# THE EXCAVATION OF THE ROMAN CITY WALL AT THE TOWER OF LONDON AND TOWER HILL, 1954–76

GEOFFREY PARNELL with contributions by S. A. BUTCHER, F. J. CAMERON, P. E. CURNOW and R. GILYARD-BEER

## INTRODUCTION

*This article contains the results of a number of excavations carried out along the line of the landward enceinte that protected the south-east corner of the Roman city of London. Most of the reports are solely concerned with the defence itself, though results from work on the east side of the White Tower include the description of an intriguing Roman building accommodated against the city wall and a note on a later medieval structure annexed to the 11th-century keep.*

*The results from different investigations within the Tower's Inmost Ward are presented together; many of the excavated trenches were intermixed and combined the information from them provides a more coherent picture. The other sites are reported independently; geographically they are less homogeneous and all were excavated in the* modus operandi *of the day. A general discussion on the evidence from all the sites is provided at the end.*

CONTENTS



## EXCAVATIONS WITHIN THE INMOST WARD, 1955 AND 1976

### GEOFFREY PARNELL

The 1955 excavation was carried out by Sarnia Butcher of the then Ministry of Public Buildings and Works in advance of a scheme (subsequently abandoned) to construct a new Jewel House along the south side of the Inmost Ward. The 1976 excavation, undertaken by the Department of the Environment and supervised by the present author, was located in the same area and took place prior to the building of the new History Gallery (opened to the public in 1978).

Most of the trenches investigated in 1955 were situated just north of the extant southern curtain, but additional cuttings were made between the Wardrobe and Lanthorn towers in an attempt to establish the line of the Roman city wall. In the event a 14m (46ft) length of masonry was disclosed in Trenches I and II, taking the course of the wall to a point 36.50m (120ft) south of the Wardrobe (Fig. 1). South of this the line was occupied by a massive wall which formed the east side of a court within the principal office of the Board of Ordnance, built between 1777 and 1780. The eastern end of the subsequent 1976 excavations (Trench V) fell within the confines of the court, and as the underlying archaeological deposits survived better here, reasonably good sections were obtained across the internal bank. These results encouraged the re-examination and enlargement of Trench VII, west of the Lanthorn Tower, where

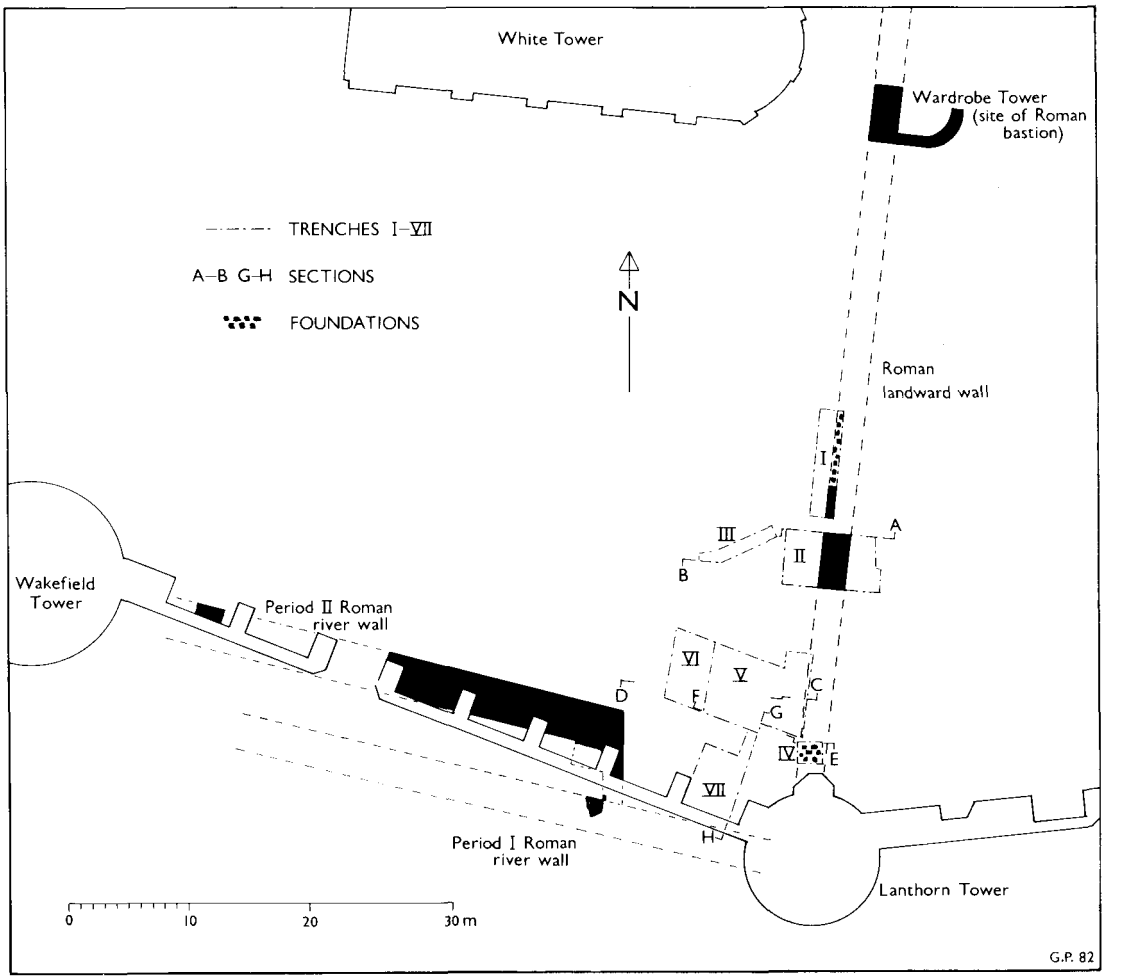


Fig. 1. Inmost Ward 1955 and 1976: Site plan.

the crucial southern extent of the bank was located and examined.

It should be emphasised that the methods of excavation employed in 1955 and 1976 were to a large extent determined by the disposition of the large 18th-century Ordnance walls which traversed much of the site. A procedure was thus established whereby after the walls had been located and excavated down to their spread footings trenches were laid out in the available intervening spaces. An exception to this rule was in Trench VII where the need to interpret the southern extent of the internal bank was deemed important enough to have the brickwork removed by machinery. To the north, in Trenches I and II, where the surviving archaeological deposits were much shallower, the foundations were particularly damaging. Virtually all the stratigraphy against the east face of the Roman wall had been destroyed, while the bank against the inner face was in a fragmentary condition. An attempt to locate the bank further west in Trench III was inev-

itably frustrated by more brickwork and the cutting had to assume a position diagonal to the line of the wall (Fig. 1).

## HISTORICAL BACKGROUND

It is an established fact that the Roman city wall formed the eastern limits of the medieval castle until the middle of the 13th century when the Tower was extended to its present inner circumferal line (Colvin 1963). Thereafter the Roman wall, presumably supporting medieval rebuilds, became an inner curtain protecting the sanctum of the palace ward. A survey of 1597 shows the line of the wall immersed within a range of apartments named the 'Queens Lodgings' (Colvin 1963, Pl. 45). By this time, however, the fortress had ceased to be a royal residence and the palace buildings were being transferred to various official departments who modified them to meet their own needs (Parnell 1980).

Following the Restoration in 1660, the Board of Ordnance acquired control over virtually all the Inmost Ward, and between 1667 and 1675 carried out a complete reconstruction of the area. It seems probable that part of the Roman wall was incorporated into the main office of the Board which stood on ground to the north and west of the Lanthorn Tower (Parnell 1980, Fig. 2) but north of this, as far as the Wardrobe Tower, all visible trace of the wall disappeared.

In 1722, the antiquarian Nathan Bailey wrote 'On the south side of Caesar Chapel [i.e. the Chapel of St. John in the White Tower] a Foundation is now laying for the large Store-Houses; where in digging the workmen met with old foundations of about three yards in breath; which is so hard cemented that they are forced to break it up with Beatles and Wedges; and is thought to have been the Foundation of some ancient Tower standing there' (Bailey 1722, 57). This statement was pursued some one hundred and fifty years later by Loftus Brock after the discovery of part of the Roman city wall during demolition of the 'Great Court' which stood against the east side of the White Tower until 1879 (p. 120). Brock, who identified the work as Roman, pointed out that if the line of the wall was extended southwards it would connect with the discovery made in 1722, but if projected northwards it would not meet with the Roman wall standing on Tower Hill. Since there were also differences in the thickness of the masonry he felt able to conclude that the wall at the Tower was confirmation of a centuries old tradition that the site had once been occupied by a Roman stronghold (Loftus Brock 1882). Whereas the possibility of such an hypothetical enclosure has recently been revived—though for totally different reasons (Parnell 1981, 73)—in the years that followed the discovery at the Tower, Brock's interpretation was superseded by the view that the wall was in fact part of the general city circuit.

In 1904, excavations carried out on behalf of the Society of Antiquaries, sought to establish the line of the wall south of the Wardrobe Tower. They were unsuccessful save for the discovery of a short stretch of the wall's foundation immediately south of the tower. The following account, taken from the report, helps to explain the nature of the site and the desultory results obtained:

The area north of the modern Lanthorn Tower was 'formerly covered by a large warehouse, part of the substructions of which still remain underground. This area was . . . examined, pits and trenches being sunk in it to a level of the basement of the warehouse, far lower than the possible level of the footings of the Roman wall. Trenches were also tried northwards from the modern curtain wall, but without results, the whole site being composed

of a mass of builders' and other rubbish . . . it can hardly be hoped that any further remains of the Roman wall will ever be found within the Tower' (Jones 1906, 239).

## THE SITE

In addition to the landward defence, the excavations revealed evidence of preceding prehistoric and Roman occupation of the site. Post-wall activity was represented by two phases of late 4th-century river defences with subsequent developments during the medieval and post-medieval periods. These chapters will be discussed in detail elsewhere, (Parnell 1977, 97–99) but in order to place the landward defence in its context a brief summary of the Roman history of the site before and after its construction should be outlined.

During the prehistoric period and 1st century AD, the southern Trenches IV, V, VI, and VII lay within the reach of the Thames—the area forming a noticeable bend in the river bank. Activity along its edge was interrupted by water incursions, but by the late 1st/early 2nd century the area had been reclaimed and a building or buildings resting on timber piles erected over part of the site. This was superseded by a large timber framed residential building which was destroyed by fire, but immediately replaced by a similar structure probably after AD 160 on the evidence of the samian. The reconstruction stood until the raising of the landward wall; the fact that the wall's internal rampart rested immediately on the floor, with hardly any intervening demolition material present, suggests that the building had been carefully dismantled immediately before the construction of the wall.

Further up the hill, in Trench II, the foundations of the wall cut through an apparent early Roman subsoil of sand and gravel (Layer 16, Fig. 2). No pre-wall structures were identified, but in Trench III, immediately to the west, a large gully running east to west was found to be largely infilled with the tipping for the internal bank (Fig. 2).

Following the construction of the city wall there was no obvious indication of activity until the addition of the first riverside defensive wall between AD 350 and AD 370 (Hillam and Morgan 1979). At some stage after AD 388 this was largely replaced by a second wall founded a short distance to the north (Parnell 1981, 69–73).

## THE WALL

A 14m (46ft) stretch of standing masonry was located in Trenches I and II, its north-south alignment being compatible with that part of the wall behind the Wardrobe Tower. North of its broken end the clay and flint

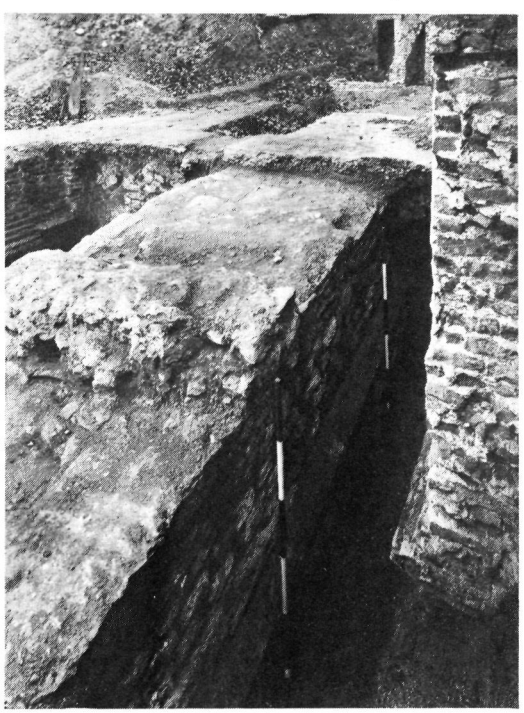

Plate 1. Inmost Ward 1955: Eastern face of Roman wall in Trench II viewed from the south (6ft scale). (*Crown copyright reserved*)

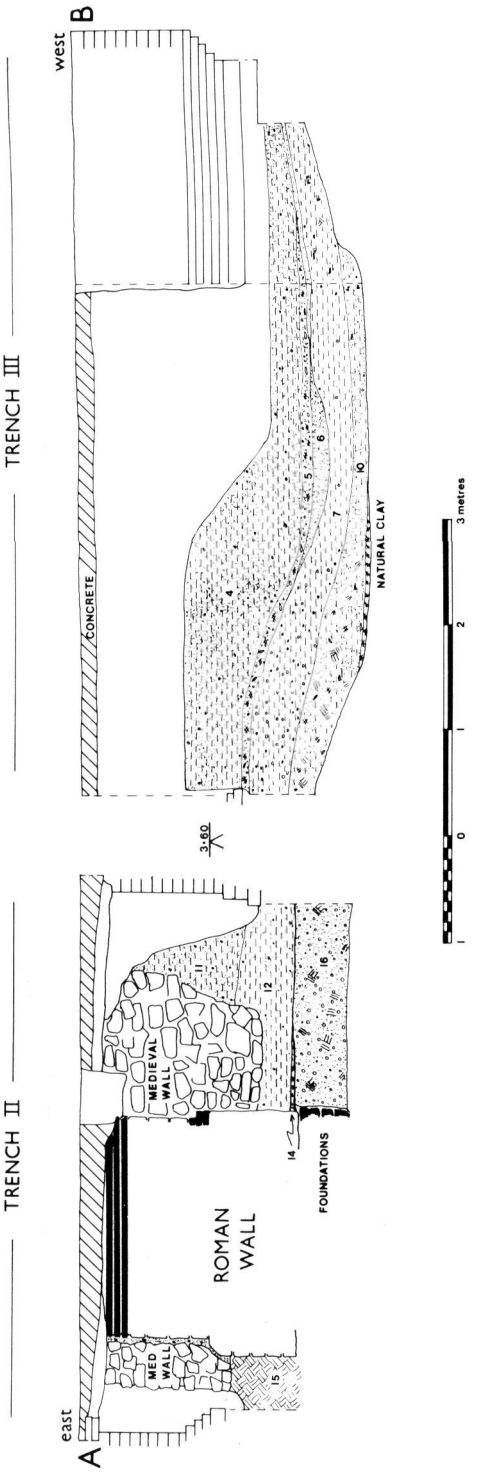


Fig. 2. Inmost Ward 1955 and 1976: Section A–B across Trenches II and III.

foundation was traced for a distance of 7.60m (25ft), 18th-century cellars and services having completely displaced the main body of the wall. The southern continuation towards the Lanthorn Tower was sought, but its course was found to be occupied by a massive Ordnance brick foundation. 2m (6ft 7in) north of the Lanthorn Tower some flints and clay were found in Trench IV (Fig. 1), but 9m (29ft 6in) north of the tower, in the north-east corner of Trench V, the brickwork appeared to have nothing but soft sand beneath it. The considerable depth to which the brickwork had been taken, suggests that the Ordnance builders made a determined effort to remove all trace of the Roman masonry. In view of the fact that elsewhere they had been prepared to utilise existing work, it might be supposed that the wall at this point was considered structurally unsound. In fact the southern end of the surviving stretch had a severe crack and was leaning to the east (Pl. 2). How much of this can be attributed to the 18th-century builders is difficult to determine, but there can be little doubt that this was a problematic area for the Roman engineers, for just to the south of here the foundations of the wall would have had to transfer from the firm geology of London clay to the relatively soft river silts against the Thames bank.

Circumstantial evidence which might indicate the consequences of an adverse change in the ground surface was provided by a possible Roman buttress let into the internal bank 5.60m (18ft 5in) north of the Lanthorn Tower. This extremely hard piece of trench-poured masonry, composed of ragstone in a dark yellow mortar, was 1.20m (3ft 11in) wide, sur-

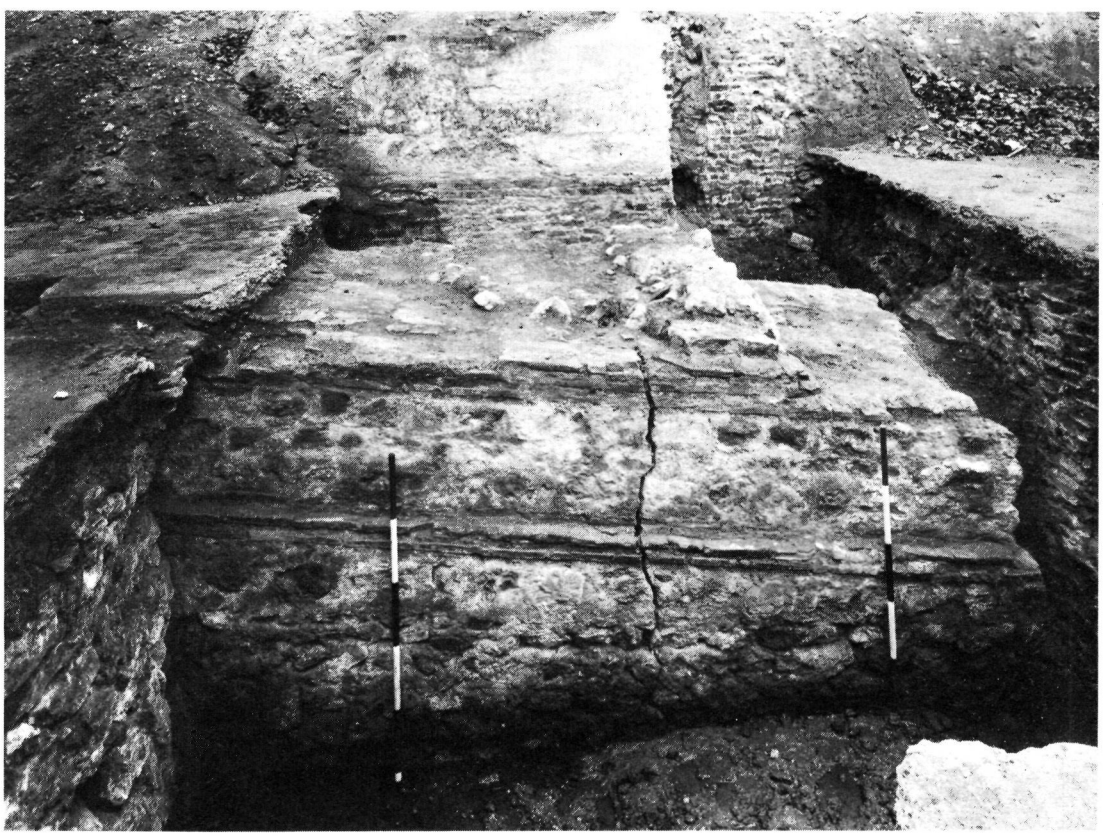

Plate 2. Inmost Ward 1955: Western face of Roman wall in Trench II showing decline of tile courses to the south. The foundations on the left are medieval (6ft scale). (*Crown copyright reserved*)

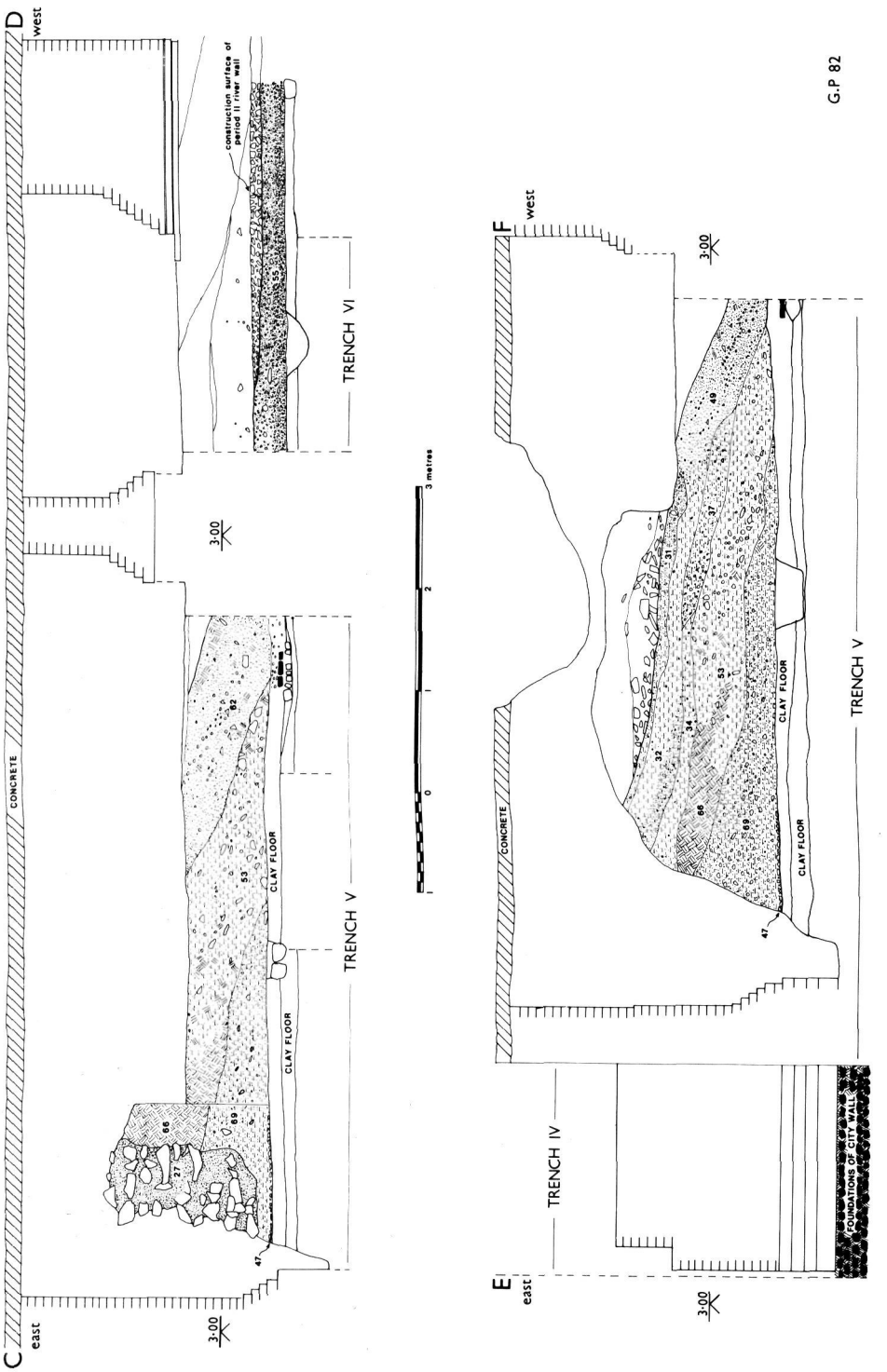


Fig. 3. Inmost Ward 1955 and 1976: Sections C–D and E–F across Trenches IV–VI.

vived to a depth of 1.50m (4ft 11in) and extended some 2m (6ft 7in) behind the line of the wall (see 27, Section C-D, Fig. 3).

