain but is possibly a 'Meanad' of some sort[29].

Elaborate ivory carvings such as this are rare in Britain. There are only two comparable finds, both from Caerleon[30]. The first is in the form of a tragic mask, the second showing a female figure supporting a basket of fruit on the head of a small cupid, probably a Bacchic scene. Although one of the Caerleon pieces has been described as 'from a ladies work basket' the most likely function of these pieces is as mounts on elaborately carved couches, such as those illustrated by Richter[31] where similar pieces are found inserted into the fulcrum of the couch[32]. The reverses of the Caerleon and Greenwich Park pieces are plain, and only the Caerleon plaque in the form of a tragic mask with a number of small perforations to receive ?pins, demonstrates the means of attachment. While there are a small number of carved bone plaques recorded from Britain[33], these are generally of poor quality and there is little from Britain to compare with the wealth of carved bone and ivory material recorded from other provinces[34].

The dating of the Greenwich Park plaque is difficult. If it is derived from the fulcrum of a couch, as seems likely, then a date within the early Roman period seems probable.

The two Greenwich Park ivories are rare and important pieces. True ivories[35] are uncommon not only in Roman Britain but over much of the Continent as well at this period[36], and the discovery of two such exceptional pieces from one site is most unusual. With a small number of exceptions[37] Roman ivories are individualistic pieces, perhaps often produced to order. There is no evidence for the manufacture of ivory objects in the Roman period in Britain and there seems little doubt that both Greenwich Park objects are imports. The importation of ivory into the Roman world from both India and Africa is well recorded[38]. Although an ivory carvers guild is known from Rome[39] this cannot have been the only manufacturing centre and the origin of the Greenwich Park objects must remain uncertain.

NOTES

1. A.D. Webster *Greenwich Park* (1902) 73 where both objects are listed and p. 75 where the plaque is illustrated; cf. also H. Jones 'Roman remains in Greenwich Park' *Home Counties Magazine* 5 (1903) 49–55 and 223–226.
2. Including 400 coins ranging from Claudius to Honorius and fragments of three inscriptions, two in imported marble cf. R.I.B. nos. 37–9.
3. H. Sheldon and B. Yule 'Excavations in Greenwich Park, 1978–9' *London Archaeologist* 3 (1979) 311–317 including summary of earlier work. Additional information on the finds from Mr. H. Sheldon.
4. British Museum Accession Numbers 1906 2–12 9, 10 & 11.
5. e.g. V.E. Nash-Williams 'The Roman legionary fortress at Caerleon. Report on the excavations carried out in the Prysg Field, 1927–29. Pt. II. The Finds (Pot excepted)' *Archaeol. Camb.*, 87 (1932) 48–105, Fig. 43, 1–8 and J. Oldenstein 'Zur Ausrüstung römischer Auxiliareinheiten: Studien zu Beschlägen und Zierat an der Ausrüstrung der römischen Auxiliareinheiten des obergermanisch-raetischen Limesgebietes aus dem zweiten und dritten Jahrhundert n.Chr.'. *Bericht des Römisch-Germanischen Kommision* 57 (1976) 49–284 taf. 25–8.
6. W.J. Wedlake *The excavation of the shrine of Apollo at Nettleton, Wiltshire, 1956–1971.* Rep. Res. Comm. Soc. Antiq. London 40 (1982) Fig 42. Although illustrated upside down its function as a chape is discussed, though the author preferred to identify it as a ?belt fitting (p. 146).
7. L. Berger 'Ausgewählte Neuingänge Römermuseums in Augst' *Römerhaus und Museum Augst Jahresbericht 1966* (1967) 3–29.
8. H. Chapman 'Two roman scabbard slides from London' *Antiq. J.* 56 (1976) 250–253.
9. Two examples, cf. Chapman *op cit* in note 8, Pl. XLV and T. R. Blurton 'Excavations at Angel Court, Walbrook, 1974' *Trans. London Middlesex Archaeol. Soc.* 26 (1977) 14–100 Fig. 18, 479.
10. R. E. M. Wheeler 'An Insula of Roman Colchester' *Trans. Essex Archaeol. Soc.* 16, 7–41.
11. Unpublished excavations Glamorgan-Gwent Archaeological Trust.
12. Unpublished, Yorkshire Museum. Accession Number D156.
13. Chapman *op cit* in note 8, Pl.XLV,c.
14. The form derives ultimately from western Asiatic slides. Their development is discussed fully in W. Trousdale *'The long sword and scabbard slide in Asia'*, Smithsonian Contributions to Anthropology, 17, where a number of similar examples are listed from Europe both in and outside the Empire. The writer has recorded additional examples from the north-western provinces at Cologne (unpublished Römisch-Germanisches Museum, Cologne Accession Number 27, 15); Mainz (G. Behrens 'Neue Funde aus dem Kastelle Mainz'. *Mainzer Zeitschrift* 7 (1912) 82–109, Abb. 20, 16) and Saalburg (two examples, unpublished Saalburg Kastell).

    There are further finds from Osijek, Yugoslavia. (Pinterović, D, 'Limestudien in der Baranja und in Slawonien' *Archaeologia Jugoslavica* 9 (1968) 55–82, Taf. VI, 10a) and an unprovenanced example in the Vatican Museum (Accession Number 13094).
15. Other forms of scabbard slides are recorded in bone (e.g. Oldenstein *op cit* in note 5, Taf.14, 64–5) and, more commonly, in iron cf. H. J. Hundt 'Eiserne römische Schwertriemenhalter' *Saalburg Jahrbuch* 18 (1959/60) 52–66.
16. There is no doubt that the Greenwich Park object is a chape and not part of a composite ivory scabbard, an alternative suggestion. The bottom is sawn flat and finished. There is no indication of further elements being attached above or below.
17. The gap on the Greenwich Park example is only 18 mm, whilst other slides measured show a range from 27 mm to 50 mm.
18. Baron de Loë *'Belgique Ancienne III: La Periode Romaine'. Catalogue descriptif et raisonné.* Musées royaux d'Art et d'histoire à Bruxelles (1937) Fig. 44.
19. Trousdale, *op cit* in note 14, 236 and Pl. 18d & 19a-b.
20. Oldenstein, *op cit* in note 5, 120–123.

21. B. Philp *The excavation of the roman forts of the Classis Britannica at Dover 1970–77* Fig. 43, 242, dated *c.* AD 160–210.
22. Unpublished excavations, Glamorgan-Gwent Archaeological Trust, from contexts of the late second or early third centuries.
23. For example the pieces from Caerleon cf. Nash-Williams, *op cit* in note 5.
24. cf. note 1.
25. e.g. H. Schönberger 'The Roman frontier in Germany: An archaeological survey' *J. Roman Stud.* 59 (1969) 144–197.
26. *Op cit* in note 14, 220–223.
27. Chapman *op cit* in note 5, 251.
28. British Museum Accession Number 1906 2–12 8.
29. The identification of the figure is difficult. The alternatives seem to be that either ?she is a dancer connected with the cult of Atys and Cybele or a 'maenad' associated with the cult of Bacchus as for example on the Great Dish from the Mildenhall Treasure, cf K.S. Painter *The Mildenhall Treasure: Roman Silver from East Anglia* (1977) Pl. 6. I am grateful to Catherine Johns and Miranda Green for discussing this piece with me.
30. These pieces have been published on a number of occasions e.g. G. C. Boon *'Isca: The Roman Legionary Fortress at Caerleon, Mon.'* (1972) Pl. 72.
31. G. M. Richter *'Furniture of Greeks, Etruscans and Romans'* (1966) Figs. 530-594.
32. cf. also R.V. Nicholls 'A Roman couch in Cambridge' *Archaeologia* 106 (1979), 1–31 and especially Pl. VIII.
33. e.g. J.M.C. Toynbee 'Art in Britain under the Romans' (1964) 360–3.
34. e.g. L. Marangou *'Bone carvings from Egypt 1: Graeco-Roman period'* (1972).
35. Bone and ivory are commonly confused in the literature. True elephant ivory is distinguishable by innumerable criss-cross lines 'due to the enormous number of minute tubes of which ivory is composed, . . . starting from the pulp cavity, and radiating outwards in all directions. When fresh the pores are filled with an oily substance, which makes carving easier, and contributes to the beautiful and transparent polish', T.K. Penniman *Pictures of ivory and other animal teeth, bone and antler* (1952) 13.
36. Of over 16,000 Roman objects of bone, antler and ivory from Britain recorded by the writer less than forty (well under 0.5%) are of ivory. There are no geographical or chronological concentrations. Towns, villas and military sites have all produced occasional finds. A pattern similar to that in Britain appears over most of the north-western provinces.
37. S. Greep 'Two early Roman handles from the Walbrook, London' *Archaeol. J.* 139 (1982) 91 – 100 for a small group of ivory handles.
38. e.g. J. Thorley 'The development of trade between the Roman Empire and the East under Augustus.' *Greece and Rome* 16, 209–23 for the trade with India.
39. *I.L.S.* 7214.

A ROMAN MILITARY DIPLOMA FROM LONDON

MARGARET M. ROXAN

A fragment of a bronze Roman military diploma was discovered in London in 1978, during excavation of a house in Watling Court, 41 – 53 Cannon Street, to the south of Cheapside[1] (Fig. 1). The house seems to have been erected in *c.* AD 80, and had mudbrick and timber walls on stone sills; the excavated portion comprised a single range of rooms, possibly one wing of a courtyard building. It was finely decorated with plastered and painted walls, black and white floor mosaics, and a mortar floor with inset *tesserae* crosses which is unparalleled in Britain and may be the work of Italian mosaicists[2].

The diploma was found in a layer containing scorched mudbricks, tile fragments and charcoal flecks, and was itself severely damaged by fire. The layer is interpreted as debris from walls and internal partitions which collapsed *in situ* during a fire of the Hadrianic period. If this is correctly associated with the large conflagration in London that is normally placed in the early part of Hadrian's reign, a *terminus ante quem* of *c.* AD 120 – 5 may be suggested for the issue of the diploma. Although the fragment is quite small, sufficient internal indicators are present for a late 1st or early 2nd-century date to be suggested, thus agreeing with the archaeological evidence.

The tablets known as military diplomas were issued to members of the Roman armed forces during the period *c.* AD 52 – 306, to the best of our present knowledge. We do not know what the Latin term for these tablets was, but those granted to the auxiliary soldier gave him Roman citizenship and other benefits if he had served 25 or more years and consisted of two bronze tablets held together by wire. The main component of this fragment is an irregularly shaped piece from the middle of the first tablet (*tabella I*); the part of the formula preserved on the outer face shows that it belonged mainly to the lower portion of the tablet which included, and ran down from, the level of the binding holes. These holes were normally punched through a blank space which was left running parallel to the shorter sides of the two rectangular tablets which made up the diploma. Wires were threaded through them, which were sealed on the outer face of the second tablet, the purpose being to prevent fraud. The formula of the grant made to the recipient was inscribed twice – once on the outer face of the first tablet and a second time on the inner faces of both tablets. If an official suspected that changes has been made in the outer text the seals could be broken and the inner faces examined for agreement between details of the two scripts. No marks of binding holes are preserved on either side in this case. The position of the fragment in a complete diploma is shown in Fig. 2. Part of the second tablet (*tabella II*) has become cemented to the inner face of the first, presumably through the heat of the fire, and the adhesion between the two is such that it has not, so far, proved to be possible to separate the two tablets. The fragment of *tabella II* is not as large as that of *tabella I*, so that a few letters on the inner face of the latter may be seen. On *tabella II*, to the right of a blank space (scored with a vertical line, possibly representing the area where a box was attached which would have covered the seals on the wires holding the tablets together) are three letters. These are almost

certainly the initial letters of the name (*cognomen*) of one of the seven witnesses who normally testified to the accuracy of the diploma as a copy of a *constitutio* conferring the grant, which had been set up in a public place in Rome.

After careful conservation and cleaning (see Appendix)[3] it has been possible to read the outer face of *tabella I*. Radiography has produced several further letters belonging to the inner faces of the two tablets but these are insufficient for a complete restoration of the text to be attempted. From their positions, and from the general appearance of the two tablets, it is probable that the letters visible on the inner face of *tabella I* form part of a list of auxiliary units. It is not possible to say with certainty that this diploma was issued in Britain, although the find-spot strongly supports that attribution. There is a chance that the man who owned the diploma was a native Briton who had been recruited for service in a unit stationed in another province, and who had elected to return home after his discharge.

The maximum surviving measurements of various sections of the fragment are: height (*tabella I* and *tabella II*) 590 mm; width (*tabella I*) 510 mm, (*tabella II*) 400 mm; thickness (*tabella I*) 1.85 mm, (*tabella II*) 1.23 mm; combined thickness at the centre 3.06 mm – these figures are averages.

Transcription, expansion and translation of *tabella I*, exterior text (letters enclosed in square brackets are restored by comparison with other diplomas; letters in round brackets are completions of abbreviated words):-

[*Imp(erator) Caesar, divi Nervae f(ilius), Nerva Traianus Augustus, pontifex maximus, tribunic(ia) potestat(e)* . . . , *co(n)s(ul)* . . .]

[*equitibus et peditibus qui militaverunt in alis* (number given) *et cohortibus* (number given) *quae appellantur* . . . (list of units) . . .]

[*et sunt in Britannia (?) sub* (name of governor) . . .]

[*quinis et vicenis pluribusve stipendiis emeritis dimi*]*s*[*sis ho*]*nest*[*a missione*], [*quorum nomina su*]*bscripta sunt,* [*ipsis liberis posterisque*] *eorum civitate*[*m dedit et conubium cum*] *uxoribus, quas tu*[*nc habuissent, cum est c*]*ivitas iis data, au*[*t, siqui caelibes essent, cu*]*m iis, quas pos*[*tea duxissent dumtaxat sing*]*uli singu*[*las*]. [*a. d* . . . (day date) . . . . .]*ndro Ver*[. . . *(?)* . . .]*ant*[. . .]

'The Emperor Caesar Nerva Trajan Augustus, son of the deified Nerva, high priest, in the (..) year of his tribunician power, consul for the (?) time, gave to the cavalry and infantry who served in the (?) alae and (?) cohorts which are called . . . , which are in Britain (?) under . . . , having served twenty-five or more years and having been honourably discharged, whose names appear below, citizenship for themselves and for their children and descendants and the right of legal marriage with the wives they had when citizenship was given to them, or if they were unmarried with those they might marry later, limited to one wife each.

(Day and month) when [. . .]nder Ver[. .] and . . . were consuls.'

The name of the unit in which the recipient served, its commander, and the status of the recipient would follow, with his full name, as entered on the books of his unit, and his place of origin, together with the name of his wife, her

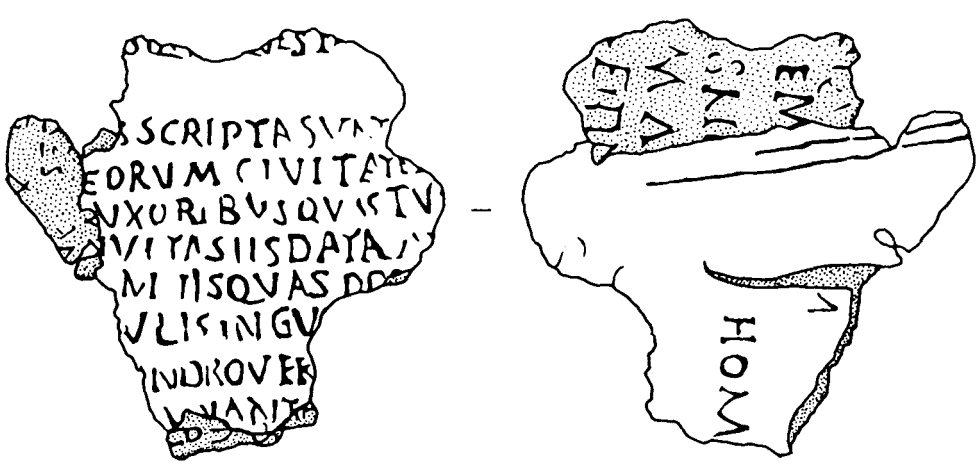

Fig.1 Roman Diploma: The two fragments from Watling Court.

place of origin, and the names of their children (if any). The final section of the formula dealt with its certification as an authentic copy of a bronze tablet set up in Rome. Transcription of *tabella I*, interior text:-

EM *A/** *AC*

SN *M*

MA *C*

ETIIN

(Letters shown in italic were seen through radiography.)*

Transcription and expansion of *tabella II*, exterior text:-

[*Q. POMPEI*] *HOM*[*ERI*]

The date of the diploma.

The main portion of the text has been restored through a comparison with other diplomas of the auxiliary army. We may be certain that it was issued before AD 140 because at that time the formula of auxiliary diplomas was changed so that existing children of veterans were excluded from the grant. Up to that date, although soldiers were not allowed to marry legally during service, children born of a union between an auxiliary soldier and a woman with whom he had formed a regular relationship had been included with their fathers as recipients of Roman citizenship. This diploma clearly mentions children – [*ipis liberis posterisque*] *eorum civitate*[*m dedit*]. Another factor providing a clue to the date of issue is the lack of abbreviation of words in the text of the outer face. Roman scribes and copyists commonly used abbreviations in inscriptions of all kinds. A rough rule of thumb is that when a particular formula is first used it is given in full. Later, when custom had presumably made it well known, abbreviations occur. These usually take the form of lopping the ends of words. With diplomas (apart from some Neronian examples *CIL* XVI 4 and 5, and one or two cases of the appearance of the word *iis* as *is*, in *CIL* XVI 42 of 98 and *RMD* 8 of 105, though in the latter case on the inner face) there is no abbreviation in the section of the formula with which we are concerned before AD 114 (*CIL* XVI 61). On and after that date various word endings are omitted. In our specimen all the word endings that are preserved are complete, which would accord with a pre-Hadrianic date (that is before AD 117). However, the most significant pointer lies in the *cognomen* of the witness found on the outer face of the second tablet. Witnesses to auxiliary (and fleet) diplomas were drawn from among clerks in a government department in Rome from the Flavian period onward and the same names recur frequently over certain date ranges. So far, Q. Pompeius Homerus is the only known witness with that *cognomen* (indeed the only witness whose *cognomen* begins with those three letters). His name appears in diplomas between AD 98 and 108[4]. In the witness list of the London diploma Homerus appears to be in fourth place (see Fig. 2), but since this is a reconstruction there can be no certainty. However, the general conclusion that we have here a diploma of the reign of Trajan – or perhaps that of Nerva – seems reasonably clear.

Diploma type.

In the first half century or so when diplomas were first issued (that is from the latter part of the reign of Claudius until *c.* AD 110) there were three main types of diplomas whose formula varied according to whether they were issued wholly to serving soldiers (Type I), to a mixture of serving soldiers and veterans (Type II), or solely to veterans (Type III)[5]. Because it is possible to read [*dimi*]*s*[*sis ho*]*nest*[*a missione*] as part of the text the diploma may be recognised as either Type II or Type III. The text has been restored as a Type III diploma, but if it was issued before AD 108, as the presence of Homerus in the witness list suggests, it may have included serving as well as veteran recipients.

Discussion.

If the diploma named a British garrison the governor's name should have followed Britannia in the transcript. There should also have been a list of auxiliary units whose members qualified to receive the diploma grants at that time, but unless it proves possible to separate the two

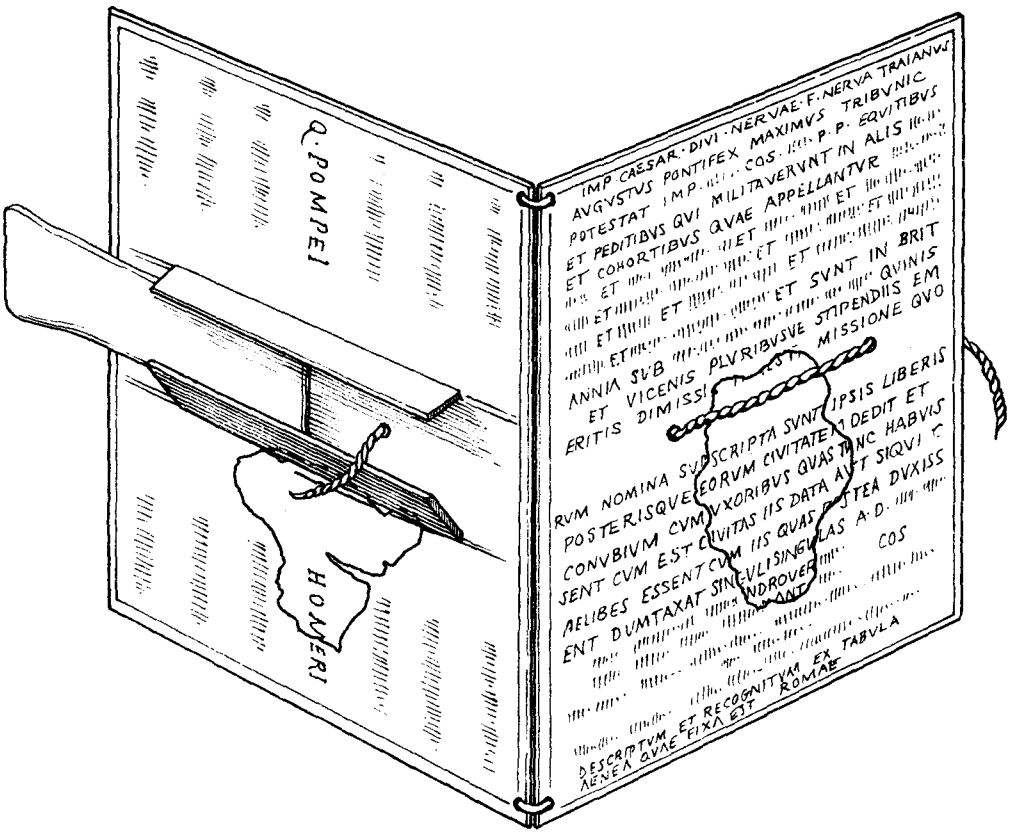

Fig. 2 Roman Diploma: Reconstruction of a complete diploma showing the approximate position of the London fragments and the box protecting the witnesses seals based on a recent find from *Lussonium,* Hungary

fragmentary tablets this information is lost. The only, very tentative, reconstructions that may be attempted are noted in *Britannia*[6], where it is suggested that the letters . .]*EM*[. on the inner face of *tabella I*, may represent the end of a numeral – *septem, novem,* or *decem* – indicating the number of either alae or cohorts listed in the diploma. If this is the correct interpretation the editors observe 'the latter is more likely since, on grounds of space, there would have been fewer than seven alae (the minimum if this suggestion is correct) before the cohorts including *cohors II Nerviorum*'. The presence of this cohort in the list is suggested from the letters in the last preserved line of the inner face, which may represent . . *et II N*[*erviorum*], a cohort that is known to have been in Britain at that time.

After the main part of the standard formula, ending with *singuli singulas,* a day date was inscribed, followed by the names of the two consuls in office at the time the *constitutio* was published. The letters]*NDROVER*[, which appear on line 8 of the outer face, are in the correct position to be part of the name of one of the consuls. The spacing of the letters (a rough line count gives a possible 30–36 letters per line on the outer face of the complete tablet), suggests that there may have been

8 – 14 letters before the left broken edge of the fragment on this line. Unfortunately, there is considerable variation in the way in which the names of the consuls are inscribed. Sometimes the *praenomen* (signified by a single letter in most cases) is separated from the *nomen* by a fairly wide space, and there is a similar gap between *nomen* and *cognomen*. In this case, usually, the consuls' names are given on separate lines. On other diplomas the spacing is less generous and the two consuls are placed on one line, or one consul may be polyonymous so that extra names are included thus crowding the letters together in the available space. In our example it is difficult to know which version we are seeing. The names of consuls are given in the ablative case, so that the letters ..]*NDRO* could form the ending of a name. If the line contained the names of two consuls we should not expect an appreciable gap to be left between parts of names, and something of the nature of [*Alexa*]*ndro Ver*[*ro*] may have been engraved. This can only be taken as an example of one of the possibilities for reconstructing this line since we have no knowledge of a consul of that name at any period (these two names would be *cognomina*).[7] All that may be ventured is the opinion that if this diploma belonged to Britain it was not issued in AD 103 or 105, since we have diplomas of those years where the names of the consuls are known. In neither case would the preserved lettering agree with them, and it is extremely unlikely (although not completely impossible) that there would be two issues of diplomas within the same year in Britain.

In the final line of the outer face the lettering is very poorly preserved. The only certain letter is an *N*. If the consular names were spaced over two lines this should represent part of the name of the second consul. If the two consuls had already been named on the 8th line, this line would carry the title of the regiment of the recipient. There is no unit in Britain at that time in which the letters *ANT* occur together but, in view of the difficulties of decipherment, speculation concerning the interpretation to be given to these letters is unprofitable.

The main interest of this diploma must lie in its find-spot in a town house in London, particularly since the Hadrianic fire and the presumed date of the diploma tie it fairly closely in time to the original recipient. It is a reasonable assumption that we have here an auxiliary veteran who chose to settle in London after his discharge. We cannot tell if he owned the house, merely lodged there, or indeed was the first occupant, but he is the first diploma recipient we may safely ascribe to the capital[8].

APPENDIX: THE CONSERVATION OF THE DIPLOMA HELEN GANIARIS

A summary of the conservation treatment of the London diploma provides an opportunity to stress the importance of examination techniques. The lettering on this diploma fragment was heavily obscured by copper corrosion products. A further complication was that the two tablets had corroded together so that some of the text on the inner faces was hidden.

The lettering was first detected by routine x-radiography. This revealed letters on the front face but none on the others. Through the kind cooperation of Andrex NDT Products Ltd., it was arranged to have the diploma examined with a high definition x-ray unit. The detail on the resulting x-radiographs was sharper and several letters from the inner faces were revealed. This technique had the added advantage that enlargements could be done with less loss of detail than would occur with standard x-radiographs.

Before and during treatment there was close consultation with Dr. Roxan. Advice was

given on where letters were likely to appear, their size and style, and which parts of the text would be most diagnostic. The x-radiographs (both actual size and enlarged) were used throughout study sessions with the specialist and the illustrator.

All cleaning of the diploma fragment was done at × 10– × 20 magnification using a stereomicroscope with adjustable lighting. Raking light was particularly helpful in seeing some of the more deteriorated letters. Cleaning was done with hand tools (scalpel, brush, electric engraver) because the letters are preserved in the corrosion layers. Detail in these layers would have been lost if chemicals had been used. The two inner faces were firmly attached by corrosion. Because of the brittleness of the tablets, it was decided not to attempt to separate the two faces. Cleaning was followed by application of a corrosion inhibitor and a protective resin.

The approach throughout the conservation of this diploma has followed the conservation ethic of minimum intervention. Advances in examination techniques may provide other non-destructive methods of reading the hidden letters.

Acknowledgements: We are very grateful to Dr. Peter J. Kalmarczye of Andrex NDT Products (UK) Ltd. for arranging high definition x-radiography to be done by John Kime and Stuart Tate at Rolls Royce Ltd., Leavesden.

NOTES

1. Excavations by the Department of Urban Archaeology of the Museum of London, for the Museum and the Department of the Environment, were supervised by Dominic Perring. For the site see D. Perring and S. Roskams *The development of Roman London west of the Walbrook* (forthcoming); for a preliminary notice of the diploma *Britannia* 14 (1983) 344–345. All the finds from the site, together with catalogues and archival reports on the structures, are stored in the Museum of London under the site code WAT 78. The site accession number of the diploma is WAT 78 (225) [380].
2. As suggested by D.J. Smith in Perring and Roskams *op cit* in note 1.
3. The diploma fragment was conserved by Helen Ganiaris, Conservation Department; drawn by Nick Griffiths, Department of Urban Archaeology, Museum of London.
4. *RMD* 6, of 96 – in third place; *CIL* XVI 42 of 98 – in fifth place; *RMD* 7 of 99 – in first place; *CIL* XVI 46 of 100 – in first place; *CIL* XVI 48 of 103 – in first place; *CIL* XVI 50 of 105 – in second place; RMD 8 of 105 – in second place; RMD 9 of 105 – in second place; *CIL* XVI 55 of 107 – in first place; *RMD* Appendix p. 103 of 108 – in fourth place.
5. Discussion of the development of these types may be found in G. Alföldy 'Zur Beurteilung der Militärdiplome der Auxiliarsoldaten' *Historia* 17 (Wiesbaden, 1968) 215–227; J. C. Mann 'The Development of Auxiliary and Fleet Diplomas' *Epigraphische Studien* 9 (Bonn, 1972) 233–241.
6. *Britannia op. cit.* in note 1.
7. In *Britannia ibid,* the suggestion is made that the consul may be C. Iulius Alexander Berenicianus, 'assuming the substitution of a V for a B (cf *CIL* XVI p. 211 B for V and 212 V for B)'. Berenicianus was consul in 116, but it is pointed out that witnesses to diplomas sometimes signed sporadically for twenty years or more.
8. See E. Birley 'Veterans of the Roman Army in Britain and Elsewhere' *Ancient Society* 13 (1982, forthcoming).

ABBREVIATIONS:

CIL = *Corpus Inscriptionum Latinarum,* Volume XVI *Diplomata militaria ex constitutionibus imperatorum de civitate et conubio militum veteranorumque expressa* (Berlin, 1936) – Supplementum (Berlin, 1955).

RMD = *Roman Military Diplomas 1954–1977.* Institute of Archaeology Occasional Publication No. 2 (London, 1978).

EXCAVATIONS AT TOTTENHAM COURT, 250 EUSTON ROAD, NW1

ROBERT WHYTEHEAD AND LYN BLACKMORE

SUMMARY

Excavation and site-watching on the supposed site of the medieval manor-house of Tottenham Court revealed evidence for Early Saxon activity, and a series of 13th–14th century yard surfaces, the remains of medieval and Tudor walls and a garderobe pit which were all probably part of the medieval manor-house or rebuilt Tudor farmhouse.

INTRODUCTION

From May to June 1979 excavations were undertaken by the then Inner London Archaeological Unit, now the Department of Greater London Archaeology, on the site of 250 Euston Road, London NW1 (TQ 29308240) in order to examine in advance of redevelopment the probable site of the medieval manor-house of Totenhal or Tottenham Court, the manor being entered in Domesday Book as a prebendal manor belonging to St. Paul's. The site formed a block of land bounded by the Hampstead and Euston Roads, North Gower Street, and Tolmers Square (Fig.1.). Only a limited area (8 × 9m) was available for a systematic excavation, but the subsequent redevelopment of the site was also monitored. The site was found to have been badly disturbed by 19th-century development and the widening of Euston Road in the 1960s. In addition the excavated area was cut by 19th-century foundations, an 18th-century cellar and modern drains. The site records and finds archive may be consulted at the offices of the Department of Greater London Archaeology, 42 Theobalds Road, London WC1.

THE HISTORY OF THE SITE

The documentary evidence for the manor, manor-house and farmhouse is summarised in the LCC Surveys of 1938 (Lovell and Marcham 1938, 10–9, 140–2) and 1949 (Godfrey and Marcham 1949, 120–1, Pls. 69a, 69b, 70). Of particular note are two surveys of the property, that by Necton in 1591, in which he states that the buildings were in a dilapidated condition and had been partially demolished to repair those that remained (Godfrey and Marcham 1949, 120), and that by D. Nicoll *et al* in 1649 giving a complete list of every room in the moated building of that date, which was then 'much out of repair' (Godfrey and Marcham 1949, 120).

Pictorial evidence dates back to a copy made by W. Burden in 1801 of a painting supposed to date to 1743. This depicts an apparently Elizabethan brick building with timber-framed east wing (Godfrey and Marcham 1949, Plate 69a). It is hard to compare the view of this building with the description of 1649. The timber-framed wing, which by the 19th century had been divided into three tenements, did however survive until 1808 when several sketches, now in the GLC collection, were made of it prior to its demolition. The best drawings are those made in 1805 by J. Carter for an engraving in Lysons and labelled 'King John's Palace' as

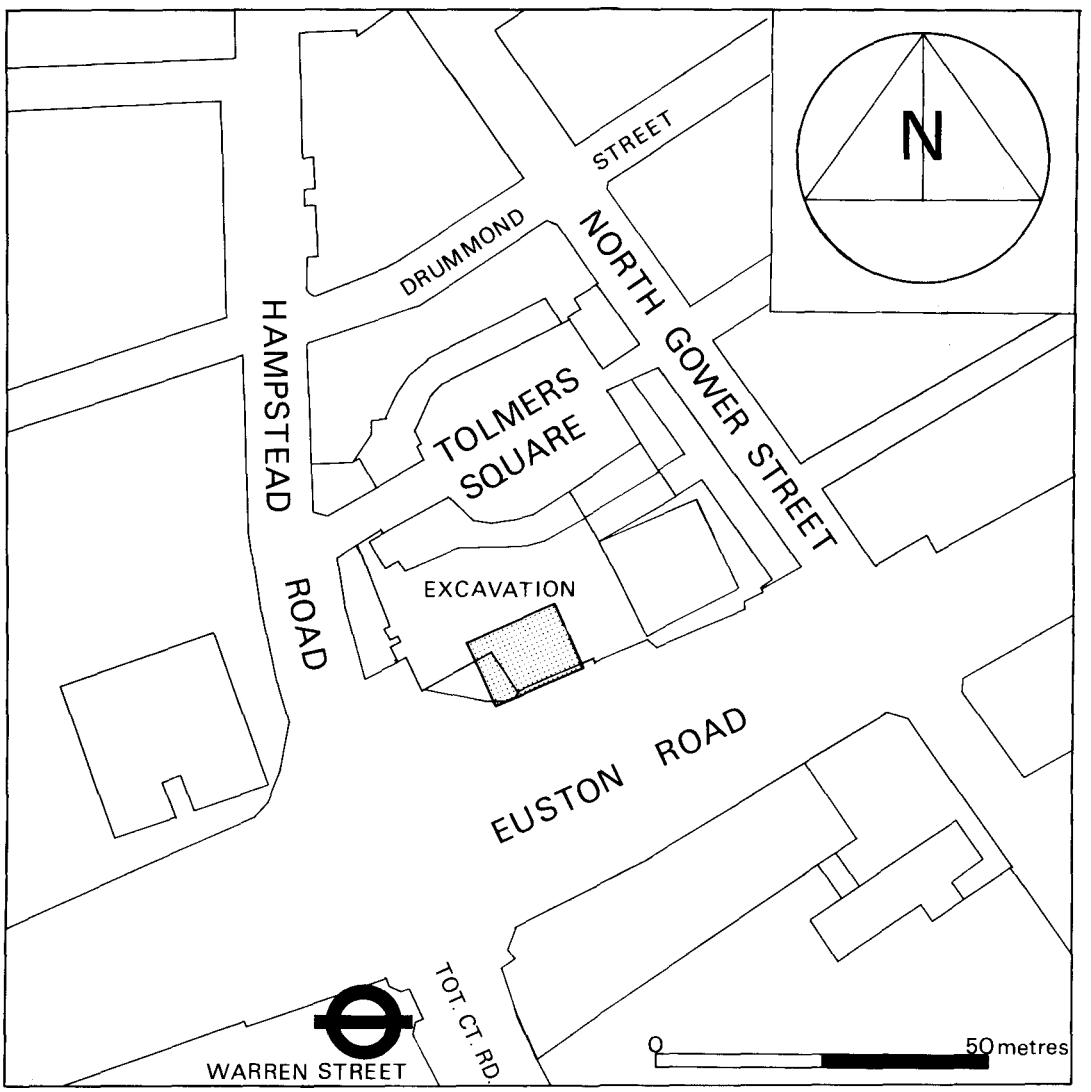

Fig. 1 Tottenham Court. Site location plan.

the building had become known (GLC Printroom, Accession Nos. St.P.K 1616–7, 1622–3).

THE EXCAVATION (Fig. 2)

Geology

The natural subsoil is London Clay overlain by Taplow Gravels, which were covered by a 2 m deep stratum of mottled brown sandy silty clay, surface height *c.* 25.30 m OD.

The Ploughsoil (Phase A)

The earliest deposit identified was a ploughsoil (119) composed of medium to dark greenish grey sandy clay loam containing scattered brick, charcoal and ironpan flecks, and some small, round gravel pebbles, which lay over the entire excavated area to an average depth of 0.20 m to 0.25m, (Figs. 4, 5a, b). The bulk of the pottery from this deposit is of late 12th-mid 13th-century date (Fig. 8, Nos. 5–24) and suggests that the ploughsoil was only in use for a short period of time. Some thirty sherds of chaff-tempered pottery however are of early-mid Saxon

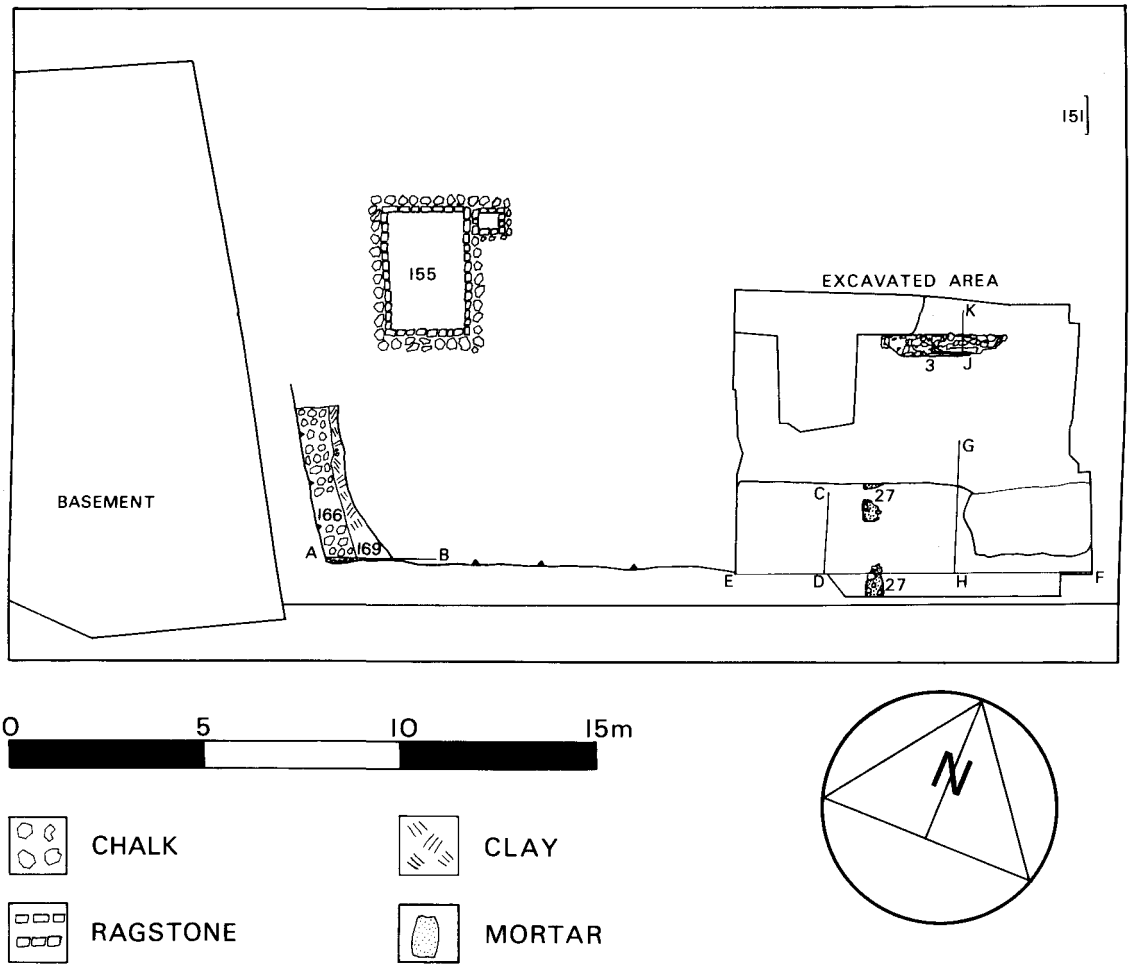

Fig. 2 Tottenham Court. Site plan.

date (Fig. 8 Nos. 1–4); these finds, which constitute the most important discovery of the excavation, are discussed below.

The Yard (Phases B, C, D)

The ploughsoil was overlain in the southern half of the site by a series of overlapping gravel layers interpreted as two phases of yard surfaces. Four stages could be discerned in the sequence although the three initial gravel deposits would appear to have been laid in close succession (Figs. 4, 5a, b) since sherds from the same pottery vessels (Fig. 9, Nos. 25–36), some already noted in Phase A, are scattered throughout all these layers.

The first deposit (Phase B1: layers 12, 98, 93, 78, and possibly 101, 100) was perhaps based on a clay layer (12, Fig. 3), with the subsequent layers being laid in apparently two phases (Phase B2: layers 79, 80, 82, 83, 92 and Phase B3: layers 68, 69, 73). All were well compacted but varied in the density of the gravel in each layer. On the evidence of the small amount of Kingston ware and Mill Green ware Phase B would appear to date to c. 1260–70.

These gravel deposits were cut by a number of post-holes (features 36, 57, replaced by 25; 76, 87, 70, 84, replaced by 44; and possibly 94: Fig. 6a,b); these contained little pottery and formed no coherent pattern, but as several were re-cut the structure to which they related may have been in use for some time.

A final gravel deposit (Phase D: layers 53, 56, 58, 59, 60, 61, 65) marked the repair of the earlier surfaces but this was itself very worn and pockets of sand had accumulated in it. This surface produced a high proportion of residual pottery, but also sherds of 14th-century Mill Green ware. The absence of any coarse Surrey-Hants border ware however indicates a probable date of pre-1350 for this phase.

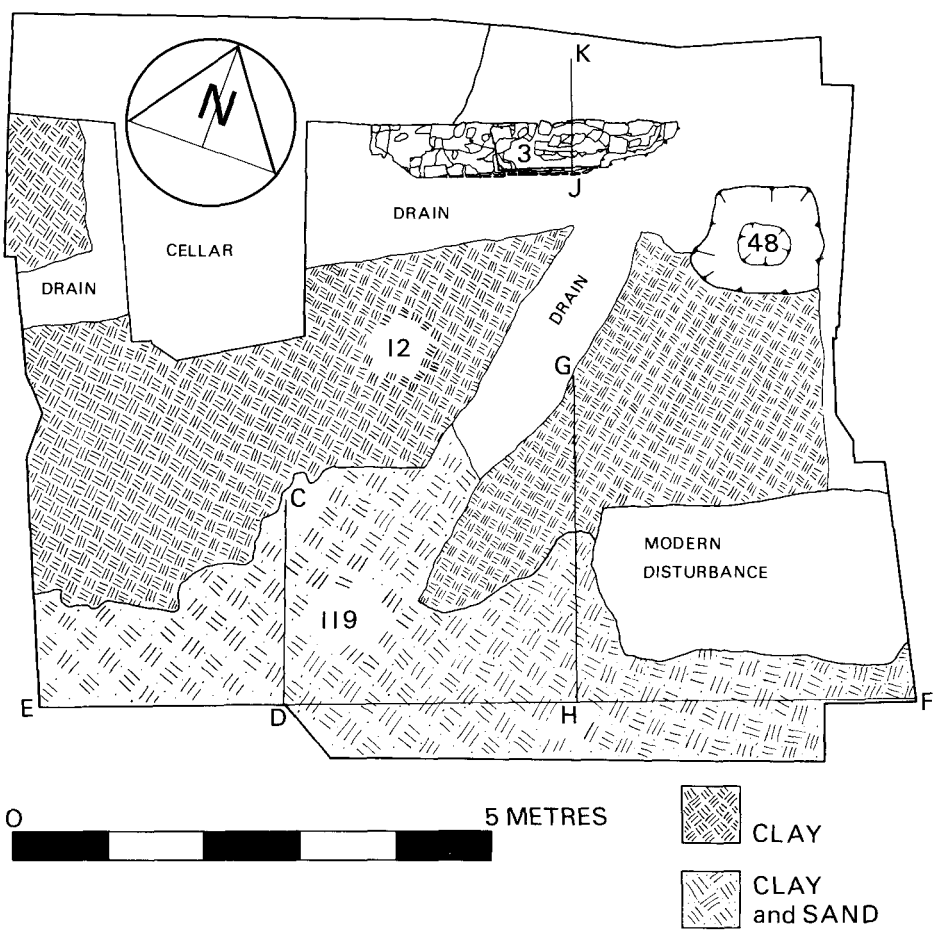

Fig. 3 Tottenham Court. Plan of excavated area.

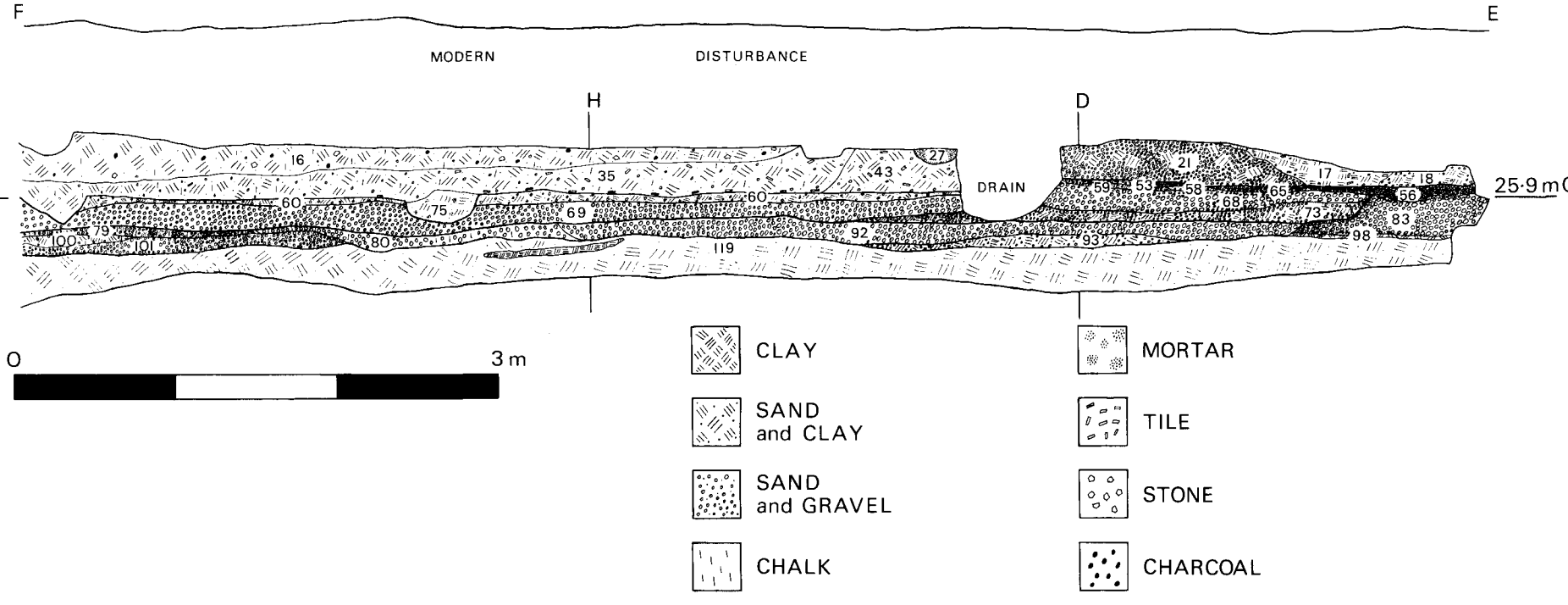

Fig. 4 Tottenham Court. North-facing section E–F, south side of site.

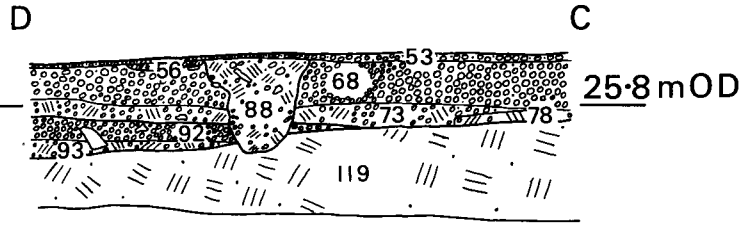

Fig. 5a Tottenham Court. East-facing section C–D.

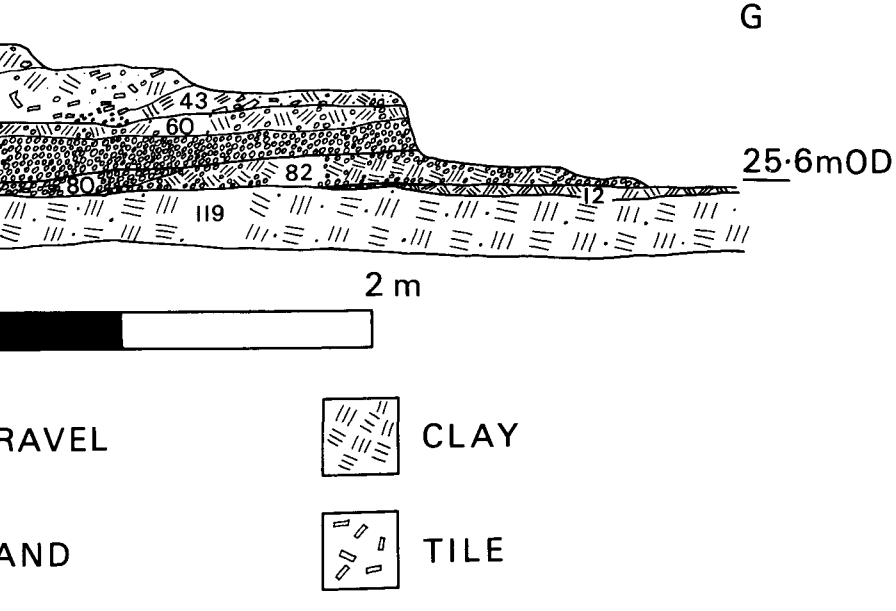

Fig. 5b Tottenham Court. East-facing section G–H.

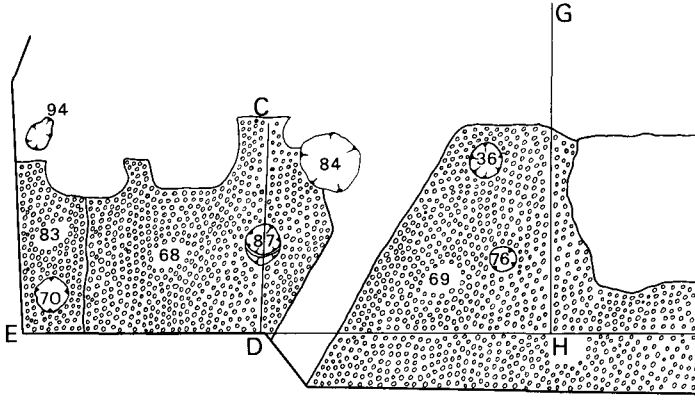

Fig. 6a Tottenham Court. Plan of yard surface,

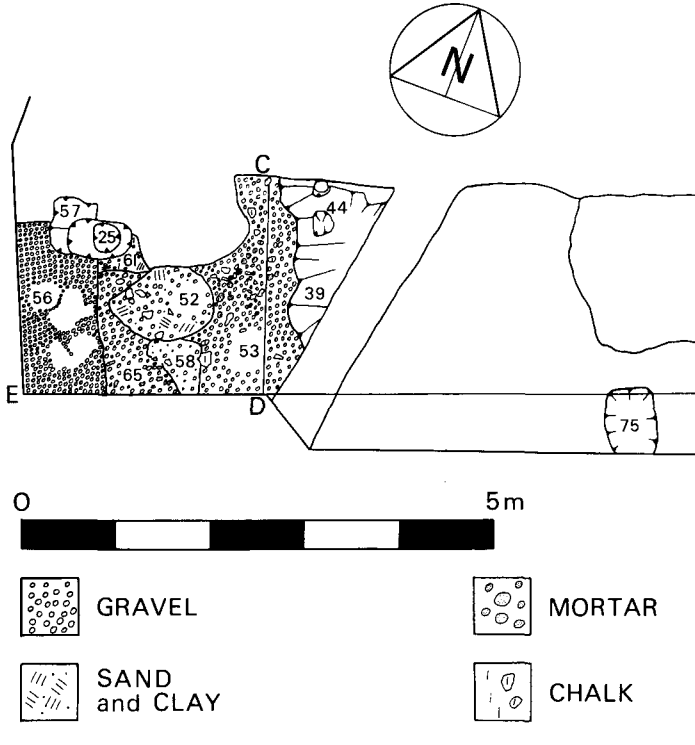

Fig. 6b Tottenham Court. Plan of yard surface,

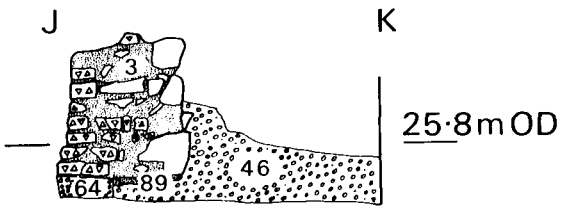

Fig. 7a Tottenham Court. East-facing section J–K, Wall 3.

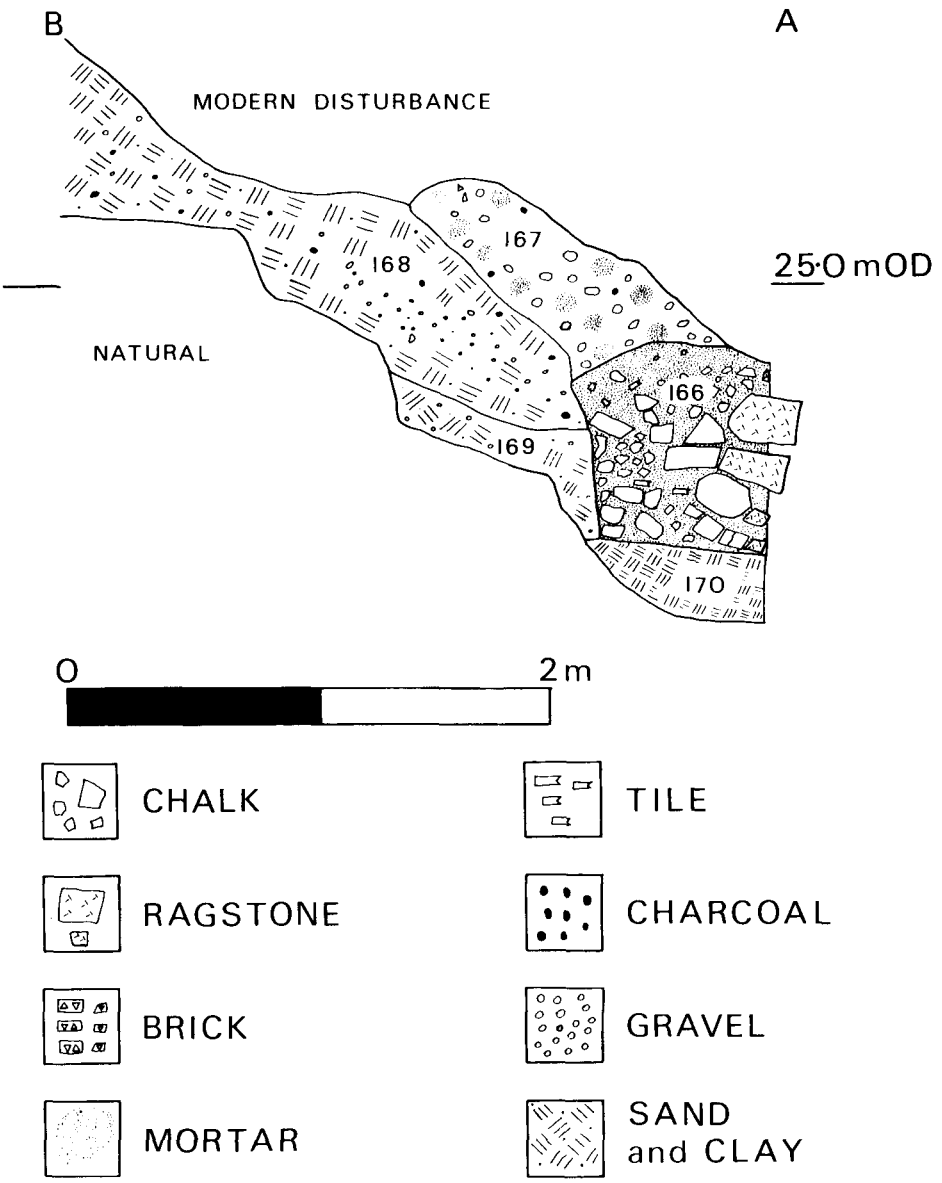

Fig. 7b Tottenham Court. North-facing section A–B. Wall 166.

A pit, feature 75, cut into the surface of the eastern half of the second phase of gravels (Fig. 6b), produced pottery contemporary with that in Phase B (Fig. 9, No. 31).

Post Medieval (Phases E, F, G)

The subsequent deposits (Phase E, layers 17, 18,21) overlying the final gravel surface (Phase D), were heavily disturbed, and survived up to only 0.25m deep (Fig. 4); these layers appear to be dumping dated to the late 15th or early 16th centuries.

Three further deposits (Phase F, layers 16, 35, and 43), had accumulated above the gravels. Of these, layers 43 and 35 contained broken pegtile and pottery (Fig. 9 No. 39) and were overlain by clay (layer 16) containing building material, (Fig 5b, 4). These layers probably date from a demolition phase of the manor-house in the early-mid 16th century, although they contained mainly residual pottery. Layers 35 and 43 were cut by an irregular gully (feature 27) filled with mortar set with lumps of limestone and chalk (Phase G, Figs. 2, 4). This was orientated north-south and possibly represented the foundation for a flimsy wall or fence. Finds from other later features (Phase G) include pottery (Fig. 9, Nos. 39–43) and a redeposited Nuremburg jeton dated 1580–1610.

Only a small quantity of animal bone was recovered from the site. In all contexts ox is the commonly occuring category and on the whole the bone was heavily fragmented. Most of the bone appears to be domestic food refuse, much of it butchered, and both immature and mature animals are present.

Other Features

Two features located in the northern half of the excavated area were stratigraphically isolated from the rest of the site but would appear on ceramic evidence to be contemporary with the first yard surfaces and post-holes. In the north east corner the clay layer 12 (Fig. 3) was cut by a roughly square pit (48), which was internally stepped down into a smaller centre. This feature contained three sherds of 13th-century pottery.

To the west of this pit lay a fragment of wall (3) measuring 3.25 m long, 0.56 m wide, 0.76 m deep, which was cut on all sides by modern disturbance (Figs. 3, 7a). The wall, which was aligned east-west, rested on a foundation of gravel (layer 64), the north edge being cut into another gravel deposit, layer 46 (Fig. 7a). Layer 64 yielded one sherd from a London copy of a Rouen jug (mid 13th century) similar to No. 24 from the ploughsoil. Layer 47 contained two sherds of 13th-century London ware and one sherd (intrusive) of modern china. On its south side the wall was faced with brick in English bond tied to a rubble backing of chalk and Reigate stone; no evidence survived for a north face. Much of the Reigate stone had been dressed and one piece was chamfered; it appears to be re-used medieval building material. The mortar contained pebble, flint and tile inclusions. No conclusive dating evidence was obtained for the wall but it resembles the southern wall of the Tudor farmhouse illustrated in J. Carter's sketches (GLC Printroom), and is tentatively ascribed to it.

Finds made during Redevelopment of the Site

The contractor's machine excavation showed that the whole site had been comprehensively developed throughout the 19th and 20th centuries. Cellars and wall foundations had removed most earlier deposits at least to the depth of the natural clay. The following isolated earlier features did survive but could only be hurriedly recorded.

A pit (151), containing sherds of 13th-century South Herts. ware cooking pot (Fig. 9, No. 44) lay to the north of the excavated area (Fig. 2). A number of decorated medieval floor-tiles (Fig. 9, Nos. 51 – 4) were found re-used as the base for a Victorian rubble structure (145).

Traces of a wall (166, Fig. 2), possibly the remains of a cellar or undercroft, were found in the south-west corner of the site. The upper portion of the wall had been robbed and the level from which the structure was inserted could not be ascertained. It may however be significant that the construction trench for the wall was cut to the same depth as the base of the garderobe pit (see below). A section across this wall survived between two later cellar walls (Fig. 7b). A foundation trench with a gently curved edge and flat bottom was filled to a depth of 0.25 m with dark grey clay (170). The wall was constructed of chalk rubble with some limestone, brick and tile, set in a lumpy grey mortar, and measured 0.70 m wide. Further traces of the rubble were noted spreading for 3.70 m along the western edge of the site. Set in the west face of the rubble, 0.25 m from its base, two courses of squared limestone, two stones deep, survived in section (Fig. 7b). These facing stones appeared to slope outwards, and may represent the base for an arch or vault. A 19th-century cellar dug immediately on the west side of the wall removed any evidence for the function of the associated structure.

The construction trench for the wall was filled by a layer of clay (169, Fig. 7b), and the ground level to the east built up by a layer of dark brown clay (168). The wall had apparently been robbed and the robber trench back-filled with mortar and small lumps of mortar (167), but no dating evidence was obtained for this event. The limited amount of pottery in the construction trench (Fig. 9, Nos.45 – 50) is almost entirely of later 13th-century date and would appear to be contemporary with or derived from the yard surfaces in Phase B. A date of post *c.* 1270 seems likely for the wall, which may therefore relate to an outbuilding of the medieval manor-house.

A stone-built garderobe pit (155) (Plate 1), its southern side removed by machine, was located to the west of the excavated area (Fig. 2). The top of the structure was 0.90 m below ground surface; the east wall had been cut as a foundation for a modern wall. The pit was roughly rectangular, measuring between 1.68 m and 1.85 m wide and between 3.04 m and 3.20 m long. The pit floor lay at 23.40 m OD and the stonework survived to a height of 2.75 m above it. A square vertical chute measuring 0.45 m square internally was bonded into the outside of the west wall of the pit at its north end. A steeply angled stone at the base of the chute sloped down to 0.40 m above the garderobe floor. The pit was lined with squared and faced ragstone, two squared flints, small lumps of Reigate stone, and tile; the walls were packed behind with chalk rubble. The thickness of the pit walls varied between 0.52 m and

Plate 1 Tottenham Court. Garderobe Pit. 2m scale

0.60 m; the chute walls were between 0.30 m and 0.43 m thick. Two roughly square putlog holes were built into the walls, one in the west and the other, higher up in the east face.

The lower 0.40 m of the garderobe pit was filled with organic material in which three layers were discerned. The lowest deposit (160), which had clearly entered the garderobe pit from the chute, consisted of dark reddish-brown clayey organic matter *c.* 0.10 m deep containing mussel shells, oyster shells and pottery dated to the late 15th–early 16th century (Fig. 10, Nos. 55–7). Overlying this a spread of dark brown soft clayey organic matter *c.* 0.20 m deep (159), filled the whole pit to the level of the base of the chute. This contained a collection of fruit seeds including those of grape, fig, bramble and plumstones. The mouth of the chute was half filled by a deposit (158) which spread down the chute and spilled out in a fan shape into the pit. This layer was composed of light brown and grey clay and contained a large amount of oyster shell and some pottery including Cistercian ware and a complete late 15th or 16th-century Raeren drinking mug (Fig. 10, Nos. 58–60). The remainder of the pit was filled with an homogenous deposit of roof tile and chalk rubble which included some light brown clay. This demolition rubble was presumably derived from the destruction of the buildings to which the garderobe was attached.

CONCLUSIONS

The excavation confirmed the position of the medieval manor-house of Totenhall. Although there was a suggestion of Early Saxon activity on or near the site, continuous occupation can only be demonstrated from the early 13th century and despite the break in the ceramic sequence documentary evidence shows this was maintained into the 19th century. The fine quality of the construction of the garderobe pit would suggest that the medieval building was a substantial one, perhaps used as a residence by the Prebends of St. Paul's. In the 16th century, when the manor was under royal patronage, the buildings were in poor condition and were remodelled. Part of the 16th-century building survived until 1808 when it was finally demolished.

THE ANGLO-SAXON AND MEDIEVAL POTTERY

Lyn Blackmore

Introduction

Excluding unstratified material, the 1979 excavations on the site of the medieval manor-house of Tottenham Court produced a total of 1370 sherds of pottery. The largest single group came from the ploughsoil which underlay the yard surfaces, and is of late 12th to mid 13th-century date. The most significant find consists of a small group of Anglo-Saxon pottery, also from the ploughsoil, for which a late 6th or early 7th-century date is proposed. The pottery is discussed in four main groups:

a. The Anglo-Saxon pottery
b. The medieval pottery from the ploughsoil and yard surfaces, (summarised in phases as described above)
c. The pottery associated with the wall 166
d. The pottery from the garderobe pit 155

The fabric types represented and their distribution throughout the various groups and phases is illustrated in Table 1. References to parallels for published sherds are to be found in the catalogue (Table 2). Supporting tables, fabric descriptions, detailed discussion of the medieval pottery (groups b and c), full catalogue of published material and details of all unpublished material are available for consultation together with the finds, which are housed with the Department of Greater London Archaeology, 42 Theobalds Road,

London W1. Details of the stamped Anglo-Saxon sherd are also incorporated in the archive of Anglo-Saxon pot stamps compiled by Lady Briscoe (reference no. GLC 7).

a. The Anglo-Saxon pottery. Fig. 8, Nos. 1–4.

The earliest pottery from the site consists of three eroded sherds of flint-tempered ware and twenty-seven sherds, including three rim sherds, of sand-and-grass/chaff-tempered ware. The former comprise two sherds of fine micaceous ware sparsely tempered with ill-sorted fine and medium flint grits up to 5 mm and one sherd, either gently carinated or with a sagging base, sparsely tempered with very fine flint grits, and possibly burnished. All three sherds are low-fired and reddish-grey in colour. The purely flint temper and possible carination suggest a late Bronze Age or early Iron Age date for these sherds but it is nonetheless possible that the flint-tempered wares are also of post-Roman date (Hurst 1976a, 61). Sherds at Northolt (Hurst 1961, 255: fabric c, very similar to the above sherds), and at Sewardstone Street, Waltham Abbey (Huggins, 1969, 71); ambiguous prehistoric/Saxon flint-gritted wares have also been found at Rectory Grove, Clapham (Densem and Seeley pers. com.), Althorpe Grove, Battersea (McCracken in prep.), Shepperton Green (Canham 1979, 115), and Wraysbury, Bucks. (S. Lobb pers. com.)

The grass/chaff-tempered wares derive from a minimum of four vessels, including two sub-biconical or globular urns (Nos. 2, 3), one vessel probably of similar form (No. 1) with stamped decoration dateable to the later 6th or early 7th century (Myres 1977, 121), and one small plain-rimmed cup or bowl (No. 4). While it cannot be proved that the sherds are contemporary, their close proximity and the homogeneous nature of the fabric suggest that they are probably of one date. All sherds are additionally tempered with varying quantities of quartz-sand and occasional larger quartz inclusions. The pottery is low-fired and the sherds are soft, small and abraded, the largest being only 30 × 35 mm (max); colouring varies from pale grey to grey-black with reddish-brown exterior to black throughout. The fabric is as a rule either dense or laminated; four sherds however clearly were made with a coil technique, as at Rectory Grove, Clapham (Densem and Seeley 1982, 181), the nearest apparently contemporary site in the London region. The crudely applied stamped decoration (No. 1) appears on first inspection to consist of a devolved rosette (Briscoe 1981, 6, Type A5ai), measuring approximately 12 mm across. In view of the nature of the fracture however this is not certain, and the motif may conceivably be a segmented oval (Briscoe 1981, 11, Type D3ai); the broad central division and the use of both triangles and rectangles in the design would support this interpretation. The stamp is placed just below a single horizontal line which is surmounted by a vertical line.

Discussion.

The above pottery is of importance as possibly the earliest ceramic indication of Anglo-Saxon activity in north Inner London which is also in close proximity to the walls of the Roman city. Excluding Romano-Saxon pottery (Roberts, 1982, 170), other possibly Early Saxon pottery consists of chance finds from the site of the Savoy (Wheeler 1935, 139–40; Myres 1937, 433) and from Drury Lane (Myres 1937, 432; Myres 1969, 30), the dating of which is disputed (see below). The longevity and typology of vegetable-tempered wares remains the subject of some debate (Hurst 1976b, 293 – 4), although the former assumption that it continued in use until the 11th century at Old Windsor (Wilson 1958, 183–5) is now considered unlikely (Jones and Moorhouse 1981, 123). The presence of a stamped sherd among the group from Tottenham Court is thus of particular importance in attaching a probable late 6th or early 7th-century date (Myres 1969, 31–5; 1977, 121) to this residual and otherwise undateable assemblage. The sub-biconical or globular forms span the Early and Middle Saxon periods; the tradition of stamped decoration however is a predominantly Early Saxon trait (Hurst 1976b, 295). It is more common on funerary vessels, but also found on domestic pottery. Pending future discoveries the origin (settlement or cemetery) of the Tottenham Court sherds must remain in doubt.

The rosette (Briscoe Group 5ai) is one of the more easily produced stamps, and thus more frequently found Anglo-Saxon motifs (Briscoe 1981, 21). The known distribution however is mainly confined to East Anglia and north-east England (127 examples). If the Tottenham Court stamp belongs to this group the closest known parallel is a sherd from Thurmaston, Leics. (Myres 1977, Fig. 239, No. 3173; Briscoe Archive Ref. No. THU 25). Forty-four examples are however known in Southern England, of which twenty-eight derive from four sites in the Lower Thames Valley, notably at Mucking (eg. Myres 1977, Fig. 107, and the remainder from seven sites in Kent, Sussex and Hampshire. The nearest local parallel is to be found on a fine ware vessel from Brentford (Sheppard 1978, 85, Fig. 99, No. 1). Geographically therefore the Tottenham

Court stamp would be by no means out of place in this group, forming an important link between the Mucking examples and those from Brentford, and Walton Bridge Green (Myres 1977, No. 159; Briscoe Archive Ref. No. SUR 5) in Surrey; Frilford (Myres, 1977, No. 360) in Berkshire and Brighthampton in Oxfordshire (*ibid,* No. 54).

The segmented oval stamp (Briscoe 1981, Type D3ai) is much less common than the rosette, being as yet identified on only five sites (Briscoe in prep.), of which only one lies near the Thames Estuary, on the River Darent at Horton Kirby in Kent (Briscoe Archive Ref. No. KEN 2). This site however provides a potential parallel for the Tottenham Court stamp, although the component segments are rather more openly spaced. Similar, albeit rather more 'tree-shaped' stamps (Briscoe 1981, Type D3aii) have been found nearby at Northfleet in Kent, and at Mucking. The arrangement of the decoration on the Tottenham Court sherd is also of interest. While the combination of similar stamps below multiple horizontal or diagonal lines is frequently found on early Anglo-Saxon pottery, the use of only a single horizontal line is less common, but is found locally on a Clapham sherd (Densem and Seeley 1982, Fig. 4, No. 29). The vertical line is unusual, but is perhaps in keeping with the idiosyncratic nature of the stamp.

The immediate proximity of the Tottenham Court, Drury Lane and Clapham finds to the City of London prompts a reappraisal of the enigmatic period between the 4th and 7th centuries AD. The former lack of evidence for Anglo-Saxon activity in or near London in the 4th–6th centuries, and the distribution of Early Anglo-Saxon cemeteries in Middlesex and Surrey, (Hurst 1976a, 61; for map see Clark 1980, 4), led to the theory (Wheeler 1935, 54 – 6, Fig. 2; 115 – 139) that in the countryside between Colchester, Verulamium, London and Canterbury, called the 'sub-Roman triangle', the existing population remained a dominant controlling force to the extent that the area was positively avoided by the Anglo-Saxon people. In the City of London, however, Wheeler proposed that the situation was one of mutual adjustment, with the sub-Roman population in the Roman city to the east of the Walbrook, the new Saxon settlement to the west. This dichotomy, disputed even at the time of publication (Wheeler 1934, 290–303; Myres 1934, 437–42; Wheeler 1934, 443–47; Myres 1936, 87–92) remains largely unresolved. Both Biddle (1973, 18) and Hurst (1976a, 60) pointed to the evidence for the presence of Anglo-Saxon mercenaries in the Thames Valley and estuary in the late 4th and early 5th centuries, but in the immediate London area there is no satisfactory explanation for the lack of finds and cemeteries of the 5th and 6th centuries. Biddle suggested (1973, 18, 19) that Anglo-Saxon settlement in the London area was limited and the new culture was immediately absorbed, only reasserting itself at a later date, and disputed (*ibid,* 21) the validity of the east/west division within the city. Grimes (1968, 153–60) and Hurst (1976a, 60) accepted that the emphasis of the Saxon occupation within the City of London was to the west of the Walbrook, but drew attention to the negative results of excavations in this area and the non-urban character of Saxon occupation in other Roman towns such as Winchester. The possibility was raised (Grimes 1968, 153–4) that occupation may have been strictly limited to the area of St. Paul's (founded AD 604); later however Hurst (1976a, 60) recognised that in the Middle Saxon period evidence for settlement was in fact more extensive outside the City than within.

In the City of London, even in the area of St. Paul's Cathedral, stratified Saxon finds are noticeably absent until the late 9th–10th centuries (Vince 1983, 33–7); to the west of the City however there is a growing body of material, recently collated by Vince (1984). This derives mainly from sites at the Savoy (Wheeler 1935, 139–40; Hurst 1959a, 23, Fig. 4), at Arundel House in the Strand (Haslam 1975, 221–2), at Whitehall (Green 1963, 1004–7), all sites at which Middle Saxon Ipswich-type pottery (*c.* 650–850) or later pottery has been found. To the south of the Thames contemporary material has been found at Althorpe Grove, Battersea (McCracken in prep.). These finds have led to

the hypotheses that by the 8th – 9th century AD there may have been a series of small farms (Haslam 1975, 222), or a widely scattered settlement (Hurst 1976a, 60), along the edge of the gravel terrace just to the north of the Thames, and most recently to the suggestion (Vince 1984) that the flourishing town referred to by Bede was in fact not within the Roman city but in the area of the Strand. In the case of the Savoy site however it is possible that occupation may have spanned both the Early and Middle Saxon periods, since in addition to a sherd of stamped Ipswich ware, a small pot in a smooth black burnished ware and four Early-Mid Saxon loom-weights were recovered (Wheeler 1935, Pl. VI) which Myres (1937, 433) considered to be of similar date as the chaff-tempered pot from Drury Lane (*c.* 600 AD). The presence of more than one type of loom-weight (annular and intermediate) in the Savoy group supports the possibility of a long-lived settlement in the area, but also illustrates the dangers of dating by typologies (Hurst 1959, 24). Numerous Early-Mid Saxon loom-weights have been found in the area of the Strand (Vince 1984) and also in excavations at Fetter Lane, where a fragment, undated at the time, was recovered from a post-medieval context by the Inner London Archaeological Unit (Platts 1978, 28). A further possible indication of Early Saxon activity in the area consists of a 6th-century ring (Ashmolean No. 1930, 630; Burlington Fine Arts Club Catalogue 1930, Pl. XVII) set with a coin of Theodosius (408–50), which was found in 1880 in George Street, Euston Square (now North Gower Street), only half a mile from the site of Tottenham Court. With the exception of the Fetter Lane site, the above were all chance finds, and their archaeological associations are sadly not known, although the fact that the Drury Lane pot was found intact, and that a human mandible was found close by (Myres 1937, 424–37) raises the possibility of a cemetery in this area. To the south of the Thames the evidence for early settlement is more substantial, with the important group from Rectory Grove (although as yet Saxon finds are absent in Southwark). Taken together the above finds would suggest that there may have been pockets of Anglo-Saxon activity within close proximity to the City of London by the late 6th century; whether this indicates a movement out from the City or in towards it remains in doubt, although the present evidence suggests that the initial 5th century settlements were to the south and west of London (Sheldon and Schaff 1978, 73, 81).

The Early Saxon pottery from Tottenham Court and from Rectory Grove, Clapham was only discovered through proper archaeological excavation. Further research on the Anglo-Saxon pottery and settlements of the London region may go some way toward answering the many problems associated with this enigmatic period, but the picture must remain incomplete due to the amount of evidence which has almost certainly been missed in the course of earlier development, and theories based on negative evidence should be treated with caution. Every effort should be made to ensure that future developments on sites in locations favoured by the Anglo-Saxons (particularly the edges of the gravel terraces with a good water supply) do not go unwatched, regardless of whether there is no pre-existing evidence of Saxon activity in the area.

b. The medieval pottery from the ploughsoil and yard surfaces.

Phase A. The ploughsoil. Fig. 8, Nos. 5–24.

The ploughsoil yielded a quantity of medieval pottery (see Table 1), dating to *c.* 1150–1250, including a number of sherds representing sizeable portions of half dozen or so vessels which suggest a probable date of 1225–1250 for the assemblage as a whole. The closest local parallels to the group are to be found at Northolt, Middlesex (Hurst 1961); in groups 1–3, dated to pre-1350, at Toppings Wharf, Southwark (Orton 1974, 65–71); in Phases 2–3 of the Misericorde at Westminster Abbey (Platts 1976, 158–167), dateable to pre-1266; and scattered amongst the pottery in the dumped deposits at the Custom House (Thorn 1975).

The majority of sherds derive from cooking pots (Nos. 6–13) in five grades of South Herts. grey ware (Types HA, HB and HC predominantly flint-tempered, Type HD sandy, Type HE fine), which have parallels at Northolt (Hurst 1961, 255, 263 – 65, fabrics j,k), Elstree (Biddle 1961; Castle and Hammerson 1978, 151) and Pinner (Sheppard 1977). No. 10 is of interest as a possible crucible, with a near parallel at Cannon Street. A similar rim form from an early post-Roman feature at St. Mildred's Church however was assigned an early Saxon date. A curfew handle (unillus.) in Fabric HB has parallels at Northolt (Hurst 1961, Fig. 69, No. 85) and Toppings Wharf (Orton 1974, 73 Fig. 34, No. 45, shell-tempered).

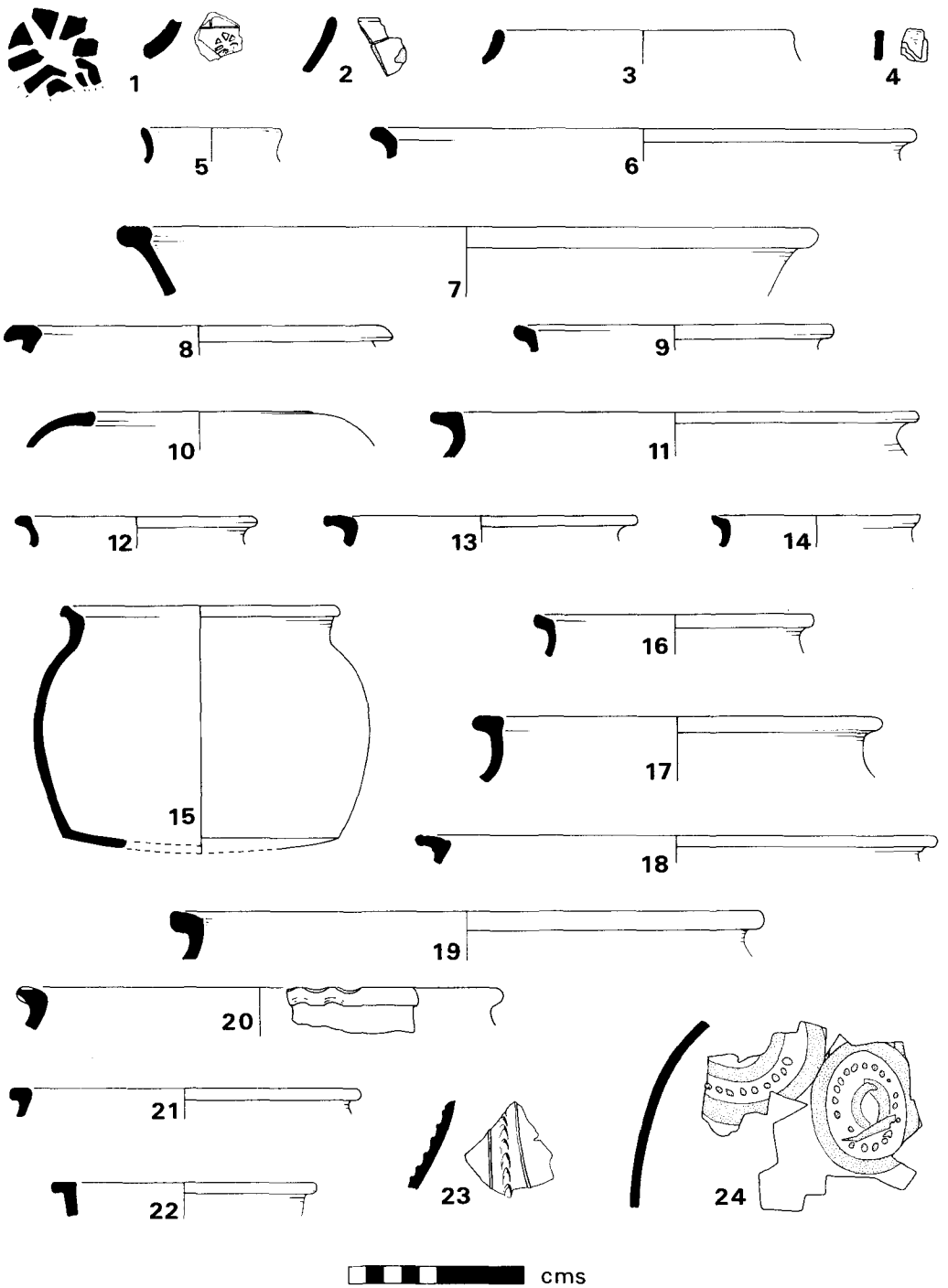

Fig. 8 Tottenham Court. Anglo-Saxon and medieval pottery from the Ploughsoil (Phase A).

Also present are two grades of late 12th-early 13th-century sandy-gritty ware (Nos. 14–16) in the South Herts. tradition (cf. fabric i at Northolt); a gritty-shelly ware (No. 17); a low-fired, oxidised sandy-shelly ware (Nos. 18–22) and sherds from fourteen London ware jugs (Nos. 23–4). These include sherds from two 'copies' of Rouen jugs, the originals of which have a conventional date of *c.* 1240–1325, but which in London appear to date *c.* 1210–1290 (Vince and Pearce forthcoming). The circular decoration on No.24 is less common than the geometric, but has a local parallel dated to pre-1266 (?*c.* 1240) at Westminster Abbey (Black 1976, 147–8). Minority wares comprise a single sherd of Kingston ware; a sherd of glazed Mill Green coarse ware (*c.* 1270–1350), which may have been trampled in from the subsequent deposits; a single body sherd of yellow-glazed Stamford ware (unillus.), and fragments from a Rhenish blue-grey ware pipkin or ladle (No. 5).

Phases B, C, D. Fig. 9, Nos. 25–38, 44, 51–54.

The distribution of the wares in these phases (Table 1) shows a clear trend away from the reduced grey wares toward a variety of jugs. In Phases B and C these are London ware baluster jugs (Nos. 31, 34), Rouen 'copies' and decorated globular or conical Mill Green ware jugs (Nos. 33, 35–8); in Phase D squatter forms typical of the 14th century appear. Sherd counts quoted for the London and Mill Green wares jugs are misleading: in Phase D the London ware sherds derive from over thirty vessels, the Mill Green wares represent only a dozen or so jugs; the total London ware jugs from the entire site (*c.* 58) is over double that of the Mill Green wares jugs (*c.* 22). Kingston-type Surrey wares remain in the minority, but include two sherds (No. 29) from a decorated jug (No. 48), and a copy of a Rouen-type jug with mini spurs on the handle (No. 30).

Fragments of printed floor tiles (Nos. 51–4) probably from the Penn kilns in Buckinghamshire (LMMC 1975, 229–53), from a Victorian feature (Pit 1245), may also derive from these phases.

Phases E,F,G. Fig. 9, Nos. 39–43

Excepting a few sherds of coarse border ware (*c.* 1350–1500) in Phase E, there is a noticeable hiatus in the ceramic sequence between the 14th-16th centuries. Even in the post-medieval period (Phases F, G) contemporary ceramic finds are sparse (see Table 1), ,and imported pottery amounts to only twenty-five sherds (six vessels). These include one sherd each of Montelupo tin-glazed ware (No. 41) and decorated Cologne stoneware (No. 40), recently parallelled at West Drayton (Cotton 1983, 121–9). A few unstratified sherds of china and tin-glazed ware are the only ceramic finds dateable to post *c.* 1625, although fragments of clay pipe may be dated to *c.* 1610–40, 1610–1660, and 1640–60. A central date of *c.* 1620–50 seems likely for Phases F–G.

Pottery associated with Wall 166. Fig. 9, Nos. 45–50.

A number of sherds in this group have internal parallels in Phases B–D, notably several sherds from a highly decorated Kingston ware jug (No. 48), which on the evidence of recent finds from Trig Lane (Orton 1983, Fig. 61, No. 1) may date to *c.* 1250. A sherd from an almost identical jug was found in an early 14th-century well at 201–211 Borough High Street (Thorn 1978). Other sherds include fragments of 'North London ware' (Nos. 46–7, 49) and Mill Green ware jugs (No. 45) which together indicate a date of *c.* 1275 for the construction of the wall.

The Garderobe Pit 155. Fig. 10, 55–61.

This feature produced a small but classic sequence of late 15th-mid 16th-century pottery. The lowest fill (layer 159) contained the greater parts of a Cheam ware bioconical jug (No. 55) and cooking pot (No. 57), and a Farnborough Hill ware bowl (No. 56) all dating to the last quarter of the 15th century. Above this in layer 158 lay a complete Raeren mug (No. 58) dateable to *c.* 1475–1550. With this were one Raeren rim sherd, probably from a similar mug, two Cistercian ware cups (Nos. 59, 60), and three sherds of Tudor Green and Kingston red ware. A date of *c.* 1525 is suggested for this deposit. Layer 157, the rubble backfill produced three sherds of Cheam white ware and Cologne stoneware, while the fill of the chute contained a Cheam ware money box (No. 61). Maintenance of the garderobe would thus appear to have ceased *c.* 1500–25, and the pit was probably filled in and abandoned by *c.* 1550. The group is therefore contemporary with that from the Tudor cess-pit at Arundel House (Hammerson 1975, 214–16), which, although considerably richer in finds, included an almost identical assemblage (Haslam 1975, 229, Fig. 7, No. 17; Fig. 12, Nos. 1, 7, 16, 23–4). Similar groups have also been recovered from the Tudor features at Toppings Wharf (Orton 1974, 76–87) and from the fill of a late 15th-century cellar at 1–7 St. Thomas Street (Orton 1978, 378–80, Fig. 172), and from a late 15th-century pit at Westminster Abbey (Hurst 1960, 181–194).

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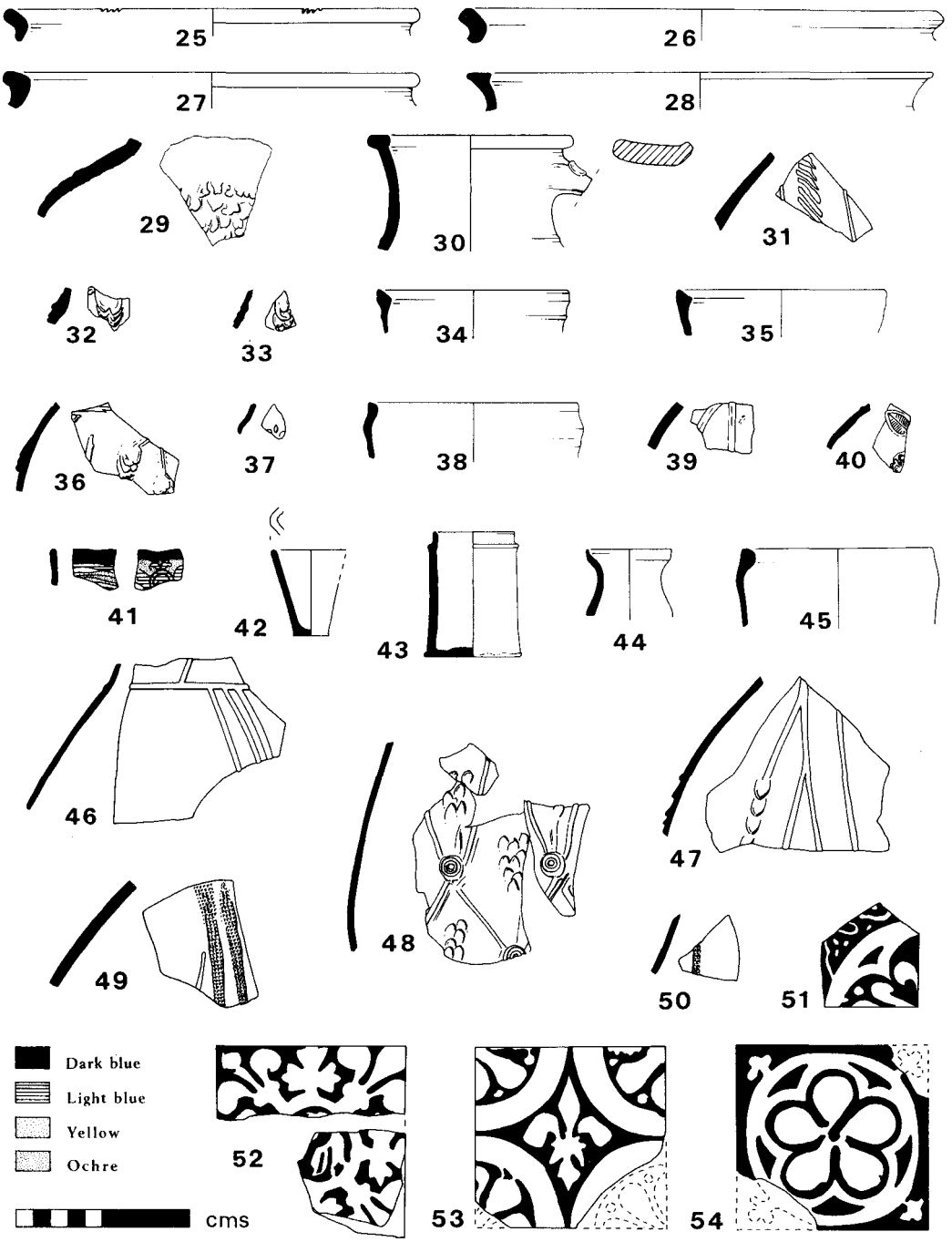

Fig. 9 Tottenham Court. Medieval pottery from Phases B, D, F, G and unstratified (Nos. 25–43), pit 151 (No. 44) and wall 166 (Nos. 45–50); medieval floor-tiles from pit 145 (Nos. 51–4).

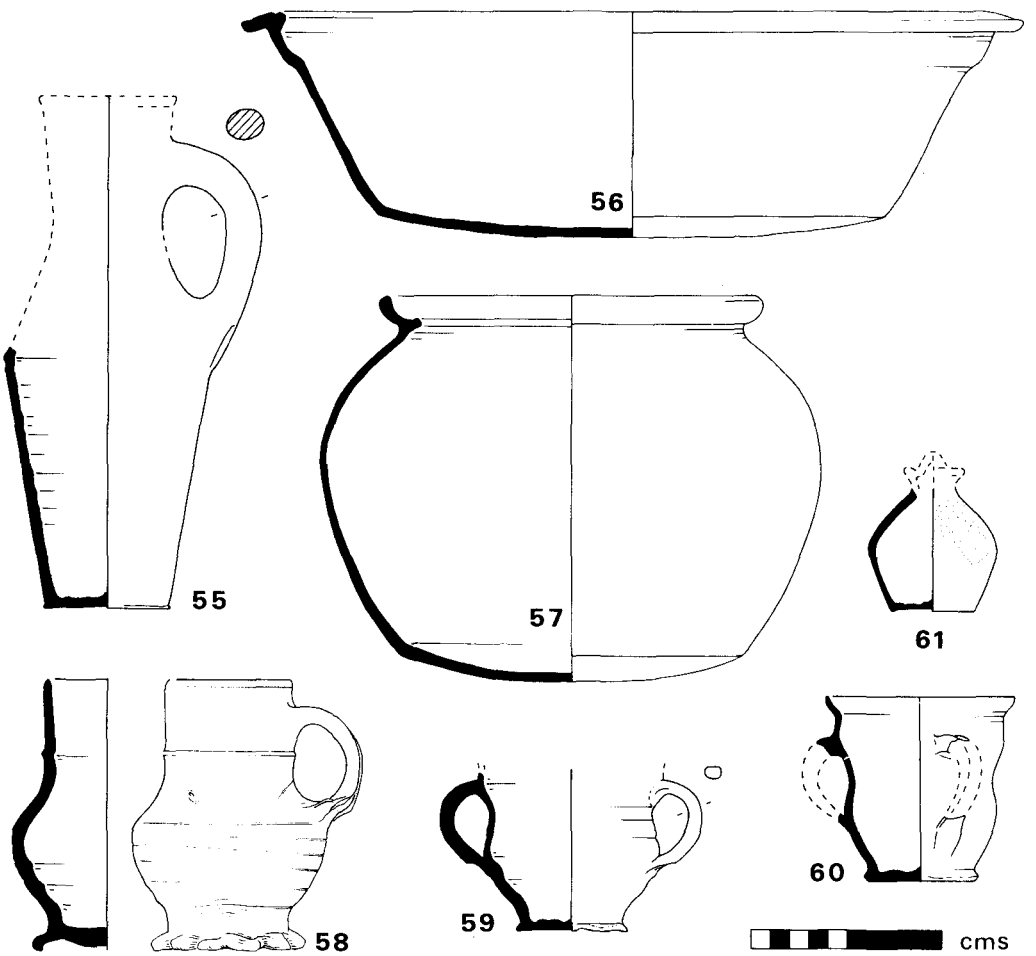

Fig. 10 Tottenham Court. Late 15th-early 16th-century pottery from the garderobe pit 155.

Fabric type and code.		*The phases*									
		A	*B*	*C*	*D*	*E*	*F*	*G*	*F166*	*F155*	*Misc.*
SFT	Saxon flint-tempered	3									
SCT	Saxon chaff-tempered	25	1								
ST	Stamford ware	1									
HA	South Herts. type A	48	18		1						1
HB	South Herts. type B	17	10								
HC	South Herts. type C	41	26				1	1			
HD	South Herts. type D	30	7					1	3		
HE	South Herts. type E	34	19	1	2		4				38
GS	Gritty-sandy ware	105	7								1
GSH	Gritty-shelly ware	30	20								1
SH	Shell-tempered ware	43	6								
L	London ware jugs	44	143	4	12	5	23	2	4		8
LS	London sandy ware	1	6		10			1	18		
OS	Other sandy ware				4	4	2		1		
K	Kingston white ware	1	33	1	31	8	28	5	16		1
MGF	Mill Green fine ware		31	2	78	27	112		9		2
MGC	Mill Green coarse ware	1					1		1		
CB	Coarse Border ware					5	8	3			
CH	Cheam white ware									11	
TG	Tudor Green						1			2	
KR	Kingston red ware							4		1	1
FB	Fine Border ware						5	4		42	
CIST	Cistercian ware						1			10	
PMR	Post-med. red ware							1			
PMB	Post-med. black ware							4		1	
TGW	English tin-glazed							3			
CH	China/porcelain							3			
BG	Rhenish blue-grey ware	6									
SNM	Low Countries maiolica						1				
IM	Italian Montelupo						1				
FM	Martincamp stoneware							11			
L/R	Langerwehe/Raeren						1			2	
C/F	Cologne/Frechen						1	10		2	

Table 1. The distribution of the stratified pottery.

No.	*Phase Layer*	*Fabric Code*	*Total Sherds*	*Internal Parallels*	*References to External Parallels*
Fig. 8					
1	A (114)	SCT	3	A (19, 116)	
2	A (19, 117)	SCT	2		Hurst 1976a, Fig. 7.4, No. 3
3	A (116)	SCT	1		Hurst 1976a, Fig. 7.4, No. 1
4	A (119)	SCT	1		
5	A (19)	BG	6		Thorn 1975, Fig. 22, No. 373
6	A (19)	HA	1		
7	A (105)	HA	3	B (80)	
8	A (105)	HA	1		
9	A (114)	HA	1		
10	A (19)	HC	2 = 1		Rhodes 1975, 203, Fig. 13, No. 202 Orton 1979a, 32, Fig. 16, No. 108
11	A (107)	HC	1		Sheppard 1977, Fig. 3, No. 22
12	A (19)	HC	1		
13	A (19)	HC	1		
14	A (19)	GS	1		
15	A (19, 114, 117)	GS	47		Hurst 1961, Fig. 70, No. 1
16	A (114)	GS	1 + 45	A (108, 116, 120); B (102, 111, 115, 82)	
17	A (119)	GSH	2 + 48	A (114, 115, 117); B (102, 111, 112)	Orton 1974, Fig. 33, No. 5 Thorn 1975, Fig. 21, No. 368
18	A (19)	SH	1 + 43?		
19	A (115)	SH	1		
20	A (116)	SH	1 + 43		Orton 1974, Fig. 33, Nos. 10, 13 Thorn 1975, Fig. 21, No. 366
21	A (115)	SH	1		Orton 1974, Fig. 33, No. 4
22	A (19)	SH	1 + 43?		
23	A (108) B (78)	L	3 + 19	B (92, 93, 69, 73); C (86); No. 31	Thorn 1975, Fig. 24, No. 423
24	A (19, 108, 114)	L	36	B (12, 82) F (16)	Thorn 1975, Fig. 8, No. 85 Platts 1976, 161, Fig. 14, No. 40 Haslam 1978, Fig. 15, 1
Fig. 9					
25	B (79)	HE	1		Hurst 1959b, Fig. 9, Nos. 4, 5, 14
26	B (82)	HE	1		Hurst 1959b, Fig. 9, Nos. 4, 5, 14
27	B (82)	HE	1		Hurst 1959b, Fig. 9, Nos. 4, 5, 14
28	B (93)	K	1		Hinton 1980, Fig. 3, No. 15
29	B (78)	K	2	D (59)	Rackham 1972, Pl. 11 Thorn 1976, 360, No. 1 Haslam 1978, Fig. 17, Nos. 9, 10
30	B (12, 92, 112)	K	26	F (24) G (2)	
31	B (92)	L	1 + 44	B (68, 78, 93, 98); C (88); D (75); F (24, 35, 43); No. 23	Thorn 1975, Fig. 18, No. 284
Fig. 9					
32	B (92)	K	2	No. 48	
33	B (93)	MGF	1		
34	B (80)	L	1		
35	B (73)	MGF	4	No. 36	
36	B (69)	MGF	6 = 5	No. 35	Thorn 1975, Fig. 18, No. 289
37	D (60)	MGF	1		

No.	*Phase Layer*	*Fabric Code*	*Total Sherds*	*Internal Parallels*	*References to External Parallels*
38	D (61)	MGF	4	D (52, 54, 55, 69); E (40, 54) F (24, 35); G (2)	
39	F (35)	K	1		
40	G (10)	C/F	1		Cotton 1983, Fig. 8, No. 239
41	F (16)	IM			
42	U/S	CH	1		
43	U/S	CB	1		
44	(151)	LS?	5 = 1		
Pottery Associated with wall F166					
45	(170)	MGF			
46	(169)	LS	2	No. 47	
47	(169)	LS	1	No. 46	
48	(170)	K	15	No. 32	Rackham 1972, Pl. 74 Thorn 1975, Fig. 23, No. 392 Thorn 1978, Fig. 52, No. 22 Haslam 1978, Fig. 16, Nos. 4, 5
49	(169)	LS	3		
50	(168)	MGF	1		
13th-Century Penn Floor Tiles from F145					
51					LMMC 1975 Fig. 76, No. 6 (?)
52					LMMC 1975 Fig. 80, No. 49 (?)
53					LMMC 1975 Fig. 77, No. 15
54					LMMC 1975 Fig. 76, No. 8
Pottery from the Garderobe Pit F155					
Fig. 10					
55	(160)	CH	7		Orton 1979b, Fig. 2, Nos. 1–3
56	(160)	FB	26		Haslam 1975, Fig. 12, Nos. 1, 16, 24
57	(160)	FB	15		Orton 1978, Fig. 172, No. 160
58	(158)	R	1		Hurst 1960, Fig. 2, No. 1 Orton 1978, Fig. 172, Nos. 163–7
59	(158)	CIST	9		Le Patourel 1966, 262–71
60	(158)	CIST	1		Le Patourel 1966, 262–71
61	(163)	CH	1		Holling 1969, Fig. 6, F4 Haslam 1975, Fig. 12, No. 23 Orton 1978, Fig. 172, No. 176

Table 2. Excavations at Tottenham Court 1979, Catalogue.

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A LATE SAXON GLASS FINGER RING FROM THE CITY OF LONDON

ALAN G. VINCE and JUSTINE BAYLEY

It is the intention of this note to describe a finger ring (Fig. 1), recently recognised as a late Saxon artefact as a result of research carried out by Justine Bayley of the Ancient Monuments Laboratory. At present, this ring is the only example of late Saxon glass of English manufacture known from London but it is to be hoped that further examples will now be recognised.

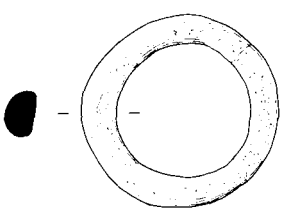

Fig. 1 Late Saxon glass finger ring (1/1)

The discovery that glass trinkets were made in this country in the late Saxon period comes as a result of recent work on 10th-century urban settlements. Glass rings (and sometimes beads) have been found stratified in 10th-century contexts at Hereford, Gloucester, Lincoln, Oxford, Winchester and York (Bayley, 1982). No later associated examples are known and the technique therefore seems to have died out well before the Norman conquest. At many of these sites evidence for the working of this glass has been found. Examination of the glass artefacts and of crucibles used in its working using x-ray fluorescence (XRF) shows that it has a very high lead content. Such a high-lead glass has a very low melting point and can be prepared using a simple furnace. The refractory clays used for the crucibles need not have such a high softening point as is required for the melting of copper alloys, for example. Where not subsequently weathered to an opaque white material the glass is usually a very pale brown or yellow colour, caused by the presence of iron. This is probably the result of using impure, local quartz sands rather than the iron-free sands and sandstones favoured by post-medieval glassmakers.

The London finger ring was found at the Poultry and was obtained by the London Museum in 1925 (Accession Number A27897) Fig. 1. Two other artefacts obtained at the same time were a bone implement (though to be Roman) and a late 13th or early 14th-century Mill Green coarseware cooking pot (Pearce *et al.*, 1982, Fig. 16 No. 46). These three finds are likely to be from the same site but are not stratigraphically associated. The Poultry is at the east end of the market at West Cheap (Cheapside), an area where 10th-century occupation is likely to have been intense. The ring has a D-section and was probably formed by piercing and rolling a blob of glass rather than looping a 'sausage' of glass into a circle. XRF analysis failed to reveal any constituents other than lead and a trace of iron. Light elements, such as silica and alkalis were not detectable under the analytical conditions used.

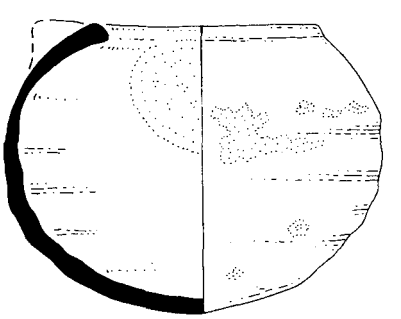

Fig. 2 Saxon pottery (1/2)

Only one vessel has been found which might have been associated with the manufacture of late Saxon lead glass (Fig. 2). This was a thin-walled wheelthrown pot made in a hard, white fabric with moderate quartz sand temper, found in 1982 at Pudding Lane in the backfill of a sunken-feature building, associated with late 10th to early 11th-century pottery. This vessel has thick dribbles of yellowish lead glass on the walls and a pool of similar glass in the base. Despite these traces it is difficult to visualise how the pot could have functioned as a glass-making or melting crucible. Firstly, the capacity of the vessel was calculated to be approx. 366 cc. This is greater than might be expected for a glass making crucible, causing problems in keeping the melt liquid. Secondly, the walls of the pot are thinner than is normal in late Saxon or early medieval crucibles and there is no outer coating of local clay, such as was sometimes used to strengthen and lag copper working crucibles. Finally, either melting or making glass would have produced a more extensive glass cover on the inside of the vessel.

It therefore remains a possibility, if not a probability, that the Poultry ring was made in London but the proof that such glass was being made in the City remains to be found.

ACKNOWLEDGEMENTS

We are grateful to John Clark of the Museum of London for his help in the discovery of the Poultry ring and for permisssion to publish this note. The illustration of the ring is by N. Griffiths and that of the Pudding Lane pot is by Anne Jenner, who also commented on a draft of this note. The analysis of the glass on the Pudding Lane pot was carried out at North East London Polytechnic by Rita Rattray and Barbara Hurman under the supervision of John Evans of the department of Chemistry.

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EXCAVATIONS AT THE SALT TOWER, TOWER OF LONDON, 1976

GEOFFREY PARNELL

SUMMARY

A small-scale excavation west of the Salt Tower revealed that the area had been subjected to river activity during the early Roman period. At some subsequent stage the ground level was raised, perhaps as part of a terracing operation. A second and more substantial heightening of the ground surface was carried out during the late 4th century. The c. 1240 foundations of Henry III's curtain wall were located, but nothing remained of the upstanding masonry. 16th and 17th-century deposits associated with the palace 'Privy Garden' were also recorded.

THE SITE AND ITS HISTORICAL BACKGROUND:

During October and November 1976, the Department of the Environment carried out an excavation against the outside angle of the Salt Tower and inner curtain (Fig. 1). The site lies some 45m east of the Roman city defences, within the south-east corner of Edward I's late thirteenth-century Outer Ward

During the 16th and 17th centuries the area formed part of a garden attached to the palace complex. The earliest documentary evidence for this appears to be found in the Haiward and Gascoyne survey of 1597 – the area being marked 'The Privy Garden'.[1] The laying out of the garden might have accompanied the construction of the King's Gallery between the Salt and Lanthorn towers a palace amenity in 1506.[2] A warrant of 1667 records the continued presence of the garden,[3] but by 1682 a number of stables and coach-houses had been erected against the south face of the gallery (by now employed as lodgings for army officers) while a guard house had been established against the cross wall between the Salt and Well towers (Fig. 1). By 1686 the Office of Ordnance had requisitioned the buildings against the gallery and had turned them into barracks for the Tower garrison.[4]

In 1776 the eastern half of the Salt Tower barracks was converted into a sutling house called the Golden Chain (Plate 1). The inn had been moved from a site some 40ft to the west in advance of the demolition of the western half of the old palace gallery;[5] in 1826 the inn was again taken down and rebuilt on the same ground.

The new Golden Chain was to stand for only twenty years, for in 1846 it, together with the remains of the old palace gallery, the barracks and section of cross wall south of the Salt Tower, was swept away as part of the programme of 'improvements' carried out to be the mid nineteenth-century Office of Ordnance.

During the following years the site was occupied by a temporary storehouse – a large and lamentable structure eventually demolished by the War Office in 1860. Finally, in 1882, reconstruction of the existing curtain wall began.

THE EXCAVATION:

The area of excavation measured approximately 6 m × 7 m. Examination of the archaeological deposits was restricted by the presence of two large walls belonging to the 1840's storehouse. Consequently it proved impossible to inspect the base of the Salt Tower and work was confined to two small shuttered trenches either side of

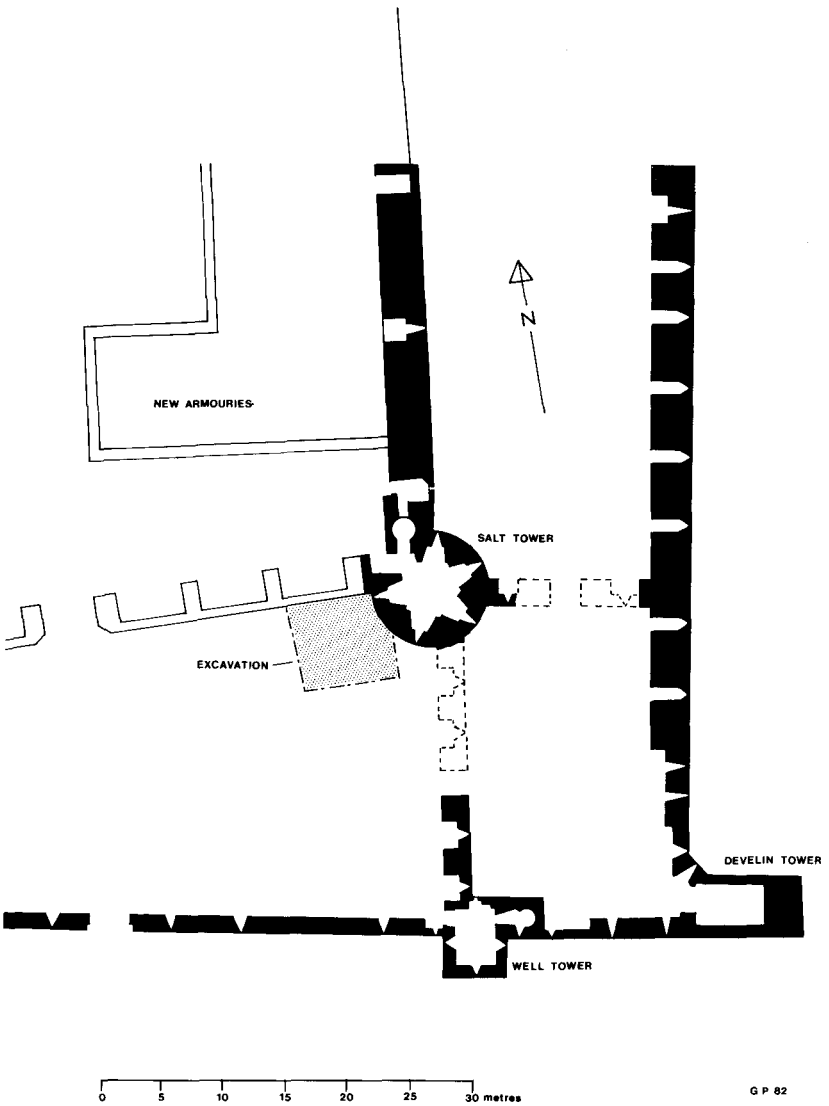

Fig. 1 Salt Tower 1976: Location of site.

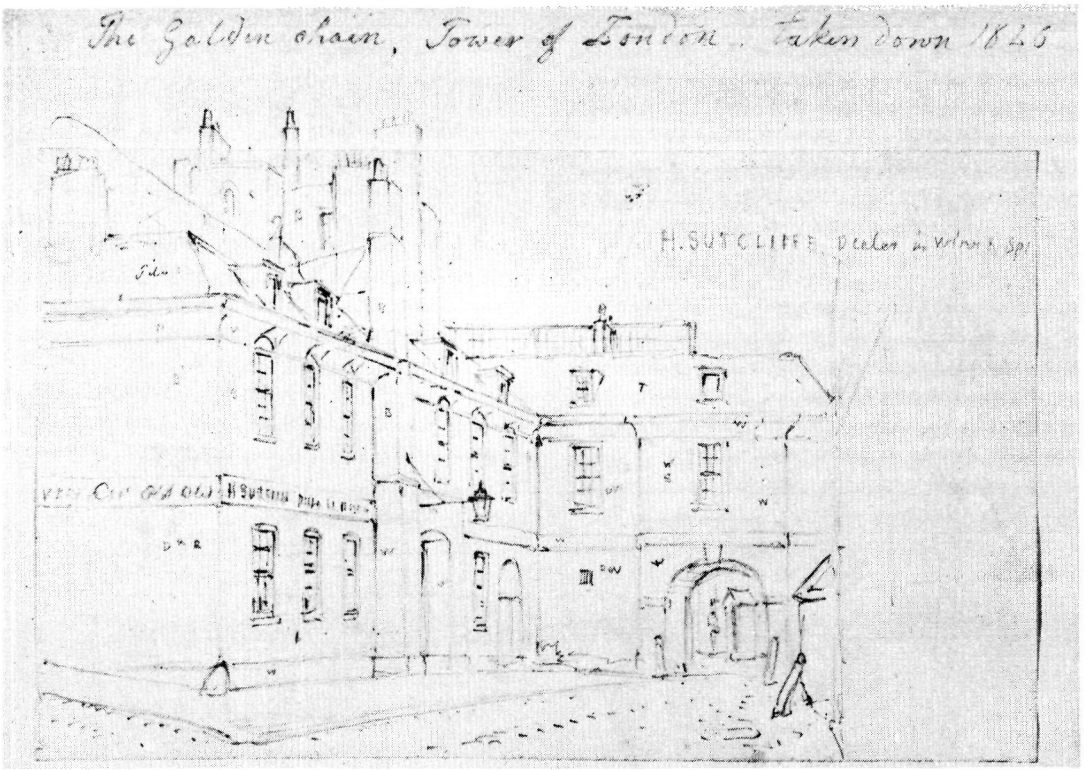

Plate 1. The Golden Chain Inn viewed from the south-west by G. H. Shepherd in 1826 (*Courtesy of Guildhall Library*).

wall 2, which ran east-west across the centre of the site (Fig. 3).

The history of the site can be arranged into the following sequence:

I. Prehistoric and Roman
   (a) River activity.
   (b) Levels associated with possible terracing.
   (c) Late 4th-century dumping.
II. Medieval
III. Post Medieval
   (a) 16th-century garden levels.
   (b) 17th-century garden levels.
   (c) 18th and 19th-century buildings.

I. PREHISTORIC AND ROMAN.

Phase (a). The earliest deposits encountered (but not bottomed) were blue and grey-coloured alluvial clay silts (Fig. 4, layers 47 and 48). Little can be said about these deposits as they were viewed only briefly in two small 'sondages' at a depth where the pump could no longer remove standing water. Neither appeared to contain anything other than a little organic matter in the form of rootlets, and all that can be said about them is that they indicate the river silting to a height of at least 1.50m O.D.

Overlying the clays were bands of gravel, sandy silts and peat rising gently northwards to 1.70m O.D. (Fig. 4, layers 36 and 38). These levels must represent a notable shift in river behaviour, with the water having retreated to the south and the area forming part of the Thames foreshore. Several pieces of eroded tile recovered from these levels represent the earliest stratified Roman material from the site.

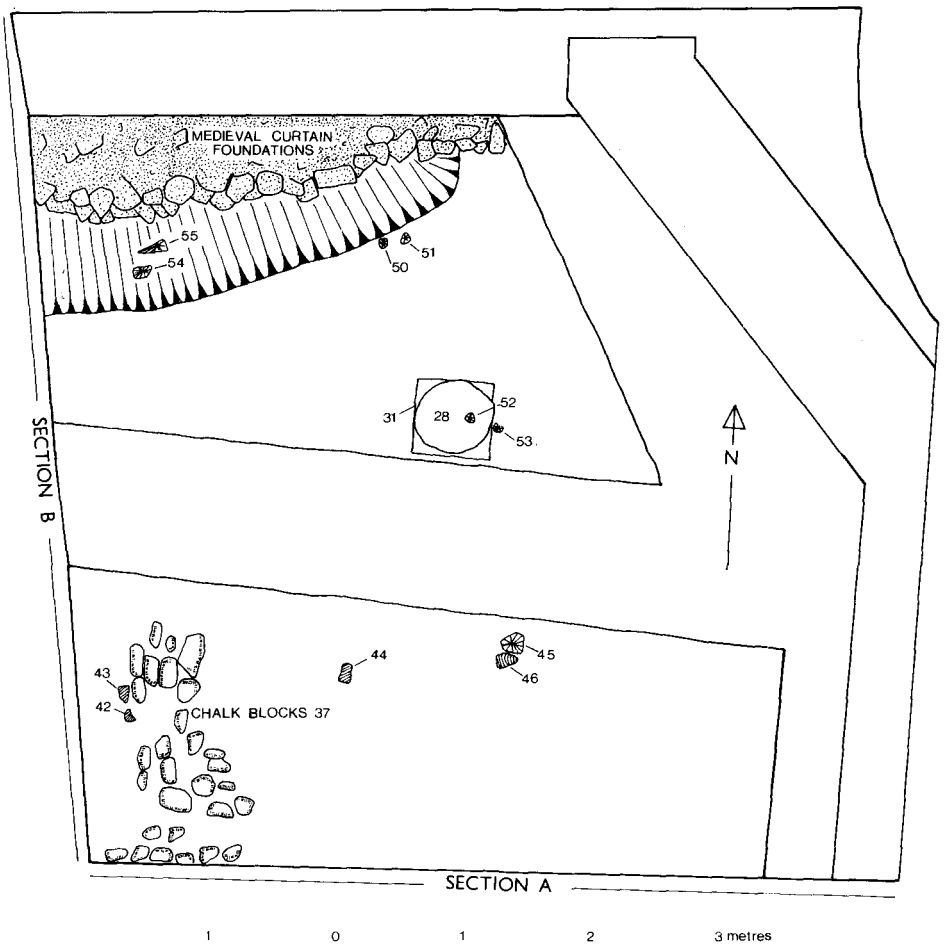

Fig. 2 Salt Tower 1976: Plan of Roman and medieval features.

Scant evidence for ensuing occupation was provided by a number of small oak piles which had evidently been driven-in to the above layers (Fig. 2, timbers 42–46, 54 and 56). An insufficient number were seen to provide any coherent pattern (though 42–46 might be regarded as forming an east-west line) and their function remains uncertain.

Phase (b). At some subsequent stage up to 60cm of dark grey clay and sand was evidently dumped into the foreshore (Fig. 4, layer 34). The material contained only a few sherds of 1st or 2nd-century pottery and could not be dated precisely. In the south-east corner of the site it was sealed by a layer of compact green sand and gravel (Fig. 4, layer 37) which supported some irregularly placed chalk blocks (Fig. 2). Once again, however, the small size of the excavation prevented any clear picture and the function of these levels, other than as rough working surfaces, remains uncertain.

The above surfaces were sealed by a more extensive, very hard, gravel layer which occurred throughout the excavation (Fig. 4, layer 33). It was some 30cm thick and sloped gently northwards to a height of 2.20m O.D. Within its composition were numerous pieces of eroded Roman tiles and four small oak piles (Fig. 2, timbers 50–53). The dating of this deposit was again inconclusive, with only

sherds from a 1st – 3rd-century amphora being recovered.

Phase (c). During the late 4th century a considerable amount of material was dumped onto the site. It comprised two basic elements: dark earth deposits 30 and 41 sealed by dumps of orange clay, gravels and sands 25 and 40 (Fig. 4). The combined deposits were recorded to a depth of 1.50 m, though the original depth must have been greater as the surface was truncated during the 16th century (see below).

II. MEDIEVAL.

The only surviving medieval feature was the truncated foundations of the *c.* 1240 inner curtain wall (Fig. 2). The mortared ragstone footings lay within a large construction trench which was traced to a depth of 2.10m, but not bottomed. The masonry had been built in four stages, each stage being followed by a partial infilling of the construction trench to allow the masons to work at a higher level (Fig. 4).

III. POST MEDIEVAL.

Phase (a). This period was represented by two horizons of dark earth, interpreted as belonging to the palace Privy Garden. The levels (lower 22, 23 and 24; upper 19, 20 and 21) appeared to represent separate depositions (Fig. 4) though the dating evidence indicates

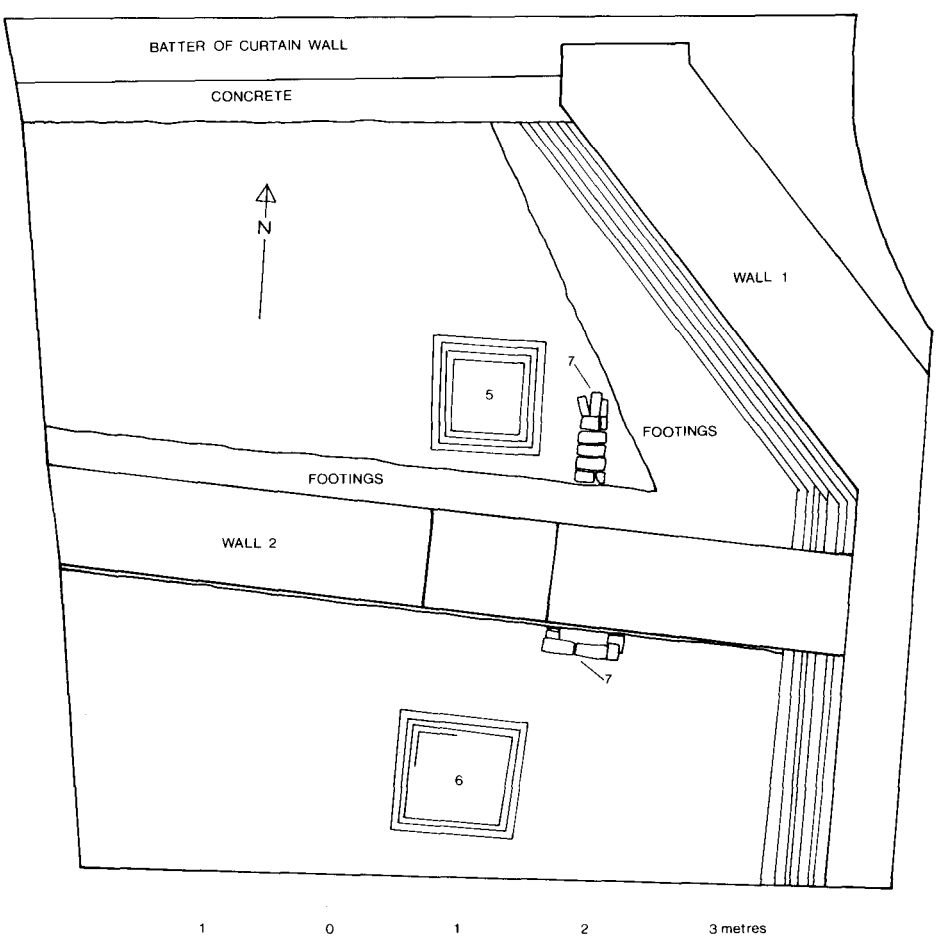

Fig. 3 Salt Tower 1976: Plan of post-medieval features.

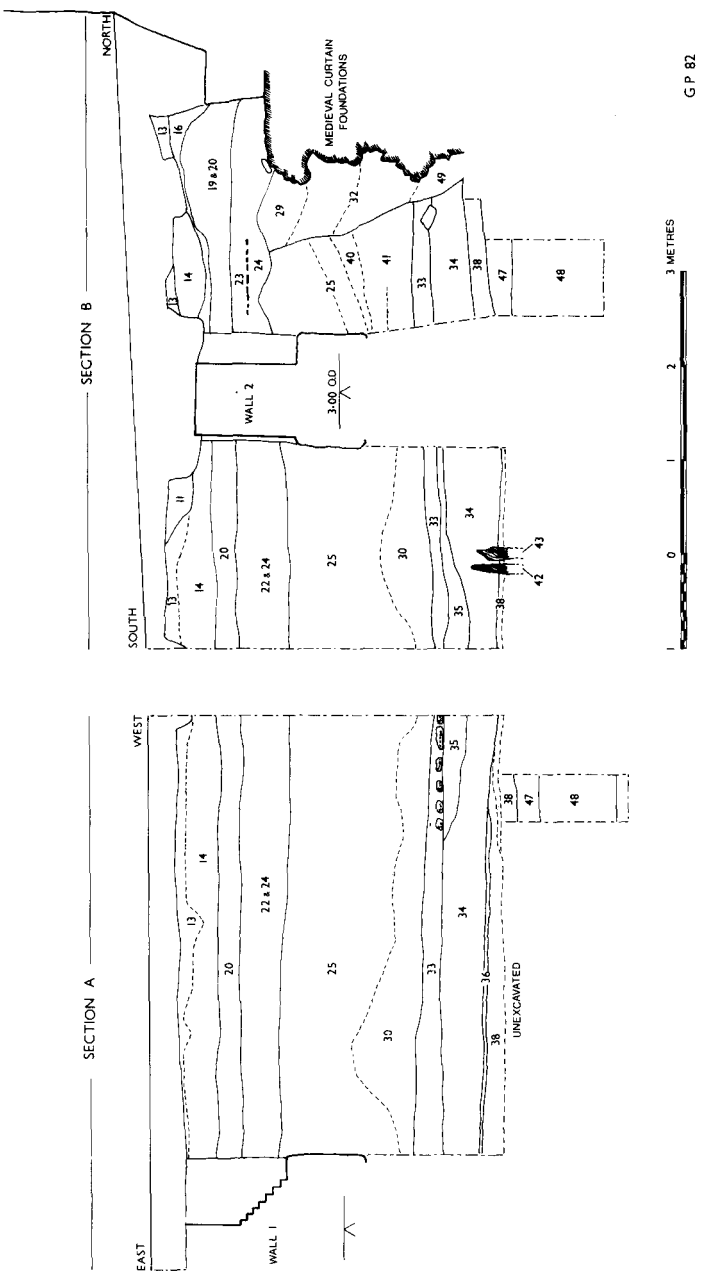

Fig. 4 Salt Tower 1976: Sections A and B.

no obvious time scale separating them. The pottery throughout can be assigned to the mid-late 16th century; a silver groat of Edward VI's reign (1547 – 50) was also recovered from layer 21. The dumping lay directly on the late Roman deposits and the truncated surface of the medieval curtain foundations, the only surviving evidence for intervening activity was an undated post hole within a post pit (Fig. 3, features 28 and 31). The absence of medieval activity strongly suggests that the site had been scarped in advance of the formation of the garden.

Phase (b). This period was represented by further garden deposits in the form of layers 13 and 14 (Fig. 4). Though much disturbed by modern intrusions the surface of 13 was hard and trampled and appeared to be a genuine ground surface. The pottery and clay pipes recovered from both 13 and 14 were similar and support the view that the deposits were laid at the same time, probably in the middle of the 17th century.

Phase (c). All that might be assigned to the 18th century were the remains of a brick drain and sump (Fig. 3, feature 7). Two brick piers possibly relate to the reconstruction of the Golden Chain in 1826 (Fig. 3 features 5 and 6), while the east wall and an internal division of the 1840's store were also exposed (Fig. 3, walls 1 and 2).

DISCUSSION

The limited results obtained from this small excavation are concerned largely with the Roman period. An absence of finds from most of the phases makes dating difficult. Recent excavations within the Inmost Ward, a short distance to the west, have indicated that by the early Flavian period the Thames had deposited silts up to a height of 1.70m O.D. along the extremity of the river bank.[6] The earliest excavated river silts at the Salt Tower, undated, but stratigraphically probably late Iron Age or early Roman, reached a maximum of 1.50m O.D. These silts were sealed by foreshore deposits which rose to a height of 1.70m O.D. and must reflect a fall in the river level. Much has been written about marine transgressions in the Thames estuary and estimates of the mean high tides in the prehistoric and Roman periods are constantly being reconsidered.[7] It is perhaps sufficient to note here that the early Roman river deposits at the Salt Tower compare favourably with Flavian levels examined in the latest comprehensive survey of the city region.[8]

The clay and sand deposits sealing the foreshore might suggest some form of terracing along the river bank, with the overlying gravels and chalk representing associated surfaces. Terrace arrangements have been discovered downstream of London Bridge. These were either of late 1st and 2nd-century date and of uncertain function,[9] or of early medieval date and associated with mooring and anti river erosion operations.[10]

If the refortifications of London towards the end of the 4th century was accompanied by the provision of a wider ditch (as suggested by the addition of bastions to the landward wall) it is possible that the late 4th-century dumping on the site derived from its excavation. Dumping in this area, which must have been close to the defences, might have served to strengthen the outer edge of the ditch where it entered the Thames – an area presumably susceptible to river erosion.

Finally, the complete absence of horizontal stratigraphy between the late Roman dumping and the 16th-century levels, suggests that the laying out of the Privy Garden was preceded by a general scarping of the site. The dating evidence from the lower garden deposits suggests that this was not before the middle of the 16th century. This is perhaps fifty years after the King's Gallery was constructed between the Salt and Lanthorn towers in 1506 – an event which might have provided an attractive date for the formation

of the garden. If the two events were connected, then perhaps it follows that the composition of the garden was renewed at a later date (as happened in 1977, in fact, when the soil was found to be too poor to be employed within a reconstruction of the garden).

NOTES

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10. S. Roskams (*pers. comm.*).

THE ROMAN POTTERY
by FIONA CAMERON

PHASE I (b).

Layer 34.

Very little material was recovered from this layer – a lid in a micaceous orange-buff fabric and a shell-gritted sherd with a row of impressed decoration on the shoulder. This latter is almost certainly from a hand-made vessel similar to Southwark type II.M. dated to the 1st or 2nd century AD.

Layer 33.

The only diagnostic sherds from this context are amphora body sherds, probably from a Dressel 20 South Spanish oil amphora. These vessels are known in London from the late 1st to early 3rd centuries AD but they are most common in the 2nd (Green 1980,40).

Phase I (c).

Layers 25, 30, 40 and 41.

Most of the fine wares in this group are from the Oxford region (Fig. 5, Nos. 3, 5, 6, & 13 for example) and seem to include Young's types C.51 and C.100 (a mortarium) and probably C.45, C.46, C.55 and C.56. There are also sherds from colour-coated beakers, one with deep roller-stamped lines in the form of a cross and another with both applied scales and rouletted decoration on the exterior (Fig. 5, No. 1). The provenance of the first is unknown but the second may be from the Oxford area c.f. Young's types C.23 (dated AD 270–400+) and C.30 (dated AD 340–400+). The date range for the red colour coated wares is very similar and also goes up to AD 340–400+ (Young 1978).

Among the oxidised wares are a ring-necked flagon (Fig. 5, No. 2) c.f. Southwark type 1.B.9 dated AD 130–180/200+ which is therefore probably residual here. There is also a body sherd from an Oxford parchment ware vessel with brown painted decoration, probably from Young's type P.24 (Young 1978) dated AD 240–400+. Another vessel whose provenance is unknown is the flanged bowl (Fig. 5, No. 7) although it is similar to Young's type C.51 dated AD 240–400+. This example is in an unslipped fabric, however, and is probably from another area. Apart from the colour-coated mortarium included with the fine wares, there is another example from the Oxford region (Fig. 5, No. 4) which is in a white colour-coated ware c.f. Young's type W.C.7.2. dated AD 240–400+. There is a third mortarium (Fig. 5, No. 12) in a white ware whose form may be related to 2nd-century AD types from Colchester c.f. Hull (1963, 116f), and is therefore probably residual.

There is little diagnostic material among the reduced wares and most of them are of uncertain provenance. Parallels for the 'dog-dishes' (eg. Fig. 5, No. 10) can be seen in late 4th-century AD contexts at Old Ford (McIsaac 1979) Fig. 19, Nos. 130–144 and Fig. 20, Nos. 185–190), although this is a very long-lived type. Of the 3 bowls with rims, one example (Fig. 5, No. 11) is probably from Alice Holt, Type 6.C.2. dated AD 350–420, a second (Fig. 5, No. 9) is paralleled at Old Ford (McIsaac 1979) in a late 4th-century AD context (Fig. 16, No. 43), whereas the third (Fig. 5, No. 8) seems to have more in common with the Southwark 2nd-century types eg Type IV.H and may be residual. There is also a single grey ware jar rim of the 'cavetto' type, which seems to start in the late 2nd-century AD in Southwark (c.f. Type II.F.8) but can still be found in 4th-century contexts at Old Ford (McIsaac 1979 Fig. 16, No. 56 and Fig. 21, No. 193).

As a whole this group is clearly 4th-century in date, with some 2nd-century residual material, but the inclusion of a number of the later types from Oxford and Alice Holt indicates that it belongs to the late 4th-century at the earliest.

Fig. 5

1. Beaker: soft micaceous buff fabric with pale grey core and brown slip on exterior. Rouletted and applied scale decoration. (layer 40).
2. Flagon: gritty grey fabric with pinkish surfaces and cream slip. (layer 40).
3. Bowl: orange fabric with orange-red colour coat. Oxford region. (layer 41).
4. Mortarium: micaceous orange fabric with cream slip; pink quartzite grits. Oxford region. (layer 41).
5. Bowl: soft micaceous orange fabric with red-orange colour coat and remains of white painted decoration. Oxford region. (layer 40).
6. Flanged bowl: fine grey fabric with orange surfaces and red-orange colour coat. Oxford region. (layer 40).
7. Flanged bowl: soft micaceous orange fabric. (layer 30).
8. Bowl: sandy dark grey fabric with burnished surfaces and burnished lattic on exterior. (layer 41).
9. Bowl: sandy pale grey fabric with darker surfaces. (layer 25).

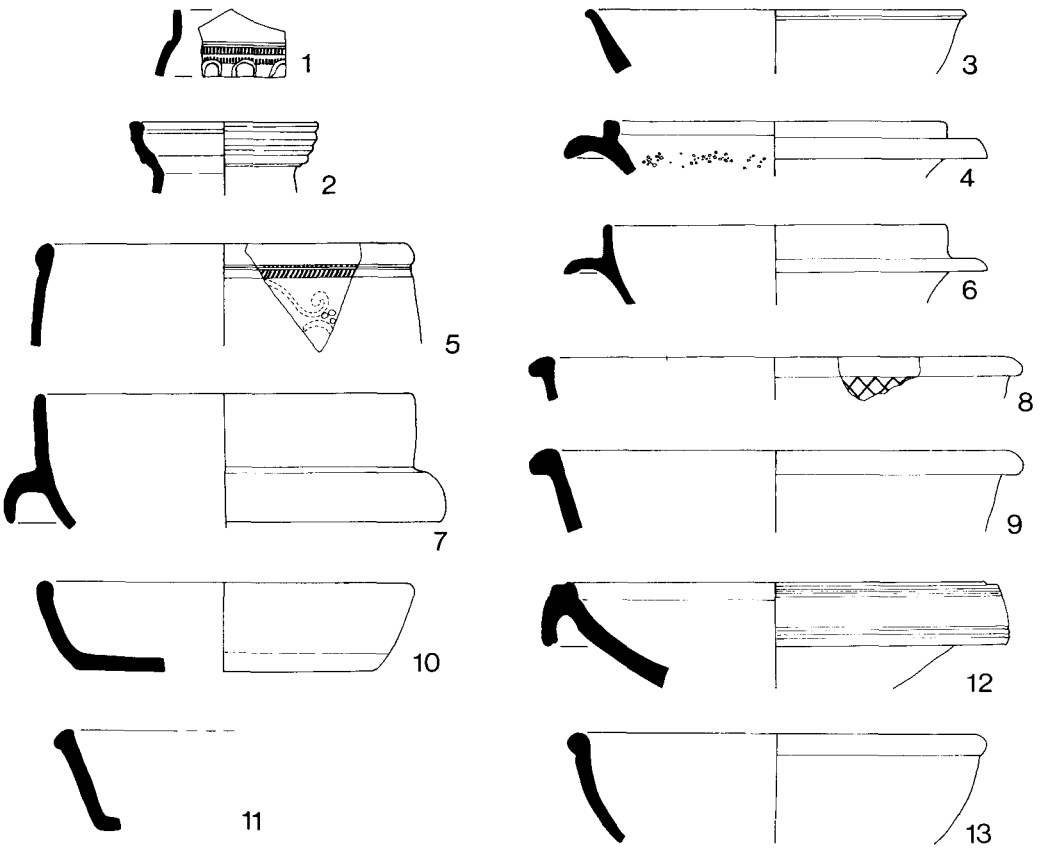

Fig. 5 Salt Tower 1976: Roman pottery Nos. 1 – 13. (1/4)

10. Bowl: hard, micaceous, pale grey fabric with burnished surfaces. (layer 30).
11. Bowl: sandy micaceous grey fabric with burnished surfaces. (layer 30).
12. Mortarium: soft pink fabric with cream surfaces. No grits. (layer 40).
13. Bowl: soft micaceous pinkish buff fabric with red colour coat. Oxford region. (layer 40).

THE MEDIEVAL AND POST MEDIEVAL POTTERY
by STEPHEN NELSON

The pottery from the post-Roman layers represented general accumulations of small and rather varied pottery types with no distinct groups, though there were two concentrations of material of the mid 16th century and the first-half of the 17th century. The fabric types were variable but material has been classified into broad categories (Fig. 6).

PHASE II (medieval).

The only layers apparently of medieval date were 29 and 32 from the construction trench of the *c.* AD 1240 curtain wall. They contained largely residual Roman material, but included a few medieval grey/red-brown glazed jug sherds, possibly Mill Green types, and shelly and sandy wares. No other medieval deposits appeared to survive and the early sherds that occured in other layers were clearly residual; even in these post-Roman layers the quantities of Roman pottery often outnumbered other material present.

PHASE IIIa (16th-century levels).

Layers associated with the Tudor Privy Garden (19, 20, 21, 22, 23, & 24) contained no clay tobacco pipes and a high proportion of hard red-earthenware of 16th-century date together with two distinctive imported French Saintonge polychrome vessels (Fig. 7, Nos. 1 & 2). No. 1 is a chafing dish of typical form (Hurst's type C.I. A – that is with 8 plain heads under small knobs glazed alternately

Layer	*Shelly Wares*	*Med. Grey Wares*	*Glazed & slipped M.G. type wares*	*Med. Surrey Ware*	*Stonewares*	*S.W. French Polychrome*	*Tin glaze*	*Later Surrey W. (Border W.)*	*Post-med. Red Wares*	*19th-cen. White earthenware*	*19th-cen. Stoneware*
3			23	6	11		6	5			
4				3							
9	1	1	13	11	1		2		1		
10			7				1				
12			24	5	1		4				
13			34	18	2		8				
14			128	56	8		55	3	4	3	
16			2					3	1		
19			2								
20			14	1			6			2	
21			3	1			1		1		
22								6	7		3
23			75	8	2	17	2	4	2	1	1
24			2					2	2		
29									2		1
32									1	2	1

Fig. 6 Salt Tower 1976: Table of post-medieval pottery.

green and yellow). The sherds show clearly the method of affixing the applied head and knob with two pointed wooden pegs and also exhibit oblique combed stabbing often seen on these imports. No. 2 is a finely modelled female head from the top of a spouted jug of Hurst's type A.II. The face and flared head-dress are glazed a very pale green. This contrasts with a head band extending over the head and continuing around the back of the neck which is an applied strip of red fabric glazed brown. The more exotic form of No. 2 may be slightly later than No. 1 but a mid to late 16th-century date for these two imports is suggested and would seem appropriate for this group of layers. Two sherds of a polychrome tin-glazed jar from layer 23 are probably 17th century in date and must be the result of contamination from the 1840's store foundation (layers 3 & 4) – a further sherd from the same vessel occured securely in layer 3.

PHASE IIIb (17th-century levels).

Layers 13 and 14 apparently represented a raising of the garden during the 17th century; the large numbers of clay tobacco pipes recovered suggest a *c.* AD 1640/60 date (see below). A high proportion of hard red earthenwares were present and though there were obviously some survivals from 16th-century levels, most of the forms would fit a date in the first half of the 17th-century. A large part of the side and base of a straight-sided redware mug was recovered (Fig. 7, No. 3) which showed part of a trailed slip inscription. Although the letters 'S' and 'ALL' are visible in two lines it is not possible to match these to any of the more common inscriptions, which are usually of a religious or convivial nature, found on Metropolitan slipware vessels, although it is tempting to link it to a homily on a jar in the Museum of London reading 'THE GIFT IS SMALL — GOOD WILL IS ALL 1650' (Hodgkin, 1891). Two sherds, from a disturbed context (layer 3) exhibited the trident motif very typical of Metropolitan slipware plates. The body of a Frechen stoneware 'belamine' (Fig. 7, No. 4) with a coat of arms plaque survived from layer 14. Although the neck and mask was missing it presumably dates to the first half of the 17th century. Sherds of other imported German stonewares were present both Cologne, Raeren and Siegburg, the latter two presumably again residual from earlier levels.

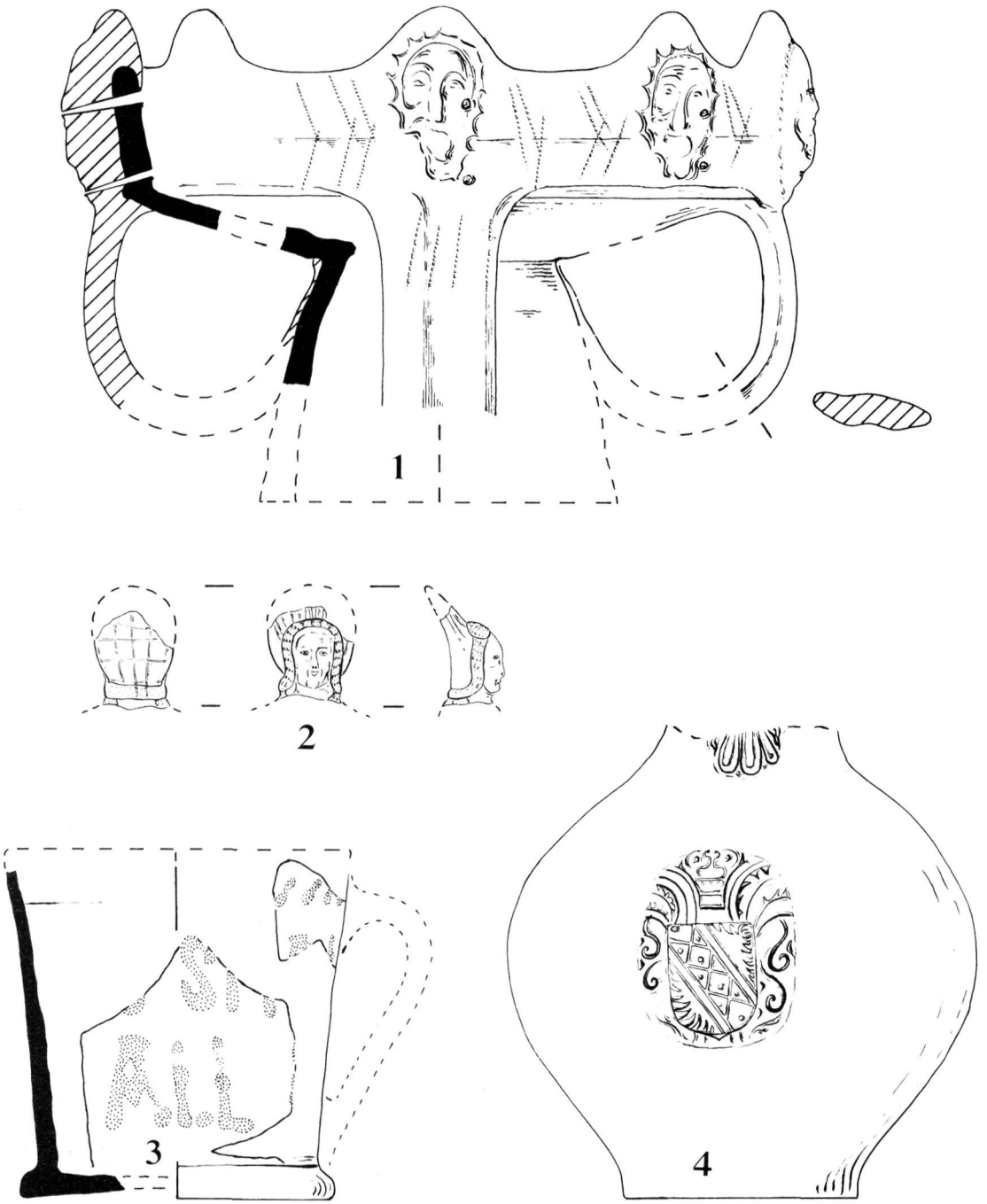

Fig. 7 Salt Tower 1976: Post-medieval pottery Nos. 1–4 (1/2)

PHASE IIIc (18th and 19th-century buildings).
Little material of 18th-century date occured and only two sherds of clearly 19th-century occured in layer 9 the infilling of a brick pier construction trench associated with the 1826 inn.

THE COINS
by PETER CURNOW

Postumus AD 259–68, Antoninianus, RIC 312 (Layer 22).
Regular Radiate *c.* AD 270,? Tetricus II (Layer 24).
Gloria Exercitus (1st) AD 337–41, Constantius II, LRBC. I, 132 (Layer 25).
Edward VI, Groat, Southwark Mint, AD 1547–50, Brooke 188 (Layer 21).

THE CLAY PIPES
by STEPHEN NELSON

In Fig. 8 the clay pipe bowls have been classified by type as in Oswald & Atkinson's London typology. It will be seen that no 18th or 19th-century examples were present. The bowls in layers 3, 9, 11 & 12 are all obviously residual. The rest of the material (58 bowls) is from layers 13 and 14, the later levels of the Privy Garden, and fits quite closely in a mid 17th-century date bracket. Ignoring the one fairly early small bowl, type 5, all the others are broadly datable to 1640–80. Of the later dating pipes, types 14 and 15, the bowls are small for the type with a more acute angled bowl rim and so would appear to date nearer to 1660 than 1680. There were no makers marks and decoration was limited to one moulded line-and-dot stem on a type 10. Four other type 10 bowls appeared to be slightly burnished.

Layer \ Type	5	9	10	11	12	13	14	15
3		2	4				1	
9			3				1	
11							1	
12		1	1		3	2	7	2
13		2	3	1			2	1
14	1	6	23		6	2	10	1

Fig. 8 Salt Tower 1976: Table of clay pipes.

THE GLASS
by JOHN SHEPHERD

Thirty fragments of glass were recovered from the post-medieval garden levels, of which nineteen are window glass. With the exception of window glass, the only piece to come from the lower deposits (layers 22, 23 & 24) was a fragment from the base of a high-footed or bowl of 16th or 17th-century date.

The upper deposits (layers 19, 20 & 21) produced the lower part of the stem of a goblet (17th century), fragments from a thin-walled bulbous flask, possibly a urinal (16th or 17th century), a bowl or lid decorated with small ovals in diaper (late 16th-early 17th century) and five 'punts' applied to a blown beaker(s) (16th-17th century). Perhaps the most significant pieces are two fragments from the rim and side of a goblet or beaker decorated with 'nip't-diamond-waies' (mid-late 17th century). Goblets with such bowls were ordered by John Greene, a prominent member of the Glass Sellers Company, from Alessio Morelli of Murano from *c.* 1667 to 1673. (British Museum Sloane MS. 857). However, there is no knowing as to whether this is one of Morelli's products.

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THE WESTERN DEFENCES OF THE INMOST WARD, TOWER OF LONDON.

GEOFFREY PARNELL

SUMMARY

Excavations against the west curtain of the Inmost Ward revealed a north-south ditch that antedated this part of Henry III's defences. The imposing base of the Wakefield Tower (began 1221) was located within a defensive ditch. Though concealed shortly after construction, the base of the tower was almost certainly intended to be seen. The adjoining curtain was constructed in at least three stages. The completion of the first was marked by the excavation of a temporary defensive ditch south of the Coldharbour Gate. The completion of the curtain and the building of the Coldharbour Gate was probably achieved by 1238; the later was rebuilt at a subsequent date.

INTRODUCTION

The information contained in this report is largely derived from excavations carried out by the Department of the Environment in 1974/5,[1] though results from earlier, largely unpublished, investigations in 1953 and 1972 are included. The 1974–5 excavations yielded several well-dated groups of 13th-century pottery which are described here in some detail. The opportunity has also been taken to publish additional medieval assemblages from the 1963–4 Jewel House excavations in order to provide a comprehensive pottery series for the 11th to 13th centuries at the Tower of London.

To understand the development of the western defences of the Inmost Ward it is necessary to summarise the early history of the Tower as described in the *History of King's Works* and subsequently modified by the results of Brian Davison's excavations on the site of the Jewel House (Davison 1967). It is also necessary to rehearse certain points made by Peter Curnow concerning the Wakefield Tower and western curtain (Curnow 1977), not only to provide continuity, but also to record the documentary evidence to which the latter part of this report is anchored.

THE DEVELOPMENT OF THE DEFENCES *c.* 1066–1240

There is much that is obscure about the early history of the Tower of London. It has long been assumed that the area of the Inmost Ward, lying as it does within the south-east angle of the Roman city defences, formed part of the stronghold raised by William the Conqueror to 'over-awe the vast and fierce population' of London in 1066/7. Evidence for an early enclosure was recorded by Brian Davison during excavations on the site of the Jewel House (Fig. 1). A ditch *c.* 8m wide and 3.5m deep was located running north-east to south-west across the Parade Ground north of the White Tower (Ditch B, Fig. 17). Near the north-west corner of the White Tower it turned south in the direction of the river. Since the White Tower (begun *c.* 1080) seemed curiously hemmed in by this arrangement, it was postulated that the ditch might have formed part of an earlier enclosure – perhaps a fortification dating from the emergency period that followed the Norman invasion (Davison 1967, 41).

The most likely route of the southern continuation of the ditch appeared to be down the west side of Henry III's Inmost

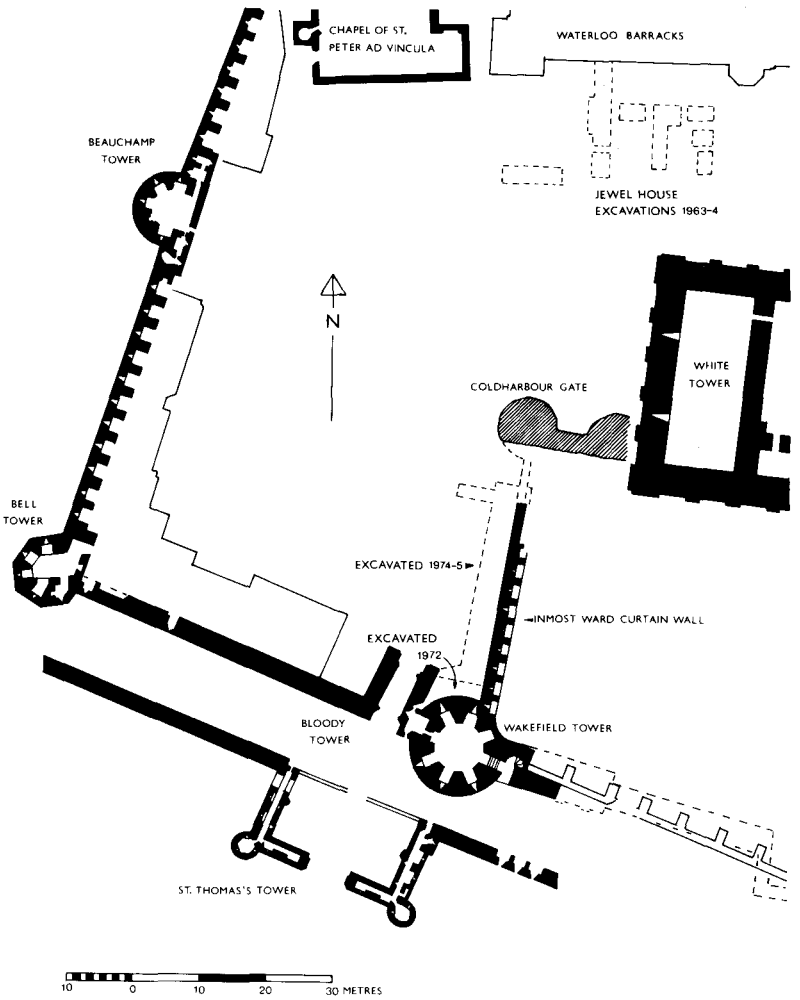

Fig. 1 General plan with location of excavations.

curtain, in the general direction of the Bloody Tower. Information obtained from an excavation against the north face of the Wakefield Tower in 1972 erroneously tended to support this theory.[2] The 1974–5 investigations, which sought to throw further light on the matter, did indeed locate a pre 13th-century ditch, though on a north-south alignment somewhat further to the east than had been expected. When projected it was evident that the two ditches could not have formed a straight line of defence. The significance of this is open to debate (see below) but nevertheless there can be little doubt that they did co-exist in some form or other.

Whatever the form of the early castle, the reign of Richard I witnessed a major development of the defences in 1190. Under the direction of the King's Chancellor, William Longchamp, the outer *enceinte* was extended westwards to encompass what is now the south-east angle of the Inner Ward (Davison 1967,

42). Work involved the excavation of a new ditch behind the White Tower (on the line of the earlier one) westwards towards the site of the Beauchamp Tower (Ditch A, Fig. 17). From here it presumably turned south along the line of the inner curtain to the Bell Tower; the existing Bell Tower and curtain to the east, largely date from this period.

In 1958, excavations against the south-west jamb of the Bloody Tower were extended westwards to reveal the footings of Longchamp's curtain wall. The seven offsets of Purbeck, which form the base of the wall, were found to die away below the outer arch and in their place was a later plinth of Reigate which continued around the base of the Wakefield Tower. The fact that Longchamp's wall stopped short of the corner of the Inmost Ward strongly suggests that by the end of the 12th century the ditch located on the north side of the Wakefield Tower was still a conspicuous feature (Fig. 5). By 1221, however, it must have gone out of use since another ditch associated with the construction of the Wakefield Tower was found to cut through its infill (see below).

Archaeologically it can be demonstrated that the contruction of Henry III's Inmost curtain involved at least three phases (Fig. 5). The first comprised the preparation of some 19.00 m of foundations north of the Wakefield Tower. The southern section was integral with the construction of the lower part of the tower and can, therefore, be dated *c.* 1221 – 5 (Colvin 1963, 710 – 4, 719 and references). The second stage involved the raising of the main body of the wall above the foundations, a task almost certainly carried out hand-in-hand with the building of the upper part of the Wakefield Tower. This can probably be dated *c.* 1225 – 35, for by 1238 the interior of the tower was being furbished (Curnow 1977, 173 – 4). Work on the remaining northern section of the wall and adjoining Coldharbour Gate was presumably completed by 1238, when a major expansion of the outer defences was set in motion (Colvin 1963, 711 – 2).

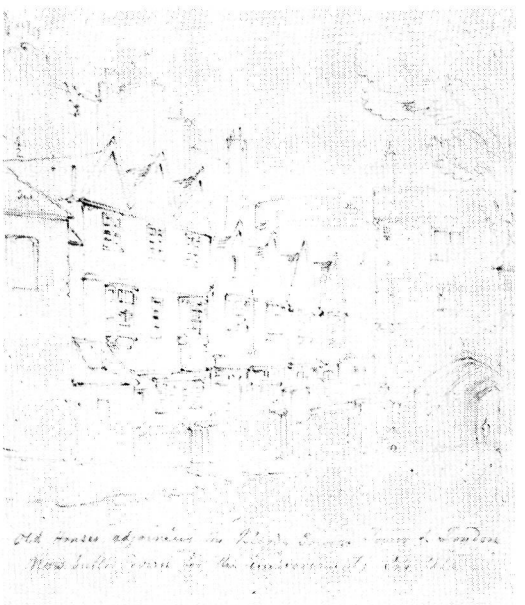

Plate 1 16th-century timber-framed buildings against the west face of the Inmost curtain, as viewed from the north-west by G. H. Shepherd in 1826 *(Courtesy of Guildhall Library).*

THE SITE

The main excavations were conducted between November 1974 and June 1975. Most of the work was confined to a 4.50 m strip along the west face of the standing curtain. Since it had been assumed that only the eastern edge of the conjectured ditch would be encountered in such a narrow area, an additional 2.20 m – 6.50 m trench was opened towards the north end of the site, in the hope of obtaining as complete a profile of the feature as was possible (Fig. 2).

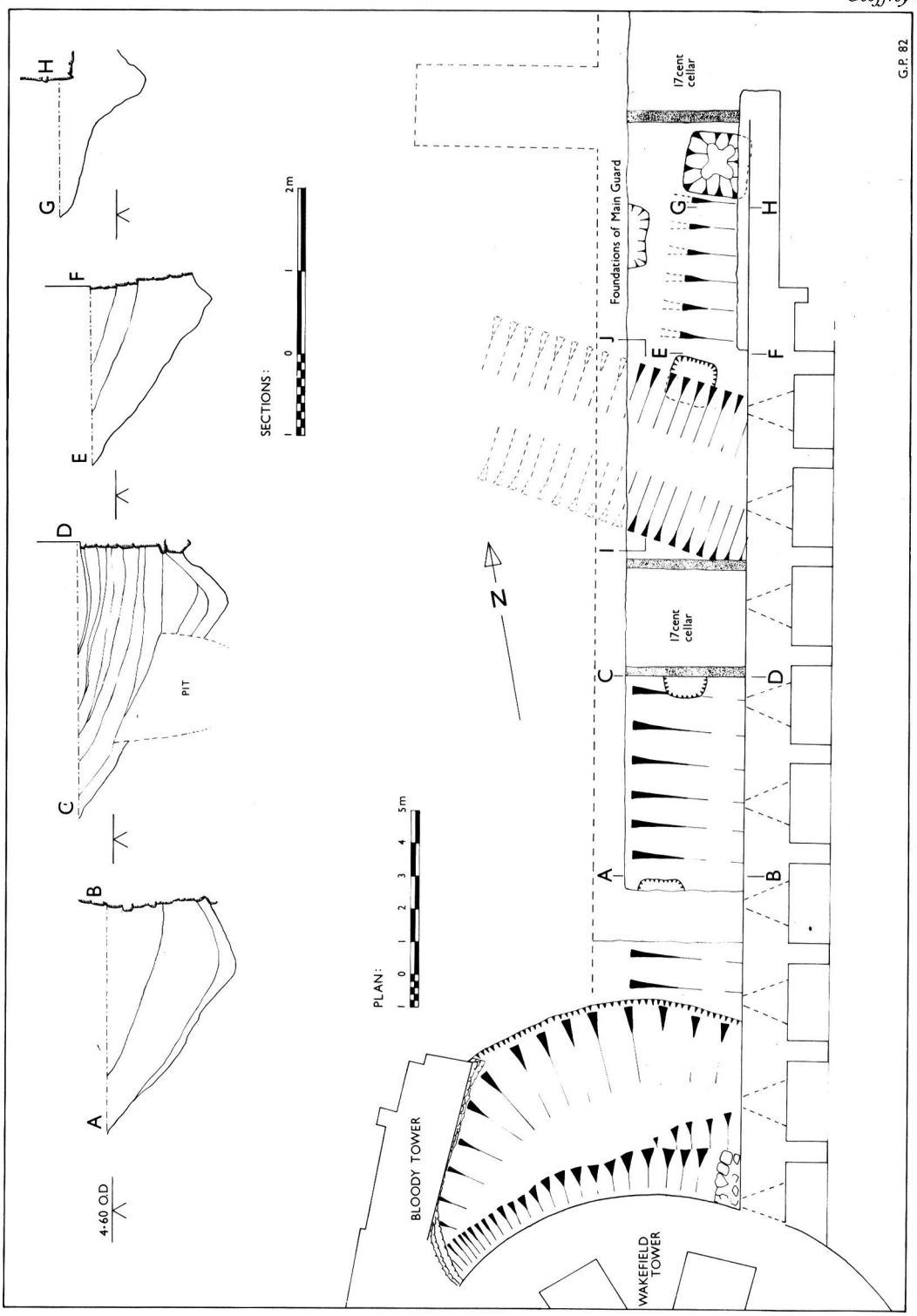

Fig. 2 Inmost Ward western defences 1974/5: Site plan and north-south ditch sections.

The west and north sides of the main area of excavation were ringed by the massive concrete foundations of the Main Guard - a daunting edifice erected in 1899 amidst much antiquarian protest and gutted by German bombs forty one years later (Plate 2). The medieval curtain itself was embedded in the heart of the building and only revealed after the Victorian masonry had been cleared away.

Until 1826 the area on the west side of the wall was occupied by a row of timber-framed buildings which, at least from 1682, served as Warders' lodgings (Plate 1). It seems possible, if not probable, that the same buildings are shown on the Haiward and Gascoyne survey of 1597. Their only surviving archaeological evidence were two deep cellars (probably 17th-century additions) and some very fragmentary ground floor footings. All cut through a cobbled road of late 15th or 16th-century date which lay directly over medieval deposits. The cobbles extended over much of the site and demonstrate that by the 16th century the ground level north of the Bloody Tower was only marginally lower than it is now.

1. PRE-HENRY III DEFENCES

The earliest medieval feature on the site was a V-shaped ditch on a north-south alignment which veered some 5° further to the north-east than the standing curtain (Fig. 2). It was traced for a distance of 26 m from a point 5.70 m north of the Wakefield Tower, where it had been completely cut away by a ditch associated with the tower's construction, to the

Plate 2 The 1899 Main Guard building viewed from the south-east after being gutted by German incendiary bombs in 1940.

Plate 3 The pre-13th-century defensive ditch viewed from the south. (1 m scale).

northernmost extent of the standing curtain, where its shallow remains were replaced by a 17th-century cellar. Throughout much of its course the ditch was severely cut about and truncated by later activity. Most of the eastern edge lay beneath and beyond the base of the extant curtain (Plate 3), while in the centre of the site a large section had almost entirely been destroyed by a later medieval ditch and another 17th-century cellar. Moreover, a general scarping of the site during the 13th century resulted in all but the lowest 1.00 m of the ditch surviving towards the north end of the site (Fig. 2, Section G-H). The best preserved section lay towards the south, where the scarping was least damaging. Here some 10 m of the feature survived to a maximum depth of 1.80 m; the width, when allowing for a projection of the east face, was 5.20 m.

The sides of the ditch were cut at an angle of some 35° and in the bottom was a shallow irregular runnel which had been formed by running water (Plate 3).

Over its exposed length, the bottom of the ditch sloped continuously from 4.30m O.D. in the north, to 3.00m O.D. in the south.

The ditch cut through Roman deposits overlying natural London clay, which in places was sealed by sterile bands of orange-coloured river gravels and sand. Towards the south end of the site the Roman levels were covered by over 1.00 m of dark featureless earth. The top of this material, together with any subsequent deposits, had been removed during the 13th century, dating the excavation of the ditch by means of a *terminus ante quem* therefore proved impossible.

Against the sides of the ditch, in the southern half of the site, was a band of fine silty soil the surface of which marked a final scouring of the feature before its eventual backfilling (Plate 3). The deliberate infilling lay directly over this material, with little evidence for any intervening activity. It seems reasonable to assume, therefore, that the ditch went out of use shortly after its final scouring – an interpretation supported by a comparison of the pottery from both the silts and the dumping (see below).

At some stage after the infilling of the ditch,

a number of cess pits were excavated along the length of the site, their rough, north-south alignment indicating an affinity with the line of the buried ditch (Fig. 2). Doubtless this association was dictated by a pre-Henry III curtain wall lying further to the east. The largest and most elaborate pit, lay partly beneath the north end of the Henrican curtain wall and showed signs of having contained four posts, presumably to support staging (Plate 4).

II. HENRY III DEFENCES

(a) *c.* 1221–5.

The principal work during this period involved the construction of the lower part of the Wakefield Tower to at least a height of 3.70 m (the level of the plinth). The drum was sited within a large quadrant ditch which at its maximum measured 6.00 m wide and 4.50 m deep. It comprised two parts; an almost vertical open ditch up to 3.50 m deep sloping gently southwards to a narrow cut which formed the construction trench for the lowest part of the tower (Plates 6 & 7).

Almost simultaneously with the start of the work on the Wakefield Tower was the construction of the lower part of the adjoining curtain wall within the tower's ditch. The majority of the masonry was bonded into the tower and clearly integral with it. There was, however, a rough, trench-poured footing at the base of the wall which was laid after the lowest four courses (75 cm) of the tower had been covered by a combination of silting and dumping (Plate 6).

At a height of 1.85 m and 2.55 m were two offsets in the face of the curtain. These were associated with working surfaces that extended over a mass of dumping lying against the face

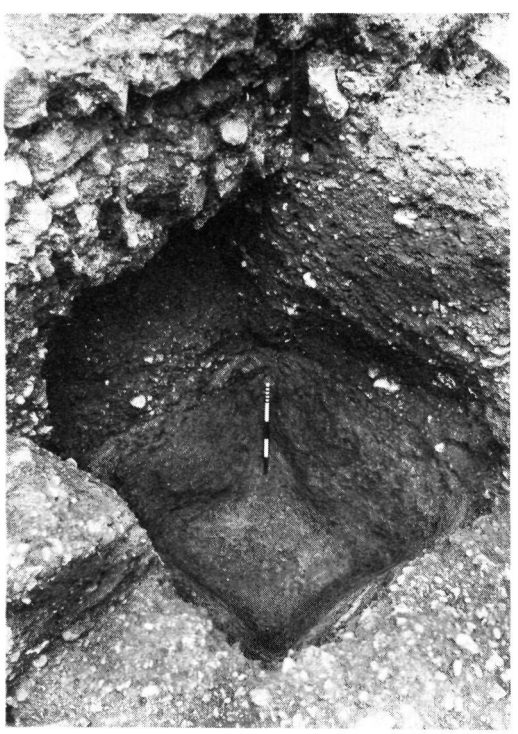

Plate 4 Early 13th-century cess pit, showing settings for internal timber staging, partly concealed beneath northern end of the curtain wall. (50cm scale).

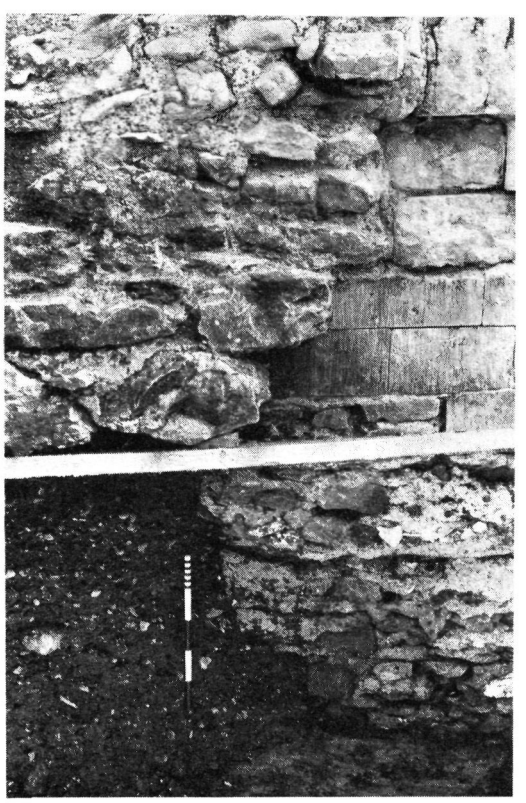

Plate 5 Foundations of northern continuation of curtain wall (left) clasped onto earlier ashlar faced masonry to the south. (50cm scale).

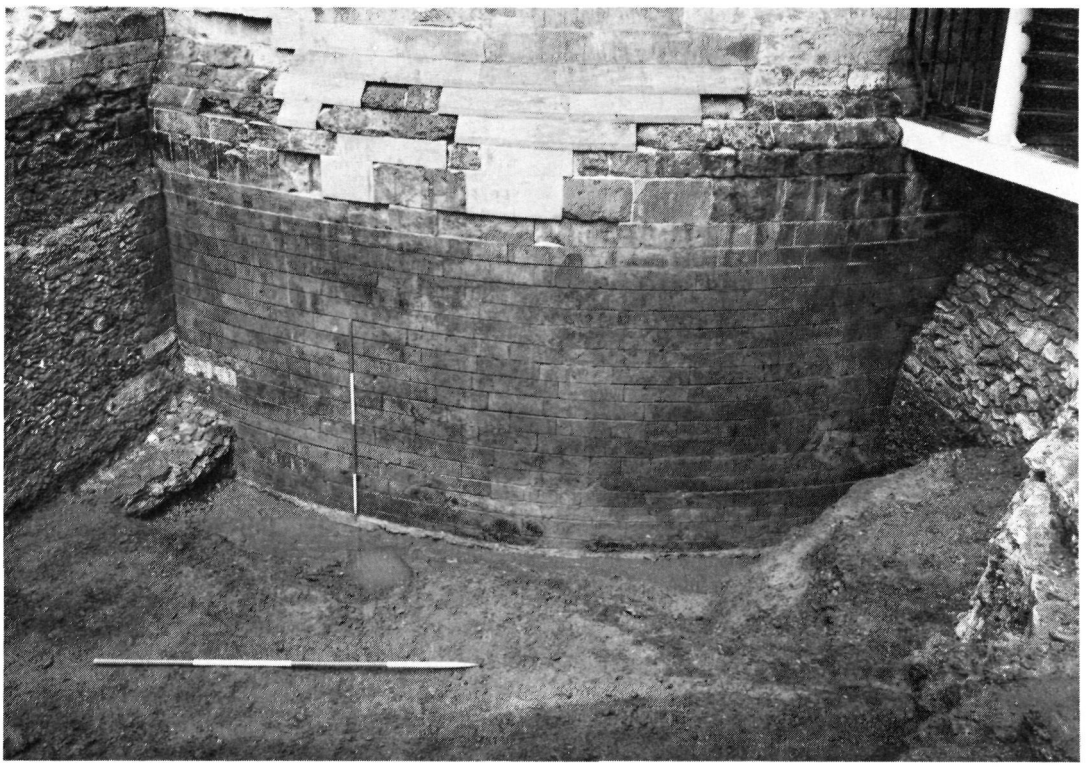

Plate 6 The excavated north face of the Wakefield Tower within its quadrant ditch. To the east (left) lies the lower part of the contemporary curtain wall, to the west the later revetment beneath the Bloody Tower. (2 m scale).

of the curtain and tower. At an early stage in the building programme, therefore, the decision to abandon the ditch around the Wakefield Tower had already been taken. That a change in concept had occurred was further supported by the character of the buried curtain itself, the coursed rubble masonry being carefully constructed and finely rendered and having all the appearance of being built to be seen (Plate 6).

Revetting the west face of the Wakefield ditch, beneath the Bloody Tower, was a wall some 1.90 m in depth. The east wall of the Bloody Tower relied on the revetment as a foundation – a function it seems to have been designed for. Though well-coursed and of stout build the revetment was not as meticulously constructed as the curtain wall opposite, it was not rendered and probably was never intended to be seen. It butted against the face of the Wakefield Tower and was sealed by the same dumping that covered the lower part of the curtain wall (Plate 7).

Contemporary with, or immediately after, the construction of the lower part of the curtain within the Wakefield Tower ditch, was the laying of some 8 m of curtain foundations on the higher ground to the north. Initially the builders employed a trench-poured construction, but this sagged considerably while the mortar was in a fluid state – evidently because the infilling of the earlier ditch, through which the footing was inserted, had not yet consolidated. To avoid further problems the next 12 m of the foundation were laid in a face-built manner. This change necessitated an almost complete re-excavation of part of the earlier ditch in order to accommodate the

masons; once the footings had been constructed the ditch was again infilled and levelled.

After the ditch had been backfilled, but before work on the main body of the wall had begun, a defensive ditch was excavated towards the northern end of the foundations on an east-west alignment (Figs. 2 and 5). This enigmatic feature survived to a width of 4.50 m and a depth of 1.50 m (Fig. 3); its dimensions might originally have been greater as the northern edge of the ditch appeared to be truncated.

(b) *c.* 1225 – 35

The small amount of silting within the east-west ditch, together with the absence of any evidence for recutting, indicate that the ditch was not in use for long. The deliberate infilling was sealed by a thick deposit of Reigate chippings and mortar waste which extended almost as far south as the Wakefield Tower, where it was cut away by later activity. The debris coincided with an offset in the curtain wall just below the lowest course of Reigate ashlar and clearly marked the construction level of the main body of the upstanding masonry. This is a little over 2 m wide and contains a formidable row of nine embrasures pierced with loops (Figs. 2 and 5).

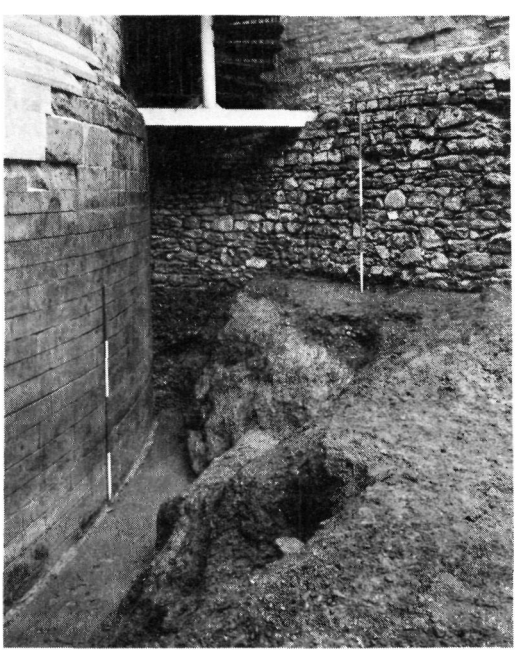

Plate 7 Junction of the Wakefield Tower and revetment beneath the Bloody Tower. (2m scale).

(c) *c.* 1235 – 40

The final stage of the Henrican work involved the construction of the northern continuation of the curtain wall and the Coldharbour Gate itself (Fig. 5). The surviving part of the curtain is fragmentary, though what remains indicates a significant change in build. Unlike that to the south, the main body of the masonry is founded on a wide, but shallow raft. At ground level the wall is only some 90cm wide (as opposed to 2 m elsewhere); there is no evidence for embrasures.

Examination of the recorded remains of the Coldharbour Gate indicate the presence of two separate structures. The earliest (that recorded in 1953) comprised the remains of a gatehouse with projecting circular towers standing just above foundation level. The plan conforms with typical twin-towered gatehouses of the 13th century and the remains can probably be attributed to the work of Henry III. The second structure (recorded in 1899), a much larger affair planted over the remnants of the former, was evidently of angular form with a large *c.* 2.50 m wide wall attached to the west flanking tower which ran south to the point in the curtain wall where the masonry narrowed (Fig. 4). It is possible, though by no means certain, that the second structure relates to documentary evidence for a proposed rebuilding of the gate in 1532 (Colvin 1975, 264).

DISCUSSION

The evidence presented here is principally concerned with two phases of the western defences of the Inmost Ward. The earliest, represented by a V-shaped ditch, could not be dated and its relationship with the Norman ditch north of the White Tower can only be conjectured. The profiles of the two features are similar and both are directed towards points along the Roman city *enceinte* where late Roman

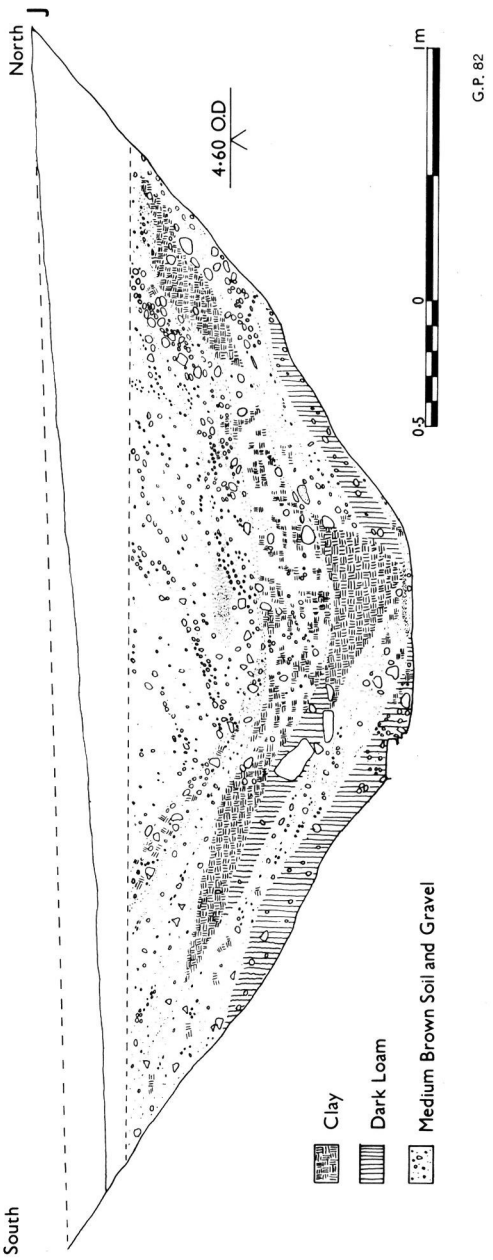

Fig. 3 Inmost Ward western defences 1974/5: Section across east-west ditch.