The surviving wall stood to a maximum height of 2.15m (7ft 1in) having regrettably been stripped to its existing level when a concrete floor was laid over the entire site in the late 19th century. Resting on some 60cm (2ft) of flint and clay, the base of the main body of the wall measured 2.35m (7ft 9in) in width. Above the level of the plinth on the exterior east face this was decreased by 15cm (6in) and by a further 7.5cm (3in) above the offset in the triple tile-course on the interior face. The east face continued with four courses of ragstone, the west with three. Next came a triple tile bonding course carried right through the thickness of the wall, followed by two concluding rows of ragstone (Pl. 2, Fig. 2). The rag derived from Kent; the chamferred plinth was an oolitic limestone, also of Kentish origin, whereas elsewhere in London a sandstone is normally employed. In Trench II the masons' debris associated with the construction of the wall was represented by a certain amount of chalk (Layer 14, Fig. 2),[1] in Trench V by a layer of ragstone chips and yellow mortar extending back some 2m (6ft 7in) behind the line of the wall (Layer 47, Fig. 3).[2]

One of the most notable features of the wall was the amount of freestanding masonry below the plinth. The plinth is usually regarded as a reflection of the contemporary ground surface, but in Trench II just over 60cm (2ft) of face-built work, represented by four neat courses of ragstone, was found below it (Pl. 1), clay resting against its face might suggest that the ground level had been deliberately raised after the construction of the wall (Layer 15, Fig. 2). The probable explanation for this arrangement was the presence of a large scoop or gully running east to west immediately behind the wall in Trench III. That this was a conspicuous feature at the time of the wall's construction was evidenced by the fact that it was largely infilled with the tipping for the bank (Fig. 2). It seems likely that the wall traversed the gully and that in order to secure a stable footing the masonry was carried down into it.

The natural geology beneath the wall falls steadily from 9.00 O.D. on the gravel terrace 2m (6ft 7in) north of the Wardrobe Tower to 2.50m O.D. on the London clay some 9m (29ft 7in) north of the Lanthorn Tower, where the edge of the prehistoric river is situated. To combat this activity the Roman builders might have been expected to terrace either the hill or the main body of the wall itself. Instead, the wall appears to ascend the slope without any resort to levelling, the coursing in the fabric merely reflecting the behaviour of the underlying ground surface (Pl. 2). The ascent is best illustrated by the external plinth which, over a distance of 41m (134ft 6in) from the southern end of the excavated wall to the section behind the Wardrobe Tower, rises some 5.35m (17ft 7in) at an angle of about 8°.

## THE BANK

Almost complete running sections through the width of the bank were recorded in Trench V, while to the south, in Trench VII, the limits of the southern continuation were examined. Within this area the bank was clearly tapering, and though the southern extent had been completely cut away (Fig. 4), the angle of the remainder indicated a termination point close to the existing 19th-century Lanthorn Tower. The end of the bank was almost certainly removed because it infringed upon the line of the first 4th-century river wall—similarly directed towards the Lanthorn Tower (Fig. 1). The extant tower obviously prevented any investigation of this critical point, but a bore-hole survey against the north-east corner revealed a considerable 2.75m (9ft) depth of gravel extending over, and probably into, the natural clay. It seems extremely unlikely that this intrusive material could represent the foundation of the medieval Lanthorn Tower since all the medieval towers examined in the castle have been found to rest on massive masonry bases—a prerequisite for supporting such large structures. Moreover, the surface of the gravel, which probably represents the level of its insertion, corresponds exactly with the bottom of the internal bank and thus the level at which the wall was constructed. It is likely, therefore,

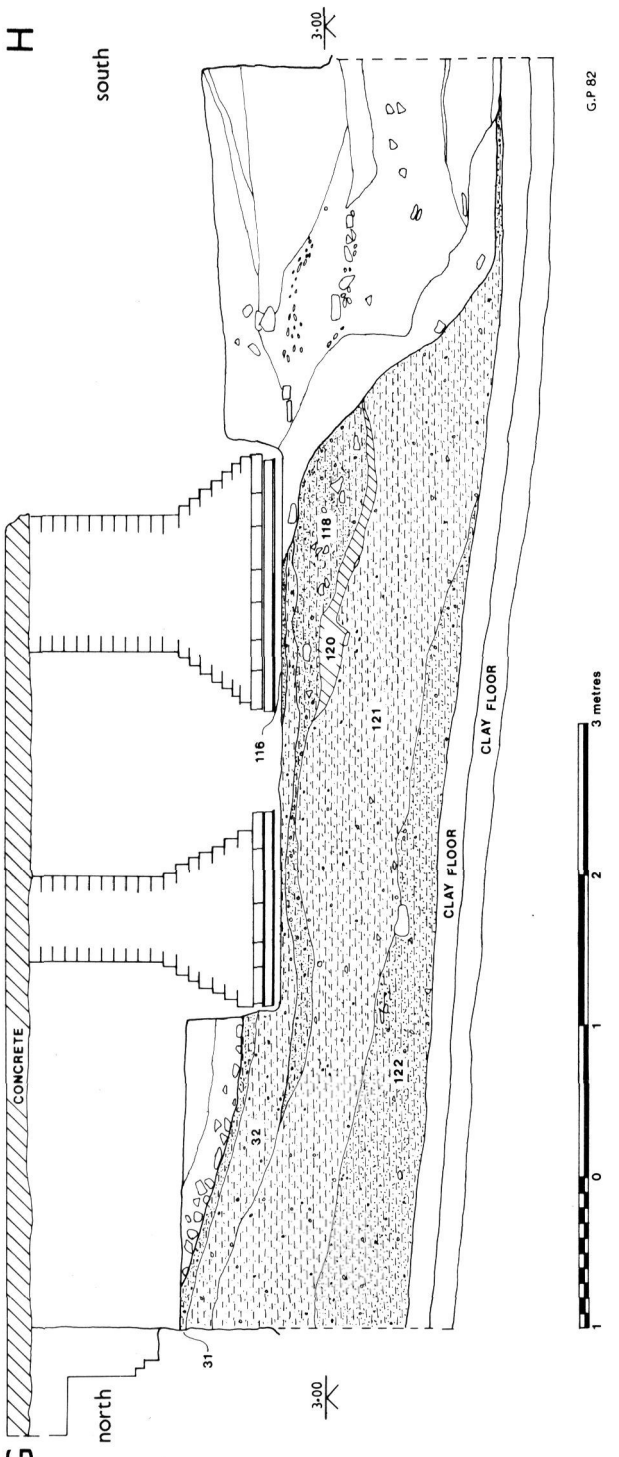


Fig. 4. Inmost Ward 1955 and 1976: Section G–H across Trenches V and VII.

that if the gravel does represent the foundation of a structure on the corner of the city defences, its origin is more likely Roman than medieval.

Within the centre of Trench V the bank extended continuously for 7m (23ft) behind the rear of the wall before its tail was obscured by a standing section. It did not reappear 1.60m (5ft 3in) to the west in Trench VI, its width, therefore, could not have been more than 8.60m (28ft 3in) at this point (Fig. 3). It must be remembered, however, that the bank was already beginning to taper in this area and therefore a complete profile could only be expected further to the north. An attempt to establish a continuous section behind the wall in Trenches II and III (Fig. 2), was thwarted by 18th-century brickwork, this incomplete section providing a width of 8m (26ft 3in).

The most complete section of standing bank was uncovered in the southern half of Trench V (Section E-F, Fig. 3). Here, subsequent dumping behind the first 4th-century river defence provided a protective sealing, and the sloping surface of the rampart was traced uninterrupted to a maximum height of 1.50m (4ft 11in) over a distance of 5m (16ft 5in). If projected this would have reached about 2.00m (6ft 7in) against the face of the wall. Once again, however, it must be remembered that the bank was diminishing at this point. Further north in Trench II remnants of the bank were recorded to a height of 1.90m (6ft 3in) against the wall, but the original depth must have been greater (Fig. 2).

The bank was composed of a variety of deposits, most, if not all of them, having probably derived from the excavation of the wall and its ditch. In Trench V, for example, dumps of brown earth containing pieces of painted wall plaster, tesserae, tile, mortar, flint, ragstone, chalk and oyster shell, were particularly evident in the lower part of the rampart. Above occurred redeposited London clay and layers of sand and gravel river silts; the latter was predominant in the tail of the bank (Fig. 3).

Many of the deposits were tipping from north-east to south-west, thus indicating the direction in which the bank had been formed. It does not follow that the wall was erected in the same fashion, i.e. down the hill, for if work had progressed northwards from the river, it would have been logical to bring the spoil from the excavated ditch around the section of masonry under construction and tip in a southernly direction.

## THE ROAD

West of the bank, in Trench VI, occurred a 30cm (12in) layer of dirty gravel mixed with mortar and occasional pieces of rag, chalk and tile. (Layer 55, Fig. 3). The metalling appeared to be composed of two layers, though it proved difficult to determine whether they represented separate phases or just two deposits laid at the same time. There can be little doubt, however, that the upper surface at least co-existed with the internal bank. Late 2nd/early 3rd-century pottery was recovered from below and within it, while a *terminus post quem* was afforded by the overlying construction surface of the late 4th-century period II river wall.

Within the narrow confines of Trench VI the gravel could only be traced to a width of 2.10m (6ft 11in). The eastern limit, i.e. that corresponding with the end of the bank, must have occurred just outside the excavated area. The western limit was subsequently extended by a further 1.60m (5ft 3in) during a watching brief in 1977. Once again the actual edge was not seen, but it could not have been more than another 1.60m (5ft 3in) to the west or it would have been detected in an adjacent trench. In summary therefore the overall width of the road could not have exceeded about 5.50m (18ft).

## THE DATING

Since the principal source of dating evidence was obtained from the internal bank, it is important that the relationship between wall and bank is understood. Two main observations support the essential interpretation that the dumping was contemporary with the completion of the wall. Firstly: the mortar pointing on the inner face of the wall was so well preserved that it must have been protected immediately after application (Pl. 2). Secondly: the mason's debris associated with the wall's construction extended beneath

the bank, thus demonstrating that the bank was not an earlier feature subsequently revetted by the wall. It was sealed directly by the dumping, there was no trace of silting or any other intervening activity, something which might have been expected if the site had remained open for any appreciable period of time.

No coins and very few artifacts were recovered from the bank, and apart from the pottery, the only datable material was a very interesting assemblage of glass, provisionally dated to the first half of the 2nd century.[3] Analysis has shown that much of it is in fact production waste.[4] Since there would be little point in transporting material for the bank over anything other than a short distance, the collection probably derived from a manufacturing operation in the vicinity.

Most of the pottery was recovered from the mixed earth deposits which formed the base of the bank. The fragments were small and scattered. There was nothing recognisably later than late 2nd or early 3rd century, much, as might be expected in scoured deposits, was a good deal earlier.

## THE SAMIAN

by JOANNA BIRD

(Fig. 5)

(Layer 7)

1. Dr 37, La Madeleine. The motifs are all shown on Ricken 1934, Taf. 9: the beaded circle on No. 9, the bird on No. 13, the beadrow and crossing astragalus motif on No. 14, and the small figure and festoon (as an arcade) on No. 15. Hadrianic-early Antonine.

(Layer 31)

2. Decorated sherd, South Gaul. Narrow scroll or small medallion. Flavian probably. (Not illustrated).

(Layer 34)

3. Dr 37 in the style of Cinnamus of Lezoux. His ovolo 5 (S&S Pl. 159, No. 25), astragalus borders, double medallion and circle in the field (Pl. 160, No. 35), ring terminal (Pl. 159, No. 26) and foliage saltire (Pl. 160, No. 41). He used the Venus (D.184: Pl. 159, No. 34) and the feathered motif (Pl. 158, No. 14). The Bacchus is 0.566. *c.* AD 150–180.
4. Dr 29, South Gaul. Similar festoons and wreath scroll were used by Vitalis (Knorr 1919, Taf. 84, G) and there are general links with the work of such potters as Meddillus and Quintus. *c.* AD 70–85.

(Layer 55)

5. Dr 37, Central Gaul, with ovolo R.B77 and perhaps the helmet of a gladiator (*cf.* D.600). Curmillus is the only potter whose stamps are associated with this ovolo, but Miss Brenda Dickinson adds that his bowls are extremely rare, and that it does occur on bowls in

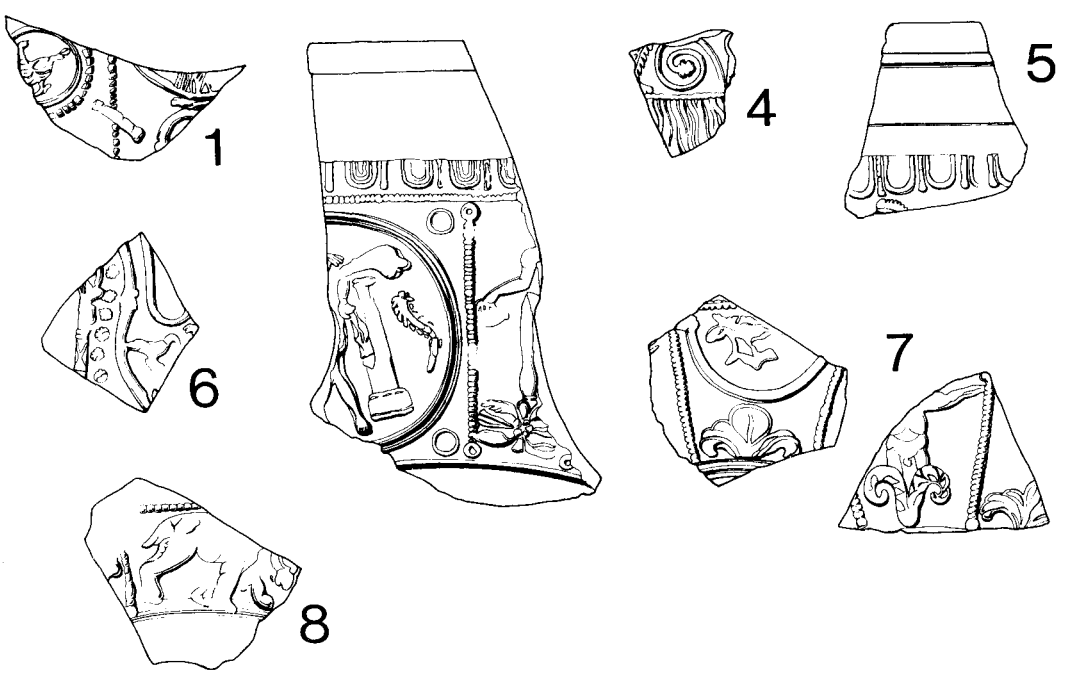


Fig. 5. Inmost Ward 1955 and 1976: Decorated Samian (1/2). (Centre sherd No. 3).

several distinct styles, mostly unassignable to particular potters (though perhaps including Sissus ii) but all clearly of Hadrianic—early Antonine date, including examples from the Castleford shop destroyed in the 140s. *c.* AD 130–150.

(Layer 116)

6. Dr 37, Central Gaul. The rosette (R.C177), triple leaf (R.G180) and perhaps the column (?R.P3) were used by Belsa; the bird has no exact parallel, apparently. *c.* AD 160–195.
7. Dr 37, Central Gaul. The ramshorn (R.G351), leaf (R.J11) and crane (D.1001) were used by Doeccus, the leaf and crane by Casurius. However, the large narrow beads are not in their style but are close to those on a bowl stamped on the rim by Moxius, which has features of Doeccus' style and shares the crane and horn (S&S Pl. 152, No. 2). The male figure is not certainly identifiable. *c.* AD 160–195.

(Layer 121)

8. Dr 37, Central Gaul. Bear (0.1574) in a panel of large round beads. Antonine.
9. Dr 29, South Gaul. Scroll in lower frieze with seven-pointed leaves. *c.* AD 45–65. (Not illustrated).

*Abbreviations:*

D: Déchelette 1904 (figure-types in Vol. 2).
O.: Oswald 1936, 1937.
R.: Rogers 1974.
S&S: Stanfield and Simpson 1958.

## PLAIN SAMIAN

| Context | Form | Source | Date |
|---|---|---|---|
| 4 | Dr 31 | EG | Had-early Ant |
| | Curle 21 | EG and perhaps Argonne | Ant |
| | 1 sherd | CG | C2 |
| 7 | Dr 18/31 or 31 | CG | Ant |
| | Dr 33 | CG | Had-early Ant |
| | Dr 37 probably | SG | Flav |
| 11 | Ritt 12 or Curle 11 | SG | pre-early Flav |
| | 2 × Dr 31 | CG | Ant |
| | Dr 33 | CG | Had-early Ant |
| 12 | Dr 18/31 | CG | mid C2 |
| | Dr 31 | CG | Ant |
| | Dr 31/Lud Sa | EG | later C2-mid C3 |
| 31 | Walters 80 | CG | mid-late Ant |
| | Dr 27 | CG | first half C2 |
| | Dr 31 | CG | Ant |
| | Dr 31R | CG | mid-late Ant |
| | 2 × Dr 33 | CG | Ant (1 burnt) |
| | Dr 36 | CG | C2 (burnt) |
| | 1 sherd | SG | |
| | 1 sherd | CG | |
| 32 | Dr 31 | CG | Ant |
| | Dr 33 | CG | Ant |
| | Dr 46 | EG | Ant |
| | 1 sherd | CG | C2 |
| 37 | Dr 27 | SG | C1 |
| | Dr 29 | SG | pre-early Flav |
| | 1 sherd | SG | C1 |
| | 2 sherds | CG | Had |
| 49 | Dr 30 or Dr 37 | CG | early C2 |
| | Dr 31 | CG | Ant |
| | Dr 33 | CG | early-mid C2 |
| | 2 sherds | CG | C2 |
| 69 | Ritt 9 | SG | pre-Flav |
| | Dr 22 | SG | pre-Flav |
| | Dr 31 | CG | Ant |
| | Dr 36 | SG | pre-early Flav |
| | 2 sherds | SG | C1 |
| 116 | Curle 15 | SG | Flav |
| | Dr 31 | SG | Ant |
| | Dr 33 | CG | Ant |
| 118 | Dr 27 | ?CG | first half C2 |
| | Dr 31 | CG | Ant |
| | Dr 31 | Argonne | Ant |
| | 4 sherds | CG | |
| 120 | Dr 27 | CG | first half C2 |
| | Dr 37 | SG | Flav-Traj |
| | 2 sherds | SG | |
| 121 | Dr 15/17(R) | SG | pre-Flav |
| | Dr 33 | EG | Ant-early C3 |
| | 2 sherds | SG | |
| 122 | Dr 15/17 or 18 | SG | pre or early Flav |
| | Dr 18 | SG | pre-Flav |
| | 1 sherd | SG | |

## SAMIAN POTTERS' STAMPS

by BRENDA DICKINSON

(Fig. 6)

1. A[on form 31, Central Gaulish. Antonine, on the form. (Layer 7).
2. Capitus ii, 2a, 15/17 or 18, C·API.TVI Cajarc,[1] La Graufesenque.[2] If this stamp and the one recorded from Cajarc belong to the same man, he almost certainly worked at La Graufesenque too, since its distribution is typical for a La Graufesenque potter. It has been noted from the fortresses at Chester and Nijmegen, and from the Ulpia Noviomagus site at the latter. The Cajarc stamp occurs on form 29. The final


Fig. 6. Inmost Ward 1955 and 1976: Stamped Samian (1/1).

letter is never clear, but on some examples it appears to be F rather than I. *c.* AD 65–85. (Layer 69).

3. Muxtullus, Ia, 31, .MVXT[VLLI M] Lezoux.[1] One of his later stamps, recorded in the Wroxeter forum destruction material and at Chester-le-Street and South Shields. His earlier work occurs in a pottery shop at Castleford destroyed in the 140s. *c.* AD 150–180. (Layer 32).
4. Secundus ii, 27a, 15/17 or 18, SECV[NDMA] La Graufesenque.[1] The lettering and form of this stamp show that it belongs to the later of the La Graufesenque Secundi. Only three examples of it have been recorded, none in a dated context. Secundus' stamps belong mainly to the Flavian period and have been noted in Scotland, but his occasional use of forms 24 and Ritt 8 show that he began work under Nero. *c.* AD 65–90. (Layer 37).

1. Indicates a die of the potter found at the kiln site; [2] a kiln site assumed from fabric, distribution, etc.

## THE AMPHORAE

### Information from CHRIS GREEN

The majority of the amphorae from the bank are of Dressel 20 type (27.7kg) of the later 1st or 2nd centuries and therefore residual. Also residual are sherds of Camulodunum 186 (0.6kg) of Flavian to early 2nd-century date. There is a small amount (0.1kg) of Dressel 30, of Antonine to early 3rd-century date which is probably contemporary. More unusual, but also contemporary, is a single sherd (25gms) of North African cylindrical amphora (c.f. Peacock 1977) which should be no earlier than the late 2nd century AD. This is an unusually early context for this type and, apart from one other sherd from a gully immediately beneath the road, all other examples in Trenches V, VI and VII, are from late 4th-century levels associated with the river defences.

## THE OTHER ROMAN POTTERY

### by FIONA CAMERON

### TRENCHES V, VI AND VII

The redeposited clay near the top of the bank (Layer 66), as might be expected, contained only four body sherds, two in oxidised and two in reduced fabrics.

The sand and gravel deposits (Layers 49 and 62) contained a proportionately larger amount of material, but still only some thirty or so sherds. Among the fine wares was the base of an imported beaker of the Central Gaulish branch of Rhenish ware dating to *c.* AD 150–250 (Greene 1978, 18) and a fragment of mica-dusted ware, which was being produced in London up to the middle of the 2nd century AD although it was apparently still being made at Colchester in the late 2nd and early 3rd centuries AD (Hull 1963, Fig. 56, Nos 4, 6–8). The oxidised wares include a flagon rim *cf.* Southwark type I B (Fig. 7 No. 2) and a fragment of poppyhead beaker *cf.* Southwark type III F, both of which are probably Flavian in date and therefore residual in this context. The majority of the reduced wares are from pie-dishes (e.g. Fig. 7 No. 19) in BB2 fabric or its derivatives, a long lived type which probably starts in the mid to late second century in London *cf.* Southwark type IV H but goes on into the 3rd century AD.