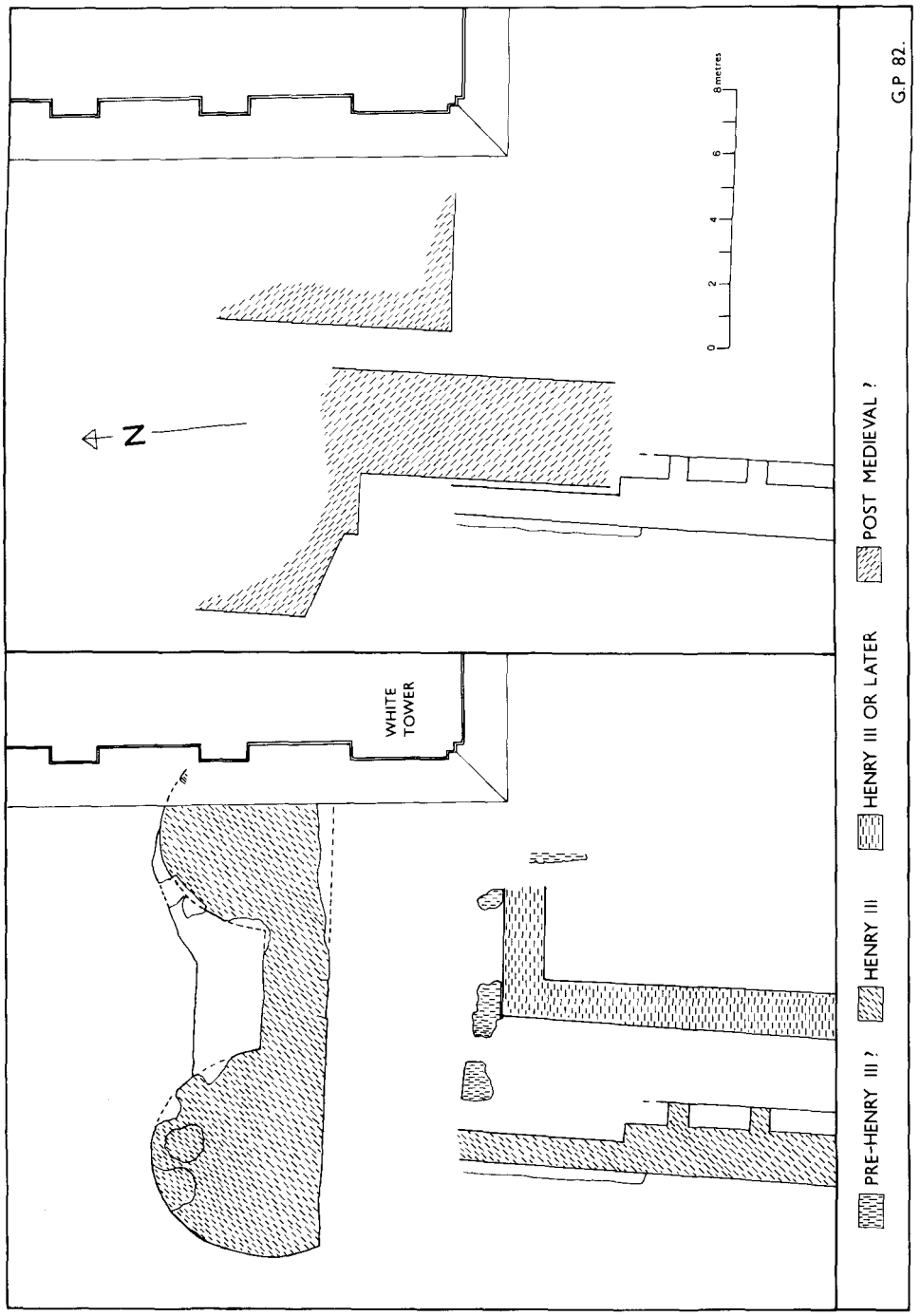

Fig. 4 Coldharbour Gate: Suggested phasing.

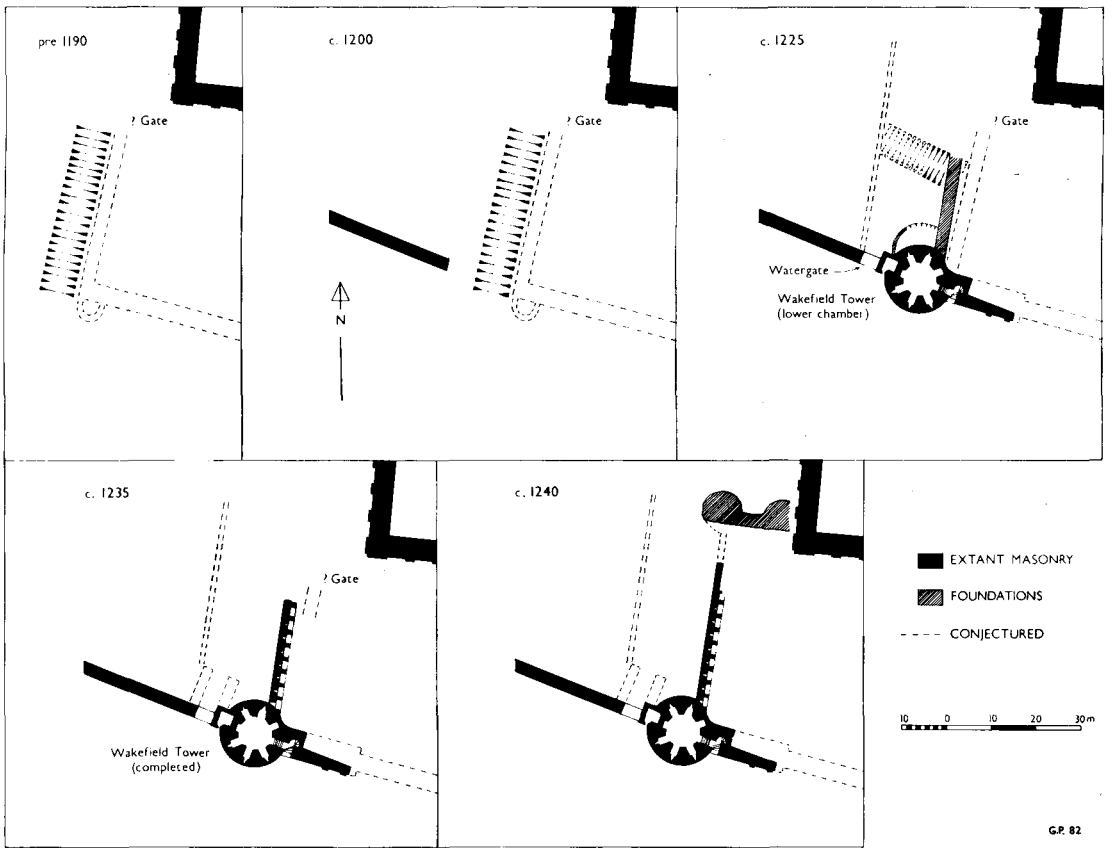

Fig. 5 Development of western defences *c.* 1190–1240.

bastions might have stood (Parnell 1980, 73). The fact that a simple projection of the two ditches does not produce a straight line cannot, in itself, exclude affinity. Hypothetically, the ditch turning south near the north-west corner of the White Tower might have skirted around the site of the great keep to form a semi-circular enclosure against the rear of the Roman landwall. If so, the ditch north of the Wakefield Tower might have marked the western limit of a bailey to the south. Alternatively, if projected, the two ditches might have produced a re-entrant on the site of the Coldharbour Gate – probably a point of entry into the castle from the earliest time, since it occupies a position along the projected line of Tower Street (Curnow 1982, 66). Norman gates are invariably sited over straight lines of defence, but the situation at the Coldharbour Gate might have been complicated by the presence of a substantial Roman building that is known to exist in the area (Parnell 1980, 71–2).

The rebuilding of the defences during the reign of Henry III, as part of the general improvement of the palace within the inner sanctum, appears remarkably indecisive in its execution. Both the base of the Wakefield Tower and the southern end of the curtain wall were constructed within

a large defensive ditch and the quality of the masonry indicates that they were intended to be seen. Before construction work had passed the level of the tower's ground floor plinth, however, the ditch was infilled.

The addition of a wall against the west side of the Wakefield ditch before its backfilling may be significant for the dating of the Bloody Tower. The east side of the gate passage rests precisely over the wall and there seems to the author to be a *prima facie* case for regarding the wall as a deliberately planned foundation. The Bloody Tower itself was evidently conceived as a single arched watergate within the thickness of the curtain wall, and it was only the subsequent addition of the flanking walls and rear arch which effectively converted the structure into a gatehouse proper (Fig. 5). The Royal Commission considered the work to be late 14th century (RCHM 1930, 80 and plan), the King's Works as an extension dating from the latter part of Henry III's reign (Colvin 1963, 711 and plan), while more recently Peter Curnow has argued for Edward I (Curnow 1978, 57). Architectural arguments aside, if the wall excavated beneath the east side of the tower is accepted as integral with its build, then it therefore follows that the conversion was probably an innovation of the 1220s.

The excavation of an east-west ditch some 19 m north of the Wakefield Tower is perhaps best interpretated as a temporary line of defence thrown up while work on the Wakefield and Bloody towers was in progress. There may, in fact, have been a halt in building work which left the towers indefensible (the infilling of the Wakefield ditch has already been commented upon). Since the main body of the new curtain had not yet been erected, it might be supposed that the east end of the ditch terminated before the earlier wall lying to the east. The western limit probably rested before a wall running north from the west jamb of the Bloody Tower (on the line of the present one) which retained the higher ground to the west (Fig. 5).

In the wake of the backfilling of the temporary ditch came a resumption of work on the main body of the curtain wall. Presumably the masonry was carried up to at least the tops of the embrasures, if not in fact to the full height of the wall. Curiously, however, no attempt was made to construct the northern continuation of the wall to the Coldharbour Gate. This enigmatic decision might indicate an intention to utilise an existing gate to the east, either as a temporary or permanent measure (Fig. 5). Clearance of the ground north and east of the extant wall in 1899 and 1953 revealed numerous foundations in this area, some of which may be associated with the pre-Henrican defences (Fig. 4).

It is perhaps to be expected that during a building programme spread out over fifteen years or so, a number of structural alterations might have occurred. The vacillations evident in the fabric of the western defences of the Inmost Ward, however, suggest appraisals of a more fundamental nature. The most striking examples are associated with the Wakefield Tower, which underwent a major revision at a very early stage in its construction, and the curtain wall, which might have been designed to engage an earlier gate. The impetus behind these changes could have stemmed from either Henry III's financial and political considerations and/or the revised demands of a monarch popularly remembered for his building zeal.

NOTES

1. The medieval aspects of this investigation are presented as a synopsis owing to the fact that the present author (who occupied a subordinate position during the excavation) has access to only part of the site record.
2. The ditch encountered during this work was in fact associated with the construction of the Wakefield Tower.

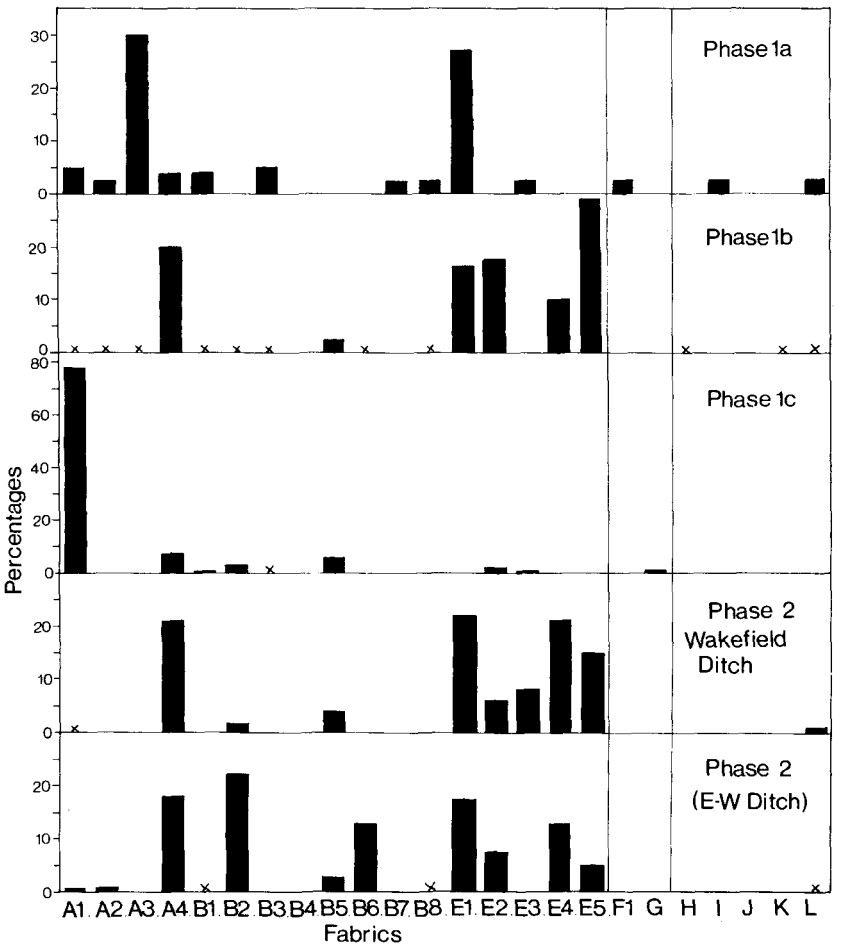

Fig. 6 Inmost Ward western defences 1974/5: Medieval pottery fabric percentages (X = 1% or less).

THE POTTERY
by MARK REDKNAP

The medieval pottery from the 1974–5 excavations north of the Wakefield Tower is of considerable interest as it forms the first securely dated assemblage of the 12th and 13th centuries so far discovered at the Tower of London.

Deposition on the site can be divided as follows:

PHASE 1 (*c.* 1190–1220)

1a. Silting within north-south ditch: layers 63, 101, 102, 106 and 122.

1b. Deliberate backfilling of north-south ditch: layers 32, 40, 45, 47, 48, 49, 62 and 103.

1c. Cesspits cut into above: layers 46, 144 and 147.

PHASE 2 (*c.* 1225–1235)

Backfilling of temporary east-west ditch and Wakefield ditch; Layers 77, 78, 87, 93 and 96, 97, 136, 137, 141, 153 (east-west ditch) and layers 227, 233 and 253 (Wakefield ditch).

Consequently the pottery has been examined and illustrated by phase. This material is now lodged in the Well Tower at the Tower of London.

METHOD OF ANALYSIS

Sherds were classified primarily by fabric, based on a visual examination 'life-size' and by 20x (area) binocular microscope of surfaces and fresh fractures. However subdivision of some fabrics depends also on surface treatment (e.g. glazed decoration). For convenience the fabric descriptions presented below include additional fabric types from the Jewel House material (Appendix). Common names are used whenever possible, and should permit correlation with other fabric indices.

In view of the small numbers involved, sherd count only has been used to quantify the different fabrics. The phasing employed represented particular events rather than periods of equal duration

THE FABRICS

The following fabric groups could be established:

A: SHELLY FABRICS

A1 (Early Medieval Sandy/Shelly Ware). Fairly hard fabric with irregular fracture. Inclusions are abundant coarse, angular (5 mm), though predominantly fine to medium shell; moderate well sorted sub-angular, medium, clear and white quartz and sparse fine black iron ore. Colour: grey core, with buff-orange margins and surface.

A2 (Early Medieval Shelly). Fairly hard, irregular fracture. Inclusions are very coarse to very fine (6 mm–0.1 mm) shell; sparse fine black and red iron ore, sparse very fine mica. The shell often lies flat on the surface. Grey core, buff-orange margins and surfaces.

A3 (coarse variation on A1). Fairly hard, with irregular fracture. Inclusions are abundant, fine (occasionally very coarse: 1 mm) white and clear sub-rounded quartz, moderate very coarse shell (5 mm), moderate fine black iron ore, occasionally coarse red iron ore (0.5 mm)

A4 (variation on A2: Shelly Ware). Abundant predominantly coarse shell (4–5 mm) not so much finer shell as A2. Very fine sparse mica, moderate coarse (2 mm) irregular limestone and moderate well-sorted medium white quartz. Grey (often dark grey) core, orange-buff margins. Characteristic later shelly fabric.

B: SANDY FABRICS

B1 (Early Medieval Sandy). Hard, harsh fabric with irregular fracture. Abundant medium, occasionally very coarse (2 mm) sub-angular pink and clear quartz (sometimes grey); moderate angular red and black iron ore. Grey surfaces, often lighter buff/yellow margins and core.

B2 Fairly hard with irregular fracture. Inclusions are abundant medium sub-rounded red and black ironstone (occasionally very coarse: 1 mm); sparse sub-rounded white quartz, moderate well sorted red and clear quartz (0.6 mm). Light grey core, orange-buff margins and surfaces.

B3 (variation on B1: finer Sandy Ware). Hard, fine feel, finely irregular fracture. Inclusions are moderate fine to medium sub-angular clear, white and grey quartz, sparse fine black ore; sparse coarse limestone (1 mm).

B4 Similar to B3, but with abundant, predominantly coarse sub-angular and white quartz, sparse fine red and black iron ore. Grey core, orange margins with reduced dark grey surfaces.

B5 (Northolt/South Herts. Grey Ware). Very hard, with irregular fracture, friable. Moderate medium to coarse white and clear, sub-rounded quartz (occasionally angular); sparse fine black iron ore. Very occasionally coarse flint visible on surface.

B6 (Surrey?). Variation on B5, with the addition of medium ?limestone. Smoother outer texture.

B7 (variation on B5). Abundant fine to coarse, predominantly medium white and grey quartz, sparse fine black iron ore. Light grey core, grey surfaces.

B8 (Early Surrey?). Hard, rough with irregular, occasionally slightly laminar fracture. Inclusions are abundant ill-sorted fine to medium, sometimes coarse (2.5 mm), red, white, grey and brown quartz (occasionally clear); sparse fine to medium black iron ore. Generally grey outer margin and surface, whitish-cream inside margin and surface.

C: FLINTY FABRICS

C1 (Early Medieval Flinty). Hard, rough with irregular fracture. Abundant medium to very coarse (4.5 mm) angular white flint, abundant medium to coarse sub-rounded white and grey quartz, sparse fine black iron ore. Core is reddish-orange, with greyish-brown surface.

D: CHALKY FABRICS

D1 (Early Medieval Chalky). Fairly hard, irregular fracture, with abundant ill sorted coarse (0.6–1.5 mm) sub-angular white red and clear quartz, moderate coarse chalk (1 – 1.5 mm).

E: SANDY LONDON WARES

E1 Hard with finely irregular fracture. Grey core, red-orange margins and surfaces, with moderate, predominantly fine to medium clear and whitish sub-rounded quartz, abundant fine black iron ore, occasionally red iron ore. Surface treated often with white slip and green splashed glaze.

E2 (variation on E1). Abundant fine sub-rounded white quartz, occasionally coarse clear quartz (1 mm): abundant fine black iron ore; occasionally grog. Not always glazed.

E3 (coarse variation on above). Hard, harsh texture, with abundant sub-rounded, coarse brown, grey and white quartz. Occasionally very coarse (1.5 mm).

E4 Fabric as E1, distinguished by external treatment of clear/amber glaze over white slipped lattice decoration (appears as yellow).

E5 ('Rouen Copies': London/N. French Ware). Fabric as E1. Surface treated to yellowish green glaze direct on body, alternating with dark brown glazed panels bordered

in white slip in imitation of true Rouen Ware.
E6 As E5, but with all over white slip beneath glaze, over which decoration has been formed.

F: THETFORD TYPE WARE
F1 Hard, fine fabric with finely irregular fracture (slightly laminar). Abundant very fine angular white quartz, occasionally coarse (1–3 mm). Grog? Sherds are frequently trimmed/scraped inside. Dark grey to black colour throughout (surfaces darker).
F2 Possibly oxidised version, though definition as Thetford uncertain. Similar surface appearance to H, but in hard orange fabric with finely irregular fracture and inclusions of abundant very fine ironstone and fine to very fine sub-rounded clear and white quartz. Trimmed internally.

G: STAMFORD
Very fine, smooth fabric, slightly laminar fracture. Inclusions are sparse fine clear quartz (predominantly very fine); very fine red and black iron ore; mica flecks. Cream-buff throughout, leaf green glaze out.

H: EARLY GERMAN 'STONEWARE'
Very highly fired, though not true at stoneware, it is hard dense, with conchoidal fracture. Inclusions are moderate coarse, angular clear quartz/felspar, moderate sub-angular coarse ironstone, sparse angular coarse white quartz, with moderate yellow clay flecks (0.6 mm) contrasting with the dark reddish brown core. Sparse coarse angular black inclusion (0.6 mm). Grey margins and dull, matt brown clay slipped glaze. Resembles the 12th century early stonewares from the middle Rhineland (e.g. Aachen, Trier, Mayen) The angular inclusions do not suggest a Rhine sediment sourse.

I: 'PINGSDORF TYPE' WARE
Dense, hard, highly fired fabric with finely irregular, slightly laminar fracture. Inclusions of abundant very fine to medium well sorted sub-angular white and clear quartz (0.3 mm), sparse ill-sorted, generally fine, red and black iron ore. Surface treated often with red paint (fires dark brown). For analysis of the numerous red-painted ware fabrics from the middle Rhineland see Janssen and De Paepe (1976). The sherds from the Tower resemble samples collected by the author from material excavated at Brühl-Pingsdorf (now in Bonner Landesmuseum) but granulometric analysis is really necessary for source identification, and much work remains to be done on fabric ranges.

J: 'BLAUGRAUE WARE'
Finely rough surface texture, very hard with conchoidal fracture. Abundant ill-sorted sub-angular fine and medium grey and white quartz, abundant very fine to medium black iron ore (occassionally 0.5 mm). Light grey with creamy margins; greyish-black surfaces. Outer surface decorated by deep horizontal finger rilling.

K: ANDENNE WARE
K1 Smooth, hard buff-orange fabric with finely irregular fracture. Inclusions are moderate very fine well-sorted sub-rounded clear and pink quartz; sparse very fine black and red iron ore. Outer surface covered in amber-brown glaze.
K2 Coarse variation on above. Sandier orange fabric with abundant medium sub-rounded pink and clear quartz, sparse fine black and red iron ore. Amber glaze in and out.

L: ROUEN WARE
Smooth, hard, finely irregular fracture, with moderate very fine sub-angular clear quartz, occasionally very coarse (1.5mm); sparse very fine black and red ironstone; sparse course sub-angular pink quartz. Creamy white colour throughout with yellow glaze on outside.

M: NORTH FRENCH?
Smooth, hard, finely irregular fracture with abundant very fine red and black iron ore; sparse coarse angular white quartz; occasionally fine sub-angular pink quartz. Creamy white fabric with leaf green outer glaze.

CATALOGUE

Descriptions have been kept minimal, concentrating on detail not apparent from illustrations. The following abbreviations have been used: HM = hand-made; G = green; B = brown; Y = yellow; GR = grey; O = orange; M = margins.

Fig. 7, A. Cooking pot found by excavations at the foot of the inner curtain wall west of the Bloody Tower in 1958 in deposits overlying the base of the wall and therefore probably deposited sometime after its construction in 1190. For triple finger tipping on a similar example see Curnow 1977, Fig. 10, No. 2 from a mid 13th-century context against the south side of the Wakefield postern. Six pie-crust strips around circumference. Fabric A4.

Phase 1a (*c.* 1190–1220).

Fig. 7.

No.	*Fabric*	*Layer*	*References, comments*
1	B3	63	(Thorn 1978, Fig. 50, No. 19) Stamped top.
2	B3	63	(Durham 1977, Fig. 17, No. 5) Sooted out.
3	A3	102	(Durham 1977, Fig. 18, No. 1, Fig. 19, No. 13) Not obviously HM.
4	A3	102	(Durham 1977, Fig. 17, No. 6) HM.
5	B1	106	(Durham 1977, Fig. 17, No. 17) Fine, sandy. G core and M., O surfaces.
6	A1	63	HM, reduced.
7	E1	63	Green glaze direct on body.
8	E1	63	Green glaze direct on body.
9	E1	63	Green glaze direct on body. Rod handle.

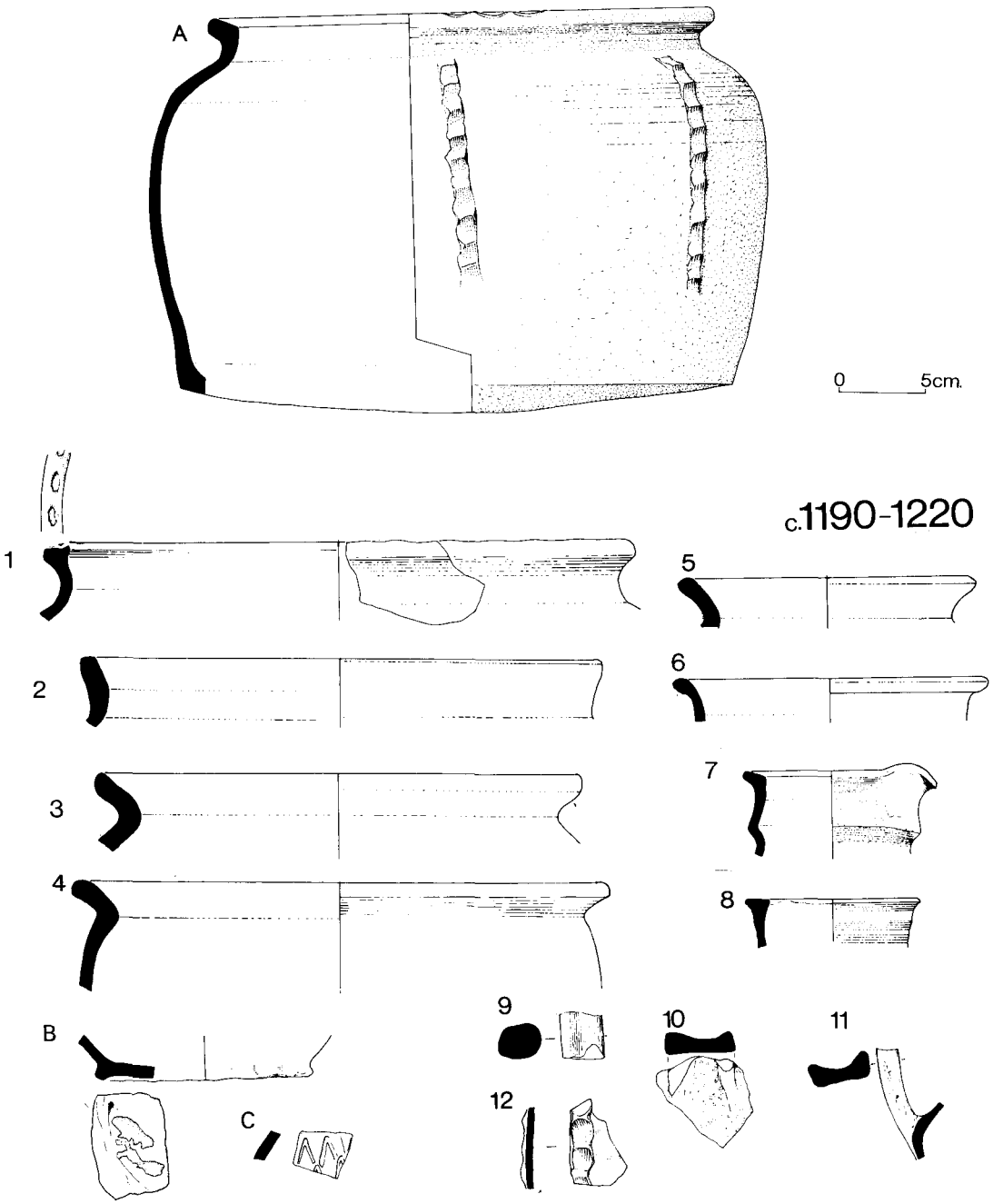

Fig. 7 Inmost Ward western defences 1974/5: Medieval pottery Nos. 1 – 12. (1/4)

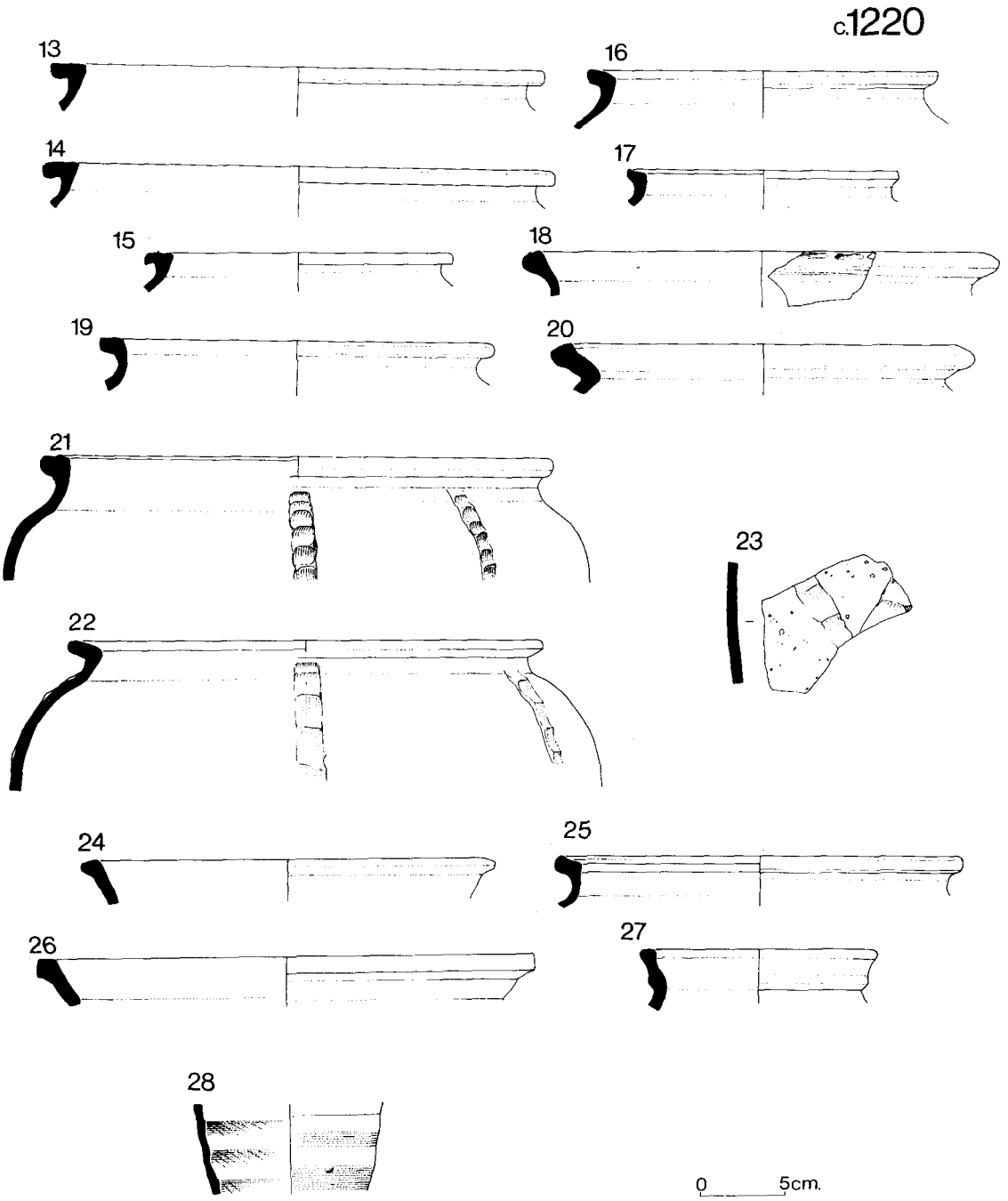

Fig. 8 Inmost Ward western defences 1974/5: Medieval pottery Nos. 13–28. (1/4)

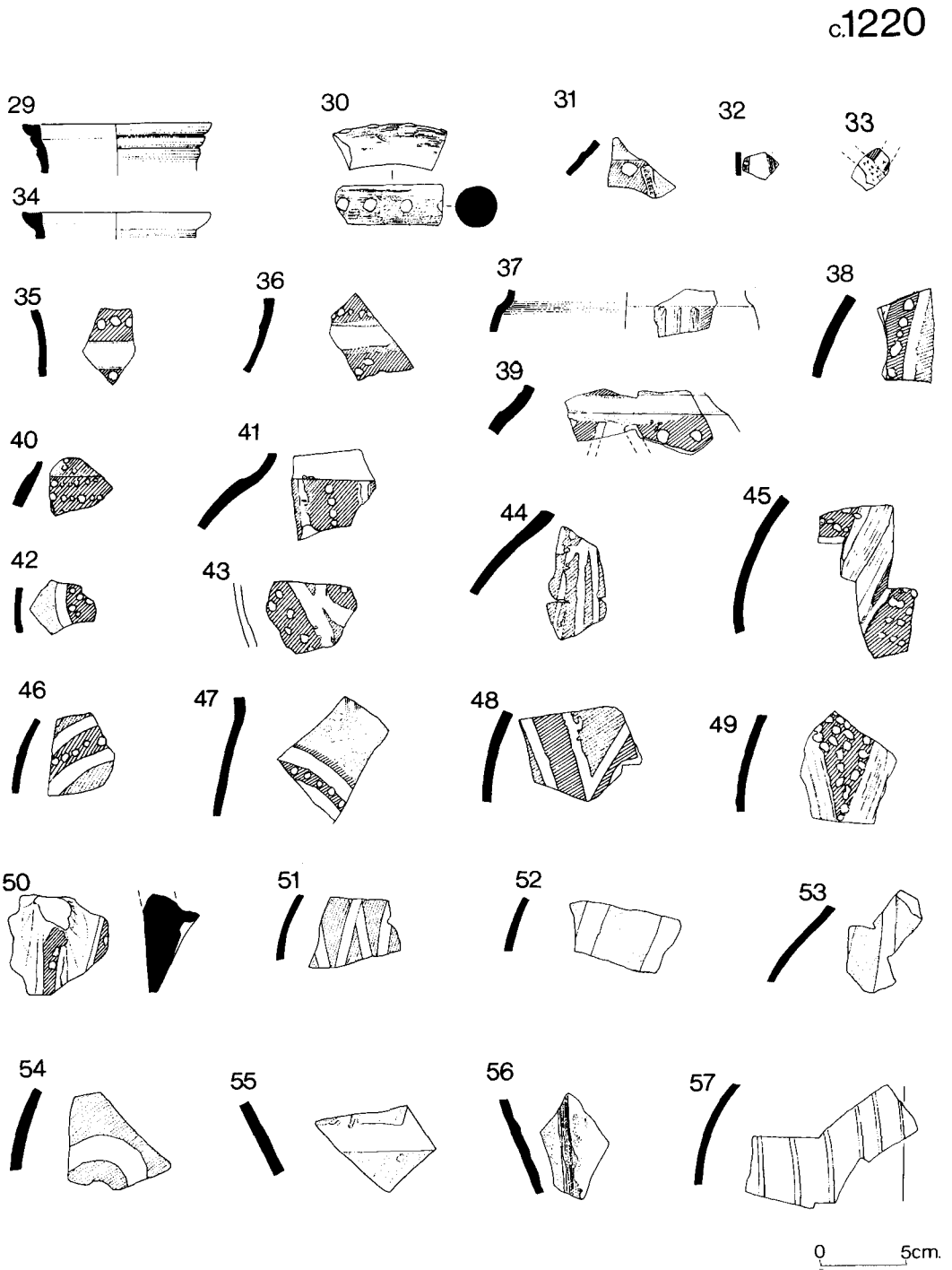

Fig. 9 Inmost Ward western defences 1974/5: Medieval pottery Nos. 29–57. (1/4)

10	E2	102	Fine light grey sandy fabric, light G glaze.
11	E1	63	Glaze direct on body. Possibly same vessel as No. 7.
12	L	122	Grey.
B	I	106	Slightly pinched base (early).
C	F1	63	Rouletted. Dark grey wall sherd.

PHASE 1b (*c.* 1220)

Fig. 8

No.	*Fabric*	*Layer*	*References, comments*
13	A4	48	(Thorn 1978, Fig. 50, No. 12) Buff-0.
14	A4	32–48	As above.
15	A4	32	
16	A4	32–48	
17	A4	43	Gr. core.
18	B2	43	(Durham 1977, Fig. 20, No. 6).
19	A4	32	
20	A3	62	Possibly HM, not clear. Gr. core and M.
21	A4	46	Thumb applied strips—possibly 8.
22	A4	32–48	Possibly 5 or 6 applied strips.
23	A4	32	As above.
24	B1	62	Sandy, Gr.
25	B4	49	(Thorn 1978, Fig. 50, No. 15; Hurst 1961, Fig. 70, No. 3 and Fig. 67, No. 47).
26	B3	32–48	
27	B8	45	(Hurst 1961, Fig. 71, No. 3) Gr. Pitcher?
28	H	32	(Beckmann 1974, Figs. 17–18, Nos. 124–140; Redknap, in progress).

Fig. 9

29	L	48	Green spot on rim edge.
30	L	32–48	
31	L	32	
32	L	32–48	Right hand rouletted strip G glazed, rest Y.
33	L	48	Brown darker glaze.
34	L	32–48	
35	E5	48	B and Y glaze. Oxidised.
36	E5	32	(Tatton-Brown 1975, Fig. 14).
37	E5	48	B and G glaze with Y band and dots.
38	E5	32–48	(Tatton-Brown 1975, Fig. 24) Light G and B glaze, Y applied strip.
39	E5	32–48	Reduced. Dark B, G and Y glaze.
40	E5	48	Oxidised. Dark B glaze under Y dots.
41	E5	32–48	Oxidised. Y over light B/reddish B glaze.
42	E5	32–48	Amber/B and Y glaze.
43	E5	32–48	Dark B, G and Y glaze.
44	E5	32–48	B and G background, Y strips.
45	E5	48	Y and G applied decoration, Y dots.
46	E5	32–48	Dark brown glaze, Y and G also.
47	E5	32–48	G, B and Y glaze. Hard grey fabric.
48	E5	32	Dark B, G, Y and black.
49	E5	48	Y and B.
50	E5	49	B and Y, with splashed O/clear glaze.
51	E54	48	Weathered B and Y.
52	E5	32–48	Y and G.
53	E1	32–48	O fabric, G glaze with Y bands.
54	E5	32–48	Jug base. G and Y.
55	E2	32–48	Mottled G, and Y.
56	E1	48	Dark B–G applied rib. Mottled G glaze over white slip.
57	E1	32–48	(Platt and Coleman-Smith 1975, Fig. 143, No. 258: *c.* 1200) Amber streaky glaze out.

Fig. 10

No.	*Fabric*	*Layer*	*References, comments*
58	E1	38	Pitcher. Slashed G glaze.
59	E1	32–48	Clear glaze out. Handle probably fits.
61	E4	48	Clear O glaze, white slip out.
62	E4		Splashed clear/O glaze out.
63	E1	32–48	White slip in, traces of clear glaze out.
64	E1	48	White slip. B–G glaze out below Y glaze.
65	E4	48	White slip inside rim. Splashed amber glaze.
66	E1	48	White slip. Y glaze out.
67	E1	48	Grey fabric, white slip in and out. Y lower band. G/O glaze out.
68	E5	46	Dark B/G glaze, Y applied decoration.
69	E1	48	G/B glaze out, white slip out below Y band.
70	E1	32–48	Dark G splashed glaze out; hard, fine, sandy fabric.
71	E2	32–48	G glaze out (Y-white decoration).
72	E2	32–48	Rod handle, dark G glaze.
73	E1	48	Mottled G glaze over white slip; dark brown ribbing.
74	E1	32–48	Possibly same vessel as No. 70.
75	E1	32–48	Splashed G glaze out.
76	E4	48	Speckled G glaze out; splashed below.
77	E4	32–48	O glaze on bottom.
78	E2	32–48	Dark G glaze out. Pinched base.
79	E4	32–48	Mottled clear O/G splashed glaze out.
80	E2	32–48	Dark Gr-G glaze.
81	E2	32	Green glaze.
82	E4	32	Rod handle, French copy. Clear/O splashed glaze. (Platt and Coleman-Smith 1975, Fig. 179, Nos. 966–9 (*c.* 1250–1300); Curnow 1977, Fig. 12, No. 27).

PHASE 1c (*c.* 1220)

Fig. 11

83	A1	144	Lumpy appearance. HM?
84	A1	144	(Jope 1953, Fig. 33, No. 17). Vesicular surface.

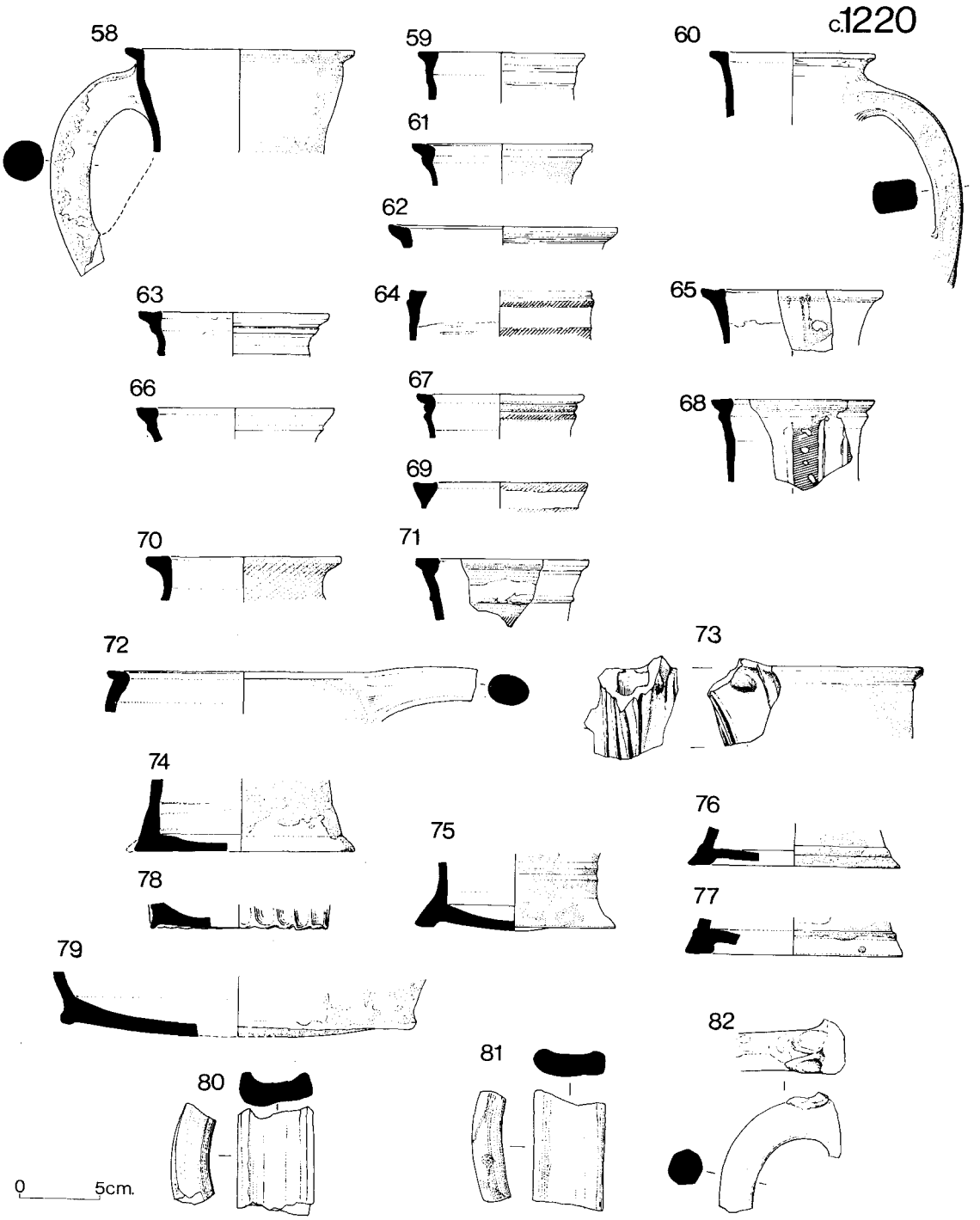

Fig. 10 Inmost Ward western defences 1974/5: Medieval pottery Nos. 58–82. (1/4)

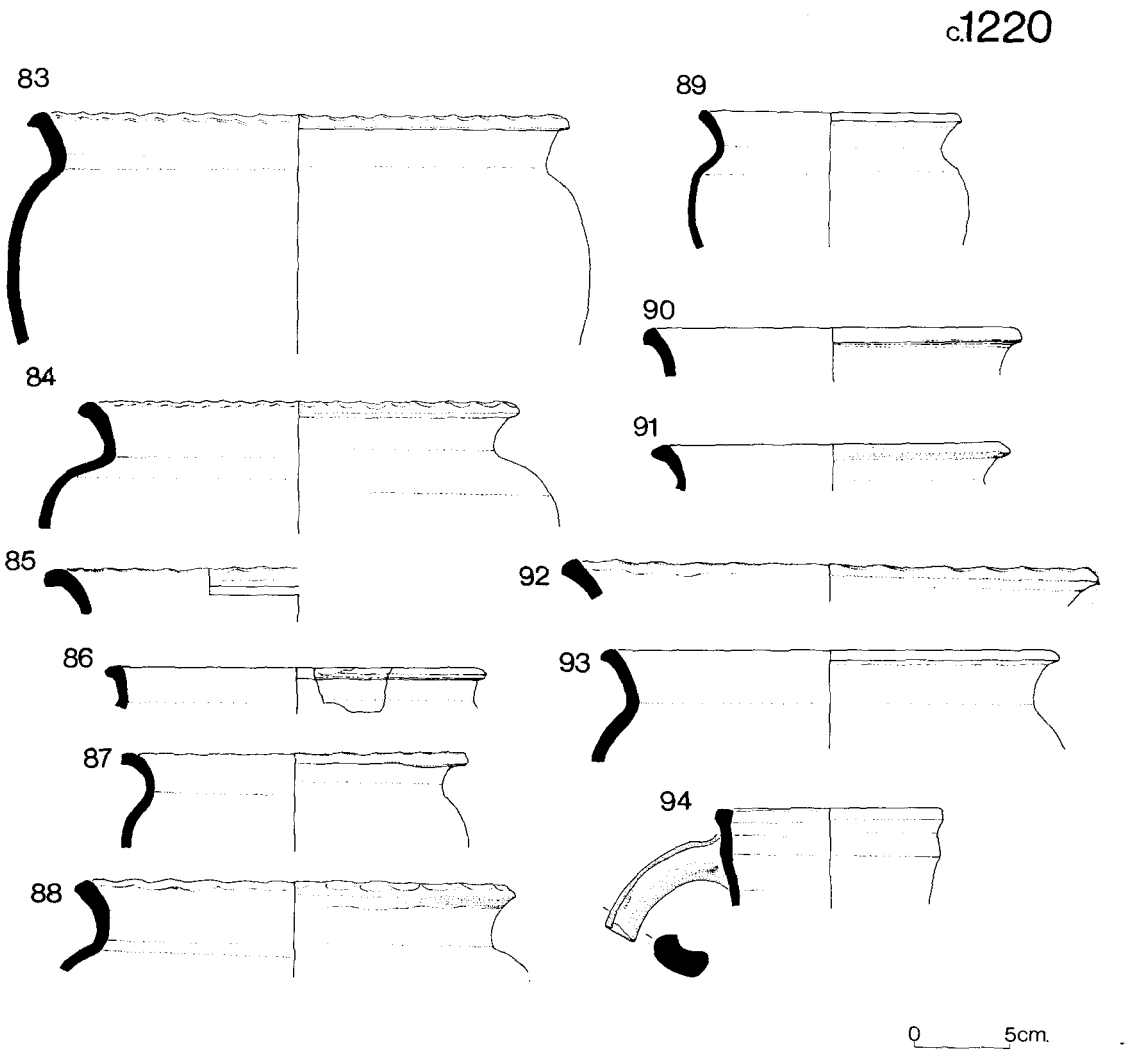

Fig. 11 Inmost Ward western defences 1974/5: Medieval pottery Nos. 83–94. (1/4)

85	A1	144	Oxidised.
86	A1	144	Buff, sandy.
87	A1	144	Slight finger-tipping on rim top. Buff, sandy.
88	A1	144	(Crummy 1981, Fig. 32, No. 29). Grey.
89	A1	144	Sandy buff- Gr, sooted black.
90	A1	144	Gr.
91	A1	144	Sandy.
92	A1	144	Gr.
93	B1	144	Sandy; white slip out?
94	B3	144	Thorn 1978, Fig. 53 No. 43) Clear/O splashed glaze out on handle. Gr core. Pitcher.

PHASE 2 (*c.* 1225–1235).

Fig. 12

95	B5	233	Gr, sandy.
96	A1	227	Gr-black top.
97	B5	233	Sooted Gr-black.
98	E2	233	Skillet cf. Fig. 9, No. 72. Diameter possibly smaller. Gr glaze. Handle perforated from inside vessel; clay plug inserted into hole.
99	E4	227	Amber/clear glaze. Plugged handle. Trimmed to shape.
100	E1	227	(Thorn 1978, Fig. 52, C) White slip in and out under dark G glaze.

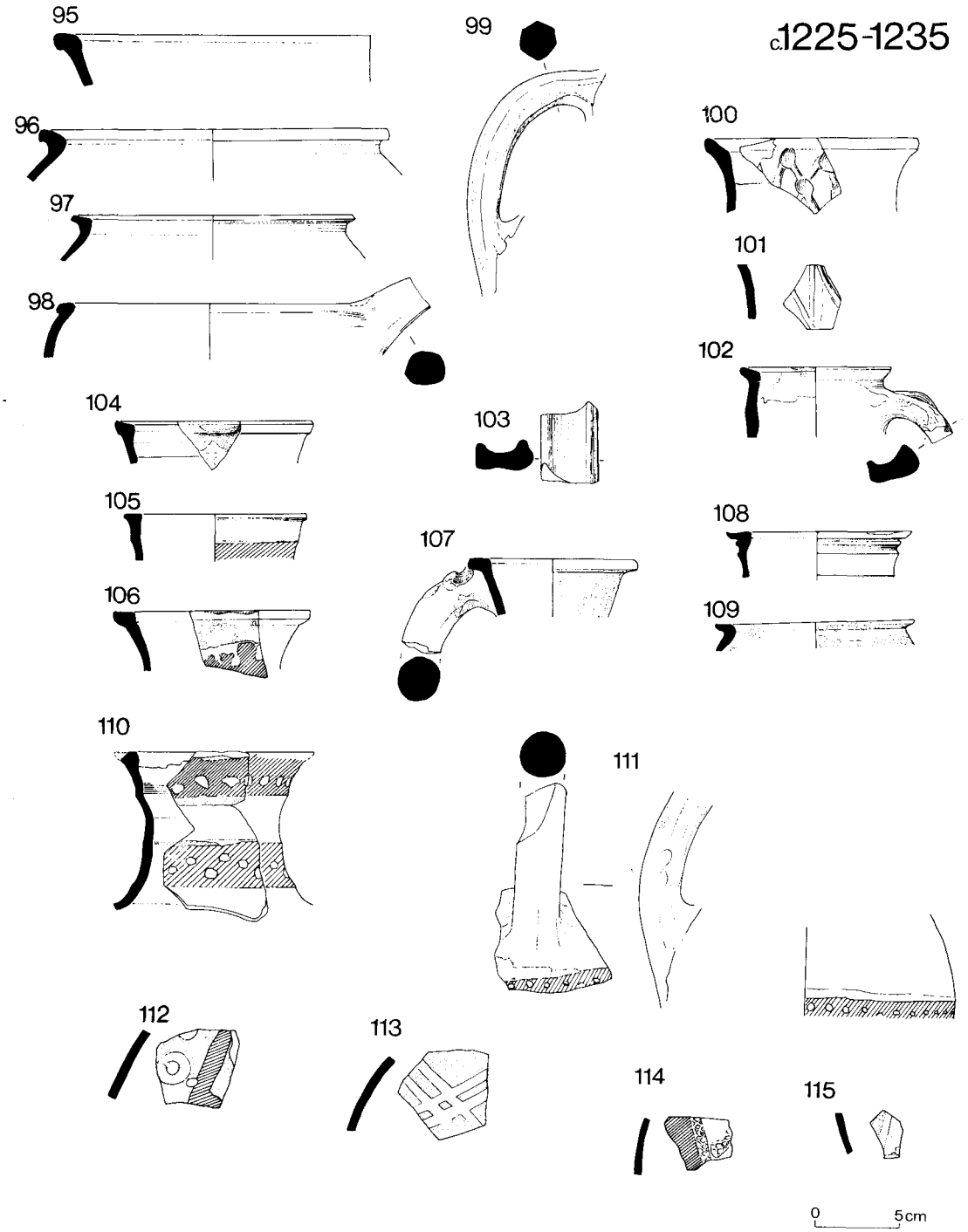

Fig. 12 Inmost Ward western defences 1974/5: Medieval pottery Nos. 95–115. (1/4)

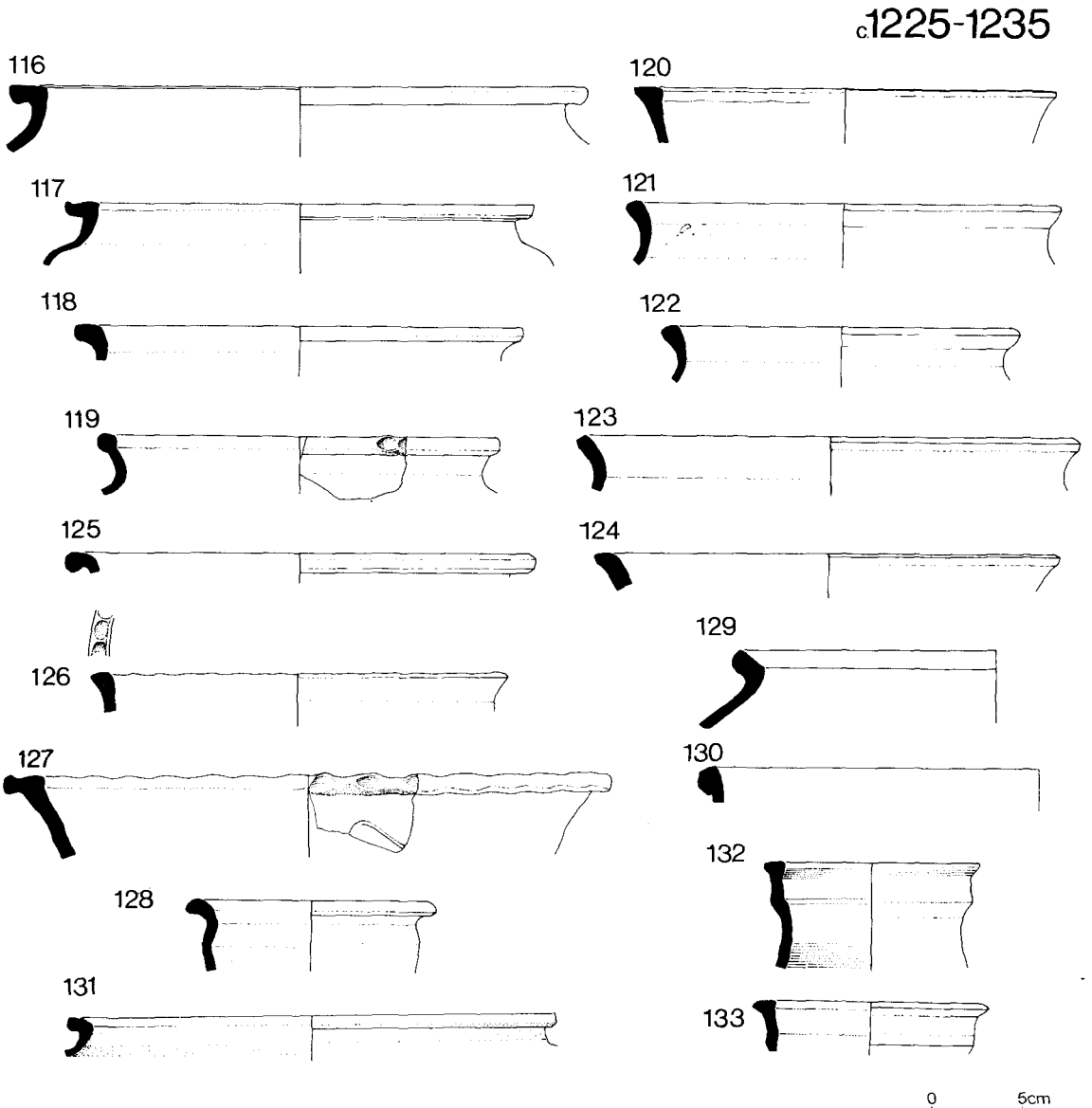

Fig. 13 Inmost Ward western defences 1974/5: Medieval pottery Nos. 116–133. (1/4)

101	E1	233	Leaf G glaze over white slip.
102	E1	227	As *101*.
103	E4	233	Buff/amber glaze out (partial).
104	E1	227	Dark G glaze over white slip (inside and out).
105	E4	233	B-amber glaze below, Y above.
106	E1	233	Splashed leaf G and black – B glaze.
107	E2	227	Roughly made. Leaf G glaze over white slip.
108	E1	233	White-buff slip in and out, leaf G glaze below rim.
109	E1	227	Sandy; mottled G-black glaze out.
110	E5	253	White slip in and out; Y-G glaze out. Upper strip poorly made; pushed out from inside).
111	E4	233	Hole inside plugged? Y strips, amber glaze.
112	E1	227	Leaf G glaze, maroon and Y decoration.

113	E4	233	Y strips, clear amber glaze.
114		233	Rouletting on applied strips. Y and tan glaze out.
115		233	As above, with brown centre strip.

Fig. 13

No.	*Fabric*	*Layer*	*References, comments*
116	A4	78	No later than 1200 (A. Vince pers. comm.).
177	A4	141	Buff.
118	A4	153	Buff.
119	A1	77	Buff.
120	B1	141	White flint? Very weathered. Gr out, buff in. HM?
121	A1	136	Buff; smooth surface.
122	A2	93	Gr. Late 11th Century.
123	A1	142	Gr.
124	A4	141	Very coarse. Gr-buff.
125	A2	78	Gr.
126	A3	136	O. Late 11th/12th century (A. Vince, pers. comm.).
127	A2	?	St Neots type. HM. Sooted black.
128	A3	93	
129	A4	136	Buff.
130	A4	87	Buff.
131	A1	141	Light Gr.
132	B5	153	Gr. (Hurst 1961, Fig. 71, No. 3).
133	B5	93	As above.

Fig. 14

134	E4	136, 253	(Tatton-Brown 1975, Fig. 14) Clear amber glaze, Y applied decoration on O Fabric. Also c.f. Rackham 1972, Plate 87 from London Austin Friars.
135	E4	217	Y/clear amber glaze.
136	E1	153	Probably jug base. Splashed G glaze, Y bands.
137	E1	78	Mottled G/B glaze. Late 12th century.
138	E4	78	Very dark G glaze. Typical.
139	E1	153	B/G glaze, brown dots.
140	E1	153	Gr-buff surfaces; dark Br/G and Y glaze.
141	E1	141	White slip under mottled G glaze, reddish-B decoration (stamped).
142	E6	153	Y/G glaze (red-brown) on all over white slip. (Rackham 1972, Plates 78 and 79).
143	E5	142	B and Y glaze.
144	E5	136	B/G and Y glaze.
145	E5	153	Y and B glaze; white slip.
146	E6	153	Y and B glaze on all-over white slip. Grey core.
147	E5	141	Amber glaze; Y and reddish brown decoration.
148	E5	141	Reddish brown and Y glaze.
149	E1	136	Dull Y outer glaze.
150	E5	142	Weathered. O fabric; white/Y applied decoration.
151	E5	136	Y and G glaze; buff Gr fabric.
152	E5	137	G and Y glaze. O-Gr fabric.

Fig. 15

153	E1	153, 78, 141	Mottled leaf G glaze over white slip
154	E1	136, 141, 153, 261	(Thorn 1978, Fig. 52, No. 33; Fig. 53, No. 43) Mottled G glaze; white slip out and top in.
155	E1	113, 136, 153	As above.
156	E1	78	Reduced exterior, Gr core. Traces of glaze.
157	E1	153	Clear glaze splashes. Sooted in.
158	A4	136	Orange.
159	E1	153	O fabric; G splashed glaze out.
160	E4	136	Mottled black – G glaze in O fabric.
161	E1	93	Smooth, buff, hard. Splashed G glaze out.
162	E2	153	Soft, buff. London drinking jug base.

Fig. 16

163	E1	87, 136	(Curnow 1977, Fig. 10, No. 10) G glaze on white slip.
		141, 153	Hard; O core.
164	E1	136, 141 153	As above, Gr core with buff margins.
165	E4	153	Clear amber glaze on white slip; O fabric.
166	E4	141	Clear O glaze; Y splash left of right ear.
167	E1	136	(Curnow 1977, Fig. 12, No. 30) Splashed G glaze out over white slip in and out. Dark B strips. (Rackham 1972, pl. 37)
168	E1	136	(Curnow 1977, Fig. 12, No. 42) O out; Y band below.
169	E4	153	White slip in and out (worn).
170	E4	153	Clear O glaze on O fabric.
171	E4	141	Jug rim with slashed decoration. (Thorn 1978, Fig. 52, No. 30). Mottled splashed clear/G glaze out.
172	E1	153	Splashed G glaze out.
173	E1	93	Hard; mottled dark G glaze out.
174	E1	141	Dark G glaze; Gr surfaces.
175	E1	136	G glaze streaks on white slip out. Post firing cuts on outside.
176	E1	77	Coarse, weathered. Splashed G glaze.

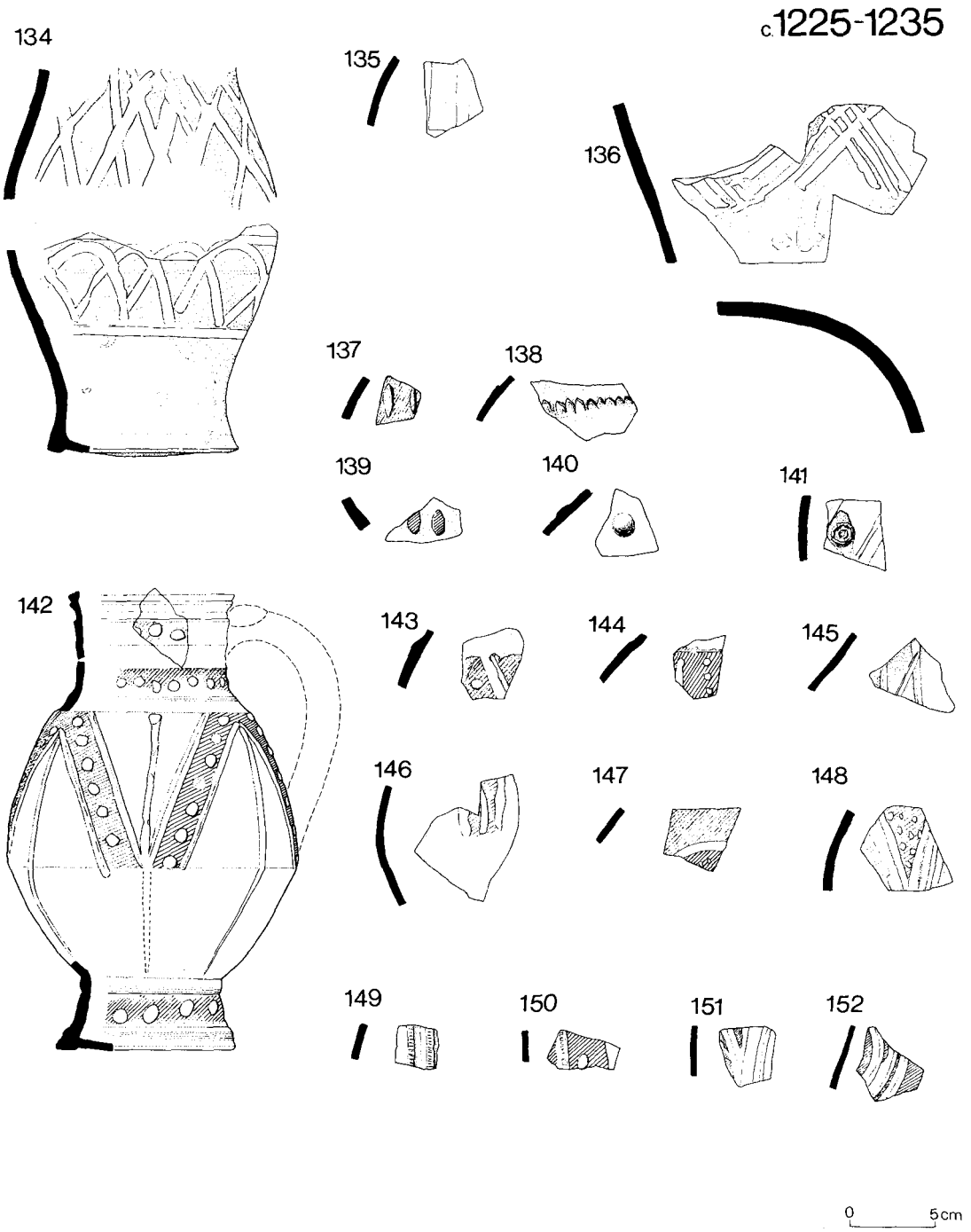

Fig. 14 Inmost Ward western defences 1974/5: Medieval pottery Nos. 134–152. (1/4)

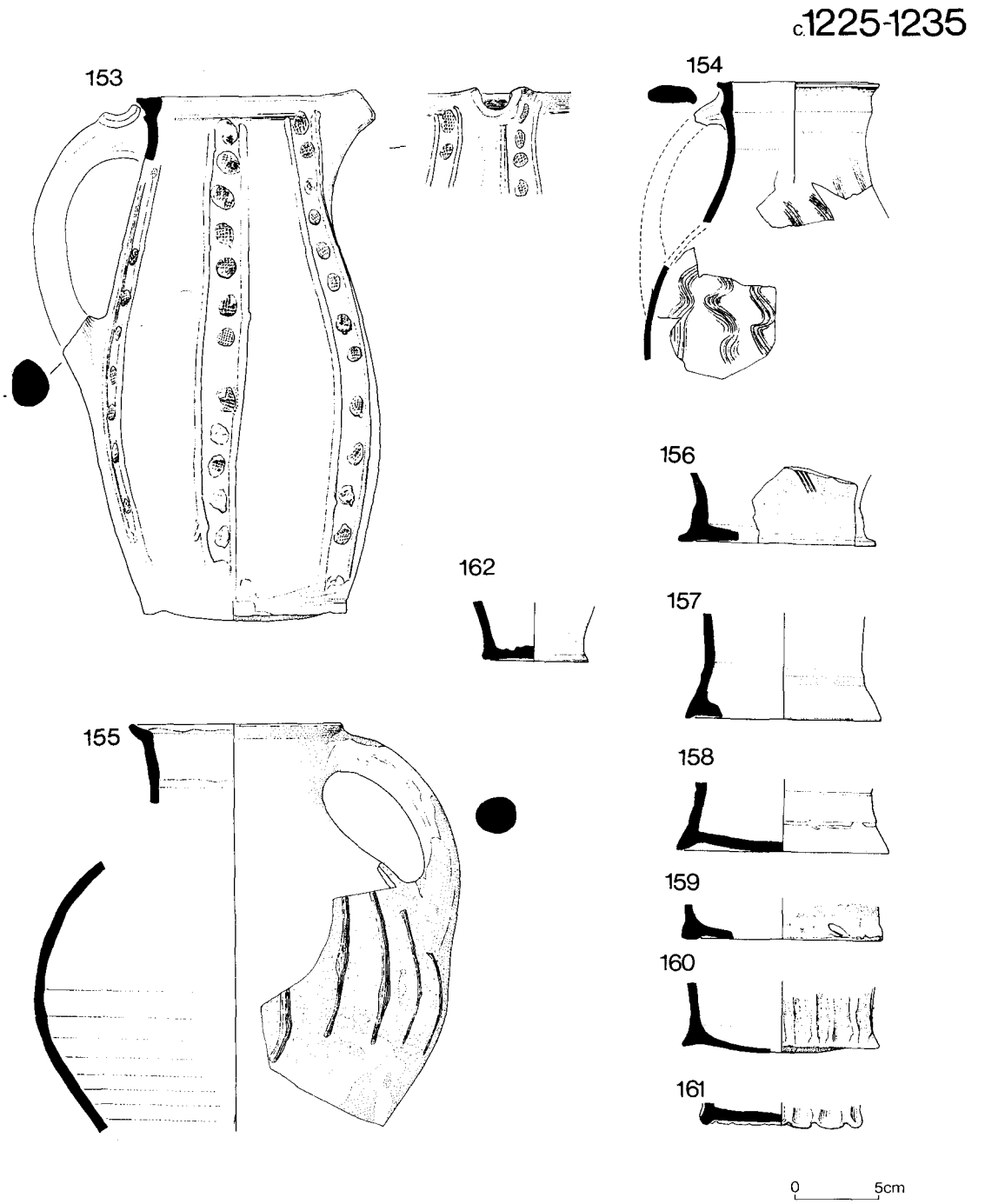

Fig. 15 Inmost Ward western defences 1974/5: Medieval pottery Nos. 153 – 162. (1/4)

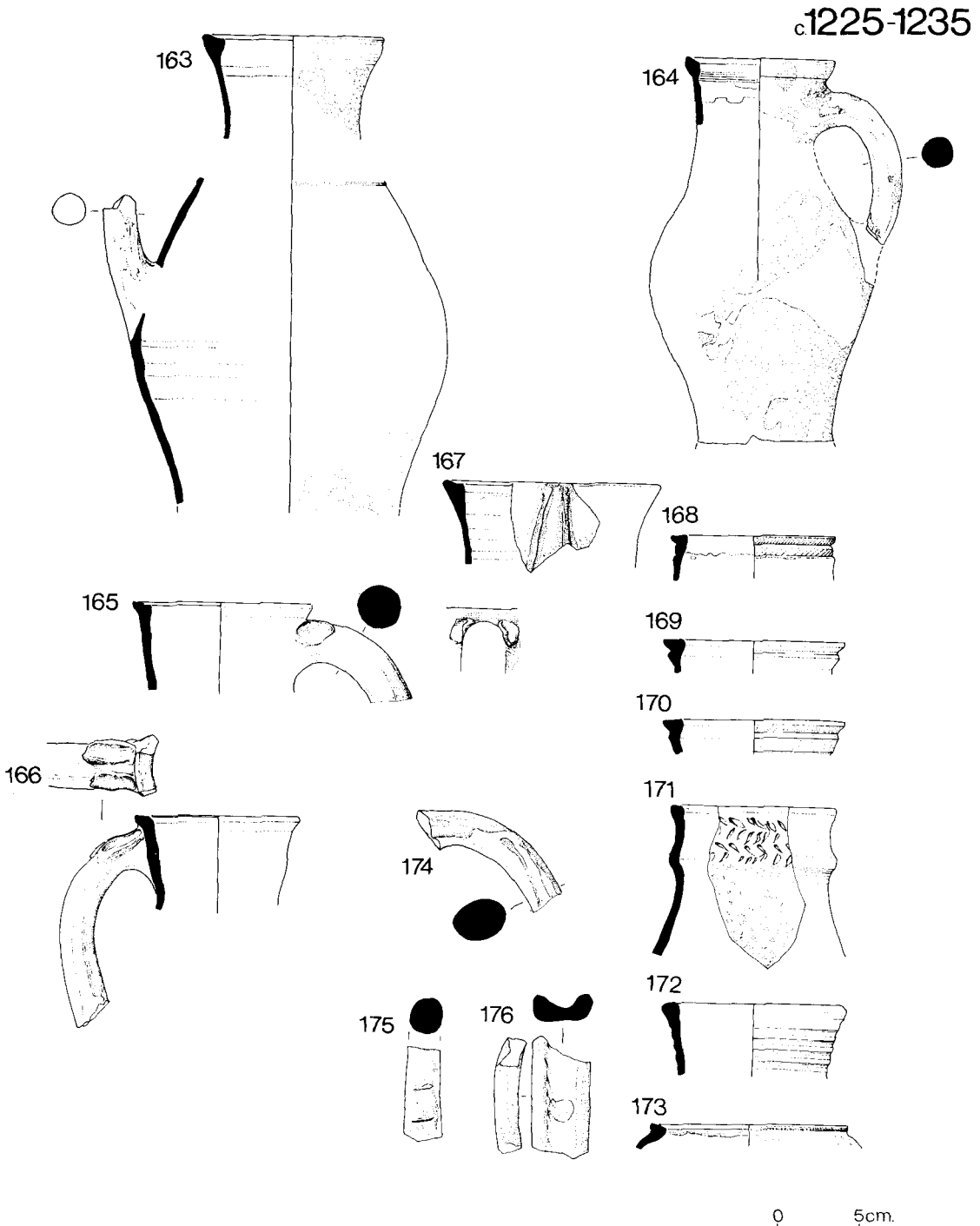

Fig. 16 Inmost Ward western defences 1974/5: Medieval pottery Nos. 163 – 176. (1/4)

DISCUSSION

These 12th and 13th-century groups are very similar to those from Westminster (Black 1976, 135f.) and the Wakefield Tower (Curnow 1977,155).

The sandy/shelly cooking pot forms of Phase 1a closely resemble finds from Oxford and Nos. 3 and 4 may be coarse examples of late Saxon (Saxon-Norman) forms from earlier contexts (Fig. 7, No. 3 also occurs in Oxford during the third quarter of the 12th century: Durham 1977, 83 f.). The thumbed applied band (Fig. 7, No. 12) is very similar in form and manufacture to the *'fast-steinzeugartig'* products from the middle Rhineland, but the fabric viewed under magnification resembles more closely the Thetford-type ware.

The early stoneware wall sherd (probably from a tall beaker) from Phase 1b (Fig. 8, No. 28) is of a type generally dated to the 13th century (see Beckmann 1974). Waster deposits beneath the castle at Mayen, Rheinland-Pfalz (Genovevaburg constructed *c.* 1281) contained very similar fabrics and forms (dated *c.* 1190–1225: Redknap, in progress).

The fabrics and near vertical rim forms of the cooking pots in Phase 1c (some with slight finger tipping on the top: Nos. 83, 84, 85, 88 and 92) correspond with 'Saxo-Norman' examples from the Jewel House excavations (see Appendix). Their association here with square-headed, everted rim cooking pot forms in fabric A4 (layer 46 contained examples with pie-crust applied strips) and London Ware (Fig. 11, No. 94) supports the late date (*c.* 1220), though the large number of 'early' cooking pot forms has yet to be explained.

To conclude (Fig. 6) most of the glazed wares were from the London area, supplemented by the occasional import of Rouen and Andenne wares from Belgium and Dutch Limburg (kilns are known at Namur, Andenne, Wierde, Liege). The Andenne imports probably travelled via the Maas/Meuse which also served the red-painted wares from Brunssum/Schinveld-Nieuwenhagen. By the end of the 12th century western French vessels were again being imported (Hodges 1977, 252; Dunning 1968) and the subsequent growth of British copies is evident by Phase 1b (*c.* 1220). Rouen copies occur in every subsequent phase, but the variant with all-over white slip over which the decoration is trailed (fabric E6) only occurs in the final phases (1221–1235). True Rouen Ware, though present throughout in small quantities, is more common during the earlier phase.

Some 'Thetford type' pottery occurs in the early phases (along with German wares, and to the exclusion of other imports), but it is not clear to what extent they form residual material. At Colchester Thetford wares are replaced by sandy wares *c.* 1000–1050 (Crummy 1981, 40). Cooking pots in shelly fabric A3 are eventually replaced by shelly ware A4 and grey wares which have grown to 13% by Phase 2). This corresponds with the growth importance of deliberately reduced cooking pots in S. Herts. Ware from the mid 12th century onwards (to eventually overtake shelly wares).

APPENDIX

THE MEDIEVAL POTTERY FROM THE JEWEL HOUSE EXCAVATIONS 1963/64

The late Saxon and Medieval pottery from the Jewel House Excavations has been examined and illustrated in groups determined by the stratigraphic phasings of the site (Figs. 17, 18, 19 & 20).

The medieval strata have been divided into six interpretative phases. The dates for the pottery from Phases 4 and 5 are indirectly supported by documentary evidence from the 1190 Pipe Roll and the chroniclers Mathew Paris and Roger of Howden. Edward I's completion *c.* 1281 of the west part of the defensive circuit begun by Henry III provides a *terminus ante quem* for Phase 6.

The pottery from Phases 1–3 can only be dated by comparison with similar works from dated deposits elsewhere.

Phase	*Details*	*Contexts within trenches*			
		S	A	C	D
1	a) Occupation deposits	37, 39	98, 99, 100, 102, 103		
	b) Dumps			158	
	c) Rampart bases	36	96, 95, 94		
2	Infill of Ditch C			150, 153, 169	214, 217
3	Primary silting Ditch B	33			
4	Deliberate backfill of Ditch B ? *c.* 1190	24–30			
5	Primary silting of Ditch A, post 1190	89			
6	Deliberate backfill of Ditch A, *c.* 1250–1270	86		143	199

For fabric descriptions, see above pp. 00.

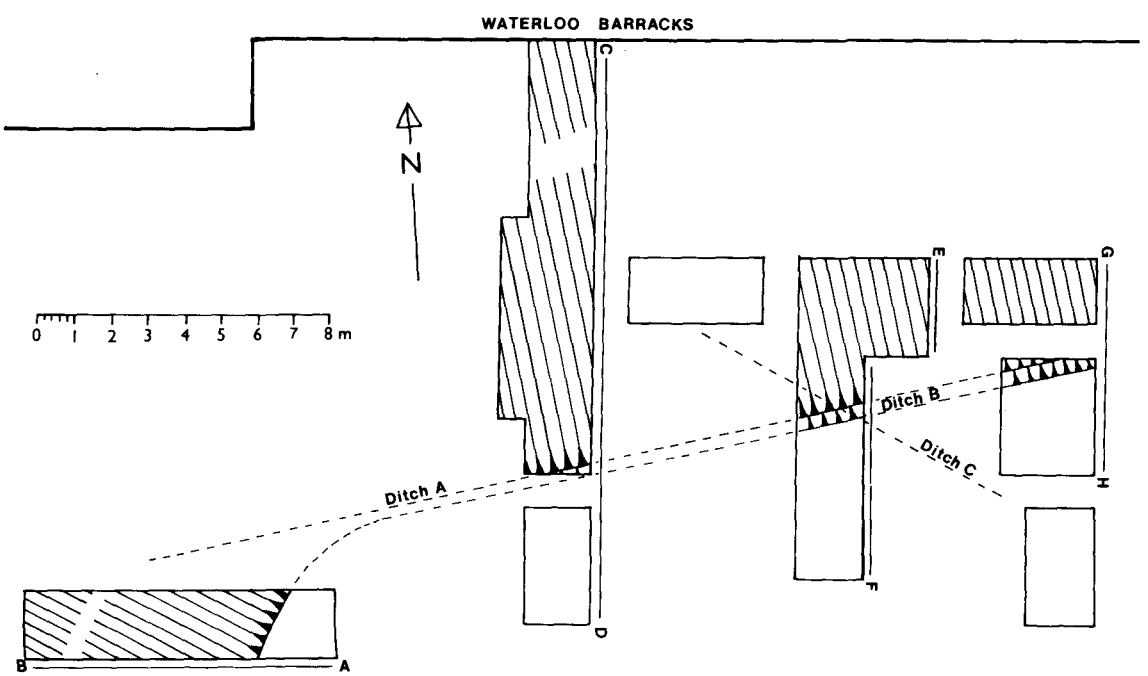

Fig. 17 Jewel House excavations 1963/4: Plan of trenches and excavated Ditches A, B and C.

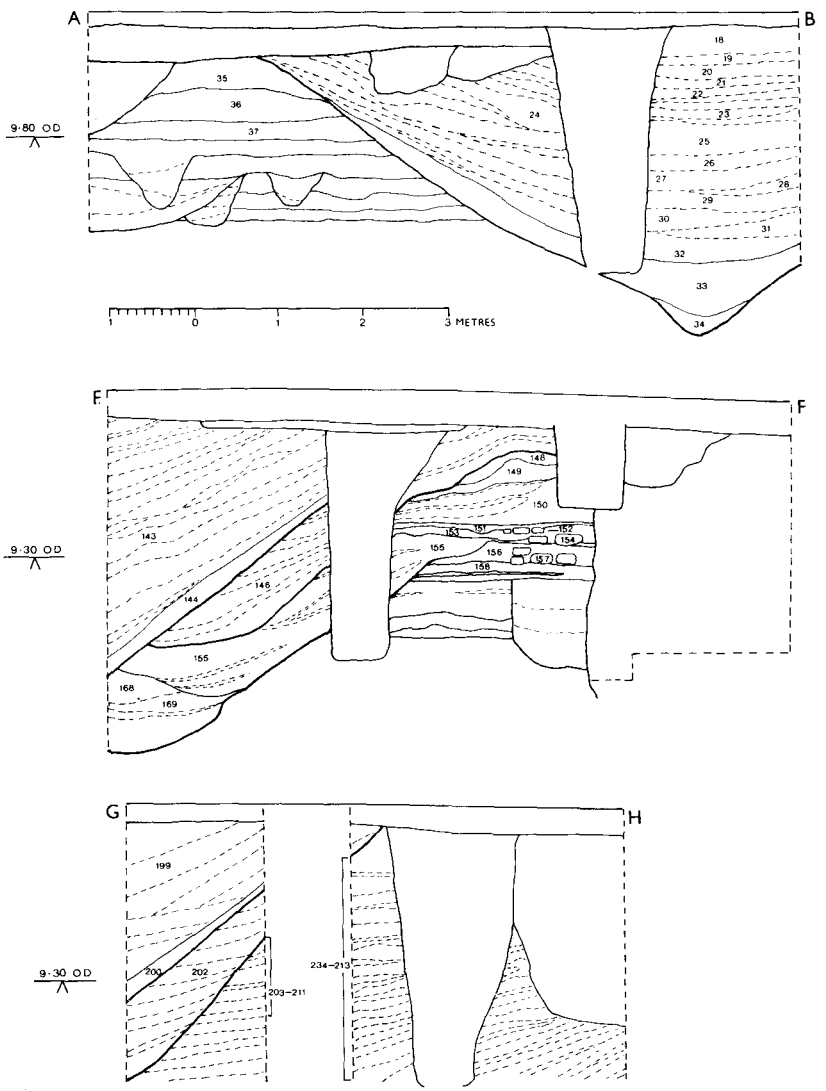

Fig. 18 Jewel House excavations 1963/4: Sections A-B, E-F and G-H across Trenches C, D and S.

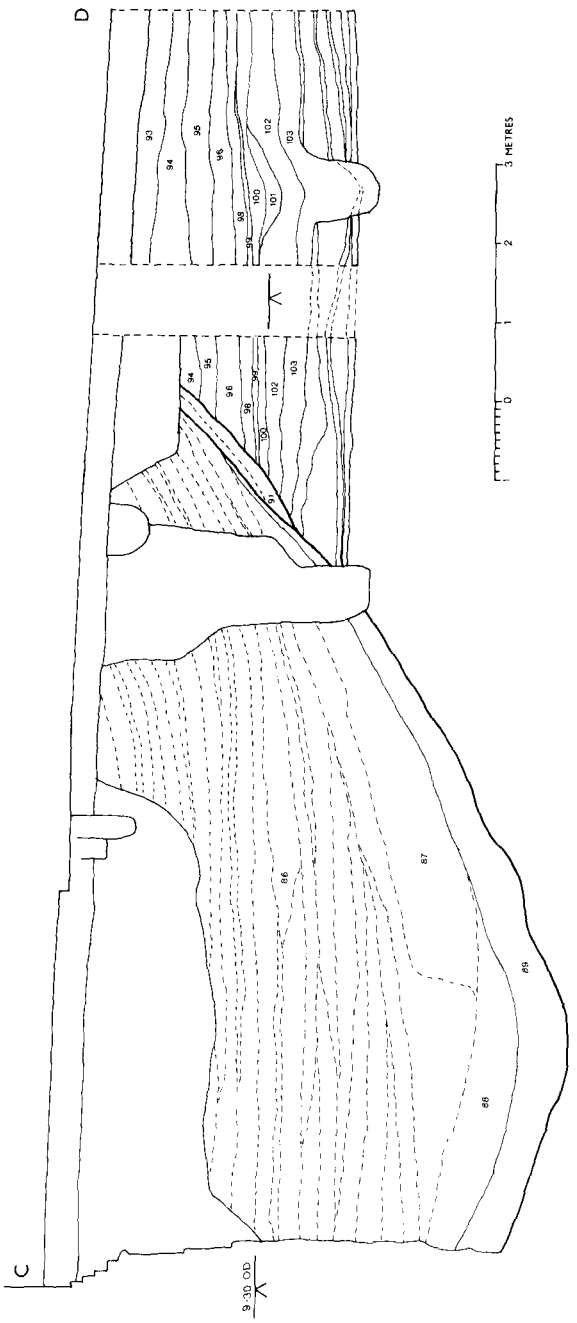

Fig. 19 Jewel House excavations 1963/4: Section C-D across Trench A.

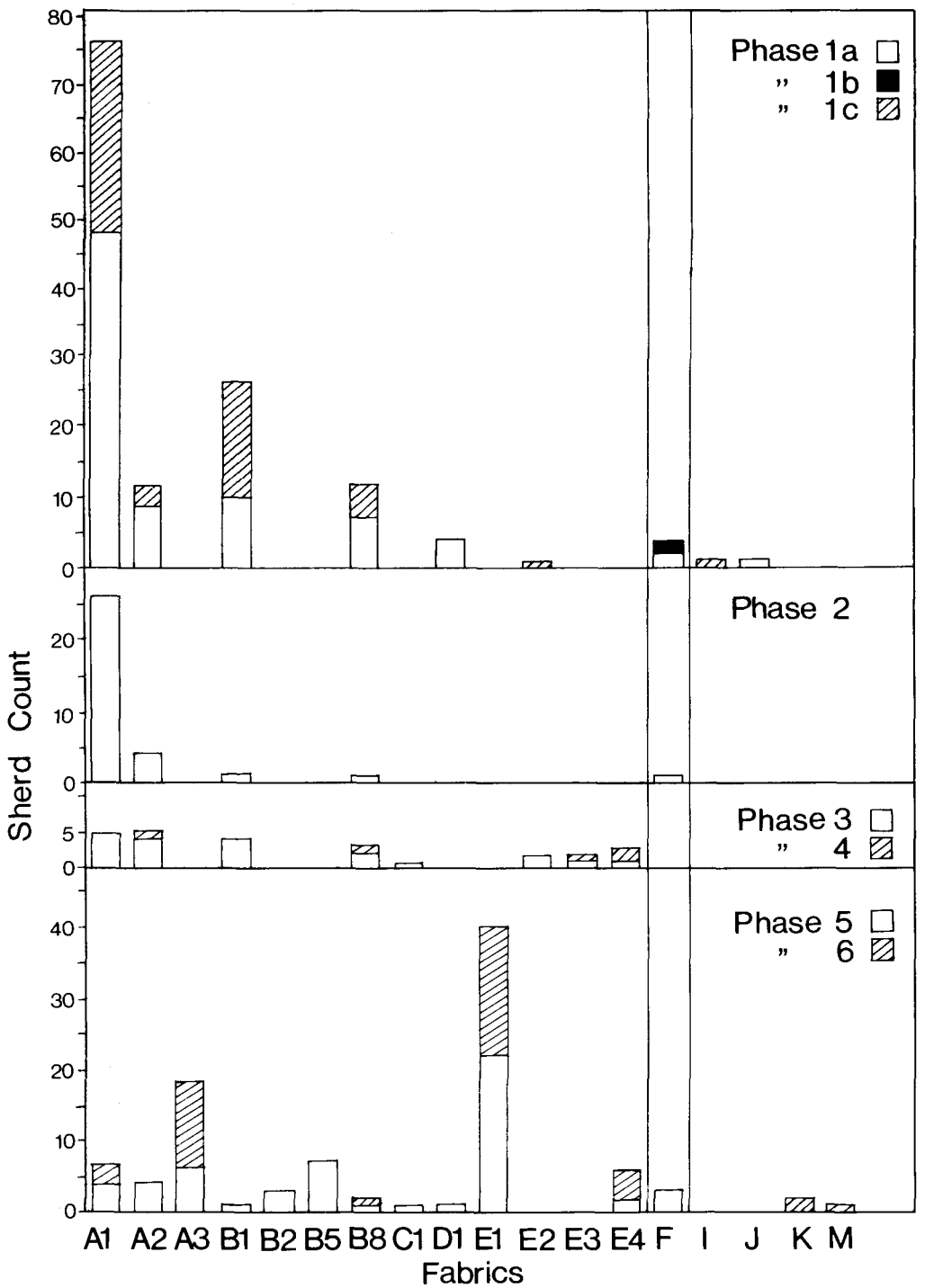

Fig. 20 Jewel House excavations 1963/4: Medieval pottery sherd count.