The bulk of the material from the mixed earth deposits (Layers 31, 32, 34, 37, 53, 69, 70, 116, 118, 120, 121, 122) at the bottom of the bank is of late 2nd to early 3rd-century date, but also contains a large residual element which is mostly Flavian and presumably reflects the occupation layers which made up the ground surface from which the material for the bank was taken. The fine wares from these deposits consist mainly of fragments of poppyhead beakers or sherds of rough-cast ware. Kevin Greene (1978, 17) points out that rough-cast beakers were being made in Britain in the 2nd century AD but that earlier examples are likely to be imports. In either case, the vessels in question here are likely to be residual. The same is probably true of the poppyhead beakers *cf.* Southwark type III F which are usually Flavian. There are also

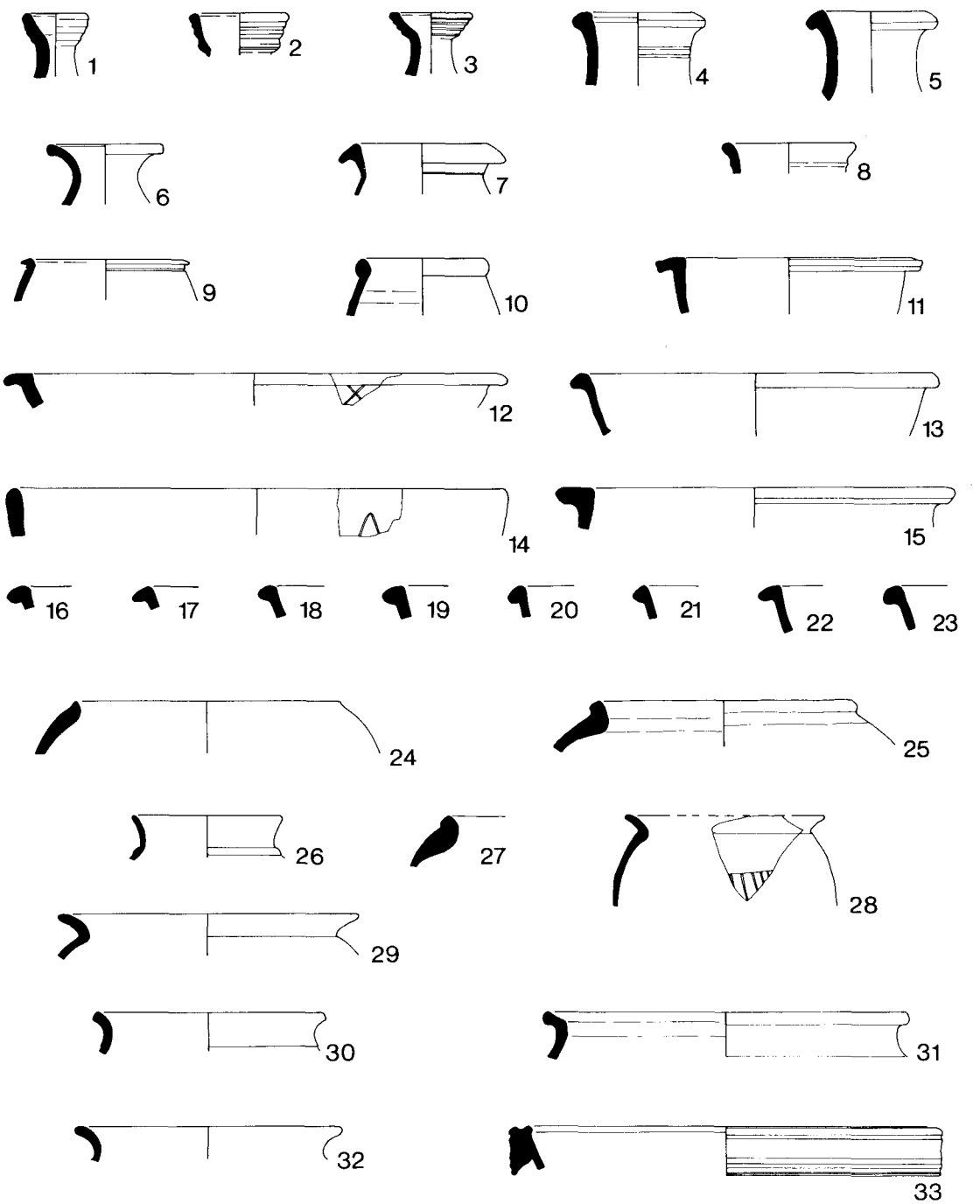


Fig. 7. Inmost Ward 1955 and 1976: Roman pottery Nos. 1–33 (1/4).

several sherds of Nene Valley colour-coated ware, including a cornice rim beaker (Fig. 7 No. 9) (*cf.* Nene Valley Guide No. 30), and a possible hunt cup fragment (*cf.* Nene Valley Guide No. 26), both of late 2nd-century date. Two lamp fragments also occur in this group, a discus rim with concentric ridges in a buff fabric with orange slip (Layer 121) and part of a base in a pale yellow fabric with a greenish-brown slip (Layer 69). These are also probably residual, as is another piece which may be included with the fine wares, the rim of a flask or flagon (Fig. 7 No. 7) probably in London ware. There is another piece of London ware, part of a bowl of Southwark type IV E 1 and therefore dating to *c.* AD 90–130 (Southwark p. 536).

The oxidised wares include an ovoid jar rim (Fig. 7 No. 10) *cf.* Southwark type II J 3 of Antonine date, and a wide-mouthed jar or bowl (Fig. 7 No. 15) which is probably from the Verulamium region (*cf.* Southwark Fig. 121, No. 679 in a Flavian context). There are a number of flagon rims similarly divided between contemporary and residual, most of which are again probably from the Verulamium area. Of those which are probably contemporary, there is one ring-necked example (Fig. 7 No. 3) *cf.* Southwark type I B 8/9 dated to AD 130–180/200 and one with a plain rim (Fig. 7 No. 5) *cf.* Angel Court Fig. 5, No. 54 in a context of AD 140–160 and Southwark No. 935 which is not dated. There is another flagon rim (Fig. 7 No. 4) very similar to Southwark No. 1326, although the latter may be residual in its 3rd-century context. The residual flagons tend to be Flavian or Hadrianic in date and include one example in grey ware (Fig. 7 No. 6) with a parallel at Angel Court (Orton 1977, Fig. 5, No. 19) in a context of AD 100–140 and another (Fig. 7 No. 11) similar to Billingsgate Buildings (Green 1980, Fig. 24, No. 67) in a Flavian context. There is also an example of Southwark type IB dated to the Flavian period also.

The residual types among the reduced wares include several Flavian bead rim jars (Fig. 7 Nos 24, 25 and 27) *cf.* Southwark II A types, and a grey ware jar, probably from the Highgate Wood kilns and late 1st to early 2nd century in date *cf.* Southwark type II E and Nos 219–20 and 1413. Most of the contemporary grey ware vessels seem to be BB2 pie-dishes (Fig. 7 Nos 13, 16, 18 and 20–23) *cf.* Southwark type IV H starting in the mid to late 2nd century AD and going on into the 3rd. There is also a dog-dish (Fig. 7 No. 14) of similar date *cf.* Southwark type IV J. Also contemporary are two jars in BB2 or derivative fabrics with cavetto rims (Fig. 7 Nos 28 and 30) *cf.* Southwark No. 1686, and another with an everted rim (Fig. 7 No. 32) *cf.* Southwark No. 929 and type II F, both of late 2nd to early 3rd-century date. There is also a dish or bowl on BB1 with a slightly flattened rim, probably of mid to late 2nd century AD (Fig. 7 No. 12). In addition there are several rims which may be from poppyhead beakers *cf.* Southwark type II F 5 of early to mid 2nd century, and a necked jar (Fig. 7 No. 26) of Southwark II C or II D type dated pre-Flavian to early Antonine, or possibly Alice Holt type 1.3 etc of late 1st to early 2nd century.

Finally, there is a mortarium rim (Fig. 7 No. 33) which may be related in form, though not in fabric, to Southwark No. 1822 which is in a late 2nd to early 3rd-century context, and to Angel Court (Orton 1974 Fig. 6, No. 143). It is possible, however, that it may have more in common with 4th-century types manufactured at Colchester and is therefore intrusive, since this context (No. 116) was subjected to some later disturbance during the building of the first riverside wall.

## TRENCHES II AND III

The bank material corresponds closely to that from Trenches V, VI and VII although it has not been possible to separate the deposits in the same way. Among the diagnostic pieces, the residual element is fairly high and mainly Flavian in date, although there seem to be some 2nd-century vessels as well. There are three mortaria, probably from South East England, of which two are probably Flavian and a third is 2nd century. The fine wares include sherds of mica-dusted ware not likely to be later than the 2nd century (*cf.* Southwark p. 536) and of poppyhead beakers, which are usually Flavian (Southwark type III F). There is a bead-rimmed jar, also probably Flavian (*cf.* Southwark type II A 4).

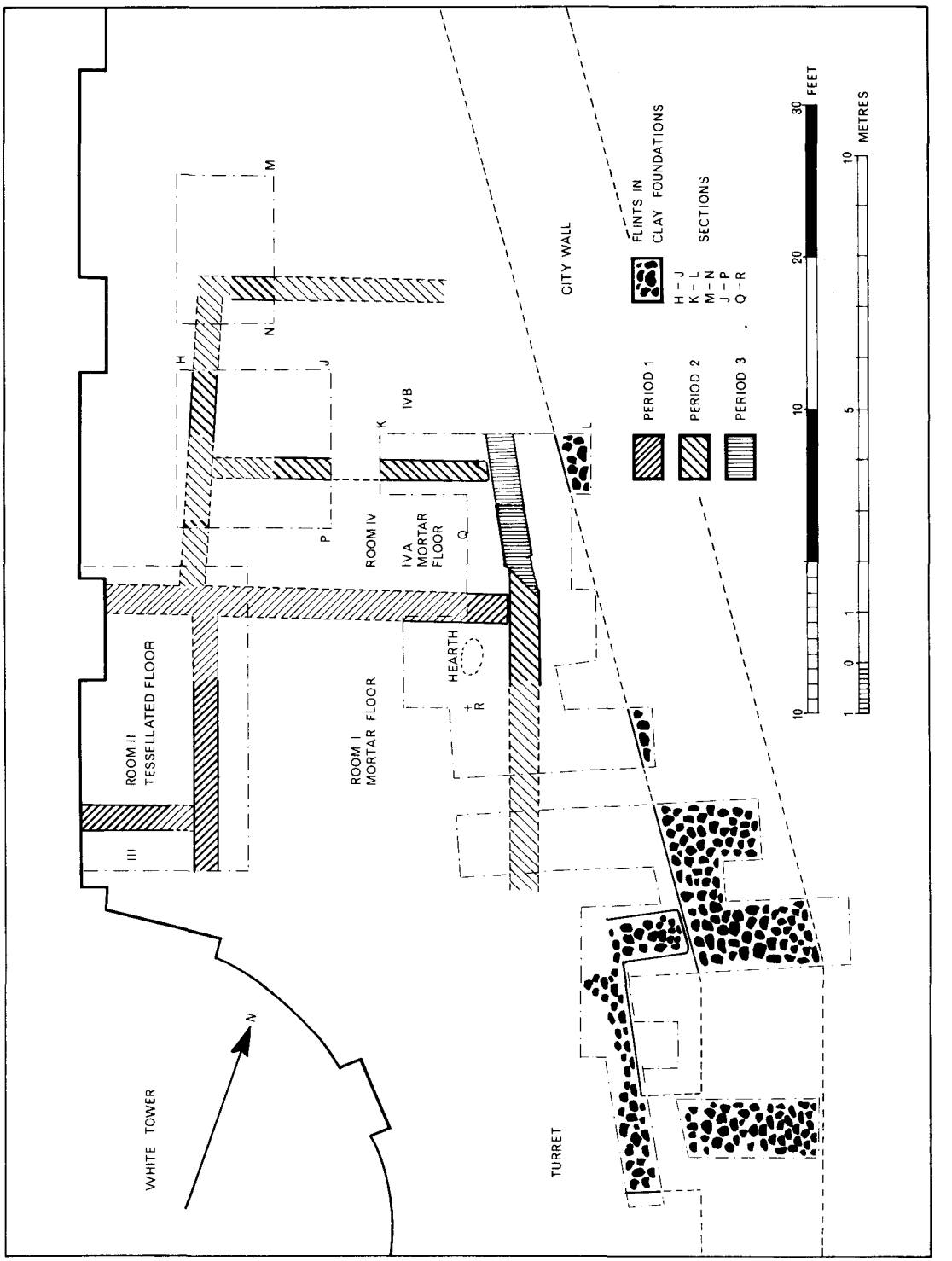


Fig. 8. White Tower 1956/7: Site plan.

The bulk of the contemporary vessels, like those from Trenches V, VI and VII, are grey ware 'pie-dishes' in BB2 or similar fabrics, dating from the late 2nd century onwards (*cf.* Southwark type IV H). Among the contemporary fine wares are sherds from bead-rimmed beakers, usually a 3rd-century type (Nene Valley Guide No. 49). There is also a Dressel 30 amphora with a sgraffito on the rim (Layer 12) a type which goes on into the early 3rd century (Green 1980, 42) and may therefore also be contemporary. Mark Hassall adds: the sgraffito was cut after firing, it reads S ⋁⋁⋁, or if inverted ⋀⋀⋀ S.

(Fig. 7)

1. Flagon: red-brown sandy fabric with cream slip on exterior and upper interior. (34).
2. Flagon: gritty red-orange fabric with white slip on surfaces (49).
3. Flagon: sandy grey fabric with bright orange surfaces and cream slip on exterior and upper interior (34).
4. Flagon: sandy orange fabric with cream slip on exterior and inside rim. (Layers 76, 69).
5. Flagon: sandy red-orange fabric with white slip on exterior and upper interior. (121).
6. Flagon: sandy pale grey fabric with fine burnishing on exterior and upper interior. (116).
7. Flagon (?): fine red-brown micaceous fabric with dark grey surfaces. (31).
8. Flagon (?): sandy orange fabric. (69).
9. Beaker: with cornice rim, fine white fabric with dark brown colour coat. Nene Valley. (120).
10. Small jar: gritty buff fabric. (31).
11. Bowl: gritty buff fabric with reduced exterior. (31).
12. Dish: BB1 type fabric with burnished lines on exterior. (31).
13. Bowl: sandy grey fabric with brownish margins. (120).
14. Dish: pale grey sandy fabric with finely burnished surfaces and burnished arcs on exterior. (116).
15. Wide-mouthed jar/bowl: gritty pinkish orange fabric with off-white surfaces and darker slip on rim. (118).

16–23. Bowls and dishes: sandy grey fabrics with finely burnished exteriors, BB2 types. (Layers 34, 7, 121, 49, 31, 53, 120, 120).

24. Jar: coarse, sandy pale grey fabric with brownish grey surfaces, smoothed on exterior and upper interior. (53).
25. Bead-rimmed jar: coarse hand-made grey fabric with brownish core. (37).
26. Small jar: fine grey fabric with finely burnished grey-black surfaces. (116).
27. Bead-rimmed jar: coarse hand-made dark grey fabric. (37).
28. Small jar: brownish sandy fabric with grey surfaces, burnished on exterior of rim and shoulder, with traces of burnished lattice. (34).
29. Jar: sandy brownish fabric with grey core and darker grey surfaces, finely burnished on exterior and upper interior. (116).
30. Jar: pale grey sandy fabric with darker surfaces. (69).
31. Jar: gritty brownish grey fabric, burnished on exterior and upper interior. (34).
32. Jar: sandy grey fabric with brownish margins and grey surfaces, burnished on exterior and upper interior. (31).
33. Mortarium: fine bright orange fabric with darker core and paler slip on surfaces. (116).

*Abbreviations:*

Alice Holt: Lyne and Jeffries 1979
Nene Valley Guide: Howe *et al.* 1981
Southwark: Bird *et al.* 1978

## EXCAVATION OF A ROMAN BUILDING ON THE EAST SIDE OF THE WHITE TOWER 1956–7

S. A. BUTCHER

The excavation was the result of the chance discovery, during work on the plinth of the White Tower, of a fragment of tessellated pavement (Room II Fig. 8). A limited amount of trenching was carried out to establish the extent of the building to which it belonged and the relationship of this to the Roman city defences. Unfortunately a great deal has been destroyed by later building work on the site.

The evidence which survives suggests that by the late second century, if not earlier, there was a substantial building on the site now occupied by the White Tower. The city defences were built immediately to the east of it and subsequently a northern extension was added, which involved cutting into the rampart. Occupation continued into the 4th century, and the building was refurbished late in that century.

The earliest surviving structure is that represented on the plan (Fig. 8) as Rooms I and II. These, with their stout walls and rectangular layout, formed part of a building to

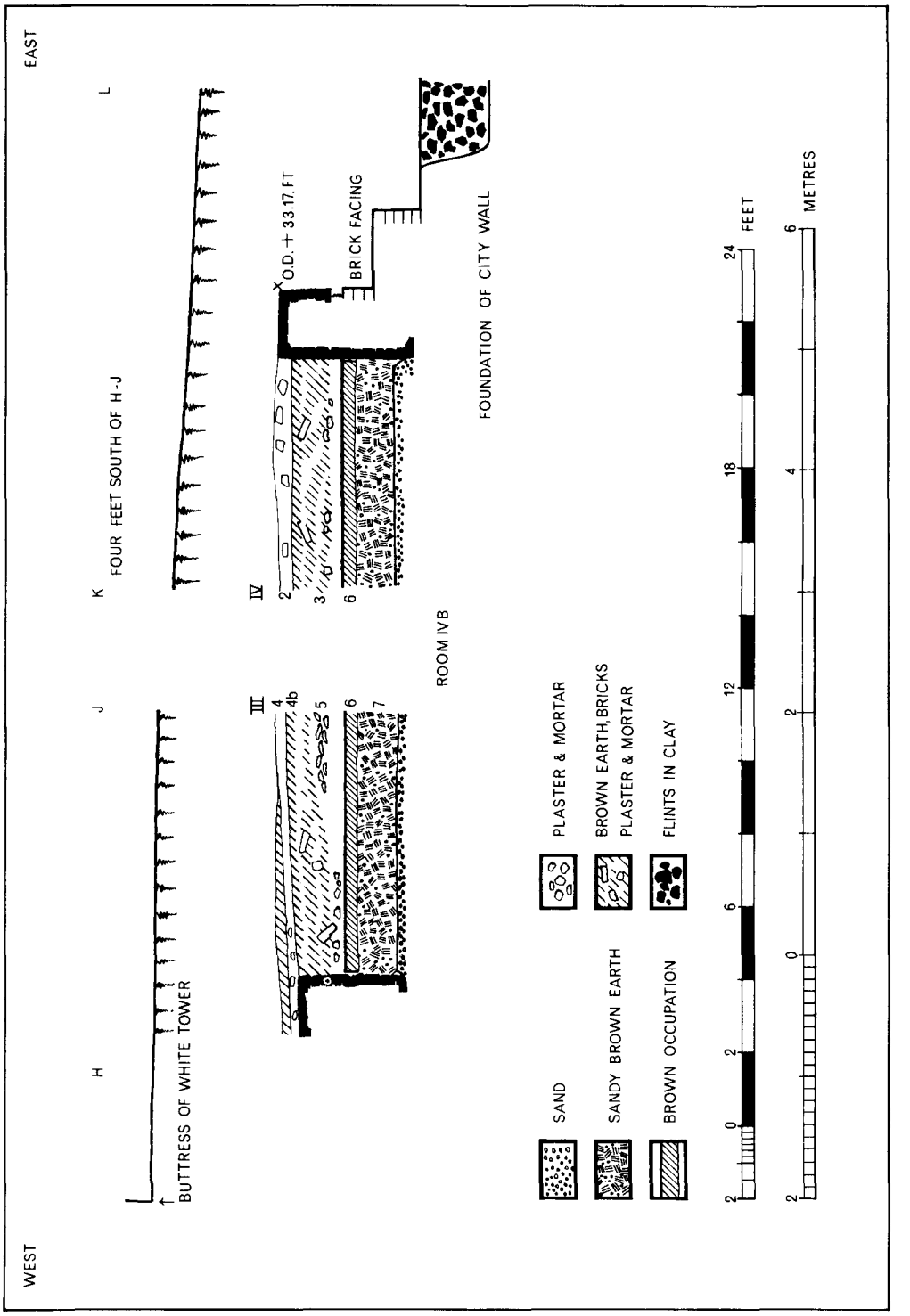


Fig. 9. White Tower 1956/7: Sections H–J and K–L across Trenches III and IV.

which Room IV was later added. It is possible that Room I originally extended further eastwards: its northeast corner shows a straight joint where the north wall was apparently cut and the existing eastern wall built against it. The surviving wall plaster at this corner indicates that the room had a fairly long period of use in its present form: it seals the straight joint and continues below the existing mortar floor.

The line of the Roman city wall runs only some 1.22m (4ft) east of the truncated northeast corner of Room I, and its alteration may be connected with the building of the defences, but direct evidence is lacking. A Board of Ordnance plan of 1754 shows the building known as the 'Great Court of the Tower' along the east side of the White Tower and part of it, labelled 'vaults for unserviceable stores', lies in the position of the city wall in the area excavated. A large block of rough stone which cuts into the floor and eastern wall of Room I is probably the foundation for the south-western angle of this building. Everything east of this foundation has been swept away and only the bottom of the flints-and-clay foundation of the city wall remains.

Room IV is shown to be a later addition by the presence of a layer (XV 4) containing occupation material which is cut by the foundation of its west wall but which lies against the faces of the north wall of Room I (III 6) (Section Q-R and H-J Figs 9–10). The north wall of Room IV on the other hand is cut into much higher ground (Section M-N Fig. 10) composed of sandy layers very similar to those found by Mr Gilyard Beer in his trench 6.10m (20ft) further north (see below p. 116). This is almost certainly the bank behind the city wall.

The only other information about the relation between the house and the defences comes from the layout itself. The plan (Fig. 8) shows that the east walls of Rooms I and IV would impinge on the line of the city wall if both are projected from their known positions. There is a curious joint in this wall which almost seems designed to avoid the city wall line but it is difficult to accept it as Roman work (though it may, of course, follow an earlier structure). The two lengths of wall, which are faced, are made to join by means of a rough stone and mortar patch, which is not. The yellow mortar of the new wall and the patch continues over the surviving stump of the earlier wall. Presumably it was used as the foundation of some subsequent structure in the medieval period.

There is another feature in the plan of Room IV which may be connected with the awkward placing of the two walls. This is the east-west wall which cuts it into two unequal parts (IV A and B on plan Fig. 8). Much of it had been robbed and the surviving portion was not more than 43cm (17in) thick. It is difficult to see this as more than a partition within the room, in view of its flimsy construction, but from its position it would fit well into the plan as the end wall of the building at an intermediate stage between the building of the town defences and the encroachment upon them of the final northward extension of Room IV. The only apparent difference between the two parts of Room IV is the presence of a mortar floor in the southern part of which there is no trace in the northern. This may be due to the accident of survival however, as the surface upon which it rests is present in both parts.

It will be shown below that the city wall must have been standing when Room IV was built, and so, if no adjustment of line was made, it must be assumed that its north-east corner butted on to the wall itself.

Little can be said of Rooms II and III for the greater part of them was destroyed when the White Tower was built. A red tessellated floor was laid in Room II in the mid 4th century and the narrow north-south width suggests that this is the end of a corridor, where a plain floor is likely.

A date for the construction of the first phase of the building depends on the scanty material from below Room I, which contains nothing definitely later than some Neronian samian (see below p. 106). These layers also contained fragments of stone, mortar and tesserae, indicating that there had probably already been a building of some pretention nearby.

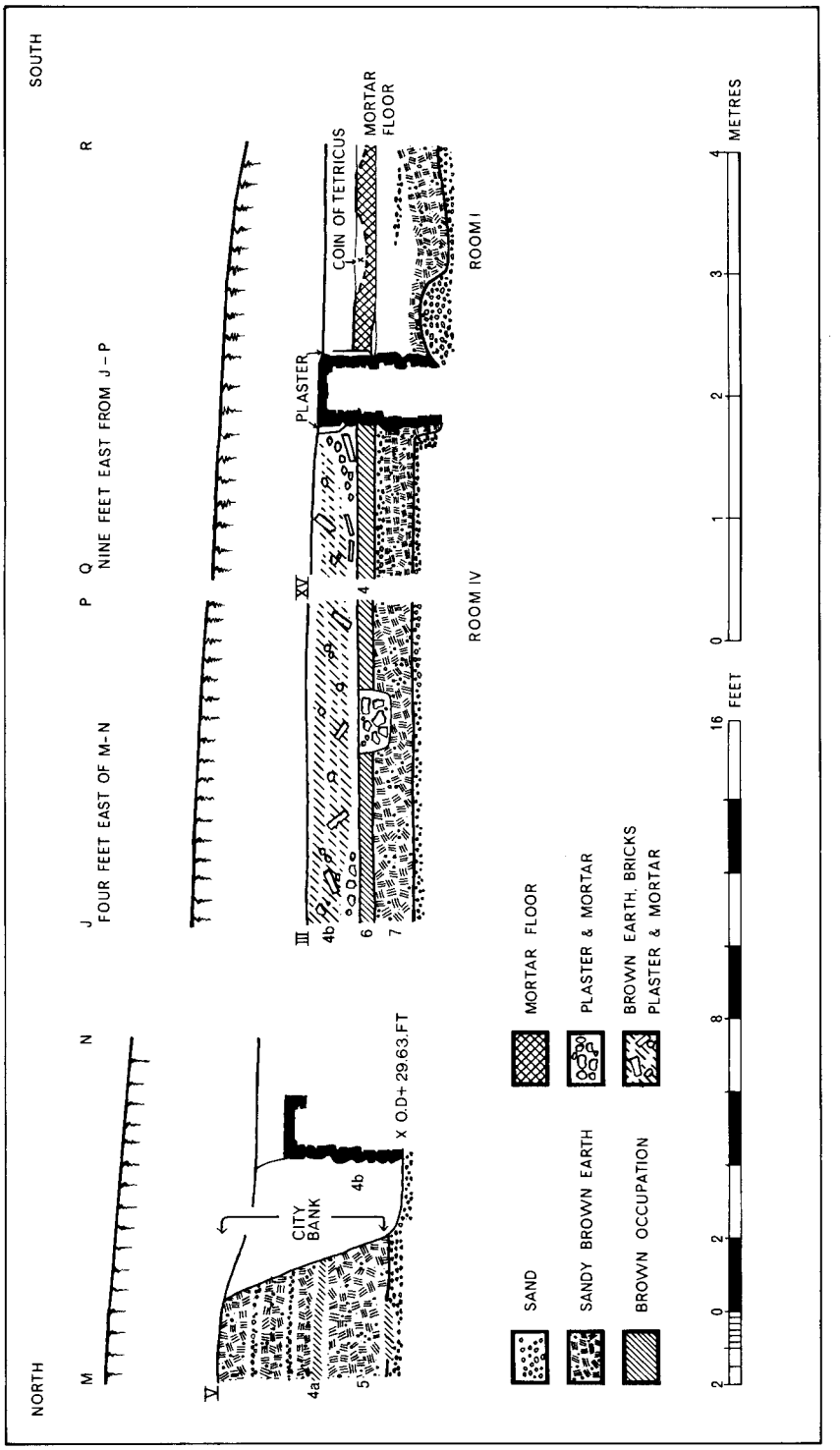


Fig. 10. White Tower 1956/7: Sections M–N, J–P and Q–R across Trenches III, V, and XV.

The pottery suggests a late 2nd-century date for the addition of Room IV A, if this can be regarded as an intermediate building stage. The north wall of Room IV B is dated later by the pottery from its construction trench, cut into the city bank, which contains some sherds thought to be late third century. The filling of Room IV up to the top of the surviving wall stumps contains mainly pottery of the late 2nd and early 3rd centuries. However this filling was not a straightforward destruction level: it contained little stone but much mortar, wall plaster and fragments of tile and the pottery may have been brought in with soil intended to raise the level. This filling was sealed by a layer of debris (III 4) which overlay the stump of the west wall and contained later material (including fourth century, p. 109). Above this there was material dumped when the recent stone plinth was added to the base of the White Tower.

There is evidence for later reconstruction and use in Rooms I and II, where new floors were laid in the mid to late 4th century.

The building was therefore in existence for a considerable period after the building of the city wall. Although the bank appears to have been dispensable at this point the wall must have remained standing throughout the Roman period since it survived to be incorporated in the defences of the Tower of London and is still visible at the Wardrobe Tower a short distance to the south.

There is no direct evidence that the building was in existence before the defences were built but this seems likely. Room I is probably datable to the late 1st century. The slight alteration in the alignment of the city wall at this point may have been made to accommodate it.

Although the part excavated does not suggest a building of any great pretention it must have been important in some way for the regular course of the defences to be interrupted. This fragment may be only a minor domestic appendage of a structure occupying the dominating terrace on which the White Tower now stands.

## THE ROMAN CITY WALL AND AN INTERNAL TURRET NORTH OF THE WARDROBE TOWER

The piece of city wall and added bastion which were incorporated into the medieval Wardrobe Tower were uncovered in 1879 (p. 87). When Mr Gilyard-Beer located the city wall about 29.25m (96ft) to the north in 1954 it was apparent that some change in alignment must exist between the two points. The 1956–7 excavations were extended eastwards in an attempt to find this change and to relate the Roman building to the city wall. The general plan (Fig. 8) shows that the angle (a very shallow one) came north of the Wardrobe Tower and that it was covered by a small internal turret.

Only the foundations of the city wall survived on this site, everything above this level having been cleared when the 'Vaults for unserviceable stores' were built (p. 103). Section H-L is typical (Fig. 9). Where the full width was excavated it was found that a deeper recent foundation cuts the eastern edge but the Roman foundation is already 2.44m (8ft) wide here, almost the width found by Mr Gilyard-Beer. In each cut it was found to consist of coursed flints in stiff yellow clay, to a maximum depth of 61cm (2ft).

The turret foundations were of the same material and must have been made at the same time as those of the wall: the southern return is of continuous build with it. There is a gap of about 5cm (2in) at the junction with the northern foundation but the superstructure was probably bonded in. The overall width of the turret (parallel with the wall) is only 5.48m (18ft); its full depth is not known because this side is masked by a drain set in concrete, but was probably about 2.44m (8ft) judging by the inner edge. The northern foundation is only 91cm (3ft) thick, the southern is 1.83m (6ft); the interior space is about 1.22 × 2.74m (4 × 9ft). It is irregular in shape for it spans the change in the wall alignment, and none of the corners are right angles.

## THE COINS

### by P. E. CURNOW

1. CLAUDIUS I (AD 41–54)
   As. Irregular.
   Reverse: Minerva type.
   1957 SF 12. Trench XV, layer 7. Soil over natural, below Room IV A.
2. SEPTIMIUS SEVERUS (AD 193–211) Den. Irregular plated hybrid.
   Obverse: type of Sept Sev of AD 200–201.
   Reverse: type of Caracalla of AD 200.
   1956 SF 3, Square III, layer 4. Amongst RB building debris, in a layer which runs over the west wall of Room IV.
3. Radiate *c.* AD 270. Illegible, Tetricus I type.
   1957 SF 4. Trench XIV, layer 5. In filling of depression in mortar floor of Room I.

## THE SAMIAN

### by BRENDA DICKINSON and BRIAN HARTLEY

(Fig. 11)

FROM BELOW ROOM I
Two small flakes of form 29, in pre-Flavian South Gaulish fabric. Form 33, the early variety, with fluting at the junction of base and wall, in South Gaulish fabric. Probably pre-Flavian.
Form 15/17, South Gaulish. Probably Neronian.

FROM BELOW ROOM IV
Form 15/17, South Gaulish. The glaze is characteristic of the Neronian period.
Form 18 or 15/17, South Gaulish. Neronian or early Flavian.
Form 18/31, probably from Lezoux rather than Les Martres-de-Veyre.
Hadrianic or early Antonine.
Two fragments, not joining, from the same large example of Ritterling form 8, South Gaulish. Pre-Flavian.

FROM CUT FOR NORTH WALL OF ROOM IV
Form 15/17, South Gaulish. Pre-Flavian.
Form 37, Central Gaulish, with the beginning, DO[. of a stamp of Doeccus. The ovolo is one of his regular ones; the Victory (0.809) and the other decorative details are all recorded on his work. Doeccus belongs to the period AD 160–190, and he was probably at work soon after AD 160, since a bowl comes from a primary deposit in the Antonine reoccupation of the fort at Bainbridge (Fig. 11 No. 1).
Form 33, Central Gaulish. Antonine.

FROM THE FILL WITHIN ROOM IV
Form 33. This is another stamp from the same die as one from the Jewel House (S.46) *c.* AD 160–190.
Form 31, Central Gaulish. This is the deep variety of the form typical of such late Antonine groups as the Pudding Pan Rock deposit. *c.* AD 160–200.
A small fragment of uncertain form coated with mortar. The fabric appears to be South Gaulish, and so 1st-century.
Form 31, Central Gaulish. A thick example, with heavy rim. Another Pudding Pan rock type.
Form 18/31 (two different dishes), in the fabric of Les Martres-de-Veyre. The larger piece is almost certainly Hadrianic, the smaller one cannot be dated closely, but it could be Hadrianic.
Form 37, Central Gaulish. This has a large winding-scroll, with two vine-tendrils springing from the main stem, as often on bowls of Cinnamvs. He also used the small leaf, but the large leaf is not recorded on his signed bowls, nor, indeed, in the work of any other

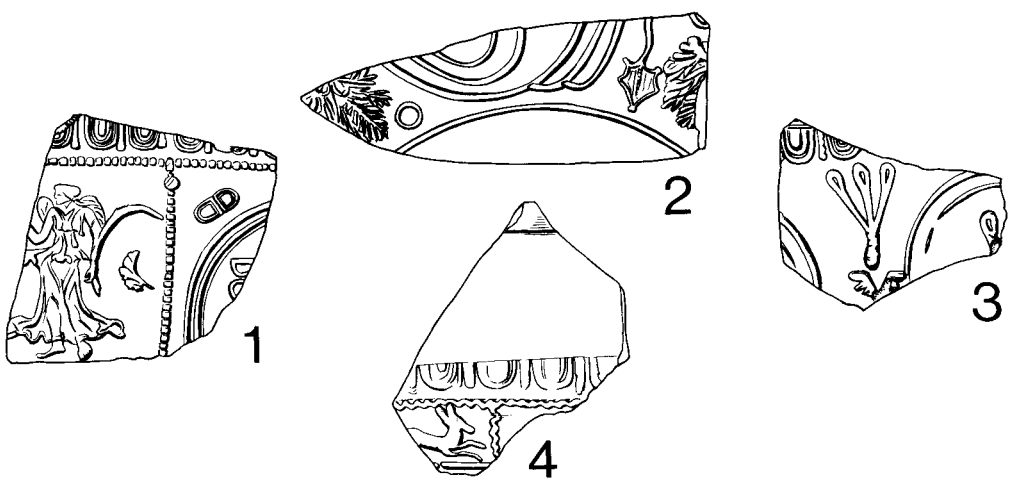


Fig. 11. White Tower 1956/7: Decorated Samian (1/2).

potter. This piece is certainly Antonine, but not necessarily later than AD 150 (Fig. 11 No. 2).

FROM TOP OF FILL IN ROOM IV

Form 37, East Gaulish. Both the ovolo and the arrangement of decorative detail are characteristic of Attillvs of Rheinzabern (*Ludowici-Ricken*, Vol. VI, Tafelband p. 298, No. 11, for the ovolo, and Textband p. 180, No. 7, for the trifids in and between double medallions). There is no adequate site-dating for this potter, though the style suggests a date after AD 160, at the very earliest (Fig. 11 No. 3).

The lower wall of an East Gaulish form 37, possibly the same vessel as the last, though the piece is perhaps a little too thin.

Form 37, burnt, Central Gaulish. The style of this piece is reminiscent of Servus of Lezoux (S&S Pl. 131), but the ovolo seems to be rather different from his recorded ones, and the piece may have been made by one of his associates. Evidence for similar bowls at Lezoux suggests a date in the region of AD 170–200 for these products. The only figure-type is a stag (D. 860) (Fig. 11 No. 4).

Form 45, Central Gaulish ware. Late Antonine.

A small fragment of uncertain form, in Central Gaulish fabric. 2nd century.

A flat plate, approximating in form to Bushe-Fox 84 (*cf.* Oswald and Pryce 1920, Pl. LXVI, Nos 2 and 4). This is in standard Central Gaulish fabric, and was almost certainly made in the Antonine period.

## THE OTHER ROMAN POTTERY

by FIONA CAMERON

(Figs 12–14)

1. The pottery from the Roman building falls into six main phases:

(i) Activity on the site before the building was erected.
(ii) The original building i.e. Rooms I and II and associated occupation, mainly the layers ante-dating Room IV.
(iii) Evidence for the construction of Room IV.
(iv) The infilling of Room IV.
(v) Later occupation, i.e. the laying of new floors in Rooms I and II.
(vi) Later disturbance.

### (i) PRE-BUILDING ACTIVITY

The pottery which is associated with what appears to be the earliest phase of occupation of the site is mostly from the layers below Room I–XI 7, XIV 9, and XIII 10, but it is scarce and difficult to date. The coarse pottery consists solely of a few fragments of amphora and flagon, but there is also some pre-Flavian and Neronian samian from these layers. Also ante-dating the building is a depression in the natural (V 6) which contains the rim of a beaker (Fig. 12 No. 1) which is probably 1st century AD *cf.* Southwark type IV D for the same general type.

### (ii) PRE-ROOM IV

The main layers ante-dating Room IV are III 7, IV 7, XV 4, and XV 6 and XV 7. Of these XV 6 and XV 7 have no datable pottery in them but are probably stratigraphically equivalent to III 7. There is, in fact, a coin of Claudius (AD 41–54) from XV 7 which may be related to the earliest activity on the site, but is unlikely to reflect the date of the layer. Layer IV 7 is actually under Room IV A i.e. south of the dividing wall between Rooms IV A and IV B, in a rather disturbed area, and contains a sherd which joins one from layer IV 3 which is above the floor of Room IV. The pottery from layer IV 7 does, however, have a fairly consistent mid to late 2nd-century AD date and includes a necked jar (Fig. 12 No. 6) of *c.* AD 100–150 *cf.* Southwark type II G 2, a jar with everted rim (Fig. No. 3) of early to mid 2nd-century date, which joins one in IV 3, *cf.* Southwark type II F 2, and a BB2 dog-dish (Fig. 12 No. 4) probably of a late 2nd-century date or later *cf.* Southwark type IV J.

Layer III 7, apparently the lowest layer, contains a necked jar (Fig. 12 No. 5) of mid to late 2nd century onwards *cf.* Southwark type IV H. The overall date for the layer must be mid to late 2nd century AD.

Layer XV 4 is immediately below the floor of Room IV but contains little dating evidence. There is an everted jar rim (Fig. 12 No. 7) of probably late 2nd-century date *cf.* Southwark type II 5 and part of a jar with an open burnished lattice similar to Alice Holt type 3B 9 dated to the 3rd-century AD although in Southwark it may be earlier.

The samian associated with these layers ranges from pre-Flavian to early Antonine and the earliest pieces are likely to be residual.

### (iii) CONSTRUCTION OF ROOM IV

There is evidence for the construction of the north wall of Room IV B, but this may be later than Room IV A. Two layers were

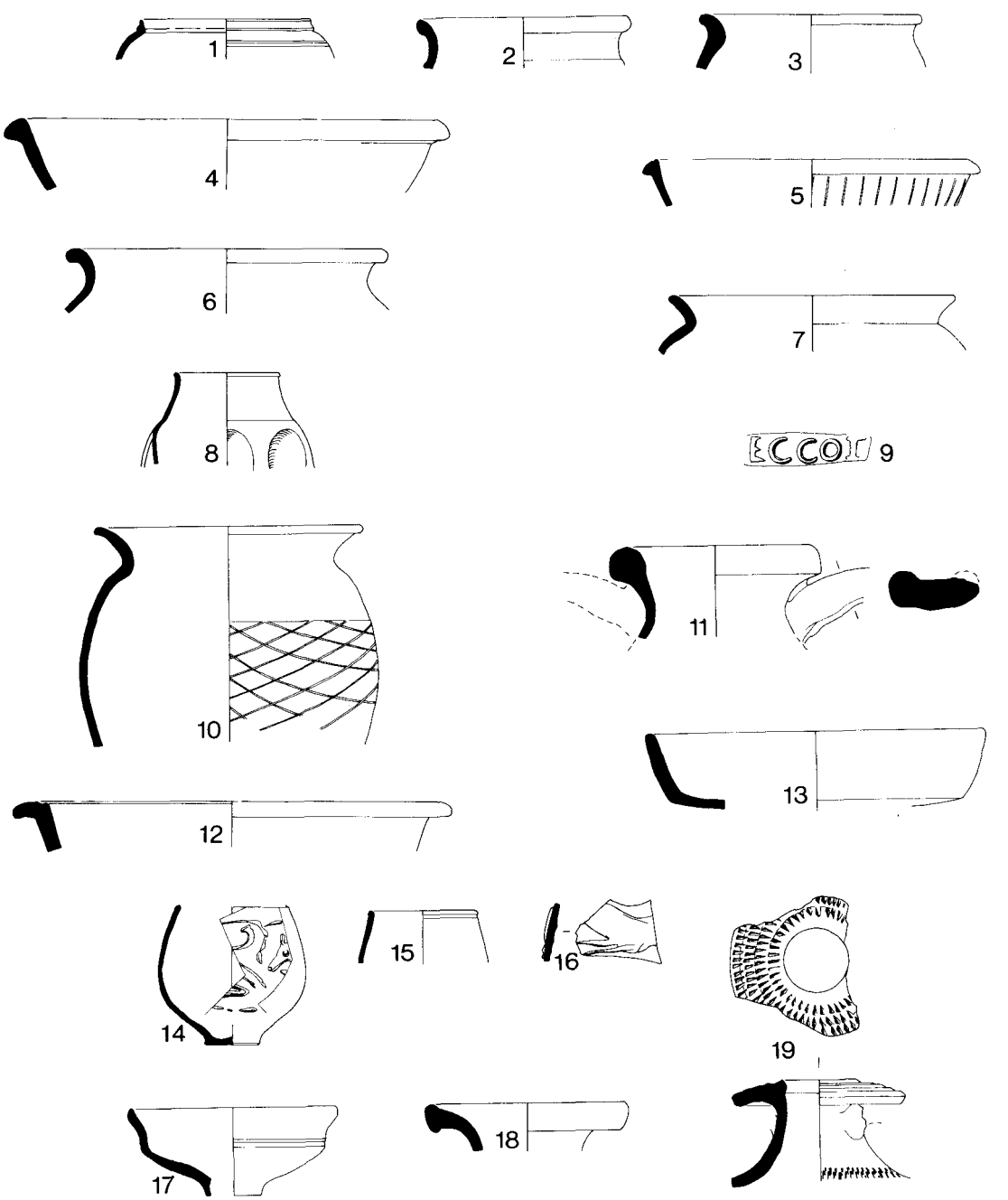


Fig. 12. White Tower 1956/7: Roman pottery Nos. 1–19 (1/4).

associated with the cut made into the city bank to build this wall. Of these, layer V 5 is from the bank itself and V 4 is from the bank and the construction trench, and must therefore be considered as belonging to the later feature, i.e. the construction trench.

From layer V 4, the fine wares include pre-Flavian and Antonine samian, as well as a beaker (Fig. 12 No. 8) probably imported from Trier and therefore not likely to be much later than AD 250 (see Greene 1978, 19). Among the coarse wares are a BB1 dog-dish (Fig. 12 No. 13) dated to AD 120–200 in Southwark, *c.f.* type IV J1, and a BB1 flanged bowl of late 2nd to early 3rd-century type (Fig. 12 No. 12) *c.f.* Gillam 1976, Fig. 4 No. 66). Also from this layer there is part of a Dressel 20 globular olive oil amphora from the Guadalquivir valley area in southern Spain. The handle is stamped F C C O (?) retrograde and there is a possible parallel from the site of St. Magnus, Lower Thames Street (Museum of London, Department of Urban Archaeology 1975) of F C C V F C N retrograde (S.M.75). This amphora probably dates to the late 2nd or early 3rd century AD (information from Chris Green) which fits in with the dating for the rest of this layer (Fig. 12 No. 9).

From layer V 5 there are two sherds of a colour-coated beaker which may be from the Colchester area and therefore probably post mid 2nd century AD and a BB2 dish with a triangular bead rim of a type which begins in the mid 2nd century in Southwark *cf.* type IV H but goes on into the 3rd century. There is also a jar with a cavetto rim (Fig. 12 No. 10) and an obtuse-angled burnished lattice which is likely to be later than AD 250 (Gillam 1976, 63), and the rim of a Dressel 30 amphora (Fig. 12 No. 11) a type which goes on into the 3rd century in London (Green 1980, 42). The presence in this layer of the cavetto rim jar, which is probably as late as the late 3rd century AD, probably indicates that there has been some mingling of the material from the bank with that of the construction trench and that this vessel in fact reflects the date of the construction trench rather than that of the bank.

(iv) FILL OF ROOM IV

The pottery from the fill of Room IV has a fairly wide date range, possibly because there is a certain proportion of later rubbish which has been thrown into it at some point. The relevant layers are III 4a, b, and c, IV 2, IV 3, IV 4, IV 5 and XIV 7, although there is no datable pottery from the last of these.