PHASE 1

Fig. 21

No.	*Fabric*	*Layer*	*References, comments*
1	A1	100	(Crummy 1981, Fig. 34, No. 97; Haldon 1977, Fig. 17, No. 23, mid/late 10th C.).
2	A1	39	Partially sooted out. Finger-tipped rim.
3	A1	39	
4	A1	100	Sooted out; reddish-B in.
5	B1	39	Blackish-Gr in and out.
6	A1	39	
7	B8	98	(Hurst 1961, Fig. 67, No. 32; Haldon 1977, Fig. 18, No. 12, mid/late 11th C.). Black 1978, Fig. 12, No. 5, Phase 1)
8	A1	39	
9	A2	39	Gr-black, HM?
10	A1	37	(Haldon 1977, Fig. 18, No. 7, mid/late 11th C.). Finger-tipped rim top.
11	B8	98	Same vessel as 40?
12-13	B1	39	(Nelson, forthcoming). cf. recent finds from new Fresh Wharf: 11th C.
14	B1	37	Gr interior, buff exterior. Tooth-combed wavy lines.

Fig. 22

15	A2	100	Pinched.
16	A2	39	Blackish-Gr. HM?
17	B8	37	Incised handle. G glaze: Surrey? Intrusive?
18		103	(Boddington 1979, Fig. 15, No. 84).
19	F1	158	Trimmed inside; wavy line decoration. Pitcher neck.

Fig. 23

20	A1	96	
21	A1	96	
22	A1	94	Very little shell. O.
23	A1	95	HM? As above.
24	A1	96	(Dunning 1960, Fig. 3, No. 11 for decoration).
25	A1	96	Incised lattice. Gr-buff.
26	D1	96	
27	A1	96	(Dunning 1953, Fig. 9, No. 5 (2–4) Dish, indented top. Gr buff.
28	A2	96	
29	B8	96	Gr.
30	B8	96	Gr.
31	B8	96	Blackened out.
32	B8	96	(Hurst 1961, Fig. 67, No. 31) Blackened out.
33	B1	96	Blackened inside below rim.
34	B8	94	Decorated with horizontal grooves.

PHASE 2

Fig. 24

35	A1	169	Gr core; oxidised out. Little shell.
36	A1	153	Buff. HM?
37	A1	153	HM? Buff.
38	A1	214–27	(Haldon 1977, Fig. 17, No. 5, mid/late 10th C.) Buff.
39	A1	153	Gr-black.
40	A1	169	(Davison 1973, Fig. 25, No. 1 for combing) Buff.
41	A1	153	HM?
42	A1	153	Black out. HM?
43	A1	150	HM? Little shell; Gr-black
44	A1	153	Gr in. Very little shell.
45	B8	169	

PHASE 3

46	A1	33	(Haldon 1977, Fig. 18, No. 5, mid/late 11th C) Sooted rim.
47	B1	33	Sooted out.
48	C1	33	(Jope 1953, Fig. 34, No. 37) Coarse; possible spout attachment on left.
49	E4	33	Splashed G glaze; Gr core, buff surfaces.

PHASE 4

50	A1	24	Cross-hatched round stamp. Moderate shell.
51	A1	24	Narrow vertical applied band with slight finger-tipping. Little shell.
52	A2	24	
53	A1/2	30	Much shell.
54	E4	24	Splashed amber glaze out.
55	E4	24	Diagonal splashed 'thumbing'. Splashed amber glaze out.
56	B8	30	O/oxidised.

PHASE 5

Fig. 25

57	E4	89	Sparse splashes of clear glaze over white slip in and out.
58	E2	89	Splashed G glaze. O out.
59	E2	89	(Curnow 1977, Fig. 10, No. 5). White slip beneath speckled G glaze.
60	E2	89	Same vessel as No. 59.
61	E2	89	Splashed G glaze over white slip. Stabbed decoration. Grey core.
62	E2	89	(Curnow 1977, Fig. 12, No. 27). Splashed G glaze over white slip; O.
63	E2	89	Splashed G glaze out. Grey.
64	E2	89	Y/White strip; clear glaze; O margins.
65	E2	89	B-Gr slip; G glaze.
66	E2	89	Brown applied strip; G glaze.
67	E2	89	G splashed glaze on white slip. B Strips.
68	E1/4	89	Splashed amber/clear glaze on O fabric.
69	E2	89	Light Gr fabric; G glaze out.

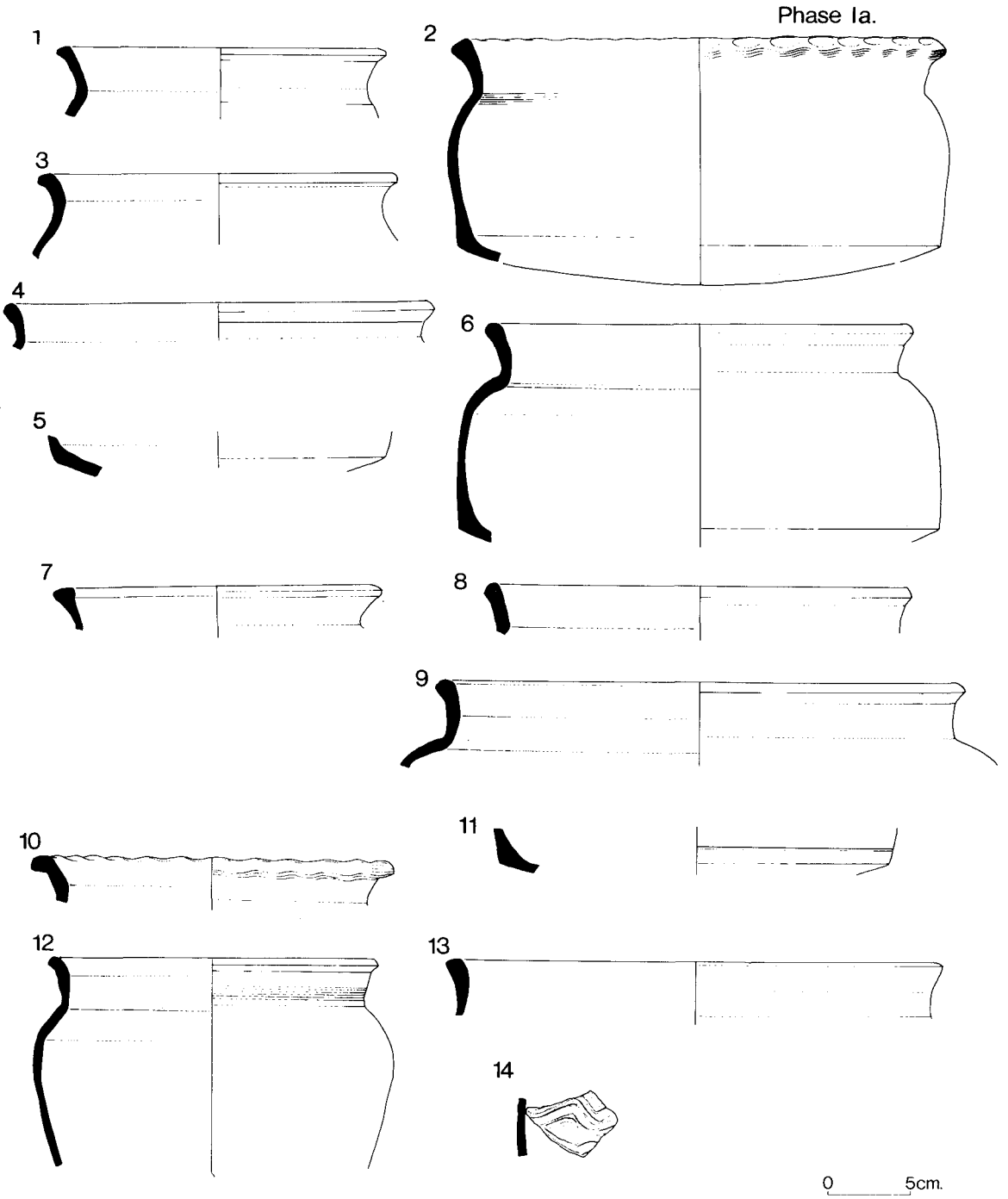

Fig. 21 Jewel House excavations 1963/4: Medieval pottery Nos. 1-14. (1/4)

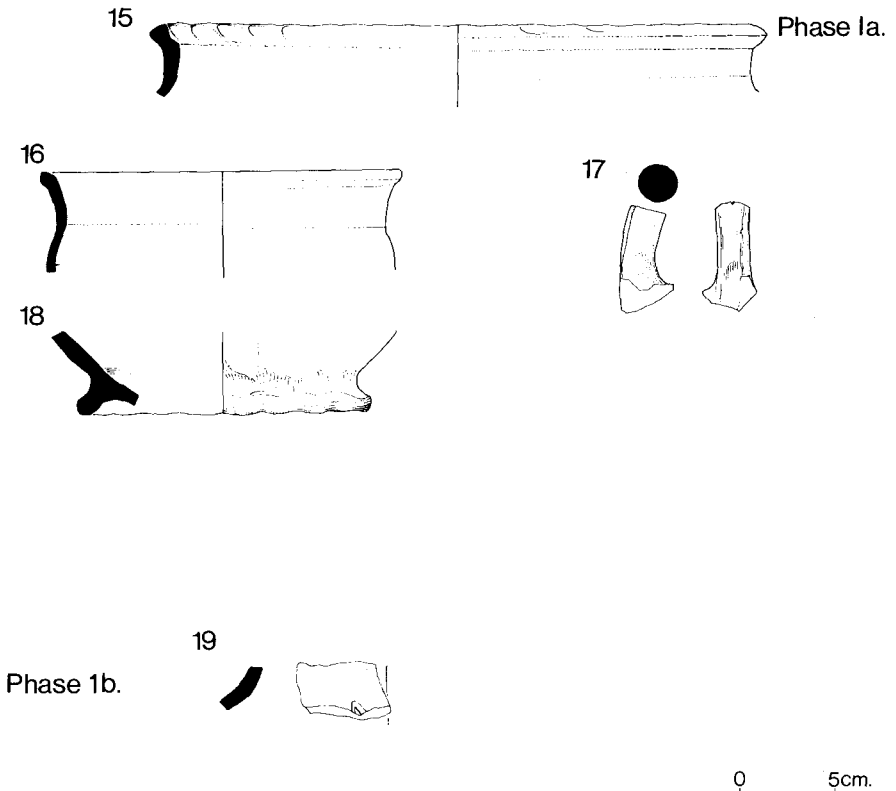

Fig. 22 Jewel House excavations 1963/4: Medieval pottery Nos. 15–19. (1/4)

70	E2	89	Splashed G glaze out on bottom; O fabric.
71	E2	89	O.
72	E2	89	Splashed G glaze; O fabric.
73	E2	89	Feint splashed clear glaze on lower part; O.
74	E1	89	Unglazed O fabric.
75	E4	89	Unglazed; white slip inside and top out.
76	E2	89	Rouen copy. G glaze out over white slip.
77	E2	89	Hard. G mottled glaze over grey fabric.

Fig. 26

No.	*Fabric*	*Layer*	*References, comments*
78	A1	89	Grey.
79	B8	89	Grey.
80	B8	89	Gr out, cream in.
81	B1	89	Tripod cooking pot leg. O with Gr core; sooted.
82	M	89	Buff-white fabric; leafy G glaze out. Rouen?
83	E1	89	Dark G glaze (exfoliated), crazed, over white slip. Flagon?
PHASE 6			
84	B5	86	Gr (buff out).
85	B1	199	Sooted rim. Sandy (sparse shell).
86	A3	143	Flanged bowl. Black surfaces and Gr core.
87	A1	199	Sooted rim.
88	A1	143	Oxidised.
89	A3	199	(Thorn 1978, Fig. 50, No. 13) Reduced out.
90	A3	143	Black surfaces.
91	F2	86	Import/Thetford type? Brown, slightly burnished exterior.
92	F1	86	Grey.
93	F1	86	As above, black surfaces. Reief-band amphora.

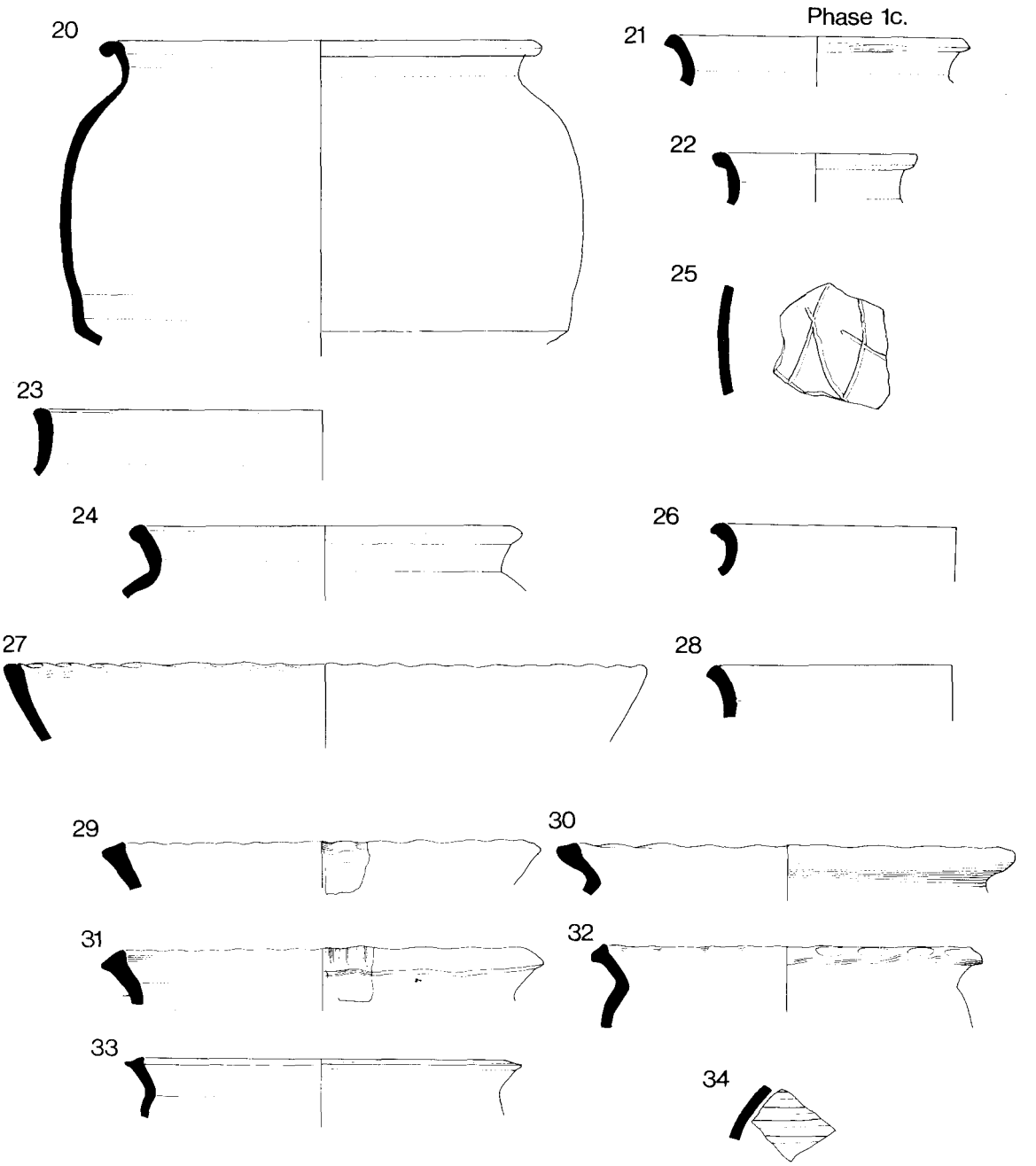

Fig. 23 Jewel House excavations 1963/4: Medieval pottery Nos. 20–34. (1/4)

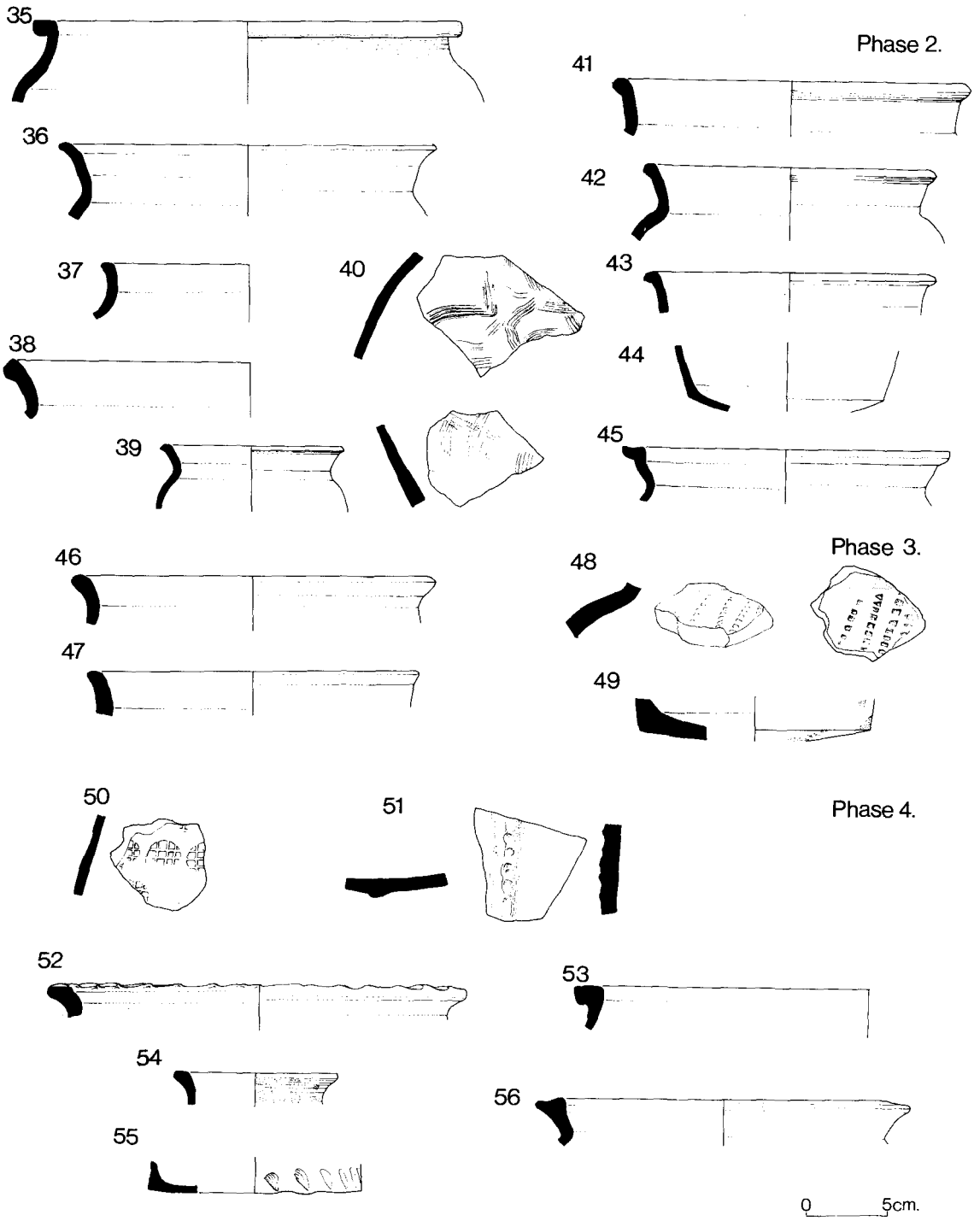

Fig. 24 Jewel House excavations 1963/4: Medieval pottery Nos. 35–56. (1/4)

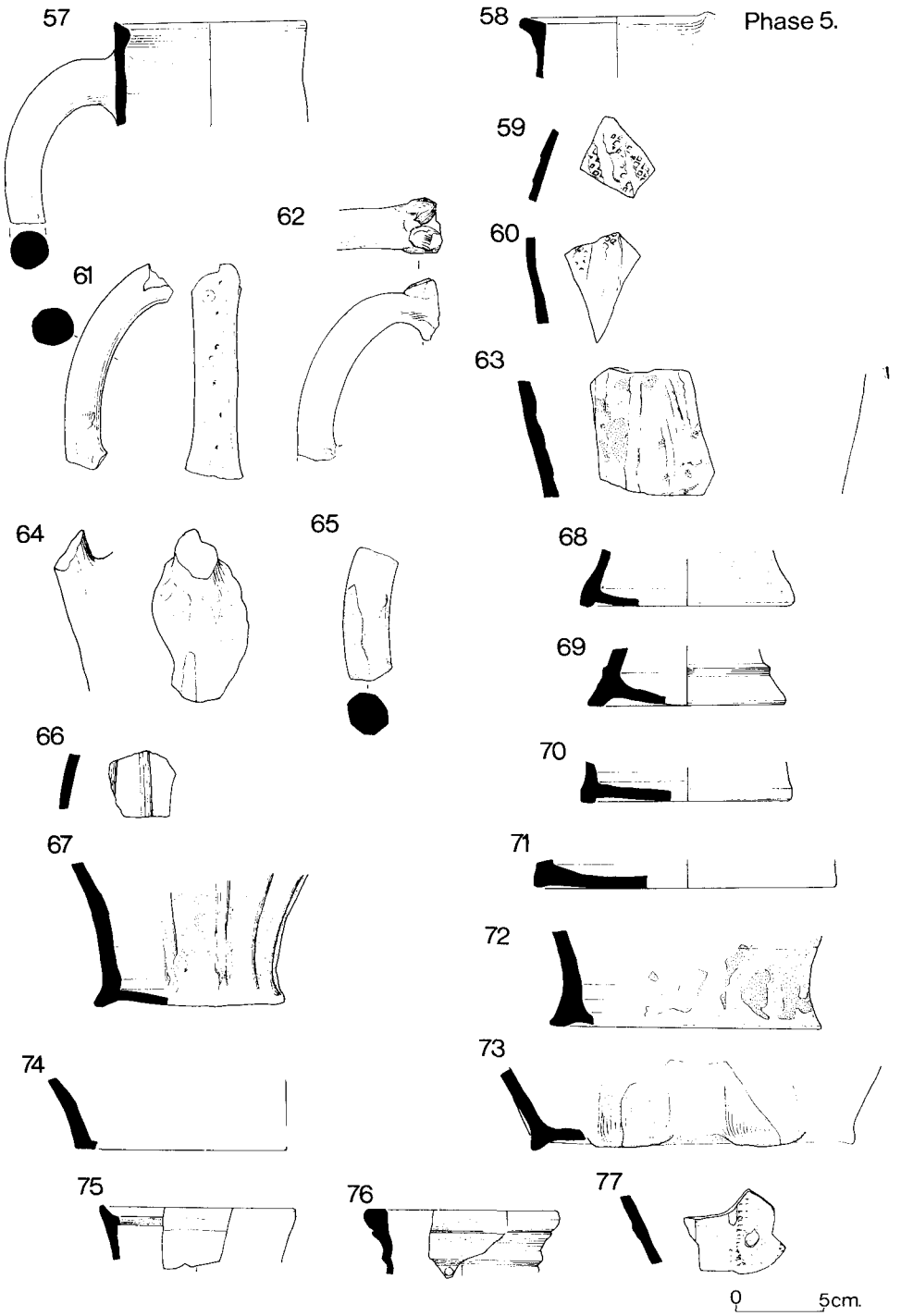

Fig. 25 Jewel House excavations 1963/4: Medieval pottery Nos. 57–77. (1/4)

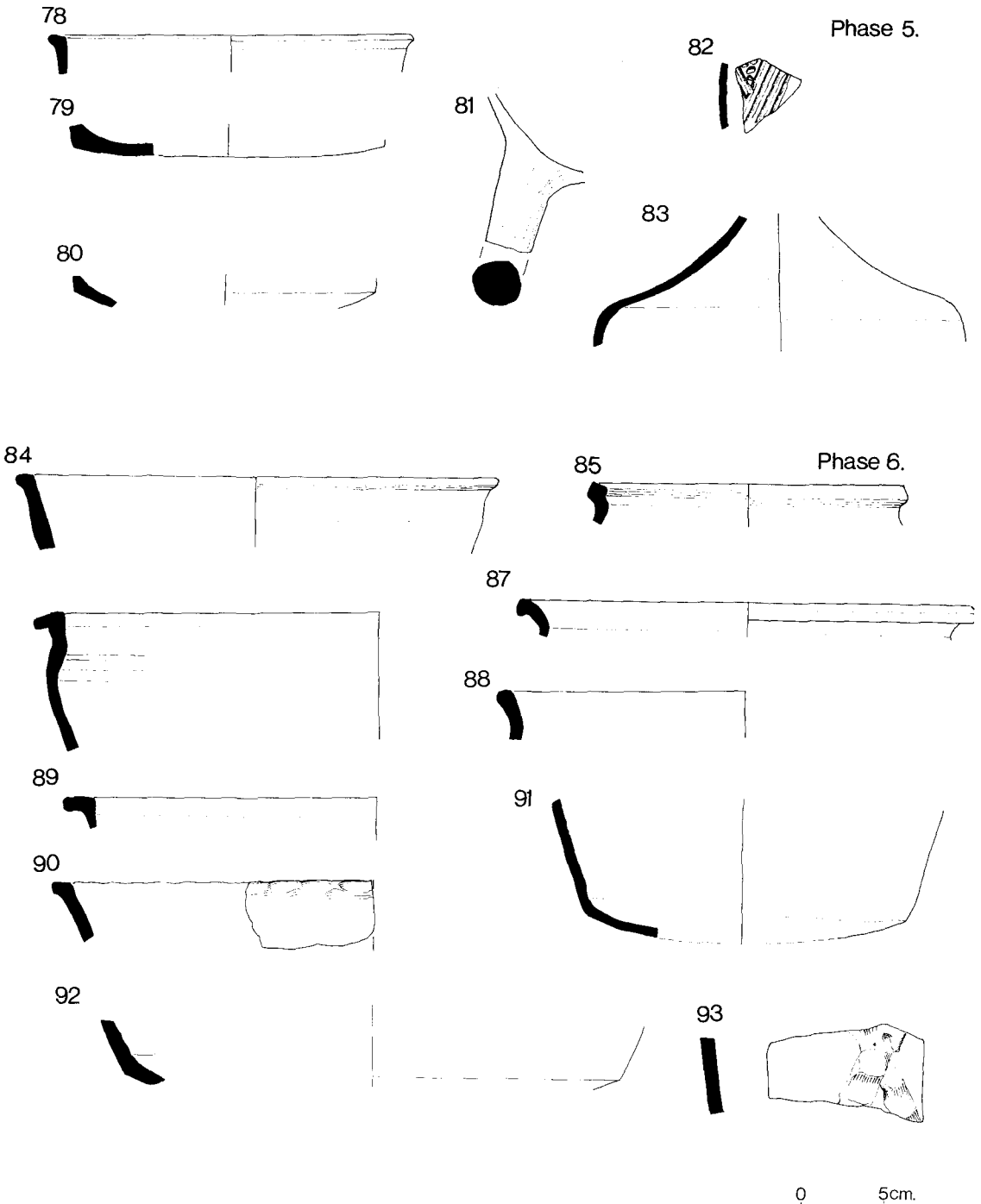

Fig. 26 Jewel House excavations 1963/4: Medieval pottery Nos. 78–93. (1/4)

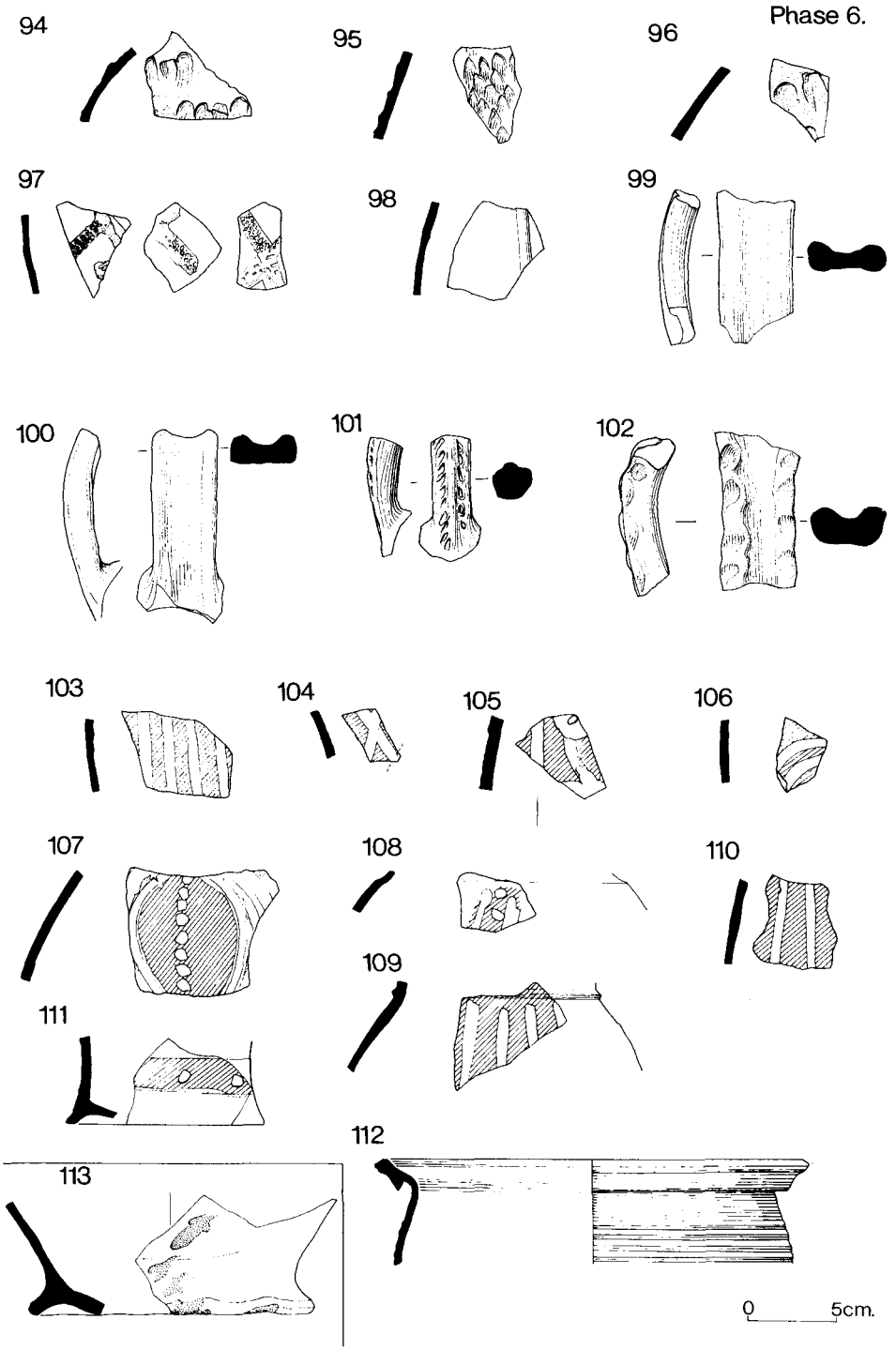

Fig. 27 Jewel House excavations 1963/4: Medieval pottery Nos. 94–113. (1/4)

Fig. 27

94	E1	199	G glaze out on O fabric.
95	E1	143	G glaze on white slip. Oxidised inner margin, grey outer margin.
96	E1	199	Br-G glaze out.
97	E1	143	Brown rouletted diamond strip. G glaze on white slip. O margins.
98	E1	143	G glaze on white slip. Grey core, O margins.
99	E2	199	Light G glaze on O fabric.
100	E4	143	(Curnow 1977, Fig. 11, No. 14). Clear amber glaze on O fabric.
101	E2	143	(cf. Armitage *et al* forthcoming, No. 25; Black 1976, Fig. 16, No. 101) G glaze, grey fabric.
102	E2	143	G glaze on grey core.
103	E4	143	(Curnow 1977, Fig. 11, No. 11). White slipped lines; splashed out.
104	E1/4	143	Y strips; G glaze. Grey outer margin, O inner margin.
105	E1	143	G-red base. White slip lines. Gr fabric.
106	E5	86	Red-Brown band. Buff glaze. Y applied strips.
107	E5	86	G glaze, Y strips.
108	E5	86	All-over white slip. Reddish-brown band.
109	E5	86	Y bands on G glaze.
110	E5	86	Same vessel as No. 109?
111	E5	86	Same vessel as No. 109?
112	K2	86	(Matthys 1971, Fig. 1, No. 10) Brownish-G glaze in and out; O fabric.

DISCUSSION

The past scarcity of independently-dated early medieval pottery in London is now being eliminated by excavations tied into absolute time-scales by C14 or dendrochronology.

The term 'Saxo-Norman' is loosely used here to describe pottery of late Saxon and/or early Norman date (i.e. AD 850–1150: for example Stamford Ware, Andenne and Paffrath Wares), and not specific wares. Generally insufficient body sherds survive to establish whether the early cooking pots were completely wheel-turned, or hand-made and wheel-finished. This distinction has been made whenever possible (HM = hand-made). All distinctive forms present in each phase have been illustrated.

As at Billingsgate (Jones, 1980) and other excavations in the Tower of London, all the Jewel House deposits contained a high proportion of residual Roman pottery. On the basis of medieval rim form alone, it is clear that the earliest phases (1a–c) were dominated by cookings pots in late Saxon sandy/shelly ware (A1) with wide near-vertical rims and slightly sagging bases. Close analogies can be seen with cooking pot forms known from New Fresh Wharf (A Vince, pers. comm.) in London; from beneath Bristol Castle rampart (pre AD 1068–70); and from the Lion Walk ditch deposits (AD 1000–1075) and the castle bank (*c.* AD 1050–70) in Colchester (Crummy 1981, Figs. 33–35).

The earliest post Roman context, 103 in Trench A, contained a pinched base of imported red-painted pottery from one of the Rhenish centres (Brunssum, Schinveld, Pingsdorf, Nieuwenhagen: for recent work on granulometric analysis of these wares see Janssen and De Paepe 1970). A further example is shown on Fig. 00). Pingsdorf pinched bases are generally considered in vogue by the second half of the 12th century developing from the earlier *tandring* (cf Elten am Niederrhein = Binding *et al* 1970, 266). This late date contradicts that proposed by topography and other pottery. If it is 11th century in date (certainly no earlier than 1050) then it is a very early example of this base form in Britain. However no other pottery was recovered from this deposit, and it seems likely that this sherd is intrusive. The glazed handle (Fig. 22, No. 17) from context 37 indicates contamination elsewhere. Phase 1b is represented only by a few sherds of Thetford type storage jar.

Few differences are visible between Phases 1 a and c. The cooking pot with near-vertical rim predominates, with a few examples of square ended fingered rims from the uppermost levels of Phase 1 that may be considered typologically later, as is the undercut rim (Fig. 23, No. 20). One wall sherd of Rhenish 'blue-grey' ware with wide shallow finger rilling on the outside (most probably from a globular vessel) reflects the accepted pattern of influences from the Belgian-Rhineland area (red-painted ware occurs at Dowgate and Billingsgate: Jones 1980, 142). Significantly, no French fabrics nor forms displaying strong Norman influence (as at Castle Neroche) have yet been identified

in the Saxo-Norman phase. Home viticulture and urban growth during the 11th century and the emergence of many English potteries may have eliminated much of the demand for French imports (Hodges 1977, 249), but their absence in these deposits at the Tower of London may equally be due to the nature of the site during this period as a post-invasion emergency enclosure concerned primarily with military rather than civilian supply, adequately attended by local craftsmen. It is not until the 12th century (Phases 5 and 6) that we see the re-introduction of French pottery and its subsequent imitation in this country.

The later deposits (Fig. 20) are dominated by typical London area products – pitchers and jugs. The final silting of ditch B is dated by a late 12th-century London Ware pitcher base (Fig. 24, No. 49) – suggesting that the ditch was kept clean until its deliberate backfilling *c.* AD 1200. The other rims within the silting are of Saxo-Norman form. One coarse, thick wall sherd with rouletted lines (Fig. 24, No. 48) is paralleled by a pitcher from Bristol Castle (pre. *c.* AD 1068/70: Ponsford 1974, Fig. 7, No. 80), one from Oxford (late Saxon: Jope 1953 Fig. 34, No. 37) and a spouted pitcher from Cannon St., London (late Saxon: Boddington 1979, Fig. 15, No. 87). Ditch B may therefore have been cut some time during the middle of the 11th century.

The small group of pottery from Phase 4 contains London ware pitchers and shelly wares identical to the late 12th-century material from the Wakefield Ditch excavations (Phase 1: *c.* 1190–1220), indicating a late 12th-century date for the backfilling of Ditch B.

The growth of deliberately reduced grey sandy ware cooking pots Phases 5 and 6 reflects the trend shown by the Wakefield material. The Andenne type bowl (Fig. 27, No. 112) from Phase 6 is paralleled by similar vessels dated by Matthys (1971, 144) to *c.* 1225–1300 (much work remains to be done on fabrics from the numerous centres in this area), supporting the date proposed for the back-filling of Ditch A during the second half of the 13th century.

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A DATED TYPE-SERIES OF LONDON MEDIEVAL POTTERY: PART 3

A Late Medieval Hertfordshire Glazed Ware

ANNE JENNER and ALAN G. VINCE.

INTRODUCTION.

This paper is part of a series in which the pottery types found in London from the mid 12th to the mid 15th centuries are published in source and form groups. The total series will comprise a complete corpus of medieval pottery from the City and will act both as a catalogue to the collection of complete vessels in the Museum of London's reserve collection and as a reference work which will allow pottery from excavations to be accurately reported without repetitious illustration and description.

Previous parts of the series dealt with Mill Green ware (Pearce *et al.*, 1983) and London-type ware (Pearce, *et al.*, forthcoming). The subject of this, the third part of the series, is a ware of minor importance in the pottery collections of London but which was the main type of pottery used in the 14th to 15th centuries in St. Albans and southern Hertfordshire. It is suggested here that the source of the ware was in south Hertfordshire but no archaeological evidence for that source has been found.

The ware was recognised as an entity in the Department of Urban Archaeology medieval pottery collections in 1981. It has been assigned a DUA Fabric code, Sgw 2419, and, since its source was unknown, was recorded on the Museum of London computer-held pottery index as LMU (= Late Medieval Unknown ware).

FABRIC

'Hertfordshire glazed ware' is typically a salmon pink colour throughout (Munsell 5YR 7/6) but occurs in a range of colours, from pink (Munsell 5YR 7/4) to red (Munsell 5YR 6/6). Vessels with a reduced firing, appearing light grey throughout, are rare, while an oxidized firing with a reduced core is very rare, usually occurring only in the thickest parts of vessels, such as the rim-handle join.

The surfaces of Hertfordshire glazed ware vessels are usually a slightly darker colour than the body. This may be due to a thin glaze or to the presence of a thin red slip, since it is not often present on the unglazed interior of jugs. However, no runnels of slip are found nor can any finger – or brush-marks be seen in the surface.

The fabric is fine-textured and no inclusions are visible by eye. However, under the binocular microscope an abundant ill-sorted quartz sand is visible, with subangular grains up to *c.* 0.2mm across and sparse rounded grains from *c.* 0.5mm to *c.* 1.5mm across. In thin-section sparse angular flint, or colourless chert, is also present as fragments up to *c.* 0.5mm across. Sparse to moderate white mica is visible on the unglazed surfaces of the vessels, and flakes up to 0.5mm across can be seen. Small specks of red, iron-rich clay are visible in the wheelthrown wares, and in the slab-built dripping dishes these occur as sparse to

moderate fragments and lenses several mm across. These imply that the clay source utilised is variable in colour but that the action of wheelthrowing blends the different coloured clays together. Sparse specks of rounded opaque iron ore are visible in thin-section, together with rare rounded fragments of a red iron ore. Both average *c.* 0.05mm across with examples up to *c.* 0.1mm across. Of the nine samples of wheelthrown vessels examined in thin-section (Appendix 3) only one revealed a radically different petrology, in that the opaque iron ore fragments were abundant and the red iron ore fragments moderate (the drinking jug, Fig. 10 No. 38).

The petrology of Hertfordshire glazed ware is quite distinct from that of Oxford fabric AM which includes vessels made at Boarstall and Brill. The Oxford AM quartz sand is well-sorted and flint and white mica are completely absent (Vince, 1983). It is therefore possible to distinguish Hertfordshire glazed ware from the only ware with which it might be visually confused.

SOURCE.

Fabric analysis reveals few distinctive inclusions in Hertfordshire glazed ware and therefore the attribution of the London examples to a Hertfordshire source is based solely on petrological similarity and on the typology of the products. It is argued that the St. Albans and London vessels come from the same source, and that this source is closer to St. Albans because of the higher quantity of vessels in the fabric both from recent excavations in St. Albans and among the reserve collection in Verulamium Museum.

DATING.

In London the earliest context to produce Hertfordshire glazed ware vessels is the revetment dump behind waterfront G7 at Trig Lane (Milne and Milne, 1982). This dump is dated *c.*1340 and less than 1% of the total pottery found was of this ware. Numerous early 14th-century groups have been excavated in the City, for example a dump at 2–3 Cross Keys Court, Copthall Avenue (Maloney in Richardson, 1982), the filling of a stone lined pit at the Post Office middle site (Blair *et al.* in Richardson, 1979) and a group from Foster Lane (Blair 1983, Clark 1983). The largest group comes from the filling of the medieval City ditch at Ludgate Hill excavated in 1982. These have not produced any Hertfordshire glazed ware. Examples of a mid to late 14th-century date have been published from the Custom House revetment dumps, (Thorn, 1975, Fig. 4, No. 14). The highest recorded quantity of Hertfordshire glazed ware was found at Trig Lane in revetment dumps datable to *c.*1360 and *c.*1380 (G10, G11) and the ware was in decline in London by *c.*1430 (Trig Lane G12 and Trig Lane G15, *c.*1440). It is, however, likely that the ware was still being imported to London during the early 15th century. A group from Baynards Castle, which was part of a dump associated with the construction of the corner tower during the rebuilding of the castle in 1428, contained two Hertfordshire glazed ware vessels, both atypical. The first, a costrel (Fig. 10 No. 39) has a typical fabric in thin-section but the drinking jug (Fig. 10, No. 38) is petrologically distinct. A number of other D.U.A. excavations (Appendix 1, Fig. 8) have also produced Hertfordshire glazed ware although never in large quantities. Wherever the sherds are in associated groups a date in the mid-late 14th century or later can be given.

The only place other than the City

where the changing frequency of Hertfordshire glazed ware can be seen is St. Albans. A pit group from College Street, dated to the late 13th or early 14th century on the basis of an almost complete Kingston-type ware pellet decorated jug, contained a range of Hertfordshire reduced ware cooking pots and other vessels, a few glazed jugs, including one of London-type ware but no Hertfordshire glazed ware vessels. It is likely therefore that the ware first appeared in London at about the same time as it did in St. Albans, towards the middle of the 14th century. A series of medieval vessels in the Verulamium Museum attributed to an excavation in the cloisters at the Abbey of St. Albans is thought by Havercroft and Saunders to be from the filling of a large garderobe pit (pers. comm.). They include a Hertfordshire glazed ware baluster jug and Siegburg drinking jugs. This would appear to have been a group of the late 14th to early 15th century, contemporary with those found at Trig Lane in London. Several other Hertfordshire glazed ware vessels from St. Albans are similar in character to those from London and should be of broadly similar date.

A large group from the filling of a cellar at Chequer Street, St. Albans, consists almost entirely of Hertfordshire glazed ware vessels with a few sherds of imported Spanish tin-glazed wares thought by R. G. Thompson of Southampton Museum to be of 15th century date (Saunders and Havercroft, pers. comm.). The range of vessels in this group is different from that found in London and is dominated by large, plain rounded jugs, some of which had bung-holes. It is likely that this group was deposited after Hertfordshire glazed ware had ceased to occur in London, that is, later than *c.* 1440.

The end of the industry is at present unknown. Few large groups of late 15th to 16th-century pottery have been examined from London. St. Albans apparently has few groups of this date. However, the reserve collection in Verulamium Museum contains numerous examples of 'post-medieval black-glazed ware' in forms and fabrics identical to those produced at various sites in Essex, for example at Harlow (Newton *et al.* 1960) and Stock (Cunningham and Drury forthcoming). It is therefore suggested that by the late 16th to early 17th centuries there was no longer a large local pottery industry supplying St. Albans.

DISTRIBUTION

A search of pottery collections in the area surrounding St. Albans has shown that Hertfordshire glazed ware is only common at St. Albans and King's Langley (Neal 1977). Only a small portion of the Manor of the More collection was examined but fragments of three Hertfordshire glazed ware jugs were present. Sherds of contemporary jugs from the Brill or Boarstall kilns in Buckinghamshire were also present, showing that Hertfordshire glazed ware was not the only 14th-century jug type in use (Biddle *et al.*, 1959). At Northolt Manor pottery associated with the 14th-century occupation was common but was mainly composed of whiteware vessels from West Surrey. Single fragments of a Hertfordshire glazed ware cooking pot and a Hertfordshire glazed ware jug were found. Northholt, like London, would therefore seem to have been on the periphery of the Hertfordshire glazed ware market area (Hurst, 1961). A single Hertfordshire glazed ware jug sherd was found amongst material from an excavation by P. Wilkinson, Passmore Edwards Museum, at Bakers Row, West Ham. The whole collection consisted of types paralleled within the City suggesting that West Ham

relied on the London market for its pottery and that the Hertfordshire glazed ware sherd arrived in the same way. Negative evidence was obtained from Essex, from both the Colchester Museum collection and that of the Chelmsford Archaeological Unit. Excavations at Dunstable, to the north of St. Albans, also failed to produce definite examples. The ware has not been found in Buckinghamshire, although B. Hurman and M. Farley state that it is similar in appearance but not form to that produced in the Brill and Boarstall area of Buckinghamshire, on the Oxfordshire border. Small body sherds might therefore be overlooked but large fragments would be obvious. No examples have been found in Berkshire (Reading Museum collection) nor has it been found in the collections of Maidstone Museum.

The distribution of Hertfordshire glazed ware remains to be defined in detail but it is clear that is was relatively restricted (see Fig. 9, Appendix 2), comparable perhaps to that of the late 14th-to early 15th-century Cheam whiteware with which it was partly contemporary (Orton, 1982, 72 Fig. 26). As further findspots are discovered it will be possible to reconstruct the methods in which the pottery was marketed. It is already certain that the London finds must have been carried overland from the north along a trade route with a long ancestry. Pottery from southern Hertfordshire was used in London in the 1st and 2nd centuries and reduced greyware cooking pots and unglazed jugs of Hertfordshire Reduced ware occur in London from the middle of the 12th century until the middle of the 14th century. The trade of Hertfordshire glazed ware to London can be seen as the continuation of this trade for which, however, there is no evidence after *c.* 1400.

FORMS.

Jugs, cooking pots and dripping dishes form the majority of vessels in Hertfordshire glazed ware. The only other forms recognised in London are drinking jugs, bowls, one urinal, and a single costrel from Baynards Castle. Money boxes and bung-hole jugs or cisterns are known from St. Albans but not London and may therefore be of mid 15th-century or later date.

All vessels have a patchy mottled green glaze, coloured by the addition of copper.

JUGS.

Two forms of jug are found, baluster (Fig. 1) and rounded (Figs. 2 and 3). Of these, the more common in London is the rounded, which can be distinguished in sherd material only by the examination of neck and base sherds. The rounded jugs occur in two sizes, medium (for example, Fig. 2, Nos 4-6) and small (Fig. 3). Both forms are wheelthrown and usually have extensive knife-trimming on the lower half of the body, (Fig. 2, No. 5).

The rims are neatly moulded with both internal and external thickening. Some rims are squared (Fig. 1, No. 2), others rounded (Fig. 4, No. 17) or triangular (Fig. 1, No. 3). The latter form is not common in other wares, although it was simple to construct with the thumb and forefinger pinched together and pressed down onto the rim while the vessel was on the wheel. Most vessels have deep, pulled lips (Fig. 1, No. 3) but the small rounded jugs were often made without a lip (Fig. 3, No. 7). The handles are added to both rim and body by being inserted through the body of the pot, the interior join then being smoothed over. The handles are either of rod or strap form and are usually decorated with two thumb impressions at the sides of the rim-handle join and with columns of small stabbed or slashed incisions (Fig. 4).

Both rounded and baluster forms are decorated with cordons applied during throwing, bands of grooves which may have been applied with a comb while the vessels were on the wheel, and two or three horizontal rows of stamped bosses on the shoulder. The combing occurs mainly as a single band on the shoulder

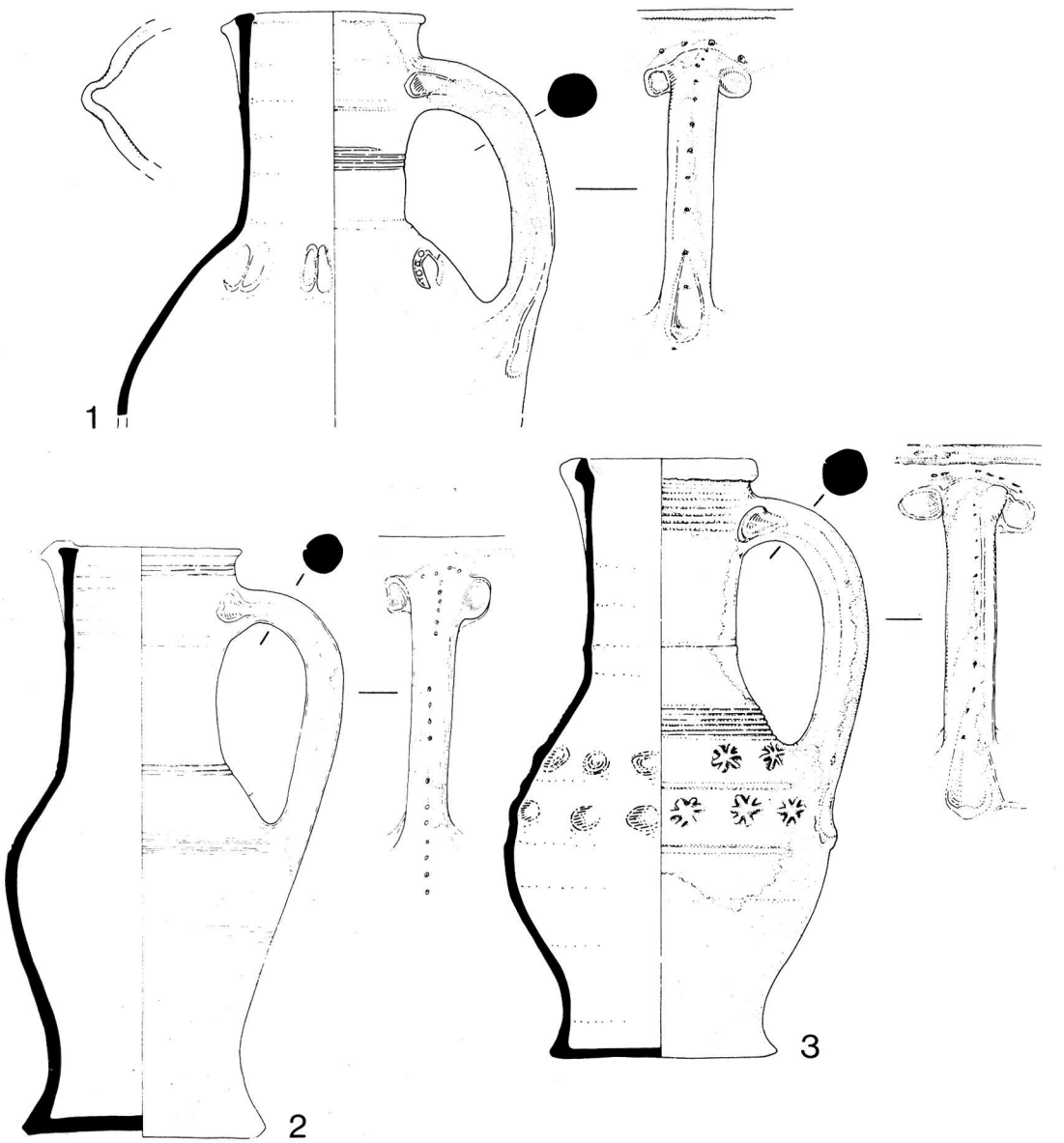


Fig. 1 Late Medieval Hertfordshire Glazed Ware: Baluster jugs. Nos.1 MOL Acc. No. A10901, jug with 'horse-shoe' bosses; No.2 MOL Acc. No. 36.16/1; No.3 MOL Acc. No. A15259, jug with 'star-shaped' boss. (1/4)

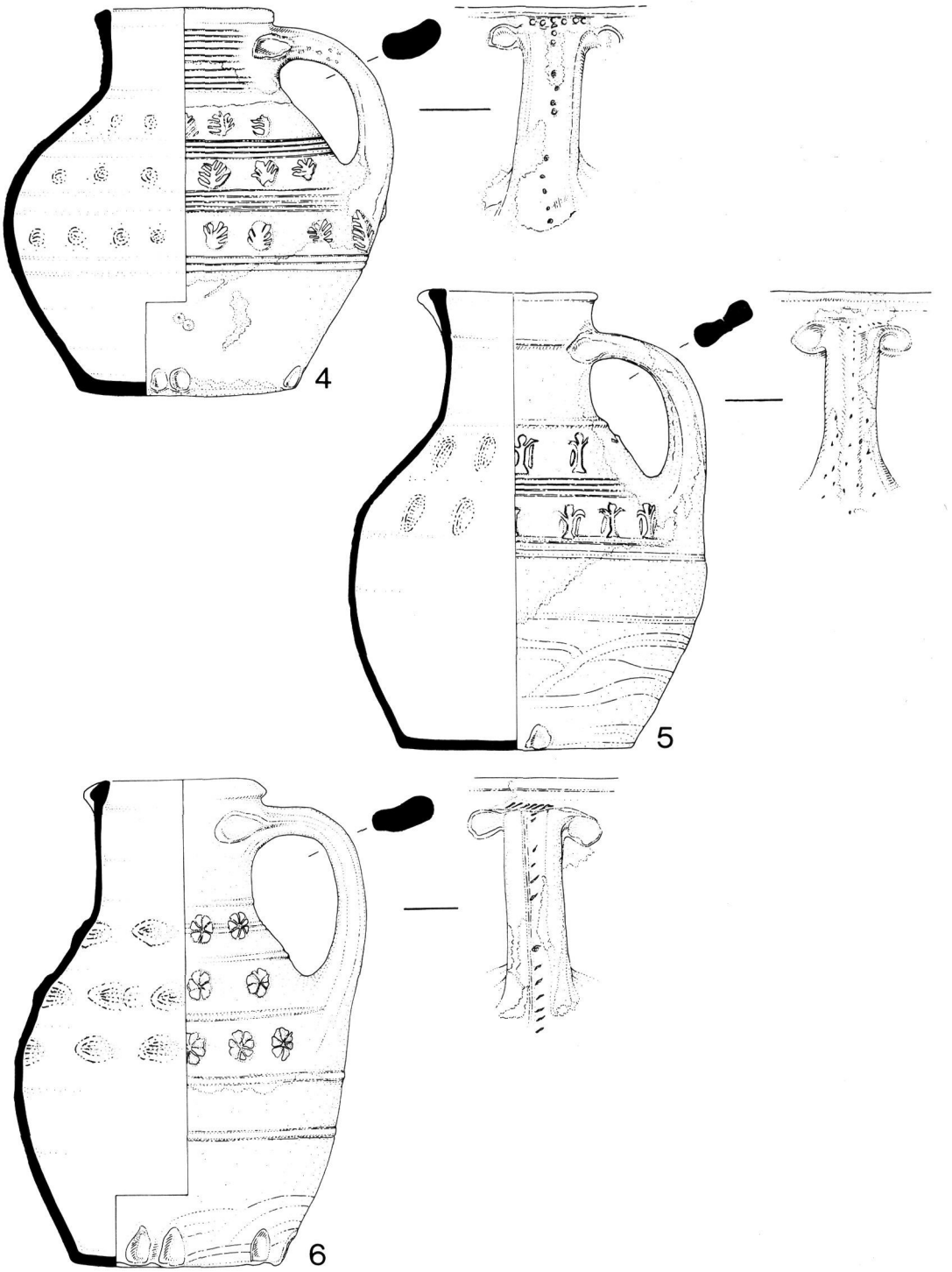


Fig. 2 Late Medieval Hertfordshire Glazed Ware: Medium sized rounded jugs with stamp bosses. No.4 MOL Acc. No. 10323, jug with 'ear of wheat' boss. No.5 MOL Acc. No. 5694 MIX 127, jug with 'fleur-de-lys' boss; No.6 MOL Acc. No. A23242, jug with 'flower' shaped boss. (1/4)

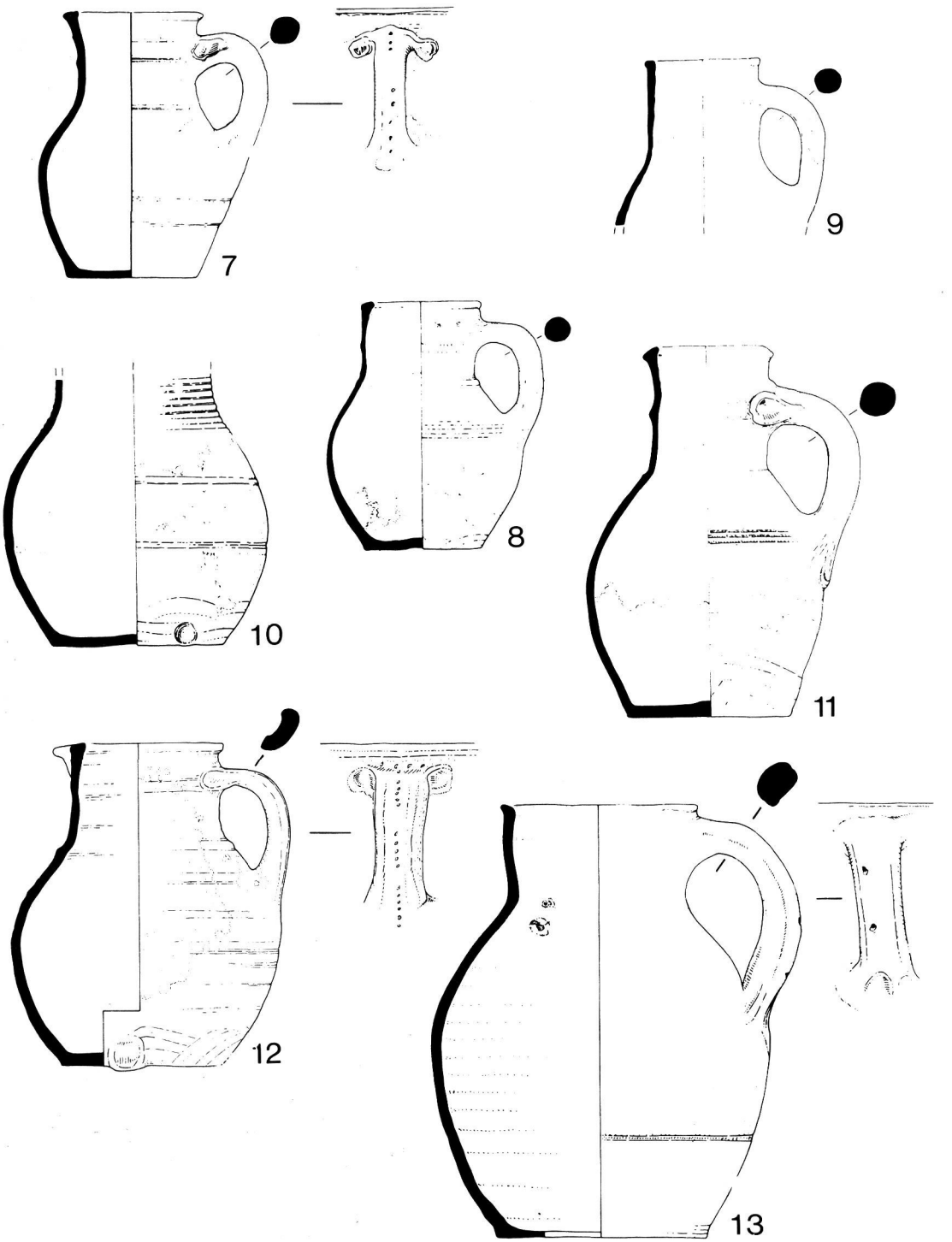


Fig. 3 Late Medieval Hertfordshire Glazed Ware: Small and medium rounded jugs. No. 7 MOL Acc. No. A8119; No. 8 MIL72 Context 17B/384; No. 9 TL74 Context 415 drinking jug; No.10 MOL Acc. No. 22714; No.11 MOL Acc. No. 5692 MIX 125; No. 12 MOL Acc. No. 5698; No. 13 MOL Acc. No. 17734. (1/4)

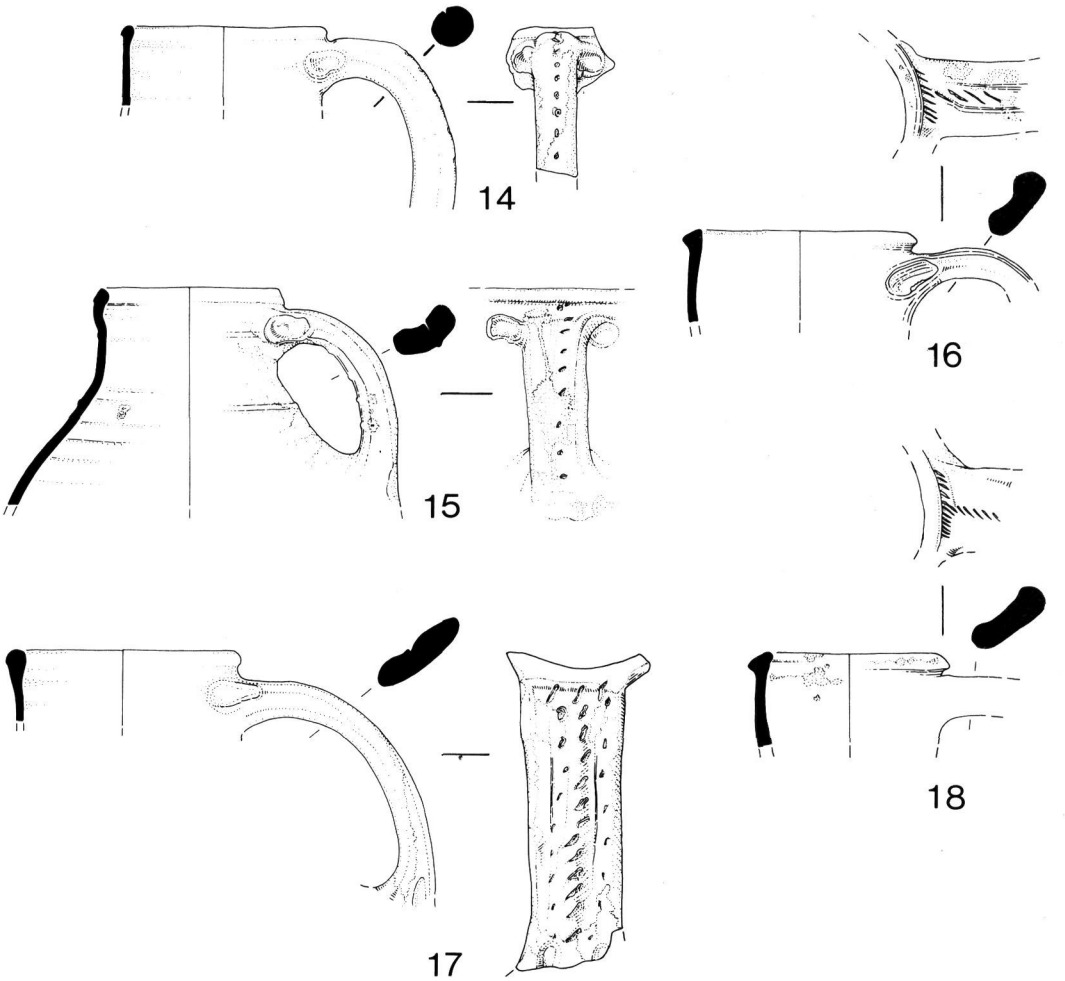


Fig. 4 Late Medieval Hertfordshire Glazed Ware: Jugs with stabbing on their handles. No. 14 TL74 2698; No. 15 TL74 Context 2332; No. 16 BIG82 Context 582; No.17 TL74A Context 415; No.18 BIG83 Context 394, (1/4)

but up to three bands are found, as are vessels with combing on the neck (Fig. 3, No. 10).

The stamped bosses are the most distinctive feature of the jugs and five patterns have been recognised in London. These are a 'star' stamp, found in Trig Lane G11 and on a complete unstratified baluster jug (Fig. 1, No. 3); a 'flower' stamp (Fig. 5, No. 22); an 'ear of wheat' stamp (Fig. 5, No. 21); a 'horseshoe' stamp used with the open ends downwards (Fig. 5, No. 20); and a 'fleur-de-lys' stamp (Plate 1; Fig. 5, No. 19). Other stamp patterns occur at St Albans and King's Langley but these are not included here. The stamps found on examples from the City were applied by holding the die on the surface of the pot and using a sliding movement of the forefinger alone or the forefinger and index finger on the inside (Plate 2a). This method does not give a clear impression of the potter's fingerprint, unlike the application method used on some Kingston ware stamped bosses (Plate 2b). This

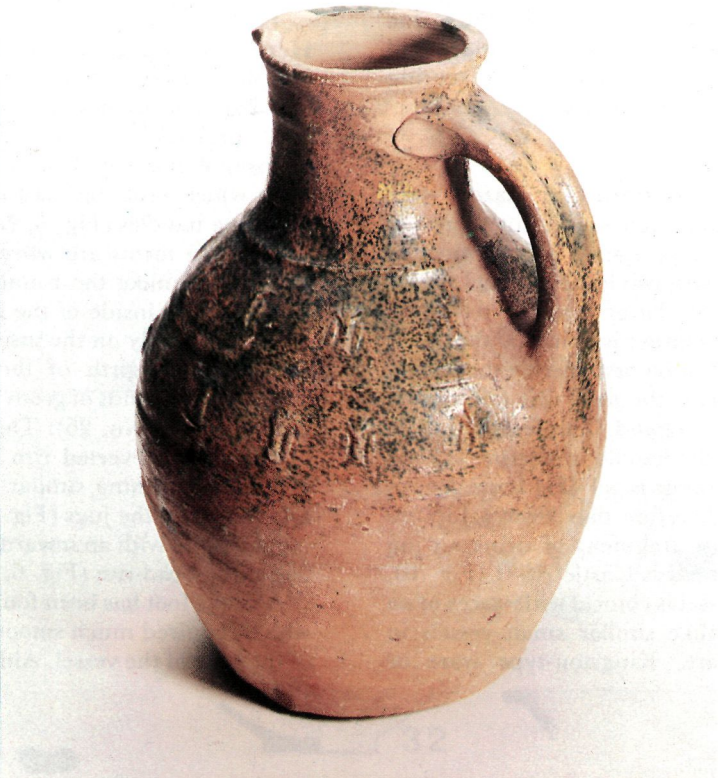


Plate 1. Late Medieval Hertfordshire Glazed Ware: A medium-sized rounded jug with 'fleur-de-lys' stamped bosses. MOL Acc. No. 5694. MIX 127. (Height 275 mm.)

is probably due to the different sizes of stamps; Kingston ware stamps are usually approximately 5 cms whereas Hertfordshire glazed ware stamps are normally about 3 cms long. The smaller Kingston stamps were applied in the same way as those on the Late Medieval Hertfordshire glazed ware vessels (Plate 2c). The impression given by the stamp and internal fingering suggests that the clay was very wet when the stamps were applied. In all probability the stamps were applied immediately after the vessel left the wheel.

The baluster jugs have flat or recessed bases (Fig. 1), whilst the rounded jugs have sagging bases with thumb impressions either singly or in groups at intervals around the base (Fig. 3, No. 12). The flat base of a complete baluster jug, (Fig. 1, No. 3), shows that the vessels were removed from the wheel with a cheese-wire, the centre of the base was then pushed slightly upwards and the remainder of the base knife-trimmed to give a flat, horizontal surface. The rounded jug bases were pushed outwards before being trimmed externally. Some baluster jugs from St. Albans have extensive vertical knife-trimming on the lower part of the body but this has not been seen on any London examples.

A single rounded jug is distinctive in several ways, although in fabric it is very similar to the remaining vessels, (Fig. 3, No. 13). This jug has no glaze, no knife-trimming on the lower

half of the body and has an oval-sectioned handle that was luted onto the body rather than pushed through it. The similarity in fabric may be coincidental or it may be that this vessel is a late vessel from the same industry, since both the absence of glaze and the use of luting are often Tudor potting techniques in the London area.

DRINKING JUGS.

Few complete Hertfordshire glazed ware drinking jugs have been found but there are fragments from Trig Lane, which must be from small jugs with rod handles (Fig. 3, No. 9). Some of the latter vessels differ in manufacture from larger jugs in that the body-handle join is not smoothed over on the inside, presumably because the neck was too narrow to insert the potter's hand. This leaves a single slash into which the handle was pushed (Plate 3b). The vessels occur in all Trig Lane groups except G7 and therefore date from *c.*1360 to *c.*1440. A definite fragment of drinking jug was found at Baynards Castle, 1981 (Fig. 10, No. 38). This vessel is conical with traces of an everted rim. Unlike similar small vessels in London-type ware, Kingston-type ware or Cheam ware this example has a glossy clear lead glaze covering the whole external surface.

COOKING POTS.

Three types of cooking pot are found in Hertfordshire glazed ware. The most common is a plain vessel without feet or handle (Fig. 6, No. 28). The second is a pipkin, (Fig. 6, No. 30), probably without feet but with a horizontal handle. The third is a cauldron form which probably had large feet and two opposing handles (Fig. 6, No. 29).

All three forms are wheelthrown and have flat bases, unlike the rounded jugs. Glaze is found on the inside of the base of the vessels and occasionally on the inside of the rim. The shoulder and girth of the vessls are often covered with bands of grooving, applied on the wheel (Fig. 6, No. 26). The rim forms found vary from an everted rim with internal and external thickening similar in construction to that found on the jugs (Fig. 6, No. 27) to flat-topped types with an inward bevel (Fig. 6, No. 26) and a bead rim (Fig. 6, No. 24).

A single foot has been found, the addition of which required much smoothing and working of the base of the vessel. Although incomplete,

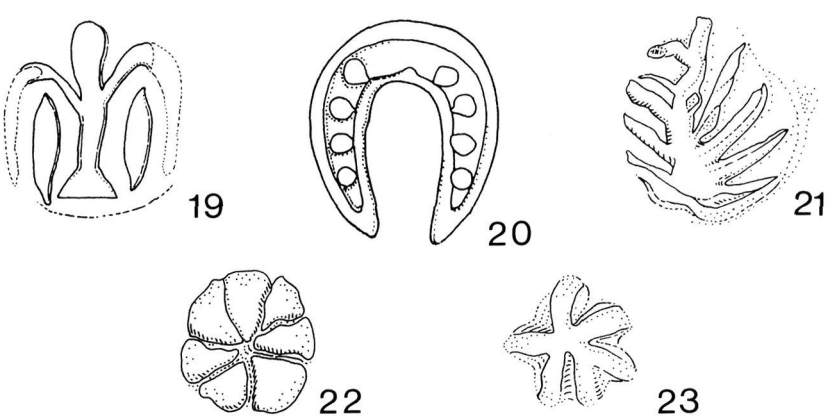


Fig. 5 Late Medieval Hertfordshire Glazed Ware: Stamp bosses. No. 19 MOL Acc. No. 5694 MIX 127 'fleur-de-lys' boss; No. 20 MOL Acc. No. A10901 'horse-shoe' stamp boss. No.21 MOL Acc. No. 10325 'ear of wheat' boss; No. 22 MOL Acc. No. A2324 'flower' boss; No. 23 MOL Acc. No. A15259 'star' boss. (1/4)

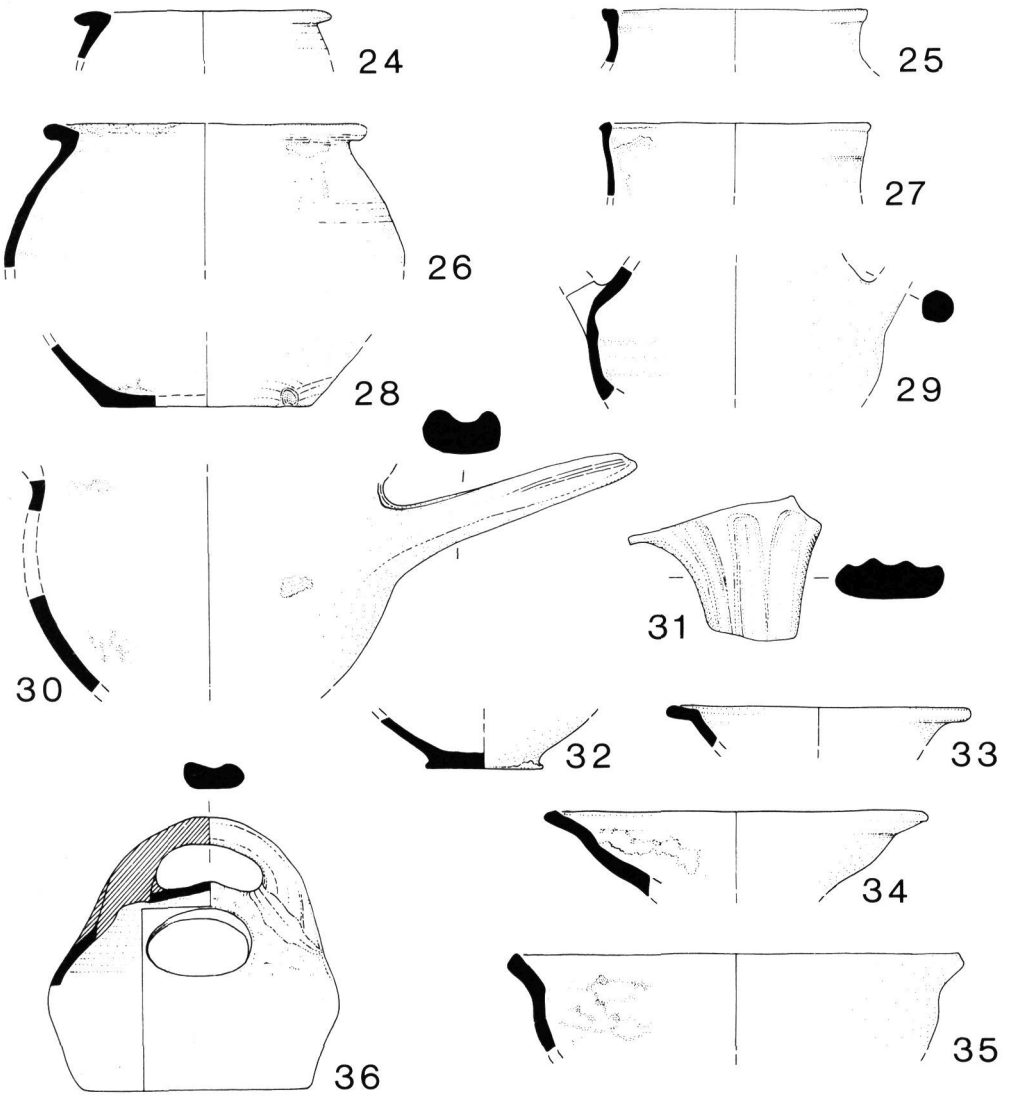


Fig. 6 Late Medieval Hertfordshire Glazed Ware: Cooking pots and a urinal. No. 24 TL74 Context 415 Jar/Cooking Pot; No. 25 TL74 Context 414 Cooking Pot; No. 26 TL74 Context 306 Jar/Cooking Pot; No. 27 TL74 Context 2670 Cooking Pot; No. 28 BIG82 Context 832 cooking pot; No. 29 TL74 Context 2332 cauldron; No. 30 SWA81 Context 994 pipkin; No. 31 TL74 Context 306 cauldron leg; No. 32 TL74A Context 415 dish; No. 33 TL74 Context 323 bowl; No. 34 TL74 Context 306 bowl; No. 35 MIL72 Context 23 bowl; No. 36 MOL Acc. No. 14677 urinal. (1/4)

it appears to have been a tall foot with three broad vertical grooves similar to those found on metal cauldrons (Fig. 6, No. 31).

DRIPPING DISHES

Fragments of oval slab-built dripping dishes have been found in most of the Trig Lane groups, from G7 onwards. They have pulled lips at either end and a wide rectangular-sectioned handle (Fig. 7, No. 37). The interior of the vessels is covered with a patchy green glaze and the outside is coated with soot.

BOWLS

Fragments of small wheelthrown flanged bowls have been found. They have an inward-sloping flange and a hemispherical body (Fig. 6, No. 34). No base sherds have been recognised.

URINAL

A single, unstratified example of a urinal was found (Fig. 6, No. 36). This vessel was thrown as a completely enclosed bee-hive shape (similar to but larger than that of the money-boxes). A circular hole was cut in the top and an undecorated strap handle inserted into the top of the vessel.

COSTREL

A single costrel fragment has been found. The method of construction is similar to that of the urinal but with a wheelthrown rim and neck added at the widest point (Fig. 10 No. 39). The suspension lugs have been pierced with a cylindrical tool, 11 mm diameter, and subsequently slightly knife-trimmed. As on the drinking jug from the same assemblage, the vessel has a glossy clear lead glaze.

In Dunning's typology of costrels this example belongs to the mammiform group, thought to be of late medieval origin replacing the barrel-shaped costrel of the 13th to early 14th centuries (Dunning, 1964). Dunning suggested that there was a typological progression in the shape of the lugs. Examples which stuck out further than the rim as wings were the earliest, followed by examples which ended level with the rim and finally the lugs were diminished to form small appendages at the

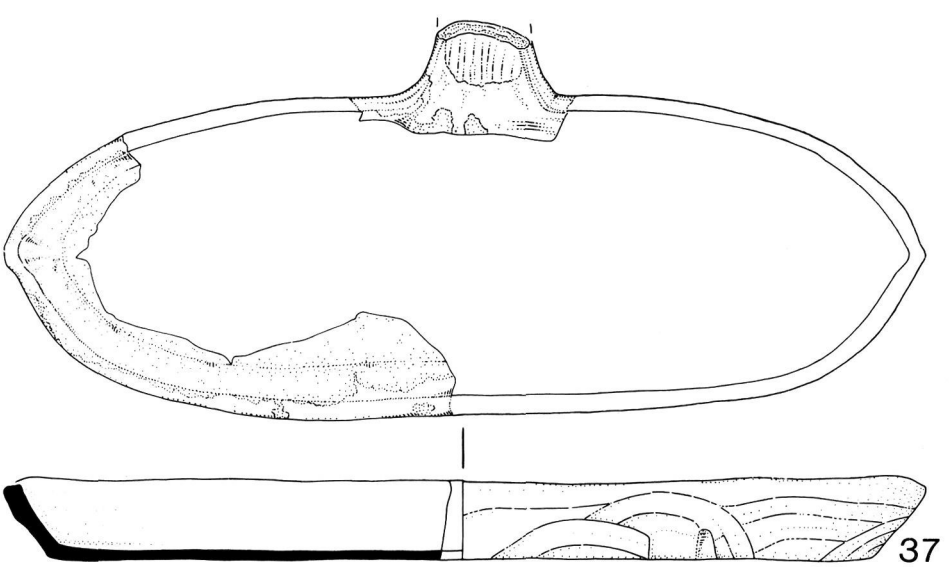


Fig. 7 Late Medieval Hertfordshire Glazed Ware: Dripping dish No. 37 TL74 Context 306 dripping dish. (1/4)

junction with the body. This example fits into the middle group as do those made at Siegburg at approximately the same time (Beckmann, 1974, Nos. 53–4).

THE ORIGINS AND AFFINITIES OF THE INDUSTRY.

Pottery manufacture in Hertfordshire before the mid 14th century took place at a number of centres, the main products of which were reduced, unglazed sand-tempered grey-wares. These industries differ from the Hertfordshire glazed ware industry in the forms produced, the methods of manufacture, the oxidized firing and the copper-lead glaze.

Early to mid 14th-century pottery industries also existed in the Brill and Boarstall areas of Buckinghamshire, Kingston-on-Thames, the London area and at Mill Green in Essex. The industries supplying the area immediately north of St. Albans are not known due to the lack of pottery finds. The contribution of the pottery industries of this area to the development of the Hertfordshire glazed ware industry is therefore unknown.

The range of vessels produced by the Hertfordshire glazed ware industry is very similar to that produced at Kingston-on-Thames, although details of typology are different. The baluster jugs with vertical knife-trimming are a common form in Kingston ware and the overall shape of the baluster jugs is more similar to those of Kingston and Mill Green wares than to those of the Brill-Boarstall and London-area industries. The urinal is a form not known to occur in any of the local industries except Kingston. A complete Kingston ware urinal in the Museum of London reserve collection is very similar in size, shape and method of manufacture to the Hertfordshire glazed ware vessel, but has an added splash-guard over the opening.

Specific features of Hertfordshire glazed ware vessels also have parallels in the Kingston ware industry, for example the use of stamped bosses on the jugs. However, other features are not of Kingston origin, such as the delicate stabbing and slashing found on the jug handles, similar to that found on Brill-Boarstall jugs, and the bases of Kingston ware cooking pots are pushed out rather than left flat like those of Hertfordshire glazed ware. The flat base is found on Cheam cooking pots (Orton, 1982) but these vessels are of a similar date to Hertfordshire glazed ware vessels, so that the Cheam industry is unlikely to have been the origin of the Hertfordshire glazed ware potters' style. The least similar of the surrounding industries were those of Mill Green and the London area. It can therefore be suggested that this group of potters supplying St. Albans and southern Hertfordshire obtained their technical knowledge from the south or west rather than the east or south-east. However, neither of the two main industries to the south and west of St. Albans were using precisely the same range of techniques as those adopted by the Hertfordshire glazed ware potters, who seem to have taken ideas from both sources.

The mechanisms by which potting techniques and 'styles' were transmitted are not known. Potting is a complicated craft requiring considerable expertise acquired through apprenticeship or a long period of training. However, pottery industries in England are not known to have been organised into guilds. The shape or type of vessels produced by a potter depends to a considerable extent upon the tastes and requirements of his customers. Techniques such as stamped bossing and handle decoration and decisions such as whether or not to push out the base of a cooking pot are, however, of no consequence to the user of the pot and most likely reflect the custom of those from whom the potter learnt his craft. Since there is no earlier glazed ware industry in Hertfordshire from which the Hertfordshire glazed ware potters could have learnt their craft and, since neither of the most similar industries incorporated all of the techniques used it is difficult to define where they originated. There is no apparent progression in techniques within the Hertfordshire glazed ware industry, which must have lasted longer than a single potter's lifetime.

Thus, when the industry was in its naissance the original potters seem to have been more receptive to ideas and techniques but, once established, the system of training was rigid enough to ensure that a virtually identical

product was manufactured for a century.

As the medieval pottery industries supplying London become better known it will be easier to consider aspects of the pottery industry which would previously have been obscure. The present instance, that of a minor industry supplying a small area of Hertfordshire and the surrounding counties is a case in point. The sequence of dated deposits at Trig Lane immediately removes any need to use typological traits to try and date the period of use of a pottery type, and one can now use this information to show firstly, how stable the patterns of production of the medieval pottery industries were, and secondly to question the way in which technical knowledge was transferred from potter to potter.

Further information, for example on the methods of marketing, may be obtained once the full distribution of the ware has been recorded and quantified data from other sites is available for comparison with that from London and St. Albans.

CONCLUSION.

Large quantities of Hertfordshire glazed ware found on excavations in St. Albans suggest that this type of pottery was being made close by although no kiln has been found. Waterfront sites in the City of London, where this type of pottery was present, show that it was used in London mainly in the mid to late 14th century. By the early 15th century evidence from London suggests that the industry was in decline although excavations in St. Albans show that it was still important locally. The end of the industry is not precisely dated and must be sought outside of London.

Forms found in London include jugs, cooking pots, dripping dishes, drinking jugs, bowls and one urinal. These forms are also known from St. Albans together with money boxes and cisterns. The Hertfordshire glazed ware potters made vessels which are of similar forms and stylistic elements to those found in the Kingston industry while the distinctive handle form alone is paralleled at Brill and Boarstall in Buckinghamshire. This may imply that the Hertfordshire industry was founded by potters from Kingston. Once underway, the output of the Hertfordshire glazed ware industry continued without change until the early 15th century.

ACKNOWLEDGEMENTS.

We gratefully acknowledge the help of Adrian Havercroft and Chris Saunders and their staff at the Verulamium Museum, St. Albans, without whose help we would not have recognised the source of Hertfordshire glazed ware. We are grateful to Mike Farley and Barbara Hurman of Aylesbury Museum for discussing the similarity of Hertfordshire glazed ware to Buckinghamshire glazed wares and for showing us material from recent excavations at Brill and Boarstall. Many museums have been visited as part of this general study and we are grateful to them all for allowing us to examine material in their care. Nick Fuentes showed us the material from the 1972 City of London Archaeological Society excavations at Milk Street and we are grateful for his permission to publish an illustration of a jug found there (Fig. 3, No. 8).

Tony Dyson and Hugh Chapman of the Museum of London kindly read and commented on an earlier draft of this paper.

APPENDIX 1

List of D.U.A. excavations mentioned in the text (preceded by their site codes), and find-spots of provenanced LMU material from museum collections (see Fig. 8)

1. 65–6 Coleman St.
2. Plantation House.
3. Bishopsgate St.
4. St Mary Axe.
5. Leadenhall St.
6. Moorgate St.
7. The Royal Exchange.
8. TL74 Trig Lane, Upper Thames St.
9. CS75 48–50 Cannon St.
10. BIG82 Billingsgate Market Lorry Park, Lower Thames St.