Layer IV 5, is in fact a layer of ash lying directly on top of the floor and probably the only one which has any direct relevance for the date of the floor. There is little dating evidence for this layer, however, and it comprises simply a rough cast beaker of a type probably imported from the Rhineland in the mid to late 2nd century (Fig. 14 No. 48) *c.f.* Anderson 1980, Fig. 8 No. 2 for the decoration but Fig. 13 No. 6 for the form, and a BB2 pie-dish (Fig. 14 No. 47) of a type which dates from the mid 2nd century on in Southwark *c.f.* type IV H4, although in this case it may belong to the early third century AD. The other layers which make up the fill of Room IV are all of very similar dates to IV 5, except for III 4c which is from a rather disturbed area where part of the east-west wall dividing Room IV A from Room IV B is missing. The datable pottery from layer III 4c consists of a BB2 pie-dish of mid to late 2nd century onwards *c.f.* Southwark type IV H and a small necked jar probably an early Antonine type from Highgate Wood (*c.f.* Southwark Fig. 201 No. 1612) and may therefore be residual here. Layers II 4a and III 4b must be more or less contemporary as there are several instances of sherds from the same vessel occurring in both layers. In layer III 4a there is a mica-dusted beaker (Fig. 12 No. 15) which also occurs in III 4b, similar to Southwark Fig. 219 No. 1842 (although the rim forms differ) which is in a 3rd-century context where it is probably residual. Mica-dusted wares were not being produced after mid 2nd century AD in London (see Southwark 536) although they were apparently being produced at Colchester up to *c.* AD 210 (Hull 1963, Fig. 56 Nos 4, 6, 7 and 8). There are several everted jar rims in grey ware similar to Southwark type II F5 later 2nd century onwards, a flat-rimmed bowl in a BB1 type fabric (Fig. 13 No. 32) *c.f.* Southwark type IV G1 and 2, mid 2nd

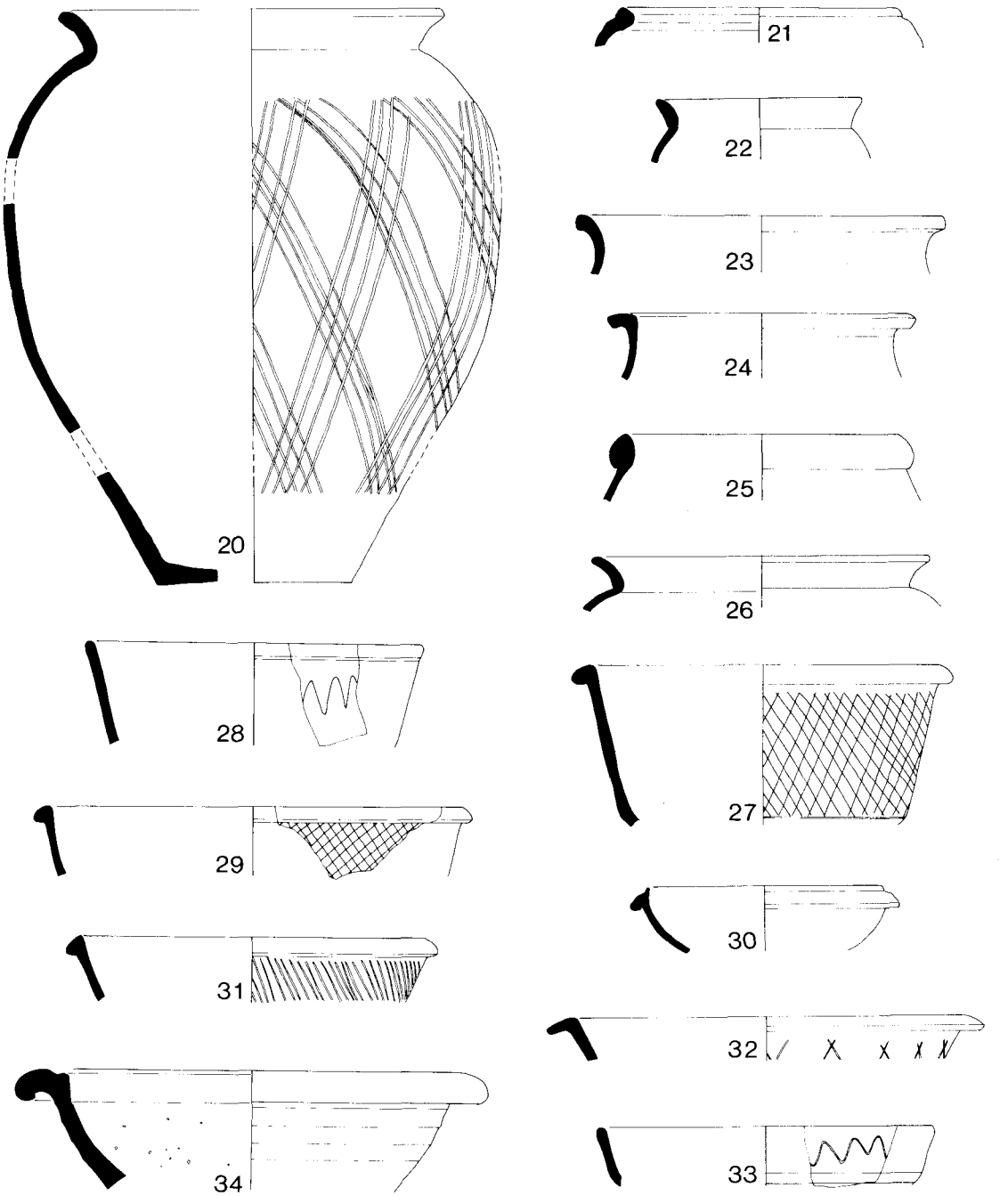


Fig. 13. White Tower 1956/7: Roman pottery Nos. 20–34 (1/4).

century onwards, and a BB2 pie-dish (Fig. 13 No. 27) *c.f.* Southwark type IV H4 mid 2nd century on. It is likely that the bulk of the material is of the early 3rd century and that the mica-dusted beaker is residual. Apart from those sherds already discussed in III 4a, III 4b contains a Nene Valley Hunt Cup (Fig. 12 No. 14) probably of late 2nd to early 3rd-century date (*c.f.* Nene Valley guide Fig. 3 No. 26), and another sherd from a Hunt Cup (Fig. 12 No. 16) probably imported from the Rhineland and therefore not much later than *c.* AD 170 (see Anderson 1980, 20). There are two flagons worth noting, one of probable mid to late 2nd century date (Fig. 12 No. 18) *c.f.* Southwark type I H1 and another unusual type with heavily roller-stamped decoration (Fig. 12 No. 19) of uncertain date. There is also a small cup (Fig. 12 No. 17) which is probably late 2nd century (*c.f.* Southwark Fig. 164 No. 1252). Among the grey ware jars is one with a bead rim (Fig. 13 No. 21) which is probably Flavian *c.f.* Southwark II A types and therefore residual in this context. There are also two jars with everted rims which are probably early 3rd century, one (Fig. 13 No. 20) of Alice Holt type 3B8 and 9, and the other (Fig. 13 No. 22) similar to Southwark type II 5 as well as a necked jar (Fig. 13 No. 23) which is probably *c.* AD 100–150, *c.f.* Southwark type II G2; there is also a wide-mouthed jar with a flat rim (Fig. 13 No. 24) similar to a type known in Southwark from pre-Flavian to early Antonine periods and later—type II D1 and some sherds from poppyhead beakers probably made at Highgate *c.* AD 100–160 (*c.f.* Southwark type III F). There are a large number of BB2 pie-dish type vessels (e.g. Fig. 13 No. 31) *c.f.* Southwark type IV H4 mid to late 2nd century onwards, and a flat-rimmed bowl in a BB1 type fabric *c.f.* Southwark type IV G1 AD 120–150 on. Also in sandy grey fabrics are a plain rimmed bowl with burnished surfaces and a wavy line on the exterior (Fig. 13 No. 28) probably of late 2nd or early 3rd-century date *c.f.* Southwark Fig. 167 No. 1286 and a dog-dish *c.f.* Southwark type IV J1 AD 120–180/200. Also from this layer is a handle from a Dressel 20 type amphora of late 2nd to early 3rd-century date. The most likely date for this layer is the early 3rd century although it does contain some residual material.

The pottery from layer IV 2 consists mainly of two jars (e.g. Fig. 13 No. 26) with everted rims in sandy grey fabrics *c.f.* Southwark type II F 4–12 dated to the late 2nd century onwards and a bead-rimmed bowl (Fig. 13 No. 29) *c.f.* Southwark type IV H, probably late 2nd century on. It is likely that this layer is also early 3rd century AD.

Layer IV 3 contains a jar with an oval beaded rim probably from the Verulamium area (Fig. 13 No. 25) *c.f.* Southwark type II J3 of Antonine date and Fig. 165 No. 1264 in a 2nd-century context and Fig. 145 No. 891 in a first half of 2nd-century context. There are also several jars with everted rims in grey fabrics *c.f.* Southwark type II F 4–12 late 2nd-century date on, and one with a small everted rim *c.f.* Southwark type II F2 early to mid 2nd century. One of these joins a sherd from layer IV 7 which is one of the levels below the floor so that both may have been deposited at the time the floor was laid. There is also a fine flanged bowl of uncertain date (Fig. 13 No. 30), several dog-dishes (e.g. Fig. 13 No. 33) *c.f.* Southwark type IV J *c.* AD 120 onwards and a BB2 pie-dish *cf.* Southwark type IV H, probably late 2nd century on.

The pottery from layer IV 4 is difficult to date as it consists only of body or base sherds, but it seems to include a Hunt cup of *c.* mid to late 2nd century AD and a flagon which may be a 2nd-century type from the Verulamium area.

The samian from the fill of Room IV ranges from 1st century to late 2nd century but the majority is mid to late 2nd century.

## (v) THE LATER OCCUPATION

The main evidence for the later period of occupation comes from Room I and II.

### Room I (Layers XIV 3, XIV 4 and XIV 5).

Layer XIV 5 is below and sealed by the mortar floor of Room I and contains a coin of Tetricus of *c.* AD 270.

Layer XIV 4 is the make-up of the mortar floor and contains a single sherd of Alice Holt flanged bowl which may well be part of the

bowl in XIV 3 (Fig. 14 No. 50) and is of mid 3rd to mid 4th-century date.

Layer XIV 3, lies immediately above the floor and contains a fair amount of material, all probably 4th century. There are several sherds from a beaker with white painted decoration of a type which occurs in the late 3rd to 4th century in the Nene Valley although in this case the fabric has more in common with Colchester types. Among the coarse wares, there is an Alice Holt flanged bowl type 5B dated mid 3rd to mid 4th century AD and *c.f.* Southwark Fig. 44 No. 292 in a 4th-century context. There is also the everted rim of a jar in a sandy grey fabric which may also be from Alice Holt *c.f.* Type 3 C2 dated AD 220–330 and Southwark Fig. 46 No. 344 in a late 4th-century context.

Room II (Layers 0 I, 0 II and 0 III)

The layers in this room are related to a plain red tessellated floor which appears to have been laid in the mid 4th century.

Layer 0 II is below the floor and contains part of a flanged bowl from the Oxford area with the white painted decoration of Young's (1977) type C 52 AD 350–400+.

Layer 0 III is also from below the floor and contains a sherd of colour-coated ware from the Oxford area which must be mid 3rd century or later, and part of a jar of Overwey type (Fig. 3 No. 49) Alice Holt type 3 C2 dated AD 220–330 and *c.f.* also Southwark (Fig. 46 No. 344) in a late 4th-century context.

Layer 0 I comes from above the floor and contains a piece of Oxford colour-coated ware of mid 3rd century at the earliest and a piece of a large jar with deep finger-impressions on the interior in Alice Holt fabric, probably type 10.1 possibly a 'ceramic beehive' dated AD 180–270 and on into the 4th century.

In the case of both Room I and Room II, the pottery from above and below the respective floors is so similar in date that it must have been deposited very close to, or possibly immediately after the floors were actually laid i.e. mid to late 4th century AD.

(vi) LATER DISTURBANCE

Lying within Room IV and certainly covering its west wall, was layer III 4. This presumably represents the destruction level of the building, though much of the pottery from it was residual and its date is therefore uncertain.

The fine wares include part of a beaker, probably from Trier *c.* mid 2nd to 3rd century and some sherds from beakers which were probably imported from the Rhineland. There is also a beaker which was probably made at Colchester (Fig. 14 No. 36) and may be late 2nd century (*c.f.* Anderson 1980 Fig. 13) and several sherds of Nene Valley beakers, one of which is probably 3rd century. Among the oxidised wares there is the rim of a tazza with a frilled cordon (Fig. 3 No. 42) of uncertain date. The reduced wares include a beaker (Fig. 3 No. 35) of uncertain date and a tankard (Fig. 14 No. 37) *c.f.* Angel Court (Orton 1977 Fig. 7 No. 158) in a late 3rd to 4th-century context. There are several everted jar rims including one in BB1 *c.f.* Southwark Fig. 148 No. 942 in late 3rd to 4th-century context and Fig. 169 No. 1363 in an early to mid 4th-century context. There is a BB2 pie-dish (Fig. 14 No. 45) *c.f.* Southwark type IV H mid 2nd century on and several dog-dishes (Fig. 14 Nos 41 and 43) *c.f.* Southwark Fig. 217 No. 1792 in a second half of the 3rd-century context.

There are also several flanged bowls (Fig. 14 Nos 44 and 46) one of which is in BB1 fabric *c.f.* Southwark Fig. 219 No. 1806 and Fig. 220 No. 1861, both in second half of the 3rd-century contexts. Finally, there is a bowl (Fig. 14 No. 38) and a large jar (Fig. 14 No. 39) *c.f.* Alice Holt type 3 C7 dated AD 270–330.

## CONCLUSION

Whilst the available evidence does suggest a certain amount of Roman activity on the site before the building was erected, it is too scanty to give any clear indication of the precise nature of this activity. Although there is no pottery directly associated with the building of Rooms I and II, this must have taken place after, or at the time of, the deposition of the Neronian samian, but before the building of the city wall and bank in *c.* AD 200. It seems likely therefore, that the pre-building activity is of the pre or early Flavian period

and that the Neronian samian was deposited during the original erection of the building in the late 1st century AD.

The first occupation of Rooms I and II must go on from this period to be contemporary with the layers below Room IV which contain mid to late second century material. Since the structural evidence suggests that Room IV was added after the building of the city wall, the building of the room must have occurred between the deposition of the layers below it and the building of the wall in the early 3rd century AD. The room, however, is split into two parts by a dividing wall and what is true for IV A may not be true for IV B. Most of the fill of both sides is apparently of late 2nd to early 3rd-century date, but it is not clear whether the material is associated with the actual occupation of the room itself or whether if was brought in from elsewhere. Although layer IV 5, the ash layer immediately on the top of the floor in Room IV A, which contains late 2nd to early 3rd-century material, may well be an occupation layer, there appears to be no equivalent evidence on the north side of the wall i.e. in Room IV B. The material from the construction trench for the north wall of Room IV B which cuts the city bank is generally of late second to early third-century and was probably back-filled with the bank material which had been taken out of it. The presence among this material of a late third century vessel may indicate that the construction of this wall took place in the late 3rd century.

It is possible that Room IV B may be part of the later occupation of the site, the evidence for which is otherwise confined to Rooms I and II. In this area at least, there seems to be a certain amount of refurbishing in progress, with both rooms having new floors laid, probably some time around the middle of the 4th century—a mortar floor in Room I and a plain tessellated one in Room II. Rooms I and II at least, seem to have been in occupation from the late 1st or early 2nd century up to the mid 4th and there is no reason to suppose the occupation was not continuous. How much longer the building remained in use is not known, but clearly it was still very much occupied in the 4th century.

The Defences

There are only two relevant sherds and these are from the turret foundations; a jar with a bead rim *c.f.* Southwark type II A 5–6, which is probably Flavian (Fig. 14 No. 53) and an everted jar rim *c.f.* Southwark type II F late 2nd to 3rd century AD (Fig. 14 No. 52). The date of the latter accords well with the date usually assigned to the wall and the former is probably residual.

(Fig. 12)

(i) PRE-BUILDING ACTIVITY

1. Beaker: fine, sandy orange fabric. (V 6).

(ii) PRE-ROOM IV

2. Necked jar: sandy grey fabric with burnished surfaces and paler grey slip on rim and neck. (III 7).
3. Jar: gritty grey fabric, burnished on rim and exterior. (IV 7).
4. Bowl: dark grey fabric with finely burnished surfaces. BB2. (IV 7).
5. Bowl: sandy grey fabric with finely burnished surfaces. BB2. (III 7).
6. Necked jar: sandy grey fabric, burnished on interior rim. (IV 7).

(iii) CONSTRUCTION OF ROOM IV

7. Jar: sandy grey fabric, finely burnished on rim and exterior. (XV 4).
8. Indented beaker: fine red fabric with white inclusions, grey surfaces and metallic brown colour-coat. Probably imported from Trier. (V 4).
9. Amphora stamp: from handle of a South Spanish Dressel 20. (V 4).
10. Jar: BB1 type fabric, acute-angled burnished lattice. (V 5).
11. Amphora: Dressel 30. (V 5).
12. Flanged bowl: gritty brown fabric with grey core and dark grey surfaces, finely burnished on interior and flange. BB1. (V 4).
13. Dish: gritty grey fabric with brown surfaces and burnished grey exterior. (V 4).

(iv) FILL OF ROOM IV

14. Hunt Cup: fine white fabric with dark brown colour coat, probably Nene Valley. (III 4b).
15. Beaker: fine gritty orange fabric with paler surfaces and mica-dusted exterior. (III 4a and b).
16. Hunt Cup: fine white fabric with glossy dark brown colour-coat. Probably imported from the Rhineland. (III 4b).
17. Cup: fine, micaceous pale orange-buff fabric. (III 4b).
18. Flagon: sandy orange fabric with cream slip. (III 4b).
19. Two-handled flagon: sandy orange fabric with cream slip on exterior and deeply roller-stamped decoration. (III 4b).

(Fig. 13)

20. Jar: sandy grey fabric, burnished on rim and exterior, acute-angled burnished lattice. (III 4b).

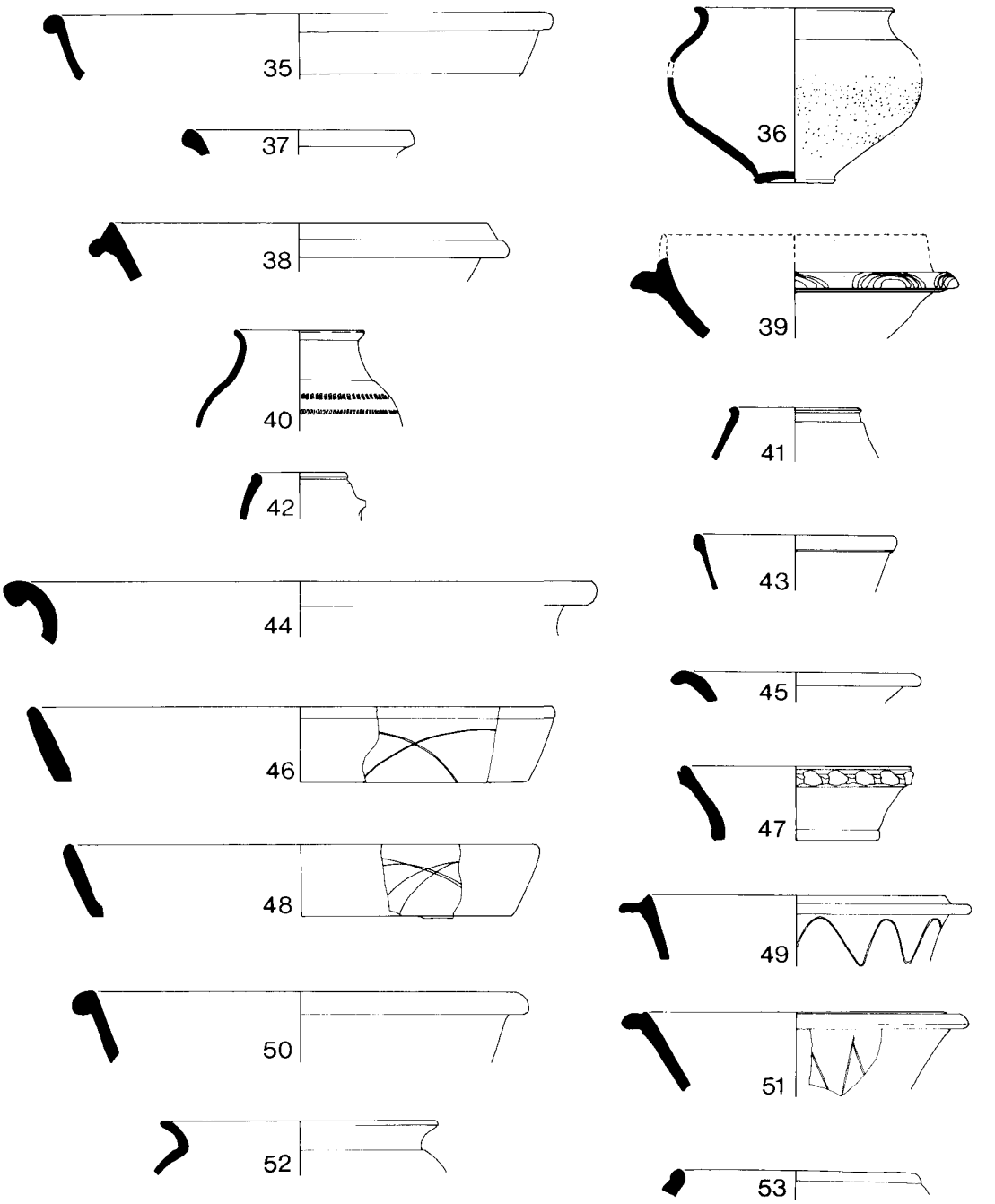


Fig. 14. White Tower 1956/7: Roman pottery Nos. 35–53 (1/4).

21. Jar with bead rim: sandy grey fabric with brownish-buff surfaces. (III 4b).
22. Jar: sandy grey fabric, burnished on rim and exterior. (III 4b).
23. Jar: sandy grey fabric with pale grey slip on inside of rim and burnished lattice. (III 4b).
24. Jar: gritty pink and buff fabric with slightly reduced exterior. Probably from Verulamium region. (IV 3).
25. Jar: sandy grey fabric, burnished on rim and exterior. (IV 2).
26. Wide-mouthed jar: sandy brownish fabric with grey surfaces. (III 4b).
27. Bowl: sandy grey fabric with finely burnished surfaces and right-angled burnished lattice. BB2. (IV 2).
28. Bowl: sandy grey fabric with burnished surfaces, wavy burnished line. (III 4b).
29. Bowl: sandy grey fabric with finely burnished surfaces and right-angled burnished lattice. BB2. (IV 2).
30. Flanged bowl: fine grey fabric, partly burnished on exterior and rim, paler grey slip on flange and inside rim. (IV 3).
31. Dish: sandy grey fabric with finely burnished surfaces, slightly oxidised to pink in parts, burnished diagonal lines. BB2. (III 4b).
32. Bowl: gritty dark grey fabric with burnished rim and interior and burnished lines on exterior. BB1 type. (III 4a).
33. Dish: gritty grey fabric with burnished surfaces and burnished wavy line. (IV 3).
34. Mortarium: fine cream fabric with possible grey and white flint grits. (IV 3).

(Fig. 14)

35. Dish: sandy grey fabric with finely burnished surfaces. (IV 5).
36. Beaker: white fabric with dark brown coat and rough cast exterior. Probably imported from the Rhineland. (IV 5).

(v) LATER OCCUPATION

37. Jar: gritty buff fabric, blackened on rim. Alice Holt/Overwey type. (0 III).
38. Flanged bowl: fine sandy pale grey fabric with darker surfaces, finely burnished on rim, interior and flange. Alice Holt (XIV 3).
39. Flanged bowl: micaceous orange fabric with orange colour-coat, white painted decoration on flange, blackened in places. Oxford region. (0 II).

(vi) LATER DISTURBANCE

40. Beaker: fine sandy red fabric with grey core and grey surfaces, rouletted and finely burnished exterior. (III 4).
41. Beaker: cornice rim, fine gritty orange fabric with brown colour coat, probably from Colchester. (III 4).
42. Tankard: gritty red fabric with dark grey surfaces, burnished on rim and exterior. (III 4).
43. Bowl: fine pale grey fabric with burnishing on rim and exterior. (III 4).
44. Large jar: sandy grey fabric with burnished exterior and rim. May be from Alice Holt. (III 4).
45. Jar: sandy grey fabric, burnished on rim and exterior. (III 4).
46. Dish: sandy grey fabric with finely burnished surfaces and burnished scar. BB2. (III 4).
47. Tazza: sandy orange fabric with pale grey core and cream slip. (III 4).
48. Dish: sandy grey fabric with burnished surfaces and burnished scar. BB2. (III 4).
49. Flanged bowl: gritty grey fabric with finely burnished surfaces and burnished scar. (III 4).
50. Dish: grey fabric with finely burnished surfaces. BB2. (III 4).
51. Flanged bowl: sandy pale grey fabric with darker, finely burnished surfaces. (III 4).