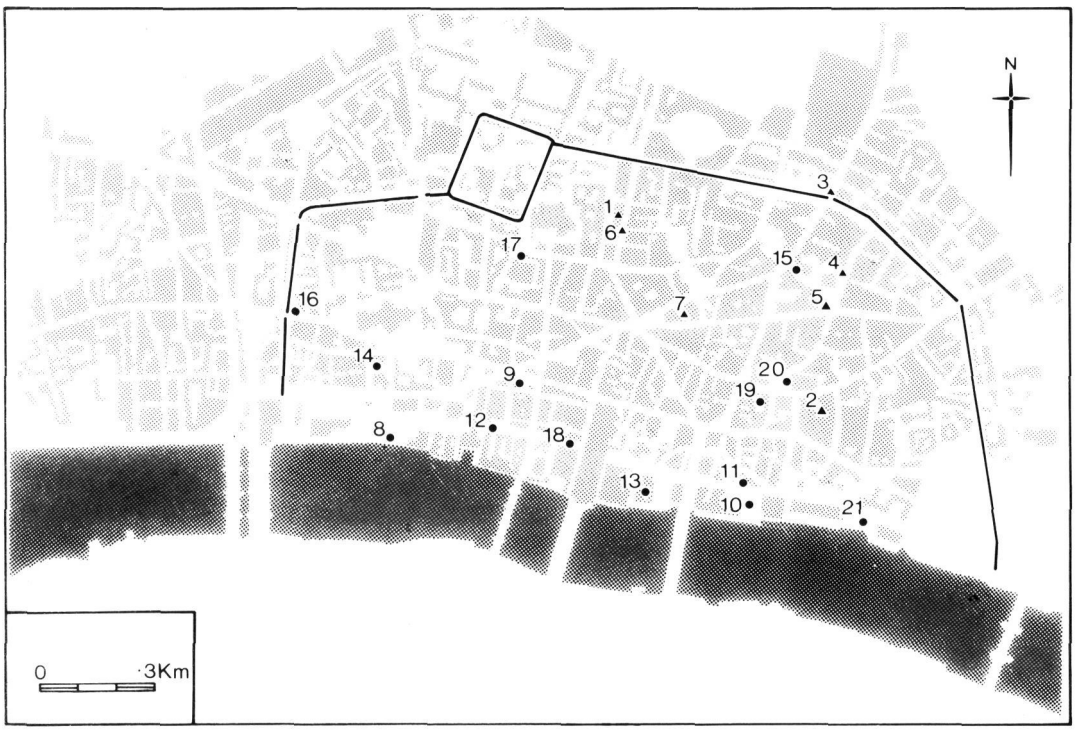


Fig. 8 Late Medieval Hertfordshire Glazed ware: The City of London showing D.U.A. sites mentioned in the text (circles), and other find spots of provenanced London-type ware (triangles). Where museum records indicate street names, but not an exact location, the site has been suggested centrally within the street (for site names see Appendix 1).

11. PEN79 Peninsular House, 112–116, Lower Thames St.
12. SLO82 Beaver House, Sugar Loaf Court.
13. SWA81 Swan Lane Car Park, 95–103, Upper Thames St.
14. TAV82 29–31, Knightrider St.
15. BIS82 76–80, Bishopsgate St.
16. LUD82 42–6 Ludgate Hill/1–6, Old Bailey.
17. MIL72 10, Milk St.
18. PCD59 Public Cleansing Department, Dowgate.
19. FEN83 5–12, Fenchurch St.
20. LIM83 25–6, Lime St.
21 CUS73 Custom Ho., Wool Quay, Lower Thames St.

APPENDIX 2

List of positive and negative find spots of LMU in South-east England (see Fig.9).

Positive sites:
1. St. Albans (Verulamium Museum)
2. King's Langley (Verulamium Museum)
3. Manor of the More, Rickmansworth (British Museum) Biddle *et al* (1959).
4. New Palace Yard, Westminster (Museum of London) Horsman (in preparation).
5. The City of London (Museum of London).
6. Bakers Row, West Ham (Passmore Edwards Museum).
7. Northolt Manor (Gunnersbury Park Museum) Hurst (1961).

Negative:
8. Aylesbury
9. Dunstable
10. Guildford
11. Kingston
12. Reading
13. Hadleigh Castle (Passmore Edwards Museum) Drewett (1975)
14. Colchester (Colchester and Essex Museum)

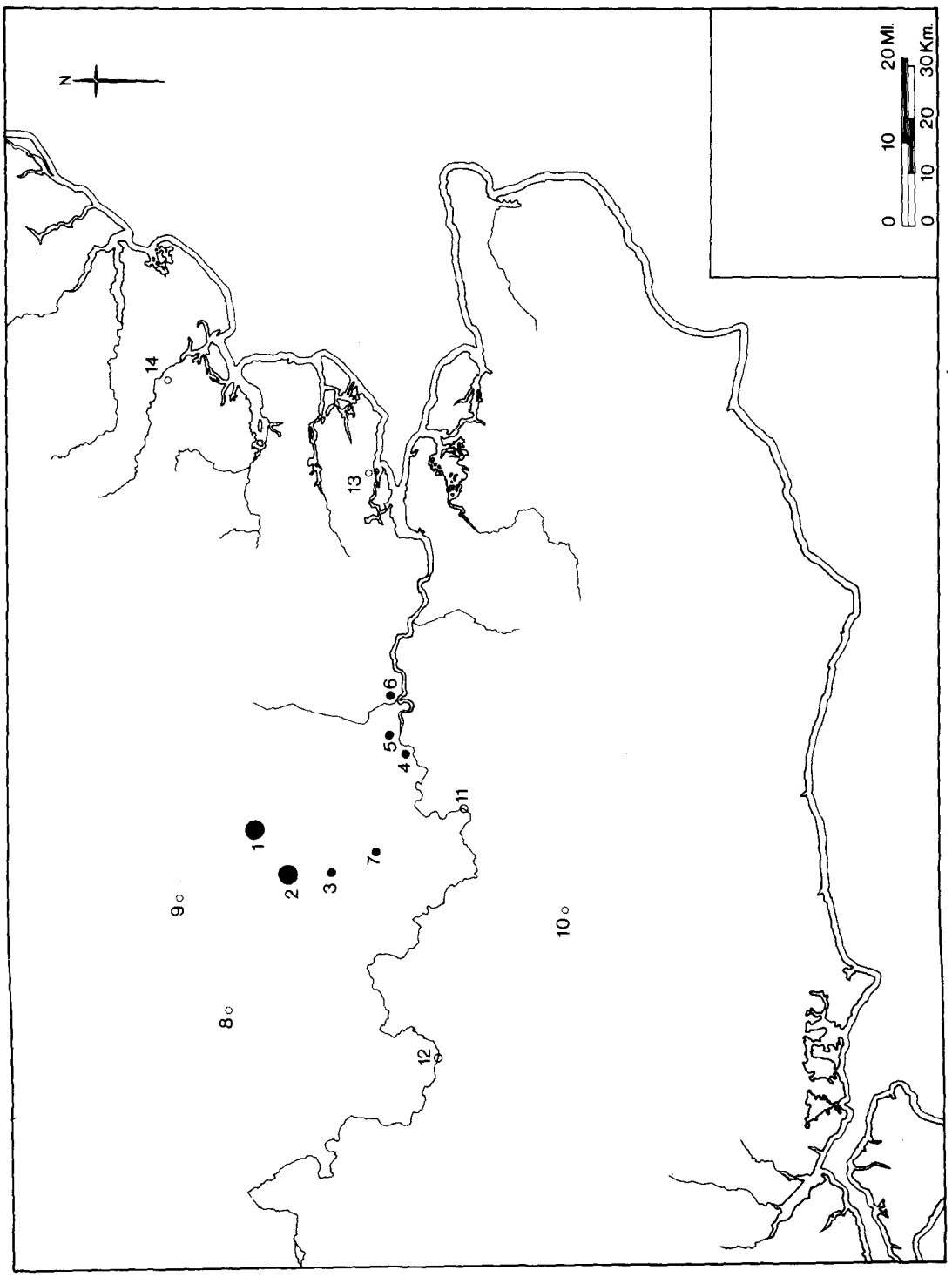


Fig. 9 Late Medieval Hertfordshire glazed ware: South-east England, showing the distribution of Hertfordshire glazed ware in the middle to late fourteenth century (for site names see Appendix 2).

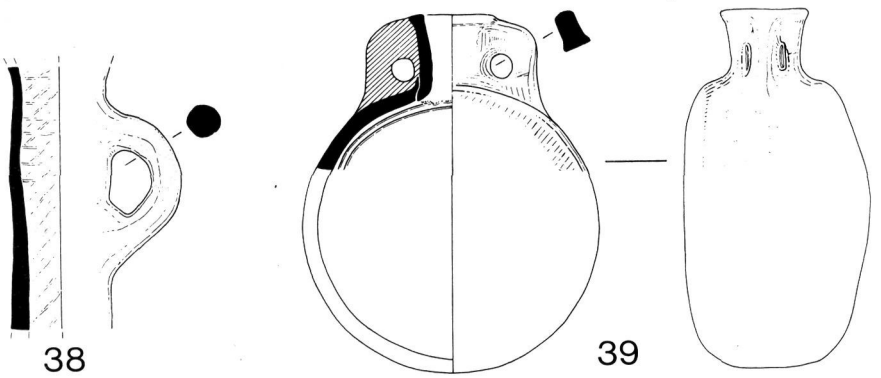


Fig. 10 Late Medieval Hertfordshire Glazed Ware: Drinking jug and costrel. No. 38 BYD81 Context 5, drinking jug; No. 39 BYD81 Context 25, costrel. (1/4)

APPENDIX 3

Thin sections taken from Hertfordshire glazed ware vessels.

579 TL74 [2698] Jug handle.
580 BIG82 [582] Jug handle.
581 BIG82 [394] Jug handle.
582 CUS73 XV [4] Jug handle.
583 MIL72 [384] 17B Small rounded jug.
584 CS75 [+] DUA Fabric No. Sgw 1438. Jug sherd.
585 TL74 [429] Jug with 'star shaped' boss.
586 BYD81 [5] Drinking jug.
587 BYD81 [25] Costrel.

QUANTIFICATION OF HERTFORDSHIRE GLAZED WARE AT TRIG LANE

The Hertfordshire glazed ware sherds from Trig Lane were divided into six groups, jugs (with no attempt made to distinguish baluster and rounded forms, nor to distinguish the size of the vessels), drinking jug sherds, dripping dish sherds, cooking pots (including cauldron and pipkin forms), bowl sherds and miscellaneous body sherds. The quantity of sherds in these groups was measured using the amount of vessel rim present (EVEs) and the total weight of sherds, in grams. Other sherds are all non-Hertfordshire glazed ware sherds including a small proportion of residual Roman and early medieval pottery (not more than 2% of the total).

Fig. 11 Trig Lane G7, *c.* 1340.

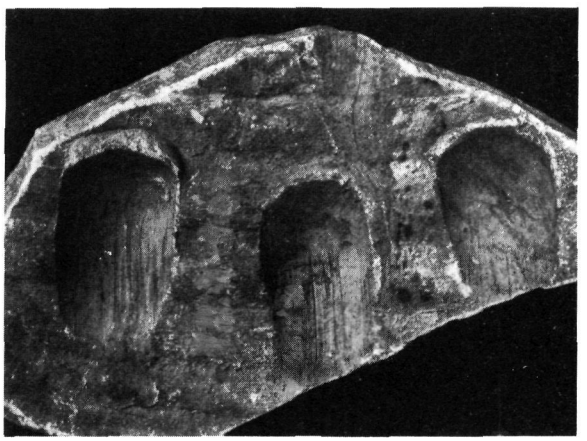
FORM	*EVEs*	*Wt*	*EVEs*	*Wt*
LMU-JUG	0.11	295	0.67%	0.88%
LMU-DRIP	0.00	28	0.00%	0.08%
LMU-CP	0.00	4	0.00%	0.01%
LMU-MISC	0.00	2	0.00%	0.01%
OTHER	16.36	33141	99.33%	99.02%
TOTALS	16.37	33470		

Fig. 12 Trig Lane G10, *c.* 1360.

FORM	*EVEs*	*Wt*	*EVEs*	*Wt*
LMU-JUG	0.35	302	2.48%	1.18%
LMU-DRIP	0.16	269	1.14%	1.05%
LMU-CP	0.00	145	0.00%	0.57%
OTHER	13.58	24933	96.38%	97.21%
TOTALS	14.09	25649		

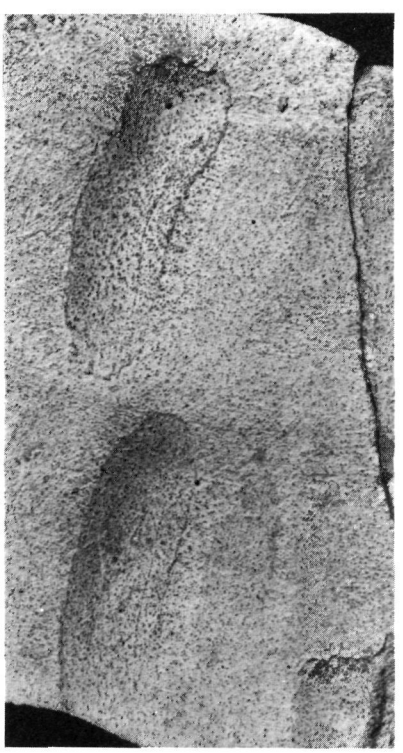
Fig. 13 Trig Lane G11, *c.* 1380.

FORM	*EVEs*	*Wt*	*EVEs*	*Wt*
LMU-JUG	1.03	2281	1.45%	2.23%
LMU-DJ	0.15	70	0.21%	0.07%
LMU-DRIP	0.09	1447	0.13%	1.41%
LMU-CP	0.44	794	0.62%	0.78%
LMU-BOWL	0.30	212	0.42%	0.21%
LMU-MISC	0.10	82	0.14%	0.08%
OTHER	68.70	97439	97.02%	95.23%
TOTALS	70.81	102325		



a

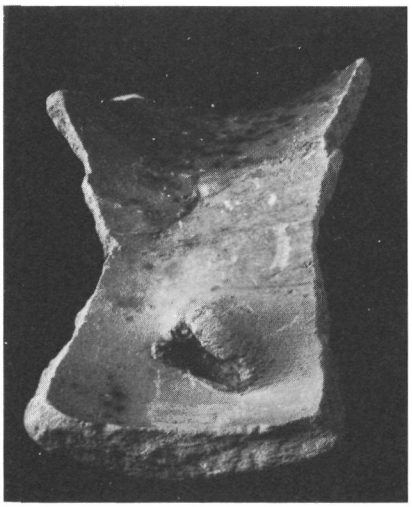
b



c

Plate 2. Late Medieval Hertfordshire Glazed Ware: The interior of a bossed jug of Late Medieval Hertfordshire Glazed Ware (a) and Kingston ware (b, c) showing the method of application. MOL Acc. Nos. (a) 16,219 (Internal height of stamp boss 28 mm) (b) 13429. (Internal height of stamp boss 43 mm) and (c) 14,444. (Height of each of the three marks 13 mm)

a



b

Plate 3. Late Medieval Hertfordshire Glazed Ware: The interior of a medium sized rounded jug (a) and a drinking jug (b) showing the difference in finishing technique. (a) MOL Acc. No. A10901. (Height of handle section 25 mm) (b) TL74 Context 415. (Length of slit cut for handle 15 mm)

Fig. 14 Trig Lane G12, *c.* 1430.

FORM	*EVEs*	*Wt*	*EVEs*	*Wt*
LMU-JUG	0.02	170	0.24%	1.13%
LMU-CP	0.00	10	0.00%	0.07%
LMU-BOWL	0.00	58	0.00%	0.39%
LMU-MISC	0.00	86	0.00%	0.57%
OTHER	8.48	14697	99.76%	97.84%
TOTALS	8.50	15021		

Fig. 15 Trig Lane G15, *c.* 1440.

FORM	*EVEs*	*Wt*	*EVEs*	*Wt*
LMU-JUG	0.25	800	0.27%	0.57%
LMU-DJ	0.00	86	0.00%	0.06%
LMU-DRIP	0.00	759	0.00%	0.54%
LMU-CP	0.07	204	0.07%	0.15%
LMU-BOWL	0.00	32	0.00%	0.02%
OTHER	93.06	137898	99.66%	98.65%
TOTALS	93.38	139779		

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THE LONDON INN OF THE ABBOTS OF WALTHAM: A REVISED RECONSTRUCTION OF A MEDIEVAL TOWN HOUSE IN LOVAT LANE

DEREK GADD

SUMMARY

Recently demolished walls in Lovat Lane are redated to the post-medieval period and are not, as has been suggested, part of the late 12th- or early 13th-century inn of the abbots of Waltham. The documents relating to the inn are re-examined in the light of this evidence and a schematic reconstruction proposed.

Mounted on the wall of Nos. 24–5 Lovat Lane (Figs. 1, 2), before their recent demolition, was a Corporation of London plaque commemorating the site of the inn of the abbots of Waltham, built at the turn of the 12th and 13th centuries as the town house of the largest Augustinian abbey in the country. The most detailed study of the inn, by the late Marjorie Honeybourne appeared in 1952[1], partly in consequence of the disclosure two years earlier of 'several ancient walls and three vaults' at 24 Lovat Lane. Miss Honeybourne described these features, concluding that the walls represented part of the north western area of the original inn, and then proceeded to reconstruct the plan of the inn both from these remains and from documentary evidence, notably a description made in 1540, immediately after the Dissolution[2].

The present paper, which arises from a subsequent re-examination of part of these structures by the Museum of London's Department of Urban Archaeology in 1980–1[3], demonstrates that the walls in question are in fact of post-medieval date and, since the inn was rebuilt between 1550 and 1562 and again after the Great Fire, are therefore an unreliable guide to the medieval plan. In this light the paper also reassesses the description of the inn in 1540, and offers a more satisfactory reconstruction of its plan.

The walls described by Honeybourne (1952, 34–5) were of 'chalk, brick and ragstone, 1 ft 6 ins thick up to first floor level and about 1 ft 1½ in thick above'. Three of the walls rose to a height of 34 ft above ground with a cellar lining 10 ft 6 in deep. She went on to say that 'all of the walls rest on no foundation other than the natural soil, here mainly ballast'. More precisely, the investigation of 1980–1 showed that the cellar lining walls were founded on footings that nowhere extended more than 0.30 m below the cellar floors. Since the cellars cut away all stratigraphy, what had been described as 'natural soil' or 'ballast' was natural gravel. Until the recent

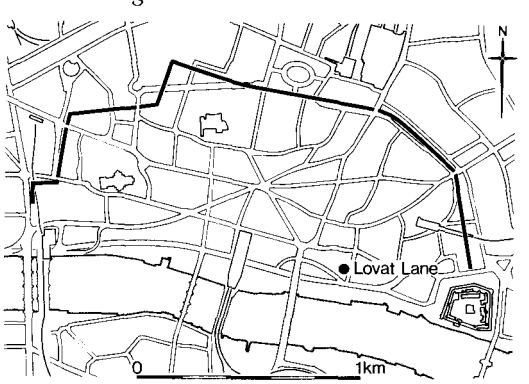

Fig. 1 Lovat Lane, 1980–1: The Lovat Lane site in the City of London.

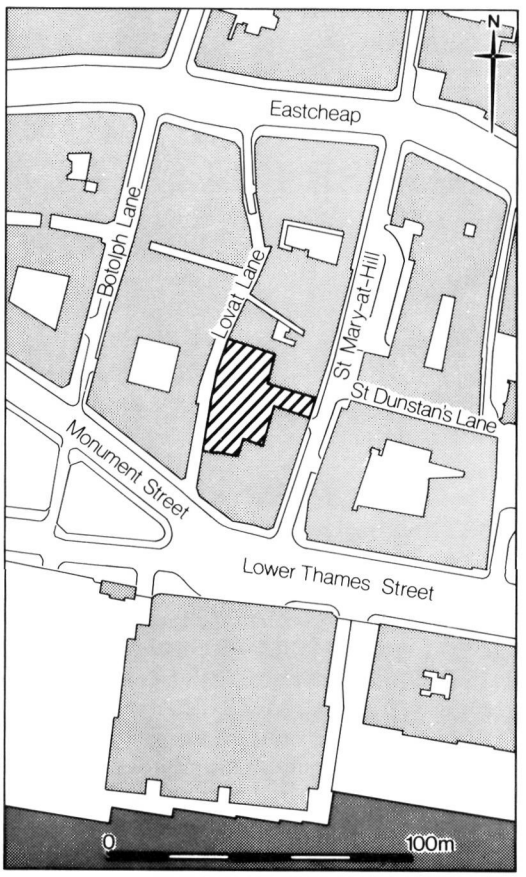

Fig. 2 Lovat Lane, 1980 – 1: Location of site in Lovat Lane.

redevelopment, fragments of almost all of the walls survived but only one is described here for reasons of brevity. The section of wall (Pl. 1) was part of the division between the cellars of Nos. 24 and 25 Lovat Lane at the point where they met the street front (right). According to Honeybourne's interpretation (Fig. 3), this wall would have separated the cellars beneath the inn's great chamber and dormitory. The wall was 1.89 m high, 1.82 m long and 0.70 m wide and was made up of a short stub of brickwork bonded into the street front wall (right) at cellar level and the main part of the wall built away from the stub in reused chalk, rag and greensand. A superficial impression of medieval work was created by the high proportion of reused masonry including moulded blocks (a roll and hollow chamfer is arrowed in Pl. 1).

Brick was used extensively in this and in the other walls recorded by Honeybourne. She implies that brick, Tudor in date, was only found as a facing, presumably taken to indicate a secondary patching (Honeybourne, 1952, 34). In the 1980 – 81 observations, however, brick and brick fragments were found throughout the walls, in the core as well as in the facing. Brick was clearly an integral part of the original build. The most frequently represented brick type was the common post-medieval type, MoL fabric No. 3032[4].

A single mortar type was found throughout the recorded walls. It was light grey in colour and included flecks of charcoal and coal. Observations in the City of London on a number of sites indicate that such ash mortars are not found in medieval building but became widespread in the 17th century and became universal after that date. Salzman cites a Westminster account of 1532 as the first documented record of their deliberate use (Salzman, 1952, 153). 'See cole' and 'Smythys Duste' were ordered for the making of 'blacke mortar requisite for the laying of Flynte'

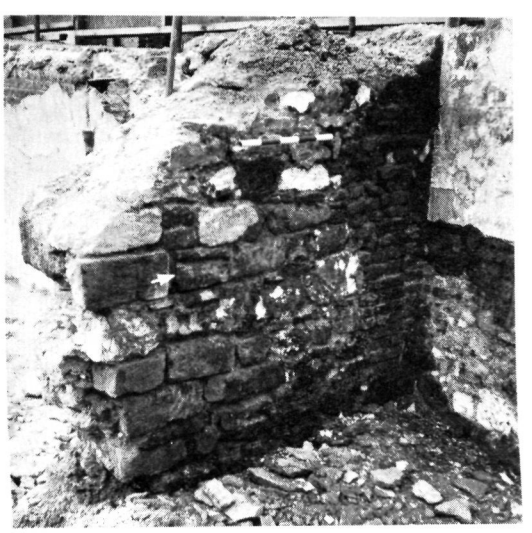

Plate 1 Lovat Lane 1980 – 1: Fragment of walling separating basements of nos. 24 and 25 Lovat Lane.

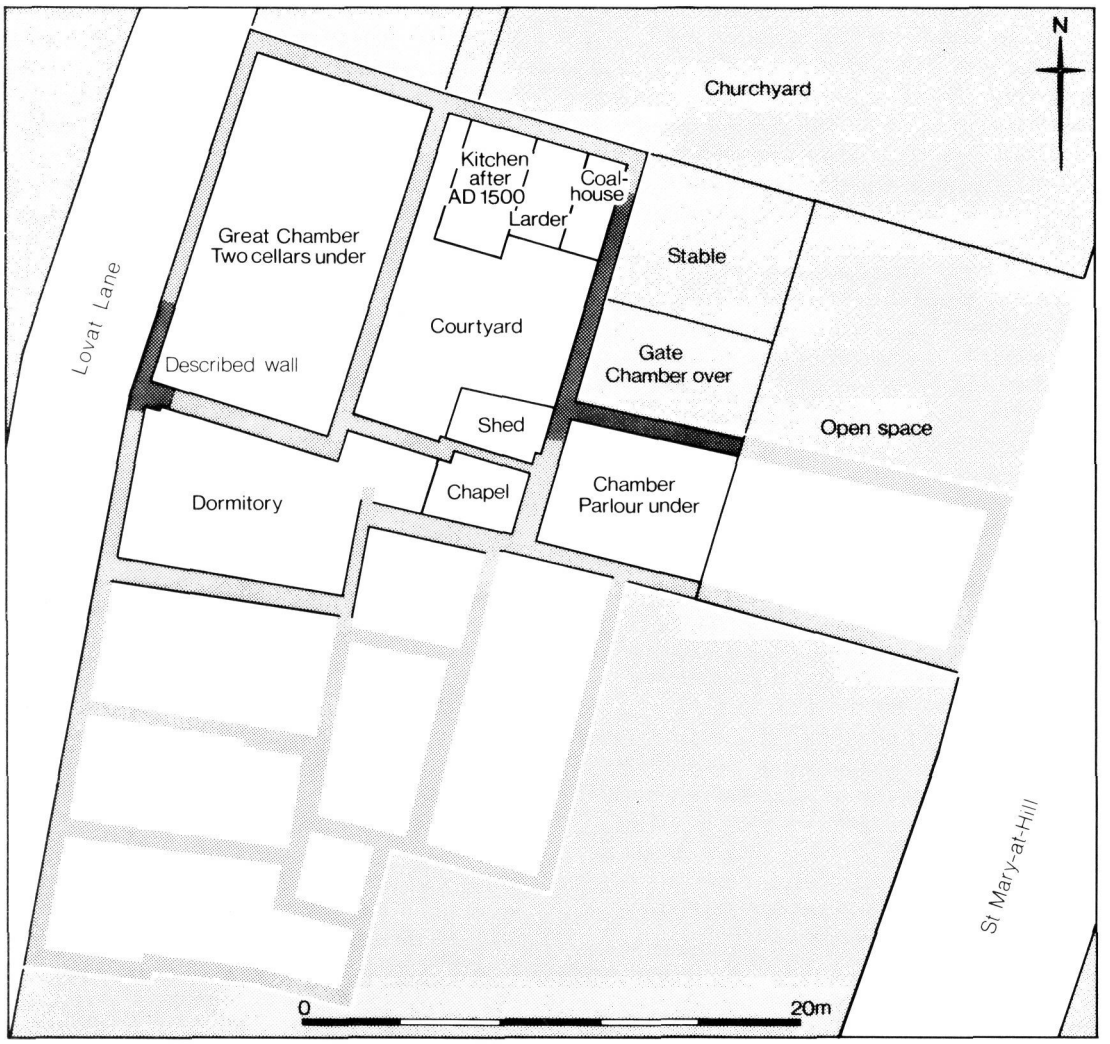

Fig. 3 Lovat Lane, 1980–1: Composite plan based on survey in 1980, with interpretation of rooms by Miss Honeybourne. KEY: Lightly shaded walls: those on which Honeybourne based her reconstruction; Darker shaded walls: those on which Honeybourne based her reconstruction, and also recorded in 1980–81.

presumably to achieve a harmonious visual effect between knapped flint and the mortar in which it was laid. Such decorative considerations might have inspired the original use of ash mortars but only in isolated cases. The real reason for their emergence was not aesthetic but technological; the replacement of the flare kiln by the running kiln as a method of lime burning. In the running kiln, the limestone or chalk for burning was piled up in layers with the fuel-wood, charcoal or coal, while in the flare kiln these were kept separate, thus allowing the quicklime to be extracted free of any fuel waste (Davey, 1961, 98–100). It was possible to keep clean the quicklime from a running kiln if the lumps of limestone retained their shape, but by the 17th century no attempt was made to clean the lime for mortars not

intended to be visible, presumably since the existence of fuel waste in mortar makes no difference to its bonding qualities. Although no precise date can at present be ascribed to the introduction of the running kiln process it is thought to have been a post-medieval innovation[5]. The mortar used in the walls at Lovat Lane would therefore appear to be of post-medieval date.

One of the arguments cited by Honeybourne in support of her suggestion that the 'ancient walls and vaults' were those of the 12th-century inn concerns their foundations. She claims that 'no one after that date (1666) would have built on this comparatively small plot walls of such thickness (1 ft 6 ins) and on no foundation other than the natural earth, (Honeybourne, 1952, 35). She seems to be implying that a) there was no substantial building in stone on such small plots after 1666, b) that shallow foundations cut into natural are structurally unsound; and c) that a technical error of this kind could not have been made after 1666. On the first point she is basically correct, but with the second two she seems not to have taken into account the principles of foundation engineering that prevailed right up until recent times. It is clear that in the medieval and post-medieval periods foundations were not dug to any fixed depth or formula related to wall height. Instead, any foundation carrying a substantial wall and roof load was dug down until a solid subterranean stratum was reached. The use of the phrase 'search for and make foundations' (Salzman, 1952, 82) in building accounts complements the evidence of urban waterfront sites where complex arch and pile foundations were used to reach river gravels through the deep riverside reclamation dumps (Gadd and Dyson, 1981, 40–45). Absolute depth of foundation was thus not as significant as the nature of underlying ground; in favourable circumstances a shallow footing could form just as sound a foundation as one of considerable depth[6].

Of the 'ancient walls and vaults' claimed by Honeybourne to be 12th century none that were examined are medieval: they are most likely to be post-medieval rebuilds. The only possible exception is the chalk vault that she mentions (1952, 34) but does not describe or illustrate, and which was not identified during the Department's recent work. If the walls are post-fire rebuilds they may well represent part of Sir James Altham's rebuilding of the inn after the Great Fire. This however was the second major rebuilding of the inn since the Dissolution; Sir Thomas Blanke had bought the inn for £300 and rebuilt it at a cost of £900 some time between 1550 and 1562[7]. The walls may equally well have belonged to this first rebuilding and survived the Great Fire. In any case there is no reason why either Blank's or Altham's rebuilding should have borne much resemblance to the medieval inn as described in the Ministers' Accounts for 1540.

This detailed survey of the inn in 1540 provides most of the evidence for the plan of the medieval building. Most of the earlier evidence, which should be reviewed first, is contained in Miss Honeybourne's account of the building of the inn (1952, 35–8). This shows that land to the south of the church of St. Mary-at-Hill was acquired piecemeal, beginning with a property near the west end of the church (and thus in the area of redevelopment in 1950 and 1980–1) where the first phase of construction, a stone house, was evidently begun before 1201.

The inn can be securely placed south of the church[8] from the reference in the parish records of 1500–1 to the closing of the little churchyard next to the Abbot's kitchen for the building of a new south aisle to the church,[9] and by the description of the inn as 'next to the church of St. Mary-at-Hill' in the letter of 1218–24 licensing the celebration of divine service in the inn's chapel[10]. It cannot have extended as far south as Thames Street, as the last plot to be acquired, from Constantine, son of Alulf, is described as between the stone house of the first abbot on one side and the land of Cecilie de Billingsgate on the other[11]. The east-west extent of the inn is not in doubt: it must have occupied the whole area between Lovat Lane and St. Mary-at-Hill.[12] In addition, two properties which were both described, in 1293, as lying south of the inn measured together 106 ft 8 in from east to west, *i.e.* the full distance between Lovat Lane and St. Mary-at-Hill[13]. The junction of St. Mary-

at-Hill with the alley that ran east from it, Cross Lane (now St. Dunstan's Lane), (Fig. 2) is described in 1294 as 'opposite the house of the abbot of Waltham'[14] and the inn's great chamber is described in 1540 as fronting onto Lovat Lane.

With these details in mind, the survey of 1540 can now be re-examined. At the Dissolution, the inn along with the rest of the abbey's property, was seized by the crown and a detailed, room by room description was drawn up. This survives in the Ministers' Accounts in the Court of Augmentations. The first property described is land and a tenement (comprising cellar, solar and *cil*) which was not part of the inn proper but was situated in the same parish.[15] Reference then follows to a series of rooms, divided as they were at that time into three separate lettings, which probably comprise most of the complete building. The first letting, here designated A (see Fig. 4) comprised just 'two cellars (A1) in Love Lane under the great chamber (A2) of the great messuage called *Abbots Inne*, let for 8 shillings'.[16] The second description itemizes the parts of the inn given over for the accommodation of the custodian Roger Chaloner and his wife. It is described as 'the exterior

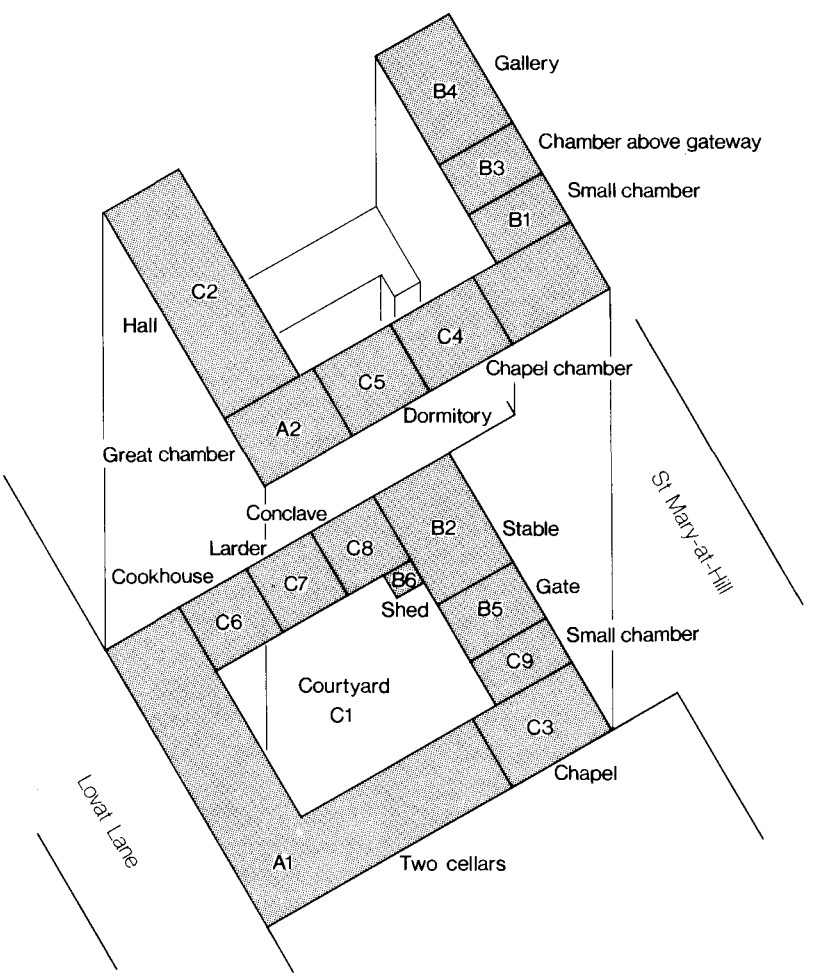

Fig. 4 Lovat Lane, 1980–1: Suggested reconstruction of the rooms of the Inn in 1540, based on the Ministers' Accounts for the Court of Augmentations. Room dimensions are conjectural.

part or front . . . . towards the plot there'. This was taken by Honeybourne (1952, 39) to mean that the inn was set back from the frontage of St. Mary-at-Hill. The extent is then defined as 'from the rectory as far as the small chamber (B1) next to the chapel chamber (C4) built above and below *viz* a certain stable (B2) that chamber (B3) above the gate (B5) of the mansion, the gallery (B4), and the shed (B6) built below next adjacent to the new *conclave* (C8)'[17]

The absence of punctuation creates considerable problems in understanding this passage and, even when taken together with the remainder of the document and the other evidence, does not lend itself to any single conclusive interpretation. Fig. 4 represents an attempt to make the best architectural sense of the documents but is, it should be stressed, only one of several possible reconstructions. The word *deambulatorum* suggests 'gallery' on architectural grounds rather than 'cloister' which was preferred in the original translation. Although owned by an abbey, the inn was essentially a large domestic town-house, not a monastic building. On the other hand, long galleries in the upper floors of the entrance ranges of such buildings were becoming a common feature at that date. The custodian, as would be expected, was lodged in the entrance range; the remainder of the inn, including all the chief apartments, are listed in the last entry – 'the great court (C1) called *le court yeard;* hall (C2); chapel (C3); chamber called the chapel chamber (C4) built above with the dormitory (C5); cookhouse (C6); larder (C7) with a small new *conclave* (8); small chamber (C9) built below next to the great gate (B5) and coal (house) (C10)'[18]. The great chamber is not mentioned in either of the last two descriptions. It only appears in relation to the two cellars let separately in the first entry. This is inexplicable but cannot justify Miss Honeybourne's apparent amalgamation of great chamber and hall into one oversized great chamber.

The chapel is placed on the ground floor with a domestic chamber over since the document specifically states *le chappell chamber tam supra quam subtus* (the chapel chamber built as much above as below) and again, *capella, camera vocata the chappell chambre sursum edificat* (chapel, chamber called the chapel chamber built above). In her chapter on the domestic chapel in the 11th and 12th centuries, Margaret Wood refers to the tradition that there was a rule against domestic rooms above the chapel but points out that even in the few surviving examples of that date there are cases where it was broken (Wood, 1965, 228). Possibly the chamber above did not cover the full length of the chapel, as at the Hospitaller commandery of Chibburn, Northumberland (Wood, 1965, 233), so that the east window could rise the full height of the gable. It is just possible, but unlikely, that the chapel chamber lay alongside the chapel rather than above it. The exact meaning of the term *conclave* is uncertain. 'Parlour' is offered by the original translator and in the most recent and comprehensive dictionary (Latham, 1981, 421) the meaning closet or lockable private room is given. Although, in any house of consequence at this date, a parlour could be expected in the sense of an additional eating and reception room, it would normally occupy the space on the ground floor beneath the great chamber (Girouard, 1978, 58–9) which in this case we know was let out separately as two cellars. If its position in the 'service' range between the larder and the stable, and with *le shedde* alongside, renders 'parlour' an improbable translation of *conclave*, then a better interpretation would perhaps be a lockable place of safe-keeping.

It has already been established that land continued to be acquired for the inn after the stone house of the first abbot has been built (above, p. 174 and Note 7). The nucleus of any great house of the late 12th century would have been the hall and solar (great chamber) and it is probable that these were contained in the first abbot's scheme. This, the first part of the inn to be constructed, must have occupied the first plot to be purchased, which lay near the west end of the church of St. Mary-at-Hill and therefore alongside Lovat Lane. The description of 1540 confirms that the great chamber, at least, lay alongside Lovat (or Love) lane. This account also indicates that the great chamber lay above two cellars, so from all this evidence it is possible to suggest that the form

of the building developed conventionally from a late 12th-century stone upper hall house of the type summarised by Wood (1965, 16–35) as comprising hall and solar above storage cellars in the (eventual) western range. This would have expanded rapidly into a courtyard type house with the acquisition of the land to the east as far as the lane of St. Mary-at-Hill, and with the addition of further accommodation and a chapel in the southern range; a domestic northern range with cook-house and larder, presumably adjacent to the low end of the hall; and an eastern entrance range with gatehouse and stable.

NOTES

1. Miss Honeybourne's paper was also based on material from her M.A.thesis, *The extent and value of property in London and Southwark occupied by the religious houses . . . before the dissolution of the monasteries* University of London 1929.
2. *Cf.* G. R. Corner's transcription and translation of the Ministers' Accounts in the Court of Augmentations (Corner, 1856, 406–7 and 416–7). Corner, however, failed to deal adequately with the problems presented by the absence of punctuation in the lists of rooms. In places his translation makes architectural nonsense, as where, for example, he places the stable in a chamber above the gateway.
3. The Department would like to take this opportunity to express its gratitude to Guardian Royal Exchange Assurance Ltd. and in particular to Mrs. Mikola Wilson for providing both generous financial support and facilities for the Department's work.
4. The type number, 3032, refers to the Museum of London's brick type series, I am grateful to Ian Betts and Barbara Ford for arranging the identification.
5. My thanks are due to John Evans of NELP for allowing me to draw heavily on his work on ash mortars to appear shortly in P. Drury, 'The Temple of Claudius at Colchester' *Britannia* 15 (1984).
6. Salzman (1952, 83) quoted an account by William Botoner of Worcester, writing *c.* 1480, of the subsoil of houses near the cemetery of St. Stephen, Bristol, which was so unsuitable that the builders allegedly had to dig down 47 ft.
7. *Inquisitions Post Mortem (London):* Pt. III, *19–45 Elizabeth 1577–1603* (London, 1908) 136.
8. C. L. Kingsford apparently placed the inn on the wrong (east) side of St., Mary-at-Hill probably having mistaken other property owned by Waltham in the same parish for the inn itself (Kingsford 1920, 52 and 1916, 56).
9. *Records of St. Mary-at-Hill* Early English Text Society Original Series 125 and 128, I, 240, 391.
10. British Library, Harleian MS 391, f. 120 transcribed by Corner (1856, 404–5 and 415).
11. Honeybourne (1952) 38, Note 2.
12. See Note 2 above.
13. From an unpublished deed in City of London Record Office, the Husting Roll 22/20, 22 (pers. comm. Tony Dyson).
14. *Ibid.*, 23/8
15. This is probably the property on the east side of St. Mary-at-Hill mistaken by Kingsford for the inn itself (Kingsford 1916, 56 and 1920, 52). The meaning of the word *cil* is as much a mystery now as it was to the original translator. It may be derived from the verb *ciliare*, to hood (Latham, 1981, 337) but any suggestion beyond that would be guesswork.
16. . . . *et de viijs de firma duorum cellariorum iacentum in Love Lane scituata sub magna camera magni mesuagii vocati Abbotts Inne* . . . (*loc.cit.* in Note 3).
17. . . . *de firma exterioris parte sive fronte magni mesuagii sive mansionis vocati Abbots Inne parochia predicta scituatum et existens pro quidam scituant' versus placeam ibidem videlicet a rectoria ibidem usque parvam cameram proxime adjacentem* le chappell chamber *tam supra quam subtus edificat' scilicet quoddam stabulum camera illa super januam mansionis predicte edificat' deambulatorum atque le shedde unacum proxie' tente subtus edificat' proxime adjacens nove conclavi ibidem* . . .
18. . . . *magne curie vocate le court yeard aule capelle camere vocate* the chappell chambre *sursum edificat' simulcum dormitario coquina lardario cum parvo novo conclave parva camera subtus proxime adiacentis magne porte, necnon domoque carbonis* . . .

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MEDIEVAL TREASURE TROVE CASES: A LOST GOLD TORC FROM ISLEWORTH?

JOANNA MATTINGLY

SUMMARY

A gold object weighing *c.* 1lb.av. and probably a prehistoric torc, was found in the vicinity of Isleworth *c.* 1467. It was judged to be treasure trove at the abbess of Syon's court of the manor, or hundred, of Isleworth. A find spot on the Thames foreshore may be suggested, but is not proven. The date of the object is more likely to be Middle Bronze Age than Iron Age or later. The case is important for two main reasons. First no other finds of this type appear to be recorded in Middlesex, and gold torcs are rare outside East Anglia, and secondly it illustrates the archaeological potential of court rolls and other medieval documents.

'. . . Johannes Ruge de Istelworth predictus cordener invenit unum torquem de auro infra dominium istud ponderantem .1. solidis sterling que vocatur Tesaur' invent' Et ideo dicunt quod debet respondere domine de torque predicto.'

This may be translated as follows:—

'John Ruge of Isleworth, aforesaid, shoemaker found one torc of gold within that demesne weighing 50 shillings sterling which is called treasure trove, and therefore they say that he ought to answer the lady (of the manor) for the aforesaid torc.'

The remarkable discovery is recorded on the parchment roll of a view of frankpledge held at Isleworth on Monday 19 October 1467.[1] The brief entry is the first presentment made by the eight sworn tithingmen of Isleworth at the autumn view or Court Leet, under the marginal heading of *Tesaur' Invent',* translated as treasure trove. Further presentments follow including a fight between two women, the keeping of illicit bawdy houses, breaking neighbours' fences, felling trees without the lady of the manor's permission, and failure to clean a ditch. These latter misdemeanours represent the usual business of views, held twice a year, at this period.[2]

The manor was held by Syon Abbey from 1421 and its abbess was the lady of the manor. The jurisdiction of her courts of the manor or hundred of Isleworth covered a wide geographical area. The three parishes of Isleworth, Heston and Twickenham, that comprise the hundred, are each represented by a separate tithing and contain a total area of over 9,000 acres. This area is bounded to the E by the river Thames which forms a substantial part of the parish boundaries of Isleworth and Twickenham. Hounslow, then a small town, occupies a central position in the hundred, along the parish boundary between Heston and Isleworth parishes. Each parish includes sizeable tracts of Hounslow Heath in the W, where common grazing rights were enjoyed. The site of the Abbey is now occupied by Syon House in the N.E. corner of Isleworth parish.[3]

THE FINDER

John Ruge was a newcomer in the manor of Isleworth, probably arriving there not much earlier than 1462 when he is first noted in the court rolls. At this date he was one of the ale

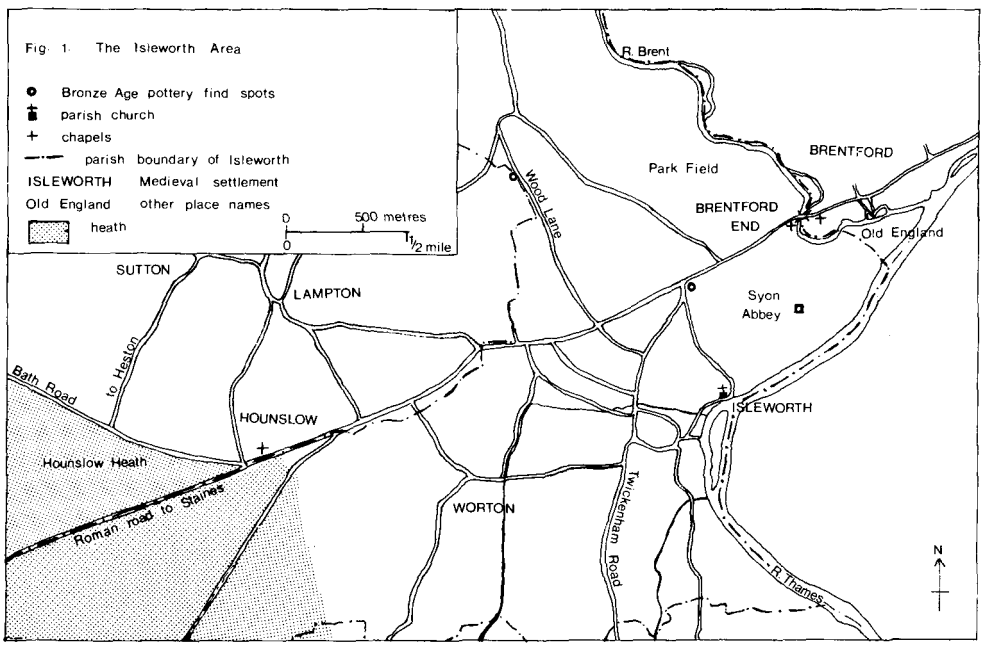

Fig. 1 The Isleworth Area.

brewers licensed by the court, but by 1466 was licensed only to sell ale. Probably both these activities were part-time employments. His main occupation by 1467 or earlier, as the treasure trove entry makes clear, was that of shoemaker. By 1467 he was wealthy enough to keep a servant/apprentice called Thomas Rase in his home. Thomas also seems to have been a newcomer as he had not yet become a member of Isleworth tithing. Both master and servant were fined for this oversight.[4] The following year John caused a public nuisance by leaving his dung heap in the highway. Usually this offence was punished with a fine, but John appears to have been let off. Presumably the court was still deciding what reward he was entitled to receive for handing over his find. By the 10th of January 1470 he was dead. He left no will but his goods were of sufficient value for his wife Isabelle to be appointed as his executrix. She is recorded as an ale seller later in 1470, but then disappears from the record. Probably she remarried or moved away from the area.[5]

The above account of John Ruge's life has two important omissions. Firstly he is nowhere recorded as a leaseholder or tenant of property, and secondly he held no manorial office. Most craftsmen in the vill or manor rented some land and served as minor officers, including tithingman or aletaster, at this time. A shoemaker named White, dead by 1462 or earlier, had held an acre of land in Parkfield in the N of Isleworth parish adjoining the river Brent. The subsequent account rolls covering the period of John Ruge's residence from 1462 to 1470 do not survive. However subtenants are rarely recorded in the account rolls and in a subsequent account roll of 1485–6 mention is still made of the acre late belonging to White the shoemaker.[6] Office holders on this manor were chosen by rotation according to the location of their land, and people from established families were preferred. John could have been excluded from office on either of these grounds, or because his residence was too short for him to be liable.

A further problem is John's actual place of

residence. Although he is stated to be of Isleworth, he may in fact have lived in the neighbouring settlement of Brentford End. This is not distinguished as a separate settlement in the court rolls until 1489, when it acquired its own aletaster.[7] Its origins can be traced back to 1446 when a hospital was founded, by the new stone bridge over the Brent on the Isleworth side, opposite New Brentford. There is little evidence for a settlement before this date, but thereafter it grew rapidly, and contained at least 20 houses by the early 16th century.[8] This new settlement on the northern boundary of Isleworth manor would have been more attractive to newcomers than an older settlement like Isleworth where manorial regulation of crafts was still strong. Before 1489 it had no independent officers and hence most of its residents would not have served in any office before this date. Also noxious trades, like tanning, were tolerated here, and there is some evidence to suggest that shoemakers chose to settle close to the tanners who supplied them.[9] At least one shoemaker is recorded there in the 1490s.[10] Tanneries existed on the opposite bank of the river Brent by the late 16th century and probably earlier.[11]

CIRCUMSTANCES OF THE DISCOVERY AND THE FIND SPOT

How did a shoemaker come to find a gold torc? Most of the extant gold torcs were uncovered during ploughing, harrowing or conversion of woodland to pasture or arable.[12] Deeper ploughing introduced in the 1940s also led to major discoveries in East Anglia in recent years.[13] No gold torc appears to have been found in a river, though some may have been found near water.[14]

No precise find-spot or context is given in the brief record. It is not clear whether the word demesne is being used here in a topographical or more general administrative sense. The demesne was concentrated in the north of Isleworth parish and contained *c.* 320–40 acres in 1539, as well as weirs and watermills. A further 30 acres were enclosed by the monastery walls and 90–100 acres of park land lay at Syon Hill. If the more general meaning is preferred then the find could have been made anywhere in Isleworth manor, but probably within the parish of Isleworth.[15]

Two general locations may be suggested: a site in the common fields or pastures of the manor or just possibly Hounslow Heath, or a site close to water, such as the banks of the river Brent or the Thames foreshore between the mouth of the Brent and Isleworth Ait, including Syon Reach. The term foreshore describes that area lying between high and low water marks alongside the channel, and is usually composed of shifting banks of gravel, sand, silt and mud. In view of John Ruge's occupations, in particular brewing which required a good fresh water supply, a site near to water seems more likely. Further support for this view is provided by the larger number of prehistoric finds from this section of the Thames foreshore, as compared to land finds.[16]

THE FATE OF THE TORC

The court roll entry makes it clear that the torc was to be delivered to the abbess of Syon for her own use. Syon Abbey had acquired the right to inquire for and retain any treasure found on its demesne, by its royal charter of 1448. Almost certainly the value of the torc would have been recorded alongside the profits of court on the account roll for 1467–8, perhaps with an indication of its ultimate fate. This does not survive unfortunately. In the absence of records it seems likely that the torc would have been melted down for its gold content.[17] This might have been converted into coin or perhaps into an ornament for the Abbey.[18]

THE MEDIEVAL LAW OF TREASURE TROVE AND THE ROLE OF THE CORONER

Two aspects of this case are of particular interest. What constituted treasure trove in the later medieval period ? and, why was a case of this type brought before a manor court without resource to a coroner?

By the 13th century any object of gold or silver, or occasionally baser metals or coin, hidden or below ground, could be claimed by the King's Exchequer, except where, as in the case of Syon, landowners had acquired the

right for themselves by royal grant. Concealment of treasure was a treasonable offence. There is no insistence, as in the modern definition, that the treasure should have been hidden with the intent to recover.[19]

The role of the coroner in treasure trove cases has been overstressed. No cases occur on the Coroner's Rolls after the mid 13th century and only rarely before that. The Statute of Exeter of *c.* 1285 is the last statute to include this among the duties of a coroner. The duty was generally performed by the sheriff or hundred bailiff at the County Eyre in the later 13th century, and by the escheators after the mid 14th century. After *c.* 1324 it also became a statutory obligation for tithingmen to inquire, about treasure found, at Views of frankpledge.[20] Instructions concerning the holding of manor courts and views dating from 1340, *c.* 1400 and *c.* 1440 all include this among the articles of inquiry. In the latest of these, the court was charged to inquire, on behalf of the king, of 'All treasure found under the earth or above the earth, as gold silver or any other riches, and whether the lord has been answered thereof'.[21] The inquiry held at Isleworth differed from these instructions only in that it was held on behalf of the abbess of Syon and not the king.

The coroner's duty of inquiring into treasure trove was restored by the Coroners Act of 1887. This replaces the Statutes of 4 Edward 1 (1275) and that of *c.* 1285 mentioned above, and is the modern form of inquiry.[22]

THE TORC AND POSSIBLE PARALLELS

The word torc was used by Roman authors and modern archaeologists to describe the metal necklet, usually twisted, popular among the Celts and other prehistoric peoples. Medieval writers used the word in this sense too, but its contemporary meaning was simply a twist or twisted rope used to construct a scaffold. Another meaning derived from this was that of a hangman's noose. It is not a word used in the medieval period to describe gold chains or other contemporary jewellery.[23]

The former meaning appears preferable, and in addition, the weight of the object can be estimated and compared with that of other gold twisted neck collars and bracelets.

The weight given as 50 shillings sterling was presumably that of 600 (50 × 12) contemporary pennies. Before 1464 a penny weighed 15 grains, but following devaluation in that year dropped to 12 grains. There are 480 grains per Troy ounce and 12 ounces in a Troy pound. The post-devaluation weight was used and this gave a weight of 1 lb. 3 oz. Troy, just over 1 lb. av. or 467 grammes.[24]

No twisted bracelet at present known weighs as much, whereas neck rings of 2 lb. and over are not uncommon. The closest parallel both in terms of weight and provenance is the Moulsford torc of Middle Bronze Age date. This consists of four bars of gold alloy twisted in pairs to form a two strand collar. It weighs *c.* 1 lb av. and is 185 mm (7½ ins) in diameter. It was found during ploughing at Moulsford, West Berkshire in 1960, which like Isleworth is by the Thames.[25] Another Middle Bronze Age gold torc of comparable weight is that from Ickleton in Cambridgeshire. It weighs 391.8 grammes.[26]

Finds of gold torcs and other gold objects, apart from coins, from the Thames valley are extremely rare. One incomplete gold torc, that may not have been twisted, was found at Chatham Lines, Kent in 1872 and weighed 1 lb. 10 oz. Troy.[27] A bronze torc, hitherto said to have come from the river Thames at Westminster, Middlesex, is now believed to have been found in Somerset.[28] Gold twisted arm rings have been found in neighbouring counties including Buckinghamshire, Hertfordshire, Kent, and possibly Great Stanmore in Middlesex.[29] Interestingly, the gold arm ring, misleadingly described as a *fibula,* found at Park Street near St. Albans, Hertfordshire in 1744, also had its weight expressed in terms of current money. It weighed 20 florins, equivalent to *c.* 5 oz. Troy.[30] There are also a pair of gold earrings of Middle Bronze Age date and reputedly from the London area which appear to have stylistic similarities with the Moulsford torc.[31]

Iron Age torcs tend to be heavier and none have been found in the Thames valley. However the two Staffordshire torcs from Needwood and Glascote, and one of the torcs from Snettisham, Norfolk are of comparable

weight to the Isleworth one.[32] Torcs of Viking Age date are also known, though most are of silver, weigh less than 1lb. av. and seldom occur in the S of England.[33]

Other finds of both Bronze and Iron Age dates have been found in this part of the Thames valley. Bronze Age finds appear to be more common, but the Iron Age ones include some notable objects.[34] A small hoard of Bronze Age scrap metal was recently found at Syon Reach. It was buried about 3ins into the gravel bank of the foreshore between the low tide and extreme low tide marks.[35] Another larger hoard of bronze founders tools of Bronze Age date were found in the same field near Hounslow as a collection of small bronze animals, mainly boars, of Iron Age date.[36] At least some of the finds from the collection of Thomas Layton, a 19th-century resident of Brentford and avid collector of antiquarian objects, may have come from the Thames foreshore, but few of his items are provenanced. These include the so called 'Brentford horn cap', possibly found during construction of the dock there in the 19th century, and the tankard reputedly from Brentford, both of Iron Age date.[37]

Iron Age coin hoards, notably gold Gallo-Belgic B staters and Class 1 potin coins of tin, are particularly concentrated in this area of W London suggesting an important centre just W of London. The potin coins also occur in the Snettisham hoard, but the heaviest concentration of these is in the vicinity of a possible Thames crossing point at Brentford.[38]

There is some evidence for Bronze Age settlement in this area, but no trace of an Iron Age settlement has been found as yet. A recent find of Bronze Age pottery to the W of Wood Lane near Osterley, and also previously from Busch Corner, Syon Park, may represent settlement sites away from the river channel.[39] Hut sites on the Thames foreshore at Syon Reach and Old England appear to be Romano-British in date rather than Iron Age. Similarly the oak piles once cited as evidence of a defended ford over the Thames at the latter place now appear to be part of medieval and later fishing weirs.[40]

None of this evidence is conclusive, but a Middle Bronze Age date for the torc appears to be more likely, based on its recorded weight. If this is accepted, then it is likely to be among the earliest recorded finds of such an object. At Walesby in Clee, near Grimsby in Lincolnshire in 1385 three gold *bees* or *byas* were found and valued at 10 marks. They appear to have been torcs or rings. The words *beah* and *sweorbeah* occur in Anglo Saxon wills, and may refer to ancient armillae and torcs. Some other gold torcs and arm rings found before the mid 18th century are noted by Richard Gough in his additions to Camden's *Britannia*. One found in a garden by Harlech Castle in 1692 still survives, another found at Pattingham, Staffordshire in 1700 and the arm ring from Park Street, Hertfordshire, already noted, found in 1744, do not, although the last was drawn.[41]

SOME FURTHER TREASURE TROVE CASES IN THE ISLEWORTH AREA

A second case of treasure being found in the hundred of Isleworth is recorded at the spring View of 1468. On Tuesday 10th May 1468, barely 6 months after John Ruge's find was judged to be treasure trove, the tithingmen of Heston reported that:—

'John Hicberd and John Abrey found one casket with £4 10s. and divers *perlis* and divers *bills* and 1 knife decorated with silver.'[42]

The case is again in Latin and the meaning not entirely clear. The word *perlis* may mean pearls or beads and the term *bills* may refer to documents. The marginal heading of treasure trove is almost totally obscured by a recent repair. Probably the case represents the increased vigilance of the tithingmen following the find of the gold torc in the previous year. Possibly the second find had been made a few years previously. No other cases of treasure trove occur in any other court roll covering the period 1422 – 1558, when every year survives.

Both the finders were, unlike John Ruge, from established families and were probably young men at the time, possibly in their early twenties. John Hicberd failed to attend court in 1470 and was the victim of an assault in 1476, but thereafter disappears from the record. John Abrey or Aubrey occurs regularly in the court rolls from 1466 when he was elected as one of the eight tithingmen of

Heston. He may be the same as the John Aubrey sworn in the tithing of Heston in 1458, when aged 12 or more, or the man elected beadle of Sutton in 1464 with a certain William Hicbyrd of Cranford. In 1468, at any rate, he was excused from serving as tithingman of Heston on account of his find. At the same court, he and his wife are recorded as purchasing a messuage and a half acre of lane in *le Brache,* by the Hounslow to Colnbrook stretch of the London-Bath road. This lay to the S of the hamlet of Sutton and adjoined Hounslow Heath to the N. It is not clear whether the land purchase preceded or followed the discovery. However Hounslow Heath would be a likely find spot.[43]

This view is reinforced by two further cases. In an earlier find of treasure trove of 1384 it was reported to the Mayor of Reading that:-

'Robert atte Lee, *brasyer,* and Roger his servant found upon *Hundesloweheth* a certain sum of money, which belongs to the king . . .'[44]

In 1861 a further hoard of late medieval groats and half groats, presumed to have been deposited *c.* 1490–1500, was found at Hounslow.[45] The 1384 and 1468 finds were probably also Medieval and may have been near contemporary, as in the former case there is no record of the treasure being buried and in the latter the sum of money was calculatable. They may therefore represent hoards hidden in periods of disorder. The 1861 hoard may well be related to Perkin Warbeck's ill-fated revolt.[46]

One of the main purposes of this paper has been to suggest that early treasure trove cases may contain information of archaeological value. Medieval treasure trove cases fall into two groups; the majority give insufficient detail or appear to be near contemporary as in the two last cases cited above and are therefore of little archaeological significance, a few like the main case under discussion here appear to be finds of ancient treasure. George Hill's *Treasure Trove in Law and Practice* mentions a few discoveries of ancient treasure including a probable Roman burial in a lead cist found at Warthill in Yorkshire in 1218–19. A search through most printed court rolls and some secondary works covering the period 1275–1617 found only 12 treasure trove cases, but none appear to be of much archaeological interest.[47] No cases of treasure trove were found in a search through *c.* 130–40 annual views, in court rolls, for the two hundreds of Cookham and Bray in Berkshire for the period 1409–1558.[48] Despite the rarity and miscellaneous nature of such records, it is at least possible that in archaeologically rich areas a search through surviving Court Leet records may be worthwhile.

ACKNOWLEDGEMENTS

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NOTES

1. Greater London Record Office (GLRO): Acc. 1379/10 mem. 15.
2. *Ibid.* See also F. W. Maitland *Select Pleas in Manorial and other Seignorial Courts I,* Selden Society, 11 (1899).
3. *The Victoria History of the Counties of England: Middlesex 3* (London, 1962) 85ff., 139ff.
4. All male inhabitants of 12 years of age or more had to be sworn into a tithing group (Visus Franciplegii xxiii *Statutes of the Realm* i. 246, article 3).
5. GLRO *op. cit.* in note 1, *passim.* Guildhall Library (GL) MS 9191/6 48^{V}. For an example of a 16th century reward payment in a treasure trove case see R. N. Worth *Calendar of the Plymouth Municipal Records* (Plymouth, 1893) 128.
6. Public Record Office (PRO), SC 6/916/22; SC 6/Henry 7/377.
7. GLRO Acc. 1379/13 mem. 8, where it is call Latelbraynford.
8. M. B. Honeybourne 'The Leper Hospitals of the London Area: with an Appendix on Some other Medieval Hospitals of Middlesex' *Trans. London Middlesex Archaeol. Soc.* 21 (1967) 55–60, Appendix 2. 'Brentford, the Hospital of All Angels'; PRO SC 11/Roll 435.
9. John Lawlesse, a tanner who fled outside the demesne rather than repay a debt in 1460, is also stated to be of Isleworth spelt 'Istilworth' (? Brentford End), see GLRO Acc/1379/9 mem. 111^{V}.
10. John Talworth *cordyner* tried to combine shoemaking and victualling in 1491–5, but with unhygienic results! (GLRO Acc. 1379/13, mems. 14, 31).
11. VCH 7 (Oxford, 1982) 140. See also C. E. Allin 'The Medieval Leather Industry in Leicester' *Leicestershire Museums, Art Galleries and Record Service Archaeological Report* No. 3 (1981) 3, for general comments on the location of tanneries.

12. A. Way 'Ancient Armillae of gold recently found in Buckinghamshire and in North Britain: with Notices of ornaments of gold discovered in the British Islands' *Archaeol. J.* 6 (1849) 48–53; The Iron Age torc from Needwood Forest, Staffordshire was found beside a new fox-earth in 1848 (*Archaeologia* 33 (1849) 175–6), and the Yeovil torc was found in a garden (*Somerset Archaeol. Natur. Hist.* 55 (1909) 66).
13. R. R. Clarke 'The Early Iron Age treasure from Snettisham, Norfolk' *Proc. Prehist. Soc.* 20 (1954) 27–8; for the Bawsey torc found in 1941 see *Antiq. J.* 24 (1944) 149; I. H. Longworth 'The Ickleton Gold Neckring' *Antiq. J.* 52 (1972) 358.
14. For the gold torc from Romsey, Hampshire found in or near the river Test see *Archaeologia* 39 ii (1863) 1505; also there are three armlets reputedly from the Medway in Kent (*Archaeol. Cantiana* 5 (1862–3) 41) and the Glascote torc was found in a boat building yard *c.* 1943 (K. S. Painter 'An Iron Age gold-alloy torc from Glascote, Tamworth, Staffordshire' *Trans. S. Staffordshire Archaeol. Hist. Soc.* 11 (1980) 1–2).
15. VCH 3 (1962) 105. There are also some fine early 17th century maps still kept at Syon House. The earliest of these is dated 1606 and is 'A plot of the cite and manor of Sion' drawn by Ralph Treswell the younger. It includes the settlements of Isleworth and Brentford End (Syon House MS. B. xiii, 1d). Two maps cover the whole of Isleworth Hundred or Manor. That of 1607, also by Treswell, clearly marks the Duke of Northumberland's possessions, in green, which include much of the former demesne of the Abbey (Syon House MS. B. xiii, 1a). Moses Glover's map of 1635 includes interesting antiquarian comments on many of the places depicted (Original at Syon House, but copies of a late 19th century copperplate engraving may be obtained there, or from the Map department in the British Museum or GLRO).
16. L. F. Salzman *English Industries of the Middle Ages* (London, 1913, reprinted 1970) 291. See notes 34 to 39.
17. G. J. Aungier *The History and Antiquities of Syon Monastery* (1840) 61. As recently as 1863 a gold torc was melted down at Mountfield in Sussex without even its weight being recorded (*Sussex Archaeol. Collect.* 15 (1863), 238–40).
18. At the time of its Dissolution in 1539, however, Syon Abbey only had a small pyxe of gold weighing 4¾ oz. (PRO LR 2/112).
19. G. Hill *Treasure Trove in Law and Practice* (Oxford, 1936) 187–94, Note A, pp. 244–51 is a list of exempt places including Syon.
20. R. F. Hunnisett 'Pleas of the Crown and Coroner' *Bull. Inst. Hist. Res.* 32 (1959) 130–7; and Visus Franciplegii *op. cit.* in note 4, article 23.
21. F. W. Maitland and W. Paley Baildon ed. *The Court Baron* Selden Society 4 (1891) 95; J. S. Beckerman 'The Articles of Presentment of a Court Leet and Court Baron, in English, *c.* 1400' *Bull. Inst. Hist. Res.* 47 (1974) 230–4; 'The manner of holding a (manorial) court with view of frankpledge, *c.* 1440' A. R. Myers ed. *English Historical Documents, 1307–1489* (London, 1969) 548–553, particularly p. 552.
22. Hill *op. cit.* in note 19, 198, 227.
23. R. E. Latham *Revised Medieval Latin Word-List from British and Irish Sources* (London, 1965; reprinted 1980) 487.
24. R. E. Zupko *A Dictionary of English Weights and Measures* (Madison, 1968) 119.
25. J. J. Wymer 'The Discovery of a Gold Torc at Moulsford' *Berkshire Archaeol. J.* 59 (1962) 36–7.
26. Longworth *op. cit.* in note 13, 358. There is also a Corpus of Bronze Age gold, but unfortunately this does not include the weights of the objects (Joan J. Taylor *Bronze Age Goldwork of the British Isles* (Cambridge, 1980).
27. C. Roach Smith 'Notes' *Archaeol. J.* 30 (1873) 97–8.
28. VCH 1 (London, 1969) 47 gives a Westminster provenance but this is refuted by two recent articles (M. J. Rowlands *The Organisation of Middle Bronze Metalworking* Brit. Archaeol. Rep. (Brit. Ser.), 31, (1976) 205 – 6; B. O'Connor *Cross Channel Relations in the Later Bronze Age* Brit. Archaeol. Rep. (Int. Ser.) S91 (1980) 461, List 46).
29. Way *op. cit.* in note 12; *Archaeol. Cantiana* 5 *op. cit.* in note 14; C. Roach Smith 'Gold torques and armillae discovered in Kent' *Archaeol. Cantiana* 9 (1874) 1–10; 'Gold torques from Dover', *Archaeol. Cantiana*, 12 (1878) 317–20; R. Holt-White 'The Discovery of Gold Bracelets near Crayford' *The Antiquary* 43 (1907) 126–8; R. Gough ed. *Camden's Britannia* 2 (1806) 174.
30. Way *op. cit.* in note 12, 52.
31. These are in the Reserve Collection at The Museum of London; information from Jean MacDonald.
32. C. F. C. Hawkes 'The Needwood Forest Torque' *Brit. Mus. Quarterly* 11 (1936) 3; Painter *op. cit.* in note 14, 2; J. E. Burns 'Additional torcs from Snettisham, Norfolk' *Proc. Prehist. Soc.* 37 (1971) 228. See also 'The Later History of Iceniam Electrum Torcs' *Proc. Prehist. Soc.* 45 (1979) 175, for useful list of torcs.
33. J. Graham Campbell *Viking Artefacts* (London, 1980) 62; H. Shetelig *Viking Antiquities* 4 (1940) 29ff.
34. G. F. Lawrence 'Antiquities from the Middle Thames' *Archaeol. J.* 86 (1928), 78–80.
35. J. Barrett and R. Bradley ed. *Settlement and Society in the British Later Bronze Age* Brit. Archaeol. Rep. (Brit. Ser.), 83 (1980) 445, rough location sketch on p. 443.
36. C. E. Vulliamy *The Archaeology of Middlesex and London* (London, 1930) 110, 133–5.
37. D. Whipp and L. Blackmore 'Thomas Layton, F. S. A. (1819–1911) 'A misguided Antiquary' *London Archaeol.* 3 (1977) 91; J. P. Bushe Fox *Pattern and Purpose* (1958) 4.
38. J. P. C. Kent 'The origins of coinage in Britain' in *Coinage and Society in Britain and Gaul* ed. B. Cunliffe (CBA Research Report No. 38) 40–2 and Fig. 12; Clarke *op. cit.* in note 13, 79–86. See also R. Canham *2000 Years of Brentford* (London, 1978) 3.
39. J. Cotton 'Bronze Age Pottery from Wood Lane, Osterley' *Trans. London Middlesex Archaeol. Soc.* 32 (1981) 18–23.
40. Canham *op. cit.* in note 38, 3, 147–8; M. Sharpe *Middlesex in British, Roman and Saxon Times* (London, 1919) 35–9, Fred S. Thacker *The Thames Highway* 1 (1914; reprinted New York 1968) 48–9, mentions great weirs at Isleworth and Twickenham.
41. Hill *op. cit.* in note 19, 320; for the Anglo-Saxon references see Roach Smith *op. cit.* in note 29, 10; D. Whitelock *Anglo-Saxon Wills* (Cambridge, 1930) 25–31; T. Wright *A Volume of Vocabularies from the 10th to the 15th century* (1857) 16, 40, 74, give some meanings for *beah*. Gough *op. cit.* in note 29, 3 (1806) 174, now in National Museum of Wales; *ibid.* 2 (1806) 72, 500 and Plate III fig. 9.
42. '. . . Johannes Hieberd et Johannes Abrey invenerunt unum caskettum cum iiii^{li} x^{s} et diversis perlis et divers[as] bill[as] et 1 cultell[am] hernes' cum argento ideo etc.' in GLRO Acc. 1379/10 mem. 18.
43. *Ibid. passim.*
44. *Calendar of Patent Rolls*, 1381–5, 426
45. J. D. A. Thompson *Inventory of British Coin Hoards* (1956) 71; J. B. Bergne 'On a hoard of Coins discovered at Hounslow' *Numis. Chron.*, NS 1 (1861) 140–3. The hoard may be that illustrated as 'Saxon' in G. S. Maxwell *Highwayman's Heath* (Hounslow, 1935, reprinted 1949) plate facing p. 112.
46. Bergne *op. cit.* in note 45, 143.
47. Hill *op. cit.* in note 19, 203 (footnote), *Rolls of the Justice in Eyre for Yorkshire 1218–19* Selden Society 56 (1937) no. 1141. Hill also cites many other cases from eyres and Escheators' records, 185–238 *passim*.
48. Manor of Wakefield (Wakefield Court Rolls 1) *Yorkshire Archaeol.Soc. Record Series*, 29 (1901) 131; W. Hudson ed. *Leet Jurisdiction in Norwich during the 13th and 14th centuries* Selden Society 5 (London, 1892) 2, 19, 39, 52 and one of these cases is cited in Hill *op. cit.* in note 19, 229; S. C. Ratcliff ed. *Elton Manorial Records 1279–1351* (Cambridge 1946) 96, 106; C. Howell *Land, Family and Inheritance in Transition: Kibworth Harcourt 1280–1700* (Cambridge, 1983) 27, where two small sums of money are mentioned; C. Charles Cox ed. *The Records of the Borough of Northampton 2* (Northampton 1898) 112–113; *The Court Leet Records of the Manor of Manchester: 1552–1586* (Manchester, 1884) 171; Worth *op. cit.* in note 5; F. J. C. and D. M. Hearnshaw ed. *Southampton Court Leet Records* A.D. 1578–1602, 1 pt. 2 (Southampton, 1906) 369; *Ibid* A.D. 1603–24, 2 (1906) 528.
48. These are mainly at the Berkshire Record Office, though a few strays are in the PRO.

JOHN JAMES AND CARPENTERS BUILDINGS[1]

SALLY JEFFERY

SUMMARY

The history of the Carpenters Company and its building activities has been written already[2] with frequent reference to the Company's court books, accounts and other documents. However, a reading of the documents with special reference to the architectural history of the Company in the 18th century has brought to light a detailed account of the houses known as Carpenters Buildings, from their planning in 1735 to completion and occupation in 1737. They were designed by John James. The purpose of this paper is to analyse the documents for the information they provide on the designing and building of simple dwellings in the second quarter of the 18th century, and on the involvement of men such as James in this type of work.

THE DECISION TO BUILD

In 1517 the Carpenters Company acquired 'a Certain Messuage called the Bear and Three Tenements and seven Gardens' situated next to the ground in London Wall on which the Company's hall was built.[3] In the Company's court books there are frequent records of repairs and alterations to the Dog and Bear Inn (as it was subsequently known) and other premises on the London Wall estate. The Great Fire of 1666 did not reach these buildings and by 1735 they were becoming old and expensive to maintain. Serious renovation, even rebuilding was called for. Many houses built immediately after the fire were already being replaced in the 1730s and the pre-fire Dog and Bear would have appeared extremely old-fashioned when contrasted with modern brick-built structures close by. The Compay had funds at its disposal for re-investment.[4] Discussion of the matter at the monthly court meeting seems to have been provoked by the activities of the tenant of the hall, Mr Fordham. The hall, extended by Mr Fordham, gave on to London Wall and was only separated from the Dog and Bear site by a garden. The court agreed that they would let a part of the ground available on this site to Mr Fordham 'for his better accommodation', while the Dog and Bear would be 'taken down and rebuilt', care being taken that 'there shall be no lights made in any Wall of such New Building which butts Westward on the Clerks Garden or the Hall and New Buildings erected by Mr ffordham'.

This decision was taken as the result of an order by the court on 3 June 1735: 'It is hereby ordered that the Old house in London Wall vizt the Dogg & Bear Inn and other houses next adjoyning be rebuilt or repaired at the charge of this Company in Such Manner as this court shall agree to by any Plan for that purpose And it is requested by this Court that if any Member of the Court of Assistants will lay a Plan for such Building before this Court any such person will have the thanks of this Court'. Although this provided for rebuilding or repairing, it seems that the court's intention was to rebuild, and it called for a competent senior member of the Company to provide it with a suitable design. This was in the tradition of the Company. When it decided to build a new hall in 1664, John Wildegos, a senior member and ex-Master had provided the plan, while another ex-Master, William Taylor, designed the staircase and passage.[5] It was also in accord with the practice of the times, when buildings were frequently designed by master craftsmen such as carpenters and masons because the operation

of their trade required them to supervise others.

In fact, quite apart from various senior members who were able to undertake the design of a building, the Company had, in the person of its Master for that year (1734/5) an extremely well-qualified surveyor of its own, who could with justification be called an architect rather than a craftsman-designer. He was John James of Greenwich, who had received his early training from Matthew Banckes, Master Carpenter in the Office of Works, and had progressed to become joint Clerk of the Works (with Hawksmoor) at Greenwich Hospital and Surveyor to the Commission for Building Fifty New Churches under the Act of 1711. By 1735 he had been associated with the Carpenters Company for 45 years, and had made his name as an architect of churches (for example, St. George, Hanover Square and St. Lawrence Whitchurch) and of grand houses (Wricklemarsh).

It is not surprising, therefore, that the minutes do not make mention of any discussion regarding the acceptance of a plan apparently submitted by James for the new buildings in response to the court's request. They simply state, on 4 November 1735: 'Ordered that Master Meard have liberty to sett workmen to repaire the house on this side the Dog and Bear Inn after he has seen the Plan which Mr James has drawn for the new Buildings in London Wall'. This entry refers to repair of one house, as well as to a plan for new buildings. It implies the existence of a comprehensive plan of the area involved. Another reference in the records speaks of the planned houses. On 2 December 1735 the Clerk wrote a note in his rough minute book 'to write Letter to Mr James to bring the Plan of the new Buildings that are to be in London Wall next court'. It therefore appears that the buildings were designed by John James in 1735, and that the plan included in addition some repairs to existing property. James, as a senior member of the Company, seems to have given this service as architect free of charge since no payments to him are recorded in the accounts. When the idea was first mooted, he was Master. His term of office ended on 2 September 1735 and his successor was his son's father-in-law, John Meard, his almost exact contemporary.[6] James's plan not unnaturally had Meard's support, and Meard must have kept him up to date on the progress of the project since he was at nearly every court meeting in 1735/6. James had been less regular in his attendance as Master – perhaps an indication of the many other professional calls on his time. During the construction of the houses, James retained his place on the court of assistants, as was the practice for ex-masters. On 3 February 1735/6 we again hear of James's plan when the court ordered 'that Mr. Renter Warden Benbridge do repaire the house in London Wall next the Dog & Bear Inn & do carry up the wall according to Mr James plan' and on 2 March a committee was formed consisting of the Master (Meard), James and five others of the court of assistants 'to make proposalls for the building of the 2 front houses and the building the court in London Wall'. James was not present at the court, so a note was made to 'write letter to Mr James to know which day will suit him', another indication that he was a busy man but that the committee relied upon his expertise in the matter of its new buildings. It is at this time that the minutes first speak of the court of houses or tenements, of which two gave on to London Wall, and which were described by Nathaniel Poole, the Clerk, in a note inserted opposite details of the Dog and Bear property in the book listing the Company's estate. He wrote, 'The Dog and Bear Inn and the Two old houses belonging to the same in front were pull'd down in the Year 1736 & in the Roome thereof the Company at their own Expence Built a Court of Houses containing Eight in Number Called Carpenters Buildings'. Unfortunately, no contemporary plans survive, and plans of the Company's estates *c.* 1725, including London Wall, 'drawn fine in a Book of Vellum' which were still preserved in 1887 have disappeared.[7] They would have provided a good idea of the layout of the property before it was rebuilt. The buildings themselves were demolished in 1876. Of large-scale maps available,[8] Horwood's plan of 1792–9 (Fig. 1) shows the court of houses most clearly. Detailed records of the receipts and vouchers

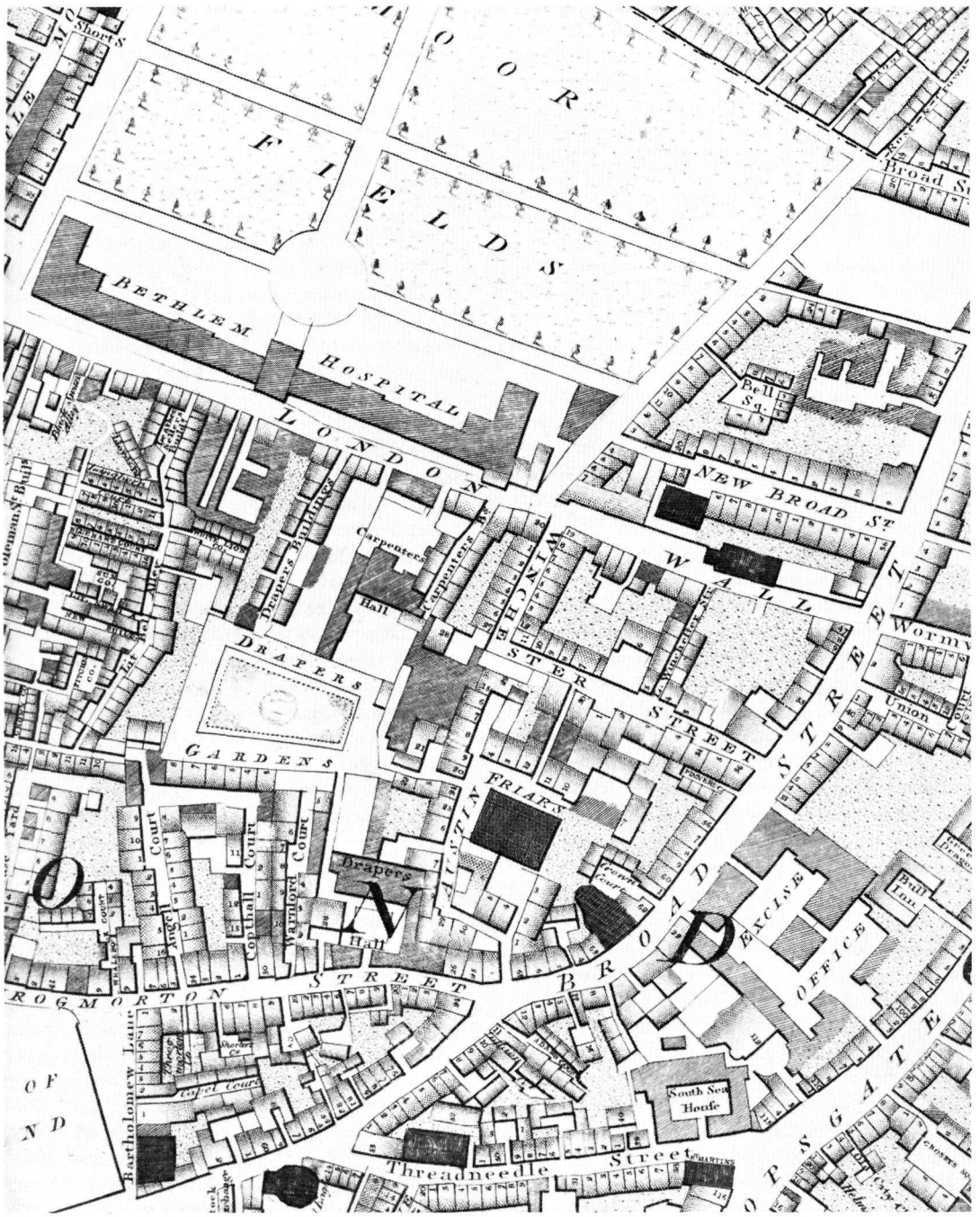


Fig. 1 Carpenters Buildings: Detail of Horwood's Plan of London Westminster, Southward and Parts Adjoining, 1729 – 1799. (*Guildhall Library*)(Scale: 26 inches to one mile)

for the period in question are also missing, so reliance must be placed on the minutes and the Wardens' annual accounts. These provide sufficient material to give an interesting insight into the way the commission progressed, and the costs involved.

THE BUILDING CONTRACTS

Having decided on 2 March 1735/6 to go ahead and build two front houses and a court, and formed a committee to deal with the matter, the minutes are silent on the progress made until July. No doubt James had to fit his work for the Carpenters into a schedule which included increased supervisory work at Greenwich. Hawksmoor was inactive with the gout, and died only a few days later (25 March 1735/6). James must have finalised his design and advised the committee on the contracting of the work between March 1735/6 and July 1736. On 15 July a special meeting of the court took place 'touching the building att London Wall'. The Carpenters chose the method of contracting recommended by Sir Christopher Wren.[9] This was to work 'by measure', on the basis of prices quoted in advance by the craftsmen, and was the usual method for bricklayers, carpenters, masons, plasterers, painters, glaziers and joiners.[10] But, as Wren said, 'You must have an understanding trusty measurer'. Master builders, as the carpenters had been when involved in the construction of timber-framed buildings, very often included surveying among their skills, since they were responsible for the work of lesser craftsmen. James himself derived much of his employment from surveying posts, and was meticulous in carrying out such duties.[11] A 'trusty measurer' could therefore easily be found amongst the members of the court of assistants, and the contracts were made.

The special meeting of 15 July was called to consider the bricklayer's contract – the most costly and important of all. There seem to have been two estimates submitted to the court, one of which is recorded in the court book:

> 'Mr Thomas Moreland proposed to undertake the Bricklayer work for the New intended Buildings att London Wall for the following prizes (that is to say) The Brick Work for £5. 10s. 0d. p Rod – and to do the front with Stocks And the Arches to be rubbed and gaged and sett in putty, To do the New Plain tyleing att £1. 6s. 0d. p square, and the Pan tyleing att 18s. p square And also to allow the Company £1. 5s. 0d. p Rod for the old Brick Work and to pull down and Clear away And to allow 8s. p square for the Old plain tyleing, And 5s. p Square for the Old Pan tyleing, which Proposals this Company now agreed to and Ordered the Clerk to prepare Articles accordingly.'[12]

The committee must have specified the materials they required since the second estimate in the rough minute book speaks of grey stocks, and plain and pan tiling to be laid in lime and hair. The second most important contract was for the carpentry work, and estimates from various workmen were considered at the next court on 3 August:

> 'Att this Court severall Workmen in the Carpentry way delivered in their severall Proposalls in writing sealed up for the intended Buildings at London Wall which were read by the Clerk and itt appeared that the Proposalls of Mr. Jacob Knowles (being ffive Pounds for every great square of building) was the Cheapest He was now chosen Carpenter to do the said Work on the said intended Buildings in Case he could give the Company good security for 300 £ for his performing the Building in a good and Workmanlike manner and to find Workmanship, Nailes and Sawing according to his Proposalls given for that purpose.'

The unsuccessful carpenters were each given 10s. 6d. for their trouble. Mr Knowles, the carpenter chosen, was given a week in which to find security. When he failed to do so, the contract went to the next lowest bidder, Mr Child, who agreed to do the work for the slightly higher rate of £5 10s per great square.

On 7 September the articles for carpentry and bricklaying were sealed and signed by the Master and others. Thomas Moreland duly appears in the final accounts as the bricklayer but although Anthony Child was paid £15 on account in 1735–6, the final bill for carpentry was charged by Robert Horton, Warden of the Company. Possibly the Carpenters preferred

to give the large contract to a senior member.

During October, November and December the contracts with the plumber, the painters and the plasterers were arranged and the rates agreed. There is no record, however, of a contract with the mason, although his rates must have been agreed at around this time. 'Mr Howard, mason' was paid a total of £103 16s 0d according to the wardens' accounts and it would be interesting to know why what must have been a fairly important contract was not arranged in the normal way. The shell of the buildings was evidently being constructed at this time and the interior fittings contracted for. A watchman was appointed to look after the property, since there had been a theft of 'lead and other things' from the new buildings.

THE COST OF THE NEW BUILDINGS

By June 1737, Mr Assistant Benbridge (an ex-Master) was being instructed to measure all the work, and he was paid £10 10s for his trouble. In September, the work had been measured, and a committee composed of the Master, Wardens and several members of the livery (including Mr Benbridge) was looking into the workmen's bills. They held a special meeting at the counting house 'to sign and allow' them. The total paid out according to the Wardens' accounts for 1737–8 was about £855. Apart from the major contracts for bricklaying, carpentry, masonry, plumbing, painting and plastering, various small amounts to the smith, the glazier, the paviour, the rubbish man, the turner and the sash maker were included in this total. All the craftsmen were paid on completion of the work. In addition to this final accounting, Warden Horton had drawn funds three times from the Company's chest. On 4 January 1736/7 he received a bond for £100 'for paying the workmen at London Wall', on 7 June 1737 he received £300 'for carrying on the building', and on 5 July 1737 he received £200 for the same purpose, making a total of £600. The Carpenters Company finances were divided into current income and capital. The capital, or bonds representing it, was traditionally kept in the Black Chest, which acted as a deposit account.[13] The use of an iron chest (frequently with a complicated system of locks) as a safe deposit was usual. The Commissioners for St. Paul's Cathedral, for example, kept a strong chest with three locks and keys, and ordered that the coal duties they received be kept in it 'to be as running Cash for the service of the Works of the Church'.[14] At the Carpenters Company, since the whole expense of the building could not be met from income, drawing money or bonds from the chest was a way of charging part of the expense to the capital account. The money from the chest does not appear in the account book, and there is therefore no breakdown of how it was spent. It probably went to the principal contractors (bricklayer, carpenter) who had heavy expenses to meet for materials and possibly interim payments to make their workmen. 'Mr. Warden Horton' was evidently in the position of clerk of the works and used the funds from the chest as necessary.[15]

The total spent on the buildings was therefore around £1400 in 1737–8. This represents the bulk of the expenditure, although amounts paid out in previous years must also be taken into account. Records cited above speak of work being carried out in the year 1735/6, and it seems that the house next to the Dog & Bear (which was repaired) and the house which replaced the Dog & Bear on London Wall (one of the two 'front houses') might be included in the accounts for 1735–6. Building and repairs amounted to about £320 for that year, but the accounts are unclear as to the houses referred to. The Company had other property which needed maintenance and repair. In the year 1736–7, about £115 was paid to craftsmen. Again the accounts do not specify on which houses. Assuming that the major part of the expenditure to craftsmen was for the new buildings, the grand total for the three years was about £1800.

Referring back to Nathaniel Poole's note in the deed book, we are told there were eight houses in the court. Referring to the minute book entry for 2 March 1735/6 we are told there were two front houses and a court. Two 'corner' houses were let, and numbers 1, 2, 3, 5, 6, and 7 of the 'new buildings' or 'new court'. The painting agreement with Mr Pitches and Mr Baker of 2 November 1736 says, 'if there shall be nine houses built Mr.

Baker is to paint five of them and Mr. Pitches the other four And if there shall be but 8 houses built then they are to paint four each or any other equal number'. The number of houses is unclear, although Horwood's map would indicate ten.[16] Taking the total of £1800, ten houses would have cost about £180 each. In the absence of other sources of information on the general plan and size of the houses, this scale of expenditure itself provides a clue. Primatt[17] gives details of the cost of various grades of housing. Althoug there is evidence that wages rose between 1680 and 1730,[18] Primatt's rate for bricklaying ('seven pound a Rod, and they to find all materials'[19]) in 1680 is higher than that charged for Carpenters' Buildings (£5 10s 0d a rod). Doubtless there were fluctuations, and doubtless also the Carpenters, with so many experienced builders as members would know exactly where to turn for the lowest rates. House prices in Primatt range between £420. 18s and £234 17s 8d but he does not quote for the 'least sort of building' covered by the Act of 1667. A price of around £180 would not be inconceivable for such a tenement. A further clue as to the appearance of the buildings is provided by the Ordnance Survey map of 1875 (Fig. 2) on which two of the houses are shown. They measured 30ft in width and 25ft in breadth, with an entrance up two steps in the centre of the facade. This conforms to the description of the Carpenters Buildings in a street directory of 1817[20] which gives the length (of frontage) as 110 yards and the number of houses as eight (an allowance of 30 yards for the two houses fronting London Wall must be made). The houses on the court were probably two-storey, while the two on London Wall would have been three-storey.

THE APPEARANCE OF THE BUILDINGS

The terraces on either side of the court would therefore have consisted of two storeys plus attic and basement, the 'least sort of building' reserved for 'By-courts etc.' of the Building Act.[21] They must have looked much like the tenements in Elder Street(built *c.* 1725), Fournier Street (1726) and Spital Square (1725) which also had centrally-placed entrances.[22] The Company was building as an investment and the property was to be let. The Carpenters would ensure that they complied with all building regulations contained in the Acts of 1667, 1707, 1709 and 1724 relating to the type of house, thickness of walls, omission of a timber cornice, recession of window sashes and provision of down-pipes. The buildings would be solid, serviceable but as inexpensive as possible, without unnecessary embellishment. The bricks were grey stocks. Towards the mid-century the taste for the less 'fiery' grey (or yellow) stocks replaced that for red, but no doubt the Carpenters' prime concern was with cost. Red stocks cost 12s per 1000 more than grey in 1748.[23] The bricklaying contract speaks of both plain and pan tiling. There must, therefore, have been a gambrel roof. In the earlier 18th century plain tiles needed a steep pitch on which to hang 'on account, that when they are laid on low Roofs, the driving Rains will enter between them'.[24] The lower pitched area of roof was therefore pan-tiled. A gambrel roof afforded extra attic space and would be lit by dormer windows. The window arches, we are told, were of bricks 'rubbed and gaged and set in putty' – the usual practice in buildings of the time. Isaac Ware, writing in 1756, says 'red stocks and grey are frequently put in arches guaged – and one as well as the other set in puttey instead of mortar'.[25] The arches could have been straight or segmental, although a comparable example (Meard Street, Soho, developed by James's associate at the Carpenters Company in 1732) has straight window arches. The doorcases used in Meard Street give some idea of the possible appearance of those in Carpenters Buildings.[26] They, together with the other exterior woodwork, were painted (probably white) 'three times in oyle', and the interior 'once in size and twice in oyle'. As for masonry, stone was expensive. Portland stone for 'chimney-foot-paces' cost 1s 8d per square foot,[27] while stone coping was 4d per foot running measure.[28] Carpenters Buildings might have had stone coping and string courses but very little else in stone except for paving.

Judging from the tenants' agreements, at least one of the two front corner houses must have had a ground floor shop, for the minutes

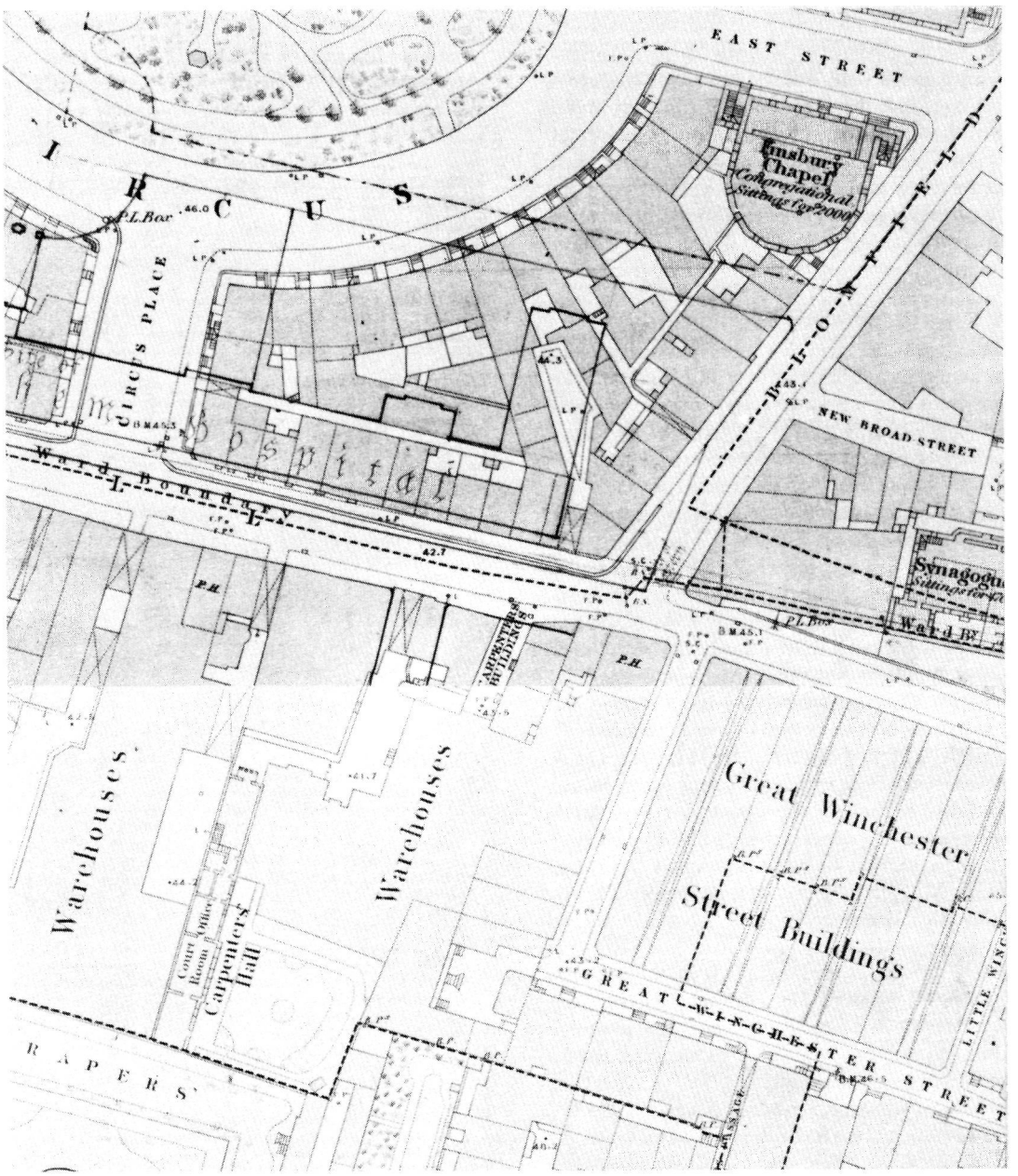


Fig. 2 Detail from the Ordnance Survey, 1875. (*Guildhall Library*) (Scale: 5 feet to one mile)

report, on 6 December 1737: 'Mr. Cole who has taken the Company's Corner House in the new buildings in London Wall desires the Company to incert a covenant in his lease that they will not let any other of their houses in London Wall to any Person who shall follow the Business of a Grocer'. There are a few references to the trades of other occupants. Rents were between £18 and £22 per annum.[29] With rents such as these the Company could

expect to recover its expenditure after about 11 years and the investment would then start to show some return. It is difficult to compare this enterprise with other London speculative building since the Company itself contracted to build. Much more frequently the owner of the land would grant building leases at a nominal rent and therefore had no direct part in the building operation and made no investment comparable with that of the Carpenters Company.[30]

CONCLUSION

The picture which emerges of these tenements is a typical one. The facade was plain, with little ornament beyond the gauged red brick window arches. Contrast was provided by the painted window frames, and the sills and doorways. The construction was unexceptional, and the craftsmen employed were not well-known figures.[31] The interest of this account lies in the details and progress of the commission. It also lies in its connection with John James. The work known to be by James or attributed to him is nearly all related to large private houses, churches or public buildings. The more modest work tends to go unrecorded. Nevertheless he, and others like him such as Henry Flitcroft, and his friend and fellow-carpenter John Meard, must have spent a good deal of their time on what is now termed development – speculative building. Henry Flitcroft is known to have taken out building leases in Marylebone and to have acted as both builder and designer.[32] John Meard erected the above-mentioned houses in Meard Street, Soho, among others.[33] John James's involvement as designer (though not in this case speculative builder) in Carpenters Buildings confirms that for him too such work cannot be discounted. This particular commission was undertaken free of charge but it was certainly not the only work of its kind. A John James appears among those granted building leases on Lord Harley's Cavendish Square development in 1722/3 and 1725.[34] Craftsmen-architects of the 18th century were quite prepared to measure, survey, build or design as the occasion demanded. John James, although highly successful in his career and a wealthy man by 1736, was obviously very ready to supply the Company with a simple design for a terrace of houses. As Master, he probably felt that he had an obligation to do so. Adaptability to a patron's wishes characterises his architecture throughout his career and was undoubtedly one of the reasons for his success.

Summary list of dates and those involved in the construction of Carpenters Buildings
Designed: 1735–6 John James
Built: 1736/7
Demolished: 1876
Measuring of work: N. Benbridge
Bricklayer: Thomas Moreland
Carpenter: Robert Horton
Mason: Howard
Plumber: John Warden
Smith: Eldridge
Glazier: Battell
Plasterer: William Willatts
Paviour: Brown
Painters: John Baker
Joseph Pitches
Turners: Crane
Hoare
Sash maker: Barratt

NOTES

1. I should like to express my thanks to the Carpenters Company for permission to publish, to the staff of Guildhall Library for their assistance, and to Peter Draper for his help and advice.
All documents referred to (unless otherwise stated) are among the Carpenters Company records at Guildhall Library, London. The documents relating specifically to the construction of Carpenters Buildings are MS 4329/10 Rough Minute Book 1685–1689 and 1732–1731, MS 4329/15 Court Book 1722–1737, MS 4326/11 Wardens' Accounts September 1673 to September 1740 and MS 4340 Short Abstracts of the Title Deeds and other Documents Relating to the Company's Estates. Abbreviations have been expanded in transcript but original spelling and punctuation have been retained. Dates from January to March 25 are written with both old and new year. For example, 5 January 1735 in the documents will appear as 5 January 1735/6.
2. E. B. Jupp *A Historical Account of the Worshipful Company of Carpenters* (London, 1848, 2nd ed. London, 1887 with an appendix by W. W. Pocock). B. W. E. Alford and T. C. Barker *A History of the Carpenters Company* (London, 1968).
3. MS 4332 Wills and Leases 1516–1818 f. 37.
4. Alford and Barker *op. cit.* in note 2, 129.
5. MS 4329/5 Court Book, 7 October 1664, 7 March 1664/5.
6. Probably born *c.* 1668. Died before April 1746. His daughter Frances married John James's son John by licence on 4 April 1727 at Eversley, Hants.
7. Jupp and Pocock *op. cit.* in note 2, 558
8. Horwood's Plan of London Westminster Southward and Parts Adjoining 1792–1799, reprinted by the London Topographical Society, Publication No. 106, London 1966. A Plan of the Cities of London and Westminster, and Borough of Southwark with the contiguous buildings from an actual survey taken by John Rocque, Land-Surveyor, and Engraved by John Pine. 1746. Reprinted by Harry Margary, Lympne Castle, Kent, 1971. Wyld's Plan of the City of London 1842. Produced from plates made from Horwood's plan.
1873 Ordnance Survey 25 inch to one mile.
1875 Ordnance Survey 5 feet to one mile.
9. *Wren Society* 5(1927)20.
10. Richard Neve *The City and Country Purchaser, and Builder's Dictionary* (2nd ed. London 1726. Reprinted by David & Charles, Newton Abbot, 1969) 'Building' 80.

11. See for example his role in the building of Bishopsgate, where he was asked 'from time to time to inspect' the works. T. Friedman 'The Rebuilding of Bishopsgate: A case of Architecture and Corruption in Eighteenth Century London' *Guildhall Studies in London History* 4 No. 2 (April 1980) 83. James also carefully measured up the work done at Baylis House, Slough, marking the workmen's bills 'measured, examined and cast up' and signing each one personally. His receipt for the sum of £300 is for 'surveying, measuring, valuing and settling the account of work done at Baylies in Bucks . . .'. Bucks County Record Office, Duke of Leeds MSS, Box 10.
12. A rod equals 'sixteen foot and a half square every way, and two hundred seventy two foot in all'. S. Primatt *City and County Purchaser and Builder* (2nd ed. London 1680 enlarged by William Leybourne) 53. A square equals one hundred square feet.
13. Alford and Baker *op. cit.* in note 2, 126.
14. Minute Book 1715. *Wren Society* 16 (1939) 120.
15. He was responsible for incidental expenses such as the inscribing of a stone naming the buildings, 5 July 1737.
16. Jupp and Pocock *op. cit.* in note 2, 609 says there were 'nine small houses, known as Carpenters Buildings, and a larger one . . .'.
17. Primatt *op. cit.* in note 12, 100–143.
18. E. H. Phelps Brown and Sheila V. Hopkins 'Seven Centuries of Building Wages' *Economica* 22 (1956) 195–205.
19. Primatt *op. cit.* in note 12, 58.
20. Johnstone's *London Commercial Guide and Street Directory* (London, 1817) 97.
21. For details of the act, see D. Cruikshank and P. Wyld *London: the Art of Georgian Building* (London, 1977) 22–24; Primatt *op. cit.* in note 12 and Neve *op. cit.* in note 10 under 'Building', 65.
22. Survey of London, Vol. 27, *Spitalfields and Mile End New Town* (London 1957).
23. Batty Langley *The London Prices of Bricklayers Materials and Works* (London, 1748) 10 and 12.
24. Batty Langley *The Builders Compleat Assistant, or a Library of Arts and Sciences Absolutely Necessary to be understood by Builders and Workmen in general* (no date; London, 1738?) 151.
25. Isaac Ware *The Complete Body of Architecture* (London, 1756) 60.
26. Survey of London, Vol. 33 *The Parish of St. Anne Soho* (London, 1966) 245.
27. Neve *op. cit.* in note 10, 226.
28. Neve *ibid.* 114
29.

Corner house	Samuel Warren, carpenter	£22 p.a.
Corner house	Richard Cole, grocer	£19 p.a.
No. 1	Thomas Kentish	£18 p.a.
No. 2	Jane Marsh	£18 p.a.
No. 3	William Caw, broker	£18 p.a.
No. 4	—	
No. 5	James Grayson	£18 p.a.
No. 6	Martin a Drian de Young	£20 p.a.
No. 7	Mrs. Elizabeth Jackson, widow	£18 p.a.

30. See for example leases granted by Lord Harley on the Cavendish Square estate which were for building and where rents ranged from a peppercorn to well over £20 p.a. British Library Add. MS 18240, Register of Building Leases in Marylebone 1718–40.
31. Robert Horton, Warden and carpenter, worked on St. Stephen Coleman Street as a young man in 1674–6. H. Colvin *A Biographical Dictionary of British Architects 1600–1840* (London, 1978) 931.
32. Colvin *ibid.* 309–313.
33. Survey of London, Vol. 33 *op. cit.* in note 26, 238–246.
34. *Op. cit.* in note 30. There were other speculative builders with the name of John James at this time, notably one active in the Covent Garden area, who is described on his building leases as a bricklayer (Greater London Record Office E/BER/CG L110/10, L74/20, L74/26, L74/27 and L76/7).

JOHN STOW

COMMEMORATION ADDRESS BY MARC FITCH
delivered at St. Andrew Undershaft, 21 April 1982

A very natural tradition has grown up whereby those who give this oration tend to divide their subject into two: John Stow, the man and his work. As regards the man himself it is unlikely that in the future very much more will come to light to add to our knowledge of his life.

The few personal incidents we know about the historian are largely those recounted by himself. That which is most relevant to my theme today recounts how he watched the destruction of the shaft from which this church took its present name. The shaft was, of course, a maypole. The destruction of it took place on Sunday afternoon in 1549 after a sermon at St. Paul's Cross; the result of what must have been a rousing tirade was to persuade the parishioners to remove the offending maypole from the hooks on which it rested above the doors of the houses between St. Mary Axe and Bishopsgate Streets. Thereafter, and evidently in the roadway, it was chopped up – 'mangled' is the word Stow uses – and burnt.

It is no wonder that young John, who would have been about twenty-four at the time, watched with such fascination the proceedings that he eventually recalled the event in detail in the Survey. The family house lay precisely in this row, and though the future historian had never seen the maypole erected – it had not been since 1517, some years before his birth – a degree of nostalgia is apparent in the description for he had known the object at close quarters all his life, and every time he walked in or out of his home he passed beneath it.

One wonders whether such an incident was not the catalyst which decided him to collect facts of history relating to his native city. No reason has ever been advanced why the young John abandoned the ancestral craft of tallow chandlering, but it may be that he considered tailoring, even in working hours, would offer greater opportunities for social intercourse than the obviously more noisome boiling and moulding of tallow.

The assiduity with which Stow collected information, the comprehensive nature of it and the orderliness of arrangement must forever rouse admiration in view of the pioneer nature of his work. That it is still, after four centuries, a work of constant reference, and that we are here today, is sufficient proof of the general soundness of his descriptions. He achieved all that the circumstances of his time permitted, for so much of what is now available, in the way of documentation, to us was closed to him. Much of the information which he gathered could have been conveniently conveyed by word of mouth while he sat cross-legged at his tailor's bench – a circumstance impossible in his father's and grandfather's trade.

Other influences of which we know nothing may, of course, have made him into a tailor, for already in November 1547 he had been admitted to the freedom of the Merchant Taylors Company, some eighteen months before the maypole incident; it is nevertheless clear that the event was an emotive one for him.

Let us imagine the young Stow in the middle of the roadway to the south of this Church on the day of the destruction of the maypole. We know what he himself could have seen when he looked in any direction of the compass for he has described it. But what would he have seen at an anterior date as far removed from the publication of the Survey as we are posterior to it?

Only eighteen years previously the great Priory of Holy Trinity, Aldgate, had been surrendered to the king; it had dominated this area of the City for over 400 years and though Stow clearly had access to the cartulary of the priory he was unable to turn the information in

it to as good an account as he might have done had he been able to collate it with documents in the central archive of the Corporation of the City.

Looking north, then, from his vantage point at the near crossroads all the property on the right hand side of St. Mary Axe belonged to the Priory of Holy Trinity, being the gift of Queen Matilda, Queen of Henry I when she founded the priory in 1108. It may be stated here, in parenthesis, that in a sparsely inhabited area, Matilda was evidently able to extend her soke and fix her western boundary at the first main street that ran north and south, west of the City Wall. It is possible that before the foundation a strip on the east of St. Mary Axe Street was included in Lime Street Ward but that is an argument for another place.

In our nurseries we were told the tendencies of birds of a feather and it is therefore no surprise to find that, with the priory as landlord, several of the properties on this eastern side of the street were occupied by clerics. In the south, and just to the north of this church was the abbot of Meudon in France; north of him, the abbots of Beeleigh in Essex and Boxley in Kent. The one-time famous rood or Cross of Grace of the Latter House had been broken up at Paul's Cross in 1536, and was perhaps a precedent for the action recorded by Stow regarding the maypole of which mention has been made.

Other lessees followed further north such as the Prior of Ware in Hertfordshire, and the Prior of Prittlewell in Essex. Doubtless all these clerics found it useful, if not essential to have a London base, as much for the sale of the house's agricultural produce as for an amenity. For it must be remembered that English wool, much of it raised by the increasing number of monasteries, was rapidly becoming the country's foremost export.

On the west side of St. Mary Axe Street the little parish church of St. Mary still stood in an attenuated parish since all the east side of the street had been alienated to the priory of Matilda. North and south of the church were the premises of small merchants and craftsmen which will almost all have been timber-framed with a ground floor only and thatched roofs. If not necessarily stone-built, the houses on the east side of the street rented by the clerics as well as those of intervening laity, seem frequently to have had solars or first floors. A contemporary visitor would have noticed a great difference in the structures of each side.

Turning now westward and looking in the direction of Cornhill, Stow would have seen houses on both sides of the street, as in his own day, differing principally in that there being scarcely a mention of a stone structure, virtually all would have been timber-framed and thatched. The majority of inhabitants were craftsmen, rather than the merchants of his time and amongst these are a number of men described as potters. Here a short diversion is necessary. All modern authorities agree that Billiter Street, the corner of which was visible to Stow from the position in which we have imagined him, is derived from Middle English Belleyettere and means the street of the bellfounders. The first to make a detailed study of the relationship between bellfounders and those men described as potters or *olluarii* in Latin, was J. C. L. Stahlschmidt, sometime master of the Worshipful Company of Founders and who published his findings almost a century ago in 1884. His account was confirmed by C. K. Kingsford who published the best edition of Stow's Survey in 1908. Both agree that the pots these craftsmen made were of metal not earthenware; they were, in fact, the antecedents of the members of the later founders of the company and themselves derivative of the still earlier bellfounders. Probably bellfounding was the heaviest industry of the day and, in view of the primitive means of transport the tendency would always have been to found bells as near as possible to the place where they were required. The suggestion is now made that the original colony of bellfounders who gave their name to Billiter Street arose as a result of King Alfred's encouragement to the resettlement of urban areas. The growing number of parish churches in this new Saxon London called for a steady supply of bells and these were provided by founders working on the spot. As the demand slackened, probably in the twelfth century, with a virtual end to the number of new churches, the craftsmen turned to a new

source of livelihood and began to make pots with which may be included all sorts of metal receptacles such as cauldrons. Nevertheless the trade remained within the area and hence it is that so-called potters are found still in their traditional neighbourhood. That this was so is shown by the names of several London citizens who describe themselves as potters but whose names still survive on a few bells which they founded.

Judging by the names by which the church of St. Andrew was known in early centuries – such as St. Andrew upon Cornhill or St. Andrew towards Aldgate, it would seem that no maypole was associated with it until the late 14th or perhaps early 15th century.

If Stow had now turned eastward toward Aldgate he would have found that the scene had changed radically. In the 12th and 13th centuries the road-way between the inside of the gate of Aldgate and almost as far as the Chapel of St. Katherine – known to Stow, as to us, as the Church of St. Katherine Cree – was referred to as the courtyard of the priory. One may suppose that it was in such an area that trade goods arrived and whence they were dispatched. Even the wool-crop of inland religious houses that had no more convenient outlet to the sea than London may well have been centred here before onward despatch via the Custom House on the Thames-side to probable destinations in Flanders. Aldgate Pump, then a well, would have been used for baiting the numerous pack-animals involved.

On the north side of the street and at the east end a number of shallow shops and residences backed on to the priory wall over which the upper part of the priory church would have been visible. St. Katherine Cree itself is referred to at that date as a chapel and as standing in the cemetery of Holy Trinity. One may deduce that it served as a mortuary chapel. That it later, and indeed long before Stow's day had become a parish church – and this as early as the first half of the 13th century – is a matter of known history. Doubtless this development was caused by the increase of the local population, largely as a result of the greater chances of employment offered by the priors.

Between Creechurch Lane and the east end of the churchyard of this church of St. Andrew a row of houses stood in the mid-thirteenth century which were divided by a footpath running north and south and, at the northern end, very much on the line of the present Bury Street. Hereabouts, owning some of the houses and apparently living in one, was an early London character who figures, not infrequently, in property transactions – not so much as a principal but as an abutment owner. He was a weaver and his name was Wedde de Theiden which possibly indicates an Essex origin, perhaps from Theydon. One may suppose that he was an affable and friendly man and popular with the neighbours since his nickname was so far current that even in the formal language of the hustings rolls he is most frequently referred to, rather endearingly, as Weddie the Weaver. I mention this as something that brings a touch of humanity to the often all too dry bones of documentary history.

On the south side of what we now call Leadenhall Street but was then as often called Aldgate or Aldgate Street, and at the eastern end there were unearthed in the mid-eighteenth century the foundations of what was declared to be an ecclesiatical building in the account given in the Gentlemen's Magazine, and these were ascribed to the small church of St. Michael which was known to have been hereabouts. This ascription has appeared on the map of the Ordnance Survey since 1875; however, recent archival research shows that this little church which was, in fact, a parish church, stood almost opposite but slightly west of St. Katherine Cree. Of what then, if indeed they were ecclesiastical, were these remains? There is mention in the cartulary of Holy Trinity of a church which had been established within Aldgate by one Syredus and it would seem that it was unfinished at the time of the founding of the priory in 1108. In the light of actual knowledge it cannot be certain whether these remains are in fact those of Syredus' church, but the possibility remains. Certainly it was taken over and even demolished by Norman, the first prior of Holy Trinity.

The church of St. Michael can be very exactly sited as being forty-four yards, on the

basis of the *compositio* of either Henry III or Edward I, from the corner of Billiter Street. Small as the church was it would have been a landmark on the south side of the street for our historian looking eastwards. A garden described as belonging to Holy Trinity stood next to the church on the east, and next to that, land and a house leased to the abbot of Sibton (Suffolk). Thus yet another ecclesiastic is added to the list of those who found it necessary to have a town residence. Westward of St. Michael's until the house at the corner of Billiter Street is reached was open space. Between Billiter Street and Lime Street were a number of houses which, from the description of some of the owners seem to have been rather larger and of better class than most. Again some were inhabited by potters.

Had our historian not turned right about and looked south down Lime Street he would have found nothing more readily apparent as an explanation for the name than what he himself wrote, that 'it takyth the name of making and selling lime there (as is supposed)'. By this wary phrase it might be supposed that Stow was not altogether happy as to why lime was in fact made hereabouts. The fact of its actual making is not disputed by any modern authority but it is now time to ask definitely Stow's half-posed question: why should lime ever have been produced particularly in this neighbourhood?

Professor Christopher Brook has recently shown that while London was not entirely deserted after the Roman evacuation it was as a result of the policy of re-urbanisation encouraged by Alfred the Great that what we now call Anglo-Saxon London began to come into being.

As a building material stone could never have been easily available in London. The transport and the dressing of it would have made the cost almost prohibitive in early times even if the Saxons had been familiar with its use. In fact those of the London region were not and their buildings, even the more important, were timber-framed with walls of lath and plaster. The Romans themselves found it necessary for their public buildings to transport ragstone, the nearest source for which was Kent, by barge up the Thames. Since lime for the making of plaster is and always was a comparatively low-price material it does not stand the expense of long distance transport and so the choice of site for its production must depend primarily on the proximity of available limestone. We may now ask why such a site as the general area of Lime Street ward was chosen when Alfred's craftsmen began work.

Excavation in recent years below York Minster has shown that Roman buildings were still standing and possibly in use in the late 10th century. A survival of considerable ruins in other cities and in particular London would therefore not have been unique.

When Roman London was being meticulously excavated in the years since Hitler's war it became apparent, as was to be expected, that the great majority of public buildings were centred round the forum which itself ran east and west across the present Gracechurch Street. The excavators noted somewhat to their surprise and some disappointment that the stonework had survived for only a small number of courses. There was furthermore no evidence of the survival of Roman material even in the few stone-built structures of Norman London. When and whither did the considerable amount of Roman work disappear?

Taking the fact enumerated and stressing the point that Kentish ragstone is an admirable raw material for the production of lime I suggest that the ancient forum, some buildings of which, on the analogy of York may still have been standing, became the quarry whence the new urban dwellers, resultant on Alfred's policy, provided building lime for the resurgent City.

The 10th and 11th centuries saw the creation of wards and parishes, the former in the first instance mostly known by the names of their respective alderman. By the 12th century, when the first ward list occurs, Lime Street is not indentifiable and was, in fact, one of the smallest and poorest wards in the City. But it had had its heyday two centuries before and may have been one of the first subdivisions of the City at a date when it was providing the new settlers with their first large-scale building material.

Thus with the final reduction of Roman London to lime, preparatory to its re-emergence on a plan much of which still survives today, we may leave young Stow in the street outside this church, pondering the history he was one day to write.

AN EARLY 17th-CENTURY WINE TASTER

ROSEMARY WEINSTEIN

The area of the north Thames bank between Southwark Bridge and Cannon Street Station, known as the Vintry, has been associated with the wine trade since at least 1170.[1]

In 1978 a silver wine taster inscribed 'Johanes Downinge Decem 3th 1634', with London hallmarks for 1634–5 and marked HB, was recovered from the foreshore near the north end of Southwark Bridge. The footed bowl with plain, straight sides sloping outward from a doomed base, measures 9.9cm in diameter by 3cm in height. The taster was subsequently acquired by the Museum of London.[2]

Small bowls of this type, with raised bases to reflect the liquid, and in which the vintner tilted and swirled his sample of wine, noting its colour, clarity and bouquet, are recorded from 1383 in England (in a Norwich tavern inventory as a 'taster argentea').[3] In 1530 their function was described by Palsgrave as 'a lytell cuppe to tast wyne, tasse à gouster le vin'.[4]

The earliest surviving English taster is an example with Norwich hallmarks for 1573–4, whilst the earliest English example with an owner's inscription is that of 1631–2 in the Jackson Collection (National Museum of Wales) inscribed 'John Hine'. The Museum of London taster is therefore the second earliest inscribed taster known.

Plain circular tasters, on a low foot and with a domed centre, such as the Museum's example, became fashionable in the early 17th century, and appear to have remained so through the century. A very similar example hallmarked 1689–90 and inscribed 'Andrew Richmond Decem 3rd, 1689' is in the Victoria and Albert Museum.[5] Similar tasters were also used in France (Bordeaux region) and exported to Portugal for the wine trade.

John Aubrey (1626–97) the antiquary, commented that

'These silver boates are very common at Bristow among the merchants, who used to carry them in their pockets to Tast wine; they call them Tasters. They were first called cognes (from coggones, little boates)'.[6]

Indeed, tasters were so much a part of the vintner's equipment that an English Act of 1477–8[7] prohibiting the export of gold and silver, made a special exemption clause, 'any Merchant going over the Sea to buy any Wine to be brought into the realm, as for to carry with him only a little cup called a Taster (un taster ou shewer pur vine)'.

A search of records relating to 'The Trade' produced evidence of a John Downinge as apprentice to one Richard Mills of the Coopers' Company in 1633/4.[8] The taster, acquired by Downinge the following year, perhaps records the anniversary of his joining the Company.

Some coopers were also involved in the wholesale wine trade, to which the Vintners' Company objected, leading to Charles I's proclamation of July 1638 prohibiting coopers from buying or selling wine.[9] John Downinge may have been involved in this aspect of the trade.

John Downinge served an eight-year apprenticeship, becoming a free journeyman in 1641. The date, the 3rd December, inscribed on the taster, was one on which coopers recorded their marks (usually initials at this period). Unfortunately, no mark for John Downinge is recorded.[10]

The Museum's taster is not the only one to be found at the Vintry. In May 1983 a silver taster marked BORD, and bearing a fleur-de-lis and maker's mark was also recorded. This type, a larger version of the Museum's taster, was common in Bordeaux between 1650 and 1717. Whether stolen, or lost while boarding a boat, is a matter of speculation.

NOTES

1. Grant by the Dean and Chapter of St. Paul's to Peter, the son of Revelum, of the land which Baldric held of them in the parish of St James 'versus vinitariam', *c.*1170. *Ninth Report of the Royal Commission on Historical Manuscripts* Part 1 (London, 1883) 13.
2. MoL Acc. No. 78.161. The maker's mark HB in a shield is regarded as being that for Henry Blackmore (apprentice of George Carey) free 1612, who took Humphrey Bache as apprentice in 1634. According to the Court Books of the Goldsmiths' Company, Blackmore's faults (1627–'33) were for salts and, in 1632, a taster, although other records of pieces with his mark refer to flagons, beakers, communion cups and steeple cups.
   I am indebted to Gerald Taylor of the Ashmolean Museum (Department of Western Art) for his advice about this goldsmith's identity, and to the Goldsmiths' Company for permission to publish the information from their Court Books.
3. C. J. Jackson *An Illustrated History of English Plate* (London, 1911) 737.
4. John Palsgrave (d.1554), chaplain to Henry VIII, *'L'Eclaircissement De La Langue Francaise* (Paris, 1852) 279.
5. Accession No. M225–1930.
6. John Aubrey *Remaines of Gentilisme and Judaisme;* edited and annotated by James Britten. Publications of the Folk Lore Society 4 (London, 1881) 210.
7. Cotton MS. Nero, C.1. British Library; published in *Statutes at Large Edward IV–Elizabeth I* (1770) 42.
8. 'The Trade'–the victualling crafts–Vintners, Brewers, Innholders–to whom the Coopers were closely allied. Guildhall Library, Coopers' Company Court Book for 1632–1641 (MS 5603/4, f.19):

   Thurs 16 Jan. 1633/4
   'Recd of Richard Mills for apnticenge John Downinge sonne of Humfrye of London Barborsurgeon Deceased for Eight years from Michaellmas last xx^{d}'.
   John's father 'Humfrye Downinge' is recorded as living in Vintry Ward in a house assessed at £16 in 1638. (T. C. Dale *The Inhabitants of London in 1638* (London, 1931) 185).
9. This proclamation was declared illegal by the Long Parliament in 1641. In 1667 'the Court [of the Coopers' Company] presented a hogshead of wine to the Lord Mayor in thankfulness for his favour to the Company in their opposition in Parlament to the Vintners, for restraint in buying and selling wine in gross'. J. F. Firth, *Coopers' Company, London* (London, 1848) 84.
   Again in 1693 and 1697 the Coopers petitioned the Government against raising the import duties on wine from Spain and Portugal, duties which had apparently already reduced by half their sales of wines.
   Sir William Foster, *A Short History of the Worshipful Company of Coopers of London* (Cambridge, 1961) 27–29.
10. Guildhall Library Coopers' Company Quarterage Books 1635–1644. MS 5614/3. Mark Book 1561–1648, MS 5633.

Plate 1. Silver wine taster, 1634–5.

THE LORD MAYOR'S PROCESSION OF 1686: THE CHARIOT OF THE VIRGIN QUEEN

TESSA MURDOCH

The Museum of London has recently acquired an unmounted design for a fanleaf of 180°, in pen, ink and wash, on paper, 17.3 x 48.5 cm (Pl. 1).[1]

The drawing was identified as showing the Chariot of the Virgin Queen of the Mercers' Company passing through Stock Market in the City of London, and thus part of an inaugural procession of one of the Lord Mayors of the Mercers' Company. The Chariot of the Virgin Queen of the Mercers' Company passing through Stocks Market in the City of London, and thus part of an with a procession of the Drapers' Company, and again in 1655, 1686 and 1701.[2]

The first two occasions can be excluded on grounds of costume. Fortunately, the contemporary published accounts of both the 1686 and 1701 pageants survive. The former, written by Matthew Taubman,[3] reveals that on this particular occasion the procession continued down Cheapside via Poultry to the Grocers' Hall and would therefore have passed through Stocks Market. Normally the procession turned north from Cheapside to the Guildhall where the Lord Mayor dined. The contemporary account thus provides firm evidence that the design shows the Lord Mayor's procession of Sir John Peake, Mercer in 1686.

Matthew Taubman wrote his first civic triumph for the Lord Mayor's procession in 1685, and he composed the Lord Mayors' shows for the four following years, although in 1688, the perturbed state of politics hindered any exhibition of pageantry.[4]

The 1686 Chariot of the Virgin Queen was probably the largest pageant wagon of the period. Taubman claimed that 'the Magnificence of the Structure, the Elegancy of the Contrivance, and Costliness of the Work, has hardly ever yet been parallel'd'.[5] The chariot was attended by over one hundred people on foot, and contained twenty-one figures; needless to say they are not all represented in the design.

The chariot was preceded by two other pageants. The first showed Neptune attended by tritons and sirens. The second consisted of Monarchy, surrounded by Principality, Nobility, Honour and Obedience, and in front Mars and Minerva with their offspring, Victory, Science, Conduct and Industry. This may have been a tactful allusion to the recent accession of James II.

Matthew Taubman describes the third pageant as 'an Imperial Triumphant Chariot of *Roman* form . . . On a lofty Ascent of which, exalted upon an Imperial Throne, sits a magestick Person in great state representing a VIRGIN, which is the Arms of the Right Worshipful the Company of Mercers . . . On her head a long dishevell'd Hair of flaxen colour . . . on which is a Coronet of gold . . . In one hand she holdeth a Scepter; in the other a Shield, with the Arms of the Right Honourable the Company of Mercers.

Above on a golden canopy sits Fame, blowing the Trumpet'.[5]

The design captures the regal stance of the Virgin Queen and includes the Virgin's attributes, Fame, above; Vigilance, Wisdom and Chastity, all 'properly attir'd' at her feet. The symbols of Wisdom and Chastity have not been included in the design, but the bell of Vigilance is clearly visible. Hope, leans on a shield bearing a golden anchor and sits with her back to Faith, who is represented blindfold, and bears a shield and banner. The chariot is led by Triumph, dressed as charioteer with plumed helmet, mantle and sword.

Unfortunately, the design does not capture the resplendent colour of the pageant. The

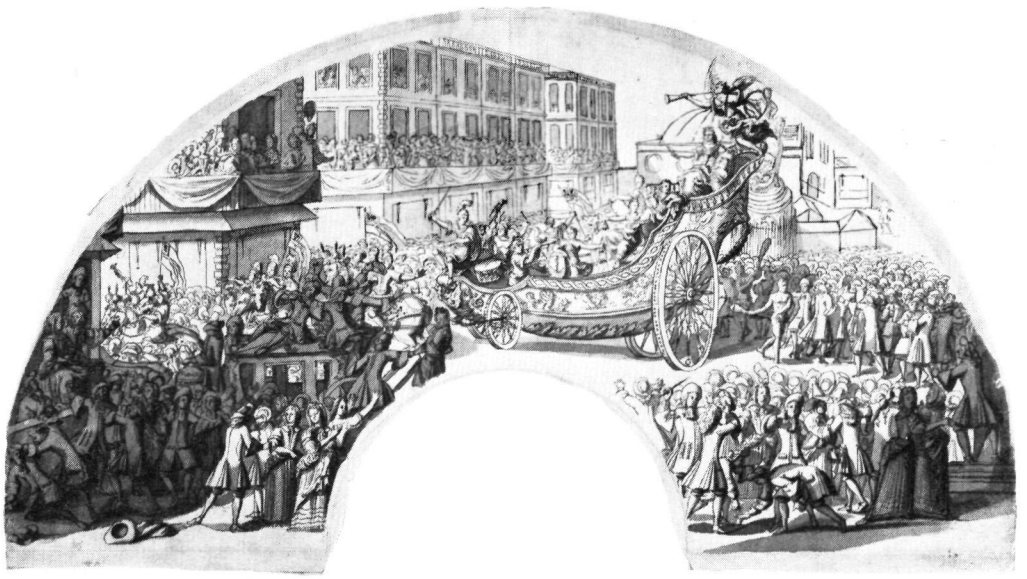


Plate 1 The Chariot of the Virgin Queen, 1686. Anonymous drawing (*Museum of London*)

Virgin Queen and Faith were appropriately dressed in white, in contrast to Vigilance in green and yellow; Wisdom in crimson and blue; Chastity in blue and silver, and Triumph in scarlet. As shown in the design, the chariot was drawn by nine 'white *Flanders* Horses, three in a breast, in rich silver Trappings and white Feathers'. The first three horses carried figures representing Victory, Loyalty and Fame; the second three, Peace and Plenty with Europe in the centre; the last three consisted of Africa, Asia and America, 'representing Merchandize; Traffick, and other Dealings, both at home and abroad, appertaining to the Right Worshipful the Company of Mercers'.[6]

The 'Roman' character of the pageant wagon may have been inspired by a direct classical prototype, or even by Mantegna's 'Triumphs of Caesar' which had been in the Royal Collection at Hampton Court since about 1630; moreover, the classical idiom was the appropriate contemporary tribute to a hero. The form of the chariot closely resembles that illustrating the account published by Elkanah Settle of the Lord Mayor's procession of Sir Francis Child, Goldsmith in 1698.[7]

Having been sworn in by oath at Westminster before the Barons of the Exchequer (a tradition which dates back to 1251), Sir John Peake would have returned by barge to Blackfriars, and would have joined the procession of pageants at St. Paul's Cathedral. On this occasion the procession continued down Cheapside via Poultry to the Grocers' Company Hall.

Grocers' Hall had been enlarged in 1682 by Sir John Moore, the then Lord Mayor 'so as to make it the most commodious seat for the chief magistrate of the city or a *mansion house*'.[8] Sir John Moore used it as his own Mansion House; paying the Grocers' Company £200 in rent. It remained the official residence of the Lord Mayor until 1694, when it was let to the newly formed Bank of England. The large courtyard in front of the Hall was particularly well-suited for the reception of the Lord Mayor's procession.

The Chariot of the Virgin Queen is shown

here at the end of its route before turning north via Princes Street to the Grocers' Hall. The dome of St. Stephen's Walbrook, a church rebuilt by Sir Christopher Wren from 1672–1679 can be seen in the background. Just behind the figure of Fame on the chariot, a part of the curious equestrian statue of Charles II vanquishing Oliver Cromwell is visible (Pl. 2). The statue, placed on the eighteen foot high conduit in Stocks Market, was erected at the expense of Sir Robert Vyner, and was publicly unveiled on Oak Apple Day, 29 May 1672; the anniversary of Charles II's birth and his Restoration to the throne. The conduit is said to have run with claret when Sir Robert Vyner was sworn Lord Mayor two years later in 1674.[9]

The statue was first commissioned in Rome by the Polish Ambassador of the Court of St. James, to represent John Sobieski, King of Poland, overcoming the Turk. It was then acquired by Sir Robert Vyner, who commissioned Jasper Latham, one of Wren's sculptor-masons, to transform the head of King Sobieski into that of Charles II, and the Turk's head into a portrait of Cromwell. Unfortunately, the turban on the Turk's head was overlooked and remained as proof of the conversion. The statue was moved to make way for the present Mansion House in 1737, and is now at Newby Hall, York.

The records of the Mercers' Company throw interesting light on the work involved in preparing the pageant.[10] Many of the Company's trophies were 'very old & most of them past use', for 1655 was the 'last time any Publick show was made by this Compy. upon a Lord Mayor's Day.' The herald painters Richard Wallis and a Mr. Johnson were asked to remake the necessary trophies and banners

Plate 2 Stocks Market, the site of the present Mansion House, with the dome of St. Stephen's Walbrook in the background showing the equestrian statue of King John Sobieski overcoming the Turk which was converted into a Charles II vanquishing Oliver Cromwell. Engraving by Sutton Nicholls, 1738 (*Museum of London*)

and Mr. Horne, the painter, was ordered to wash, varnish and refresh the Company's barge.

Celia Fiennes, who witnessed one of the Mercers' Company pageants, possibly that of Sir William Gore in 1701, commented that 'After being drawn through ye Citty, the Virgin Queen 'is invited by ye Lord Major to a dinner provided on purpose for her, and soe many Rich Batchelors are appointed to Entertaine her'.[11] In 1686, because of 'the present Low Condition of the Company', eighty 'Rich Batchelors' were elected from the young freemen of the Mercers' Company and were asked to provide 'a Triumphall Chariott with a Virgin to ride thereon'.[12] It seems that the Batchelors were also responsible for selecting the Virgin Queen, who was, according to the description of the 1701 pageant, 'a young beautiful Gentlewoman, of Good Parentage, Religious Education and Unblemisht Reputation'.[13]

In return for their trouble the Mercers' Company paid for the Lord Mayor's Dinner and provided the Batchelors with the additional luxury of wine and cakes. The Company also gave the Batchelors a contribution of £100 towards their costs, on condition that the chariot and trophies were returned to the Company for use at the next Lord Mayor's show. The Company also met the costs of the musicians, providing six drums and twenty-four trumpets, and six 'musicians to waite on the company', although it was decided that 'no songs or other poetry' were necessary.[14]

For some contemporary witnesses the pomp and circumstance of the pageants was considered rather indigestible, and the crowd of spectators provided the main interest.[15] As the spectators thronging the route became somewhat unruly, it was necessary to employ 'twenty Savages or Green men with Squibs and Fireworks to sweep the streets, and keep off the Crowd'.[16] Two of these 'Green men' are shown in action behind the chariot in the drawing. The foreground reveals a brawl on the extreme left; and some enterprizing citizens have decided to make use of an empty coach on the right in order to get a better view of the proceedings.

Views of 17th-century Lord Mayors' pageants are rare. A painting, probably by a Dutch artist, in the Royal Collection, shows the procession of Sir Henry Tulse, Grocer and Lord Mayor in 1683, by water to Westminster to be sworn before the Barons of the Exchequer (Pl. 3).[17] The procession consisted of the barges of the City Companies (those of the Fishmongers', Goldsmiths', Grocers', Mercers', Skinners', Vintners', and Weavers' are clearly visible).

In the background a royal party watches the procession from the roof of Whitehall Palace, which was, with the exception of the Banqueting House, destroyed by fire fifteen years later. Each barge has a band of trumpeters at the stern. In 1686, the water procession was further enlivened by the firing of cannon from the south bank of the Thames.[18]

A series of drawings in the Pepys Library, Magdalene College, Cambridge, some of which have been attributed to Marcellus Lauron (1653–1702) record isolated elements of the Lord Mayors' Pageants of 1676, 1678 and 1692.[19] The most evocative is the 'City Musick' which shows a band of musicians playing three hautboys and a sackbut. The others show the Lord Mayor in his barge with the Court of Aldermen; the Sword bearer, with his Cap of Maintenance; the new and late Lord Mayors proceeding in their Cavalcade through the City and four men carrying a banner. It is perhaps significant that in 1680, Lauron, the artist, lived in Bow Street, Covent Garden, near Thomas Jordan, the poet, who devised the pageants for the Lord Mayors' shows of 1671–1681, 1683 and 1684.[20]

The most impressive of the pictorial records of a 17th-century Lord Mayor's Pageant must be the series of coloured drawings of the pageants devised by Anthony Munday for the procession of Sir John Leman, Fishmonger in 1616. The drawings provide a fascinating visual record of the sequence of the procession, which started with the amphibious 'Fishing Busse' that accompanied both the water and land procession. It consisted of three men 'seriously at labour, drawing up their nets laden with living fish and bestowing them liberally among the people'.[21] This was followed by a crowned dolphin, from the Company's coat of arms; the King of the

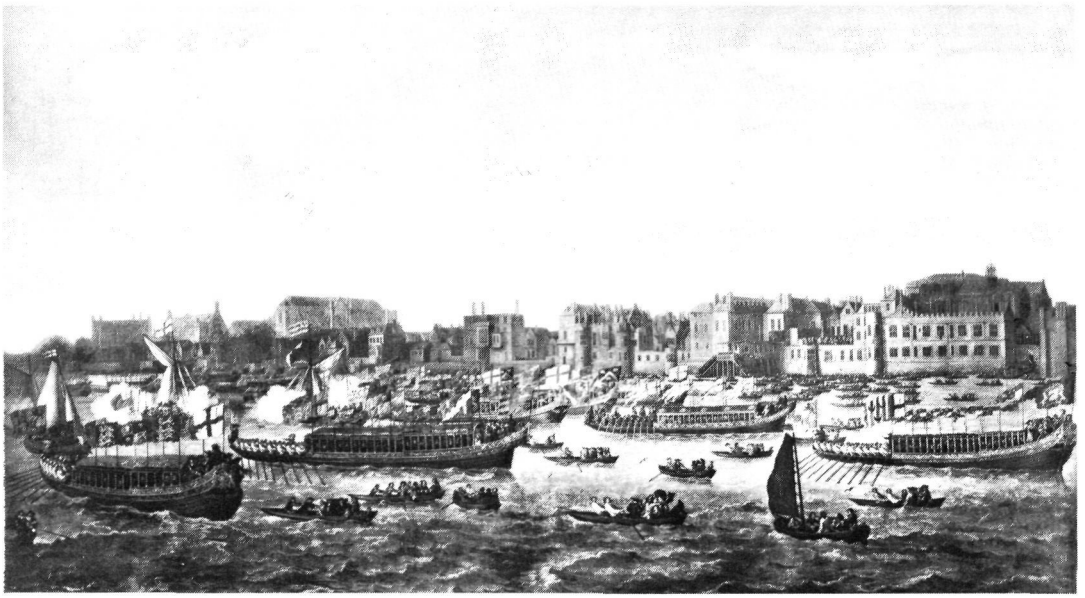


Plate 3 The Lord Mayor's Procession by water to Westminster, 1683. Photogravure produced by the London Topographical Society, 1909, based on the oil painting in the Royal Collection. (*Museum of London*)

Moors; the effigy of Sir William Walworth, Lord Mayor in 1381 who slew the rebel Wat Tyler (Walworth rose from the dead during the course of the procession to make a speech to Sir John Leman); standard bearers, wild men, beadles, and a great pageant drawn by two mermen and two mermaids, surmounted by an Angel, which supported Richard II, the King who was saved by Walworth's noble deed, flanked by the appropriate virtues beating down Treason and Mutiny. The central feature of the pageant was based on the Lord Mayor's own crest, a large 'Lemon Tree', with, in its shade, a pelican feeding her young with her blood, to symbolize the cherishing love borne by the Mayor for his citizens.

Although the drawings of the Fishmongers' Pageant of 1616 record most effectively the character of the display, they do not indicate the reaction of the crowds. Whereas, in the Museum of London's fan design, the as yet unidentified artist has captured the enthusiasm of the crowd and a very strong sense of the occasion. In this capacity the drawing anticipates William Hogarth's imaginative representation of the 'Industrious Apprentice' as Lord Mayor of London, some sixty years later.[22]

However, as far as is known, no fans were made from this design, and no other 17th-century fans depicting contemporary London events are recorded. The founding of the Fanmakers' Company in 1709, coincides with a marked increase in the production of fans in this country. A mounted fan in a private collection shows Queen Anne at Court, flanked by her Ladies-in-Waiting and Peers-of-the-Realm.[23] An engraved design for a fan showing St. Bartholomew's Fair, Smithfield is based on a drawing of *c.* 1728 in the British Museum (Pl. 4). The fair was renowned for its theatricals, and the design shows in the background, Lee and Harpers, where the 'Tragedy of Holofernus' is being performed. The figure in the right middle ground is supposed to represent Sir Robert Walpole, then Prime Minister; Mr. Faux, a famous conjuror, is also in evidence in the background. Other entertainments were a 'peepshow', the Siege of Gibraltar, (which actually occurred in 1727, although there was an attempted coup in

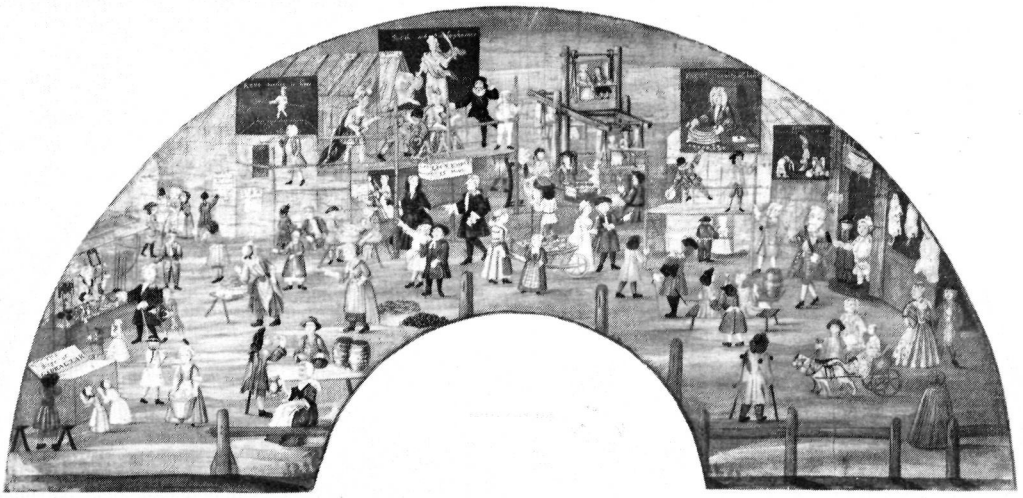


Plate 4 St Bartholomew's Fair, Smithfield, *c.* 1728. Watercolour
(British Museum, Department of Prints and Drawings)

1720); a skittle ground and rope dancing. Refreshments included 'Redstreak Cyder', 'Punch', 'Light Holland', 'Geneva' and 'Aniseed'.[24]

Like the St. Bartholomew Fair fan design, the chariot of the Virgin Queen was chosen by the artist as a suitable subject for a fan due to its saleability as a souvenir of a popular annual event. As such the topical fan provided a feminine alternative to the broadsides and engravings which survive in greater quantities today.

NOTES

1. The design was found at a dealer's in Brussels by Alistair Laing of the Heim Gallery who brought it to the Museum's attention.
2. L. J. Morrissey 'English Pageant-Wagons' *Eighteenth Century Studies,* 9 No. 3 (1976) 353–374, 360; F. W. Fairholt *Lord Mayors' Pageants* Part II, Percy Society (1844) 75.
3. Matthew Taubman *London's Yearly Jubilee perform'd For the Entertainment of . . . Sir John Peake, Lord Mayor. All set forth at the proper Costs and Charges of the Right Worshipful the Company of MERCERS,* London (1686) 16pp. Copies in British and Guildhall Libraries.
4. Robert Withington *English Pageantry: An Historical Outline* 2 (Cambridge, Massachusetts, 1918) 62; F. W. Fairholt *op. cit.* in note 2, I (1843) 105.
5. Taubman *op. cit.* 3, 9.
6. Taubman *ibid,* 12.
7. L. J. Morrissey *op. cit.* in note 2, Fig. 3.
8. W. Herbert *The History of the Twelve Great Livery Companies of London* I (1837) 347.
9. Rupert Gunnis, *Dictionary of British Sculptors, 1660–1851* (1951) 234; George Vertue 'Note Books I' *Walpole Society* 18 (1930) 129; Margaret Whinney, *Sculpture in Britain, 1530–1830* (1964) 251–2.
10. Mercers' Company, *Acts of Court,* 1681–1687, fols 135v, 136r, 151r, 152r.
11. Quoted by Withington *op. cit.* in note 4, 66–7; taken from Celia Fiennes *Through England on a Side-Saddle in the Time of William and Mary* (1888) 242.
12. Mercers' Company *op. cit.* in note 10, f. 140r.
13. Elkanah Settle, *The Triumphs of London for the Inauguration of Sir William Gore Kt, Lord Mayor, Containing A Description of the PAGEANTS . . . All set forth at the proper Cost and Charge of the Honourable Company of MERCERS* (London, 1701) 3. Copy in Guildhall Library.
14. Mercers' Company *op. cit.* in note 10, ff. 136r, 152v, 154 r & v, 155r & v.
15. Samuel Pepys wrote on 29 October 1660 'had a very good place to see the pageants; which were many, and I believe good for such kind of things, but in themselfs but poor and absurd'. *The Diary of Samuel Pepys,* ed. Robert Latham and William Matthews I (1970) 277.
16. Taubman *op. cit.* in note 3, 13.
17. The painting was reproduced by the London Topographical Society in 1909; Oliver Millar *The Tudor, Stuart and Early Georgian Pictures in the Collection of Her Majesty the Queen* (1963) 160 no. 441 Pl. 170.
18. Mercers' Company *op. cit.* in note 10, f. 135v.
19. Robert Raines, Drawings by Marcellus Lauron 'Old Laroon' in the Pepysian Library, *Apollo 82* (October 1965) Supplement, Notes on British Art 4, pp. 2–4.
20. J. T. Smith, *Nollekens and his Times,* ed. W. Whitten 2 (1829) 192.
21. *Chrysanaleia or the Golden Fishing* devised by Anthony Munday citizen and draper represented in twelve plates by Henry Shaw F. S. A. with an historical introduction by John Gough Nichols, F.S.A. (1859) 13, quoting Anthony Munday's contemporary account
22. Ronald Paulson, *Hogarth's Graphic Works* I (1970) 201–2; Vol. II, 191.
23. Maciver Percival *The Fan Book* (1920) 91.
24. The Museum of London has two copies of the engraved version of this fan design, one of which is coloured; Sybil Rosenfeld, *The Theatre of the London Fairs in the* 18th Century (1960) 26, Pl. 1.

ACKNOWLEDGEMENTS

I would like to thank Alistair Laing for first bringing the design to the Museum's attention, and my colleagues Dr. Celina Fox, Mireille Galinou, Joanna Marschner, Anne Middleton and Kay Staniland for their help and advice in preparing this article.

THE BRASSES OF MIDDLESEX
Part 23: SOUTH MIMMS

H. K. CAMERON.

This account of the monumental brasses of the county of Middlesex is based primarily on the list prepared by Mill Stephenson published in 1926. At that time, and indeed when the first part appeared in these *Transactions* in 1951, South Mimms was in the County of Middlesex and the Diocese of London. It is therefore included in this account although in 1965 it became a part of Hertfordshire and the church was transferred to the Diocese of St. Albans in 1980.

The earliest memorials in South Mimms church are associated with the family of Frowyk, a name prominent in the City of London and the Home Counties in the Middle Ages, but one which seems since to have disappeared. The pedigree of this family shown in the Visitation of Middlesex[1] starts with one Thomas de Frowyke of Old Fold, who had married the daughter and heiress of John Adrian of Brockham manor in Surrey.[2] Cass in his comprehensive account of South Mimms[3] says that a moated site on the edge of Hadley Green is supposed to have been the place of the manor house of the Old Fold. It remained the country seat for several generations of the family who were active in the City of London. The most common Christian names were Thomas and Henry and, to avoid confusion from their frequent recurrence, a relevant part of this pedigree is shown in the table. This is copied from Cass whose version differs from that in the Harleian MS. only in the inversion of two wives. It is known from existing wills that Henry married Joan Lewknor and that their son Thomas married Elinor Throckmorton, correctly shown by Cass.

Two sons of the first Thomas were aldermen, Roger the younger being a Goldsmith. The elder son, Henry, said to be of Brockham and Old Fold, was Sheriff in 1275. Among his sons Reginald was a Draper and Thomas a Goldsmith. Reginald's son Henry was long lived. His will[4] was proved in 1378 and dealt with property in the City where he was buried in the church of St. Mary de Elsyngspital. He was predeceased by his son Thomas, the first Frowyk to seek burial in South Mimms. In his will made in November, 1374,[5] and proved in the following year, he asked to be buried in the churchyard of the parish of Southmymmes near the tomb of John Durham (of Durhams in this parish). Ten ells of Russet cloth were to be bought, and a cross of white cloth put thereon, to be placed over his corpse; the same to be distributed among four poor persons immediately after his burial. Provision was made for torches and mortars, chantries, gifts to the poor, etc. To Henry his father, if surviving, he left 6 oxen, 2 stallions, all his goats at 'Oldefeld' and his corn in the field called 'Shepecotefeld'. To Matilda his wife (the daughter of John Durham) he left £20 and several head of cattle at Wyllesdon and at 'le Oldfeld', a plough and a cart bound with iron, beside household chattels,

including a cup called 'tour de chalice'. To Henry his son he left, inter alia, 2 of his best horses, all his girdles harnessed with silver, his horns, 5 goblets of silver with a ewer, and 6 silver spoons enclosed in a leather case. Money was left to Agnes his sister, a nun of the house of St. Elena in London, to each nun of Chesthunte and of Sopwell near St. Albans; and to the vicars of South Mimms and Willesden and the rectors of 'Harengeye' and 'Fyncheslee' and the Prior of 'Elsingspetel'. Money also went to repair work at St. Albans and St. Pauls in London, and for the highway between 'Barnette and le Twocrouches' (Crouch End?).

The son Henry did not long survive his father and his grandfather. His will was made at South Mimms in 1384.[6] He had married Alice, daughter and heiress of John Cornwall of Willesden, and she was appointed guardian of his children, who were probably under age at their father's death. He requested burial in the churchyard of South Mimms near his father and is commemorated in the church by the earliest of the brasses now remaining.

I. Henry Frowyk, ob. 1386 Inscr. in French & 4 shields.

This memorial lies before the communion rail in the centre of the chancel. On a large stone 101 inches × 39½ inches, are set, near the four corners, four shields each bearing the arms of Frowyk, *azure, a chevron between 3 leopards heads or.* On a single small strip of brass, 22 in. long and 1¼ in. deep, is a blackletter inscription in French:

'Henri frowyk gist icy dieu de salme eit mcy'

The brass pieces are shown in Fig. 1, while their correct position in the large stone is shown on the measured drawing, Fig. 2.

Henry left money to the vicar of Mimms and for the fabric of the church; also to the church at Monken Hadley (Munkes-

Fig. 1 Henry Frowyk, ob. 1386; inscription and 4 shields

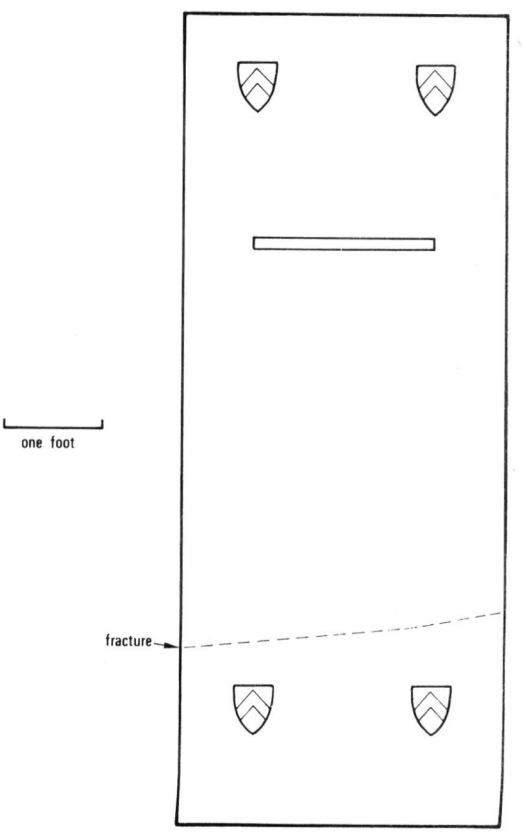


Fig. 2 Arrangement of the brass to Henry Frowyk, 1386.

churche) and its priest. It is curious that the will makes provision for his sons Henry and Robert (who appears as Richard in the pedigree) but there is no mention of the eldest son, Thomas.

His widow Alice subsequently married Thomas Charlton of Hillingdon whom she also outlived. She died in 1416 and was buried at Sopwell. Her son by this second marriage became Sir Thomas Charlton who, dying in 1447, was buried at Edmonton where he was commemorated by a brass now lost.[7]

The younger son of Henry Frowyk and Alice, Henry mentioned in the will was a Mercer and acquired wealth and prosperity. It is thought to be through marriage to one Isabella of unknown surname that he acquired an estate at Gunnersbury where was founded another branch of the family. He was an alderman and served as Lord Mayor of London in 1435 and again in 1444. He and his wife were buried in the church of St. Thomas of Acon, later to become the Mercers chapel. Their son Thomas, also an alderman, was buried at Ealing. Among his children was Sir Thomas Frowyk who became Chief Justice of the Common Pleas. Born at Gunnersbury he died in 1506 and was buried at Finchley where there was once a brass in his memory.[8]

The eldest son of Henry and Alice, Thomas Frowyk, seems to have become a prominent and active resident and justice of the peace in South Mimms and its neighbourhood. He married Elizabeth, the daughter and heiress of William Ashe of Weld in Hertfordshire. He was buried at South Mimms, where his mutilated memorial still remains in the church.

II. Thomas Frowyk Esq., ob. 1448, in armour, but figure lost, and widow, Elizabeth, with 6 sons & 13 daughters; One inscription & 3 shields lost; another inscription in 12 Latin verses. On floor of tower.

This brass is the only monument in this church mentioned by Weever[9] who writes 'In the Belfrey of this Church is a goodly marble stone inlay'd all over with brass, under which one of the Frowicks lieth interred. A gentleman who made his recreations for the good of his neighbours, as appeares by his Epitaph, composed by John Wethamsted, Abbot of S. Albans aforesaid.

Hic iacet Thomas Frowick Armig. qui obiit 17 Mens. Februar. 1448 & Elisabetha uxor eius, que ob 14 ac pueri eorundem quorum animabus propitietur altissimus. Amen.'

In 1796 this inscription was already missing and part of his figure also. Gough[10] wrote, 'In the tower of South Mimms church, just at the entrance into the church, is a slab with the brass figure of a knight broken off below the knees, in plated armour, his hair cropt, under his head a helmet with the vizor up; his lady in a mantle with a little dog collared at her right foot looking up at her. Under him six sons, under her thirteen girls in the low mitred headress of the time. Over head were two shields, and a third in the centre: only that over the knight remains, charged with a chevron between three leopards' faces. Under foot was a place with the inscription given by Weever, but since gone.' All three shields and the whole of his figure, as well as this inscription, are now lost and the brass which remains is worn (Fig. 3).

The curious inscription below the children, supposedly composed by Abbot John of Wheathamstead (to whom is also attributed the inscription to his own parents on their brass in Wheathamstead church), is in twelve verses, engraved on six lines of blackletter:-

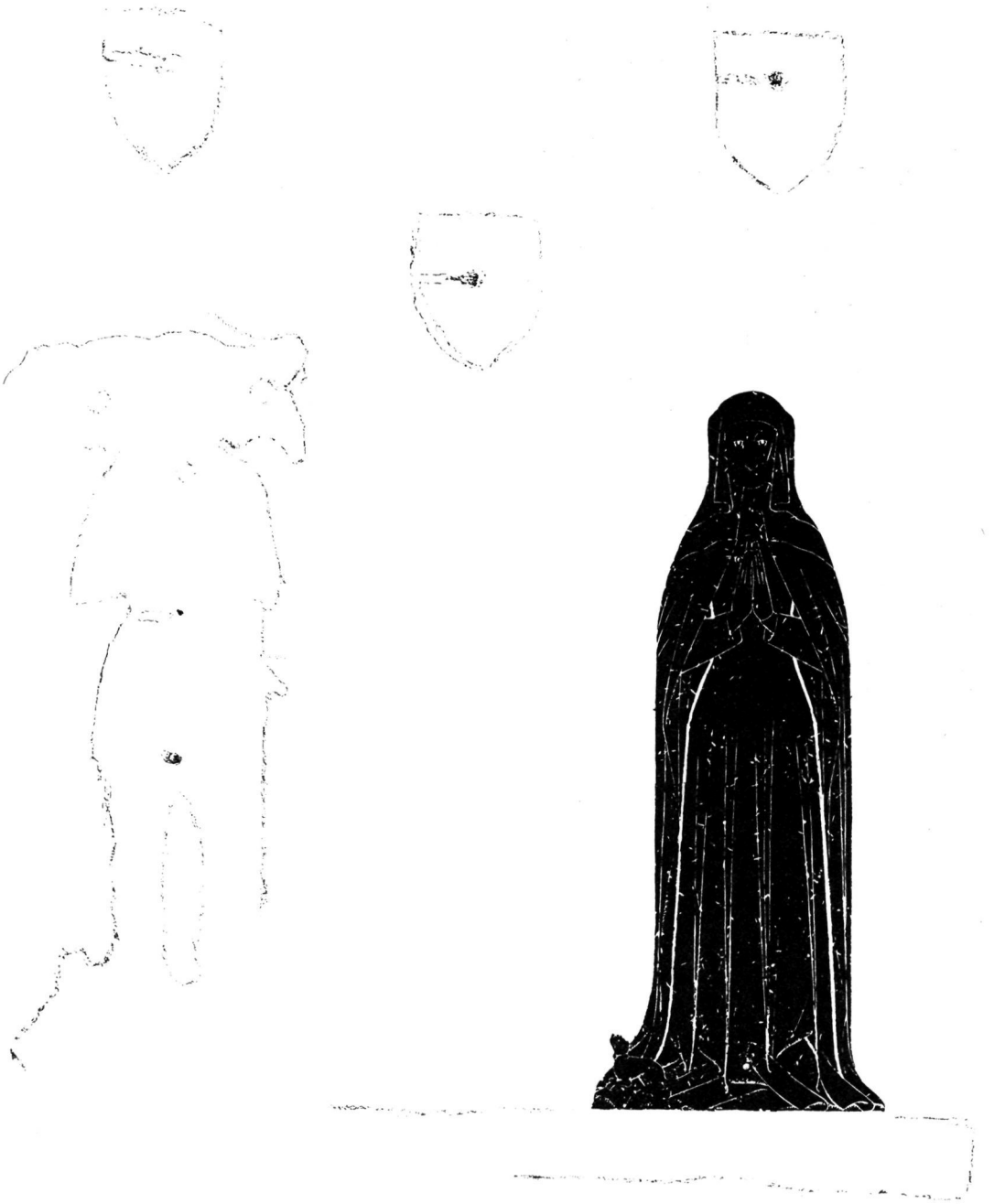
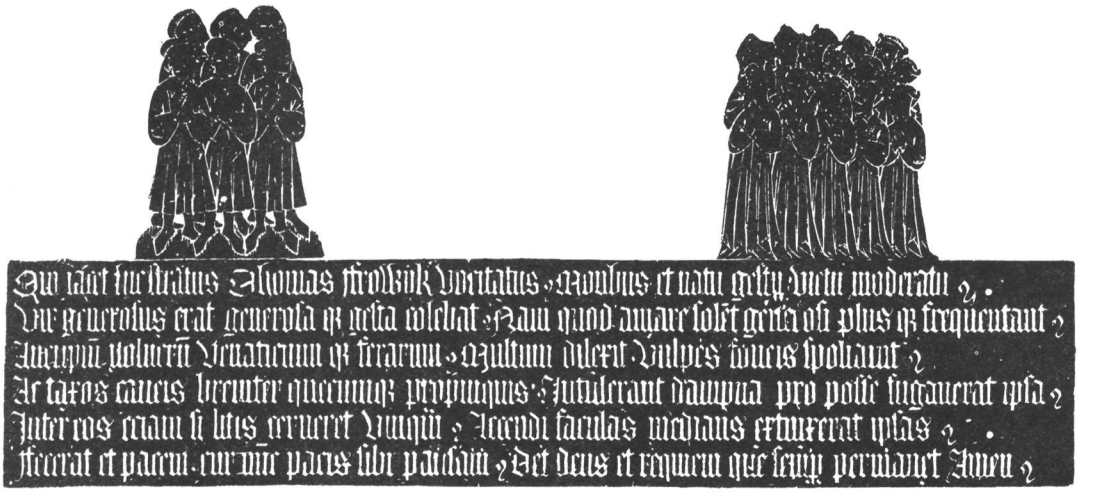


Fig. 3 Above and opposite: Thomas Frowyk, ob. 1448, and wife Elizabeth. Their children and inscription are placed below on the original brass.



Qui iacet hic stratus Thomas Frowyk vocitatus
Moribus et natu gestu victu moderatu
Vir generosus erat generosaque gesta colebat
Nam quod amare sole(n)t generosi plusque frequentant
Aucupiu(m) volucru(m) venaticiumque ferarum
Multum dilexit vulpes foveis spoliavit
Ac taxos caveis breviter quecumque propinquis
Intulerant dampna pro posse fugaverat ipsa
Inter eos eciam si litis cerneret umq(ua)m
Accendi faculas medians extinxerat ipsas
Fecerat et pacem. cur n(u)nc pacis sibi pansam
Det Deus et requiem que semp(er) permanet Amen

I am indebted to colleagues in Cambridge for a translation of this interesting and unusual epitaph:-

'He who lies buried here was called Thomas Frowyk. He was a noble man in character and in birth, bearing, life-style and moderation, and cultivated noble pursuits; for he greatly delighted in what noble men are accustomed to like and pursue with relish; that is catching birds and hunting wild beasts. He deprived foxes of their holes and badgers of their sets; in short whatever creatures had brought damage to his neighbours, he put to flight to the best of his ability. Moreover if he ever saw the torches of strife (litigation) being kindled among those neighbours he acted as mediator and extinguished them and so restored the peace. May God now grant him the peace and rest which endures for ever. Amen.'

Both Weever and Gough quote this inscription and Gough comments, 'From which we learn that Thomas Frowyk esq. was a keen sportsman and vermin killer, or, as Weever expresses it, a gentleman who made his recreations for the good of his neighbours and Newcourt adds, "by fowling and hunting and killing of birds and wild beasts, etc." an excellent neighbour, and a better peace-maker than many a modern justice of peace; and father of nineteen children.'

Gough goes on to suggest that the Sir Thomas Frowyk, Lord Justice of the Common Pleas, who was buried at Finchley, may have been the eldest son of this Thomas whose brass is at South Mimms. This is incorrect: he was of the Gunnersbury branch of the family, as stated above.

Although the figure of Thomas is now lost the upper part, still present in Gough's time, is known to us from a rubbing by Haines in the collection of the Society of Antiquaries at Burlington House (shown in Fig. 4). It is evident that the style of

armour is identical with that on a small group of figures in armour on brass executed around the date 1450. They were made, probably in a London workshop, for men of means prominent in government and local affairs in and around London. Reference has already been made to some of these works, namely the brass to Walter Grene at Hayes[11] and to his relation John Gainsford at Crowhurst in Surrey; also the unknown knight at Isleworth.[12] Another brass of this group, to Thomas Reynes and his wife Alice at Marston Mortaine in Bedfordshire[13] bears a remarkable likeness to the Frowyk brass at South Mimms. Here too there is a relationship, for Alice Reynes was a daughter of Thomas and Elisabeth. The style of armour on these brasses was described in the paper on Isleworth, but in one respect the Frowyk brass differs from the others. Most of the figures are of about the same size, being three feet high plus or minus an inch. The figure of Thomas Frowyk, one of the earliest, is smaller, being about 26ins. Apart from size the design and detail of the Reynes brass is very close to that of the Frowyks. The head of both men lies on a helmet with visor raised. The sword hilt of both knights is the same, but at South Mimms the belt to hold the sword has been forgotten. The indent in the stone at Mimms for the lower part of his figure is too worn to identify the animal at his feet. Mrs. Frowyk and her daughter are in almost identical dress, but the younger woman's outer mantle is held together by a tasselled cord in front. They each have a collared dog at their feet similar in breed, though the one at Mimms is very small in size. The unusual disposition of three shields above and between the figures is the same on both brasses. A two line inscription was placed immediately below the main figures and two groups of children were lower down, the boys beneath their father and the girls below their mother. The boys are identical in style if different in number. The girls are missing at Marston Mortaine; at South Mimms they have that attractive if short lived style of upturned faces and mitred headdresses. Below the children at Mimms is the unusual versification of John of Wheathamstead in praise of Thomas Frowyk; on the other brass there were, conventionally, two more shields of arms, now lost.

Fig. 4 Part of figure of Thomas Frowyk, from an early 19th-century rubbing in the collection of the Society of Antiquaries, London.

Thomas in his will[14] left a life interest to his widow Elisabeth in the manors of Brokham and Oldfold, provided she made no claim on the manor of Willesden and

the estate called Gloucesters, both in the County of Middlesex 'lately given' as a marriage portion to his son Henry and Joan (Lewknor), nor upon the lands and tenements of Gannok granted for the endowment of his chantry. Despite the evidence of his brass that he had nineteen children the will refers to only one son Henry and to two daughters. Early death must have accounted for the others. He also left to his wife the live stock at his manor of Old Fold and 'place' called Durhams and the two dairies at these manors. Money was left to the church at Monken Hadley as well as S. Mimms and for the repair of the roads between London and St. Albans.

His widow made her will in 1455[15] in which she asked to be buried beside her husband in South Mimms church.

There are no more brasses to members of this family in South Mimms church, but there are two fine monuments to later generations. The one surviving son, Henry of the Oldfold, is known to have been active like his father in local affairs. He appears to have incurred the displeasure of his father-in-law, Sir Thomas Lewknor, for debt and was obliged to sell his local property of Durhams to his cousin Thomas Frowyk of Gunnersbury.[16] There seems to be no record of his will nor that of his son Thomas who had married Elinor Throckmorton. Included among their children were a Henry and a Thomas. Henry, as head of the family, increased their fortunes by marrying Anne the daughter and coheiress of Robert Knolles of North Mimms. Henry's will[17] describes him as of the Weld (Newberries) in the County of Hertfordshire and late of Old Fold in Middlesex. He asked to be buried in the church of South Mimms 'as nygh to the wall by o^r^ Lady in the northpart of the quere where I wolde have some memory or convenient Tombe to be made.' This will was made in 1523 and proved in 1527; there is a fine tomb in that position in the choir but curiously without heraldy or identification on it other than the letters R.H., about which there has been some argument. Instructions were left in the will for the construction of the chantry at the east end of the north aisle. It is separated from the aisle as from the nave and chancel by a fine wooden screen on which the cusps take the form of leopards' faces, the principal charges on the arms of Frowyk. Against the north wall of this chapel is a fine tomb, suffering much from damp. Under an arched canopy supported by four columns lies an effigy in armour of early Tudor style, with feet resting on a lion and the head supported by a helm with crest. The pauldrons and couters are decorated with leopards' faces. On the front of the tomb are shields with the Frowyk arms with impalements and quarterings, the latest being Knolles. From this it may be deduced that this monument is for Henry's son Thomas who, though married, predeceased his father and left no offspring. This ended the male inheritance of the Frowyks at South Mimms. The inheritance passed to Henry's daughter Elizabeth and so to her husband's family of Coningsby.

A fuller account of this family of Frowyk and the complete transcription of many of their wills is to be found in the book devoted to South Mimms by Cass, while for details of the local manors at one time or another in their possession there is much in the Victoria County History.[18]

III. Two shields, *c.* 1600, one on floor of nave, the other on floor of N. chapel.

These two shields (Fig. 5), evidently from the same brass, are now lying separately. Their size is identical, 5⅞ in. wide and 6in. high. A lion is among the charges on both shields and the likeness between them indicates a common engraver. The

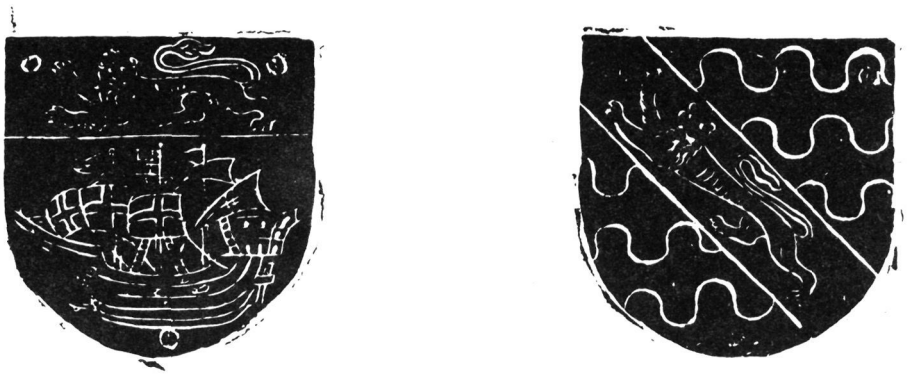


Fig. 5 Two shields, *c.* 1600.

shield on the nave floor has on it the arms of the Haberdashers Company of London, – *Barry nebulée of six argent and azure, on a bend gules a lion passant guardant or.* The other shield in the north chapel bears the arms of the East Land Company, - *Or, on the sea in base a ship of three masts in full sail all proper the sails, pennants and ensigns argent charged with a cross gules, on a chief of the last a lion passant guardant or.* This Company, like many other overseas trading companies, was first incorporated in Elizabeth's reign and these shields can probably be dated to the early 17th century. On a small drawing associated with a rubbing of these shields in the collection of the Society of Antiquaries the two shields are shown in a slab measuring 6ft. by 3ft. with the suggestion of writing below, whether on stone or metal is not clear, and with the name 'Crowley' written on. I have been unable to find any reference to this name likely to have been a merchant or living at South Mimms.

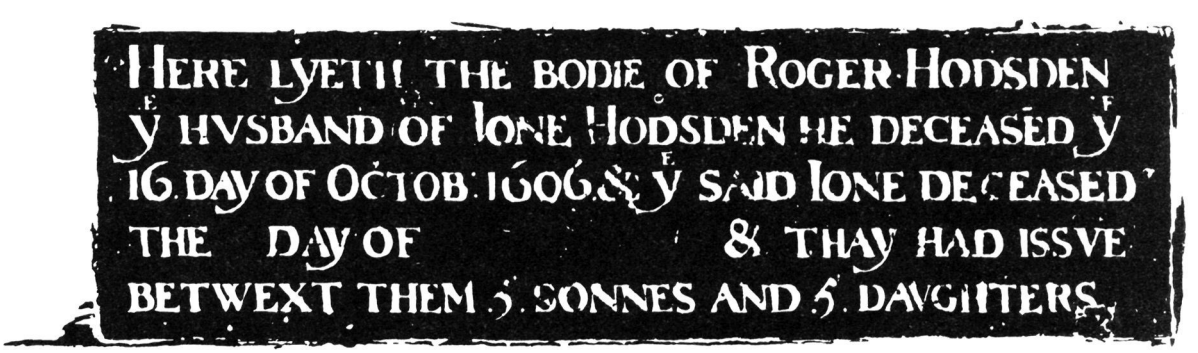


Fig. 6 Roger Hodsden, ob. 1606, and wife Jone.

IV. Roger Hodsden, 1606, and wife, Jone; inscription only, on floor of nave.

On a rectangular plate 20¼in. wide and 5¾in. deep (Fig. 6) is the following inscription in Roman capitals:

HERE LYETH THE BODIE OF ROGER HODSDEN
YE HUSBAND OF IONE HODSDEN HE DECEASED YE
16 DAY OF OCTOB: 1606 & YE SAID IONE DECEASED
THE DAY OF & THAY HAD ISSVE
BETWEXT THEM 5 SONNES AND 5 DAVGHTERS.

No other records of this family have been found.

V. Richard Keterich, 1621, and wife Prudence; inscription only, on floor of N. chapel.

This inscription in eight lines of Roman capitals is on a rectangular plate measuring 24in. by 8½in (Fig. 7). It reads:

HERE LYETH BVRIED THE BODIES OF RICHARD KETERICH OF
SOVTH MIMS IN YE COUNTIE OF MIDLS ESQ & PRVDENCE HIS
WIFE ONE OF YE DAVGHTERS OF HENRY DYM OF HAIDON IN THE
COUNTIE OF NORFF ESQ THE WCH PRVDENCE DECEASED YE
SECOND DAY OF MAY 1602 AND YE SAID RICHARD DEPARTED
THIS LIFE THE 28 DAY OF NOVEMB: 1621 HAVING ISSVE
BETWEN THEM 5 SONS & 6 DAVGHTERS IN REMEMBRANCE
OF WHOME THIS MONVMENT IS PLACED

A small drawing of an old rubbing in the Society of Antiquaries library suggests that this inscription was part of a larger composition, on a stone measuring 6ft. 8in. by 2ft. 10in. There were shields near the four corners of the stone. A small square plate was immediately above the inscription, with two scroll-like markings rising away from its upper corners. Above was a small rectangular plate with a quotation in Roman capitals from Colossians, Chap. 3, v.4.

The unusual name of Keterich (Gutteridge?) was to be found in the county of Hertfordshire where one Roger Keterich was Sheriff in 1369.[19] Richard Keterich was a Governor of Barnet Grammar school in 1598. He had bought the manor of Mandeville in S. Mimms in 1596.[20]

Prudence was one of six daughters of Henry and Jone Dynnes of Heydon whose memorial in Heydon church commemorates his death in 1586. He was one of the Auditors of the Exchequer and had built Heydon Hall. The will of Richard Keterich, made in June 1621 and quoted (without reference) by Cass mentions bequests in the form of plate as well as money to four sons and four sons-in-law. The parish registers record the baptism of their youngest son William just one year before the death of Prudence; also the marriages of four of the daughters between 1611 and 1619. Jane was married on 23 August 1611 to John Gulston of Wyddial in Herts. where in the church she is commemorated by the following splendid testimony: 'Reader, help to reckon and lament these losses. Here lyes the religious

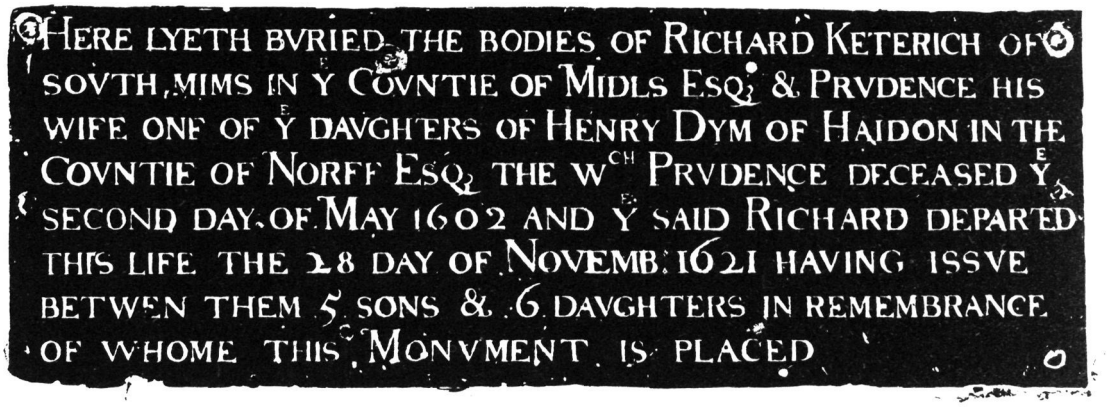


Fig. 7 Richard Keterich, ob. 1621, and wife Prudence.