THE DEFENCES

52. Jar: gritty dark grey fabric, burnished rim exterior. (Turret).
53. Jar: bead rim, coarse hand-made orange fabric with red-brown core. (XII 6).

## SMALL FINDS

(Fig. 15)

1. Fragment of stone moulding, possibly wall panelling. It is rectangular in section with three smoothed surfaces probably forming the end of a panel 25mm thick. Both ends are broken. There is a beaded moulding on one angle. Dr F. W. Anderson reports that this is 'a Tertiary Foraminiferal Limestone, almost certainly not British in origin'. 1956 SF No. 12. Square III Layer 4b. Filling of Room IV. (*Not illustrated*).
2. Bone counter. Diameter 20mm. 1956 SF No. 2. Square III, Layer 4. Rubbish layer over filling of Room IV.
3. Copper alloy belt-plate with curvilinear open-work decoration. Two fragments of thin bronze plate are rivetted to the back of the plain rectangular end of the plate. There is a stout pin on the underside of the small round terminal. 1956 SF No. 4. Square III, Layer 4b. Lower filling of Room IV. Openwork ornament seems to be of Celtic origin, but occurs widely on mainly military sites throughout the Empire in the 2nd and early 3rd centuries AD. A very similar object was found at Ebchester (*Archaeol. Aeliana.* 5 ser. 3 (1975) 72 No. 16) and a fragment of another at Barburgh Mill (*Britannia* 5 (1974) 162, Fig. 8, 39), a site occupied between *c.* AD 140–160.
4. Copper alloy. Possibly the foot of a small box. 1956 SF No. 5. Square 3, Layer 4. Rubbish layer over filling of Room IV.
5. Group of iron objects from dump of wall-plaster in corner of Room IV. Presumably discarded when the building was dismantled for its re-usable stone. Iron ring, cramp or door hook, two nails. (AM Laboratory Nos. 570895 and 600379). (*Not illustrated*).
6. Copper alloy hollow domed stud head. Fig. 15. Diam: 12mm. 1957 SF No. 13. From foundations (flints in clay) of southern return of turret.
7. Part of an iron vessel from dump of wall-plaster in Room IV. (AM Laboratory No. 600378) 1977 SF No. 19. Trench XV layer 2.

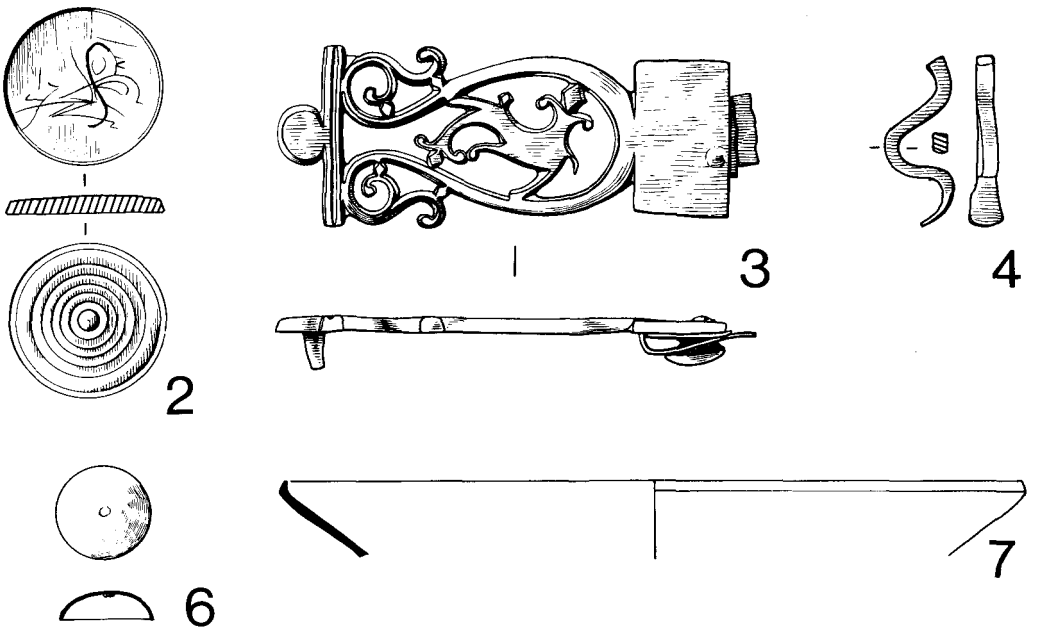


Fig. 15. White Tower 1956/7: Small finds (1/1).

## EXCAVATIONS ON THE NORTH-EAST CORNER OF THE WHITE TOWER, 1954

### R. GILYARD-BEER

The foundation of the Roman wall was encountered 6.50m (21ft 4in) east of the White Tower: it was rectangular in section and consisted of close-set layers of flints set in clay. It was 2.57m (8ft 5in) wide and 60cm (2ft) deep. It cut through a layer of rather more than 30cm (1ft) uniform depth which was composed almost entirely of dark grey refuse. This lay directly on the natural and presumably represents the pre-wall Roman ground surface (Fig. 16). Nothing whatsoever remained of the wall that had been supported by the foundation. In its place was a well-defined robber trench 1.83m (6ft) deep and 3.05m (10ft) wide at the top, tapering to the exact width of the foundation. A few sherds of Roman and medieval pottery, the latter dating up to the second half of the 13th century, were found near the bottom of the robber trench.[5]

West of the foundation and the robber trench, the material of the Roman rampart extended continuously to the foundations of the White Tower, giving a total width of over 6.10m (20ft) and a maximum depth of 1.67m (5ft 6in). It rested directly on the Roman ground surface and consisted of seven fairly distinct layers of material. All the layers were fairly level to the west where they met the foundations of the White Tower, but sloped upwards at an increasing angle to the east, to a maximum of about 30°. They consisted of sandy, clayey ballast varying in colour from orange through brown to a dirty grey, according to the amount of refuse they contained. In the centre of the rampart there was one layer of black refuse and one layer of clean orange sand. Sherds of Roman pottery occurred throughout practically all the layers, and in the lowest one there were fragments of Roman box tiles, roof tiles, floor tiles, window glass, *opus signinum*, and three rough tesserae cut from tile.

The trench was extended 2.44m (8ft) east of the wall foundation, but no trace of a ditch was found. The foundations of the 'Great Court' prevented a further search to the east.

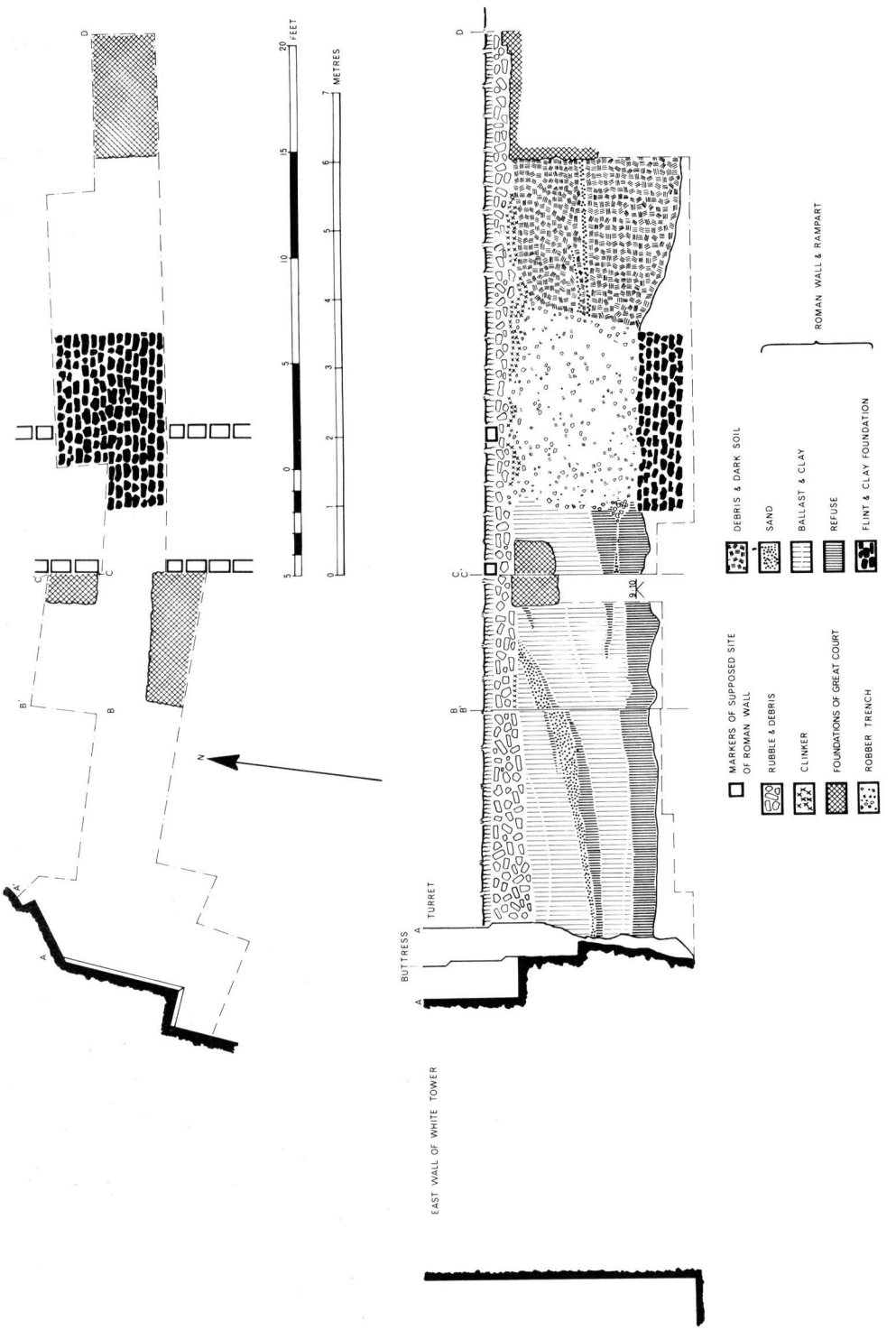


Fig. 16. White Tower 1954: Site plan and section.

Outside the wall the natural surface dropped in a ragged slope towards the east, and above it there was a homogenous deposit of 2.44m (8ft) of building debris, stones and sticky brownish loam, extending up to a level (some 60cm (2ft) below present turf level) where rampart, robber trench, and all early deposits are cut away almost horizontally by relatively modern disturbance (Fig. 16). The upper part of this deposit contains a few sherds of Surrey white ware belonging to a baluster jug, which can probably be dated to the 14th century.

This indicates that the Roman wall was standing until at least the 14th century, for it was not until that date that the ground level to the east was raised, apparently deliberately. At some stage after this the Roman wall was robbed down to its foundation, but the rampart left standing.

## ADDENDUM

## GEOFFREY PARNELL

During excavation of a service trench near the north-east corner of the White Tower in December 1973, a standing section of the Roman landwall was observed only 1.50m (5ft) north of where the 1954 investigation recorded its total destruction (Fig. 17). It

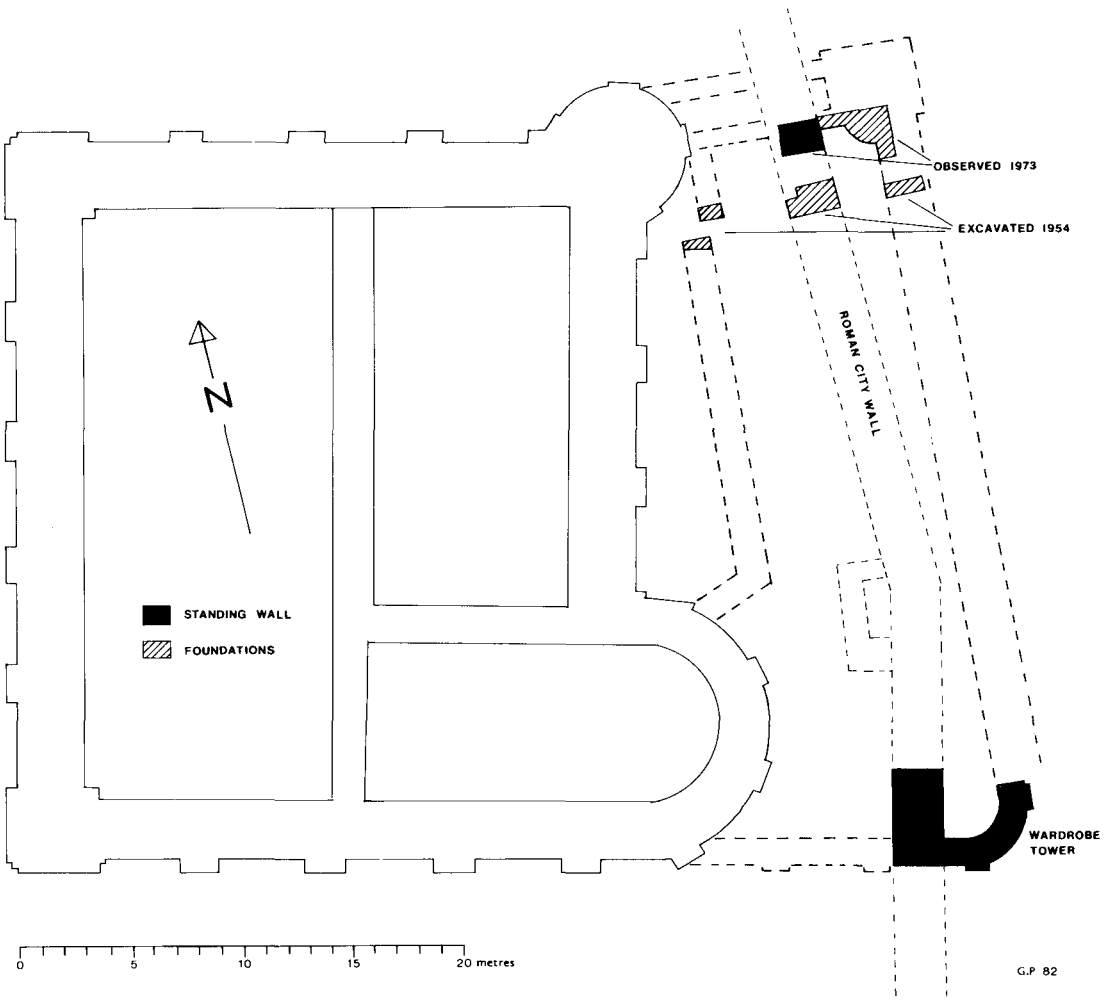


Fig. 17. Plan of the Great Court of the Tower and the Roman city wall.

stood to a height of about 1.50m (5ft) above the external chamfered plinth; some 60cm (2ft) above the base, a division appeared to mark the brown earth deposits resting against the wall face. Presumably the upper layer equates with the dumping lying immediately to the south which produced 14th-century pottery. The lower material might be regarded as somewhat earlier, perhaps an accumulation which began in the Roman period, particularly as the plinth appeared well preserved.

Let into these deposits were a number of trench-poured foundations. An east-west footing lay roughly at right-angles to the Roman wall, the west end butted against the wall face, the east limit merged with part of a massive circular feature interpreted as the base of a tower. A further footing returned to the south, the arrangement thus forming an enormous corner (Fig. 17). Neither the full width or depth of the footings could be established, but all were apparently contemporary and evidently incorporated much re-used Roman tile in the basic ragstone and mortar composition.

There can be little doubt that these remains belong to the 'Great Court of the Tower' a long building which occupied a position down the east side of the White Tower. Little is known about this structure. It appears on the Haiward and Gascoyne survey of 1597, evidently in much the same form as it is represented between the late 17th and early 19th century—a long, relatively low, stone building enclosing an open court (Pl. 3). Sometime after 1692 and before 1717, a pentice was erected against the interior west wall, thereby greatly reducing the area of the inner court.[6] It is highly probable that further alterations to the existing fabric were carried out during this period. In the mid 19th century a fourth storey was added—a move which greatly obscured the view of the White Tower and

Plate 3. 'The Great Court of the Tower' as seen from the north-east by Malton in 1799. (*Crown copyright reserved*)

Plate 4. The Record Office [i.e. Great Court] viewed from the south-east shortly before its demolition in 1879. (*Guildhall Library*)

thus provided the Office of Works with an excuse to demolish the building in 1879 as part of their ruthless 'remedievalisation' of the Tower (Pl. 4).

Exactly when the Court was built, and for what purpose, remains obscure. Bailey (1821, 117) attributes it to the reign of Edward III, as does G. T. Clark (1884, 219) sixty years later, though no documentary reference is known. By 1666 the Board of Ordnance had established an 'Ordinary Proofe howse' there (Parnell 1980, 150), and by the mid 18th century was using it as a depository for records and a drawing office.[7]

Its earlier history may well have been associated with the royal Wardrobe. The Wardrobe Tower itself was embedded in the south-east angle of the building and photographs taken during demolition[8] show the south wall, which linked the Wardrobe to the apse of the White Tower, supported by two shallow flat pilaster buttresses similar to those surviving on the Wardrobe Tower (Pl. 4). The buttress style is early and perhaps unlikely to date after *c.* 1200. It does not follow, however, that the Court was of the same date, merely that at this point earlier work was incorporated into its build.[9] In fact, the Court could not have been constructed before the middle of the 13th century at the earliest, since until then the line of the Roman wall (which lay within its plan) marked the eastern limits of the castle (Colvin 1963).

The 1954 excavation demonstrated that the building could not be earlier than the 14th century, as the east foundation cut through deposits containing pottery of that date (Fig. 17). The removal of the Roman wall also post-dates these deposits, though what little pottery was recovered from the construction trench was slightly earlier and therefore residual (p. 118). Significantly, the robbing of the Roman wall stopped just short of the north wall of the Court. Since it is highly unlikely that the Roman wall was removed after the building had been erected, it seems quite possible that it happened during the construction of the Court and that the operation deliberately avoided disturbing an area where it would interfere with the foundations of the new building. It goes without saying that a large and disused feature like the Roman wall would have provided a useful supply of material for the medieval builders, and the presence of re-used Roman material in the Court's foundations has already been commented upon.

## THE SAMIAN

### by BRENDA DICKINSON and BRIAN HARTLEY

Form 37, South Gaulish. The ovolo and winding scroll can be paralleled in the work of Germanvs (see Karnitsch, *Die Reliefsigillata von Ovilava*, Taf. 5, Nos. 3 and 4, for the ovolo and scroll, and Knorr, *Sudgallische Terrasigillata-Gefasse von Rottweil*, Taf. 39, U. for a signed example with the scroll). *c.* AD 70–90.

Form 37, Central Gaulish. This is the work of the potter who uses a characteristic straight line under his ovolo. A badly-impressed mould-stamp on a bowl from Great Chesterford, in Saffron Walden Museum, shows that his name was Secundus. The figure-type, a Hercules, is a variant of Déchelette 464 (*c.f. Proc. Soc. Antiq. Scot.* XCIV, 101, No. 4). These bowls are certainly Antonine, and occur occasionally in forts thought to have been reoccupied *c.* AD 160, such as Ilkley or Bainbridge. A general date *c.* AD 150–180 may be suggested.

Form 38, Central Gaulish. Antonine, probably early in the period.

Form 33, Central Gaulish. Antonine.

Form 31, Central Gaulish. Antonine.

The plain band from a Central Gaulish form 37. Hadrianic or Antonine.

Form 18/31R (?), Central Gaulish. Hadrianic or Antonine.

Probably form 18/31, Central Gaulish. Hadrianic-Antonine.

Form 31, Central Gaulish. Antonine.

A small fragment in Central Gaulish fabric, probably form 31. Hadrianic or Antonine.

Form 31, Central Gaulish. Antonine, probably later than AD 160.

Form 33, Central Gaulish. This is an extremely thin fragment, and could be Hadrianic or early Antonine.

Form 18 (?), probably South Gaulish, burnt. First-century (?)

Form 37, Central Gaulish. Second Century.

Form 37, Central Gaulish, with a groove instead of a ridge below the decoration. The only element of the decoration left is a leaf, probably the one common to Albucius, I, II and Paternus. The groove below the decoration occurs frequently in the work of the latter, and seems on the whole to be characteristic of late Antonine bowls. Probably later than AD 160.

Form 33, Central Gaulish, with the stamp SIN[. This is from a die reading SINTVRVSF recorded on form 44 at Eccles Villa, Kent, and hence Antonine in date. This dating is confirmed by two examples from the Antonine fort at Camelon.

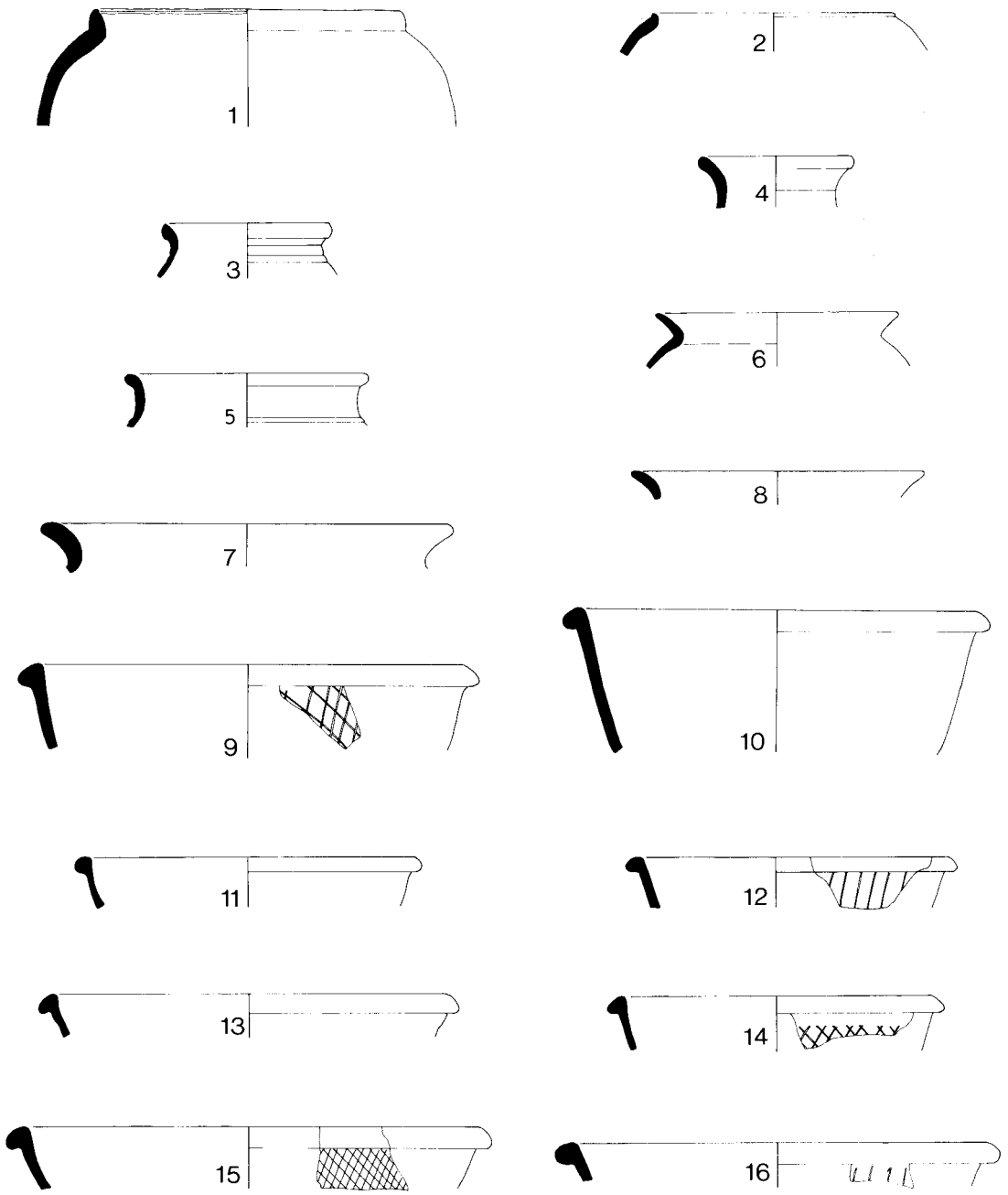


Fig. 18. White Tower 1954: Roman pottery Nos. 1–16 (1/4).