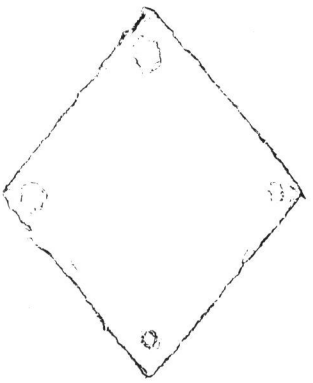
matron Jane Gouldston, wife of John Gouldston, Esq., one of the Prothonotaries of ye Court of Common Pleas at Westminster. To ye Almightie an elect daughter, to her husband an obedient wife, to her children (seven sonnes and four daughters) a carefull and indulgent mother, to the countrie about her a peacable and lovinge neighbour, to ye poore a bountifull and charitable mistress. All this and more on earth, and now a sainte in heaven. Obiit tertio die Augusti, aetatis suae 43, anno Domini 1630. Amoris ergo posuit moestissimus conjux Johannes Goudston. Luge.'

VI. Martha Ewer, 1628; inscription only, lozenge now lost, on floor of N. chapel.

Still in the original stone is a rectangular inscription plate measuring 22in. wide and 11in. deep (Fig. 8) on which is the following inscription in Roman capitals:

1628
MARTHA EWER DAUGHTER OF
HENRY EWER GENT: & OF IOANE HIS WIFE, THE SAID
HENRY BEING SON OF THO: EWER OF SHENLYBURY, WCH
THO: WAS SON OF THO: EWER OF HUNTONBRIDGE THE SAID
IOANE WAS DAUGHTER OF RANDOLL MARSHE OF HENDON
THIS MARTHA HATH CHOSEN YE BETTER PART, FOR THOUGH
HER BODY LYES HEERE IN DUST WITH HER EARTHLY MOTHER
YET HER SOUL LIVES IN RESTE WITH HER HEAVENLY FATHER
AND SHEE HATH LEFT HER ELDER SISTER MARY, ONLY
CHILD OF THE SAID HENRY AND IOANE, TO THE TROBLES
OF THIS WORLD, OBIIT 16: DEC: 1628 ETATIS - 16

Centrally placed above this plate and with 5in. clearance to its bottom point was a lozenge, its sides being also 5in. This lozenge is now lost. According to Cass the arms on it were *quarterly or and gules, on a bend sable 3 fleurs-de-lys argent*, which Burke describes as for Ewer of Yorkshire.



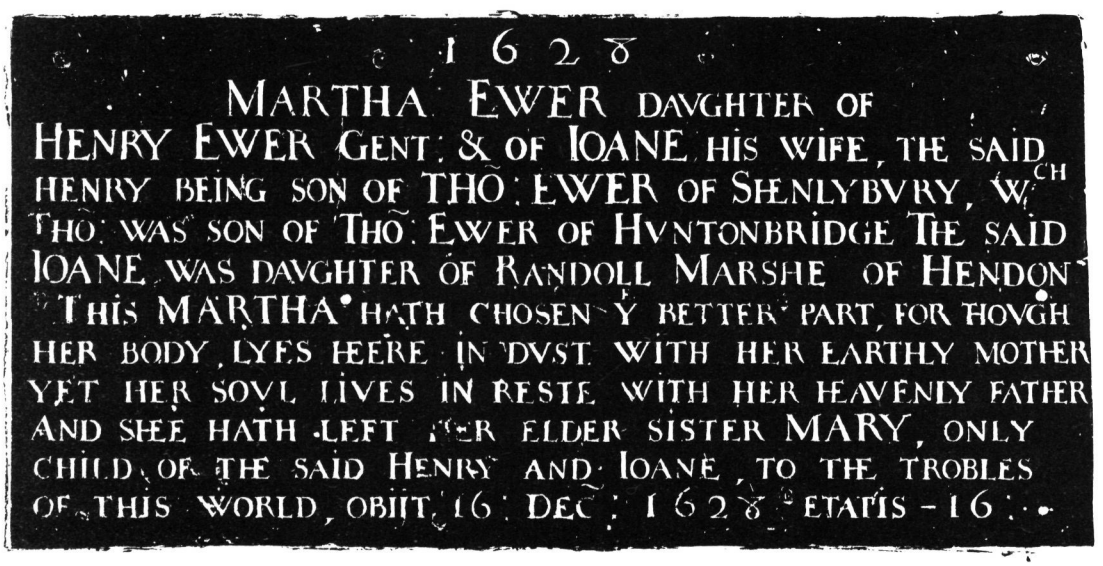


Fig. 8 Martha Ewer, ob. 1628.

VII. Henry Ewer, 1641, and wife Joan; inscription and achievement of arms on floor of chancel.

The inscription in bold Roman capitals is on a rectangular plate 21in. wide and 9½ in. deep (Fig. 9). It reads:

HERE LYETH THE BODY OF HENRY EWER OF SOUTHMYMS IN YE COUNTIE OF MIDDS GENT' = SONNE OF THOMAS EWER OF SHENLEYBURIE THE SAID HENRY MARIED IOANE DAUGHTER OF RANDOLL MARSH OF HENDON, & HAD ISSUE BY HER 1 SONNE AND 3 DAUGHTERS, HE DEPARTED THIS LIFE THE 20TH DAY OF NOVEMBER, 1641

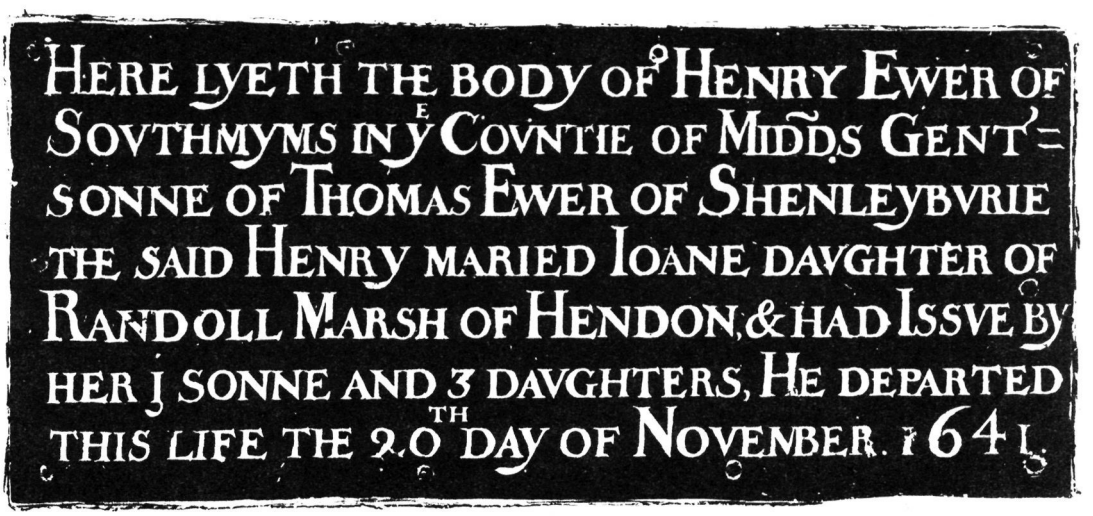
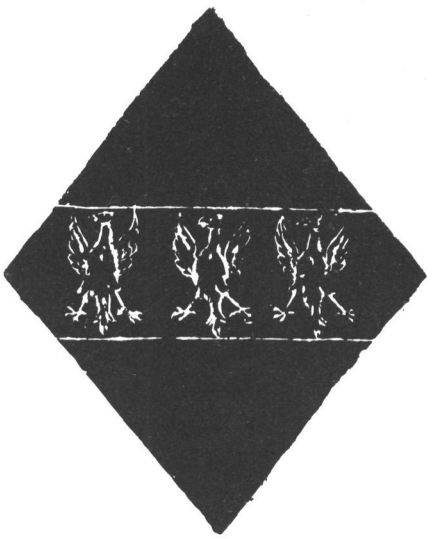


Fig. 9 Henry Ewer, ob. 1641.

The quality of the engraving of this plate is outstandingly good and accords with the great improvement in lettering during the early 17th century. Spaced 7½ in. above the inscription is a shield 8 ⅛ in. wide at the top and 9 in. deep on which are the following arms of Ewer, *or a tiger statant sable on a chief gules three crosses paté argent,* impaling a form of Marsh not detailed in Burke, but evidently, *a horse's head erased . . . between 3 fleurs-de-lys . . .*

The pedigree of the family of Ewer is set out in comprehensive manner by Cass. Starting with four successive generations living at Hunton Bridge it leads to Thomas Ewer of Shenleybury mentioned as the father of Henry Ewer of South Mimms. Henry had several brothers who were local yeomanry, but one of them an attorney living at Hatfield. Although on his brass Henry claims one son and three daughters there is no mention of the son on the pedigree; he must have died an infant. The lives, records and epitaphs of Mrs. Joan Ewer and her three daughters make curious and disturbing reading. The inscription on Martha's brass is sad and was only made true after a considerable time. Her body was buried according to the parish register on 17 December 1628; it was not for nearly forty years that she lay there with her earthly mother. As the inscription says that Mary was the only child of Henry and Joan it confirms that the son was already dead, as was their other daughter, Jane, whose burial is recorded in the parish register as on 10 November, 1616. Henry's wife Joan survived until 1666 – 67, her burial being recorded on 19 February, 'being aged' as she says of herself in her will.[21] She asked to be buried privately at night 'as near as conveniently may be to where the body of my daughter Martha lies'. Could this have been her long remembered and favourite daughter? The will contains a sharp and specific request 'that neither Sir Edward Turner my sonne-in-law, nor Sir John Buck, that married my grandchild, should have anything to doe with any part or parcell of my Estate.' These strong words seem to link with the curious phrasing of Martha's inscription that 'she hath left her elder sister Mary, . . . to the troubles of this world.' A stone in memory of Joan Ewer lies in the north chapel near to Martha's brass, while nearby is another stone with the words, 'Heere lyeth ye Body of Dame Mary Turner the surviving childe of this Henry and Joane Ewer who hath left a posteritie.' Mary Ewer married twice, first to William Ashton of Hadley by whom she had a daughter. He died in 1651 and was buried in Hadley church. She became the second wife of Sir Edward Turner who was successively Speaker of the House of Commons (1661), Solicitor General (1667) and Chief Baron of the Exchequer (1671). His will was made in January 1675 – 6[22] shortly before his death. His executor is 'to see the jointure I settled upon my wife at Blunts Hall in the County of Suffolk before our marriage to be made good unto her and I do also give unto her £20 to buy her a ring. And I heartily forgive her all her unkindnesses.' Lady Mary Turnor retired to her manor at Hadley, but sought her burial by her mother in South Mimms, where there lies a stone evidently prepared in advance as it is mentioned in her will.[23] She was buried on 16 January, 1701, according to the parish register. This means that she lived to the age of at least ninety, as her younger sister Martha was born in 1612.



HERE LIETH INTERRED YE BODY OF SOPHIA
HARRISON SECOND DAVGHTER OF THOMAS
HARRISON OF SOVTHMIMS ESQ BY KATHERINE
HIS WIFE ELDEST DAVGHTER OF SR THOMAS
BLAND OF KIPPAX PARKE IN YE COVNTY OF
YORKE KT & BARRONET WHO DEPARTED
THIS LIFE THE 20TH DAY OF IVNE IN THE
THIRTENH YEARE OF HER AGE AN° 1661

Fig. 10 Sophia Harrison, ob. 1661.

VIII. Sophia Harrison, 1661; inscription and lozenge of arms, on floor of sanctuary.

An eight line inscription in Roman capitals on a rectangular plate, 18in. wide and 8½in. deep (Fig. 10), reads:-

HERE LIETH INTERRED YE BODY OF SOPHIA
HARRISON SECOND DAUGHTER OF THOMAS
HARRISON OF SOUTHMIMS ESQ. BY KATHERINE
HIS WIFE ELDEST DAUGHTER OF SR THOMAS
BLAND OF KIPPAX PARKE IN YE COUNTY OF
YORKE KT AND BARRONET WHO DEPARTED
THIS LIFE THE 20TH DAY OF IVNE IN THE
THIRTENH YEARE OF HER AGE ANO 1661

Above this is a lozenge 9in. high and 7in. wide on which are the arms *or on a fesse azure 3 eagles displayed of the first.* On the south wall of the chancel is a marble tablet commemorating her sister Frances, third daughter of Thomas Harrison and first wife of Robert Newdigate of Harefield who died on 20 August 1682. Thomas, whose father was a merchant tailor of London, was a collector of Ship money for the County of Middlesex. In 1635 he bought Mandeville from the Keterich

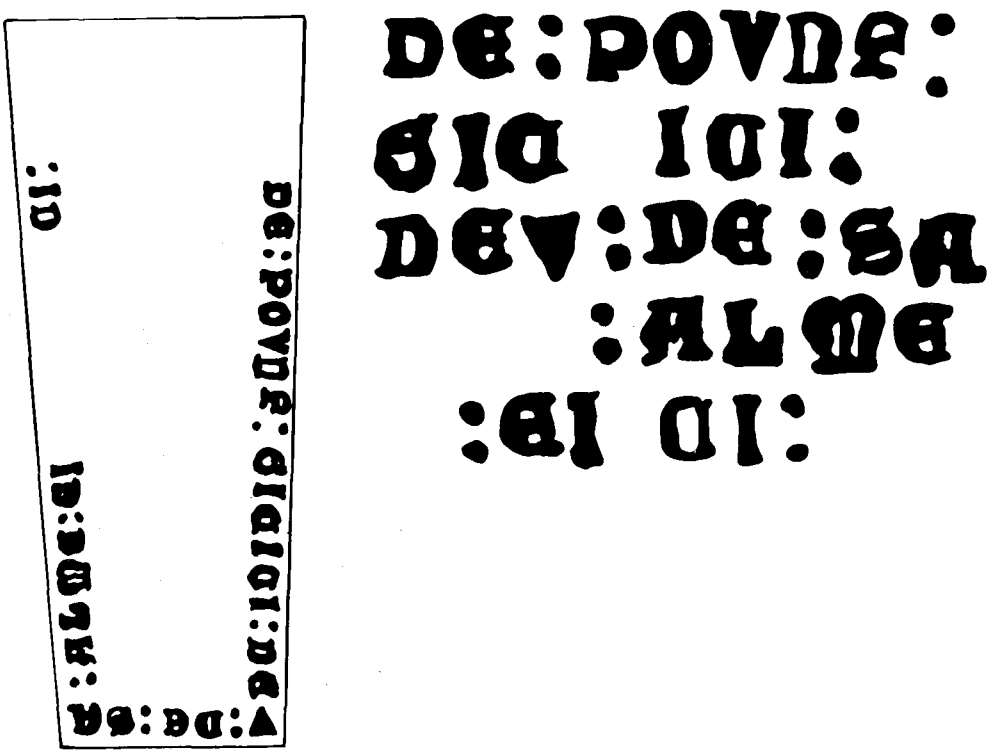


Fig. 11 Member of the Pouns family, early 14th century.

family, but after his death it was sold, in 1674.[24] He was buried at South Mimms on 8 January 1666 – 7.

In an addendum to his book while it was yet at the printers (in 1877) Cass refers to the discovery of a Purbeck stone slab during the church restoration then in progress. This coffin-shaped stone was found lying in a north-south direction just outside the priest's door on the south side of the church. Part of an inscription in Lombardic letters was discernible around the edge. There is a strong possibility that these letter indents were originally filled with brass and, if so, this would have been the earliest brass in this church. Cass has recorded what could be read of the inscription, as:—

. . . DE : POVNS : GIT : ICI : DEV :
DE : SA : ALME : EIT : . . . CI :

The stone was arranged along the south wall where it still lies, broken, covered with moss and sadly neglected, being without doubt the earliest remaining monument at South Mimms. It measures 61/62 inches long, 25½ inches in width at the head, tapering to 19 inches (Fig. 11).

The Henry Frowyk who died in 1378, great grandfather of Thomas of brass No. II, was married to Margaret, daughter and heir of William Pounz. From a petition to Parliament in 1308/9 by Agnes, widow of Reginald Frowyk, we learn that her son Henry had been forcibly carried off by certain persons, including William de Pouns and Richard his son, from Pelham Furneux in Hertfordshire to the castle of the Earl of Hereford at Pleshey in Essex and there constrained to contract a marriage contrary to her will. In later deeds at South Mimms and Enfield the name of Adam Pouns is found in conjunction with that of Henry Frowyk.

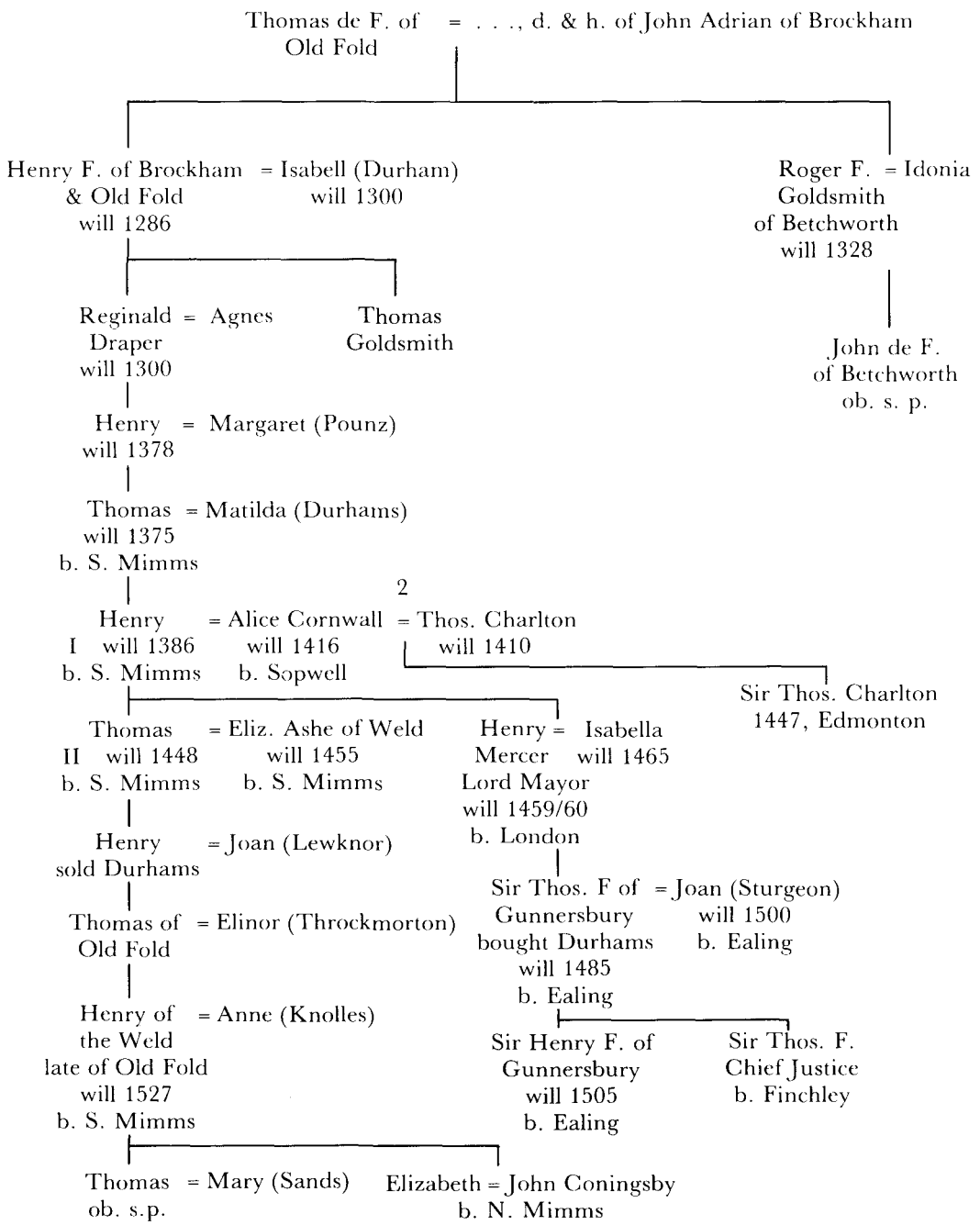
ACKNOWLEDGEMENTS

My thanks go to Mr D. A. Chivers for rediscovering the stone outside the church, for cleaning it and making the dabbing from which the illustration is made. I am grateful to him and to Mr W. Lack for their help in making the rubbings used to illustrate this paper and to the latter for the measured drawing (Fig. 2). I would also thank the Society of Antiquaries of London for permission to reproduce the Haines rubbing of the figure of Thomas Frowyk (Fig. 4). To Dr M. Lapidge and Dr J. Reynolds I must acknowledge help in the translation of the Latin inscription to Thomas Frowyk. Finally, I am indebted to the vicar, the Revd R. E. Gage, for his help and kindness in allowing access and permission for rubbings to be made.

NOTES

1. Middlesex Pedigrees, collected by Richard Mundy in Harl. MS 1551 *Harl. Soc.* 10 (1914) 88.
2. Manning & Bray *History of Surrey* II, 209, 211. The Adrians or Fitzadrians held the manor of Brockham in the parish of Betchworth, under the Warrens. The male line failed between 1356 and 1378 when Thomas Frowyk who married the heiress succeeded them. See also M. Stephenson 'A list of Monumental Brasses in Surrey' *Surrey Arch. Collect.* 25 p. 77.
3. F. C. Cass *South Mimms* (Westminster, 1877).
4. *Cal. of Wills in the Court of Husting, London* ed. R. Sharpe (London, 1890) 201, Roll 106 (142).
5. *Ibid.* 169, Roll 103 (49).
6. *Ibid.* 253, Roll 114 (102).
7. H. K. Cameron 'The Brasses of Middlesex, VII' *Trans. Lon. Middx. Archaeol. Soc.* 19 Part 2 (1957) 102; see also M. E. Speight *Trans. M.B.S.* 11 (1972) 265.
8. Norden *Speculum Brittaniae* (1593) 20; *Trans. Lon. Middx. Archaeol. Soc.* 20 Part 1 (1959) 16.
9. Weever *Ancient Funerall Monuments* (1631) 592.
10. R. Gough *Sepulchral Monuments* 4 Pt II (1796) 150–1.
11. H. K. Cameron 'The Brasses of Middlesex, Part 15; Hayes' *Trans. Lon. Middx. Archaeol. Soc.* 25 (1974) 303.
12. H. K. Cameron 'The Brasses of Middlesex, Part 20; Isleworth' *Trans. Lon. Middx. Archaeol. Soc.* 31 (1980) 98.
13. M.B.S. Portfolio, VII, Pl. 38.
14. P.C.C. Rowse 13.
15. P.C.C. Stockton 4.
16. *Victoria County History of Middlesex* 5 (1976) 283.
17. P.C.C. Porch 18.
18. *VCH, loc. cit.* in note 16.
19. R. Clutterbuck *History of Hertfordshire* I 31.
20. *VCH, loc. cit.* in note 16.
21. P.C.C. Carr 19.
22. P.C.C. Bence 115.
23. P.C.C. Herne 54.
24. *VCH, loc. cit.* in note 16.

Pedigree of Frowyk



ADAM LEE'S DRAWINGS OF ST STEPHEN'S CHAPEL, WESTMINSTER. ANTIQUARIANISM AND SHOWMANSHIP IN EARLY 19TH-CENTURY LONDON

MIREILLE GALINOU

The fire of 1834 at Westminster was devastating. Within a few hours, most of the palace had been burnt down. Westminster Hall itself was saved by taking the fire engines into it and playing water onto the hammer-beam roof. Adam Lee,[1] who had been Labourer in Trust at Whitehall and Westminster for 28 years when the fire broke out, was surely heart-broken to watch the fire destroy all those 'curious, extraordinary and interesting Remains of Antiquity'[2] that he had spent 15 years studying and drawing.

'There are, says Mr. West, but two ways of working successfully, that is, lastingly, in this country, for an artist – the one is to paint for the King; the other to meditate a scheme of your own', wrote Henry Fuseli to William Roscoe in 1790.[3] The latter solution was indeed adopted by a number of artists in the late 18th and 19th centuries. The pioneering Shakespeare Gallery of J. Boydell opened when the staging of exhibitions was still experimental and not always very successful. At first, exhibitions took place in the artists' homes; it was later that the gallery or the hall gradually replaced this formula. Boydell's gallery was followed by the Poet's Gallery of Thomas Macklin, in its turn followed by Fuseli's Milton Gallery. The 1831 exhibition which Adam Lee organised for his own works, could have been called the Palace of Westminster Gallery, but instead it bore the long explanatory title which was the fashion of the day:

> 'Description of the Cosmoramic Views and Delineations of the Ancient Palace of Westminster and St. Stephen's Chapel.'

Adam Lee's career had started in 1801, when he joined the Office of Works for which he worked for 40 years. He started at a junior level at Richmond Park when he was appointed Clerk of Works. Five years later, he became Labourer in Trust at Whitehall and Westminster, and there developed the great familiarity with Westminster Palace which inspired his extraordinary series of 'Illuminated Paintings and Architectural Illustrations of the Ancient Palace of Westminster and of St. Stephen's Chapel'.[4] It took him 15 years to complete the set of 43 drawings of which the Museum of London possesses seven examples.[5] Lee's career and his output as a draughtsman illustrate well the emergence of the profession of the architect, and aspects of both antiquarianism and showmanship in early 19th-century London.

The Museum's collection comprises:

ST STEPHEN'S CHAPEL

1. Perspective view of the Chapel as it was finished in the reign of King Edward III – View looking east
   (Accession No. A15454)
   Reconstruction
   111.5 × 128.0cm*
   Varnished watercolour on paper; *c.* 1820s
   Framed
   Cat. p. 25, No. 15 **
   (A small scale copy of this view is in the collection of Works of Art of the Palace of Westminster: watercolour by G. Earp, Cat. 178, 121/6 (Pl. 1)

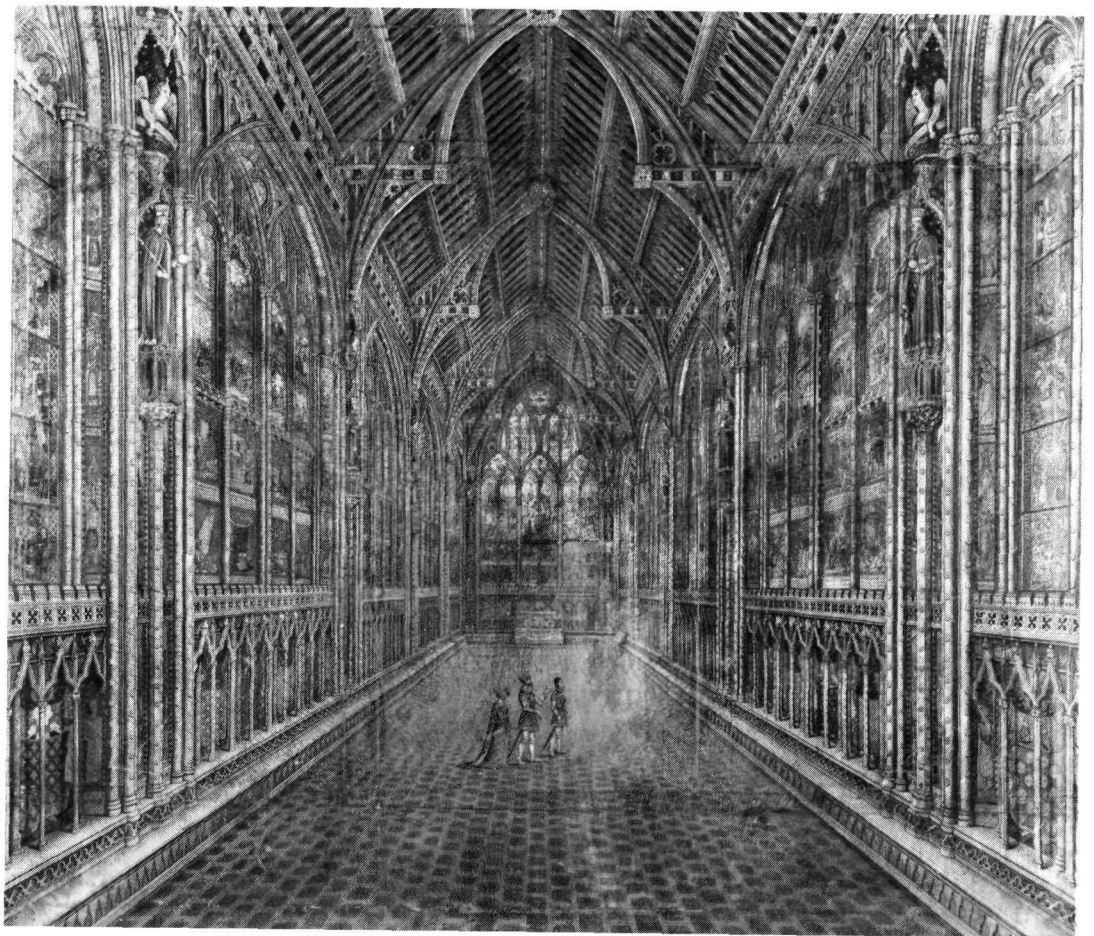


Plate 1. Adam Lee: Perspective view of the Chapel as it was finished in the reign of King Edward III.

2. Longitudinal section of the south side of the building also showing the west end staircase and the north end of the adjoining Whitehall which later became the House of Lords as in the reign of Edward III
(Accession No. A15449) Reconstruction
75.5 × 126.0 cm*
Varnished watercolour on paper; *c.* 1820s
Framed
Cat. p. 20, No. 13 (Pl. 2)

3. Transverse section through the west end of the Chapel, also showing cloisters and original Anglo-Saxon wall adjoining Westminster Hall as in the reign of Edward III
(Accession No. A15450)
Reconstruction
79.0 × 126.5 cm*
Varnished watercolour on paper; *c.* 1820s
Framed
Cat. p. 15, No. 11** (Pl. 3)

4. Longitudinal section of the west cloister of the Royal Chapel showing the staircase leading to the Library (see below for interior views of this staircase)
(Accession No. A15455)
Drawn from existing architecture
71.0 × 126.0 cm*
Varnished watercolour on paper; *c.* 1820s
Framed
Cat. p. 27, No. 17** (Pl. 4)

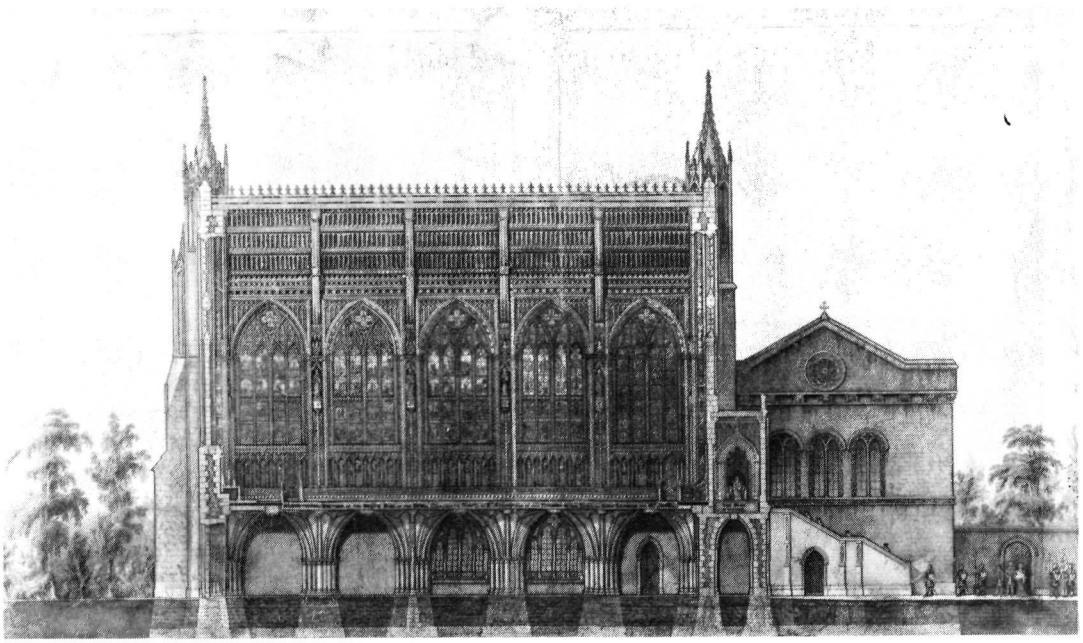


Plate 2. Adam Lee: Longitudinal section of the south side of the building also showing the west end staircase and the north end of the adjoining Guildhall.

SPEAKER'S STAIRCASE (north west corner of the cloisters)

5. Perspective view of the west end of the Speaker's staircase showing part of the gallery leading to the Public Library
   (Accession No. A15451)
   Drawn from existing architecture
   63.5 × 49.0 cm
   Varnished watercolour on paper; *c.* 1820s
   Cat. p. 27, No. 19** (Pl. 5)
6. Perspective view of the east end of the Speaker's staircase
   (Accession No. A15452)
   Drawn from existing architecture
   63.5 × 49.0 cm
   Varnished watercolour on paper; *c.* 1820s
   Cat. p. 27, No. 20**

PLAN

7. 'Plan of His Majesty's Ancient Palace of Westminster and adjacent buildings as they appear in the year 1807'
   (Accession No. A15453)
   43.5 × 59.5 cm
   Pen and ink drawing on paper, varnished; dated 1807
   Cat. p. 10, No. 1/VII **

* Measurements of the works do not include the frame

** Ref. to Lee's catalogue, 1831

Provenance: All the drawings were presented to the Museum of London in February 1915 by Adam Lee's great-granddaughter; they had been in the family since Adam Lee's death.

Of the seven drawings listed above, three are reconstructions of St Stephen's Chapel, and another three are drawn from existing architecture. It has been suggested that the 1807 plan predates Soane's alterations to Westminster Palace but perhaps shows Wyatt's work. The remaining 36 drawings which were exhibited in 1831 remain untraced. The drawings were organised in sections as follows:

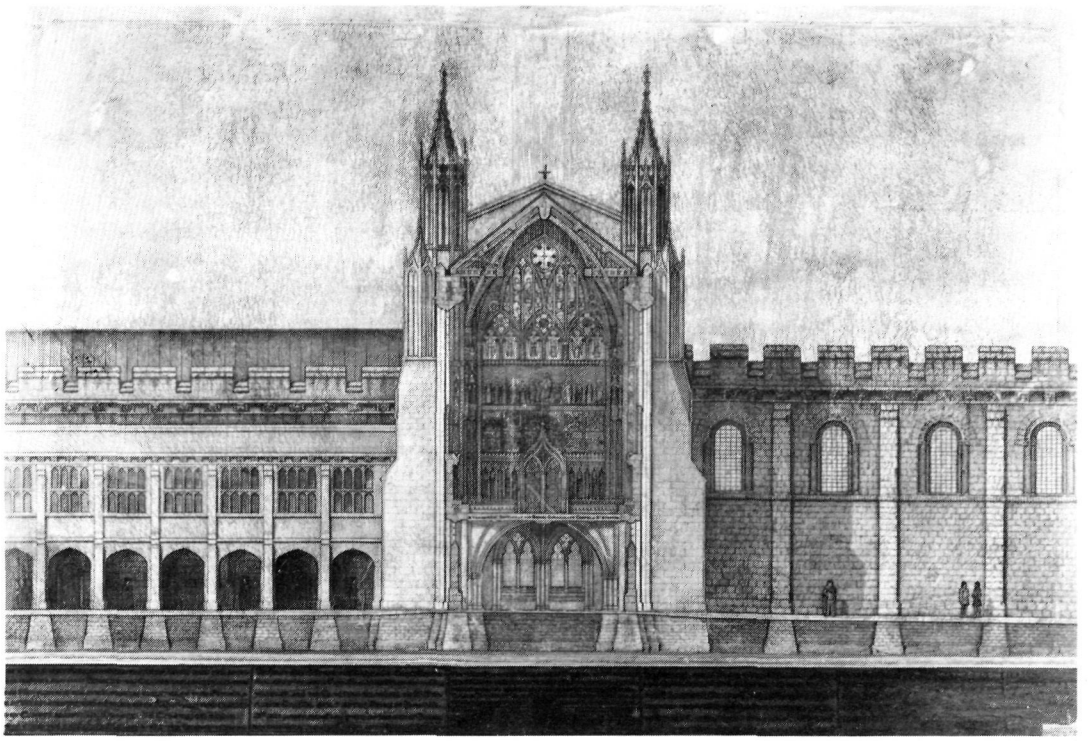


Plate 3. Adam Lee: Transverse section through the west end of the Chapel, also showing cloisters and original Anglo-Saxon wall adjoining Westminster Hall.

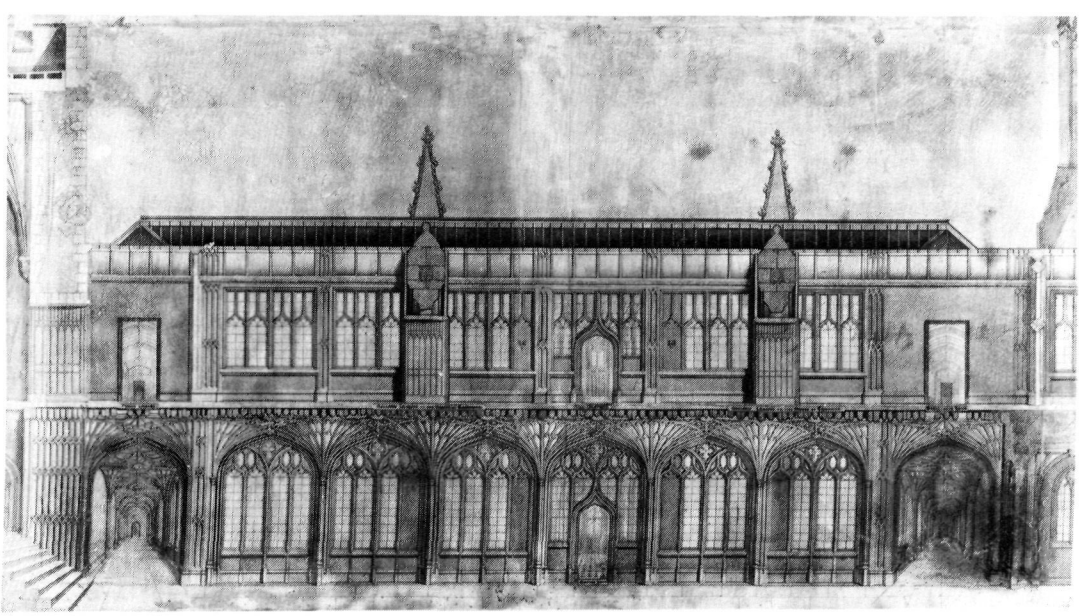


Plate 4. Adam Lee: Longitudinal section of the west cloister of St. Stephen's Chapel.

Plate 5. Adam Lee: Perspective view of the west end of the Speaker's staircase showing part of the gallery leading to the Public Library.

1. Plans, Elevations, Sections of the Ancient Palace of Westminster (seven drawings).
2. Cosmoramic Views (nine drawings).
3. Views of St. Stephen's Chapel (eleven drawings).
4. Views illustrative of the Coronation Ceremonials of his late Majesty and of King William IV and Queen Adelaide (seven drawings).
5. Views of the Principal Apartments of his Majesty's Palace at Brighton (nine drawings).

The Museum's drawings come from two of these sections: one plan from section 1 and six illuminated paintings from section 3. As this selection contains both reconstruction drawings and observed views, the Museum's collection reflects the composition of the complete set. Because the drawings were exhibited (1831) and a catalogue published by Lee,[6] it has been possible to catalogue correctly the seven drawings held by the Museum of London and to be certain how they fitted into Lee's overall scheme.

Lee's pictures are unusual by any standard. Their size, their lavish colours, the fact that they were varnished and placed in thick wooden frames suggest that they were meant to rival or imitate oil paintings. Adam Lee was responsible for the drawings, but he points out in the catalogue that he has had them coloured and illuminated.[7] Their sophistication and their fantastic qualities culminate in the series on St. Stephen's Chapel which held a special place in Lee's perception. Several documents confirm Lee's obsession with this particular theme. In the Introductory Particulars to the exhibition catalogue, Lee explains that the exhibition was born from his interest in the Royal Chapel: 'I have had constant opportunities of minutely inspecting the manner and style of the Ancient Architecture of St.

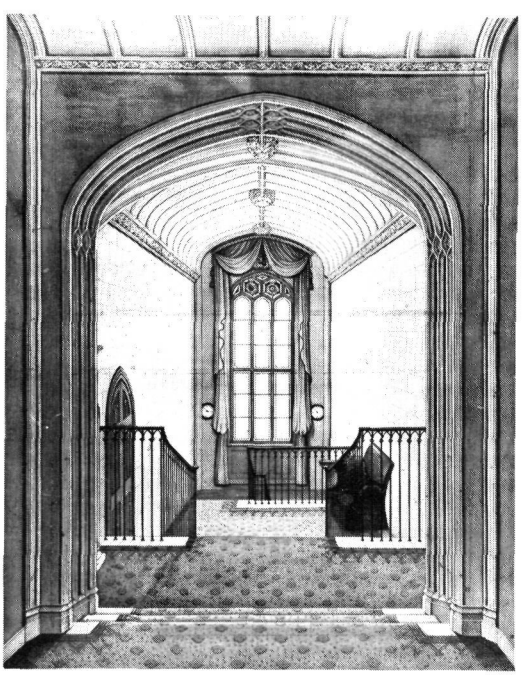


Plate 6. Adam Lee: A perspective view of the east end of the Speaker's staircase (north west corner of cloisters of St. Stephen's).

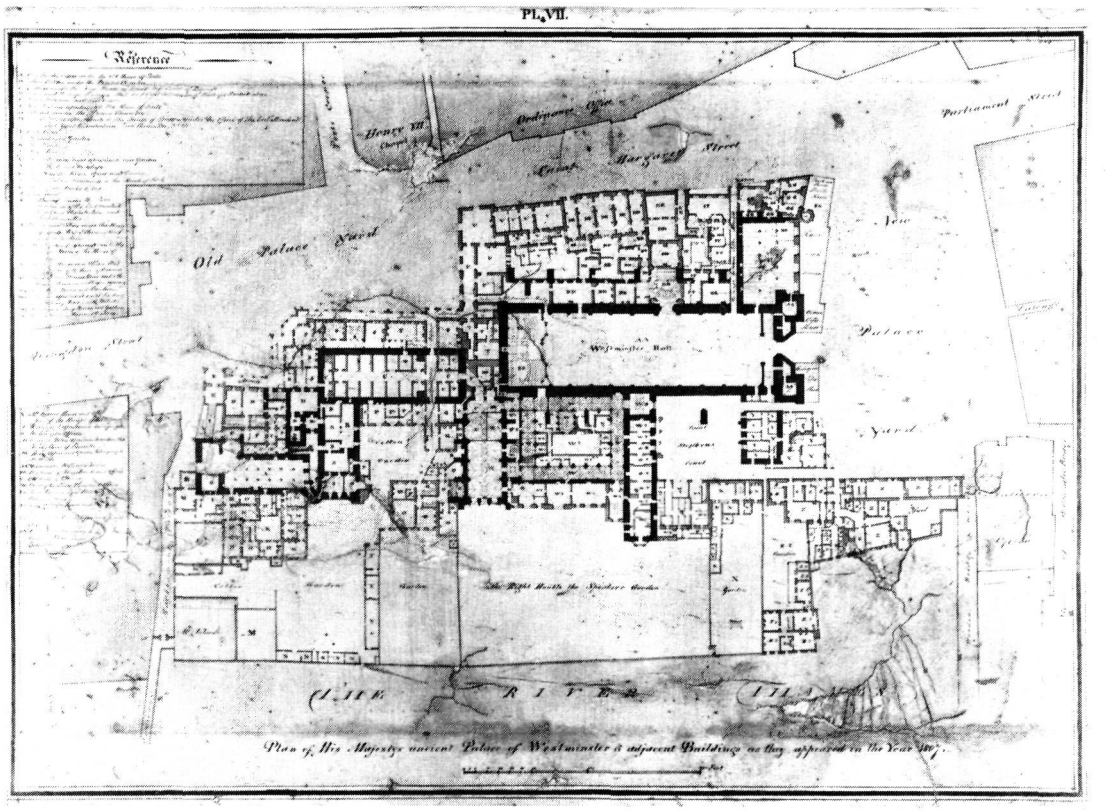


Plate 7. Adam Lee: 'Plan of His Majesty's Ancient Palace of Westminster and adjacent buildings as they appear in the year 1807'.

Stephen's Chapel and also of the cloisters. Such knowledge and opportunities inspired me with the wish to make drawings of all I saw and discovered, and thus to restore views as accurate as possible of those beautiful Edifices'.[8]

Four years later, in 1835, he produced a design in the competition for the New Houses of Parliament and proposed to restore the chapel rather than demolish it. For the style of his river-front elevation, he determined 'expressly to adapt it to the celebrated architecture of St. Stephen's Chapel'.[9] Finally, it was the height of St. Stephen's which determined the 'level' of the whole complex. Also Lee could not resist observing that his interest in the Chapel had been shared by the present King's father, George III: 'I may mention that King George III had a great desire that St. Stephen's Chapel should be restored. His Majesty often spoke of such a wish to the late Surveyor General, J. Wyatt, Esq., and Models of the works requisite to such restoration were prepared for His Majesty's inspection'.[10]

In 1845, four years after Lee's death, *The Builder* announced the auction of Lee's drawings and made special mention of 'two most elaborate and beautiful drawings of the interior of St. Stephen's Chapel as it appeared in the time of Edward III, beautifully illuminated with gold and giving all the elaborate details of the painted glass and architectural ornaments'.[11] Of all Lee's production it was the work on St. Stephen's Chapel which attracted the publication's attention, and certainly one of the two drawings described survives in the Museum of London collection.

I ANTIQUARIANISM

Lee's drawings herald the concern with the Middle Ages which grew to obsessive proportions with the Victorians. A number of his contemporaries with antiquarian interests had spent time examining what they could of the original structure of St. Stephen's Chapel and had published their findings. John Carter, commissioned by the Society of Antiquaries, worked between 1795 and 1817.[12] He was followed in 1800 by J. T. Smith who had received permission to draw what was uncovered, and often destroyed, in the course of the alterations to the House of Commons undertaken by James Wyatt.[13] J. T. Smith's drawings are often more accurate than Carter's but they can be difficult to interpret as he drew isolated figures, fragments or remains, and it is difficult to obtain a clear view of the whole. After Lee, may be placed the work of E. W. Brailey and J. Britton, perhaps the most serious antiquarian source on St. Stephen's Chapel. A footnote in their *History of the Ancient Palace and late Houses of Parliament at Westminster* (published in 1836) lists what were then the main sources of information for the architecture of St. Stephen's and these included: 'Mr. Adam Lee's 'Description' of his 'Cosmoramic Views' of this Palace and Chapel, which were publicly exhibited about the year 1831'.[14] Thus Lee was apparently regarded as an important source for the study of these buildings together with John Carter, Richard Smirke and J. T. Smith. Much quoted but not executed until after the fire is Frederick Mackenzie's government publication, *The Architectural Antiquities of the Collegiate Chapel of St. Stephen's* (published in 1844). Like Lee he favours the use of reconstruction drawings but these can be extremely

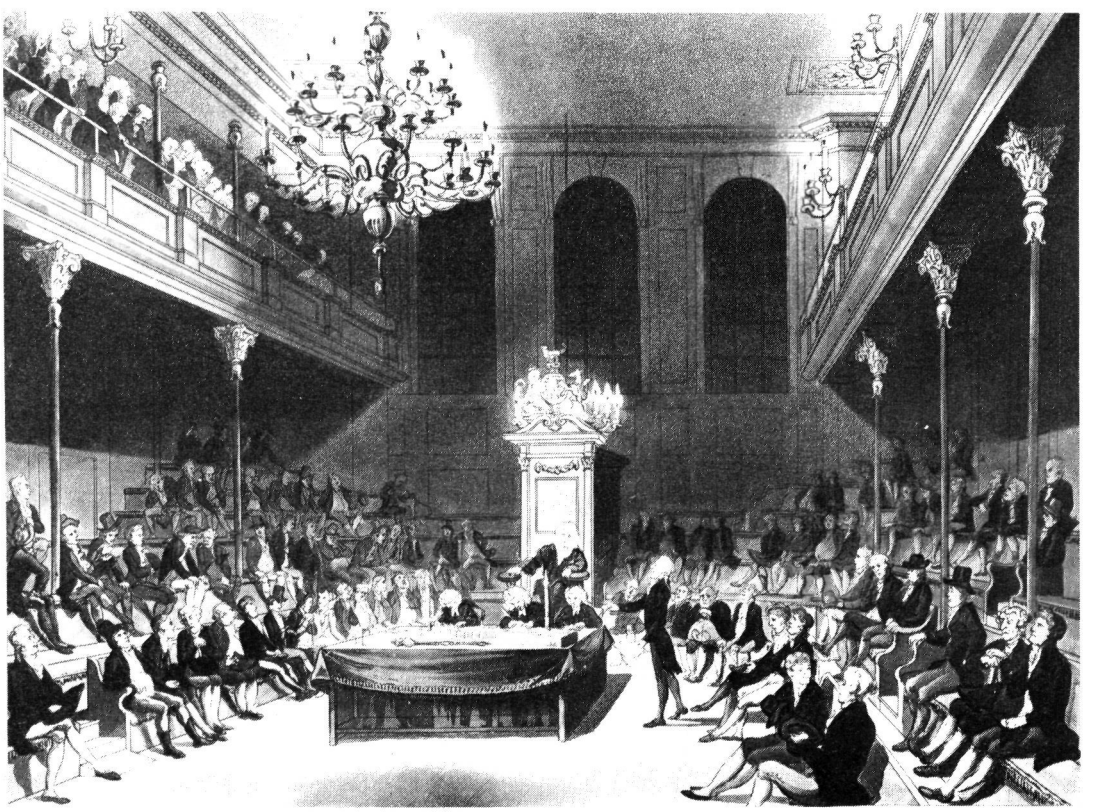


Plate 8. Interior of the House of Commons. Coloured aquatint by Pugin and Rowlandson from *The Microcosm of London,* 1808.

misleading to present day architectural historians, particularly as the reconstruction of the missing elements varies with the sources.

For a building that was destroyed nearly 150 years ago, the architecture of St. Stephen's Chapel is remarkably well documented. Visual records, the earliest dating from 1558,[15] together with a detailed set of building accounts[16] and exceptional scholarly attention in the early 19th century, all contribute to our knowledge of the royal chapel. However, despite this wealth of visual and written records, two important areas have remained problematic, the clerestory and the details of the tracery.

It was not until the 1834 fire that Mackenzie, who had closely examined the fabric of the building, came to the conclusion that the two storey chapel had once had three storeys.[17] This was confirmed by early illustrations which clearly showed a greater height and clerestory windows (Pl. 9). Mackenzie's reconstruction however did not closely follow these earlier views as he was convinced after analysing the structure above the cornice of the upper chapel, that the clerestory comprised two windows per bay rather than one, as shown in the view of 1647 by Hollar or the earlier view of Westminster by Van der Wyngaerde of 1558.[18] Lee's pre-fire drawings (Pls. 1–3) reconstructed the chapel without a clerestory, in the same way as his contemporaries had done. Recently, Christopher Wilson has argued that the upper chapel of St. Stephen's was designed as a one storey structure with a trussed rafter roof[19] and that the subsequent addition of the clerestory represents a change from the original plan.[20] This analysis throws new light on early 19th-century reconstruction of the chapel, and it can be suggested that Lee's drawings reflect the original design (1290) while failing to represent the building as it was actually constructed.

The visual results obtained by Lee were no doubt reached accidentally. He had been privileged in seeing some of the 14th-century fabric hidden behind the wainscoting 'the whole of the beautiful ancient Gothic

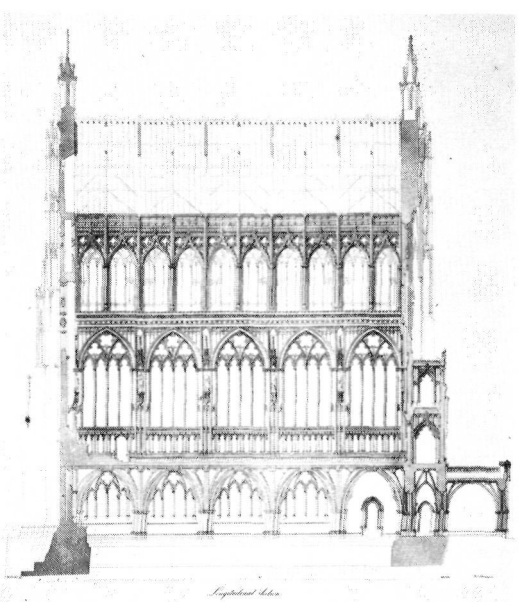


Plate 9. Interior elevation, St. Stephen's. From Mackenzie's *The Architeectural Antiquities of the Collegiate Chapel of St. Stephen.*

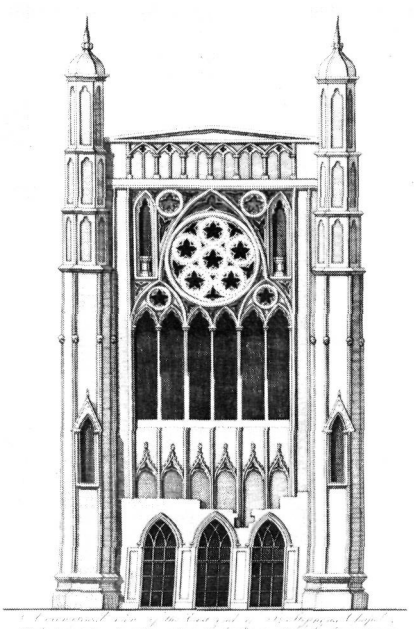


Plate 10. East front of St. Stephen's. From J. T. Smith *Antiquities of Westminster.*

architecture, as also various painted subjects on the jambs, and the panelling over the window heads and particularly a large embattled cornice that ranged all round the room'.[21] However, for the architecture, he most certainly relied entirely on current published knowledge, 'From repeated personal observations, and the assistance derived from the plates published by the Antiquarian Society; and Mr. Smith's work on the *Antiquities of Westminster*'.[22]

Details of the original window tracery of St. Stephen's were also unknown. By the 18th century the tracery of the north, south and west sides of the upper chapel had completely disappeared (Pl. 13). Prior to James Wyatt's drastic restorations, some tracery of the east window survived (Pl. 11), enough in fact to confirm the view of *c.* 1682 reproduced in the *Antiquities of Westminster* and to allow Smith to illustrate its former appearance (Pl. 10).

As for the tracery of the crypt windows, Edward Middleton Barry's restoration is thought to have been carried out in keeping with the original design. Here, blind tracery panelled the walls, with mullions taken to the floor level with no interruption at window level, thus superimposing a second layer of tracery upon the traceried window. By the 19th century the 'flying' mullions had been broken off, but close observation would have revealed an indication of their original presence.[23] While Carter and Smith were very scrupulous in drawing only what they could see, it is clear that by the time of Lee's drawings, the blank windows of Carter's plates were unacceptable and the space was filled with tracery drawn in a speculative design (Pls. 1, 2, 9).

While the sources for the reconstructions of Mackenzie and Lee clearly differed, it should be noted that the illustrations by Lee bridge the gap between the early records of the chapel of Carter and Smith who drew what they saw and the later records (1830s), when Mackenzie and Brailey and Britton clearly researched their reconstruction to a greater extent. Lee's approach was 'researched' in the sense that he was determined to be as accurate as possible '. . . the wish to make drawings of all I saw and discovered, and thus to restore views as accurate as possible of those beautiful Edifices',[24] but finally produced reconstructions which were fanciful. While Mackenzie applied a certain logic when he opted for Kentish tracery (Pl. 9), having found it in the architectural backgrounds of the paintings inside the chapel, Lee's tracery of the east window was based on that invented by James Wyatt (Pls. 1, 11), whose restoration of the royal chapel was considered to show scant respect for the original.

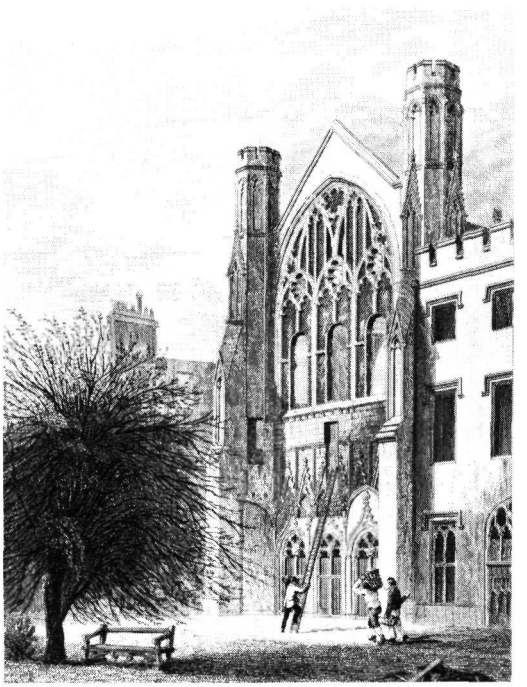


Plate 11. East front of St. Stephen's showing James Wyatt's 'restorations' carried out in 1805 – 6. From Brailey and Britton.

The tracery shown by Lee in the lateral windows (Pl. 2) is the same as that found in an engraving by James Basire (Pl. 12) imprinted *St. Stephen's Chapel as restored, 1800,*[25] suggesting that Lee's tracery for the lateral windows again derived from the restoration by Wyatt. There are however three anomalies in this engraving. First the view is taken from the south west as if no buildings obstructed, and this is the contrary to the cramped view from the south by J. T. Smith (Pl. 13). Secondly,

Plate 12. St. Stephen's Chapel from the south west – a reconstruction.

the four angle towers do not correspond to Wyatt's crenellated version (Pl. 11). These towers appear in a number of early 19th-century pictures,[26] and also in Lee's drawings (Pls. 2, 3). They are close to the original medieval design as shown in Van der Wyngaerde's drawing, but it is not possible to explain adequately their appearance in pictures of the early 19th century. Thirdly, while Wyatt 'restored' the tracery of the east window, he does not appear to have attempted the same exercise on the lateral windows which remained filled with masonry. However it remains likely that the engraving by Basire and Lee's drawings were largely based on Wyatt's restorations, perhaps revealing original intentions which were never carried out.

This examination of the architectural content of Lee's drawings of St. Stephen's chapel illustrates his antiquarian sources and interests. He appears to have been the only illustrator to have attempted to capture the original glory of the royal chapel. The chapel had housed the House of Commons since 1547, and its original interior decoration had been completely masked since that date (Pl. 8), much being hidden behind the wainscoting applied in front of the original walls. M. Hastings writes that 'the chapel of St. Stephen practically disappeared from *c.* 1547 until 1834, when at long last fire exposed its original features'.[27] The only surviving visual records of the interior decoration of the chapel prior to the fire of 1834 are two sets of drawings compiled by R. Smirke[28] and J. T. Smith in 1800,[29] when James Wyatt had been requested to enlarge the House of Commons to accommodate 100 Irish members following the abolition of the Irish Parliament. This presented a major opportunity to *see* what was left of the painted decoration of the chapel. It was,

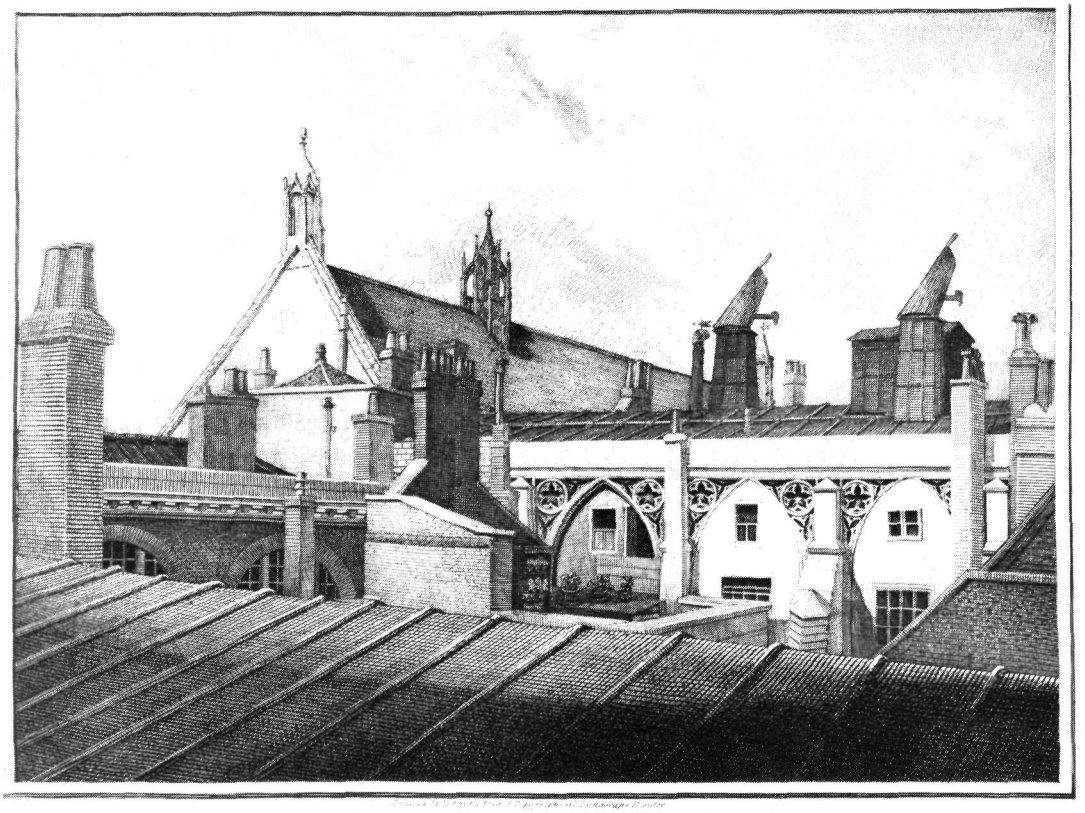


Plate 13. St. Stephen's Chapel from the south side, taken from the roof of the Painted Chamber. Engraving from J. T. Smith *Antiquities of Westminster.*

as shown by Lee, a feast for the eyes: the bright colours, the gold, the stained glass, the overall jewel-like quality had first appeared at the Sainte Chapelle in Paris in the 1240s. Fifty years later, in 1292, when work began on St. Stephen's, England was to have its own Ste. Chapelle.

II SHOWMANSHIP

Lee's drawings were executed and displayed at a time when public interest in antiquarianism included an element of showmanship. 'The Proprietor of the PALL MALL EXHIBITION of the Cosmoramic DELINEATIONS OF THE ANCIENT PALACE OF WESTMINSTER, AND ST. STEPHEN'S CHAPEL, has not opened it for the purpose of personal emolument, but to afford the Public the opportunity of becoming acquainted with these 'curious, extraordinary, and interesting Remains of Antiquity . . .'.[30] To achieve this aim, Lee was using resources currently available, and his output was a happy and original mixture of the perspective drawing and panorama. By 1830 the use of perspective drawings in architectural presentation was firmly established, and architects exhibited regularly at the Royal Academy. Gavin Stamp suggests that 'the burgeonning of the art of the architectural perspective may well have been the foundation of the Royal Academy of Arts in 1768 (. . .) The Academy's first Professor of Architecture (1770), Thomas Sandby, was a particularly accomplished perspective artist. Architects would now compete with painters on the same

terms'.[31] Stamp also notes that in the late 18th century, the tradition of topographical painting became merged with the practice of architectural design. The perspectivist was therefore calling on both the arts of architecture and painting for the expression of his art. Joseph Michael Gandy (1771–1843) was the most visionary of these perspective artists, and his paintings illustrate well the fusion of disciplines. The Tomb of Agamemnon, The Tomb of Merlin, A Landing Place to a Temple, and The Bank of England offer romantic parallels to Lee's medievalism.[32] Occasional figures appear, dwarfed in their giant environment, and these blend well with the Taste for the Sublime whose famous architecturally minded exponent was John Martin.

In 1823 the 'Cosmorama Rooms' opened at 209 Regent Street. The cosmorama, 'a high-toned version of the old peepshow'[33] originally consisted of small pictures magnified by convex lenses. The use of mirrors, black frames inserted between pictures and lenses, and subsequently dynamic lighting effects, produced a new and attractive type of show.

The initial meaning of the words panorama, diorama or cosmorama was quickly corrupted. In 1823, for example, a brochure entitled *A Picturesque Guide to the Regents Park* stressed that 'the term Diorama has (. . .) been strangely corrupted since its successful adoption in the Regent's Park – it being applied to any number of description of paintings'. In 1835 the *Athenaeum* observed that 'the advertisement (of shows) is often far more satisfactory than the show itself'. In fact, the terms panorama, diorama and cosmorama came to invoke magnitude, lighting tricks and minutiae respectively. Lee's paintings were too large to require enlargement by lenses. However, they justified their appellation because of their extremely detailed and polished execution. A group of cosmoramic paintings (the Poecilorama) by Clarkson Stanfield, known to have been exhibited at the Egyptian Hall in 1826, may have been in a similar vein, and formed a precedent to Lee's exhibition.[34] The Stanfield paintings, however, constituted an eclectic selection which included scenes of Turin, the Castle of Chillon, London in 1590, Rouen (with a dioramic effect of a rainbow), and Netley Abbey (with a moonrise). In contrast, Lee's exhibition was unified, for all the paintings related to the Palace of Westminster, with St. Stephen's Chapel in a prominent place.

Lee's Cosmoramic Views contrast with what seems to have been the only other type of show with Westminster as its subject: the burning of the Houses of Parliament. Lee's drawings were different for they were all executed long before the 1834 fire of Westminster, and it can be argued that his motives were similar to those described by Fuseli in 1790 for his Milton Gallery: 'I am determined to lay, hatch, and crack an egg for myself too, if I can. What it shall be, I am not yet ready to tell with certainty; but the sum of it is a series of pictures for *exhibition,* such as Boydell's and Macklin's'.[35]

While dioramic and cosmoramic fires, earthquakes and battles held particular attraction for the public, there was also a demand for religious architecture. Throughout the first half of the century, a number of shows had focused on St. Peter's basilica, Santa Croce in Florence, St. Mark's Cathedral, Chartres Cathedral, the interior of St. Gudule's Cathedral in Brussels, and others, though few English scenes were included (the ruins of Holyrood Chapel, Trinity Chapel in Canterbury and Netley Abbey) and none from London.[36] With St. Stephen's Chapel, Lee had found sensationalism and exoticism in the heart of the capital, for the building was totally unknown to the majority of people.

Investigating the relationship between panoramas and painting offers interesting insight into areas which people subsequently regarded as two separate entities, one associated with popular taste and the other elevated to the status of Art. The importance that panoramas held at the time is reflected in the treatment they received in the press which reviewed them as seriously as they would Royal Academy shows. While it is possible to gain an accurate idea of what panoramas consisted of, it is more difficult to assess the nature of the cosmorama. Lee's pictures would appear to form a unique survival, and they

suggest a three way relationship between cosmoramas, painting and architecture.

III THE ARCHITECTURAL PROFESSION

While Lee's drawings reveal the fabulous world of medieval wealth and taste, they are also closely linked to their author's career. The fact is repeatedly and arrogantly outlined by Lee, when he speaks of 'the singular opportunities I have possessed for many years to become acquainted with every part of the buildings – not only in having officially to superintend alterations, repairs, etc., in and about the Houses of Parliament, Westminster Hall etc., but by the uncovering of various parts of the original walls previously to their being taken down'.[37]

Lee was one of ninety-seven contestants in the 1835 competition for the Houses of Parliament. The designs were exhibited at the National Gallery in 1836 and a catalogue was produced with the architects' descriptions of their drawings.[38] In his entry Adam Lee insists once more on his exceptional position at Westminster and his extreme familiarity with the site and the buildings there. A little earlier, in 1833, a Select Committee had come to the conclusion that the House of Commons was inadequate and ought to be replaced.[39] Adam Lee was one of the 15 architects to produce plans for the new building. Lee's official interview by the Select Committee revealed that his plans lacked originality and contained unresolved practical problems. Lee already showed a great dependence on the site on which he was working, and the minutes of his interview record: 'And your (Lee's) reason for adopting that plan is, because such is the plan of the present house, and you conceive experience may have proved that to be the most convenient?'[40] The dependence on what he claimed he knew so well, appears to have been coupled with a lack of creativity. In both 1833 and 1835, in response to the two exceptional opportunities to forward his career, he produced firstly a design which was a replica of St. Stephen's Chapel, located only yards away from its model, and secondly, after the fire of 1834, a scheme governed by the preservation of the chapel and its pervading stylistic influence on the other buildings.

If he lacked creativity, Lee was full of energy and ambition. He was a symbol of the great debate of architect versus builder, so effectively illustrated in the dialogue reported in the 1818 Annals of the Fine Arts:

> 'You are a builder, I believe?'
> 'No sir; I am not a builder; I am an architect'.
> 'Ah well, builder or architect, architect or builder – they are pretty much the same, I suppose?'
> 'I beg your pardon – they are totally different.'
> 'Oh indeed! Perhaps you will state wherein this difference consists.'
> 'An architect, sir, conceives the design, prepares the plan, draws out the specification - in short, supplies the mind. The builder is merely the machine; the architect the power that puts the machine together and sets it going.'
> 'Oh, very well, Mr. Architect, that will do. A very ingenious distinction without a difference. Do you happen to know who was the architect of the Tower of Babel?'
> 'There was no architect, sir. Hence the confusion.'[41]

Lee was constantly struggling to reach the honorable title of 'architect'. There are records of his insubordination; he was reprimanded for authorising schemes which strictly speaking were beyond his control.[42] He also used the title of F.S.A.,[43] but was not an elected Fellow of the Society of Antiquaries. This puzzling title may have been meant to refer to Lee's membership of the Society for the Encouragement of the Arts i.e., the Society of Arts. He was elected on 31st January 1816, proposed by Thomas Simpson. His membership lapsed in 1818 and was renewed in 1820 to last only another year. Lee was an ordinary member of this Society, not a Fellow, as the nomination of Fellows did not start until 1916.[44] (There are a few cases of misused titles in the history of the Royal Society of Arts and this may be one of them). Lee's membership was relatively short and his insistence on using a title some 10 years after it had ceased to be

valid probably shows that he was not insensitive to the prestige that titles could give. Less subtle was the way in which Lee attempted to convince the jury for the 1835 competition of his own absolute authority. His magnificent drawings of St. Stephen's Chapel were, he wrote, 'the only true and unquestionable authority for reinstating the building'.[45]

Despite his respectable position at the Office of Works, and the fact that he received there regular promotion, Lee's career was not exceptional. His efforts to assume the role of architect remained unsuccessful. His professional life was dominated by the names of James Wyatt, Surveyor General and Comptroller of the Office of Works, from March 1796 to September 1813, Benjamin Charles Stevenson, who replaced the latter from 1814 to 1832, and, finally, John Soane, 'Attached Architect' from 1815 to 1832. When in 1832 the posts of 'Attached Architect' and Clerk of Works were swept away and replaced by a 'Clerk of the Works', Adam Lee obtained that post for Whitehall and the Horse Guards, but to little effect for his career as an 'architect'. His extraordinary drawings constitute his best legacy. He was very anxious to establish their permanence, and he had planned to have them engraved to ensure 'the preservation through the means of the engraver's art and the press of the accurate knowledge of those Remains'.[46] However, it appears that engravings were never produced, and this most certainly indicates a lack of sufficient public acclaim. In the last resort, Lee had joined the 'melancholy procession of expensive and doomed attempts to enlist showmanship in the service of art',[47] and, in this case, of antiquarianism too.

ACKNOWLEDGEMENTS

I should like to thank Alexandra Wedgwood of the House of Lords Record Office, Peter Draper of Birkbeck College, and Dr. C. A. Fox of the Museum of London for their invaluable help in preparing this paper.

NOTES

1. Adam Lee (*c.* 1772–1843): Most of the information known about his life has been incorporated into this paper. There are three main sources: H.M. Colvin *A Biographical Dictionary of English Architects 1660–1840* (1978) 509; *The History of the Kings' Works* ed. H.M. Colvin (1973) VI; Adam Lee *Description of the Cosmoramic Views and Delineations of the Ancient Palace of Westminster and St. Stephen's Chapel.* (London, 1831), see Introductory Particulars. This is the catalogue for the 1831 exhibition held by Lee at the Society of Painters in Water Colours. One copy of this booklet is in the Victoria and Albert Museum Library – see the pre-1890 volume catalogue in Room 77– , and one is inserted at the back of the Museum of London's copy of J.T. Smith's *Antiquities of Westminster.*
2. Lee *op. cit.* in note 1, i.
3. 'Fuseli's Milton Gallery: Unpublished Letters' *Burlington Magazine* 101 (1959) 436.
4. Lee *op. cit.* in note 1, ii (title).
5. In 1962, *Plans, Elevations, Sections and Perspective Views for restoring the Royal Chapel of St. Stephen, Westminster* by Adam Lee were sold at Sotheby's (4 June 1962, Books Catalogue, Lot 154) and came from the Library of the Rt. Hon. Lord Nathan of Churt, formerly the property of Sir George Chetwynd. These are unfortunately impossible to trace, but their existence confirms Lee's great interest in the subject of St. Stephen's. The drawings described in the Sotheby's catalogue are of a very different format and technique to the Museum's views and were perhaps the preparatory drawings from which Lee pieced together his large scale reconstructions of the Royal Chapel.
6. Exhibition held at the Society of Painters in Water Colours, Pall Mall. See Lee, *op. cit.* in note 1.
7. *Ibid.* i.
8. *Ibid.* iii.
9. *Catalogue of the Designs offered for the New Houses of Parliament now exhibiting in the National Gallery* London (1836) 65 & 66
10. Lee *op. cit.* in note 1, i
11. *Builder* 3 (1845) 104
12. J. Topham *Some Account of the Collegiate Chapel of Saint Stephen, Westminster* (1795). The Drawings are by J. Carter and were engraved by J. Basire.
13. J. T. Smith *Antiquities of Westminster* (1807) London.
14. Brailey and Britton (1836) 434.
15. Van der Wyngaerde drawing. Bodleian Library.
16. *The History of the Kings' Works* I, 510–527.
17. F. Mackenzie *The Architectural Antiquities of the Collegiate Chapel of St. Stephen* (1844) vii & viii.
18. See for instance M. Hastings *St. Stephen's Chapel and its place in the development of perpendicular style in England* Plates 14 & 15.
19. C. Wilson *The Origins of the Perpendicular Style and its Development to circa 1360* PhD (Arts) Thesis (1980) University of London, 44 & 45.
20. *Ibid.* 42.
21. Lee *op. cit.* in note 1, vi.
22. *Ibid.* iv.
23. For the reconstruction, see Mackenzie *op. cit.* in note 17, Pl. 4. For its condition *c.* 1800, see Topham *op. cit.* in note 12, Pl. 5.
24. Lee *op. cit.* in note 1, iii.
25. Museum of London Accession Number A6597; the engraving was first published in Jan. 1801 in the *Union Magazine and Imperial Register* 25. The author of the reconstruction deliberately remained anonymous.
26. a) J. Basire, see note 25.
    b) St. Stephen's from the river, Westminster City Library, Box 56 (54).
    c) Engraving published by A. Beugo, 12 Nov. 1810, St. Stephen's and the Speaker's House from the river, Museum of London Accession Number A3763.
27. Hastings *op. cit.* in note 18, 28.
28. Robert Smirke's drawings are in the Society of Antiquaries.
29. *Idem.*
30. Lee *op. cit.* in note 1, i.
31. G. Stamp *The Great Perspectivists* RIBA Drawings Series (1982) 11.
32. *Joseph Michael Gandy (1771–1843)* Architectural Association (1982).
33. R. D. Altick *The Shows of London* (1978) 211.
34. *The Spectacular Career of Clarkson Stanfield 1793–1867* Tyne and Wear County Council Museums (1979) 177.
35. *Burlington Magazine op. cit.* in note 3, 436.
36. Altick *op. cit.* in note 33, Ch. 16.
37. Lee *op. cit.* in note 1, i.
38. See note 7.
39. R. J. B. Walker *The Palace of Westminster after the fire of 1834* Walpole Society 44 (1972–1974) 100.
40. *Parliamentary Papers* 12 (1833) 269, questions 1126–1167 and plate.
41. Reproduced in *A Biographical Dictionary of English Architects, op. cit.* in note 1, 39.
42. *Kings' Works* VI *op. cit.* in note 1, 117 & 120.
43. Lee *op. cit.* in note 1, i. Also see *Builder* 3 (1845) 104.
44. I am indebted to Dr. D. Allan of the Royal Society of Arts for the information relating to Lee's use of the title of F.S.A.
45. *Designs for the New Houses of Parliament, op. cit.* in note 9, 66.
46. Lee *op. cit.* in note 1, i.
47. Altick *op. cit.* in note 33, 109.

RAGGED SCHOOLS AND OTHERS: THE EDUCATION OF THE POOR OF SAINT PANCRAS BEFORE THE EDUCATION ACT OF 1870

RICHARD CONQUEST

In 1870 an Education Act was passed – after years of debate and controversy – which laid the foundations of a national system of education. Within a few years some 2,500 schools were included and by 1888 about 14,000 establishments had been incorporated into the state system. The board schools, with their distinctive architectural appearance – likened by Charles Booth to 'a tall sentinel at his post' – survive in large numbers in every town and city of England.[1]

However, it is the intention here to describe the educational institutions which served the poorer classes of the parish of Saint Pancras before the coming of the board schools. This parish was a spectacular example of that demographic expansion and urban growth which characterised the industrial revolution. The parish was thinly populated until the mid 18th century, the more so given its close proximity to the Metropolis. From the early 19th century urban growth was very rapid, and the growing size and destitute condition of many of its inhabitants were the frequent subject of comment and complaint by social commentators and reformers.[2]

Before the Act of 1870, state participation in popular education was indirect and insufficient. The Factory Acts had made some provision for working children and financial assistance was given to philanthropic and charitable organisations, especially the National Schools Society. The endeavours of the Church were debilitated by jealousy and rivalry between the various denominations, a form of factious dispute with depressing sequels today.

The state, imbued with Utilitarian notions of non-intervention in social and economic life, was reluctant to employ the resources at its command to effect social reforms and some feared the growth of working class literacy, which was 'like putting the torch of knowledge into the hands of rickburners'.[3]

Similarly, the Reverend James Fraser, later to become the Bishop of Manchester expressed a familiar view when he said that,

> 'even if it were possible, I doubt whether it would be desirable, with a view to the real interests of the peasant boy, to keep him at school till he was 14 or 15 years of age . . . I venture to maintain that it is quite possible to teach a child soundly and thoroughly, in a way that he shall not forget it, all that is necessary for him to possess in the shape of intellectual attainment, by the time that he is ten years old.'[4]

Early Developments:

The Charity Schools

In the absence of a national standard of schooling which the state alone could provide, a motley collection of institutions emerged to meet the obvious need for basic instruction, some were admirable and some deplorable.

During the 18th century a number of charity schools were set up and the Society for the Propagation of Christian Knowledge gave support to such schools in London from 1698. One recipient was the Saint Pancras Charity School, founded in 1776 'for Instructing, Cloathing, Qualifying for useful servants and putting out to service, the Female Children of the Industrious Poor'.[5]

Prospective pupils were put forward at the age of eight years by their local church and a ballot was then held to select candidates since places were in great demand. There were six pupils initially, who were removed from their parents and 'instructed in the Principles of the Christian Religion, in true humility and obedience to their Superiors and such necessary Qualifications as may make them a Benefit to the Community and honest and useful Servants'. Children left the school at the age of 14 years, usually to go into domestic service.[6]

The school was financed, as its name suggests, by donations of money and by the sale of the children's work. The site of the school was given by Lord Southampton and Her Ladyship was a patroness. Appeals in local churches raised extra money, but not as much as the collections at the Freemason's Arms Tavern which produced the extraordinary sum of £319.13.6d.[7]

In 1816, Mr. James Stewart informed the Select Committee on the Education of the Lower Orders that he had founded a school at Percy Street in 1812, because, apart from the Saint Pancras Charity, there was nowhere for poor children to go.[8]

At first classes were held on Sunday evenings and 220 children aged between 7 and 14 years were taught to read in six months, according to 'Dr. Bell's Plan'. The school expended about £80 a year upon books and 'the renumeration to the persons who keep the children in order during divine Service'.[9]

The Saint Patrick's Charity School was founded in response to a particular social need, that being the benefit of the children of the growing number of Irish immigrants, who,

> 'excluded, as it were, from their native country, by causes over which they at least had no control, settled themselves in this great town, where they constitute a large portion of the most industrious and hard working of the population'.[10]

The children were taught gratuitously by local ladies 'for motives of humanity, without reward'.[11] As was common at that time, much money was raised in support of the school at public sermons. For instance, in 1838, £520 was collected in this way and the governors paid special tribute to the Reverend Mr. Reardon, 'whose pathetic appeals in behalf of the Charity were equally distinguished by powerful reasoning and an eloquence emanating from the heart'. Donations were also raised at the school's annual dinner – in 1838 Daniel O'Connell gave £5.5s and the Spanish Ambassador contributed £2.2s.[12]

Such philanthropic and religious organisations certainly increased the availability of popular education but it is difficult to be precise about the number of schools that operated in the early decades of the nineteenth century. A Parliamentary survey carried out by the Vestry Clerks of each parish in 1833 revealed 118 day schools and twenty six Sunday schools. However, that was not a full count, for as the Parish Clerk of Saint Pancras said, many other private schools existed but 'the masters and mistresses whereof decline making returns'. Also, Catholic institutions refused to reply to official enquiries.[13]

The Dames Schools

The various enquiries and investigations into the education of the working classes revealed the existence of many private establishments and the most numerous and unsatisfactory type was that of the dames schools. Much detailed information about these schools was recorded by the Newcastle Commission of 1861 and by the inspectors who examined every school at the time of the establishment of the School Boards after the Act of 1870. It was all too evident that many, if not most, of these schools were schools in name only.

The great majority of the dames schools were found to be 'utterly deficient' or were similarly condemned. They very rarely occupied adequate premises but made use of cramped domestic dwellings or any other available space. One school was held in the lavatories of a gin palace and as the inspector remarked,

> 'Basins fixed in wooden frames and towels on rollers a few feet from the roof give a very incongruous character to the schoolroom . . . there are no classrooms, no gallery, no playground, and the light is in part obtained by the temporary removal of some of the floor of the dancing room replaced in the ordinary position after the schoolchildren are dismissed in the afternoon . . .'[14]

Generally, the schools were lacking in the most basic materials and 'the children bring their own books, or rather, portions of books, for they are usually in fragments and there is an utter lack of school machinery'.[15]

The schools often claimed to offer a sound curriculum, but all too often this was wishful thinking. An example was Miss Shaw's 'Adventure School' in Kentish Town, where, in a sitting room twelve feet square children were supposedly taught reading, writing, arithmetic, dictation, religious knowledge, history, grammar, geography, needlework, music, drawing and French. The fee was 1s per week and the inspector found the school to be 'inadmissable'.[16]

Frequently, there was no pretence at teaching, as at the school run by 'A very respectable, but illiterate old woman . . . in a wretchedly dirty room'. Another was held by 'Mrs P, a perfect kennel, 30 little children, mixed, eldest nine. Boy reading Gulliver's Travels and firmly believes them true, the Mistress uncertain on the matter'.[17]

The poor quality of education offered by these schools explained the reluctance of their proprietors to submit to an inspection or to complete official returns as the Vestry Clerk had noted in 1835. The 1871 school inspectors found a similar coyness, for example, Mrs. Wallis of Bayham Place, Camden Town, said that 'she would rather chuck the school up and behaved in a very unladylike manner'.[18] Miss Barshaw's school was found to be abandoned when the inspectors arrived and 'instead, Mangling done by a Mrs. Brown'.[19]

Evidently the quality of education in the schools costing £1.1s per quarter was abysmally bad. The usual charge was between 3d and 6d per week. When teaching competence was considered by the Newcastle Commission, the inspector for Saint Pancras, Josiah Wilkinson exclaimed, 'What can I say? The profession, as a profession, hardly exists; it is a complete refuge for the destitute, including German, Italian and Polish refugees, housekeepers and maids, not 5% of whom hold teaching certificates'. Wilkinson said that the academic claims of the teachers in such establishments were simply 'amusing'.[20]

Perhaps the main purpose for many of the dames schools was simply to provide child-minding services for parents who

1. 'An Old Woman's School, Camden Town', *c.* 1855.

were obliged to work. Some better schools charged similar fees but then an excessive demand would appear. At least the payment of some small charge avoided the stigma of recourse of the charity and ragged schools. However, Wilkinson pointed out the irony in this situation, for the poor who escaped pauperism and the workhouse paid for teaching in 'wretched hovels' while pauper children benefitted from 'the magnificently appointed buildings and excellent tuition provided for the workhouse . . . children . . . this suggests very painful reflection . . .'[21]

The Ragged Schools

In the years between the mid-1840s and the mid-1870s, the Ragged School Union served to bring some instruction and moral guidance to the most impoverished and distressed classes of society. The Union was founded in 1844, and its Secretary, William Locke, explained to the Select Committee on the Education of the Destitute Classes that its schools were intended for,

> The children of costermongers who sell in the streets, of pig-feeders and rag-dealers . . . knackers and cats-meat men, of slop-tailors and street musicians and the lowest mendicants and tramps . . . of hawkers and pigeon dealers, of dog-fanciers and other men of that class . . .[22]

When asked if these children were really dressed in rags, Mr. Locke replied that the Union did not allow them to remain so for long, but provided a tunic, 'which covers their rags, but if you lift up that upper garment there is a mass of rags underneath'.[23]

The Union was aggressive in its evangelical endeavours to remonstrate with 'indifferent' parents and to persuade them

to send their children to school. Other children were introduced to the schools by Churchmen, 'Bible-women' and other pupils. The first concern was to bring them the saving knowledge of the Scriptures, and beyond that their functions were modest, to prepare the children for one of the better available schools, or 'to make shoeblacks of them, or in some way to raise them in life'.[24]

The premises and facilities found in these schools were often found to be very inadequate, even as late as 1871 when they were examined in detail by the School Board inspectors. The Ragged School Union tried to improve the quality of the buildings, facilities and staff, but its insistence upon independence from public funds provided through official channels meant that there was a constant shortage of money. However, despite these obvious limitations, the Ragged School Union was sustained by a sense of mission, to retrieve the young from a life of ignorance and vice.

The accent of teaching was placed firmly upon religious instruction and moral improvement and the schools purposefully directed their energies to those classes of children 'whose repeated criminality and gross obtrusive vice, provoke the loud demand for further education, while they have hitherto been untouched, and seem to be almost intangible to any other agency'.[25]

An early example of a ragged school in Saint Pancras was that opened in Agar Town in 1845. Agar Town had a brief and very inglorious history, being built as a speculative shanty-town in the early 1840s only to be demolished, almost without trace, to make way for the construction of the approaches to Saint Pancras Station some twenty years later. The Ragged School Union reported upon an early social survey conducted there by the City Mission in about 1844. This revealed 464 'small houses' to be occupied by 698 families. Out of a total population of 2,960 people, 818 were aged between 3 and 12 years, and of these 492 or 60% attended no day school. In addition, 132 families were found without a copy of the Bible and 445 'whole families attended no place of worship'.[26]

Such conditions aroused great fears for the moral welfare of the inhabitants, especially young females, for 'it is quite impossible for the proper decencies of life can be observed and they . . . know more at 12 than many "a high born dame" knows at 20'.[27] It was to such districts as Agar Town and the nearby Somers Town that the Union sought to bring salvation through the teachings of the Christian faith.