A samian mortarium, probably form 43 or Curle 21. Late Antonine.

Probably form 18/31, Central Gaulish. Hadrianic.

## THE OTHER ROMAN POTTERY

by FIONA CAMERON

(Fig. 18)

The fine wares from the bank deposits include part of a rough-cast beaker which may be from Colchester *c.* mid to late 2nd century *c.f.* Anderson (1980, Fig. 13), a sherd of Nene Valley colour-coat which must be later than the middle of the 2nd century when production started there and a sherd from a Nene Valley beaker with underslip barbotine decoration, probably of a late 2nd or early 3rd-century date (see Nene Valley Guide, Fig. 3). There are several pieces of mica-dusted ware which are probably not later than 2nd century (see Southwark 1978, 536), and two sherds from a poppyhead beaker probably of late 1st to late 2nd-century date *c.f.* Southwark type III F, which are probably residual in this context.

Among the coarse wares are a number of BB2 bowls (e.g. Fig. 18 Nos 9, 10, 11, 12, 13, 14, 15 and 16) *c.f.* Southwark type IV H mid 2nd century onwards, two jars (Fig 18 Nos 7 and 8) of late 2nd to early 3rd-century type *c.f.* Southwark type II F, and a jar with a small bead rim (Fig. 18 No. 2) *c.f.* Angel Court Fig. 5 No. 25 in an AD 140–160 context and Southwark type II A17 AD 130–180/200. The jar types also include a small necked jar (Fig. 18 No. 5) *c.f.* Southwark types II G2 AD 100–150, a small jar of Southwark type II F late 2nd to early 3rd century and a necked jar in a micaceous brown fabric with grey surfaces is present *c.f.* Southwark Fig. 153 No. 1038 in a first half of 2nd-century context and Fig. 167 No. 1284 in a late 2nd to early 3rd-century context. There is also a flask or jar in London ware type fabric (Fig. 18 No. 4) *c.f.* Southwark type II R late 1st to mid 2nd century AD and Fig. 197 No. 1480 in a Hadrianic context, and a bead rim jar in a shell-gritted fabric (Fig. 18 No. 1) which is probably Flavian *c.f.* Southwark type II A4; these two pieces are almost certainly residual.

1. Jar: bead rim, hand-made grey shell-gritted fabric with orange surfaces.
2. Small jar: bead rim, sandy grey fabric with burnished rim and exterior.
3. Small jar: fine hard buff fabric.
4. Necked jar or flask: fine micaceous brown fabric with pale grey surfaces.
5. Necked jar: sandy dark grey fabric with pale grey slip.
6. Small jar: gritty grey fabric with burnished rim and exterior.
7. Jar: sandy grey fabric.
8. Jar: sandy grey fabric.
9. Bowl: sandy grey fabric with finely burnished surfaces and acute lattice. BB2.
10. Bowl: sandy grey fabric with finely burnished surfaces. BB2.
11. Bowl: sandy grey fabric with finely burnished surfaces. BB2.
12. Bowl: sandy grey fabric with finely burnished surfaces and oblique burnished lines. BB2.
13. Bowl: sandy grey fabric with finely burnished surfaces. BB2.
14. Bowl: sandy grey fabric with finely burnished surfaces and acute-angled burnished lattice. BB2.
15. Bowl: sandy grey fabric with finely burnished surfaces. BB2.
16. Bowl: sandy grey fabric with finely burnished surfaces and vertical burnished lines. BB2.

## EXCAVATIONS AT TOWER HILL, 1965

PETER CURNOW and GEOFFREY PARNELL

In advance of the construction of a third platform at Tower Hill Underground Station, the Ministry of Public Buildings and Works, in collaboration with London Transport, carried out excavations to the rear of the Roman city wall at the north end of Trinity Place. Work took place between January and March 1965 and was directed by Peter Curnow. As the principal objective was to investigate any surviving remains of the internal bank, two 1.83m (6ft) trenches were laid out at right-angles to the wall (Trenches I & II, Fig. 19). Of the four sections thus obtained, three were neatly aligned on the tops of 17th/18th-century walls and wells. The fourth and

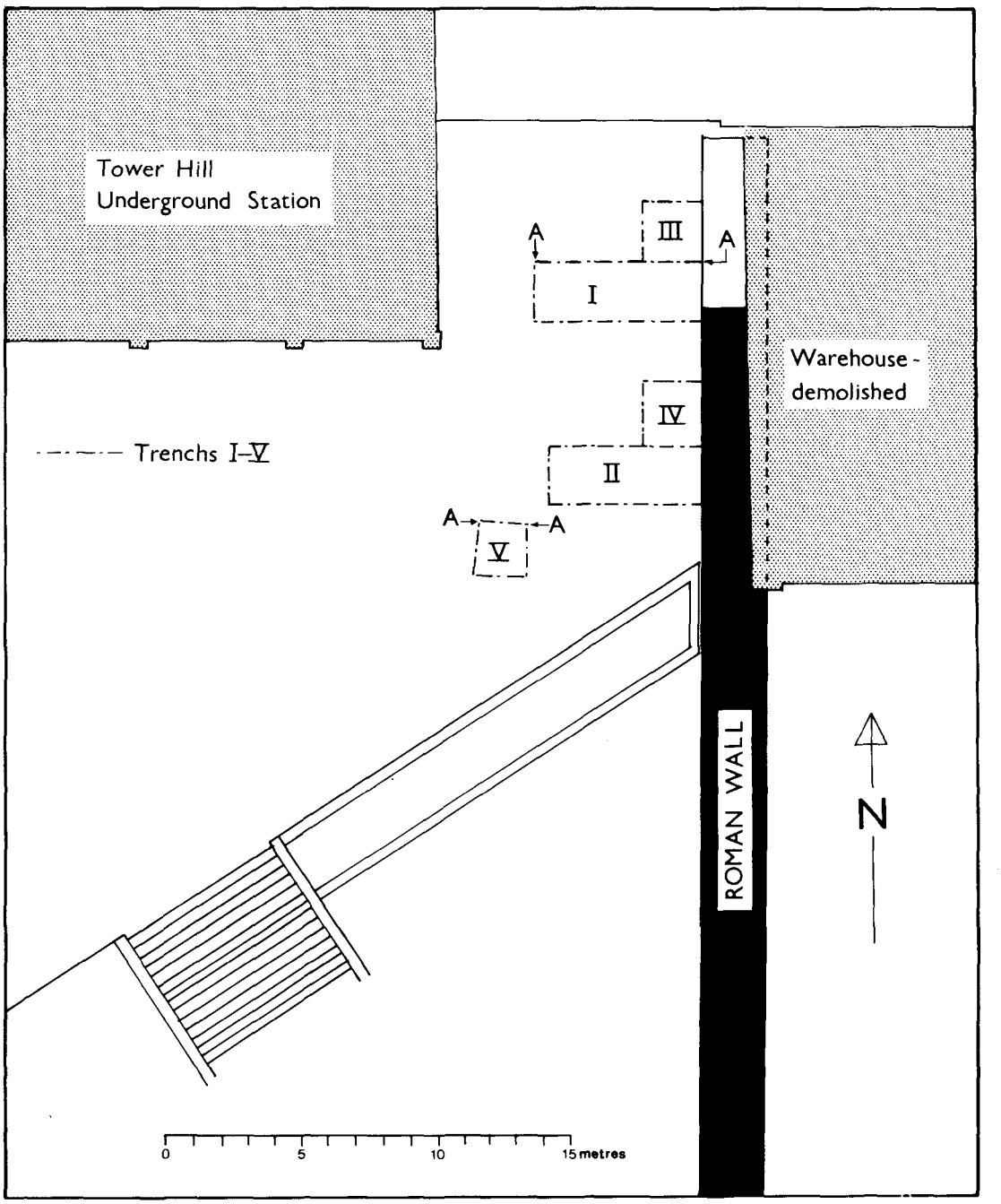


Fig. 19. Tower Hill 1965: Site plan.

most northernly section, though cut by a large 17th/18th-century pit, revealed the bank extending back 4.85m (16ft) from the wall.

In order to try and establish the full width of the rampart, a cutting, Trench V, was made to the south-west of the main trenches. Two further cuttings (Trenches III & IV) were excavated against the wall on the north side of each of the main trenches to obtain as much dating evidence from the bank as was possible.

## THE ROMAN GROUND SURFACE

In Trench I the excavation was carried down below the level of the wall's construction surface to examine the earlier stratigraphy. The natural orange-coloured brickearth, overlying the gravel and sand deposits of the terrace, was encountered at 10.45m O.D (Layer 1, Fig. 20). Above this occurred a fairly even 30cm (12in) layer of dirty brown brickearth containing small pebbles, flecks of charcoal, shell and a small amount of Roman pottery (Layer 2). This presumably represents the pre-wall accumulation.

## THE WALL

The foundations lay within a trench cut to a depth of at least 1·20m (4ft). The lower fill comprised 90cm (3ft) of flints set in a mined clay matrix. Above this was a mass of ragstone set in a hard mortar which formed a rough raft to support the main body of the wall (Fig. 20).

The face of the upstanding part of the wall survives better here than anywhere else in the city. A triple-tile facing course marks the base of the wall in the normal manner. Above are three courses of ragstone followed by a triple-tile bonding course carried right through the thickness of the wall. Next comes six courses of ragstone, a double-tile bonding course, five rows of rag, then another double-tile course and finally three more courses of ragstone. The whole affair stands to a height of some 3.45m (11ft 4in); each tile course is marked by a narrow offset (Fig. 20 and Pl. 5).

Before the northern section of the excavated wall was destroyed by the enlargement of the station tunnel, a view of the exterior (east) face was briefly obtained after a large 19th-century warehouse to the east was demolished. Beneath the level of the mortared raft, the foundations were completely underpinned by modern brickwork, while most of the chamferred plinth had been smashed by the springing for the deep warehouse cellars (Pl. 6). Above this the face survived as four courses of ragstone, a triple-tile course and five rows of rag. In fact, the condition of the wall had altered little since it was illustrated by Roach Smith following the discovery in 1852 of part of the tombstone of Classicianus the Procurator of the province of Britain, re-used in the building of Bastion 2 (Merrifield 1965, 41–42).

Within all the excavated trenches, immediately overlying the Roman ground surface, was a layer of mortar and small rag chippings up to 7.5cm (3in) thick (Layer 3, Fig. 20). This represents the masons' waste associated with the construction of the wall and a number of tile fragments lay directly on it. The same surface, recently encountered in excavations

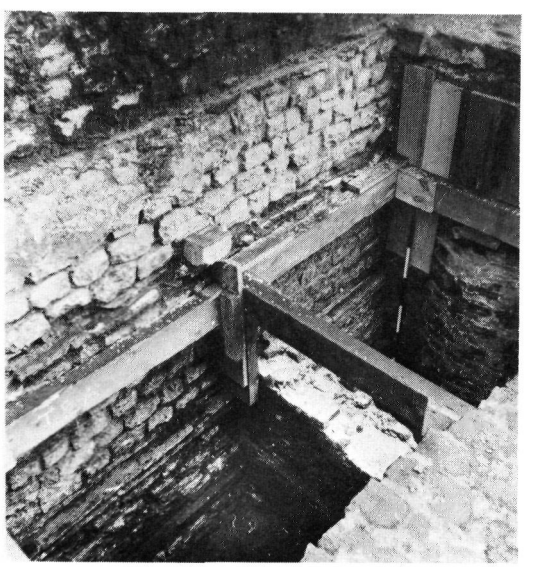

Plate 5. Tower Hill 1965: Western face of Roman wall in Trenches II & IV (6ft scale). (*Museum of London*)

a short distance to the south, has been interpretated as being deliberately laid (Whipp 1980, 49–50). This view is not shared here. The spread, whilst extensive, was patchy and its thickness quite arbitrary, consistant in fact with accidental spillage during construction work.[10]

## THE BANK

The bank was formed immediately over the construction surface and rested against the wall face. As with the wall at the Tower, the masonry was in a very fine condition, thus indicating that the bank provided protection at an early date. Dumps of dirty brickearth separated by various tip lines of dark earth, pebbles and mortar formed the bank (Layers 4 and 5, Fig. 20). In Trenches II and IV, the seventeenth/eighteenth-century cellars had removed all but the lowest 75cm (2ft 6in) of the feature, but in Trenches I and III deposits survived somewhat better to a height of 1.35m (4ft 6in) below a post-medieval lime floor (Fig. 20).

The tail of the rampart was sought in Trench V. Its base survived to a height of 90cm (3ft) and continued to show tip lines falling from east to west. Clearly its limit lay further to the west and outside the area available to excavation. The recorded width was 6.10m (20ft), but the total was probably nearer to that found on the south side of Trinity Place, where the tipping was traced for a distance of 9.50m (31ft) (Whipp 1980, 50).

## SAMIAN FROM THE BANK

Dr 37 Central Gaul. Probably the work of the Cinnamus group *c.* AD 150–180. (Fig. 21 No. 1)

Dr 31 Stamped by Cintugenus who probably worked at Lezoux *c.* AD 160–190. (Fig. 21 No. 2)

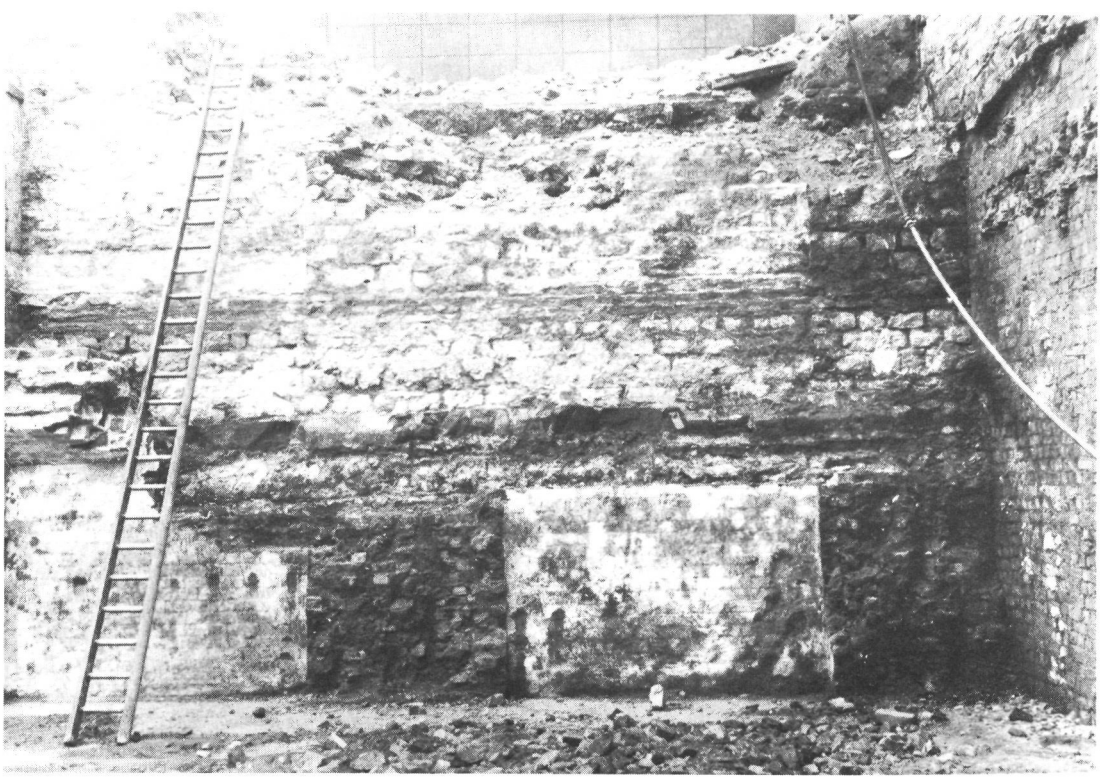

Plate 6. Tower Hill 1965: Eastern face of Roman wall as revealed by demolition of Victorian warehouse. This section of wall was subsequently destroyed during the enlargement of the underground tunnel. (*Museum of London*)

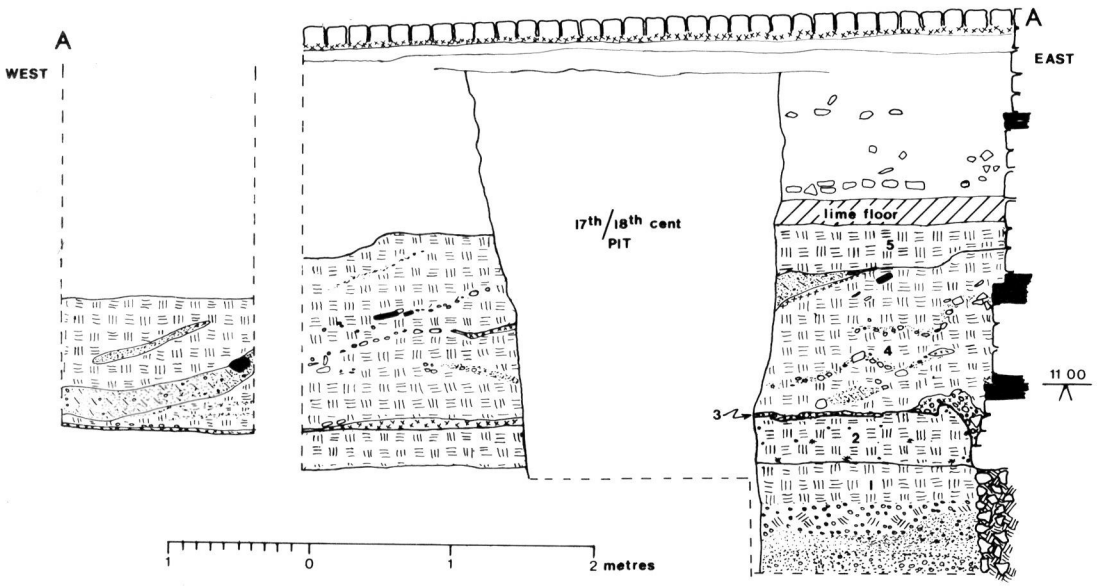


Fig. 20. Tower Hill 1965: Section A–A.

| Form | Source | Date |
|---|---|---|
| Dr 27 | SG | Flavian |
| Dr 37 (×2) | SG | Flavian |
| Unident. | SG | Cl |
| Dr 33 (×4) | CG | C2 |
| Dr 31 (× *c.* 9) | CG | Antonine |
| Dr 37 | CG | Antonine (burnt) |
| Walters 81 | CG | Antonine |
| Dr 38 | CG? | Antonine (burnt) |
| Enclosed form | CG | Antonine |
| rouletted sherd | EG | Later C2 |

## THE OTHER ROMAN POTTERY

by FIONA CAMERON

(Fig. 22)

Among the handful of sherds from beneath the bank, the only diagnostic sherds are from a Dressel 30 amphora and a BB2 bowl, both of 2nd or 3rd century AD. These were presumably deposited at about the time when the bank was erected.

The material from the bank itself, like that of the excavations in the Tower of London, is largely late 2nd to early 3rd century AD in date, as might be expected, and most of the diagnostic sherds are again from grey ware 'pie-dishes'.

The amount of fine wares in this group is unusually small. There is one beaker (Fig. 22 No. 3), which may have been imported from the Continent but could equally well have been made at Colchester. The rim form is that of the Nene Valley Guide No. 30, where it is described as 'late, developed cornice type'

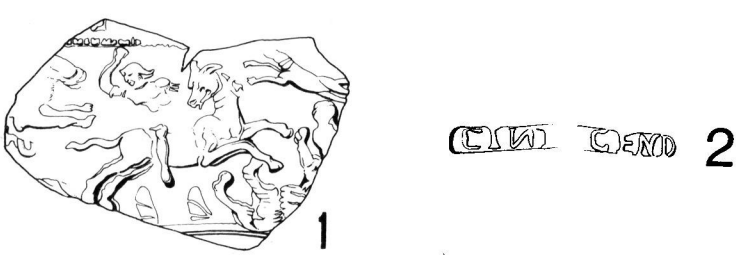


Fig. 21. Tower Hill 1965: Samian (No. 1–½: No. 2–1/1).