The Agar Town Ragged School was opened in a skittle shed called the 'Olive Branch' and initially there was no solid floor but the staff gave their time to remedy this. The school administrators and the Union itself, were always anxious to demonstrate the need for such schools and to show a great demand among local impoverished families. A proven need would better persuade wealthy benefactors to contribute funds and for these reasons statements about school enrolments and attendances should be treated with a little caution.

When the school opened, 150 children were admitted, although it was recognised that this was too great a number to allow any useful instruction. A further hundred were turned away and 'stayed around the door to annoy by throwing stones, brickbats etc'.[28] By 1850 some five hundred children and young people were said to be enrolled, and an average of one hundred attended the school between the hours of 9am and 9pm. From time to time it was necessary to teach children in the open air or to send them home for the want of space. The task of teaching was made

easier by the appointment of a teacher who had been specially trained for this demanding work by the Home and Colonial Infant School Society and a new building costing £250 was opened in 1847.[29]

The Kings Cross Ragged School was founded in 1844 and was housed in a two story building in Britannia Street which was rented for £20 a year. The two classrooms were used during the day and an evening class was held on the lower floor. The building was thought adequate to house forty-seven scholars and the average attendance was put at sixty.

2. Kings Cross Ragged School, Britannia Street, *c.* 1865.

When the school was inspected the instruction given by one unassisted teacher was considered better than that usually found in ragged schools, but it was impossible for the teacher to maintain order on two floors at the same time. There was a lack of apparatus, books and desks and 'no separate offices for boys and girls'. However, the premises were judged to be sufficiently good to be continued as a public elementary school within the Board system.[30]

Several other ragged schools were set up in Saint Pancras but the inspector's reports of the early 1870s tended to emphasise the inadequacies of buildings, equipment and teachers. For example, the school at Rochester Place, Kentish Town, was found to be 'utterly inadmissable' for 'the smells from a cowshed immediately under the school room and the bad ventilation, want of proper offices . . . made the work of inspection very irksome'.[31]

The Camden Town Ragged School was conducted in two rooms of forty by nineteen feet and this was considered sufficient to accommodate 182 children. On the day of the inspection in 1871, some 265 children were crammed in, possibly to demonstrate the high level of demand among parents. Hardly surprisingly, the schoolmistress 'said that she was too nervous to give a lesson in the presence of strangers'. Evidently, little teaching went on and it was concluded that 'the attendance of the children is so irregular and the ignorance so great' that it would be 'hopeless' to present more than a handful of pupils for examination.[32]

It must be said that the ragged schools were often harshly criticised and unfairly disparaged. Henry Mayhew for example, attacked them for providing 'slipshod education' and for being places 'where the bad are allowed to corrupt the less vicious and lead them into theivish practices'.[33]

Many schools were seriously disrupted by riotous and criminal children and the police were frequently called to restore order. When the Somers Town Ragged School was visited in 1871, the inspector wrote that examination was made impos-

Service to Commence at half-past Six. A Collection will be made.

AGAR TOWN RAGGED SCHOOLS.

A SERMON

WILL BE PREACHED ON BEHALF OF THE ABOVE SCHOOLS

By the

REV. JOHN KELLY,

Of Liverpool, In

TONBRIDGE CHAPEL, NEW ROAD,

On

SUNDAY MORNING, MAY 9,

The Service will commence at 11 o'clock.

These Schools are for the poorest and most neglected Children of the neighbourhood, and are open on Sunday from 9 to 12, from 2 to 4, and from 6 to 8 o'clock; on week-day evenings from 7 to 9 o'clock.

An Infant Day School is conducted from 9 to 4 o'clock daily, except Saturday. The attendance is on Sunday 200; week-day Evening 80; and week-day 100.

CONTRIBUTIONS of Money, Books, or Clothing, will be thankfully received by the Treasurer, J. R. BURCHETT, Esq., 5, Gordon Place; the Secretary, Mr. WOODMAN, 22, Church Terrace, Kentish Town; and by Mr. GENT, at the Office of the Ragged School Union, 1, Exeter Hall, Strand.

Blackburn & Burt, Printers, 90½, Holborn Hill.

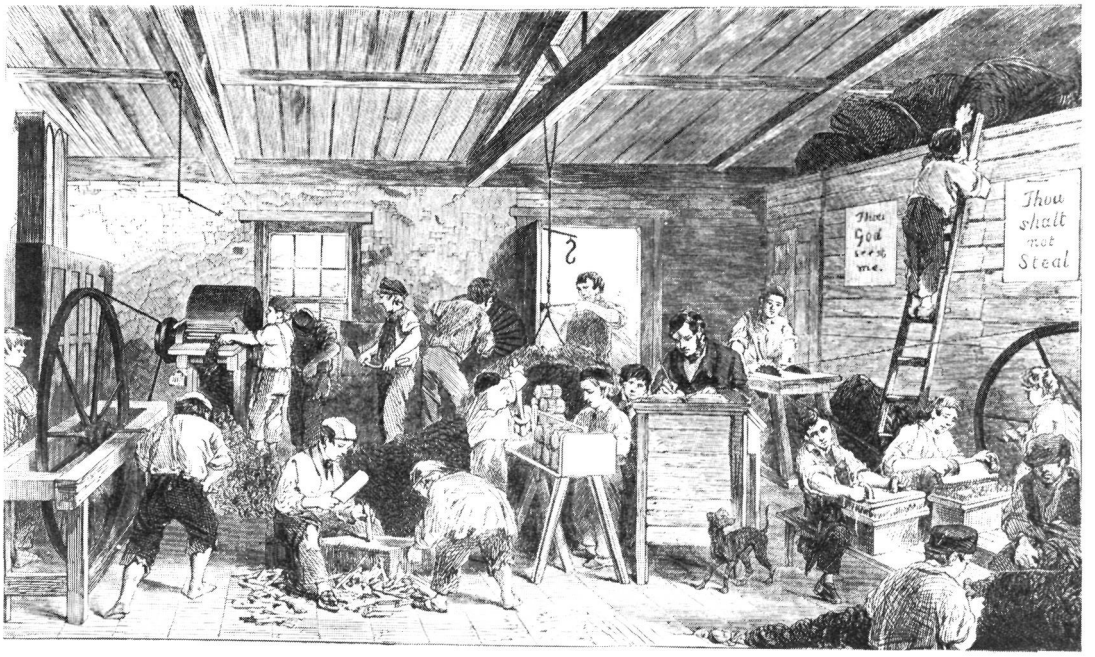
3. A Handbill of *c.* 1848.

sible 'by the noise and shouts of the children running about and pursued by the teachers'. After two hours of mayhem, 'I was obliged to give up the struggle'. The school was described as being 'merely a refuge for wild and fearfully ignorant children who run about under cover instead of in the open street'.[34] Here, as at Agar Town, the teachers were used to finding their truant children in the local jails.[35]

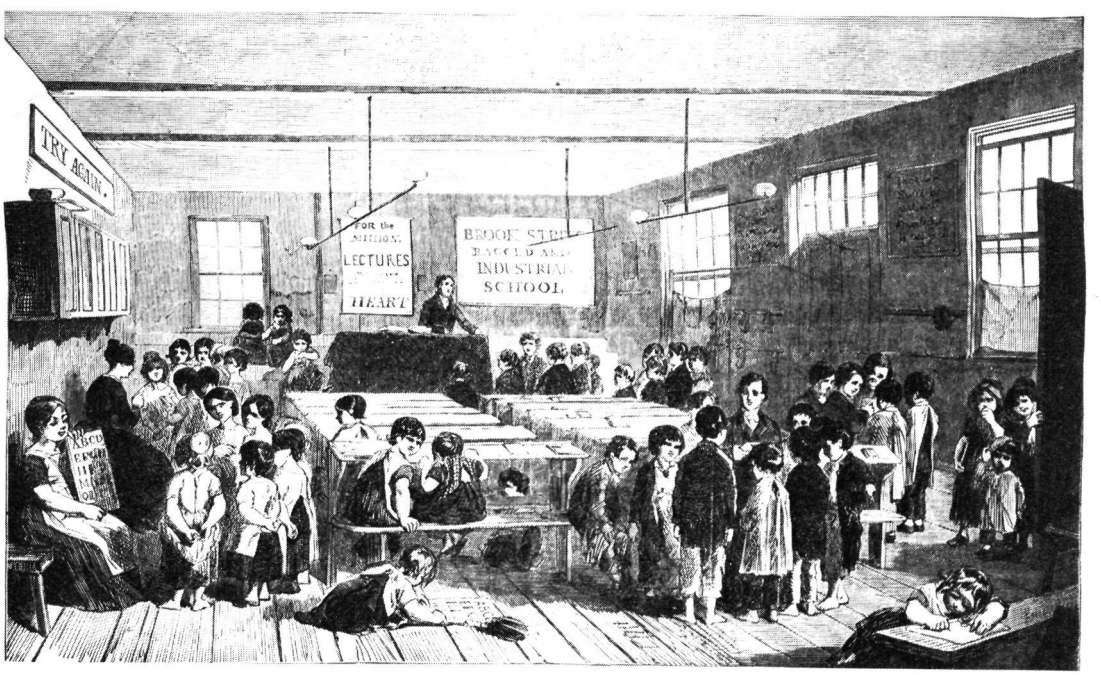
The criticism that the schools were 'a ragged refuge for noisy children' was true and therefore misplaced. Many attended simply to keep warm or to receive food and clothing. So many homeless turned up that the Union was obliged to open refuges for them and infants as young as two years were taken in.[36]

In addition to teaching activities, the ragged schools encouraged other inducements to moral improvement and responsible parenthood and citizenship. At Agar Town a Penny Bank was opened, together with a clothing club and a Band of Hope was formed.[37]

The inspections of 1871 revealed that most of the ragged schools were deficient in terms of the rising standard of professionalism among teachers that was then developing because of the increase in vocational training. Similarly, the



4. Brook Street Ragged and Industrial School: the workroom 1853.



5. Brook Street Ragged and Industrial School: the school room 1853.

growing public expenditure upon schools and facilities meant that the standards offered by the ragged schools were overtaken by events elsewhere. However, some were thought to be good enough to warrant inclusion within the Board system, for instance, those at Camden Town and Kings Cross.

Occasionally, somewhat better schooling was provided for the working classes by other agencies. A case in point was that of the school opened by the North Western Railway Company. Although it was intended for the children of 'railway servants' and ninety-four were admitted, 120 pupils were not employees children, and a further hundred were turned away. Fees ranged between 2d and 6d per week depending upon the father's income. The school encouraged reading by providing a library. Josiah Wilkinson commented that this school illustrated the underlying weight of demand, 'even where the public are not invited, but only permitted to attend'.[38]

The Workhouse School

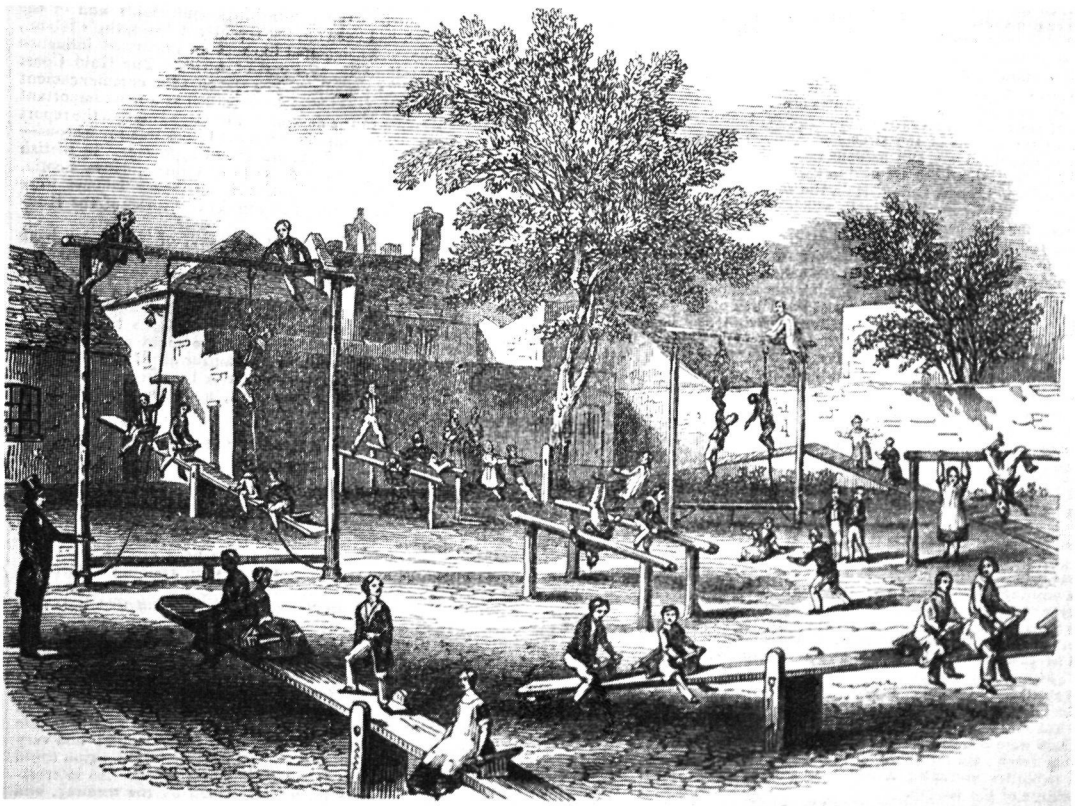
Perhaps the saddest class of children were those whose parents were consigned to the workhouse which was situated on the edge of Agar Town, 'that stately pauper palace, which looks down proudly upon this withered portion of the parish'.[39] Before the 1850s virtually no teaching was carried on either in the infants or the girls schools. The workhouse was grossly overcrowded and insanitary, giving rise to frequent scandals over the management of the institution. The workhouse children were said to be 'totally ignorant' and their physical condition was often so bad as to prevent any attempt at instruction. The workhouse population was, by its very nature, itinerant, and this meant that destitute children attended school 'only for a few days'.[40]

The workhouse schools were visited by representatives of the Home and Colonial Schools Society and the British and Foreign Schools Society and their reports indicated that conditions were somewhat better in the 1850s. The classes were found to be well organised with desks and forms provided. A trained teacher was appointed to teach according to the Pestalozzi Method. In addition to the all important religious instruction, the children were taught 'common things' such as 'making a bed, cleaning a room, cleaning a mahogany table and making a plum pudding'.[41]

The teaching given concentrated upon the ideas of moral improvement and self-reliance, the parochial authorities hoping against hope that these young charges to the local ratepayers would secure employment and thus remove themselves from such dependence. The inspector's reported that 'the children's knowledge of the Holy Scriptures and of the Catechism of the Church of England, was highly creditable'.[42]

The schoolchildren were evidently more disciplined and restrained than some of the pauper children who attended the local ragged schools at Agar Town and Somers Town, and 'The order and discipline . . . pleased me much, and the children appeared subdued, yet generally cheerful and obedient without fear'. This was doubtless the result of the often draconian regime that operated there and given the grim history of the workhouse, this was something of an accolade.[43]

When Josiah Wilkinson visited the workhouse some years later, he commented upon the paucity of education that was provided for the frightening total of seventy children under the age of six years but approved strongly of the removal of the older children to new and vastly better premises at Finchley. The regime of fear



6. Gymnasia and playground of the children of the Home and Colonial School Society, Grays Inn Lane, *c.* 1860.

and callous discipline still continued with such practices as the removal of children from parents who had breached one of the many workhouse rules. However, the parish authorities did at least provide some stimulus to education by refusing to give relief to paupers outside the workhouse unless they agreed to send their children to school.[44]

Sunday and Evening Schools

Sunday schools had become numerous in the late 18th century and by the 1860s there were one hundred of these establishments in Saint Pancras. According to estimates produced by the Newcastle Commission, these reached over 15,000 students.[45] It was very common for large numbers of children to be given basic religious instruction by lay teachers. At one school, 700 children were tended to during the course of the day by 34 teachers who were mostly local shopkeepers, bookkeepers and artisans.[46]

In addition to the Sunday schools, evening schools were instrumental in bringing literacy to children who were obliged to work during the day. In the early 1860s, fifty schools offered evening classes, usually in addition to day school activities. More than two thousand five hundred pupils were enrolled and the average attendance was put at 1,488 or about twenty-nine pupils per establishment.[47]

The high level of demand was indicated by these figures and it is very significant

that one quarter of those attending evening classes in 1861 were found never to have attended a day school. Less than a third of the pupils had attended a day school for a period of five years. Staff student ratios were estimated at 1:79 and this again suggests the strength of demand.[48]

The Agar Town Ragged School provided such facilities but was obliged to limit the numbers to fifty students, 'in consequence of their rude and often violent behaviour, five or six are quite sufficient for one individual to manage'.[49] Classes were also provided for youths between the ages of twelve and twenty and it was said that some had improved themselves sufficiently to emigrate to Australia, there to start a new life.[50]

In addition to the Sunday and evening schools, a number of institutions emerged which provided adult education. The Working Men's Literary Institute was opened in 1853 in Gray's Inn Road. Its purpose was 'to supply means of educational progress and harmless recreation'. The Institute was managed by a Committee of working men and the classes were vocationally inclined, the range of subjects included book-keeping, arithmetic and shorthand. There were also wide readings of classical literature and debates upon such matters of moment as to whether 'it is likely that the general excitement in Italy will result in a successful rising of the people?'[51]

The Working Men's College at Mornington Crescent provided similar instruction in the evenings and – then as now – 'is doing much to increase the intellectual results of education'.[52] Josiah Wilkinson approved strongly of this kind of establishment, being as they were, alternatives to drinking and other harmful leisure activities. Given the deficiencies of the educational system, such as it was, he thought that not too much should be expected of it and therefore the value of these adult schools was enhanced.

The Obstructions to Education: Drunkenness, Indifference and Poverty

It is evident that by the 1860s educational facilities of some sort had become available to most of the people of Saint Pancras, even those in the most squalid slums such as Agar Town. The ragged schools adhered to their policy of providing free education to all and this often resulted in an inability to provide adequate staff and materials. The reason for this was that the Ragged School Union felt that it should maintain its dependence from all other agencies in order that it should remain free from all constraints to reach those most neglected classes of society and tend to them according to its particular religious convictions. In the event it was a debilitating independence for it could not provide the same standard of education as those schools, such as were opened by the National Schools Society, and the latter gradually usurped the functions of the Union, making it superfluous to any obvious need. The coming of the Board schools merely completed this process.

However, it was not always so and for a time the ragged schools diverted the more problematical of children away from the more respectable establishments. It was reported that one National School in Saint Pancras had been invaded by 'a considerable number of untrained, rude, half-clothed children' thus provoking protests from the more diligent parents who complained about the reception of 'this rude . . . Ragged class'. As a result, the destitute children were sent to a ragged school, after which 'The National School quickly recovered its reputation'.[53]

The overwhelming problem was that of child poverty, which had become in-

creasingly conspicuous during the urban expansion of the early nineteenth century. The Census of 1851 indicated the scale of the problem by showing that nearly one million children aged between three and twelve years were missing from school and other counts and this 'too numerous body of destitute children . . . perpetually haunt large towns and cities, snatching a miserable and precarious subsistence as the fruit of vagrancy or crime'.[54]

It was stated in the Census Report that the depraved, criminal and violent character of these children had provoked loud demands for action which had been answered most obviously by the Ragged School Union. Despite the activities of such philanthropic bodies and individuals, the progress of working class education was painfully slow and unsystematic and their early endeavours were to be swamped by the sheer enormity of demographic expansion. By 1859, it was estimated that the population of Saint Pancras was 199,000 people, and this represented a 600% increase from 1801. Furthermore, the problems that this increase posed were accentuated by the dramatic rise in the child population, for the under-twelves numbered 41,613 in 1859. The under-fifteens numbered 47,882. This figure was 50% greater than the *entire* population in 1801.[55]

The position in Saint Pancras was aggravated not only by the age structure of this exploding population but also by its economic status. The area received many Irish immigrants during the 'Great Hunger' of the 1840s and they gravitated to the poorer areas, especially Saint Pancras since railway building activity offered some prospect for employment. Also, the clearance of the infamous slums or 'Rookeries' of inner London served simply to increase demographic pressure on the poorer outlying areas.

The inability or unwillingness of these impoverished people to pay school fees of about 6d per week was compounded by the refusal of many Church and National schools to give places to the poor because of 'their rude habits, from their filthy condition and from their want of shoes and stockings'.[56]

Apart from this reluctance on both sides if for different reasons, the main obstructions to education were irregular attendance and early withdrawal from school. Both problems were caused by abject poverty, as well as the additional evils of indifference and drunkenness.

Sending children to school involved a double sacrifice which fell most heavily upon the poorest classes of society. School fees could be quite low, ranging from 1d to 6d per week in the Church and National schools and between 6d and 1s per week in the private sector. Many National schools waived fees for those families who were obviously in distress. This meant that school fees were a tolerable burden but the loss of children's wages which could be as high as 8s per week was a much greater hardship for an impoverished family.

A teacher from Camden Town, a Mr. Roberts, informed the Select Committee on the Education of the Destitute Classes that 'In the Metropolitan districts there are facilities for earning money from the age of six and upwards, and the variety of occupations is so great as to render a detailed list almost impracticable and the unwillingness of parents to forego wages is the hinge on which works the whole or nearly the whole question of early withdrawal from school'.[57]

A detailed investigation revealed that boys could earn between 1s and 5s per week, depending upon age, while 'girls are usually kept at home to nurse babies' thus allowing both parents to work. Much of Saint Pancras and the neighbouring districts to the north and east were essentially rural in the early 19th century and there

were many market gardens and smallholdings. During the harvest, work was readily available for the young who deserted their schools in droves for this seasonal employment.[58]

Many children attended school intermittently and it was thought that a stay of one year was unusual. The Education Act of 1870 altered the balance of the family economy by making school attendance until the age of thirteen compulsory. This new legal obligation to support under-age dependents increased the material incentives to limit family size, which had earlier been one of the major causes of early withdrawal from school, for 'The fact is, that by the time Tommy is nine or ten, half a dozen brothers and sisters have accumulated and therefore he *must* get his living'.[59]

The Ragged School Union was one of a number of bodies that tried to break the cycle of material deprivation which was perpetuated by ignorance and the most extreme poverty. These causes contributed to the 'indifference' of many parents towards the improvement of their children. However, it was stated that this 'lack of will' decreased 'and decreases in proportion to the pains taken by district visitors and others having access to the Poor, to explain to the parents the advantages of education'.[60]

Irregular education was thus a symptom of acute material insecurity, for quite apart from the contribution that a child's wages could make to the household income, many parents wished their young to secure some occupation or living, for if the parents should die, then their pauper orphans would be consigned to the workhouse.[61]

A further obstruction to popular education was caused by jealousy and rivalry between the different religious denominations in the provision of schools which often led to the duplication of schools in the more respectable areas and an unequal distribution of facilities. For example, when the British and National School opened in Highgate, a dissenting church quickly followed with their own establishment, 'in order that parents in the humbler ranks may have the same free choice which those in more affluent circumstances enjoy'. The very notion of parental choice in education was, of course, a Victorian folly, but one that has only recently been abolished by those who are better able than parents to judge these things.[62]

Conclusion

Saint Pancras represented a microcosm of the Victorian urban experience and the social problems found there were shared by many other areas. The explosive growth of the population was encouraged by migration from the central districts of London, from Ireland and other places. Often this represented simply the urbanisation of rural poverty as labour was drawn to the Metropolis, hopefully for work in the burgeoning commercial and industrial centres and failing that, to secure relief at the Saint Pancras Workhouse.

This unprecedented growth caused extreme distress, for it was not initially attended by a sufficient provision of amenities, such as housing, sanitation and education. This tended to emphasise the plight of the most insecure in society, especially the old and the young.

The growing awareness of these problems was indicated by the many official investigations and enquiries into every aspect of social, economic and spiritual life and these were prompted by many motives, such as the desire for social stability, and a moral concern as well as the fact that the franchise was widening to include men of the 'mechanic' and artisan class.

While there can be no doubt that living standards improved in the longer term, these developments in the early decades of the century had a crushing effect upon unskilled labour and this was accentuated by cyclical downturns in economic activity. When gathered and concentrated in the most delapidated areas of London, the poor became a class of 'outcasts' who 'though living in a great city, and surrounded by people of all classes, yet the poorest are, to a great extent, a separate and separated class from the rest of society'.[63] Many of these were children and the efforts that were made to educate them in the ways of Christian life must be seen in this harsh context.

Some progress was made before the Education Act for the endeavours of the National Schools Society and other similar bodies progressed downwards through the ranks of society. In the meantime the Ragged School Union persevered among the destitute and those of 'immoral character'. Even here some achievements were visible and as Josiah Wilkinson remarked as he observed the arrival of some poor children at a ragged Sunday school—

> . . . even the most foulmouthed and brutalised ruffians looked at them with a kindly eye, and an apparent consciousness that they belonged to a different race, and that the generation of savages was passing away . . .[64]

NOTES

1. Charles Booth is quoted in Maurice Bruce *The Coming of the Welfare State* (London, 1961) 127.
2. For example, the southern part of Saint Pancras figured largely in John Hollinshead's *Ragged London* of 1861. Also, Hector Gavin, editor of The Builder magazine and a tireless campaigner for social reform, described conditions here in his *London's Shadows: The 'Homes' of Thousands* of 1854.
3. Bruce *op. cit.* in note 1, 125.
4. Quoted in H. C. Dent *1870–1970: Century of Change in English Education* (London, 1970) 3.
5. *A Brief Account of the Charity School of Saint Pancras* (1971)
6. *Loc. cit.*
7. *Loc. cit.*
8. *The Select Committee on the Education of the Lower Orders* British Parliamentary Papers (1816) Vol. 00, 88.
9. *Loc. cit.*
10. Thomas Barnwell *Saint Patrick's Charity* (1838).
11. Select Committee, B.P.P. (1816) Vol. 00, 5.
12. *Saint Patrick's Charity for the Gratuitous Clothing and Education of the Children of Poor Catholics and Asylum for Orphan Girls* (1838).
13. *Abstract of Education Returns* B.P.P. (1853) Vol. 52, 476–478.
14. Public Record Office, Kew Gardens, London. Education 3/19, (1871). This class of documents contains boxed files covering each of the schools inspected.
15. *The Report of the Royal Commission on the State of Popular Education in England* (the 'Newcastle Commission') B.P.P. (1861) Vol. 21 Part VI 379. This Report is attended by very voluminous minutes of evidence and statistical surveys of every region of England. It was quickly followed by the enquiries conducted by the Select Committee on the Education of the Destitute Classes because such bodies as the Ragged School Union argued that the problems of the poor had not been sufficiently assessed.
16. P.R.O. Ed 3/19 (1871).
17. *Newcastle Commission* Vol. 21 Part VI 371.
18. P.R.O. Ed 3/18. (1871).
19. *Ibidem.*
20. *Newcastle Commission* Vol. 21 Part VI 379.
21. *Ibidem*, 375.
22. The Report of the Select Committee on the Education of the Destitute Classes B.P.P. Vol. 7 413.
23. *Ibidem*, 415.
24. *Loc. cit.*
25. *Report on the Population Census of 1851* B.P.P. (1852–1853) Vol. 91, LXV.
26. Agar Town Sunday and Ragged School, Saint Pancras Road: Annual Report, (1847).
27. *Newcastle Commission* Vol. 21 Part VI 356.
28. *Agar Town Ragged School; Annual Report, 1848.*
29. *Agar Town Ragged School; Annual Report, 1850.*
30. P.R.O. Ed 3/19/139. (1871).
31. P.R.O. Ed 3/18. (1871).
32. P.R.O. Ed 3/19. (1871).
33. *Ragged School Magazine* 2 (1849–1850).
34. P.R.O. Ed 3/18. (1871).
35. *Ragged School Union, Third Annual Report* (1847) 16.
    Also, *Agar Town Ragged School, Annual Report* (1848).
36. E. A. G. Clarke *Ragged Schools* Unpublished M.A. Thesis, University of London (1967). This formidable study is mainly centered upon London where most of the ragged schools were established.
37. *Ragged School Union, Third Annual Report* (1847) 66.
38. *Newcastle Commission, loc. cit.* 352.
39. John Hollinshead *Ragged London* (1861) 134.
40. *Reports on the Boys, Girls and Infant Schools Attached to the Saint Pancras Workhouse, Middlesex* (1855 and 1856).
41. *Ibidem*, report of 1856.
42. *Ibidem*, report of 1855.
43. *Loc. cit.*
44. *Newcastle Commission, loc. cit.* 365.
45. *Ibidem*, 327.
46. P.R.O. Ed. 3/19. (1871).
47. *Newcastle Commission, loc. cit.* 327.
48. *Ibidem*,
49. *Agar Town Ragged School, Annual Report* (1848).
50. *Agar Town Ragged School, Annual Report* (1850).
51. *Newcastle Commission, loc. cit.* 400.
52. *Loc. cit.*
53. *Report on the Select Committee on the Education of the Destitute Classes* B.P.P. 7 (1861) 412.
54. *Report on the Census of 1851* B.P.P. (1852–1853), Vol. 91, LXIV.
55. *Newcastle Commission, loc. cit.* 321.
56. *Select Committee on the Education of the Destitute Classes, loc. cit.* 414.
57. *Newcastle Commission, loc. cit.* 354.
58. *Ibidem*, 418.
59. *Ibidem*, 355.
60. *Ibidem*, 353.
61. *Ibidem*, 359.
62. *Newcastle Commission, loc. cit.* 364–365.
63. London City Mission *Third Annual Report of the Saint Pancras Auxiliary* (1850) 12.
64. *Newcastle Commission, loc. cit.* 399.

(All illustrations from Local History Section, Camden Public Libraries, Swiss Cottage)

RAILWAY DEVELOPMENT IN SOUTH-WEST LONDON

MICHAEL ROBBINS

At the height of the Railway Age in England, it was difficult to find any place reasonably claiming to be a town which lay as far as ten miles from a railway.[1] In the industrial districts and close to the big cities, railway lines figured prominently on the map and in the landscape, crossing and recrossing one another, sometimes with curves and junctions connecting them, sometimes without. An area map of south-west London (or, historically, north-east Surrey) displays, as all suburban districts used to do, a net work of railways, but one that is unusual in two respects: there is a considerable hole in the centre of the web, the area of Putney Heath, Wimbledon Common, and Richmond Park, that railways never penetrated – though not for want of trying; and, with only trifling exceptions, all the lines that were built are still carrying passengers today.

To establish the chronology of the events, and some non-events, which led to the creation of the lines shown on the map is a necessary preliminary to understanding how the railway map came to look as it did; but one needs to take the matter farther, not concentrating simply on what the railway *was*, but trying to discover *why* it was located precisely where it was, and what it *did*.

Railways were built in particular pieces of territory either because their promoters expected to carry traffic arising within that territory, or because they had to pass that way in order to get somewhere else. (There were also lines built to loop round congested areas, and to make connections; and there were lines promoted, and even built, just to be a nuisance.) Broadly, however, in origin railways were either local lines or main lines; though as time went on parts of main lines became important local carriers too, and the original distinction of purpose was lost. Still, the broad distinction is a useful one. London's first two local railways, the London & Greenwich (London's first railway of all) and the London & Blackwall, originally looked only to traffic along the line between their termini (with, in the Blackwall's case, a valuable catchment from the River Thames steamboats serving Blackwall Pier).[2] But Harrow would not have had a railway station in 1837 if that rural parish had not happened to be on the route selected to link London with Birmingham; nor, to come to our district, would Wimbledon in 1838 if it had not been on the Southampton line. Neither of these stations lay particularly close to its parish centre – a long mile away at Harrow, a short but hilly mile at Wimbledon; but both of them were closer to the places they were named after than the station named Kingston, farther down the Southampton railway, which was getting on for two miles from its town.

This London & Southampton Railway was the first true railway to come into the area covered by the south-west London map (Fig. 1), and after it had become the London & South Western it proceeded to construct, or be concerned in some way with, every one of the railways that was built. But first brief mention must be made of two curiosities from the pre-historic age of railways. The Surrey Iron Railway of 1801 remains noteworthy as the first pub-

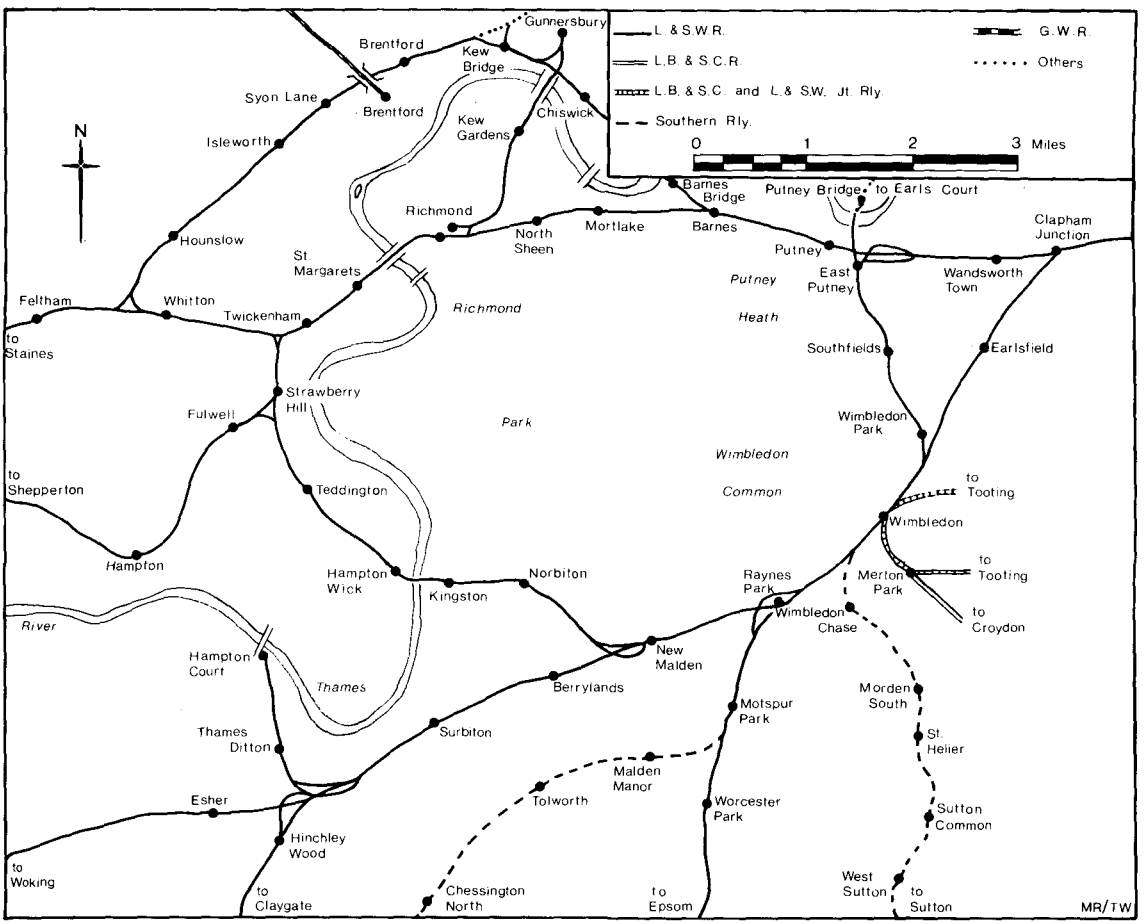


Fig. 1 Railways in outer south-west London.

lic railway, not associated with a canal, to be authorised by Act of Parliament for the conveyance of goods of all kinds and ownerships (not merely for the accommodation of a single owner or a group, such as the Middleton Railway at Leeds, which had got its Act in 1758). From a creek on the Thames just north of the brewery at Wandsworth, this line ran close to the River Wandle and its industrial installations along Garratt Lane, past Mitcham, and over the common to Pitlake at West Croydon. It has been carefully explored and its topographical features lovingly set down by Mr. Derek Bayliss in a recent publication.[3] Much more obscure, and deservedly so, is an experimental line, constructed on Wimbledon Common in 1845 to demonstrate the alleged advantages of Mr. William Prosser's system of using squared chemically-hardened wooden rails instead of the orthodox iron rails. The carrying wheels of the locomotive and vehicles were flat, without flanges; guidance was achieved by interior wheels, cut with a V-shaped groove, lying at a 45-degree angle to the running rails, whose inside upper corner they engaged. The layout was not a circle round the Wimbledon windmill, as has been stated,[4] but a kind of cusp or frying-pan shape, with the handle-

end near to the windmill and a loop, some 220 yards in radius, to the north of it, not far from the southern exit of Inner Park Road. The line taken by Mr. Prosser's track is still fairly easy to identify and follow, though one part on the east side is now overgrown. The experiment was not successful; but Mr. Prosser had been astute enough to interest the promoters of the Woking and Guildford line in 1843 in the use of his system, and he had to be compensated when the South-Western took over that branch and wanted no such unorthodoxy.[5]

The South Western Railway ('London & Southampton' only till 1839, thereafter London & South Western, to mitigate the hostility of Portsmouth to any concern carrying the name of its rival) was originally promoted in 1831 as the "Southampton, London and Branch Railway & Dock Company"; it was supported by the commercial interests of Southampton, in order to restore the fortunes of their declining seaport, and by naval and military authorities. It was opened throughout from Nine Elms in 1840; the Peninsular & Oriental steamers made Southampton their home port in the same year; and the railway succeeded, with its associated docks, in carrying the town forward to great commercial prosperity.[6]

Along the way, stations were built for the accommodation of local traffic: at Wandsworth (near Freemasons' Bridge, a little west of the later Clapham Junction), Wimbledon, Kingston (later Surbiton), and Ditton Marsh (later Esher). The first stationmaster at Wimbledon is asserted by some people to have been the original of Dickens's Mr. Pickwick – that is, until they notice that the famous Papers had begun publication in 1836, two years before the station was opened.[7]

None of these stations has survived in anything like its original form, and most of them have been resited: Clapham Junction (Mid-Battersea, as Bradshaw used to point out) replaced Wandsworth in 1863; Earlsfield came in 1884; Wimbledon was removed to the north side of the road bridge in 1881, leaving the South Western pub across the road until it was demolished a century later. There have been at least two temporary stations at Wimbledon, one on the London side for Volunteers going to camp on the Common, and one on the country side for the tennis championships at the Worple Road ground in the Edwardian decade – not counting the diminutive Railway Staff Halt near Durnsford Road bridge. Raynes Park came in 1871, the subject of an extremely obscure joke by a guide-book writer of 1889 – referring to Stanhoe, in north Norfolk, as 'possibly the least important station in England, except Raynes Park'.[8] Malden came much earlier, in 1846 – the railway found it difficult to decide exactly where it was, and changed its name four times. Kingston was resited – it began in 1838 down in the deep cutting, near the Ewell Road bridge below the Railway Tavern, and was removed in 1840, when the Southampton Arms Hotel had been built, and got the name of Surbiton ('and Kingston' at first) only in 1863.[9] The last in our area was Ditton Marsh ('for Hampton Court'), renamed Esher within two years.

The main line, which had been widened to provide four tracks as far as Hampton Court Junction by 1884 and beyond in 1902–4, threw off branches, from west of Kingston station to Thames Ditton and Hampton Court in 1849, from Raynes Park to Epsom in 1859, and through Claygate and Oxshott to Guildford in 1885. But to the north of it, nearer to and crossing the Thames, the South Western was engaged in much activity and a good deal of quarrelling. The railway always called this part of its system 'the Windsor

and Reading lines', and that accurately describes the intention with which they were exploited – to secure valuable middle-distance traffic from the Thames Valley, and to be a nuisance to its detested neighbour, the Great Western. But the origin of these lines was a local promotion, the Richmond Railway, which proposed in 1844 to build from Richmond up to a junction with the South Western at the Falcon bridge (later known as Clapham Junction) and, rather saucily, beyond the Nine Elms terminus to the neighbourhood of Hungerford and Waterloo bridges. The South Western took over the latter part. The Richmond's line was easy to build, the only important works being a viaduct over the Wandle and the Surrey Iron Railway, a cutting at Putney, and a bridge at Barnes to carry the Hammersmith road over the line, with a screen to prevent horses being frightened. The vestry of Mortlake opposed the provision of a bridge at Sheen Lane and asked for a level crossing instead. They got it, and road traffic and residents are afflicted to this day. Mortlake was not the only place to make this misjudgment – Lincoln, having taken advice from Canterbury, who affirmed that the railway crossing of their High Street caused not the slightest inconvenience, did the same thing and regretted it for more than a century.[10]

The line was opened in 1846, when the Lord Mayor of London proposed the toast 'Prosperity to the Richmond Railway' at the inaugural banquet, having arrived not by railway but, inappropriately, by the City barge *Maria Wood*.[11] Traffic between Richmond and London was already considerable – there were 98 omnibus trips daily, and there were river steamers also. Most of the railway's traffic was, as expected, end-to-end – over 50,000 each way between Nine Elms and Richmond in June and July 1847. The four intermediate stations contributed only 23 per cent of the passengers, the descending order of business being Wandsworth, Mortlake, Putney, and Barnes. One of the railway papers found the line 'wanting in the picturesque'. That could, however, hardly be said of the stations, designed by Sir William Tite: the *Builder* called them 'fairly pretty country stations, of red brick with black lozenges, mullioned windows, and Tudor chimney stacks etc., all quietly and nicely designed'. Only Barnes, which still substantially survives, outlasted the quadrupling of the line in 1885–7. Richmond station, not complete at the opening date, was on the London side of Kew Road; a new station west of the road was opened in 1853; and this was in turn replaced by another on the London side. In the 1870s the local vestry felt strongly about the facilities: 'Any old woman at the workhouse could have designed better and more convenient stations than those at Richmond. Even the old station . . . would anyone suppose that an engineer with any brains about him could have designed such a station?'[12]

The railway did not stop at Richmond for long; it was pushed on through Twickenham, Feltham, and Staines as far as Datchet in 1848. *Punch* did not think much of the line, calling it the London & Datchet Snailway – indeed, the stopping trains took an hour and twenty minutes for the 24 miles. After delays due to lengthy negotiations with the Crown, and partial failure of the Thames bridge at Black Potts, near Datchet, Windsor was reached in 1849. A loop line from Barnes crossed into Middlesex, as far as Isleworth (Smallbury Green) in 1849 and on through Hounslow to rejoin the Staines line at Feltham Junction in 1850. About this date, a laundry for the royal household was established in Richmond, in Kew Foot Road, and thereafter for many years the royal washing was received and despatched by train, whether to

Buckingham Palace, Windsor, or Osborne (but not to Balmoral).[13]

Another branch, from Twickenham, curved round through Teddington and Hampton Wick back over the river to Kingston town, and stopped there, in 1863; and from Strawberry Hill the grandly-named Thames Valley Railway branched to Shepperton in 1864 – it wanted to get at least as far as Chertsey but never managed it.[14] This group of lines displayed few remarkable features: the only engineering works of note were the three Thames bridges, at Barnes, Richmond, and Kingston. The stations on the Hounslow loop line, by Tite again, were not Tudor but thickly classical – Chiswick survives more or less unaltered; on the Shepperton line they were suitably equipped with iron boot-scrapers for the use of passengers who had to walk the muddy roads of the vicinity; and at Teddington the market-gardener and novelist R. D. Blackmore waged a bitter fight against the railway which took away some of his land at Gomer House.[15]

So far, the railway developments were straightforward and indeed foreseeable in an area close to London which was obviously suited for middle- and high-class housing developments. But the next phase (which in fact began earlier than the last of the opening dates already mentioned) is most confusing unless it is remembered that the South Western's London terminus, first at Nine Elms and from 1848 at Waterloo, was a very unsatisfactory point for the traveller: it was on the wrong side of the river, having no reasonable communication either to the City or to the West End until the tube railways arrived – the Waterloo & City in 1898, the Bakerloo in 1906, and the Northern in 1926. Therefore the South Western had either to secure a route of its own, or for its own trains, to the City or to see other railways which could offer direct West End and City services come into its territory. It was determined not to have foreign ownerships south of the river, and in this it succeeded remarkably: a mark of its success is that on the District routes to Wimbledon and Richmond the Underground never owned, and London Transport today does not own, the river bridges or the lines south of them.

The shifts and devices by which the South Western tried to get to the City are too numerous to list here, but some of them must be mentioned. The South Western actually did get power to extend from Waterloo to London Bridge in 1846 and bought some land; but the power was abandoned in 1849 when money was short after the 'railway mania' of the middle forties had collapsed. The South Western directors and their successors spent a lot of time and money from then to the end of the century trying to repair that mistake. They tried in 1859 to get into Charing Cross with a connection to the railway from London Bridge sanctioned in that year (almost immediately absorbed by the South Eastern Railway); then in 1861 they tried to get to Cannon Street but jibbed at taking a half-share in this very expensive piece of construction. In 1865 some South Western and London & North Western trains from Euston via Kensington began running through the middle of Waterloo station (at 4mph) and across Waterloo Road by a bridge which still stands and over South Eastern tracks, first to London Bridge, then to Cannon Street. From farther afield the South Western joined with the London, Brighton & South Coast in building the Tooting, Merton & Wimbledon Railway, so that its trains could get via Herne Hill over the London, Chatham & Dover to Blackfriars and Ludgate Hill, which made the South Eastern, which regarded the Chatham as a vexatious upstart, very cross indeed. The Cannon Street trains were soon cut back to

Waterloo, and the South Western began running another way to Ludgate Hill, from Clapham Junction and from Kensington via Loughborough Junction. The maze of connections on the London side of Clapham, built to enable trains to run from virtually all directions to all others, created what became known as the 'Battersea Tangle', whose surviving lines and earthworks still occupy many acres.[16] The junctions were named after the farms of the departing countryside – Latchmere, Pouparts, Longhedge, Stewarts Lane – with one from the railway-dominated present, Factory Junction.

The South Western did not prove very successful in its offensive eastwards towards the City; but it did score remarkable defensive victories when assailed from the north by other railways having west-end and City terminals. Their trains did penetrate south of the river, but always over South-Western tracks and under South-Western control. The first of these penetrations grew out of a modest line promoted in 1851 for exchange of goods traffic between Willesden Junction and Kew Junction on the Hounslow loop and opened in 1853. This North & South Western Junction Railway was at first jointly owned by the L.N.W.R. and the South Western, but its passenger trains were provided, remarkably, by the North London, a dependent of the L.N.W.R., whose line extended from Hampstead Road (Chalk Farm) to Bow, with trains running into Fenchurch Street. From Fenchurch Street trains ran for a time through to Windsor, L.S.W.R.; next, to Richmond and Twickenham, with two reverses *en route,* at Kew and Barnes; then, to help defeat a proposed direct line from Acton to Richmond, the South Western put in curves at Kew and Barnes in 1862 to allow through running without reversing. (The curve at Barnes was later abandoned but its course is still clearly marked today.) By this corkscrew route trains ran from Fenchurch Street (after 1865 from Broad Street) for a few years until the South Western yielded to pressure and built the direct line through Kew Gardens and Gunnersbury, opened in 1869. This South Western line meandered on through Hammersmith and Shepherds Bush to Kensington (Addison Road), and its trains went forward over the West London Extension, past Chelsea into the Battersea Tangle and so to Waterloo or Ludgate Hill. This extremely indirect service continued until 1916.

By means of junctions from this route, trains reached Richmond from the North London (Broad Street), the Midland (Moorgate via Child's Hill), Great Western (Bishop's Road, later Aldgate, via Hammersmith), Metropolitan (Aldgate, some from New Cross, via Hammersmith), and District (via Earl's Court, its own Hammersmith station, and Studland Road Junction), not all simultaneously but at different times, with the District and North London services surviving. These have continued to run to Richmond, under South Western, Southern Railway, and now B.R. control. The District once tried to get beyond Richmond, at least as far as Twickenham, but the South Western's terms were too stiff.

The Metropolitan District Railway, with its west-end and City stations and its share of the Inner Circle, was an evident threat to the South-Western monopolist. As a loyal South-Western officer put it: 'The District company, tired of burrowing like a mole in the bowels of the great City, cast their eyes enviously upon the fair and rich traffic district of the South-Western suburban system'.[17] Only the District's appalling financial situation preventing it giving active, rather than sympathetic, support to a proposed line from Hammersmith to Barnes authorised in

1872 and then frustrated the achievement of an invading line which would have cut like a knife through the South-Western's territory, and through some highly-prized countryside. That this plan so nearly succeeded was due not only to the pugnacity of the hard-up District but also to the strong dislike of the South-Western repeatedly expressed by the citizens of Kingston; the railway had left the town off its main line and only after pressure had agreed to extend from Hampton Wick over the river into the town. When this was achieved, in 1863, the 15-mile journey to Waterloo took between 45 and 57 minutes, in the timetable. Kingston would welcome any railway – even, rather wildly, the London, Chatham & Dover – which would give it something better than that. In 1864 the South Western countered a batch of competing schemes by agreeing to build from Kingston through Norbiton to join the main line at Malden, and this was opened in 1869; the trains ran, however, to Ludgate Hill, and Waterloo passengers had to change at Wimbledon. Competing schemes continued to be promoted, of which the Guildford, Kingston & London of 1881 was the most important. This was to start from the District Railway at Putney Bridge station in Fulham, reached by its branch from Earl's Court in 1880, and run past Tibbets Corner, Kingston Vale, and Norbiton to Oxshott and Guildford. The District was behind the scheme; the South Western was naturally against it. So were the conservationists of the day, who soon forced the promoters to substitute a tunnel under the ridge of the commons for the proposed cutting, though even that did not satisfy the objectors. The scheme emerged from the Parliamentary session cut into two – the Surbiton-Guildford part was taken over by the South Western (and this, as the Guildford New Line, was opened in 1885); the remainder, the Kingston & London, was to be worked by a joint committee of the District, the South Western, and the promoters, who included the Corporation of Kingston. The tunnel was to be 1700 yards long, and there were to be stations at Putney Heath, Roehampton (Robin Hood Gate), Coombe, and Kingston. The Act required the company to plant the open sections of the line adjoining Wimbledon Common in a 'reasonably ornamental manner' and to raise protective mounds near the rifle butts. The District was to run trains as far as Kingston, the South Western up to South Kensington, High Street, and Addison Road. At South Kensington the South Western was empowered to build a west-end terminus on the south side of the District tracks, in the area of Pelham Street.

In the next session, 1882, a Wimbledon, Merton & West Metropolitan Junction line was approved, to run from East Putney to a junction south of the South Western main line with the Wimbledon-Tooting line near Haydons Road. Bridges and stations near the Wimbledon Park estate were to be 'ornamental' – no doubt Lord Spencer's agents saw to that clause.

Some preliminary work on the Kingston & London Railway had been undertaken by January 1882, but the District could not find or raise its half-share of the £750,000 required, and by 1886, when no actual construction had been begun, the South Western hooked together the part of the Kingston line between Putney Bridge and East Putney and the West Metropolitan Junction thence to a north-side junction at Wimbledon, to be built wholly by the South Western with District trains having running powers to Wimbledon. This line, a modest end-product of so much scheming, was opened in 1889, with a flyover later the same year to the Windsor line at Point Pleasant Junction to let South Western trains round the corner

to Clapham Junction and Waterloo. So today East Putney, Southfields, and Wimbledon Park are Southern Region stations though no Southern train has served them since 1941 (the line is used by trains of Southern empty stock). The traveller can still feel the sharp curve just south of East Putney where the Wimbledon branch diverges from the Kingston & London's alignment running directly ahead and marked by a straight line of property boundaries up to the point where the long tunnel under the Heath would have begun. It looks as though Holmbush Road was laid out where the approach cutting was intended to be.

But the South Western was not finished with the District yet. The story of the last chapter in their hostile relations involves territory across the main line and outside the area we have been considering. Like the inhabitants of Kingston, those of Sutton, and especially some local landowners, thought that their town would gain much if it could bring in another railway to compete with their established monopolist, the London, Brighton & South Coast; and in 1910 a local company secured powers for a line from Sutton to Wimbledon. The South Western was not much interested in it; the District (which was authorised to work the line) was friendly but unwilling to put up any money. In 1912, however, the company became a subsidiary of the Underground group, land along the line was bought, and improvements were begun along the existing branch down to Putney Bridge. But in the end, the Underground in 1924 traded off its Sutton powers for withdrawal of Southern Railway opposition to its Morden tube extension, and the Southern built the line, no doubt in hopes of a substantial traffic from the London County Council's new St. Helier housing estate, and opened it throughout in 1930.[18]

But this has taken us rather far ahead. In 1889, to the fury of many inhabitants of Kingston and Surbiton who saw themselves deprived of the through West End services that they had thought within their grasp, the South Western was again triumphant in having kept its threatening competitors on the curb. The suburbs complained bitterly about the services doled out to them from Waterloo, as suburbs always do about their railway services. The South Western's in the nineties were perhaps a few shades better than those in the south east of London, where two impecunious companies thought it preferable to spend money on fighting each other rather than on amenities for passengers. But the South Western's slowly – very slowly – improved, with more tracks past Vauxhall and finally a rebuilding of the dreadful old Waterloo station, carried out in stages between 1900 and 1922. Only with electrification, inaugurated in 1915 on the South Western with the Waterloo – East Putney – Wimbledon service and completed for local services in 1916, and rebuilding of several important stations between 1929 and 1938 – Wimbledon, Surbiton, Kingston, and Richmond – could the suburban railways south of the Thames be considered up-to-date and adequately serving the great influx of population that the railways had themselves induced. To the electric period also belongs the opening of more intermediate stations to serve new suburbs: Berrylands (1933) on the main line; North Sheen and Whitton (both 1930) on the Windsor line; Barnes Bridge (1916) and Syon Lane (1931) on the Hounslow loop; Motspur Park (1925) on the Epsom line; and the final addition, the branch from Motspur Park through Tolworth to Chessington (1938 and 1939) – it was meant to go on to Leatherhead

but never did. In only ten years, from 1927 to 1937, the number of season tickets issued at New Malden and Surbiton increased two and a half times.[19]

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What, after all this building and battling, had the railways *done*? Obviously, they had made it possible for an immense number of people to live in these districts while the earner of the family did his daily work somewhere else, normally in central London. They did this of course not only by means of passenger train services but also by providing carriage of goods of all kinds: construction materials for the houses; coal to keep them heated; and most provisions for their daily needs. By doing these things they created quite new settlements round some of the stations; Surbiton is the most striking case, where as early as 1850 150 new houses had been built, but there are others – Wimbledon below the hill, the St. Margaret's area of Twickenham, Raynes Park (rather a slow starter), New Malden. By contrast, nothing of the same order happened at Kingston in the mid 19th century – all its historians lament its decline at that period.

It is much too simple to say of all suburban places: The railway came, and from that date development took off. It was not always true. The process was far more complex. First of all, having a railway station did not always mean having a convenient service of trains; the timetables need to be studied in some detail before a judgment can be made, and the fares taken account of too. In 1851 only two of the 15 trains from Waterloo to Putney had third-class accommodation. Then there were other conditions constraining development: landlords' different policies about selling land and controlling what was to be done with it – the policies of grandees like the Duke of Devonshire at Grove Park in Chiswick and Earl Spencer at Wimbledon Park were very different from those of the Conservative Land Society at St. Margaret's[20] or again of the numerous and mostly unremembered small-scale builder-developers; whether the local authority would provide roads, water, and drainage; whether building-society or other forms of borrowing were available; whether it was an attractive investment to build houses for rent; and finally whether the tide of continuously built-up settlement flowing outwards from London, having run along the most obvious and attractive channels, at length overflowed the remaining unprotected islands of green country.[21]

One activity that usually followed the railway was, however, not strongly represented in our area: industrial development. There were some rail-served factories here and there, but they were unimportant by comparison with those in other sectors of outer London, like Willesden or Southall or Woolwich. There were no 'railway colonies', either, of concentrated railway employment; men working the trains were concentrated on Battersea and Nine Elms (apart from a fifty-locomotive depot at Strawberry Hill between the 1880s and 1922, employing 500 men). Only with electrification was there a significant concentration of railway staff at Durnsford Road, Wimbledon, for the generating station and at the running sheds for the suburban trains. There is, too, a civil and signal engineers' depot at Wimbledon, where the strokes of a bell sounding like one in an ancient schoolhouse are still heard at 7.30 a.m. and 4.30 p.m. on working days to tell the staff, presumably not possessing watches, of starting and finishing time.

But suburban settlement, in the sense of providing buildings for people to live and work in, was not the only effect of railways in our area. The very nature and quality of many people's lives were changed because the means of communication – railways, telegraphs, newspapers – had so greatly enlarged the possibilities of social life. Such a qualitative change is hardly to be measured or pinned down; but some 'anecdotal' evidence must serve to indicate the kind of change that began with, and largely because of, the railways. In 1855, the writer Marian Evans (who later adopted the pen-name 'George Eliot'), having married – as she regarded it, though others did not – G. H. Lewes, went to live at 7 Clarence Row, East Sheen. She asked her friends to visit her there – 'it is far less trouble to get to than Bayswater. You have only to jump into the train at the Waterloo Bridge Station and in ten minutes you will be at Mortlake where you must get down',[22] she wrote, somewhat exaggerating the ease and speed of the journey. The point was that Sheen could now be treated, for social and cultural purposes, as a part of London; and when George Eliot moved on to Richmond and then in 1859 to Holly Lodge in Wimbledon Park Road she could still call on company to visit her almost as easily as when she lived facing Regent's Park. Another pair, Theodore Watts-Dunton and Algernon Charles Swinburne, living at the Pines in Putney, were similarly a part, if not very willingly, of the London literary scene. One of my uncles,[23] a very young man up in London for a few days from his provincial home, took the train to Putney so as to hang around on Putney Hill in the hope of seeing and saluting the great poet while he was taking a walk. Scores of thousands of less notable people had the potential of their lives enlarged by the accessibility that the railway conferred on their homes and the mobility it offered to them personally.

But it was not only buildings that the railways encouraged – they offered new opportunities for recreation too. The commons and parks began to swarm with people. Hampton Court was, before the Crystal Palace, the day-trippers' favourite place of resort. Rowing clubs along the Thames; angling; Wimbledon common for rifle-shooting; the All-England grounds for lawn tennis; Twickenham rugby ground; innumerable club and private playing fields – all these were made accessible by railways.

'Railway Development in South-West London' – an ambiguous title which is meant to refer not only to development *of* railways but also *by* railways, what they engendered – is thus a highly complex story, and one that has not by any means been fully explored. Study of the process in detail is something that local societies are particularly well fitted to carry out, with members who are prepared to hack their way, perhaps fairly slowly, through the mass of data which is available, asking themselves all the time not only 'Why did this happen when it did?' but also on occasion 'Why did nothing happen here?' Their answers will throw a flood of illumination on the processes by which a particular place ceased to have an independent economic life of its own and became a full-blown suburb. The contribution of the railway will be found to provide the key to many otherwise puzzling things about the suburbs.

The railway has of course not been the only agent in the transport story. There is another chapter to be written about the effects of the application of the internal combustion engine to road transport vehicles, with all that that has meant for the lives of the people living in our area. But it cannot be doubted that the railway was the principal force, after the natural geography, that has determined the shape

and character of the area as we know it today.

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NOTES

1. Information from Professor Jack Simmons, based on *Railway and Commercial Gazetteer* (1917). Hartland, Devon, which was not much of a town, was 16 miles either from Bideford or from Bude station. Painswick, Glos., Ambleside, Westmorland, and Kingsclere, Hants., were the largest towns over three miles from a railway.
2. M. Robbins 'The First London Railways' *Trans. London & Middx. Arch. Soc.* 28 (1977) 292.
3. D. A. Bayliss *Retracing the First Public Railway* (Croydon, 1981).
4. A. A. Jackson and B. G. Wilson 'Rails on Wimbledon Common' *Railway World* (July 1960) 219.
5. *Walks on Wimbledon Common* (Wimbledon, 1971) 53–5, and map, p. 47; C. F. Dendy Marshall *History of the Southern Railway* (1936 ed.) 90–2.
6. J. Simmons *The Railway in England and Wales 1830–1914* (Leicester, 1978) 28–9.
7. B. G. Wilson 'The Railway Development of Wimbledon' *Railway World* (Jan. 1961) 16; G. Boas *Wimbledon: has it a History?* (Wimbledon, 1947) 16.
8. W. Rye *Tourist's Guide to Norfolk* (4th ed., 1889) 96.
9. R. W. C. Richardson *Surbiton: 32 Years of Local Self-Government 1855–1887* (Surbiton, 1888), 11–12; M. Bellars *Kingston Then and Now* (Esher, 1977) 30; H. W. Hart 'The Late Development of the Railway Facilities of Kingston-upon-Thames' *Journal of the Railway and Canal Historical Society* 13 (1967) 2.
10. C. M. Rose *Nineteenth-Century Mortlake and East Sheen* (priv. printed, 1961) 59–60; Sir F. Hill *Victorian Lincoln* (Cambridge, 1974) 114.
11. K. Courlander *Richmond* (1953) 165.
12. G. Biddle *Victorian Stations* (1973) 65; R. A. Williams *The London & South-Western Railway* 1 (1968) 168, 2 (1973) 26–7.
13. Courlander *op. cit.* in note 11, 165.
14. K. Y. Heselton *Sunbury and the Thames Valley Railway* (Sunbury, 1975).
15. R. Webber *R. D. Blackmore of Teddington* (Twickenham, 1980).
16. P. Metcalf *The Park Town Estate and the Battersea Tangle* (1978) deals with the topography of this area but not with the railways' reasons for being there.
17. Fay (above), 112.
18. A. A. Jackson *London's Local Railways* (1978) 311.
19. H. P. White *Greater London* Vol. 3 *Regional History of the Railways of Great Britain* (1963) 71.
20. *Victoria County History, Middlesex* 7 (1982) 64; A. C. B. Urwin *Twicknam Parke* (1965) 116.
21. For north-west London, M. Robbins 'Transport and Suburban Development in Middlesex down to 1914' *Trans. London & Middx. Arch. Soc.* 29 (1978) 129. The pioneer study for south London is H. J. Dyos *Victorian Suburb* (Leicester, 1961) esp. pp. 69–80, on Camberwell; slight indications in J. Roebuck *Urban Development in 19th-Century London: Lambeth, Battersea, and Wandsworth 1838-1888* (1979) 120–2; for Putney and the architect-surveyor Charles Lee, *Putney – 1851* (Wandsworth Historical Society, 1981).
22. G. S. Haight *George Eliot* (1968) 180.
23. Richard Capell (1884–1954), born Northampton, music editor and war correspondent of *The Daily Telegraph*.

PIONEERING CLASSICAL BARBARISM

A.D. HARVEY

Milner Square, just off Upper Street, Islington, London, may plausibly be described as one of the less attractive pieces of Victorian residential architecture. Sir John Summerson wrote that the

> 'architecture is of the most sinister description . . . mannerisms in the modelling give the design an unreal and tortured quality . . . It is possible to visit Milner Square many times and still not be absolutely certain that you have seen it anywhere but in an unhappy dream.'[1]

Pevsner quotes Summerson and suggests that Milner Square is a standard case of the 'disintegration of the classical conventions.'[2] And yet there is an unusual quality about the impersonality and oppressiveness of the square. It comes as rather a surprise to find that it was built in 1841. Some of the detail is routinely early Victorian: the general concept seems unmistakably 20th century.

Liberated by the new technology of steel frames and poured concrete, early 20th-century architects evolved an architectural style which reflects the sheer man-dwarfing size of human achievement, the city's indifference to the individual, and an ideology of symbolically functional shapes that caused even intimate private dwellings to be presented merely as units within a huge industrial-type complex. Partly because the spread of steel frame technology came at a time when classicism – in the form of neo-Baroque – was in fashion, partly because geometrically right-angled masses so easily accommodated the desired size and functionalism, the main *stylistic* influence on early twentieth century big-building architecture was classical. But, perhaps because the new technology liberated architects from the purely physical limitations of earlier periods, or because of a need to emphasise how 20th-century industrial civilisation involved a major departure from earlier values, classical architectural motifs were often ostentatiously misapplied, or presented in disconcerting new relationships; what has been described as the 'antilogical use of traditional features,'[3] is perhaps the most distinctive feature of the mainstream of great public and commercial buildings in the 1900s and 1920s and 1930s. Thus there evolved a new type of neo-classicism which significantly reversed the values of the older neo-classicism of the 18th and early 19th centuries – sometimes indeed literally stood it on its head. And, though it belongs to the earlier period, Milner Square in many respects adumbrates the features of this later style.

Of course Milner Square is not a single solitary foreshadowing of 20th-century neo-classical. The desire to extend the range and modify the emphases of neo-classical was evident also in the early 19th century. In Britain with Sir John Soane, in Germany with Karl Friedrich Schinkel, in France with Jean Nicolas Louis Durand, there was an attempt to develop the neo-classical style in order to keep it abreast of the practical and ideological expectations of contemporary society. But these new developments in neo-classical were, so to speak, overtaken by the gothic revival in the 1830s. It is possible that no architect in the two generations following Soane and Schinkel equalled their calibre; at any rate

Plate 1 Milner Square, 1841

Plate 2 Milner Square, 1841

the vogue for neo-gothic absorbed the talents of the most successful architects after 1830. The influence of Durand and Soane may occasionally be seen in works such as Lewis Cubitt's King's Cross Station, but these stand out as exceptional, part survivors of the past, part anticipations of the future.

Alexander Dick Gough (1804–1871) and Robert Louis Roumieu (1814–1877), the architects who designed Milner Square, seem to have been a fairly typical partnership during the period when neo-gothic superseded neo-classical. They did the surveys for a number of minor railway lines in southern England, and also the surveys relating to compensation claims against the South Eastern, Great Northern, London and North-Western and Eastern Counties Railway Companies. They were in charge of the rebuilding of Old St. Pancras church, and of the additions to St. Peter's, Islington: after their partnership dissolved, Gough designed a number of churches in North London: St. Jude's, Mildmay Park; St. Mark's, Tollington Park; St. Mary's, Hornsey Rise; St. Anne's, Poole's Park; Roumieu seems to have concentrated more on offices, warehouses and commercial buildings. Their designs exhibit a truly bewildering range of styles: Gough's churches include mediocre attempts at Anglo-Norman, Lombard, Early English, Decorated and Transitional; and while still partners they designed the Elizabethan/Jacobean villas in De Beauvoir Square, London.

Their essays in neo-classical include the Islington Literary and Scientific Institute built in Almeida Street in 1837. This building, which is now used as a theatre, is in a stark, austere style, with plain piers instead of pillars, and foreshadows the starkness and austerity of Milner Square just around the corner. Though the semi-

detached villas built by Gough and Roumieu in a similar style in Tollington Park over twenty years later worked out quite successfully, the Islington Literary and Scientific Institute is so unusually plain and understated for its time that at first glance it seems to belong to the art deco style of cinema architecture of a hundred years later. Its parsimonious and cramped appearance make it an unimpressive piece of architecture, in inspiration no more than an unfortunate variation on traditional neo-classicism. It needed the size and scope of Milner Square for Gough and Roumieu to display the full confident sweep of their neo-barbarism.

Adam and Nash had aimed, with debatable success, to design residential terraces that suggested the public buildings of classical Greek civilisation: Gough and Roumieu were the first to design terraces that looked like a modern factory. In neo-classical one is obviously always aware of the solidity of the physical structure, but the proportions suggest a confident compromise between the solidity of masonry and the need for space, and, even in the largest buildings, the sense of the human individual's need for an ordered, human-scale environment. Not so Milner Square. It is *oppressive.* The narrowness of the windows and the width of the intervening pilasters suggest square sectioned piers of masonry divided by ventilation louvres, in a building intended for some earth-trembling industrial process. The topmost storey has no external divisions marked between the separate houses, and this suggests a continuous loft, perhaps one vast low-ceilinged workshop along each side of the square.

Plate 3 Almeida Street Institute, 1837

Nowadays this unbroken range of top-storey windows tends to emphasise the clutter below of the too close together front doors and railed front door stairways, but originally – and till the 1930s – there were porches which seemed to make up a functional whole, a walkway or perhaps a gallery along each side of the square. The pilasters on the first and second floor are too plainly decorated to reduce the overall impression of closely-ranked rectangular buttresses. And yet, taken as a whole, Milner Square has something of the kind of grandeur that was to be deliberately aimed at by early 20th-century new style neo-classical architects – its authoritative denial of the human scale, its celebration of mass, right angles and straight lines, its sense of the aggregrate rather than the individual. As a piece of 1840s architecture it deserves the condescending strictures of Summerson and Pevsner: as a piece of *modern* architecture it deserves notice as ahead of its time.

NOTES

1. John Summerson *Georgian London* (London 1962) 283
2. N. Pevsner *Penguin Guide to London except the Cities of London and Westminster* (London 1952) 236
3. A. Service ed. *Edwardian Architecture and its Origins* (1975) 321

BOOK REVIEW

R. MERRIFIELD *London: City of the Romans* (Batsford, London; 1983) xi + 288 pp, £14.95

Books on Roman London have a happy knack of arriving at the end of important stages in the development of our understanding of the subject. From the pre-War period we have Sir Mortimer Wheeler's London Museum catalogue, *London in Roman Times* (1930), and, also inspired by Wheeler, the Royal Commission's *Roman London* (1928); these incomparable reference works were the first to impose a true historical perspective and topographical framework on a mass of disparate information derived from random observation of building-work and the chance acquisition of individual objects. Just over 30 years later, the 1960s brought to an end the first period of professional urban archaeology; many important discoveries had been made – notably the Cripplegate fort, the Temple of Mithras, the Huggin Hill and Cheapside Baths, and the Governor's Palace – and these were fittingly described by Merrifield himself in two books, the scholarly handbook, *The Roman City of London* (1965), and a 'popular' introduction, *Roman London* (1969). Now, in the 1980s, we have reached a lacuna in the second period of professional archaeology. For the first time the Roman Thameside structures have been exposed extensively and understood, the long-doubted river wall has been confirmed, and, perhaps most importantly, houses and commercial establishments – often in timber – have been traced over large areas both of the City and of Southwark. These developments are marked by three contrasting books: Peter Marsden's *Roman London* (1980), John Morris's *Londinium* (1982), and the subject of the present review.

There is an immediate contrast between the books of the 1980s and those of preceding generations. As Merrifield himself states in his preface (p. vii), in the past the main approach was 'archaeological and topographical', whereas 'we now have evidence of a chronological sequence . . . and can hardly avoid trying to interpret it in historical terms'. The book is, therefore, arranged mainly chronologically. A useful resumé of current knowledge of pre-Roman settlement in the region prefaces chapters on the origins of London and on the development and appearance of the city at its grandest, in the late 1st and early 2nd centuries. There then follows a section on the road-system and settlement-pattern in the hinterland. One of the most valuable aspects of the book is that it makes full use of evidence from Southwark and Greater London, so that the Roman city is not seen in isolation, but in its regional setting. After this there are chapters on the changes that occurred in the later 2nd and 3rd centuries, and on the 'end' of Roman London in the 4th and 5th.

In general the chronological approach works well, because developments in the appearance and functions of the city are shown more clearly. The problem arises with those aspects which are not susceptible to close dating or cannot be fitted into a chronological framework. A major omission is any adequate discussion of the geography of the London region; topography and natural resources are crucial determinants in any settlement-pattern. Equally regrettable – but apparently imposed on the author by the publishers – is the omission of most of the evidence for religious practices in London. Religious buildings – the Walbrook Mithraeum, for example – are mentioned when they impinge on the narrative, but there is no discussion of the wealth of cults which reflect the cosmopolitan atmosphere of Roman London. Similarly, there is hardly any mention of the cemeteries, although these are in urgent need of reassessment. The yield of funerary sculpture and inscriptions is by far the richest from any city in lowland Britain, and the decorated leaden coffin lids and cinerary urns

or the ragstone sarcophagus from Haydon Square, for example, attest the presence of important individuals in later Roman London. Nevertheless, the book contains a wealth of new information and well-presented interpretation, which cannot be summarised with justice in the space of this review; here it is impossible to do more than single out a few themes which seem to be of particular importance.

Firstly a general point, the attempt to associate archaeological discoveries with recorded events and personages. This is dangerous, but in the case of towns it can be a risk worth taking, since the influence of individuals can often be recognised in prestigious building-programmes: Augustus's legacy to Rome, Herodes Atticus's work in Athens, Hadrian's assistance to cities throughout the Empire and, perhaps, as Merrifield suggests, the building of a monumental complex in the south-west of the City by Severus or Julia Domna. Although quite unproven – one day an inscription may be found in the Riverside Wall – this hypothesis is attractive. The dates seem about right. Severus had established himself as a builder in his home town of Lepcis Magna, and since he spent the last three years of his life here clearly had some interest in the prosperity of Britain. Moreover, his exotic taste, partly a reflection of the times, partly of his own character, and clearly revealed on coin portraits, might have appreciated the rich, though provincial, carving of the Monumental Arch and the dedication of a temple to Isis; also, perhaps, the collection of richly-coloured marbles found at St Peter's Hill in 1981 which may be from part of the same complex. On the other hand, the association of the strengthening of the city wall by external towers with an Imperial visit in the 4th century seems much less compelling. In claiming this as the work of Count Theodosius in AD 368 Merrifield might have cited Ammianus Marcellinus (xxviii.3.1), who specifically states that Theodosius restored the cities of Britain. But in other respects Ammianus's record of Theodosius's activities in Britain does not square with the results of recent excavation,[1] and, besides, the Count commanded a field army and would probably have spent most of his time on campaign. Theoretically the emperor's approval was required before town walls could be built, but in practice they would normally have been the responsibility of the civic authorities. This may be why some projects – the mid 2nd-century Fosse earthwork at Verulamium and, perhaps, the provision of towers on the west as well as the east side of London – were never completed. In much the same way, the essential early 3rd-century restoration of Hadrian's Wall took place in AD 206–8, *before* the arrival of Severus, who spent most of his three years in the field.

When we pass on to more specific points, we find, firstly, the problem of the origins of London. Hardly any prehistoric material has been found in the City itself, but a large number of finds – principally from the river – show that the region to the west, especially around Putney and Hammersmith, was important in both the Bronze and Iron Age, although apparently not in immediately pre-Roman times. This is not surprising, since the area around the City, two low hills separated by a stream and with marshland to the north, is not immediately attractive for settlement. In this respect there is a clear contrast between London and the *civitas*-capitals of Roman Britain. In the lowland zone at least many of these were founded near or on a pre-existing, often dispersed, settlement, although the precise location was generally determined by the presence of an early Roman fort commanding a river-crossing on a well-drained valley side. The reason for this was that since Roman provincial administration made use of the existing tribal system, any substantial dislocation of the native settlement-pattern was undesirable, though military needs might give rise to a local shift of focus. London, however, played no part in the tribal government of Britain; it was brought into being by seaborne trade and the road-system, and the absence of an earlier settlement may have freed its founders from any unnecessary legal and territorial complications.

We are still almost totally ignorant about the foundation of London and its appearance before its destruction by Boudica in AD 60/1. Did it originate as a fort or fortress? The one

major advance of the past decade has been the elucidation of the street-system leading to the bridgehead in Southwark. There appears to have been a realignment of the roads leading from the south coast, away from an earlier crossing-point at Lambeth-Westminster, and analysis of coins and pottery suggests that this did not take place before *c.* AD 50. If this is so, it is unlikely that a regular fort underlies the City, because by AD 50 the Roman authorities evidently regarded the south-east as sufficiently pacified for them to break up the chain of conquest-period forts in preparation for civilian government. Merrifield is probably correct to suggest that the military-type ditch containing a *gladius* grip exposed near Aldgate in 1972 is part of a temporary camp, but subsequent excavations around the Minories have failed to reveal further traces of military occupation and hardly any chance finds of early military equipment are known from the area. In fact, the few early military finds, both from recent excavations and in the reserve collections of the Museum of London, mostly come from the Walbrook and the eastern hill around the Forum; these include cuirass-ties, fittings from the infantry belt and projectile heads. Pre-Boudican timber buildings of some size have been uncovered near Lombard Street and Fenchurch Street, but they are not recognisably military. It is possible, however, that before the construction of the Cripplegate fort any soldiers seconded to the Procurator or Governor would have been billeted in the town in conditions which when seen in small excavation-trenches would be difficult to distinguish from normal civilian housing; the barracks of the *vigiles* at Ostia, for example, do not resemble normal fort-buildings in plan.

At all events, the present fragmentary evidence suggests that the settlement may have originated here, rather than on the western hill. It is significant that the only pre-Boudican buildings extensively uncovered west of the Walbrook – those on the GPO Newgate Street site and almost certainly outside the bounds of the city at this time – were roundhouses in the pre-Roman Iron Age tradition. Native-style domestic architecture seems to have played no part in the development of the major towns of Roman Britain, and when roundhouses were built, as at Silchester, they were generally on the periphery of the settlement; in the 'small towns' of course, particularly those like Godmanchester with an agricultural basis, they were recurrent features up to the 3rd century at least. In fact, both west and east of the Walbrook, there is so little richness in the artefactual record that it is tempting to accept Merrifield's suggestion (p 65) that when Tacitus wrote of London in AD 60/1 – not a colony, but an important place teeming with merchants - he was not accurately describing its appearance then, but was thinking of the city of Agricola's governorship twenty years later.

The great development of London came in the Flavian period and continued into the early 2nd century. Merrifield describes in detail the main public buildings – the forum, the bath-houses, the Governor's Palace, the fort and the quay – but there is hardly any discussion of the topography as a whole. This is, in fact, one of the most interesting aspects of Roman London. As far as we know, without exception the *civitas*-capitals of Roman Britain – and, indeed, of most of Gaul and Germany – were laid out with an orthogonal street-grid. In some cases – as at Silchester, where traces of earlier alignments can be seen around the forum – the grid may have been imposed after some earlier development had taken place, and in others – as at Verulamium, where Watling Street crosses the grid obliquely – earlier features, in that case probably a fort at the Ver crossing, exerted a lasting influence; but these details apart, the chequerboard planning was rigorous. The same is true of the early *coloniae,* Colchester, Lincoln and Gloucester, which were adapted directly from the underlying fortress. Moreover, neither in the *civitas*-capitals nor in the *coloniae* was there much imaginative planning, except in the occasional grouping of buildings: the theatre and temple complex at Verulamium, or the forum and baths at Wroxeter, for example. London was very different. Attempts at identifying an orthogonal street-grid, except perhaps for limited areas south of the forum and around the Cheapside baths, have not yet been successful, and in fact reference to the

new second edition of the Ordnance Survey's map of Roman London shows that the course of most of the streets was determined by the natural contours. Again, because modern buildings obscure the line of vision, even many of those familiar with the City will be unaware of the commanding position enjoyed by the Roman forum on the eastern hill. The ground rises in a gentle slope of about 1 in 200 from the waterfront, and the south gate of the forum, with the basilica behind, must have presented a magnificent prospect to the visitor approaching London across the bridge from Southwark. In much the same way the Huggin Hill baths and the buildings forming the Cannon Street palace were imaginatively ranged in tiers down the riverbank.

Just as important for a proper understanding of a town is information about lesser buildings and private housing. The only such structures from the late 1st/early 2nd centuries discussed by Merrifield are those on the GPO Newgate Street site. These conformed to the strip-building plan familiar from many Romano-British towns, and appear to have had commercial premises in the front and living quarters behind. Even more significant, however, are the structures excavated in 1978 in Watling Court, just west of the Walbrook.[2] These appear to represent parts of very large courtyard houses, and may have been erected not much later than *c.* AD 80. If so, this is one of the earliest appearances of the courtyard house in a Romano-British town;[3] at Verulamium, for example, several were built in the early 2nd century, but they did not become common until after the Antonine fire. Moreover, one of the Watling Court houses was fashionably decorated with black-and-white mosaics comparable with those from Fishbourne and, uniquely for Roman Britain, with *tesserae* crosses set in an *opus signinum* floor, a technique practised in Italy and parts of Gaul at this time. These facts are further evidence for the prosperity of Flavian London and may suggest the presence of wealthy immigrants used to Mediterranean-style urban living at a time when in the *civitas*-capitals the tribal aristocrats preferred to remain in the countryside.

In the second half of the 2nd century London underwent a profound change. Many occupation-sites throughout the City and Southwark were sealed with 'dark earth' – apparently a cultivated soil – and were not built over again until late in the medieval period. Merrifield rightly points out that this implies large-scale depopulation of the city, and it seems consistent with Marsden's observation that there are far fewer rubbish-pits of 3rd/4th- than of 1st/2nd-century date.[4] A plague similar in proportions to the Black Death has sometimes been postulated to account for this. That is almost unprovable, but if so it must have affected not only Britain but the entire north-west of the Empire, for the whole region experienced comparable changes at roughly the same time. These are seen most clearly in the general decline of long-distance trade, but this was almost certainly a symptom rather than a cause. In the 1st and 2nd centuries Spain, Gaul, Germany, Italy and Britain had been connected by a trade route which extended east-west along the Mediterranean coastline and north-south along the Rhône and Rhine; the most important items of trade may have been bulk commodities – olive oil and fish sauce (*garum*) from Spain, wine probably from Gaul and Italy – but on their journey they became associated with pottery from southern and Central Gaul and with lamps, glass and other manufactured items from north Italy. In the late 2nd century the focus shifted southwards and eastwards, and north Africa replaced Spain as the principal producer of olive oil; its distribution is almost certainly reflected in the distribution of North African Red Slip pottery, which is widespread in Italy, Greece and further east, but very rarely found in Britain. Amphorae are occasionally found in late 3rd-century layers in London, but almost invariably they are from Palestine or elsewhere in the eastern Mediterranean.

The reasons for the change in trading-patterns and the consequent isolation of London are difficult to perceive. One factor, discussed by Merrifield, may have been the activity of pirates and the military and political disturbances on the frontiers, but two further suggestions may be made here. The first is that as the army became increasingly stabilised on

the frontiers, so arrangements were made to supply it as far as possible from the neighbourhood – as in fact is shown by the rapid development of farmsteads and civil settlements near Hadrian's Wall in the 3rd century – rather than by the continued use of major suppliers some distance removed. The second is that as during the 3rd century administration fell increasingly into the hands of an official bureaucracy, so it became correspondingly less important for cities and the provincial aristocracy to emulate the styles and institutions of Rome. If correct, both these hypotheses might entail a reduction in the long-distance trading of commodities which were properly part of Mediterranean, rather than north European, living.

London was left, therefore, as Merrifield suggests, merely with its administrative role. The importance of London in the Roman world is attested by the presence of a mint for part of the 3rd and 4th centuries and by its adoption of the name 'Augusta'. It is possible that London's position was determined by Severus (or Caracalla) during the reorganisation of the province, but the process of adjustment seems to have been protracted. It was not until the second half of the 3rd century that major buildings appeared in Southwark; the evidence from the City is less satisfactory, but the temple of Mithras and some of the mosaics uncovered in the 19th century are probably of this date. The provision of a stone city wall is a further reflection of London's status. It is quite wrong to dismiss entirely civic pride as the key determinant in its construction, even though it was a massive undertaking, and to ascribe it purely to military requirements. It is possible to argue that the throwing up of earthwork defences in the late 2nd century was a response to political and military crisis – although even here if the stone gates at Cirencester, for example, are contemporary with the bank it would seem that the work was unhurried – but generally in the Roman Empire city defences were a mark of rank. In Britain in the 1st and 2nd centuries the *colonia* of Colchester could already boast a stone wall and the other *coloniae* and the *municipium* of Verulamium were provided with earthworks, as apparently were Silchester and Chichester, perhaps because they were part of Cogidubnus's client kingdom.

Finally, what about the 'end' of Londinium? Many towns of the present day directly overlie Roman predecessors, but in what form and by what stages did occupation continue? The answer to this question was one of the main goals of the Winchester Research Unit and most urban archaeology teams of the 1960s and 70s, but now the problem seems, if anything, even more complicated. In London evidence is gradually accumulating to suggest that the latest Roman occupation – probably extending into the 5th century – was on the waterfront east of the Walbrook; the Billingsgate bath-house has been known for some time, but to this we can now add the discovery of late fortifications in the Tower of London, the distribution of silver ingots – excellently discussed by Merrifield – in the same area, and most recently, the identification of late Roman occupation of former warehouses and a bath-building at Pudding Lane.[5] Thereafter there was a clear break. Coins and pottery suggest that the City was not intensively and continuously inhabited until the mid 9th century at the earliest, although, as Merrifield shows, occupation of the Greater London region continued. In fact, both chance finds and documentary sources hint that the main mid Saxon settlement lay on the west bank of the Fleet, along Fleet Street and the Strand, an area which may have been vacant in the Roman period and which has in the past received hardly any attention from archaeologists.[6] If an *early* Saxon settlement is found here it might repeat a pattern noticed elsewhere in Britain: the Saxon site at West Stow, Suffolk, for example, lies a short distance away from the Roman town of Icklingham, and in Sussex the mid 5th-century Saxon cemeteries nearly all seem to lie in a restricted – and apparently hitherto unoccupied – area between the rivers Ouse and Cuckmore.[7] The early Saxons could find no place for the functions enshrined in Roman towns, and reoccupation only occurred when again there was a need for large defended sites, and for administrative and commercial centres; the key element in continuity,

however, may, as in many Rhineland cities, yet prove to be the Church.

That the aforegoing discussion has been so long is testimony to the interest provided by the book. By modern standards it is pleasantly free of misprints and infelicities of style, although three times in two pages is *S*ea Mills mis-spelt as *L*ea Mills and on several occasions 'is not' is replaced with the colloquial 'isn't'. In places the argument moves rather slowly because of the mass of detail; this is true, for example, of the description of the Riverside Wall, which, important though it is, covers nearly eight pages, or of the description of the pre-Boudican occupation beneath the Forum which is split between three separate sections and made to appear far more complicated than it is. Throughout the book is supported by many well-chosen and well-captioned illustrations. The half-tones are quite finely reproduced at an appropriate size. The original line drawings are in a uniform style and clear, although some of the general maps might have benefitted from greater variation in line thickness; matters of some regret are the absence of contours on maps both of the City and the London area, and the omission of a scale on the map showing the possible town zone of London as deduced from the distances given by the Antonine Itinerary.

In conclusion, therefore, the book is an important statement of current thinking about Roman London. What of the future? A major advance has been the establishment of an integrated archaeological service for Greater London, so that at last we can expect to learn much more about the hinterland of London. Just as important has been the adoption of a computer-based archive system for the vast quantity of excavated finds, so that in the next decade we shall have statistical information to illustrate the changes in London's trade and prosperity. Equally, we must hope to make more detailed comparison with other cities of the Roman Empire, for London must not be seen in isloation, but as a 'City of the Romans'.

Francis Grew

NOTES

1. See J. Casey 'The coins from the excavations at High Rochester, 1854 and 1856' *Arch. Ael.* (5th series) 8 (1980) 75–87; *id.* 'Imperial campaigns and 4th century defences in Britain' in J. Maloney & B. Hobley (edd.) *Roman Urban Defences in the West* (CBA Research Report 51, 1983) 121–4.
2. Summary and photographs in J. Schofield & A. Dyson, *Archaeology of the City of London* (1980) 12–15. Final publication in D. Perring & S. Roskams *The topographical development of London west of the Walbrook* (forthcoming).
3. cf. C. V. Walthew 'The town house and the villa house in Roman Britain' *Britannia* 6 (1975) 189–205.
4. P. Marsden, *Roman London* (London, 1980) 148.
5. N. Bateman & G. Milne 'A Roman harbour in London: excavations and observations near Pudding Lane, City of London 1979–82' *Britannia* 14 (1983) 207–26.
6. Suggested independently by M. Biddle 'London on the Strand' *Popular Archaeology* July 1984 23–7, and A. G. Vince 'The Aldwych: mid Saxon London rediscovered?' *Current Archaeology* (forthcoming).
7. M. G. Welch 'Late Romans and Saxons in Sussex' *Britannia* 2 (1971) 232–7.

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