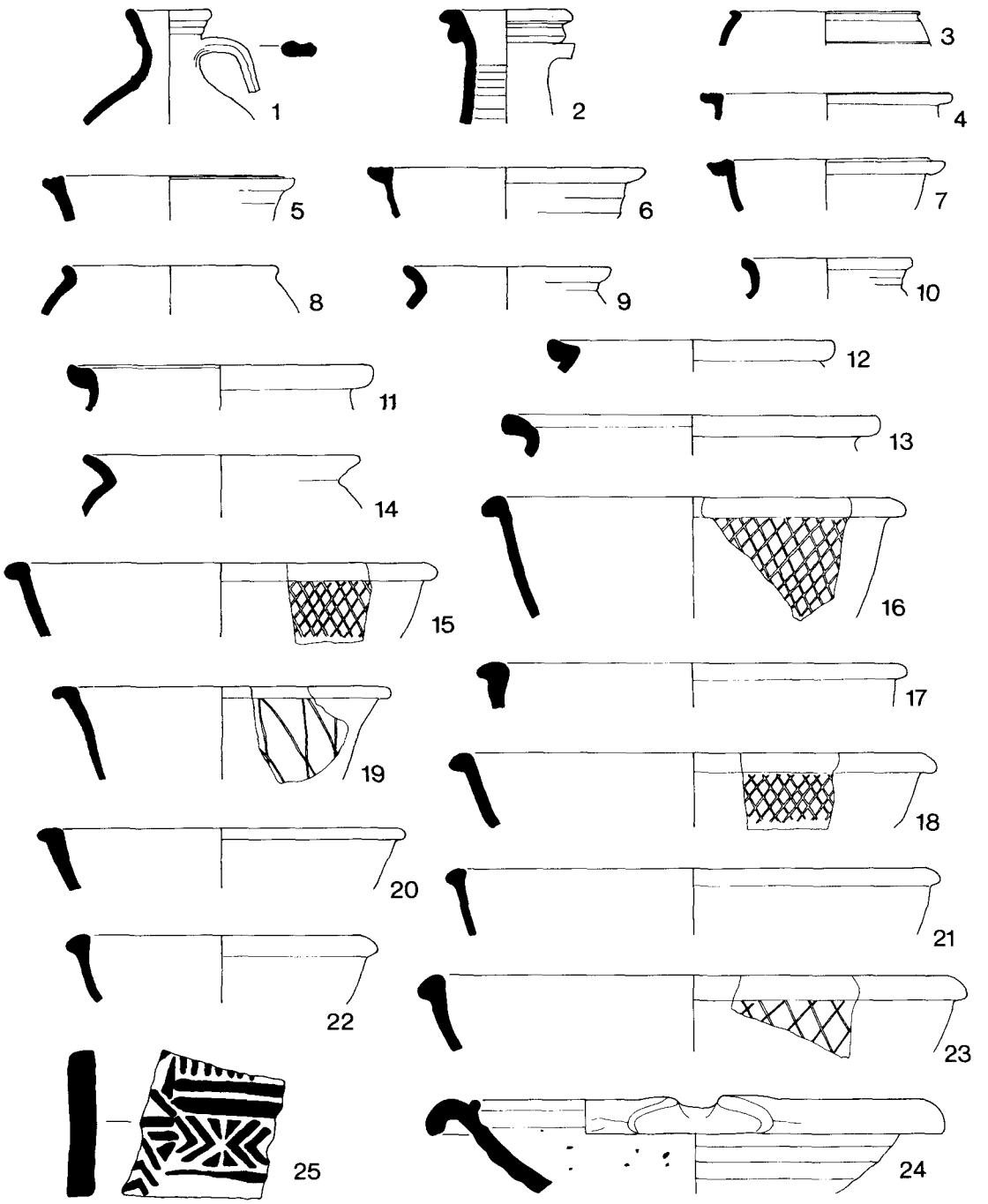


Fig. 22. Tower Hill 1965: Roman pottery and tile Nos. 1–25 (1/4).

and is dated to late 2nd to early 3rd century AD. There are also two mica-dusted bowls (Fig. 22 Nos. 4 and 5) *c.f.* Billingsgate Buildings (Green, 1980) Figs. 38 and 39 Nos. 325–353, and the discussion (p. 69) where they are described as 'coarse, locally made mica-dusted wares' and dated to the 2nd century in general. It is difficult to say whether or not these vessels are residual.

The oxidised wares include two flagons which are both contemporary. Fig. 22 No. 1 is probably from the Verulamium region *c.f.* Southwark types 1 B7–9 dated AD 130–180/200. Fig. 22 No. 2 is a more unusual type but *c.f.* Billingsgate Buildings (Green, 1980 No. 71 and discussion p. 49) again probably from the Verulamium region and unlikely to be pre 2nd century. There are two lid-seated jars in pink fabrics (Fig. 22 Nos. 11 and 12) which also seem to be from the Verulamium region *c.f.* Southwark type II H and especially No. 1129, dated to the 2nd century AD. Here again it is difficult to say whether or not the vessels are residual. Also in this group are two examples of 'amphora stoppers' or incense vessels *c.f.* Billingsgate Buildings (Green 1980, No. 90) and Southwark No. 1328. Like the material from beneath the bank, this group includes the handle of a Dressel 30 southern French wine amphora, a type which goes on into the third century in London (see Green 1980, 42).

The reduced wares include several grey ware jars of which three are likely to be residual—a bead-rimmed example *c.f.* Southwark type II A 14, a neckless jar (Fig. 22 No. 13) which may be related to Alice Holt 3 A types, if not from Alice Holt itself, and another jar of Southwark II B1 type (Fig. 22 No. 8). All of these are probably 1st or 2nd century in date. The contemporary grey ware jars comprise necked jars (e.g. Fig. 22 Nos. 9 and 10) in the same tradition as Southwark II G types with a general 2nd or 3rd-century AD date, and jars with everted rims (e.g. Fig. 22 No. 14) *c.f.* Southwark type II F7 of late 2nd to early 3rd-century AD date. The majority of the contemporary grey wares, however, are examples of vessels of the 'pie-dish' type in BB1 or BB2 fabrics or their derivatives, with or without burnished lattice decoration (e.g. Fig. 22 Nos. 15–23). In Southwark these types (IV G and IV H) are thought to begin in the mid 2nd century AD and go on into the 3rd, and in this case a late to early 3rd-century date seems likely.

There is one mortarium (Fig. 22 No. 24) similar to Southwark No. 1820 in form though not in fabric, which is of a late 2nd to early 3rd-century AD date. The provenance of this example is not known, however, and it may be an earlier type from South-East England and therefore residual.

Finally, there are some ten or so sherds from lids whose dates may well vary as much as their forms and fabrics do. Which of these are residual and which contemporary, is impossible to ascertain.

1. Flagon: sandy red fabric with grey core and cream slip on exterior and interior of rim.
2. Flagon: gritty buff fabric.
3. Beaker: fine, hard, red fabric with dull dark grey colour coat.
4. Bowl: sandy pinkish-orange fabric with mica-dusted exterior.
5. Bowl: sandy grey fabric with pale orange surfaces and mica-dusted exterior.
6. Bowl: gritty buff fabric with slightly reduced exterior.
7. Bowl: gritty off-white fabric.
8. Jar: sandy grey fabric.
9. Jar: sandy grey fabric, burnished on rim and exterior.
10. Jar: fine, micaceous sandy grey fabric.
11. Jar: with lid-seating, gritty pink fabric, reduced on exterior.
12. Jar: with lid-seating, gritty pinkish orange fabric with grey core and paler slip on rim.
13. Jar: coarse, hard, gritty grey fabric with darker surfaces.
14. Jar: sandy grey fabric with darker surfaces, burnished on exterior and rim.
15. Bowl: sandy grey fabric with burnished surfaces and burnished lattice. BB2.
16. Bowl: sandy grey fabric with burnished surfaces and burnished lattice. BB2.
17. Bowl: sandy grey fabric with darker, burnished surfaces.
18. Bowl: sandy grey fabric with burnished surfaces and burnished lattice. BB2.
19. Bowl: sandy grey fabric with burnished surfaces and burnished arcs on exterior.
20. Bowl: gritty grey fabric with burnished surfaces.
21. Bowl: sandy grey fabric with burnished surfaces, oxidised in patches. BB2.
22. Bowl: sandy grey fabric with burnished surfaces oxidised in patches. BB2.
23. Bowl: sandy grey fabric with burnished surfaces and burnished lattice, oxidised in patches. BB2.

24. Mortarium: hard buff fabric, very worn, with occasional grits.
25. Fragment of box tile 1.5cm thick with a roller-stamped design from the surface of the Roman wall construction level (Layer 3).

Michael Stone comments:
Fabric: orange/red with inclusions of mainly angular and subangular quarts, black and red ironstone and plates of mica. As Green (1980) has stated the clay source is probably locally derived from the London brickearth.
Roller-stamped design: the pattern belongs to Lowther's group 1 (Lowther 1948) and may be variant of his die 5, examples of which he recorded from the north and south of London. Examinations of tile assemblages from recent excavations in the London area have produced four further tile fragments of this die from two sites. The first, G.P.O. 1975, context 6948, in deposits dated by pottery to post AD 280 the second site, Beddington Bath House 1981, produced three fragments from open layers (L. and R. Adkins pers. comm.) All the fragments of this group discussed are of the same fabric and are residual, again highlighting the problem of obtaining a production date for roller-stamped tiles.

## DISCUSSION

### (i) THE DATING EVIDENCE FOR THE WALL

by FIONA CAMERON

London is fortunate in having its landward wall securely dated by coin evidence to between about AD 190 and 225 (Marsden 1980, 121). These excavations afford no further numismatic evidence—their main contribution in regard to date comes from pottery found below and within the internal bank. The bank is demonstrably contemporary with the raising of the wall (p. 94) and datable pottery from its composition should provide a *terminus post quem* for construction. The various groups recovered during excavation constitute the largest assemblage as yet available for examination.

Most of the pottery from the bank is made up of mid to late 2nd-century types which occur on all the sites with predictable consistency. The fine wares seem to come mainly from the Nene Valley or Colchester (it has not always proved possible to distinguish between the two) but there are also some examples from Central Gaul. The flagons tend to be from the Verulamium region (*c.f.* Southwark types I B7–9) as do the mortaria and some jars in oxidised fabrics of Antonine date. Dressel 30 wine amphorae from South Gaul are present on all the sites. Among the reduced wares, 'dog-dishes' (Southwark type IV J) and flat-rimmed dishes in BB1 or derivative fabrics (Southwark type IV G) often occur. By far the most common of all the vessel types from the bank are the BB2 'pie-dishes', and the vast majority of these are of Southwark types IV H 4, 5, 6 or 7, i.e. of the later 2nd century rather than the middle. The grey ware jars most in evidence are Southwark types II F and II G.

There is, in addition, a not inconsiderable proportion of first and second century types, again fairly consistent over the various sites. Strictly speaking, both this group and the later second century one, are residual and both reflect the occupation of these areas prior to the construction of the wall and bank. In the case of the Inmost Ward site, Trenches V, VI and VII, this occupation is represented by a residential building found beneath the rampart. The second phase of this building is probably later than AD 160, so that the time lapse between its occupation and the construction of the wall and bank could not have been very great. The pottery from the floor of the building includes several of the mid to late 2nd-century types found in the bank itself. There is also in this area a gulley which lies immediately beneath the road associated with the bank and the pottery from its fill includes the same flagon, mortaria and jar types as the bank except for the absence of BB2 pie-dishes. More significant, perhaps, is that it also contained a sherd of a type of North African cylindrical amphora whose date can only be

late 2nd to early 3rd century at the earliest. Thus, the filling of this gulley would seem to be contemporary with the construction of the wall and bank, and the latest occupation of the building cannot have been much earlier.

In theory, it should be possible to identify those vessels among the bank pottery, which are literally contemporary with its construction (i.e. those pieces which were deposited during the actual building process) but in practice, the study of the chronology of coarse pottery is not sufficiently advanced to allow so fine a distinction to be made with any certainty. There are, however, some sherds of samian from the Inmost Ward excavations which are of the very late 2nd or even 3rd century—two dated to AD 160–195, a third of Antonine to early 3rd-century and a fourth of later 2nd to mid 3rd-century date. There is also the sherd of North African amphora which must at its very earliest be late 2nd century rather than 3rd. Thus, the wall and bank can hardly have been built much before AD 200.

## (ii) SUMMARY AND CONCLUSIONS

GEOFFREY PARNELL

The contribution made by these excavations towards our understanding of the landward defences in the south-east corner of the Roman city is considerable. The realignment of the wall north of the Wardrobe Tower, first suggested by Loftus Brock in 1880, was confirmed by the 1954 excavations, while the precise position of the angle was identified in 1956–7, 6m (20ft) north of the tower. The discovery of a turret against the internal face of the wall at this point provides another example of these relatively scarce mural features.

The course of the *enceinte* may have been partly determined by local geography; the 1954 excavation, which was carried a short distance beyond the wall, revealed the natural geology falling away to the east, while behind the wall it remained fairly level. Perhaps the defence made full use of a fall in the ground surface towards the marshy St. Katherine's area.

That the building discovered near the Wardrobe Tower should have been accommodated right up against the rear of the landwall is without known precedent elsewhere in the city (though evidence for such a plan behind the late 4th-century river wall some 60m *c.* 200ft to the south-west has recently been forthcoming (Parnell 1981, 69–73). Such an arrangement provides a sharp contrast with the situation further down the hill by the Lanthorn Tower, where a timber-framed residential building was demolished to make way for the defences. The excavated part of the masonry building to the north suggests nothing of any great pretention, perhaps then its retention at the time of the raising of the landward defence owed more to the status of the owner.

Although the southern extent of the wall had, with the exception of its foundations, entirely disappeared, the remains of the internal bank indicate that the defence originally terminated close to the Lanthorn Tower, i.e. by the contemporary river front. Since we now know that the river defences were an innovation of the late 4th century, this arrangement appears quite in order (Parnell 1981, 69–73).

Perhaps one of the most striking features recorded in all the excavations, was the considerable width of the internal bank. Only near the river front where it was already beginning to taper were almost complete sections of up to about 8.50m (28ft) obtained. It is difficult to determine exactly how much greater the

width would have been further north, but a total measurement of about 10m (33ft) may be a realistic estimate. This would compare favourably with dimensions recently recorded at Tower Hill (Whipp 1980, 50), but would find little analogy elsewhere in the city. At Cooper's Row, for example, it was about 4.25m (14ft) (Merrifield 1965, Fig. 14, 109), at Aldgate between 4m (13ft) (Maloney 1979, 204) and 7m (23ft) (Chapman 1973, 10) and at King Edward St (Merrifield 1965, Gazetteer W52) and Central Criminal Court 5m (16ft 6in) (Marsden 1970, 2–6). Clearly the rampart was a variable feature with perhaps concession to existing topography being one of the factors determining its size.

To the rear of the bank near the Lanthorn Tower was evidence for a gravel road, a feature as yet not seen behind the landwall, though it certainly occurred behind the earlier fort wall at Cripplegate (Grimes 1968, Fig. 3, 19) and perhaps the later river wall at Blackfriars (Hill *et al.* 1980, 37).

The later Roman history of the landward defences remains patchy. Presumably east of the excavated areas, a new wide flat-bottomed ditch was dug when the bastions (including the Wardrobe Tower) were added in the 4th century. This would have provided a clear range of fire for the machines mounted on the bastions and excavations against the Salt Tower in 1976 revealed a mass of late fourth-century dumping lying on the Roman foreshore which may, or may not, have derived from the excavation of such a ditch.[11]

If we are to believe that the piece of masonry found at right-angles to the wall just north of the Lanthorn Tower was a Roman buttress (p. 90), then it might follow that the disintegration of the southern end of the landwall started at a comparatively early date. The area was after all reclaimed ground and the underlying soft river silts may have encouraged instability. No special tactics appear to have been devised for the foundations of the *enceinte* and ultimately the condition of the wall here faired badly compared to that further north.

Finally, we have evidence for the alteration and refurbishing of the substantial masonry building just north of the Wardrobe Tower. Occupation continued at least into the mid 4th century when new floors, including a tessellated pavement, were laid. There is no reason to suppose that occupation did not continue until at least the final years of the 4th century when the river defences were remodelled and an adjacent structure to the north laid out. If so, then parts of the building would have been in use for perhaps 300 years or more. The main part of the building, which presumably lies beneath the White Tower, may have been a more imposing affair, and it is interesting to speculate whether or not the remains of a channelled hypocaust and buttressed wall located near the south-west corner of the keep are related. If the general plan of this complex could be established, it might help to explain the location of the White Tower itself. The great keep seems curiously cramped against the city defence and its plan indicates an affinity with the alignment of the excavated part of the building rather than the city wall. In this respect it is worth pointing out that recent work at the White Tower's great counterpart—Colchester Castle—has shown that the lay-out of the keep, including that of the apse, was determined by the final plan of the underlying Roman temple.[12]

NOTES

1. It is possible that the chalk was taken from the foundations of the building demolished to make way for the defence.
2. An analysis of mortar samples taken from the wall, by Dr N. Davey, has shown that the agregate in the mix was derived from river gravel deposits.
3. Information provided by John Shepherd.

4. Report prepared by Justine Bayley.
5. The medieval pottery was examined by Stephen Nelson. A catalogue of this small assemblage is lodged with the site records at the Tower of London.
6. Compare WORKS 31/22 with WORKS 31/124 (Public Record Office).
7. WORKS 31/97.
8. A3/1344 (D.o.E. Photographic Library, Hannibal House).
9. It is worth pointing out that the 1879 photograph (Pl. 4) shows the medieval masonry of the Wardrobe Tower surviving to the level of the upper floor of the White Tower, i.e. twice as high as it now appears.
10. The excavator of the 1978 site seems to suggest that the thickness of the spread itself (*c.* 10cm) rules out accidental spillage. This is difficult to accept; during recent excavation of the second fourth-century wall at the Tower, the mason's waste was encountered up to a depth of 20cm.
11. G. Parnell *Excavations at the Salt Tower, 1976* (forthcoming)
12. P. J. Drury 'The Temple of Claudius at Colchester Reconsidered' *Britannia* (forthcoming).

BIBLIOGRAPHY

ANDERSON (1980), A. C. Anderson *A Guide to Roman Fine Wares.* Vorda Research Series 1 (1980).
BAILEY (1722), N. Bailey *Antiquaries of London and Westminster* (1722).
BAYLEY (1821), J. Bayley *The History and Antiquities of the Tower of London* Vol. 1 (1821).
BIRD *et al.* (1978), J. Bird, A. H. Graham, H. Sheldon, P. Townend (eds.) *Southwark Excavations 1972–4* London Middlesex Archaeol. Soc and Surrey Archaeol. Soc. Joint Special Paper 1 (London 1978).
CHAPMAN (1973), H. Chapman 'Excavations at Aldgate 1972' *Trans. London Middlesex Archaeol. Soc.* 24 (1973) 1–56.
CLARK (1884), G. T. Clark *Medieval Military Architecture* (1884).
COLVIN (1963), H. M. Colvin (ed.) *The History of Kings Works* Vol. II (London 1963).
DÉCHELETTE (1904), J. Déchelette *Les Vases Céramiques Ornés de la Gaule Romaine* (Paris 1904; reprint, Paris 1979).
DORE AND GREENE (1977), J. Dore and K. Greene (eds.) *Roman Pottery in Britain and Beyond.* Brit. Archaeol. Rep. S. 30 (Oxford 1979).
GILLAM (1976), J. P. Gillam 'Coarse Fumed Ware in North Britain and Beyond'. *Glasgow Archaeol. J.* 4 (1976).
GREEN (1980), C. Green 'The Roman Pottery' and 'Ceramic Building Material' in D. M. Jones *Excavations at Billingsgate Buildings, Lower Thames Street, London, 1974* London Middlesex Archaeol. Soc. Special Paper 4 (1980).
GRIMES (1968), W. F. Grimes *The Excavations of Roman and Medieval London* (London 1968).
HILL (1980), C. Hill in C. Hill, M. Millett and T. Blagg *The Roman Riverside Wall and Monumental Arch in London* London Middlesex Archaeol. Soc. Special Paper 3 (1980).
HILLAM AND MORGAN (1979), J. Hillam and R. Morgan 'The dating of the Roman Riverside Wall' *London Archaeol.* 3 (1979) 283–88.
HOWE *et al.* (1981), M. D. Howe, J. R. Perrin and D. F. Mackreth *Roman Pottery from the Nene Valley: A Guide* Peterborough City Museum Occ. Paper 2 (Peterborough 1981).
HULL (1963), M. R. Hull *The Roman Potters Kilns of Colchester* Rep. Res. Comm. Soc. Antiq. London 21 (Oxford 1963).
JONES (1906), H. Jones 'Report on Excavations at the Tower of London' *Archaeologia* 60 (1906) 239.
KNORR (1919), R. Knorr *Töpfer und Fabriken verzierter Terra-sigillata des Ersten Jahrhunderts* (Stuttgart 1919).
LOFTUS BROCK (1882), E. P. Loftus Brock 'Roman remains in the Tower of London' *J. Brit. Archaeol. Assoc.* 1st ser. 38 (1882) 127–132.
LOWTHER (1948), A. W. G. Lowther *A Study of the Patterns of Roman Flue Tiles and their Distribution* Res. Papers Surrey Archaeol. Soc. 1 (1948).
LYNE AND JEFFRIES (1979), M. A. B. Lyne and R. S. Jeffries *The Alice Holt/Farnham Roman Pottery Industry* C.B.A. Res. Rep. 30 (London 1979).
MALONEY (1979), J. Maloney 'Excavations at Dukes Place: The Roman Defences' *London Archaeol.* 3 (1979) 292–297.
MARSDEN (1980), P. Marsden *Roman London* (London 1980).
MARSDEN (1970), P. Marsden 'Archaeological finds in the City of London 1966–9' *Trans. London. Middlesex Archaeol. Soc.* 22 (1970) 2–6.
MERRIFIELD (1965), R. Merrifield *The Roman City of London* (London 1965).
ORTON (1977), C. Orton 'The Roman Pottery' in Excavations at Angel Court, Walbrook, 1974 by T. R. Blurton. *Trans. London Middlesex Archaeol. Soc.* 28 (1977) 14–100.
OSWALD (1936, 1937), F. Oswald, *Index of Figure-types on Terra Sigillata (Samian Ware)* (Liverpool 1936, 1937).
OSWALD AND PRYCE (1920), F. Oswald and T. D. Pryce *An Introduction to the Study of Terra Sigillata* (London 1920).
PARNELL (1977), G. Parnell 'Excavations at the Tower of London 1976/7' *London Archaeol.* 3 (1977) 97–9.
PARNELL (1980), G. Parnell 'The Tower of London: The Reconstruction of the Inmost Ward during the reign of Charles II' *Trans. London Middlesex Archaeol. Soc.* 31 (1980) 147–56.
PARNELL (1981), G. Parnell 'Tower of London: Inmost Ward Excavation 1979' *London Archaeol.* 4 (1981) 69–73.
PEACOCK (1980), D. P. S. Peacock 'Roman Amphorae: Typology, Fabric and Origins' in Méthodes Classiques et Méthodes Formelles dans L'étude des amphores, in *Collection Ecole Française de Rome* 32 (1980) 261–78.
RICKEN (1934), H. Ricken 'Die bilderschüsseln der Kastelle Saalburg und Zugmantel' *Saalburg Jahrb.* 8 (1934) 130–82.
ROGERS (1974), G. B. Rogers *Poteries Sigillées de la Gaule Centrale, I: Les Motifs non-figurés,* Gallia Supp. 28 (Paris 1974).
SOUTHWARK (1978), J. Bird, A. H. Graham, H. Sheldon, P. Townend (eds.) *Southwark Excavations 1972–74* London Middlesex Archaeol. Soc. & Surrey Archaeol. Soc. Joint Publication 1 (London 1978).
STANFIELD AND SIMPSON (1958), J. A. Stanfield and G. Simpson *Central Gaulish Potters* (London 1958).
WHIPP (1980), D. Whipp 'Excavations at Tower Hill 1978' *Trans. London Middlesex Archaeol. Soc.* 31 (1980) 47–67.
YOUNG (1977) C. J. Young, *Oxfordshire Roman Pottery* Brit. Archaeol. Rep. 43 (Oxford 1977).

## ACKNOWLEDGEMENTS

G. Parnell wishes to thank Sarnia Butcher and Peter Curnow for all their help and encouragement during the preparation of this report. Fiona Cameron, who was Finds Assistant on the Inmost Ward 1976 excavation, is especially thanked for her work on the Roman pottery and her contribution to the discussion. Joanna Bird, Brenda Dickinson, Brian Hartley and Geoff Marsh reported on the samian. Thanks are also due to Stephen Nelson for examining the medieval pottery, Michael Stone for identifying the Roman tile, Chris Green for examining the amphorae and Mark Hassall for commenting on the sgraffito. Professor W. F. Grimes visited the 1954 and 1957 excavations and his helpful comments were much appreciated.

*The Society is grateful to the Department of the Environment for a grant towards the cost of publishing this report.*